Community energy for community buildings – what makes a building suitable for community funded rooftop solar?

Introduction

Village halls, schools, parish offices, Scout huts and all such buildings need to get to net zero. Lack of money is not on its own an adequate excuse, because community energy groups such as ours - Gloucestershire Community Energy Co-Op - exist to support them wherever possible. The purpose of this note is to describe how our business model operates, and to highlight the main criteria which make a building suitable for a community funded solar roof project. We recognise every site is different, each has its own assets and problems, so not all criteria need be satisfied every time.

Our business model

We take investments from the public, typically between £250 and £10,000, and use that capital to fund rooftop solar (and other renewable energy assets). We sell the electricity generated to our clients at a tariff substantially less than their grid tariff, and use that income to pay interest and repay investors when they want to withdraw their money. To give us confidence of a secure income, we enter into a rooftop lease and power purchase agreement with clients who own suitable buildings. Agreements typically have a duration of 25 years, so we need clients with a similar expected lifetime, which tends to exclude shorter term building leaseholders.

When this lease expires, we transfer ownership of the rooftop solar system to the building owners at no cost. Because solar photovoltaics is a long-life technology, it will continue to supply zero cost electricity to the building. If the building owners want to take over the solar system before the lease expires, we will sell it to them at its depreciated cost.

Key attributes

Our checklist of desirable building features is:

- A 3-phase power supply. This allows National Grid to permit a generator above 10kWp, which is needed to make our funding model work. It is possible to convert a single-phase supply to 3 phase, but this can be expensive.
- Electricity consumption greater than 10,000 kWh per year, so that there is sufficient consumption of solar electricity within the building to justify the investment. If the building has gas or oil heating, the fact that the heating will have to go electric during the lifetime of our lease agreement can be taken into account. We can help to fund heat pumps.
- A pitched roof with some southerly orientation between due east and due west, and an area of at least 50m^2. A flat roof is possible, but a solar panel installation tends to be more costly.
- If the building is listed or in a conservation area, consent is more likely if the roof is partly or wholly hidden when viewed from locations with public access e.g. surrounding roads.
- A smart meter – this is essential for us to obtain payment for solar-generated electricity that is exported i.e. not used in the building.
- Internet access so that we can remotely monitor the performance of the installation.

If your building might satisfy some or all of these criteria, do contact us at info@gloscommenergy.org.uk , and see our video account of a project at https://youtu.be/r5Vcvv1Tfd0