



# Your Solar Proposal



# Introduction

Welcome to CRG Direct. Here's your bespoke solar quote. In this quote, you'll find the cost of your system, your estimated savings using MCS calculations, and more information about your recommended solar system.

At CRG Direct, we believe in delivering quality service that goes above and beyond for our customers. Our dedicated team works tirelessly to ensure that every installation is done efficiently and with the utmost care. We understand the importance of clear communication and transparency, which is why we make sure our pricing is always straightforward and competitive.

Customer satisfaction is our top priority, and we are proud of our 5-star reviews on Google. These reviews are a testament to our commitment to excellence and our unwavering dedication to providing the best service possible.

If you are considering CRG Direct for your next project, we encourage you to visit our website at [www.crgdirect.co.uk](http://www.crgdirect.co.uk) for more information. And remember, if you have any questions at all, our friendly team is always here to help. Thank you for considering CRG Direct for your solar and home improvement needs.

# Your quote

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## Recommended System Option

4.92 kW	£ 0	£ 7,430	£ 7,430
System Size	Estimated Annual Electricity Bill Savings	Total System Price	Net System Price

System Size: 4.92 KWp

Total System Price: £ 7,430

Estimated Annual Electricity Bill Savings: £ 0

Estimated Lifetime Savings: £ 0

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Your system is made up of:

12 Cs3l-355ms-ab Panels

5.3 Sunsynk Battery

Sun-3.6-ecco Inverter

We've estimated you'll save £ 0 over the lifetime of your system using regulated MCS calculations. You'll see a breakdown of this on page 7.

Your total cost includes installation fees and more. We'll also handle your DNO application. All equipment is MCS certified.

These modules comply with the following international standards:

Carry CE mark

You are using 7450 of electricity per year at 0.34p. We estimate your new system will produce 0 KWH of electricity per annum, giving approx' £ 0 worth of savings per annum.

The total cost of the system is £ 7430.00 MCS calculations predict you will use 95% of the energy produced.



# You're in good hands



Before we get to your quote, we'd love to show you our amazing reviews for our brilliant customer service.



**Gordon Watt**

8 reviews · 1 photo

★★★★★ 2 months ago

CRG supplied and installed our solar panel system. We approached a number of companies and CRG offered by far the best value. The installation was done in a day. The installers were considerate and easy to have around. The installation is very neat. We particularly did not want cables run around the outside of our house. They did a great job of hiding them in the eaves. The system has performed flawlessly since installed. Our savings are far greater than were quoted.



**Donna Woodman**

8 reviews

★★★★★ a month ago

I had my solar panels installed yesterday and from the start to the finish it was a very smooth process and everyone from CRG were so knowledgeable and professional and very tidy! The electrician (terrible memory with names) young lady was an absolute pleasure to have around. She was so helpful and polite, Frank was also a great guy! Even down to the scaffolding company, they were great. I can't recommend this company enough. Thank you all so much.



**Ian Griffiths**

1 review

★★★★★ 2 months ago

A first class service from start to end. The original quote, whilst not the cheapest gave much more than other competitors. The quote included features that were extras with other companies. The installation went well. CRG were efficient and tidy. Interestingly CRG were able to provide a higher capacity installation than any other supplier. An efficient company who have subsequently answered queries very promptly. Very highly recommended.



**Melvyn Beck**

5 reviews

★★★★★ 3 months ago

**SUPERB SOLAR INSTALLATION.**

I have recently had 11 solar panels, Battery and Inverter installed by CRG Direct limited, all completed within a day, It is now up and running with an Octopus Energy outgoing fixed tariff. I have to say, I was impressed with the entire procedure in the way it was carried out. The electricians and roofers were really efficient, neat, professional and polite. Although I have dealt with Lance and Frank the owners of the company, who again were very helpful, I must mention Melissa in the office, she is great to deal with, very customer focused and always available to provide advice, guidance. and support, she is a real credit to the company and I'm sure a valued member of staff, so a big thank you to her and everybody at CRG.



# Details & Info



CRG Direct Ltd

## Integrated Management System

<b>Document Title :</b>	Customer Quote
<b>Ref. No. :</b>	PO4 Joe
<b>Next Review Date :</b>	One Year
<b>MCS Accredited Company:</b>	CRG DIRECT LTD
<b>MCS Accredited Number</b>	NIC600310(Company Registration Number: 10546909)
<b>Registered Office Address:</b>	Wey Court West Union Road, Farnham, GU9 7PT
<b>Principal Trading Address:</b>	172 Sea Front Hayling Island PO11 9HP
<b>Contact Details:</b>	Tel: 0330 133 2497/07955568287 admin@crgdirect.co.uk
<b>Website:</b>	www.crgdirect.co.uk
<b>HIES Membership Number:</b>	CRG/A/088
<b>MCS Accredited Company:</b>	CRG DIRECT LTD
<b>Trustmark</b>	2855428
<b>MCS Certification Number:</b>	NIC600310
<b>Project Reference:</b>	PO4 Joe
<b>Client:</b>	Joe Bloggs
<b>Address:</b>	N/A
<b>Postcode:</b>	PO4 9nx
<b>Date:</b>	2026-03-05

Really nice to meet you and thanks for allowing me the opportunity to provide a quotation for your proposed Solar PV installation.

