

Open Energi deliver and optimise the first ever solar site co-located with battery storage.

Grid Scale Battery: Sapphire Battery Energy Ltd

Summary

In September 2018, Open Energi began helping Sapphire Battery Energy Ltd to maximise the energy trading revenues from their 0.5MW Tesla battery co-located with rooftop solar PV, one of Britain's first and largest "behind the meter" commercial and industrial solutions. The complex solar site is optimised against a range of export and import opportunities, including Firm Frequency Response (FFR), DUoS, GDUoS, the Capacity Market (CM) Levy, Triad import and export.

The battery consistently generates exceptional revenues across grid services. Its complex operation is fully managed by Dynamic Demand 2.0, Open Energi's market-leading technology platform enabling the asset to trade flexibility and make substantial savings on their peak energy costs.

As the UK's first solar site to be optimised alongside export opportunities, Open Energi's experience in managing complex battery systems is crucial to the success of the site. Dynamic Demand 2.0, Open Energi's algorithmic platform identifies the best opportunities to maximise incomes and allows complete flexibility in trading across the widest variety of grid services. It automates dispatch instructions to the battery, whilst its patented state of charge management system minimises degradation, keeping cycling and throughput to a minimum.

Open Energi has successfully generated revenues from FFR, whilst maximising savings across DUoS, GDUoS, the Capacity Market (CM) Levy, Triad import and export in addition to energy import and export.

The Results

- It consistently outperforms benchmark averages across the UK storage market
- UK's first solar site to be optimised alongside export opportunities
- Annual performance benefits continue to increase year on year, in excess of 48% in recent periods.
- Battery cycling has been minimised to below one cycle per day, within warranty limits, despite significant volatility and the stacking of different actions.

Asset:



500kW / 900kWh
Tesla (Lithium-ion)
battery

Services:



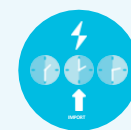
Solar and
battery co-
location



Firm
Frequency
Response



Warranty
management



Triad



Capacity Market

The Solution

At Sapphire Energy Ltd, Open Energi have implemented our Dynamic Demand solution, which delivers fully automated optimisation and dispatch.

The platform seamlessly stacks and switches between different markets including Dynamic FFR and Triads – maximising the benefit from each and minimising downtime.

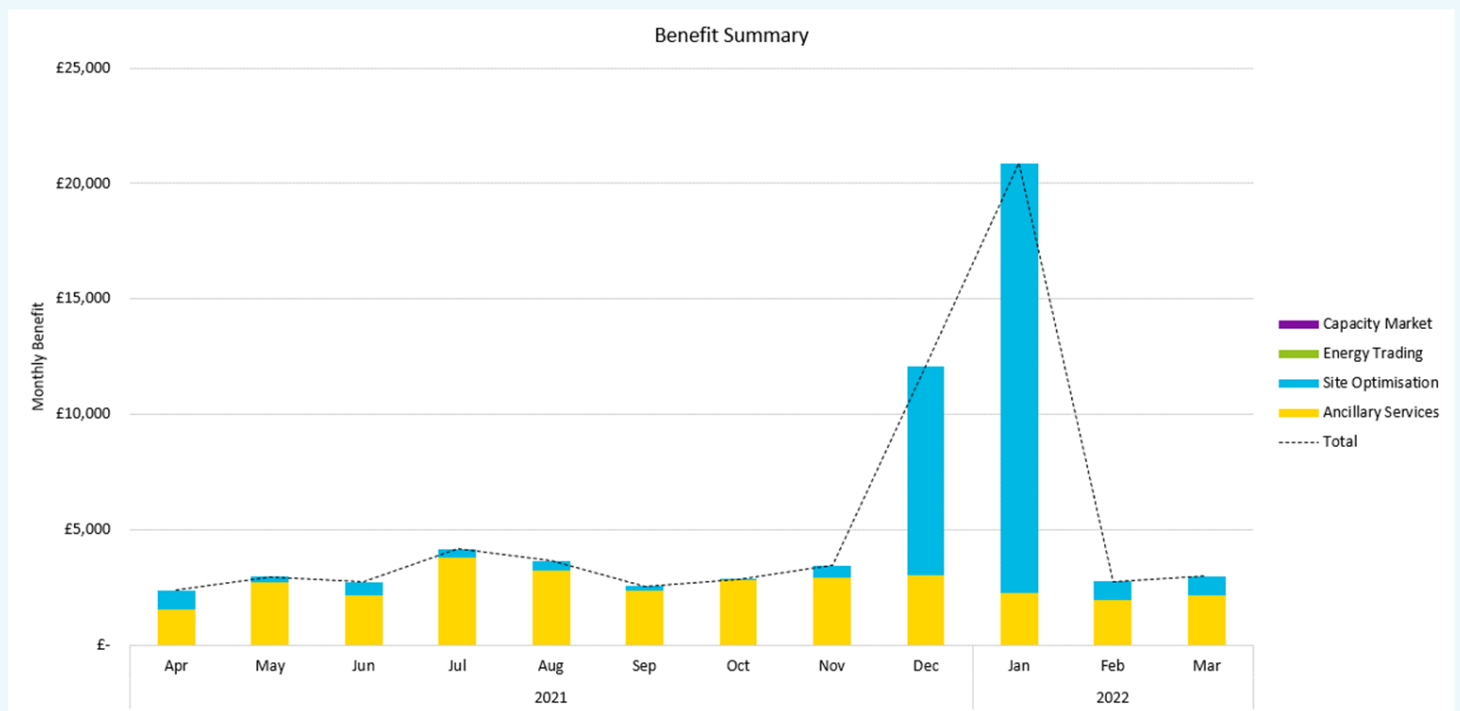
Dynamic Demand is powered by AI to automatically analyse trading decisions across multiple time horizons, that generate the best revenues for Sapphire Energy Ltd.

Real-time state of charge information from the battery is combined with ancillary grid services insights and then once approved, Dynamic Demand activates trades and automatically adjusts the battery's state.

Throughout the process, our patented State of Charge management works continuously to reduce throughput and re-balance the battery within its optimum state of charge and warranty constraints, utilising a unique combination of cloud and edge control technology.

Key Outcomes

- Minimised cycling and throughput below **one cycle a day**
- Annual performance benefits continue to increase year on year, in excess of 48% in recent periods.
- The UK's first solar co-located site to be optimised alongside export opportunities.



How can Open Energi help you?

Open Energi is the trusted global partner to maximise returns for investors and owners of battery storage and low carbon technologies. We use pioneering AI automation and market-leading State of Charge management to trade and optimise energy flexibility across any energy market or service.

info@openenergi.com

+44 (0)20 3051 0600

openenergi.com

twitter.com/openenergi

linkedin.com/company/open-energi

Talk to us about how we can help you maximise your returns.