CASE STUDY

Ground Mount Solar & Battery Installation

Private Customer, Royston, Hertfordshire

PROJECT OVERVIEW

Our clients' instructions were to design a system which provided him with an array which reduced his energy dependency to the grid and allowed scalability in the future to increase the battery size and further reduce the clients dependency on the grid and continual energy price increases.

WHERE
Royston, Hertfordshire

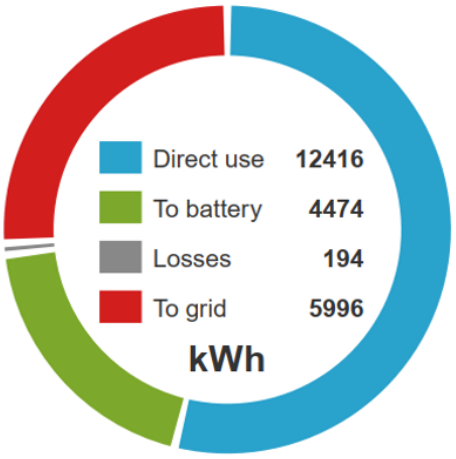
WHAT
Solar & Battery Storage

WHEN
Septermber 2023

TIME
1.5 Week

INSTALLATION DETAILS

The system comprised of 60 Jinko Tiger 410w N-Type high-efficiency bifacial double glass monocrystalline modules mounted on to SunFixings Ground Mounting system. The system was paired with Huawei 10kW M1 3ph hybrid inverter and a Huawei LUNA 5kWh Lithium Ion Battery for grid-tied operation. An estimated production of 23,080 kWh annually.



SYSTEM SPECIFICATION

- System Size: 24.6kWp
- Technology Used: Jinko Tiger 410w N-Type high-efficiency bifacial double glass monocrystalline modules.
- Equipment Brand and Model: Huawei 10kW M1 3ph hybrid inverter / Huawei LUNA 5kWh Lithium Ion Battery / Huawei LUNA BMS
- Total Number of Panels Installed: 81
- Estimated Annual Energy Production: 24,600 kWh
- Grid Tied with Grid failure Battery backup

Average battery utilisation

62%

ASPECT GROUP SERVICES

Aspect Group Services Ltd
Unit 11, Chestnut Drive, Wymondham Business Park, Wymondham, Norfolk, NR18 9SB Tel: 01953 660550 Email: enquiries@aspectgroupservices.co.uk

Company Registration Number: 2529333 VAT Registration Number: 255765669

Financials:

Energy Savings:

- **£115,697.00 over the system's lifetime**
- **The total cost of installation: £57,612.00.**
- **Estimated return on investment (ROI) of 10 years.**
- **Rate of return: Est. 10.9%**

CHALLENGE

One of the major challenges was designing a system to suit the clients needs, due to the high electrical usage at the property the roof coverage area wasn't sufficient for the installation of the proposed size of the array needed to significantly reduce the clients energy cost and start their journey to energy independence

SOLUTION

Given the client's ample land, we proposed and designed a system tailored to their budget and energy requirements. The design accounted for the distance from the property, ensuring the cable sizing matched the array's size and position relative to the house.

CONCLUSION

The successful completion of the clients Ground mounted solar PV array and Battery storage has provided the client the ability to reduce their energy dependency and outgoing costs – the successful project highlights our ability to adapt and design systems to suit any client's needs and budget.

Consumption Electricity consumed in the property each year	50000 kWh	**Generation** Electricity generated by the PV array each year	23080 kWh
Self consumption Proportion of PV generation used in the property	74 %	**Independence** Proportion of electricity consumption provided by PV	34 %
Import / Export Electricity import / export each year from the property	33303 / 5996 kWh	**Utilisation** Average daily utilisation of the storage battery	62 %

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