We endeavour to deliver the equipment as specified but due to global pressure these may have to be amended. We are obligated to provide you with certain Pre-Sale Information as part of our compliance with the Microgeneration Certification Scheme and in particular the Solar PV Standard MIS-3002 and MIS-3012 The Battery Standard including performance estimates and potential shade effects (if any).

**Quote Reference: PO4 Joe**



All our work is backed by HIES, the Home Insulation and Energy Systems insurance backed guarantee and we are fully MCS accredited.

## OVERVIEW:

- 12 canadian\_solar cs3l-355ms-ab 410,output per panel is 410
- watts Inverter is a sunsynk sun-3.6-ecco
- Total system generation of 4.92 KWp
- System cost is £7430.00
- Predicted annual electricity produce is 0 Kwh
- If you also have opted for a battery it is
- Battery Storage System 5.3Kw

## SYSTEM DETAIL:

Having visited your property we are able to fit 12 panels on your South facing roof by using 410 WATT panels creating a 4.92 KWH system. We are proposing to supply MCS approved canadian\_solar cs3l-355ms-ab 410 WATT panels. These panels achieve a higher cell efficiency which means more energy per square meter. Use of first-class materials result in an increased durability so they reach a higher reliability, assured by a 25 year performance guarantee.

These modules comply with the following international standards:

- IEC 61730 – Safety Qualification
- IEC 61215
- Carry CE mark

You are using 7450 of electricity per year at 0.34p. We estimate your new system will produce 0 KWH of electricity per annum, giving approx' £0 worth of savings per annum.

The total cost of the system is £7430.00 MCS calculations predict you will use 95% of the energy produced.



### TOPHiKu6 (All-Black)

N-type TOPCon Technology  
420 W – 440 W  
CS6R-420 | 425 | 430 | 435 | 440T

#### MORE POWER

- 440 W Module power up to 440 W  
Module efficiency up to 22.5 %
- Excellent anti-LETID & anti-PID performance.  
Low power degradation, high energy yield
- Lower temperature coefficient (Pmax): -0.29%/°C,  
Increases energy yield in hot climate
- Lower LCOE & system cost

25 Years Industry Leading Product Warranty on Materials and Workmanship\*

30 Years Linear Power Performance Warranty\*

1\* year power degradation no more than 1%  
Subsequent annual power degradation no more than 0.4%

#### MANAGEMENT SYSTEM CERTIFICATES\*

ISO 9001:2015 / Quality management system  
ISO 14001:2015 / Standards for environmental management system  
ISO 45001:2018 / International standards for occupational health & safety  
IEC62941:2019 / Photovoltaic module manufacturing quality system

#### PRODUCT CERTIFICATES\*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA  
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68  
Take-e-way



\* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your product and applicable in the regions in which the products will be used.

CSI Solar Co., Ltd. is committed to providing high quality solar photovoltaic modules, solar energy and battery storage solutions to customers. The company was recognized as the No. 1 module supplier for quality and performance/price ratio in the JHS Module Customer Insight Survey. Over the past 22 years, it has successfully delivered over 100 GW of premium-quality solar modules across the world.

\* For detailed information, please refer to the Installation Manual.

CSI Solar Co., Ltd.  
199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

The panels would be mounted on your roof using an aluminium mounting frame system certified by MCS complete with the required hooks, connectors and clamps to ensure a quality finish to your system.

A generation meter will also be installed in the property so you can see what energy you are producing.

**ENGINEERING DRAWING (mm)**

**CS6R-420T / V CURVES**

ELECTRICAL DATA   STC*		MECHANICAL DATA			
CS6R	420T	435T	440T	Specification	Date
Nominal Max. Power (Pmax)	420 W	435 W	440 W	Cell Type	TOPCon mono
Opt. Operating Voltage (Vmp)	31.4 V	32.5 V	32.5 V	Cell Arrangement	108 (2 x 54)
Opt. Operating Current (Imp)	13.36 A	13.24 A	13.55 A	Dimensions	1725 x 1134 x 30 mm
Open Circuit Voltage (Voc)	38.5 V	38.5 V	39.4 V	Weight	18.7 ± 0.1 kg
Short Circuit Current (Isc)	13.71 A	13.78 A	13.84 A	Frame	Anodized Aluminium alloy
Module Efficiency	21.5%	21.8%	22.0%	Glass	3.2 mm tempered glass with anti-PID
Operating Temperature	-40°C ~ 85°C			Max. System Voltage	1500 V (IEC 61000-4-11)
Max. System Voltage	1500 V (IEC 61000-4-11)			Module Fire Performance	TPE 9, IEC 61730-1:2016 or TPE 2, IEC 61730-2:2016 or CLASS C (IEC 61730)
Module Fire Performance	TPE 9, IEC 61730-1:2016 or TPE 2, IEC 61730-2:2016 or CLASS C (IEC 61730)			Max. Tensile Force Rating	25 N
Application Classification	Class A			Power Tolerant	0 ~ 10 W
Power Tolerant	0 ~ 10 W			Per Container (48 PCS)	192 pieces or 840 pieces (only for the specific configurations, please contact your local Canadian Solar sales and marketing representative)

