

Proposal for Battery Storage System at Liskeard Town Hall

Summary

Liskeard Town Hall solar array on an average day generates more electricity than is consumed yet in 2024 £10k of electricity is estimated to be drawn from the grid. This is due to a disconnect between when the electricity is generated and when it is utilized. A £13k battery system will recoup costs within 3.2 years and provide a yearly savings of £1.3k.

Limitations and Assumptions

This proposal excludes the main hall and catering kitchen supply although provision for this could be included later.

Average daily consumption and generation figures have been used. Smart meters have recently been installed that will enable us to closely monitor intraday generation and consumption.

FiT – this is not expected to be reduced however a third of the yearly FiT income has been subtracted from the savings figures below as a worse case scenario.

Conservative estimates and calculations have been used throughout.

Justification

18 kWh/day – Average daily consumption from EDF supply

£7,157 – Yearly cost @ current tariff of £0.8716 / kWh

£13,000 – Purchase and installation cost for 13.5 kWh battery system

£4,000 – Potential yearly saving provided by battery

3.2 Years – Return on Investment

£15,800 – Savings over battery lifetime (Battery Lifetime 12 years)

£1,300 – Average saving per year

Options

Purchase additional storage once a better understanding of generation and consumption patterns is provided by the battery utilization monitoring software.

Include supply to the main hall and catering kitchen.

Use low cost off-peak tariff to charge batteries overnight during the winter months.

Next Steps

Monitor intraday electricity usage to confirm savings. Facilities Manager to request estimates to firm up the installation costs.

Include costs in 2024/2025 budget and leave final decision to proceed once intraday monitoring analysis completed.

Thanks to **Naked Solar** for providing technical expertise and an initial cost estimate.