YOUR SOLAR QUOTE

Hi Mr.

and Mrs White

5.16 kW PV System

12 x 430W panels,
1 x SolaX X1 G4 6.0D hybrid

£24,856 inc VAT

Expected payback 18 years. Estimated first year savings £1,756

4,180 kWh/yr

Annual CO2 savings of 888 kg

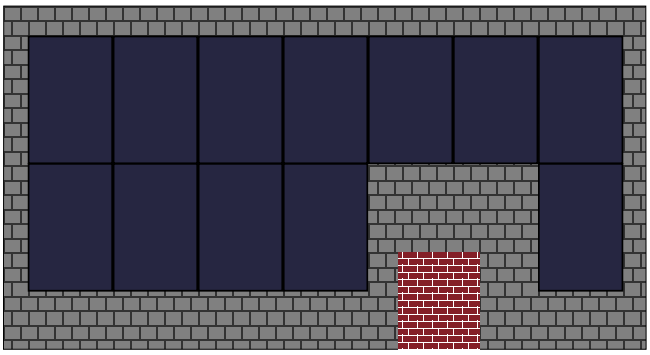
System Overview

Your system comprises **12 *HTB* Longi HiMo6 Explorer 430W All Black Mono solar panels** to collect sunlight and turn it into DC electricity.

The panels will be connected to **1 SolaX X1 G4 6.0D hybrid inverter**, which converts the DC electricity into mains (AC) electricity.

A SolaX Triple 5.8kWh LFP Battery battery storage system will allow you to store excess energy from sunny days, so that you can use your generated electricity at night too.

We include all the isolators, wiring and meters needed to connect the system safely to your electrical system. Your system will be installed and certified by our trained installation team.



Solar Panels: *HTB* Longi HiMo6 Explorer 430W All Black Mono x 12

Longi's all black Hi-MO 6 Explorer 430W improves power generation capacity providing a great power to size ratio and excellent performance - achieving...

Model	LR5-54HTB-430M
Power	430 watts
Dimensions	1134 x 1722mm

Inverter: SolaX X1 G4 6.0D hybrid

Developed using the very latest solar technology, the SolaX X1-Hybrid G4 has an in-built EPS changeover switch and internet connectivity.

AC Power	6000 watts
Trackers	2

System components

Battery: SolaX Triple 5.8kWh LFP Battery x 2

With a 10-year warranty and 90% depth of discharge, the new Triple Power battery is a flexible, practical, high-performance energy storage.

Capacity	5.800 kWh
Quantity	2

Mounting: GSE roof-integrated mounting system

A roof integrated mounting system from French manufacturer GSE Integration works with a range of panels, and is ideal for both new build and retrofit ...

Designed for	Natural Slate roofs
Colour	Not specified

System Performance

We have made an estimate of the annual energy generation of your system. This takes into account the following factors that affect the output of a solar array.

The location of the system

Sunlight is weaker near the poles than near the equator. We use data from a meteorological model of the intensity of sunlight over the course of the year in different locations all over the world.

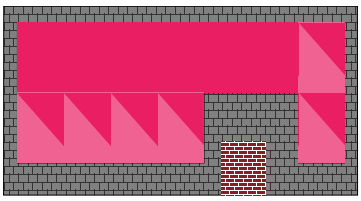
The orientation of the system

Solar panels that face south receive a little more sunlight than panels that face east or west. However, in diffuse light the orientation of the panels makes little difference, so the effect is less marked than many people imagine.

The degree of shading

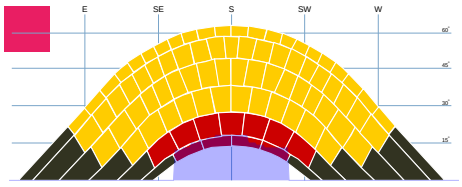
If you have trees, neighbouring buildings or nearby high ground that will shade your PV array, the output of the system will be reduced. We have used a 'sunpath diagram' that estimates how often sunlight will be blocked from reaching the panels.