**ELECTRICAL DATA | MPP0†**

CS6R	420T	435T	440T	TEMPERATURE CHARACTERISTICS	Date
Nominal Max. Power (Pmax)	317 W	321 W	324 W	Specification	
Opt. Operating Voltage (Vmp)	23.8 V	24.2 V	24.5 V	Temperature Coefficient (Pmax)	-0.29 %/°C
Opt. Operating Current (Imp)	13.33 A	13.24 A	13.24 A	Temperature Coefficient (Voc)	-0.29 %/°C
Open Circuit Voltage (Voc)	38.5 V	38.5 V	39.4 V	Temperature Coefficient (Isc)	0.05 %/°C
Short Circuit Current (Isc)	13.71 A	13.78 A	13.84 A	Nominal Module Operating Temperature	43 ± 5°C

**PARTNER SECTION**

CSI Solar Co., Ltd.  
199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

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# INVERTER

The inverter we are proposing is a sunsynk sun-3.6-ecco panels on your inverter. The data sheet below shows the capabilities and limitations of your inverter, be advised if you have an inverter that does not support battery storage and at some point in the future you require battery storage you will need to upgrade your inverter..



Model	SUNSYNK-3.6K-SG02LP1
<b>Battery Input Data</b>	
Battery Type	Lead-acid or Lithium-ion
Battery Voltage Range	40~60V
Max. Charging Current	90A
Max. Discharging Current	90A
<b>PV String Input Data</b>	
Max. DC Input Power	7000W
Voc Max.	500V
MPPT Range	150~425V
Full Load DC Voltage Range	300~425V
Start-up Voltage	125V
PV Input Current	13A+13A
No. of MPPT Trackers	2
No. of Strings Per MPPT Tracker	1+1
<b>AC Output Data</b>	
Rated AC Output and UPS Power	3600W
Max. AC Power	3960W
Peak Power (off-gri)	2 times of rated power, 10 S
AC Output Rated Current	16.4A
Max AC Output Current	18A
Max Continuous AC Passthrough	35A
Power Factor	0.8 leading to 0.8 lagging
Output Frequency and Voltage	50/60Hz; 220/230/240Vac (single phase)
Current Harmonic Distortion	THD<3% (Linear load<1.5%)
<b>Efficiency</b>	
Max. Efficiency	97.60%
Euro Efficiency	96.50%
<b>Protection</b>	
Integrated	PV Input Lightning Protection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection, Output Over Voltage Protection
<b>Certifications and Standards</b>	
Grid Regulation	VDE 0126, AS4777, NRS2017, G98, G99, IEC61683, IEC62116, IEC61727, RD1699:2011, XP C15-712-3:2019-05
Safety Regulation	IEC62109-1, IEC62109-2
EMC	EN61000-6-1, EN61000-6-3
<b>General Data</b>	
Operating Temperature Range	-25~60°C, >45°C Derating
Cooling	Natural Cooling
Noise (dB)	<30
Communication with BMS	RS485; CAN
Weight	30kg
Size (Length x Width x Height)	233 x 445 x 708 mm
Protection Degree	IP65
Warranty	5 years

## PRICE

The price for this 4.92Kwh system fully fitted including VAT (where applicable) is £7,430

This price includes the following:

- Battery Storage System 5.3Kw
- Panels, inverter, mounting frame
- Additional electrical work, cabling etc
- Delivery
- Fitting Cost
- Scaffolding
- Roof Survey
- Generation Meter – a means of recording and displaying the total AC generation
- Handover Pack and MCS Certificate (if a valid Mpan is submitted)
- Guarantees and Warranties
- Registration with DNO
- iBoost
- BirdGuard no
- Number of optimisers to be installed 0
- EPS no
- UPS no

## SCHEDULE FOR PAYMENT

This price includes the following:

- Deposit of 15% upon placing of order.
- Stage payment of 40% on agreed install date
- Final payment of balance on completion of install and commissioning

Our estimated costs include the supply, delivery, installation, testing and commissioning of the solar array, including any works to the existing electrical consumer unit to enable the installation of the solar system. Our costs also include scaffolding as required while carrying out works on the roof.

All systems we supply are installed by professional fitters. An MCS Certificate will be provided.

### Account Details:

Bank	Natwest	Sort Code	52-41-20
Account Name	CRG Direct Ltd	Account No.	43634435

Payment Terms

Deposit:	Deposit (Maximum 15% of the total sum inc VAT) payable on confirmation of order	£1,115
Advance Payment:	Further advance payment payable when an install date agreed 40% of the total sum inc VAT	£2,972
Balance:	Balance payable following final commissioning	£3,344

It is important that this quotation is read in conjunction with the full performance estimate that forms part of it in the following pages. If you require clarification on any point please do not hesitate to contact us

## **All quotes valid for 14 days and subject to our terms and conditions**

This quotation has been based on us being able to install your system as described without interruption. Should there be circumstances beyond our control which cause an interruption to the installation process we will discuss with you the implications of such a delay.

Should you decide to make any changes to the agreed installation within your cancellation period, we will produce another full quotation which takes into account these changes. You will be given a further cancellation period to consider this quotation.

Should you wish to make any changes to the agreed installation after your cancellation period has expired, again we will prepare a new quotation for you, but we reserve the right to charge for any reasonable costs we have incurred in working towards the original installation details.

If, during the installation process, we come across any situation that we could not reasonably be expected to foresee, for example, remedial electrical or building work, we will discuss with you the implications and costs involved in rectifying the problem.

Should you request any changes after the installation process has begun that involve additional cost we will provide you with a quotation based on the daily or hourly rate of our installers.

