

YOUR SOLAR QUOTE

Hi Lacey.

Thanks for choosing us to provide a design for a solar PV system at Village Hall, Ringshall Stocks, Stowmarket , UK, IP14 2JB.

We're delighted to supply the attached proposal for a 13.76 kW solar array.

We expect your system to generate 12,742 kWh of clean electricity every year, and save 2,706 kg CO₂ of carbon.

There are full details on the following pages. We hope you enjoy the read!

Kind regards,

James Corston

Suffolk Solar



13.76 kW PV System

22 x 430W & 10 x 430W
panels,
1 x SolaX X3 G4 15.0kW
hybrid



£22,741 inc VAT

Expected payback 7
years. Estimated first
year savings £2,534



12,233 kWh/yr

Annual CO₂ savings
of 2,706 kg

System Overview

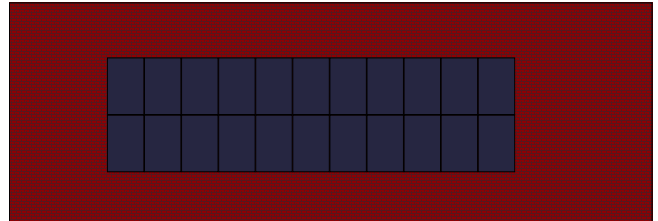
Your system comprises **32 DMEGC solar panels** to collect sunlight and turn it into DC electricity.

The panels will be connected to **1 SolaX X3 G4 15.0kW hybrid inverter**, which converts the DC electricity into mains (AC) electricity.

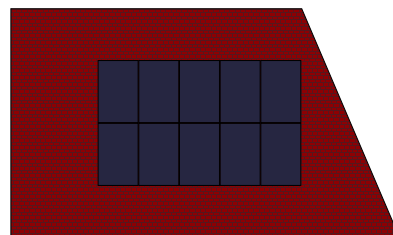
A SolaX Triple 5.8kWh LFP Battery battery storage system will allow you to store excess energy from sunny days, so that you can use your generated electricity at night too.

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.

Roof South West



Roof South East



Solar Panels: DMEGC x 32

DM430M10RT-54HBB DM430M10RT-54HBB-V

Model	DM430M10RT-54HBB DM430M10RT-54HBB-V
Power	430 watts
Dimensions	1134 x 1762mm



Inverter: SolaX X3 G4 15.0kW hybrid

The SolaX G4 has several communication options, can be controlled remotely and has an emergency power system to function through power outages.

AC Power	15000 watts
Trackers	2

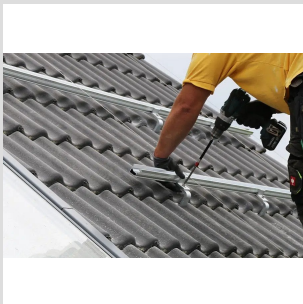
System components



Battery: SolaX Triple 5.8kWh LFP Battery

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

Capacity	Primary: 5.800 kWh, Secondary 5.800 kWh
Quantity	1 x Primary, 3 x Secondary



Mounting: K2 SingleRail mounting system

Since 2004, K2 Systems has developed pioneering and highly functional mounting system solutions for photovoltaic assemblies around the world.

Designed for	Plain Tile 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.

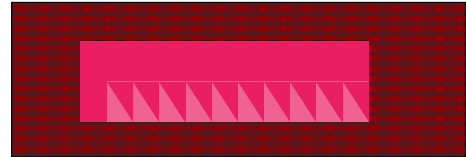
The orientation of the system

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

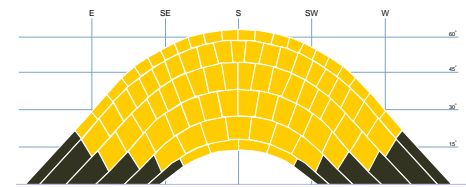
If you have trees, neighbouring buildings or nearby high ground that will shade your PV array, the output of the system will be reduced. We have used a 'sunpath diagram' that estimates how often sunlight will be blocked from reaching the panels.