Roof diagram

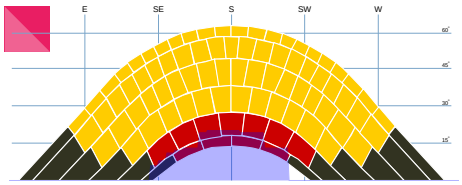


Roof South West Orientation: 50° Pitch: 40°

Sunpath diagrams



Shade factor: 0.89 Kk: 910



Shade factor: 0.89 Kk: 910

We expect your system to generate

4,180 kWh per year

Installation data

Installation capacity of PV system - kWp (stc)	5 kWp
Orientation of the PV system - degrees from South	50°
Inclination of system (pitch) - degrees from horizontal	40°
Postcode region	Zone 1

Performance Calculations

kWh/kWp (Kk)	See sunpath diagrams
Shade Factor (SF)	See sunpath diagrams
Estimated output (kWp x Kk x SF)	4180 kWh

Important note: The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of sunlight from location to location and from year to year. This estimate is based upon a model that takes account of meteorological data at your location and makes an allowance for losses due to shading of the panels. This is a complex calculation however, and no model can be 100% accurate. It should not be considered a guarantee of performance.

If shading is present on your system that will reduce its output to the factor stated. This factor was calculated using industry standard shading methodology and we believe that this will yield results within 10% of the actual energy estimate stated for most systems.

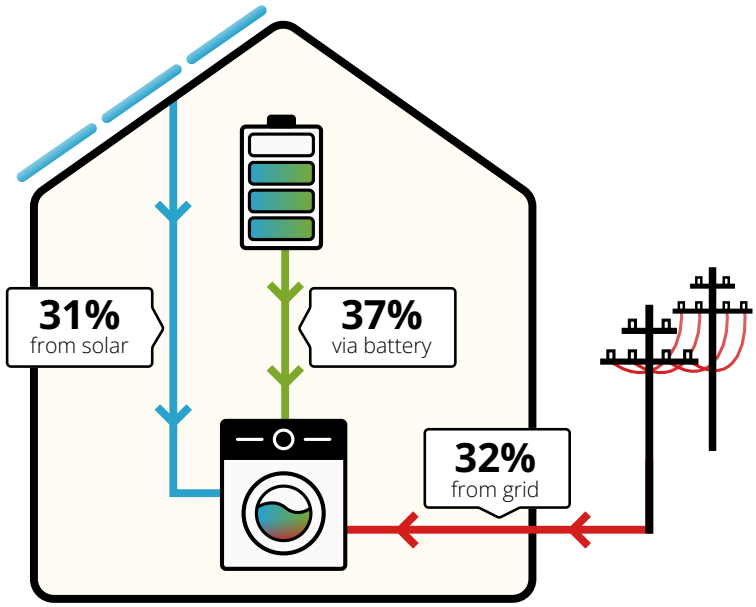
Battery Storage

We have included a 11.6 kWh battery storage unit in this proposal. On sunny days, when your PV array is producing more electricity than you are using in the property, you will be able to store the spare energy and use it at night.

Battery storage systems increase the proportion of electricity generated by a solar PV array that is consumed in the property rather than exported to the grid. Excess solar energy that is not needed during the day can be stored and subsequently used overnight

This leads to financial savings, as you replace expensive imported electricity (at 50p per kWh) with free electricity generated by your solar panels.

Where will your power come from?



Annual Power Requirement: 4180 kWh

How battery storage reduces your grid dependence

Including battery storage will reduce your grid dependence by an extra 37% compared with a PV-only system. You should only need to buy around 32% of your power from the grid.