Yours sincerely,

*Lance Pearson*

Lance Pearson – Managing Director

## PERFORMANCE ESTIMATION

Please see the following section which shows an estimate of the annual total generation of the proposed system calculated using the methodology recommended in the MIS-3002 specification and MGD 003 “Determining the Electrical Self-Consumption of Domestic Solar Photovoltaic (PV) Installations with and without Electrical Energy Storage”.

Electricity Per Year – 4.92Kwh solar PV array.

### PV PERFORMANCE ESTIMATION

<b>A. Installation Cost</b>	
Installed capacity of PV system - kWp (stc)	4.92Kwh
Orientation of the PV system - degrees from South	
Inclination of system - degrees from horizontal	35°
Postcode region	SOUTHERN ENGLAND
<b>B. Performance Calculations</b>	
kWh/kWp (Kk) from table	0
Shade factor (SF)	0 %
Estimated annual output (kWp x Kk x SF)	0
<b>C. Estimated PV self-consumption-PV Only</b>	
Assumed occupancy archetype	Out all day
Assumed annual electricity consumption, kWh	7450
Assumed annual electricity generation from solar PV system, kWh	0
Expected solar PV self-consumption (PV Only)	0
Grid electricity independence /Self-sufficiency (PV Only)	0%
<b>D. Estimated PV self-consumption-with EESS</b>	
Assumed usable capacity of electrical energy storage device, which is used for self-consumption, kWh	• Battery Storage System 5.3Kw
Expected solar PV self-consumption (with EESS) Kwh	0
Grid electricity independence /Self-sufficiency (with EESS)	0%
<b>E. Additional benefits from PV and EESS</b>	
EESS capacity NOT used for self-consumption	0
Total energy discharged per annum approx (will degrade annually)	1855
Additional self-consumption from EV, heat pumps, diverters (only when presnt)	0

**Important Note:** 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 is given as guidance only for the first year of generation. It should not be considered as a guarantee of performance.

The solar PV self-consumption has been calculated in accordance with the most relevant methodology for your system. There are a number of external factors that can have a significant effect on the amount of energy that is self-consumed so this figure should not be considered as a guarantee of the amount of energy that will be self-consumed. It does not account for the impact of power diverters, electric space heating, electric water heating or electric vehicle charging.”

Where the shade factor (SF) is less than 1 Shading will be present on your system that will reduce its output to the factor stated. This factor was calculated using the MCS shading methodology and we believe that this will yield results within 10% of the actual energy estimate stated for most systems.

Important Note: The energy performance and benefits of EESS is impossible to predict with certainty due to the numerous functions a system can be programmed to perform. 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.

**Where occupancy archetype is not known (e.g. new build) then both sections C & D in the above table can be omitted (or marked as N/A).**

**Where another methodology is used:**

“Shading will be present on your system that will reduce its output to the factor stated. This factor was NOT calculated using the MCS shading methodology, but we can confirm that the system as quoted, taking into account the shading present, will deliver at least 90% of the energy (in kWh) as set out in this performance estimate”.

**Where the site has been evaluated remotely, the following additional note shall accompany the above important note:**

“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.”

## THE FIGURES

If the system performs in line with our predictions the following would apply, remember, we have assumed that you are Out all day We have assumed you will self-consume 0% of the energy produced by your PV system, as determined by the method set out in MGD 003, therefore exporting 100%

ANNUAL BENEFITS		
Grid independence: Estimated annual electricity savings % grid independence of PV output = total x electricity tariff (p/kWh) / 100 (e.g. 22% (grid independence) of 2491 (PV output) = 548.02 x 15p (electricity tariff) /100 = £82.20	0	per year
"Annual income generated from Smart Export Guarantee % export of PV output x SEG rate from Energy Provider / 100 e.g. 69% (to be exported) of 2491 (PV output)) = 1,718.79 x 5.5p (SEG rate) / 100 = £94.53"	0	per year
SMART EXPORT GUARANTEE RATE	£0.32	per kwh

Note: Smart Export Guarantee rates differ between energy providers and can change at their discretion. Please also be aware there is no current set minimum number of years of eligibility for the Smart Export Guarantee. The amount above is per annum based on your energy provider's current SEG rates.