Roof diagram

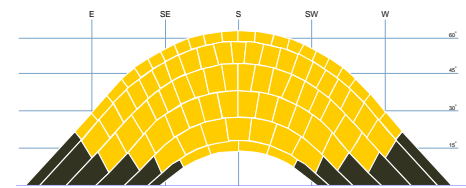


Roof South West Orientation: 36° Pitch: 40°

Sunpath diagrams



Shade factor: 1.00 Kk: 926



Shade factor: 1.00 Kk: 926

**We expect your system to generate
12,742 kWh per year**

Installation data

Installation capacity of PV system – kWp (stc)	14 kWp
Orientation of the PV system – degrees from South	36°
Inclination of system (pitch) – degrees from horizontal	40°
Postcode region	Zone 12

Performance Calculations

kWh/kWp (Kk)	See sunpath diagrams
Shade Factor (SF)	See sunpath diagrams
Estimated output (kWp x Kk x SF)	12742 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.

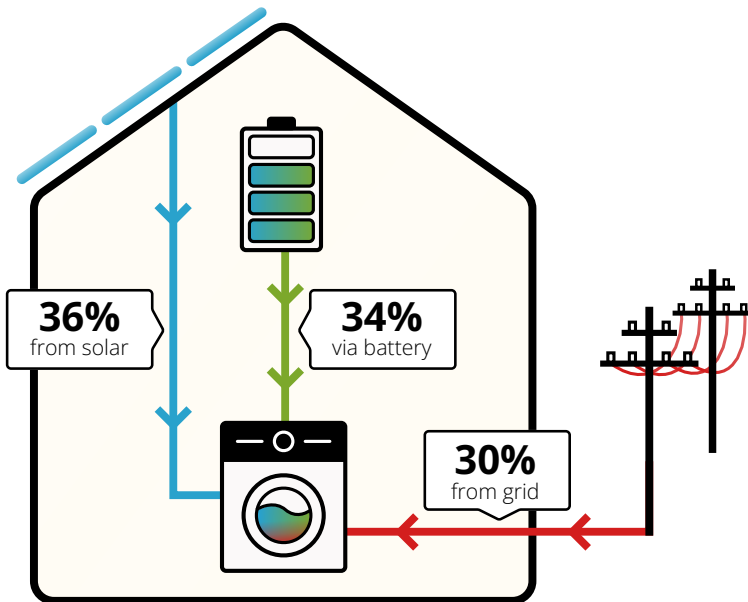
Battery Storage

We have included a 23.2 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 40p per kWh) with free electricity generated by your solar panels.

Where will your power come from?



Annual Power Requirement: 12742 kWh

How battery storage reduces your grid dependence

Including battery storage will reduce your grid dependence by an extra 34% compared with a PV-only system. You should only need to buy around 30% of your power from the grid.

70%
total reduction of grid dependence with battery

Estimated PV self-consumption – PV only

Assumed occupancy archetype	in half the day
Assumed annual domestic electricity consumption	9000 kWh
Expected solar PV self-consumption (PV Only)	3231 kWh
Grid electricity independence / Self-sufficiency (PV Only)	36%

Estimated PV self-consumption – with EESS

Assumed usable capacity of electrical energy storage device, which is used for self-consumption	20.88 kWh
Expected solar PV self-consumption (with EESS)	6335 kWh
Grid electricity independence / Self-sufficiency (with EESS)	70%

Important note: Rather than using the MCS calculation model we have used an alternative calculation system provided by Easy PV to determine the likely self consumption of your property. This may be because the estimated system output for this solar PV system is over 6000 kWh annually, or has a battery capacity of over 15.1 kWh, or there are other factors that mean this calculation system will be more accurate for your specific solar PV system. We have assumed that your annual electricity consumption is 9000 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 given as guidance only. It should not be considered as a guarantee of performance.