68%
total reduction of grid dependence with battery

Estimated PV self-consumption - PV only	
Assumed occupancy archetype	home all day
Assumed annual domestic electricity consumption	5200 kWh
Expected solar PV self-consumption (PV Only)	1630 kWh
Grid electricity independence / Self-sufficiency (PV Only)	31%

Estimated PV self-consumption - with EESS	
Assumed usable capacity of electrical energy storage device, which is used for self-consumption	10.4 kWh
Expected solar PV self-consumption (with EESS)	3511 kWh
Grid electricity independence / Self-sufficiency (with EESS)	68%

Important note: We have used the recommended MCS method to determine the likely self consumption of your property. We have assumed you are home all day and that your annual electricity consumption is 5200 kWh.

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.

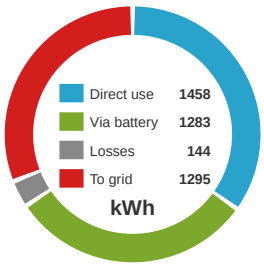
Your energy explained

In addition to the MCS calculation of system output we have run a more detailed model of your system to estimate how much of the electricity generated by the system you are likely to use yourself and how much will go to the grid.

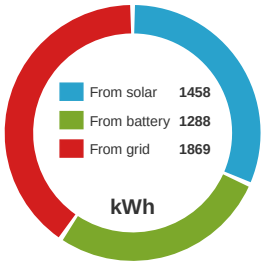
Smart Export Guarantee (SEG) information

The Smart Export Guarantee(SEG) enables Generators to receive payments from electricity suppliers for the electricity they export back to the National Grid, providing specific criteria are met. Your installation will be MCS accredited, which means that you should be able to apply for SEG payments from your electricity supplier. Further details on the SEG and its eligibility requirements, including how to apply, can be found online at ofgem.gov.uk

