

## Marshfield CLT Energy Project

RCEF Stage: 1

### Key Facts

5MW solar PV  
Land area required 11ha  
Not viable at £50/MWh

### Key Figures

<b>Project size:</b>	5MW
<b>Tech type</b>	
<b>Potential Output</b>	6366 MWh per year
<b>Capex estimate excluding grid connection in 2021 prices</b>	£2,553,000
<b>CO2 savings</b>	
<b>RCEF grant</b>	£35,000

### The Story

Enquiries around the rural village of Marshfield in South Gloucestershire supported the proposition of generating its own annual electricity requirement via a renewable energy project in the locality, owned locally and providing community benefits including cheaper electricity to consumers. A village of 750 households after conversion to electric transport, heating, and cooking will consume approximately 6GWh of electricity per year. To generate this locally will require 5MW of solar PV or 2MW of wind turbine capacity. Consultants appointed under a RCEF stage 1 grant have provided a Feasibility Study into the 5MW solar PV option.

### Challenges & Risks

The village lies at the edge of the Cotswold AONB. The farm identified to host the installation is wholly within the AONB. The village lies a long distance from a substation with capacity for the scale of installation, and estimated connection cost is extremely high. A business case for the 5MW solar PV installation assuming £50/MWh of output, indicates that the project is not viable. To cover the grid connection cost, an installation close to 20MW would be required. Such a scaled up scheme would no longer be a “village” project making gaining local community endorsement more difficult. A scaled down option (1MW) may become viable with an innovative purchasing agreement.

### Lessons Learned

The Electricity Market is not aligned to support Community Energy projects. Rural community projects are disadvantaged in securing affordable grid connection agreements. Introducing wind turbines as a complementary component to deal with grid cost meets government policy opposition. A large local consumer would add confidence to the business case but is not available.

### Further Notes

Location; South Gloucestershire Unitary Authority and Cotswold AONB