Your energy explained

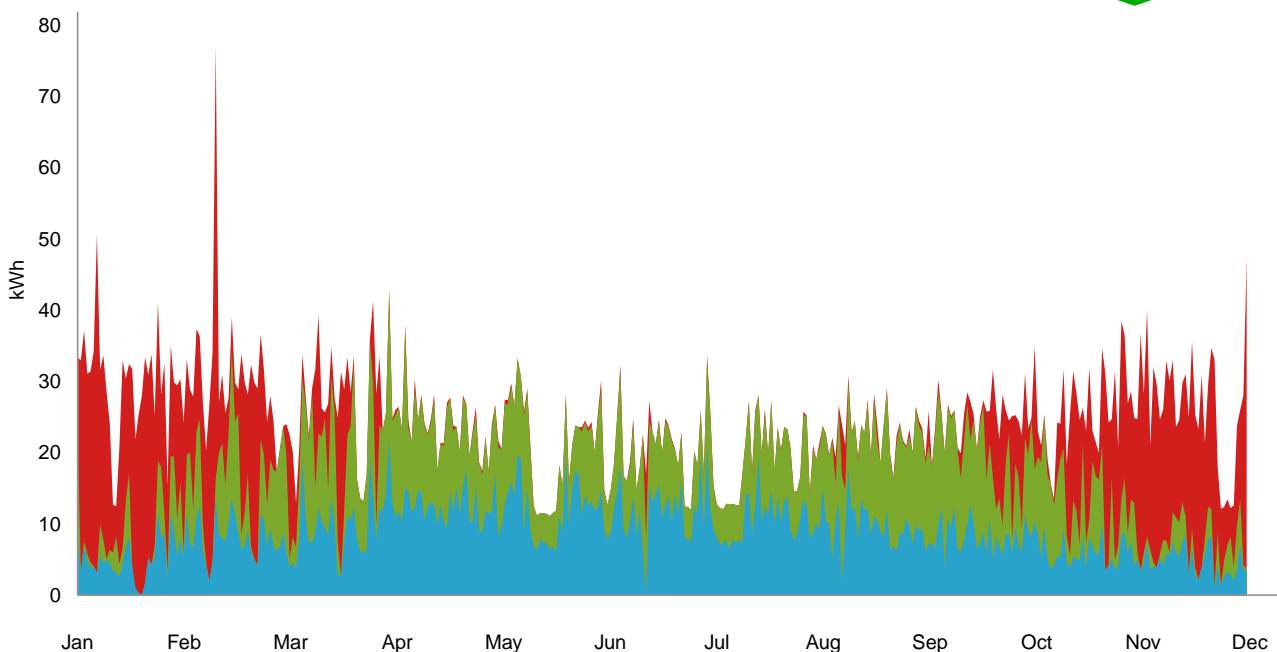
In addition to the MCS calculation of system output we have run a more detailed model of your system to estimate how much of the electricity generated by the system you are likely to use yourself and how much will go to the grid.

Smart Export Guarantee (SEG) information

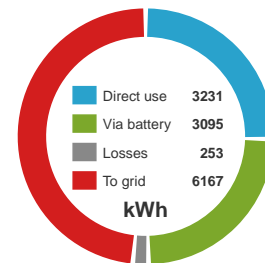
The Smart Export Guarantee (SEG) enables Generators to receive payments from electricity suppliers for the electricity they export back to the National Grid, providing specific criteria are met. Your installation will be MCS accredited, which means that you should be able to apply for SEG payments from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

Where your electricity will come from in a typical year

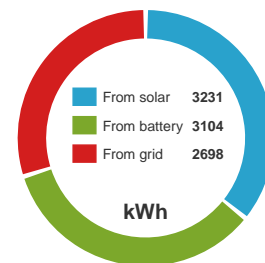
Based on an electricity usage of 9,000 kWh per year, the graph below shows how much electricity used in the property is expected to come directly from the solar panels (blue), how much is expected to come from battery storage (green), and how much is expected to be imported from the grid (red).



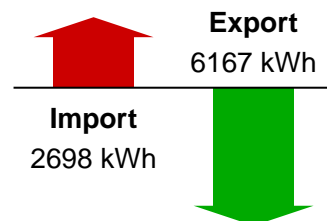
Annual Generation



Annual Consumption



Annual Import/Export

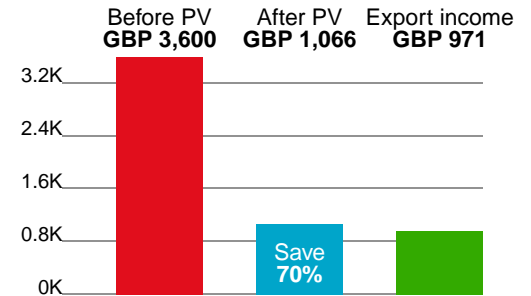


Financial Benefits

Based on our model we expect you to self consume 6,335 kWh of the 12,742 kWh of electricity the system should generate - providing 70% of the annual electricity consumption of 9,000 kWh in the property.

At an electricity tariff of £0.40/kWh, that's a saving of **£2,534** on your electricity bill - down from £3,600 at present! Your new bill could be just **£1,066** per year.