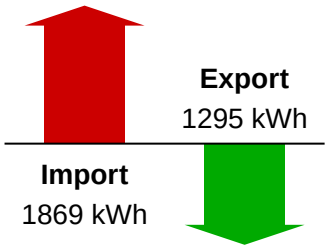
Annual Generation



Annual Consumption

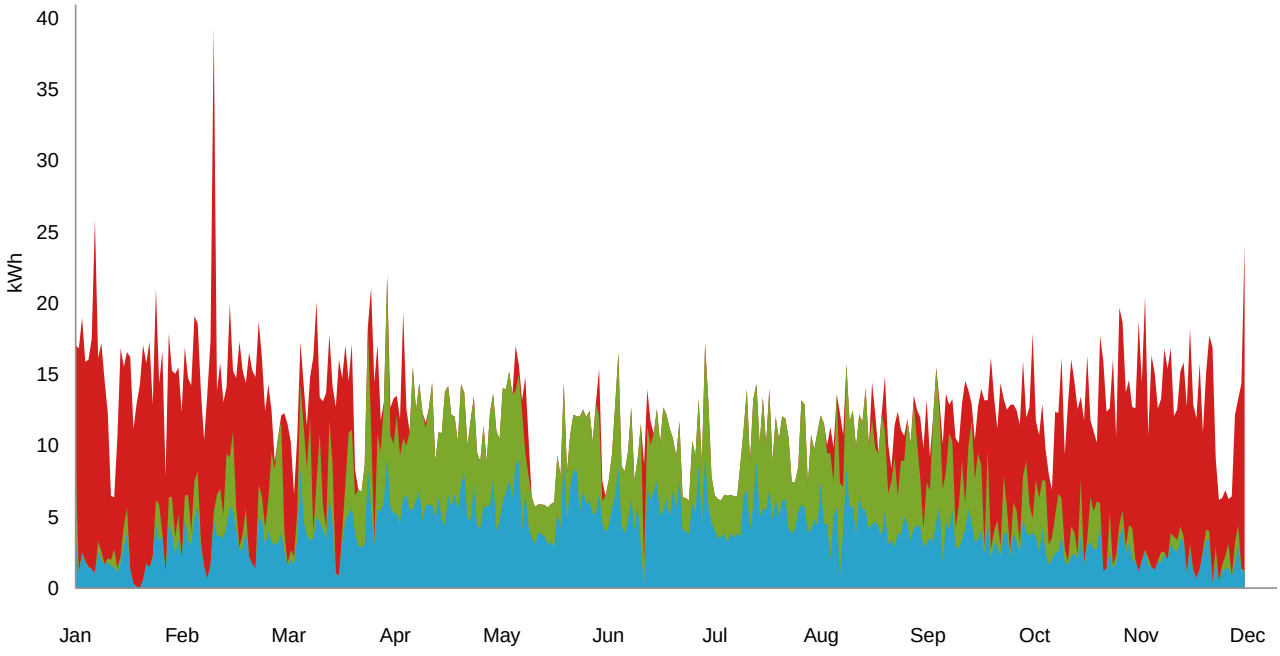


Annual Import/Export



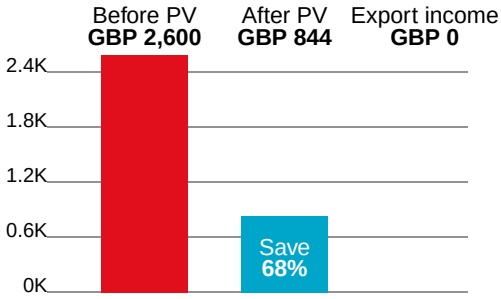
Where your electricity will come from in a typical year

Based on an electricity usage of 4,600 kWh per year, the graph below shows how much electricity used in the property is expected to come directly from the solar panels (blue) , how much is expected to come from battery storage (green), and how much is expected to be imported from the grid (red).



Financial Benefits

Based on our model we expect you to self consume 3,511 kWh of the 4,180 kWh of electricity the system should generate - providing 68% of the annual electricity consumption of 5,200 kWh in the property.



At an electricity tariff of £0.50/kWh, that's a saving of **£1,756** on your electricity bill - down from £2,600 at present! Your new bill could be **just £844 per year.**

Overall, your savings and benefits are expected to be around £1,756 in the first year after the system is installed.

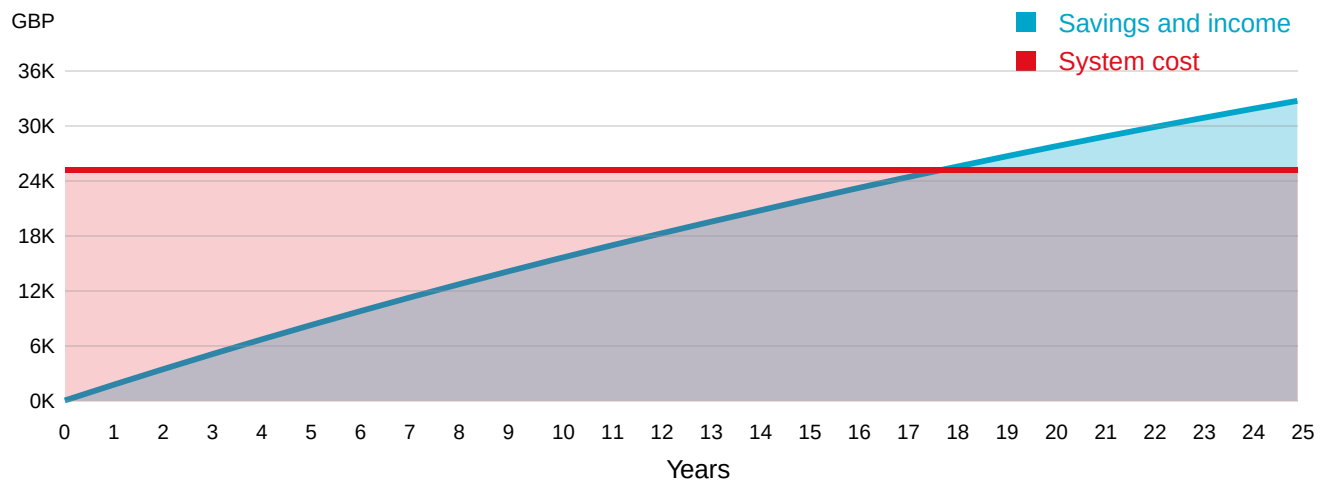
Payback

Using a more detailed model that also takes account of longer term factors such as inflation, gradual degradation in panel output over time and financial discount rates[1], **we expect the system to pay for itself in 18 years.**

