



Bryce Energy Services
Your Expert Energy Consultant

Solar Panels Output and ROI Calculator.



Hello John Smith,

This is your estimated output results for the Solar Panel Array as entered on Bryce Energy Services – Solar Panel Output Calculator.

Summary Results from Solar Panel Calculator:

The details of your proposed Solar Array system...

This section you entered the key details of the electric chargers, the rating, and the number you plan to install.

Number of Solar Panels to be installed:		Power Output of Each Panel
<i>1,000 Panels</i>		<i>.4 kW</i>
Maximum potential power output	Area of Panels in square meters	Weight of Panels in kilogrammes
<i>400.000 kWp</i>	<i>2,000 sqm</i>	<i>21,000 kg</i>
Cost of Panels including Installation	Enter a £ correction value + or	Total Cost of Solar Panel Array:
<i>£ 400,000</i>	<i>£ 0</i>	<i>£ 400,000.00</i>
Estimated at £1 per W installed. Note excludes network upgrades which could add £1,000s to £10,000s	If you have a quote for the hardware, enter the difference to the estimated value.	

Solar Panels - Layout and Angle of Panels.

This is the biggest variable when determining the likely output of the solar panels, how they are positioned

and their mounting angle towards the sun. For a 1000-Watt System, 850 kWh per Year is Good!

Panels installed Lying flat to Optimum	<i>[0.81,1.04]</i>	From direction east or west, in shade, northern Scotland, to optimum Angle, looking south, no shade, southern England.
Minimum Annual Output	Typical Annual Output	Maximum Annual Output
<i>324,000 kWh</i>	<i>370,000 kWh</i>	<i>416,000 kWh</i>

Your Business Existing Electricity Supply

Details on your electricity supply, details from a recent electricity bill. If not known, leave default values.

Your Annual use in kWh	Your Supply Capacity in kVA	Your Day time Rate £ per kW	Solar Selling Rate £ per kW
<i>250,000 kWh</i>	<i>100 kVA</i>	<i>£ 0.28</i>	<i>£ 0.11</i>
From your business electricity bill, ideally total for full year.	From your business electricity bill, located near your premises information or meter number box	From your business electricity bill. It is assumed this £ rate applies between 6am and Midnight.	From your business electricity contract. This is how much you would earn from each kWh exported to the Grid.

Requirements for Supply Capacity

Depending on the size of the solar array to your installed kVA capacity, an upgrade may be required by the local electricity company.

Current Supply Capacity	Required Capacity for Solar	Required Supply Capacity
<i>100.00 kVA</i>	<i>480.00 kVA</i>	<i>480.00 kVA</i>
Enter above, information available on electricity bill.	Allowing for Power Factor of 0.2 and all kW Exported.	Allowing for Power Factor of 0.2 from Solar Panel kW.

Self-Consumption of Solar Generation

% of Electricity Generated consumed on Premises.	0.80 / 1
If a large solar system, likely not all electricity generated can be consumed on premises. Consider the difference in maximum solar output in kW and your use in kW during Summer at 12pm.	

Potential Payback on Solar Panel Array

Based on the data entered, this section calculates the margins and simple payback from the user entered cost and selling rates.

kWh Output.	Savings on Electricity In	Value from Sale of Electricity	Cost of Solar Project	Payback Period
Minimum kWh	£ 72,576.00	£ 7,128.00	£ 400,000.00	5.02 Years
Typical kWh	£ 82,880.00	£ 8,140.00	£ 400,000.00	4.39 Years
Maximum kWh	£ 93,184.00	£ 9,152.00	£ 400,000.00	3.91 Years

Greenhouse Gas Emissions are:

Based on UK Government Greenhouse Gas Conversion factors 2021.

For the business without the Solar Panel:		
Scope 2 Electricity Emissions	Scope 3 T&D Emissions	Total Carbon Emission
53.08 tCO ₂ e	4.70 tCO ₂ e	57.78 tCO ₂ e
Offset emissions from Solar Panel generation		
Scope 2 Electricity Emissions	Scope 3 T&D Emissions	Total Carbon Emissions
78.56 tCO ₂ e	6.95 tCO ₂ e	85.51 tCO ₂ e
Giving a total Net GHG Protocol emissions of: -27.73 tCO₂e		



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UK VAT Receipt for the calculator.

VAT Invoice.

To:	<i>Large Business Ltd</i>	From:	Bryce Energy Services Ltd
Address:	<i>Newcastle Upon Tyne</i>	Address:	4 Victoria Mews, Newcastle Upon Tyne, NE2 1ER.
Contact:	<i>John Smith</i>	Date:	14/06/2022

Electric Vehicle Charger Calculator

Your Reference Description	Item Cost:	VAT at 20%:	Total Paid:
<i>Option X for Solar Project</i>	£25.00	£5.00	£30.00

The Terms and conditions of Bryce Energy Services Ltd service are Accepted.

Companies House UK Number: 12555454

VAT Number: GB 356 2286 87



NOTE: This calculator is an estimate of your solar panel system based on data provided, so we can accept no liability for its accuracy. Any comments you have or suggestions for items to include in our electric charging calculator please let us know.

For further information or help to further detail your electric vehicle charging requirements, and improve your business energy efficiency, and to create a plan for carbon neutrality, please contact us;

Email:	Telephone:	Website:
info@BryceEnergyServices.com	0191 580 6543	http://www.BryceEnergyServices.com

Regards,

Bryce Energy Services.

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