5,883 kWh of excess solar energy will be exported to the grid. If you are paid by your supplier at £0.17 per kWh, you will receive an additional **£971** in income from them.



Overall, your savings and benefits are expected to be around £3,505 in the first year after the system is installed.

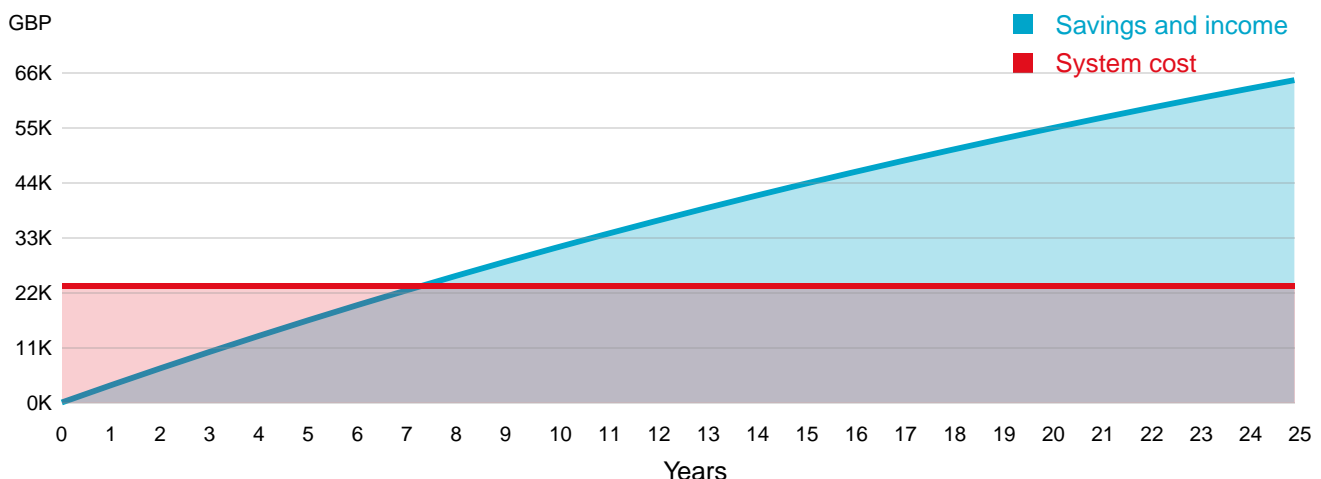
Payback

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 rates¹, we expect the system to pay for itself in 7 years.

Over a projected 25 year lifetime, we expect the system to have a **Net Present Value of £41,723**. 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 rate¹ of 4%, an import electricity tariff of 40p/kWh, and export payments of 17p/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 CO₂ 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

1,911 kg CO₂
each year

72% will be supplied by solar, saving

1,369 kg CO₂
each year

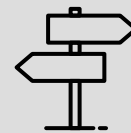
6,294 kWh will be exported, saving

1,336 kg CO₂
each year

Total savings

2,706 kg CO₂
each year

Your yearly CO₂
reduction of 2,706 kg
is equal to...



a car ride of 9,663
miles



CO₂ absorbed by 124
trees

Disclaimer: We calculate and compare the likely annual CO₂ 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 CO₂ 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 CO₂ 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 CO₂ absorbed by trees, we base this on a rate of 25kg per tree per year. Trees absorb anywhere between 10 and 40kg of CO₂ per year on average, depending on a whole host of factors including the species, location, planting density, and age.

Quote



Lacey Luther
Village Hall
Ringshall Stocks
Stowmarket
UK

Quote reference: 848954
Quote date: 01/05/2024
Quote by: James Corston
Quote validity: 30 days

Description of goods and services	Price
Goods	
32x DMEGC solar panel	£3,203.20
SolaX X3 G4 15.0kW hybrid inverter	£2,716.56
SolaX Triple Power 5.8kWh Battery - TP58 (Primary)	£2,893.66
3x SolaX Triple Power 5.8kWh Battery - TP58 (Secondary)	£7,147.14
K2 SingleRail mounting	£2,754.38
Electrical and ancillary items	£2,526.20
Scaffold	£1,500.00
Goods total	£22,741.14
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	Total before VAT £22,741.14
	VAT at 0% £0.00
Total including VAT £22,741.14	

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