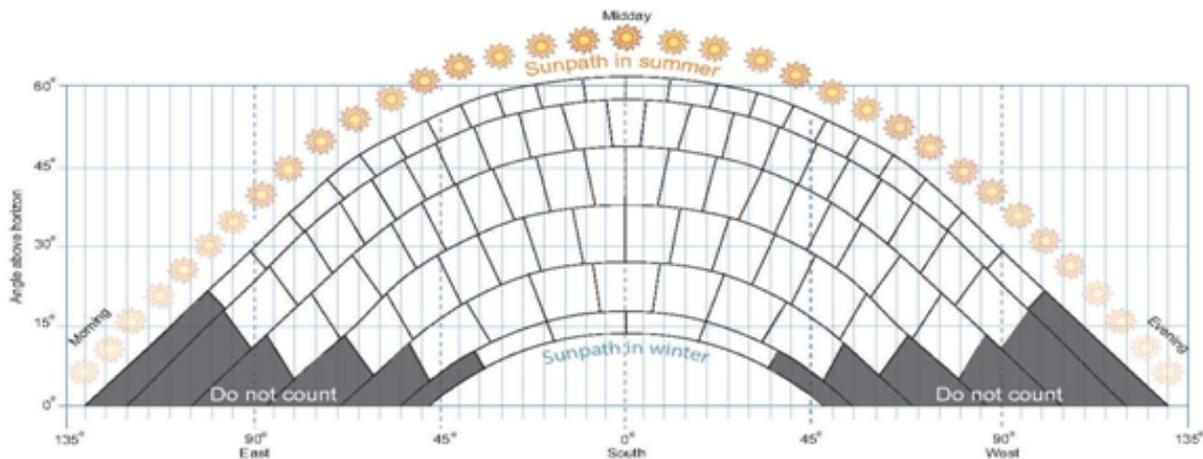
## PAYBACK PERIOD

### HOW LONG WILL IT TAKE FOR THE SYSTEM TO PAY FOR ITSELF?

<b>None of us can predict accurately what will happen in the future when it comes to inflation and electricity prices, so for the payback time we have assumed no increases in electricity prices. This is only a rough guide, as there may be maintenance costs to be considered.</b>	
<b>To calculate how long the system will take to pay for itself, we can divide the total cost you have paid for the system and divide it by the estimated benefit you will receive each year.</b>	
<b>Total Installation cost :</b>	<b>£7,430</b>
<b>Estimated Annual Benefit :</b>	<b>£0</b>
<b>Payback Period (installation cost divided by estimated annual benefit) :</b>	<b>0 Years</b>

**Array Surface Area =22.44 Sqm**

<b>MCS Wind Loading Calculation</b>	
Wind Zone:	1-SU
Peak Pressure:	1,009Pa
Altitude Correction Factor:	NONE
Typography Correction Factor:	NONE
Peak Velocity Pressure:	1009Pa
Pressure Coefficient:	-0.5
Wind Pressure:	-681Pa
<b>Snow Landing Calculation</b>	
Snow Load:	500Pa
Altitude Correction:	NONE
Pitch Adjustment:	1000
Adjust Snow Load:	500Pa



## Sun Path Chart - 0%

This shade assessment has been undertaken using the standard MCS procedure – it is estimated that this method will yield results within 10% of the actual annual yield or most systems. Where there is an obvious clear horizon and no near or far shading, the assessment of SF has been omitted and an SF value of 1 used.

## SMART EXPORT GUARANTEE (SEG) TARIFF

**The Smart Export Guarantee is a support mechanism designed to ensure small-scale generators are paid for the renewable electricity they export to the grid. It has been in place since 1st January 2020.**

Under the scheme, all licensed energy companies with 150,000 or more customers must provide at least one SEG tariff. Smaller suppliers can offer a tariff if they want to on a voluntary basis. All suppliers can also choose to offer other means of making payments for exported electricity, separate to the SEG arrangements.

The technology and installer used by householders must be certified under the Microgeneration Certification Scheme (MCS) or equivalent and the solar PV system must be grid connected. Energy suppliers may ask for the MCS certificate to prove the installation meets the standard which we will provide for you.

You also need a **registered Smart Meter** that records your exported electricity, even if you're not signing up to a smart tariff.

SEG payments are not linked to other financial support around renewable energy installations. This means that, if eligible, you could combine SEG payments with other financial support. In Scotland, for example you could combine SEG payments with the Home Energy Scotland loan.

You will not be able to receive SEG from more than one supplier.

Octopus Energy offer Outgoing Octopus which is described as a smart export tariff and their successor to the feed-in tariff (FIT). Perfect for homes with solar panels, battery storage, or any other way of sharing energy back to the grid. Outgoing Octopus comes in two flavours – Fixed or Agile. Outgoing Fixed guarantees 5.5p per kWh for every unit you export. Outgoing Agile matches your half-hourly prices with day-ahead wholesale rates, helping you make the most of the energy you generate.

<https://octopus.energy/outgoing/>

Here is a list of energy suppliers who provide SEG. Some are mandated and some have chosen to offer this.

<https://www.ofgem.gov.uk/publications/seg-supplier-list>

The Energy Saving Trust provide a Solar Energy Calculator to provide estimates for fuel bill saving and financial payments you may receive by installing a solar PV system.

## SEG and ELECTRICAL ENERGY STORAGE (Battery Storage)

If you've included an energy storage system in your renewables installation, you can still apply for SEG, but there might be a few rules, depending on your SEG contract. Your battery could store electricity from the grid (known as brown electricity) before exporting it later on.

Energy suppliers do not have to pay you for brown electricity exported to the grid but they may choose to do so.

Some suppliers may only pay the SEG for green electricity, ie the electricity your low-carbon system generates itself. If this is the case, the supplier may ask you to show how you separate out the green electricity you generate from any imported brown electricity.

## PITCHED ROOF WORK

On all roof types there should not be a need to drill tiles.

On slate roofs it is sometimes necessary to cut a portion of the slate out or remove a slate so that the surrounding slates sit back down, the area that would be removed would maintain its waterproof integrity through the use of lead flashing kits.

In the case of tiles a small channel is cut out on the underside to allow the tile to sit flush with the roof again, the integrity of the tile is maintained.

The mounting anchors are fixed to the roof joists using appropriate fixings and the tile or slate sits back in place or where necessary flashing kit used.

