



MUGGLESWICK PARISH COUNCIL: LOCAL ISLAND GRID SYSTEM FEASIBILITY STUDY

OVERVIEW

Muggleswick Parish covers the scattered rural communities of Muggleswick and Waskerley which are located South West of Consett in County Durham. The isolated community of approximately 150 people is largely off the mains grid supply. The residents are currently reliant on independent generation for all power needs, often using diesel generators. These are a noisy, expensive and carbon intensive option. Large scale renewables such as large wind turbines are unlikely to receive planning approval given that the area falls within several environmental designations, including the North Pennines Area of Outstanding Natural Beauty.

SOLUTION

Muggleswick Parish Council commissioned a consultant to investigate the feasibility of a distributed collection of smaller wind and PV systems with some form of centralised conventional generator back up. The study involved an extensive technical appraisal, cost assessment, likely financial returns, and consultations with relevant statutory organisations and the local community.

The island grid system would become a community-owned asset, using income from Feed-in-Tariff (FiT) payments to provide sufficient income to run the system. If the research found that the scheme was viable, the Parish Council intended to apply to the Rural Community Energy Fund (RCEF) for costs associated with the next step in the developing the scheme.

OUTCOMES

The consultant conducted site visits and mapped out the likely extent of any island grid schemes, providing a plan of how networks could be constructed and associated costs. It was found to be difficult to link the different clusters of properties given their scattered nature. As a result, several smaller networks rather than one grid for all properties in the area, was considered the best option.

The project took place against the backdrop of severe curtailment of government support for renewable energy and community energy schemes (FiT reduction, removal of ability to pre-accredit schemes for FITs, and new restraints on the eligible for Social Investment Tax Relief), which undermined the financial viability of the technical options outlined in the study. This led the Parish Council to conclude that while there remained technically feasible options to provide off-grid renewable power to the identified properties, the economic case did not make these viable investments.

The consultant also identified potential options for large scale renewable energy, based on hydro-power applications within the existing Northumbria Water infrastructure in the area. This could justify a full grid connection, alongside the possibility of a central generation scheme linked to all the local properties via separate island grid systems. This concept may provide a more positive long term outcome subject to more detailed scoping studies and detailed discussions with the water utility.

OBJECTIVES

To investigate the feasibility of establishing an 'island grid' system that will connect homes and other properties onto a community-owned renewable energy generation and distribution system.

MORE DETAILS

Project title:	Local island grid system feasibility study
Group name:	Muggleswick parish council
Theme:	Generating & Managing Energy
Area of benefit:	Muggleswick Parish, County Durham
Date:	Dec 2014-Dec 2015