Over a projected 25 year lifetime, we expect the system to have a **Net Present Value of £7,829.** A positive net present value is a good indication that an investment is financially worthwhile.

Disclaimer: Nothing in life is certain. Cloudy periods, growing trees, and even pigeon droppings can affect the output of your array. No-one really knows how electricity tariffs will change in the future, or what inflation will be in 10 years time. We have based our calculations on an inflation rate of 2%, electricity price that rises with inflation, a discount rate[1] of 4%, an import electricity tariff of 50p/kWh, and export payments of 0.0p/kWh. Returns are not guaranteed.

[1] Financial discounting is a method used to calculate the worth of future money in today's terms.



Environmental Benefits

Your new PV system will supply your property with clean, green electricity - and in sunny periods some will also be exported back to the grid.

Overall you'll be making a big contribution to reducing CO_2 not just by lowering the carbon intensity of your own electricity, but by putting low-carbon electricity back in the grid for others to use too.

Your current electricity supply produces

1,104 kg CO_2 each year

68% will be supplied by solar, saving

746 kg CO_2 each year

669 kWh will be exported, saving

142 kg CO_2 each year

Total savings

888 kg CO_2 each year

Your yearly CO_2 reduction of 888 kg is equal to...

a car ride of 3,170 miles

CO_2 absorbed by 41 trees

Disclaimer: We calculate and compare the likely annual CO_2 emissions for your home based on your generation and usage with the solar PV system detailed in this document versus estimates for a property like yours using energy from the grid. Your actual CO_2 emissions will depend on lots of factors, like how much energy your solar panels generate, how much of this energy you use directly and how much energy you continue to use from the grid. To calculate what these savings equate to in miles driven, we base this on the CO_2 emissions of an average sized diesel car as outlined in the UK government's 'Greenhouse gas reporting: conversion factors 2022' (https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2022). To calculate what these savings equate to as the average amount of CO_2 absorbed by trees, we base this on a rate of 25kg per tree per year. Trees absorbs anywhere between 10 and 40kg of CO_2 per year on average, depending on a whole host of factors including the species, location, planting density, and age.

Quote

Easy PV
Solar design made simple

Mr & Mrs White
Academy house
Main St
Padbury
Buckingham

Quote reference: 755307
Quote date: 09/02/2024
Quote by: Tom Wilkinson
Quote validity: 90 days

Description of goods and services	Price
Goods	
12x Trina Vertex S+ 415W Dual Glass N-Type (White Backsheet) solar panel	£1,646.40
SolaX X1 G4 6.0D hybrid inverter	£1,846.53
SolaX Triple 5.8kWh LFP Battery (Master Console)	£3,288.25
SolaX Triple 5.8kWh LFP Battery (Slave Console)	£2,707.25
Fastensol and GSE mounting	£2,140.67
Electrical and ancillary items	£255.32
Goods total	**£11,884.42**
Services	
Garfield Electrical Ltd - Labour costs	£3,675.00
Adept Roofing and scaffolding Contractors Ltd	£9,297.34
Services total	**£12,972.34**
Total before VAT	£24,856.76
VAT at 0%	£0.00
Total including VAT	**£24,856.76**

Order form

To proceed with this order please sign below to acknowledge that you have read and accept the information contained within this quote document and our terms and conditions.

Customer signature _____

Customer name _____

Date _____