Whenever any roof covering is modified the water proof integrity is always maintained in the most appropriate way possible, with little or no visual impact.

Decra roofing installation, Metasole+ brackets or Solar limpet fixings will be used drilled direct into roofing material through the tiling these are an MCS accredited fixing

The link has more information on the product

<https://www.renusal.com/en/solar-panel-mounting/metal-roof/ms-msp/>

It is part of MCS (Micro Generation Certification Scheme) rules and regulations that the roof offers the same or better waterproofing once the contractor has left site.

We should be able to demonstrate that the installation of the modules has not affected the fire performance of the roof. This can be demonstrated by mounting the panels above an existing non-combustible roof covering (pitched roofs).

## PLANNING CONSENT, PERMISSIONS AND APPROVAL

We shall ensure your building is assessed by a competent professional experienced in solar photovoltaic systems to ensure that it is suitable for the installation and, by undertaking the proposed works, the building's compliance with the Building Regulations (in particular those relating to energy efficiency) is not compromised. Where work is undertaken that is notifiable under the Building Regulations we shall make this clear to you and who shall be responsible for this notification.

We are registered with a Competent Persons Scheme (CPS) and able to self-certify our work.

It is not a requirement to contact your local planning authority and advise them of your intention to install a solar electrical system. Legislation changed in April of 2008 so that now, in most cases the installation will be considered a 'permitted development'; however in some cases planning permission may be required, usually in a conservation area or on a listed building. It is advisable if you are in any doubt for you to just check and clear this before your installation.

On a pitched roof the solar PV array must not protrude more than 200 mm above the roof line.

On a flat roof the highest part of the solar PV array must be less than 1 meter higher than the highest part of the roof (excluding any chimney).

The PV array must be sited more than 200mm away from the external edges of the roof and as far as practicable the PV array should be sited to minimise the effect on the external appearance of the building.

## **STRUCTURAL STABILITY**

Most roofs are more than adequate to cope with a solar array being mounted as the weight of the load is spread across the large surface area. A wind and snow loading calculation has been provided within this quotation.

PV Systems should not adversely affect the weather tightness or structural integrity of the building to which they are fitted. The system should be designed and installed to ensure this is maintained for the life of the system.

**IMPORTANT:** Where the existing roof covering is under warranty, then the roof warranty provider should be consulted to establish if warranties will be invalidated by the installation.

Where an existing warranty may be invalidated by the proposed installation, we shall notify the customer in writing and obtain explicit written agreement from the customer if the installation is to proceed.

## **NOTIFICATION TO THE DISTRIBUTION NETWORK OPERATOR (DNO)**

We will carry out the necessary liaison regarding connection to the local grid, and completion of the G98 or G99 paperwork.

## **SAFETY AND DURABILITY**

Suitable and sufficient risk assessments shall be conducted before any work on site commences and an installation method statement will be carried out and issued prior to the commencement of any work and our installers will have carried out relevant health and safety training courses in line with the type of work.

As an MCS contractor we shall be able to demonstrate that the installation of the modules has not affected the fire performance of the roof such as mounting above an existing non-combustible roof covering (pitched roofs).

## **INSURANCE**

Our advice with reference to your building insurance is that you do need to inform your insurers, however most insurers will add solar panels to your policy at no additional cost. (It will be down to the insurance company as to how they view this).

## **MAINS POWER FAILURE**

If there is a power cut or the mains power is switched off deliberately the solar electric system will automatically disconnect from the main supply. This means that an engineer working on the electrical system will be in no danger. When the power is switched back on the system will automatically connect.

# INSTALLATION

The Installation will be carried out to comply with all applicable legislation and directives and the necessary standards including MCS installation requirements, Electrical Safety, Quality and continuity Regulations 2002 and the Consumer Code.

Once the installation is complete you will be issued with a handover file consisting of all test documentation, user instructions, circuit diagrams, Energy Performance Certificate, warranties and contact details.

Where work is undertaken that is notifiable under the Building Regulations it shall be made clear to the customer who shall be responsible for the notification.

Where responsible for notification under the Building Regulations, the MCS Contractor shall ensure notification has been completed prior to handing over the installation.

Note: Where notification under the Building Regulations is to be undertaken by others (e.g. the developer of a new-build project) then it is permissible for the MCS Contractor to handover the installation immediately following commissioning.

Self-certification, in lieu of building control approval, is only permitted where installation and commissioning is undertaken by an entity registered with a Competent Persons Scheme (CPS) approved by the relevant government department for the scope of work being undertaken.

## **ADDITIONAL MEASURES THAT MAY BE BENEFICIAL TO THE PERFORMANCE AND DURABILITY OF THE SYSTEM**

Cleaning of your Solar Panels. The first thing you want to do is to check with your solar panel manufacturer. They might have specific recommendations for cleaning. There are solar panel cleaning companies available and so check your local area for details.

Solar panels can become incredibly hot in sunshine. Either clean your solar panels in the morning/afternoon, or pick a relatively cool day. Warm water and soap – no other special equipment is needed. Clean the surface of the solar panel with a soft cloth or sponge. You do not have to clean the wiring underneath.

The installation of solar panels can provide shelter for nesting birds with pigeons nesting under solar panels and so you may want to consider specific bird-proofing measures designed to solve this problem which are available.

