

Solar PV Proposal for: -

**Mr Simon O'Conner
Primrose Farm
The Green
Wicklewood
Wymondham
NR18 9PX**



About Us

Spartek are a young vibrant company established in 2009 and have successfully completed hundreds of installations ranging from domestic new build houses to large scale solar farms. No job is too big a challenge and we always work to a high standard. The Spartek collective pulls together years of knowledge and a wide array of experience.

We are NICEIC Electrical Contractors and SafeContractor approved.

Our supervisors and managers are CITB SMSTS qualified and we offer a professional service, maintaining high standards and conform to all relevant regulations and requirements.

Whether we work to you directly or through a subcontractor, we always deliver the same attention to detail and high-quality service.

We utilise the latest technologies to make sure that you receive the level of service you deserve.

About Solar PV

Solar PV generates clean renewable energy for your home from sunlight.

Solar PV panels generate DC energy, similar to that in batteries, when exposed to sunlight. This energy is fed to an inverter which turns it into the usable AC energy that our appliances run on.

Using clean solar PV energy from your roof reduces the amount of energy you need to buy from your energy supplier, so your monthly electricity bill will see immediate reductions.

Being a renewable energy source, solar PV can also help your business to reduce carbon emissions and present a sustainable and environmentally responsible face to your customers.

Solar PV systems are designed to operate with very little management for up to 25 years and many continue to operate well beyond that, guaranteeing clean energy for many years to come.

Unit 23 Norwich Road Industrial Estate,
Watton, Norfolk, IP25 6DR
Telephone 01953 882787
Email info@spartek.co.uk

Executive Summary

We are pleased to offer this solar PV installation proposal for your consideration.



Fig 1) Proposed PV Array Layout

Total Capacity	Qty of PV modules	Annual Generation	CO2e Reduction	Annual Savings	Project Cost
6.12kWp	18	5,881kWh	1,510kgs	£838.00	£5,124 + VAT

Detailed Project Description

The building is located in Norfolk, in a rural area.

For the system to operate as efficiently as possible, we have calculated that the southern roof elevation can accommodate approximately 18 solar modules. The layout of the array may require planning permission, and this cost is excluded from the quotation.

We have proposed Tier 1 340W monocrystalline solar modules, installed in 3 rows of 6 in landscape to maximise the roof space available, giving a total installed capacity of 6.12kWp.

Tier 1 solar modules are provided with a 12-year product warranty and 25-year linear power output warranty meaning that your investment is protected

This means that the modules are guaranteed to produce 83.1% of full rating even after 25-years of service.



Fig 2) Proposed roof mounting

The modules will be connected in strings to a 5.0kW single phase Solis inverter, operating at 98% efficiency.

Wi-Fi connectivity means that the inverter could connect to the internet, via a suitable Wi-Fi signal, providing remote monitoring of system performance and event history leading to speedy rectification in the event of a fault.

Solis inverters are supplied with a 5 year warranty which can be upgraded for additional cost.

You have confirmed you will supply a suitable electrical connection point. The inverter has a max Ac output current of 25A.

