Liskeard Town Council

Summary of community energy options for Neighbourhood Plan

This is a brief summary of the renewable energy options in and around Liskeard with particular reference to community energy potential.

Community renewable energy development is essentially community ownership and management of renewable energy assets, for community benefit. The most common method currently for development of such schemes is through a Community Benefit Society (CBS). Finance is raised through a combination of grant, loan and share issue and the scheme managed through the CBS.

The summary information for renewable energy potential in Liskeard has been split into resource types.

Solar

The town of Liskeard has significant potential for solar photovoltaic (PV) as many of the buildings are prominent in the landscape with little shading of roof spaces. Solar photovoltaic panels have low visual impact and require very little maintenance. Installed on buildings with high daytime demand for energy and specified correctly they can still (in light of recent subsidy reductions) offer a viable opportunity for community renewable energy development.

During the Rural Community Energy Fund Stage 1 project local schools were approached in relation to pre-registration of solar photovoltaic systems with OFGEM and development through a Cornwall based Community Benefit Society, Community Power Cornwall. The schools were surveyed to ensure that they had suitable roof spaces for solar PV and of 4 schools initially interested in taking forward a scheme 2 continued to installation. 37 kWp was installed on to Liskeard College and 30 kWp on to St Cleer primary school.

There remain community buildings in and around the town that are a worthwhile consideration for solar PV. These include:

- St Martins Primary School – suitable for 30 [1]kWp of solar PV
- St Neots Primary School – suitable for 30 kWp of solar PV
- Hillfort Primary School – suitable for 30 kWp of solar PV
- Menheniot Primary School – suitable for 30 kWp of solar PV
- Dobwalls Primary School – suitable for 10 kWp of solar PV

The schools have daytime electrical demand during term time and reducing their energy costs is in the interest of the school and the local community. A key part of developing a community energy project with the schools is the lease agreement for the roof space negotiated with the body managing the school.

There are a number of other community and commercial roof spaces in the town that would be suitable for solar PV. The main requirements are a large daytime electrical demand and a suitable roof space in good condition.

The hospital is an excellent site for solar PV with high daytime demand and large south facing roof space on a new building. It would support a large solar PV array of between 500 and 1000kWp,

[1] kWp is Maximum theoretical peak output of the array in Kilowatts.

depending on configuration, panel type and consent from the grid operator. However the PFI status of the hospital greatly complicates any community energy scheme development at the site.

The medical centre would support an array of around 75-100 kWp depending on consents from Western Power Distribution. This would be a worthwhile community solar development however has the same issues as the hospital as it is PFI owned. During the RCEF project it was indicated that the medical centre themselves may install solar PV.

The Liskerrett Centre and nearby children's centre would support approx. 30 kWp of panels. However the roof of the centre would require a structural survey by the installers before development. The Liskerrett has daytime demand from the café and offices within the building and a solar PV system would reduce running costs.

The town has several large commercial premises suitable for roof mounted solar PV.

- Morrisons store – the superstore has a large roof and high daytime demand from lighting, ventilation and refrigeration. The roof would accommodate at over a 1000kWp of solar PV dependent on consent from the DNO.
- Argos and Homebase – the buildings have lower daytime demand and a less suitable roof space but enough area for approximately 1000kWp of roof mounted solar PV so they would be worthwhile considering for development.
- There are commercial premises with available roof space on Liskeard Business Park, Miller Business Park and Moorswater Industrial Estate. There are larger energy users in these locations such as cement works and manufacturing businesses. It is these higher energy users that would be more suitable for roof mounted solar PV systems.

In addition to community and commercial buildings there should be a requirement for new housing developments to include roof mounted solar PV systems. Housing could accommodate solar PV on southern, eastern and western roof aspects and systems would reduce the running costs and carbon emissions of the housing stock.

Wind

The area surrounding the town of Liskeard includes sites suitable for the development of a community wind turbine(s). With exposed areas to the north and the east of the town the average winds would support installation of a medium to large sized turbine.

The preference for connection of the turbine would be a private wire connection to an existing site. Possible sites for connection include the hospital, Lux Park, college and Liskeard Business Park. Connection directly into the grid may be more difficult and also generate less revenue.

The generation and revenue from even a medium sized turbine could be significant. For instance a 500 kW turbine mounted on a 50 metre tower would generate:

- Approximately 1,600,000 kWh and 750 tonnes of CO_2 per annum
- If connected to local energy users the turbine could generate approx. £120,000 per annum including Feed in Tariff revenue (as the Feed in Tariff stands at the moment).
- With an installation cost of between £1 to 1.2 million the project offers a return on investment that would be suitable for community development.

The main issue for any wind turbine development would be the planning process and local support. Any location for a wind turbine would need to be identified as part of the Neighbourhood Planning process and be supported by local people.

Hydropower

The hydro resource in and around the town is small scale and very site specific. There are several historical sites of interest however they are too small for community development. Any hydro power opportunity would be best developed by a private individual or hydro enthusiast.

Renewable Heating

The options for renewable heating are currently limited by the town's connection to the mains gas network. Biomass heating systems are at present uneconomic due to the low price of mains gas.

However there are options for low carbon heating that could be adopted in the short term to deliver cost and carbon savings and that would benefit the local community.

Lux Park Leisure centre has a high base heat load from the swimming pool and a high base electrical load. The centre has recently had new gas fired boilers installed. Therefore the site would suit the installation of a gas combined heat & power unit (CHP). A CHP unit could be community owned and deliver cost savings to the leisure centre and provide revenue for local people. The revenue from a CHP scheme would be provided by electrical sales from the CHP unit to the leisure centre and Feed in Tariff income (if available). The CHP unit could also offer efficiency savings in the delivery of heat to the leisure centre if designed and installed correctly.