Take care to keep clean, as airborne dust particles, sticky tree and plant sap, lichen, soot and bird droppings are just a few of the things that can contribute to a build-up of dirt on your panels. Accumulation creates shading and will prevent daylight reaching the cells of the panels.

The solar panels we install for you will be positioned to gain the maximum amount of sunlight. However, you should be aware that the future growth of trees, large shrubs and their spreading foliage could cause the panels to be shaded, thereby reducing the performance of the system.

You should also consider how any future building work that takes place on your property would affect the shading of the solar panels.

## **ENVIRONMENT**

We recycle most of the waste materials from your installation. We also endeavour to keep our travelling to a minimum by carrying out the works over as few journeys as possible.

## WARRANTIES

Your equipment will be guaranteed by its manufacturer, but you should contact us in the first instance if anything appears to be operating incorrectly.

In addition to the product guarantees, our work will be covered by a workmanship warranty. This workmanship warranty will be transferable to the new legal owner of the property if it is sold during the warranty period.

As signatories to a Consumer Code we are required to ensure that should we cease trading, due to receivership, administration or bankruptcy, that the workmanship warranty that we have in place for your installation will still be honoured.

When you confirm the order and we have received any requested deposit, we will register your name, address and the total value of the contract, within two working days on the Job Registration System.

A leaflet explaining the scheme is enclosed. If you are not content for us to register your details in this way, please let us know. The insurance provider will send the policy documents direct to you. This policy will be at no additional cost to you.

Should we cause any damage, either to installed equipment or to your property we will rectify such damage without charge to you.

## HIES CONSUMER CODE

We are signatories to the HIES Consumer Code, membership number and the membership number is displayed on the bottom of our letterhead. This document is prepared in accordance with the HIES Consumer Code.

A leaflet describing the HIES Consumer Code is at the link below.

<https://www.hiesscheme.org.uk/regulation/hies-scheme-rules-code-of-practice/>

## COMPLAINTS

We hope you won't have any reason to complain about any aspect of our service. But if you do, please contact us.

You may contact us by telephone, letter or e mail, and you will find our contact details on this quotation. We will acknowledge and attempt to resolve your complaint promptly. Where we need to investigate the complaint, we will report to you our progress on any investigation within seven working days.

If we are unable resolve your complaint, you may be able to complain to HIES. You can read about this here:

<https://www.hiesscheme.org.uk/what-we-do/alternative-dispute-resolution/=how-to-complain-and-who-to-complain-to>

**VAT** - This is charged at the reduced rate of 0% on the installation of solar panels in, or in the curtilage of residential accommodation.

**DELIVERY** - Approximately 2 to 3 weeks from order, subject to availability of components. To be confirmed at the time of order.

**PRIVACY** - Using Your Personal Information

1. We will use the personal information you provide to us in accordance with the Data Protection Act 2018 ,General Data Protection Regulations and more specifically to:
  - a. Supply the Goods and Services to you
  - b. Process any payments that you make for the Goods and Services, including if necessary conducting credit reference check;

- c. Register your installation with any relevant bodies, including your deposit protection and insurance backed guarantee and any competent persons scheme;
- d. Address any concerns or complaints that you have about the Goods and Services, including liaison with HIES and QA Scheme Support Services Limited or The Dispute Resolution Ombudsman where the law requires us to share.

Where you have indicated that you would like to receive further information on offers, products and services, you can change this at any point by contacting us.

## CANCELLATION RIGHTS

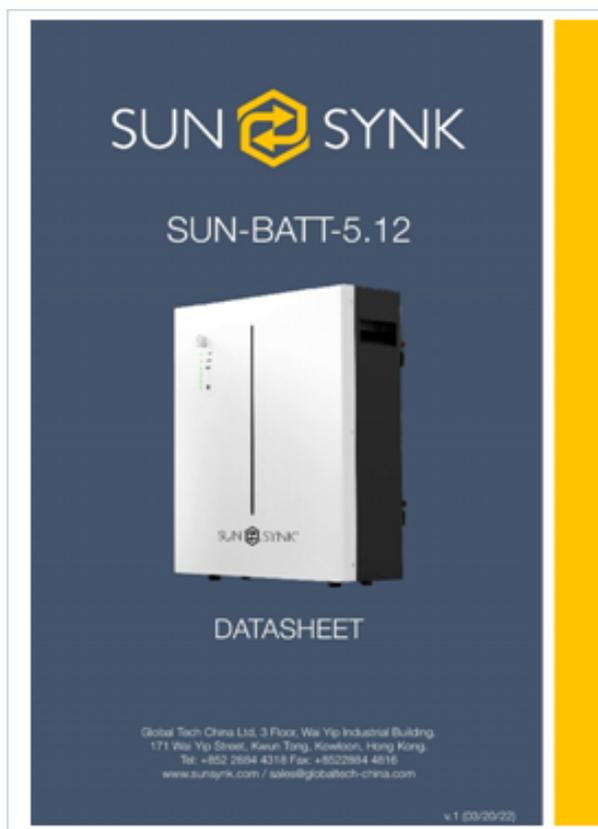
Your cancellation rights will vary depending on whether the contract you agree with us is considered to have been agreed on or away from trade premises.

For contracts considered to have been agreed on trade premises you will be given a fourteen day cancellation period from the day that the contract was signed.