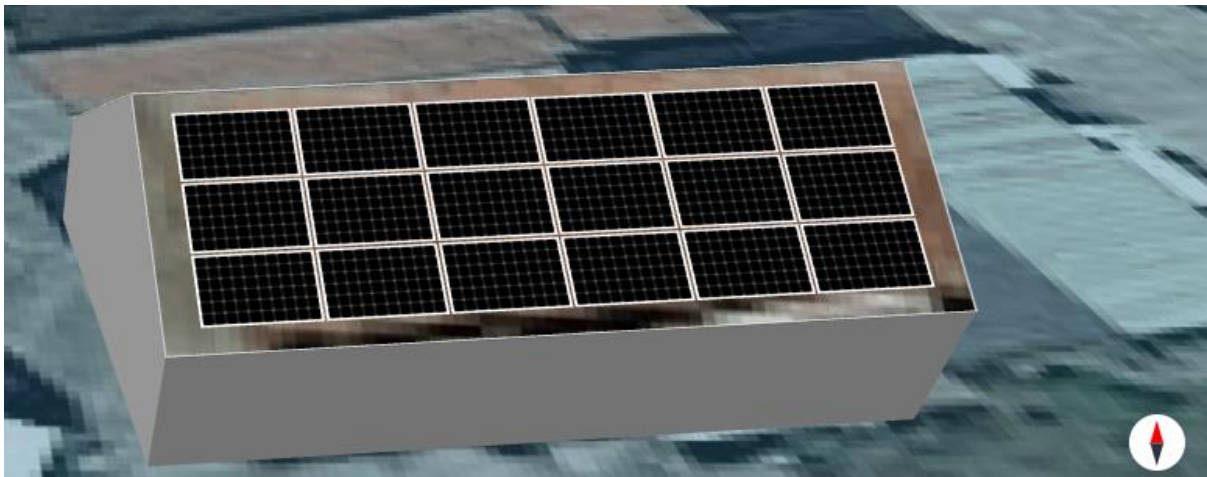


Fig 3) Proposed PV Array Layout

We have calculated the building is orientated at 5° SE and the roof pitch is approximately 40°. This allows us to calculate annual yield of the PV array at 5,881kWh per year, giving a reduction of 1,510kgs CO₂e emissions per year.

We have calculated that if approximately 95% of the energy generated will be consumed on site, savings of £838 could be realised in the first year giving an approximate payback period of 5 years.



We have included a financial illustration to demonstrate the viability of an investment into solar PV for Primrose Farm.

Financial Model Assumptions

Daytime electricity import cost per unit £/kWh	0.150
Import electricity inflation. %	5
Cost of system ex vat	£5,124.00
Annual PV system output	5,881.00
PV system output over 25yrs	117,620
Export Tariff Rate £/kWh	0.058
Self-Consumption %	95
Export %	0
Annual degradation of system %	0.54
CPI %	1.5
System size kWp	6.12

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Financial Illustration

Year	Import Saving	Export Income	Total Benefit	Cumulative Benefit
1	£838	£0	£838	-£4,286
2	£880	£0	£880	-£3,406
3	£924	£0	£924	-£2,482
4	£970	£0	£970	-£1,512
5	£1,019	£0	£1,019	-£493
6	£1,070	£0	£1,070	£576
7	£1,123	£0	£1,123	£1,699
8	£1,179	£0	£1,179	£2,879
9	£1,238	£0	£1,238	£4,117
10	£1,300	£0	£1,300	£5,417
11	£1,365	£0	£1,365	£6,782
12	£1,433	£0	£1,433	£8,215
13	£1,505	£0	£1,505	£9,720
14	£1,580	£0	£1,580	£11,300
15	£1,659	£0	£1,659	£12,960
16	£1,742	£0	£1,742	£14,702
17	£1,829	£0	£1,829	£16,531
18	£1,921	£0	£1,921	£18,452
19	£2,017	£0	£2,017	£20,469
20	£2,118	£0	£2,118	£22,587
21	£2,224	£0	£2,224	£24,810
22	£2,335	£0	£2,335	£27,145
23	£2,451	£0	£2,451	£29,596
24	£2,574	£0	£2,574	£32,171
25	£2,703	£0	£2,703	£34,873

TOTAL Benefit	£39,997
Less Upfront Investment	£5,124
Your Net Profit	£34,873
Compound Annual % Growth Rate	9%
Solar Pv electricity equivalent cost p/kWh	£0.04
Savings on Current Rate in p/kWh	£0.11
Annual Co2 Reduction - Tonnes	1.51



Inclusions, Exclusions and Assumptions

Included in our proposal are the following: -

- 18 x 340W Mono Solar Panels
- 1 x 5.0kW Solis Single Phase Inverter with Wi-Fi
- "Pantile" Type Roof Mount System
- Tower scaffold
- All DC components
- Metering Equipment
- Test & Commissioning
- G99 Connection Application
- MCS Certification

Excluded from our proposal are the following: -

- Planning permission where required
- Any additional fees levied by the DNO
- Welfare facilities
- Suitable electrical connection point.

In preparing this proposal we have made several assumptions. If you disagree with any of the assumptions detailed below then please contact us to update our information.

We assume: -

- The roof is capable of supporting the additional loads.
- The DNO will grant full export capacity for the array.
- The electrical infrastructure carries suitable sufficient spare capacity for this proposal.
- Energy tariff is assumed at £0.15/kWh.
- CO2 factor is assumed at 0.256kgs per kWh.

Payment Terms and Conditions

Our standard payment terms apply unless otherwise stated.

25% deposit on order placement.

50% due prior to materials being delivered to site.

25% on completion.

Should you require any additional terms then please don't hesitate to contact us.

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