

Sustainability Appraisal

Proposed Roof Mounted Solar Photovoltaic (PV) Panels Bury C of E Aided Primary School, Link Lane, Pulborough, West Sussex RH20 2AN

June 2026

The Project

St Mary's C of E Primary School, West Sussex, is part of the Diocese of Chichester, which, aspires to achieve net zero by 2030. The school wish to install a rooftop solar photovoltaic and battery energy storage system (BESS) to reduce its dependency on grid purchased power to improve resilience and support its net zero aspirations.

An assessment of the suitability of available power generation and energy storage options is presented below.

Power Generation Options	Pros	Cons	Suitability
Rooftop solar PV	Sustainable form of power generation. Power is generated during the daytime when a school's demand is higher. Easy to install and maintain. Panels are unobtrusive. Installation will reduce electricity bills and carbon emissions for the school.	Intermittent power generation with no generation during the hours of darkness. Less power is generated in the winter when electricity demand is greater.	Suitable. The best option for the school; lower cost and minimal disruption for the installation.
Ground-mounted solar PV	Sustainable form of power generation. Power is generated during the daytime when a school's demand is higher. Easy to maintain. Installation will reduce electricity bills and carbon emissions for the school.	Only generates power in daylight hours. Less power is generated in the winter when electricity demand is greater. Requires lots of space for panels. More cabling is needed than for rooftop solar PV.	Unsuitable due to available space already being used for recreational / educational purpose.
Wind turbine	Sustainable form of power generation. Power is generated year-round, and at night.	Visual impact is higher than for solar PV. Potential concerns associated with noise and visual impact.	Unsuitable given the school's location in the South Downs National Park.

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Combined heat & power (CHP)	Provides both heating and power. Very efficient. Reliable, controllable generation. Reduces grid electricity costs.	Produces more carbon emissions than other power generation options, so is therefore a transitional solution. Not aligned with long-term net zero targets. The school does not require the heat due to having air source heat pumps installed. Space needed for plant.	Unsuitable. This option is more suited to a school with high heat demand and more space.
Hydropower	Reliable and consistent form of power generation. Very low emissions.	High capital cost and planning complexity. Higher environmental impact than other power generation options.	Unsuitable. No water resource located on site.

Energy Storage Technology Options	Pros	Cons	Suitability
Battery energy storage systems (BESS)	Decreases grid power use further when combined with onsite power generation. Allows excess generation to be used on site rather than exported back to the power grid. Reduces peak electricity costs and power outages. High efficiency and quick response. Compact and scalable.	High cost. Shorter lifespan than solar panels. Performance degrades over time.	Suitable. Best energy storage option for a small school.
Flow batteries	Longer lifespan and high cycle life. Can store large amounts of energy for longer periods.	Low energy density means battery has a large footprint. Higher upfront cost and complexity.	Unsuitable due to space requirements.
Thermal energy	Can store large	Lower efficiency than	Unsuitable due to

storage	amounts of energy cheaply and for long periods. Long lifespan and low maintenance.	electrical batteries. Storage of heat limits flexibility. Requires space and integration with HVAC systems.	space requirements.
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