For contracts considered to have been agreed away from trade premises, your cancellation rights are as set out in the Consumer Contracts (Information, Cancellation and Additional Charges) Regulations. These regulations give you the right to cancel from the time that the contract is signed until fourteen days after the delivery of the last of the goods.

## BATTERY STORAGE (EESS)

The system is a off-the-shelf Packaged EESS. The battery is capable of charging from, storing and subsequently discharging electrical energy from a domestic solar PV system. and is to be installed within the same domestic electrical system as the solar PV system and loads i.e. on the domestic side of the utility meter. The electrical energy storage is operated for provision of increasing self-consumption. This will be installed as new and not been previously used.



The battery type is Lithium Iron Phosphate cells resulting in safe and reliable battery and special precautions should be taken such as ventilation and fire safety.

The system size is

- Battery Storage System 5.3Kw

Kwh and if the battery develops a problem you must inform the manufacturer immediately see data sheet for all specifications.

The battery will be situated in the {%loc\_battery%}

The useable storage capacity in kilowatt-hours (kWh) accounting for the maximum allowable depth of discharge.

Battery Modules can be stacked up to three high and a Power Module that controls them is placed on top. When connected to a compatible inverter this gives the following energy storage capacity and continuous power output:

1. Battery Module = 5 kilowatt-hour of energy storage and 2.5 kilowatts of power output.
2. Battery Modules = 10 kilowatt-hours of energy storage and 5 kilowatts of power output.
3. Battery Modules = 15 kilowatt-hours of energy storage and 5 kilowatts of power output.

Note: if the inverter is under 5 kilowatts the power output will be limited by the inverter's capacity.

If you want more than 15 kilowatt-hours of storage, two Luna2000s can be installed in parallel to provide up to 30 kilowatt-hours of storage. More modules won't improve the power output beyond 5 kilowatts:

Each 5 kilowatt-hour Battery Module operates separately from the others. This means if a fault develops in one module the others can still be used until the defective unit is repaired or replaced.

The independent operation makes it easy to add an extra module to expand storage capacity or compensate for capacity deteriorating over time. As each battery module is covered by its own warranty, adding a new one to an existing system won't create a warranty issue.

The Battery is water-resistant and can be installed outdoors. Its IP rating — or Ingress Protection rating — is IP66. This indicates it's dust-tight and able to resist jets of water from all directions. This means if your idiot cousin decides to hose down your home battery, it should be fine.

Note: It would be helpful for consumers if the useable storage capacity could be expressed in terms of the time that particular devices could be run. Use the formula (10 x battery capacity in amp hours) divided by (appliance load in watts)

If capable (or not) of running in Island mode (during loss of grid power) and limitations in terms of maximum load in kW. Battery fault on module auto isolates to keep system safe.

Warranties applying to the system and its storage capacity (degradation, number of cycles, energy throughput etc.)

How the EESS indicates its current usable capacity or state of health (thus indicating if it is ending its life or the storage capacity is below the warranted capacity).

End of life, recycling, arrangements should be carried out in accordance with the Waste Electrical Electronic Equipment (WEE, 2012/19/EU) and the Battery Directive (2006/66/EC).

Where the EES is to be remotely controlled by third parties, the terms of that arrangement including the terms applying should the consumer wish to terminate the arrangement and assume full control of their system. Penalties for early termination shall be clearly stated.

If the EESS can be controlled to respond to time of use electricity tariffs and, if so, how it shall be highlighted whether this is a manual process (manually setting charge and discharge times) or can be automated (such that charge and discharge times change automatically when tariffs change).

**The EESS is intended to increase the self-consumption of Solar PV and therefore is within the scope of MGD 003.**

- The EESS is serving a domestic building
- The annual electricity consumption is between 1500 kWh and 6000 kWh (excluding consumption attributable to electric vehicles and electrified space heating).

- The estimated annual generation of the solar PV system (calculated in accordance with MIS 3002) is between 1500 kWh and 6000 kWh
- There are no other forms of local electricity generation serving the building (other than the solar PV)

Following the procedure outlined in MGD 003 Sections C and D have been completed.

If you wish us to begin work within the cancellation period you must give us express permission, in writing, to do so.

You can find full details of your cancellation rights within the contract we will ask you to sign and also on the Cancellation Form we will issue to you.

## CONTRACT TERMS

We have enclosed a copy of our contract with this quotation. Please read this carefully, and as always, please contact us if you require further clarification.

### Customer Declaration:

I confirm that I wish to continue with the installation process with this quotation, and to the costs set out in this quote. I confirm that I have obtained any planning permission for the proposed works (if applicable) and that there are no restrictions in relation to my property being in an area of outstanding natural beauty or conservation area. I would like to proceed with the installation at my property.

<b>Name:</b>	<b>Joe Bloggs</b>
<b>Signature:</b>	
<b>Date:</b>	

### The next steps

**Below are the steps both of us will take to give you a complete solar system under your control.**

Check the quotation ensure everything suits your needs and you are happy with the costings

Sign the attached agreement and return to us with your deposit of 15% £1,115

Once we have an install date we will contact you and take the second payment of 40% £2,972

Day of installation; Teams arrive and brief you on the plan then install and commission your system, install team will then demonstrate and answer any questions you may have on your system. Final payment of the outstanding balance is due at this point.

Within 14 days of install post installation pack warranties, product information and post install support certification delivered to you.

Your Surveyor was: -

**Many thanks for your time and for your interest in our products.**