

Burnham Parish Council solar feasibility study



Client's objectives

Burnham Parish Council own and manage two key sites within the parish boundary: Burnham Park Hall, and George Pitcher Memorial Ground, encompassing a sports pavilion, the groundsman's cottage and two workshops. This Rural Community Energy Fund funded solar feasibility study assessed the potential for reducing the carbon emissions of Burnham Parish Council buildings as well as running costs, allowing the Council to demonstrate leadership on promoting renewables.

The project

Carbon Smart has its extensive experience supporting Parish Councils, community groups and businesses to implement solar PV; we worked with the Council to deliver a robust feasibility study to discover the potential for solar PV and energy storage at these two sites.

The benefits of solar PV at these sites for Burnham Parish Council include:

- reducing running costs
- generating revenue through government incentives
- cutting carbon emissions from the facilities
- giving greater energy resilience to these key buildings.

The feasibility study covered three stages:

Stage 1 – pre-feasibility study

Using our in-house tools and a desk-based study, we concluded that three solar PV systems are technically possible.

- Roof-mounted solar PV at Burnham Park Hall
- Roof-mounted solar PV at George Pitcher Memorial Ground buildings, with thermal or battery storage
- Ground-mounted solar PV in the grounds of George Pitcher Memorial Ground, which could supply, for example, a neighbouring business.

At this stage, the following questions had to be addressed:

- How would energy usage and potential for onsite generation for the buildings compare?

- Would the structure of the buildings support solar panels, and would there be shading from nearby trees?
- Could solar panels be accommodated at Burnham Park Hall, which is in a conservation area?

Stage 2 – feasibility report

Carbon Smart conducted a site visit to Burnham Park Hall and George Pitcher Memorial Ground buildings to establish structural suitability, optimal panel layouts and the impact of shading. The financial performance of all options was considered, including access to **financial incentives, revenue from electricity sales through a private wire arrangement and additional savings through a battery or thermal store**. It was concluded that the following would offer the best financial performance:

- Burnham Park Hall – 30kWp roof-mounted system, supplying 10% of the electricity used onsite
- George Pitcher Memorial Ground – 20kWp roof-mounted system, supplying all daytime electricity needed

Stage 3 – detailed design documents

Following this and our recommendation to the Council, we compiled detailed design documents to ensure effective implementation, and mitigate the risk that technology suppliers might over-promise and under-deliver! Carbon Smart provided detailed design documents, including:

- technical specification and performance
- structural considerations,
- installation requirements and indicative installation date
- quotes from suppliers in order to make the most cost-effective decision

Project's impact

Carbon Smart has provided Burnham Parish Council with detailed information and recommendations in order to implement the most cost effective solar array installations at Burnham Park Hall and George Pitcher Memorial Ground. Once the installations are in place, Burnham will save **£8,600 annually on electricity costs and will reduce its annual greenhouse gas emissions by 18.5 tonnes of carbon dioxide equivalent. This is equivalent to the electricity usage of 21 homes!**

The solar installations will have a positive environmental impact on the carbon emissions of Burnham Parish Council, as well as enabling the Council to continue to provide excellent services to their residents.

Ongoing support

Following the success of the feasibility study, Burnham Parish Council appointed Carbon Smart to deliver community consultation activities to support their application to the Public Works Loans Board. This included producing a display board promoting the projects, and running a drop in session for members of the public at Burnham Park Hall.

We are now in the process of installing the two systems. Carbon Smart is acting as Burnham Parish Council's project manager to ensure that the work goes ahead smoothly, so that the Council can realise the benefits of their new solar PV systems as soon as possible.

Testimonial

We would highly recommend Carbon Smart. They produced clear and accessible feasibility study reports comprehensively and quickly. They communicated very well, were flexible, and guided us through every step of the process.

Sheridan Jacklin-Edward, Parish Clerk, Burnham Parish Council

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