Working Together to Accelerate Community Energy

22nd October 2024

Workshop Notes: Grid Connections

Laurence Hunter, National Grid Innovation Team gave a brief overview of the **REACH Project (Rural Energy and Community Heat)**.

The project focusses on demand technologies, EV charging and low carbon heating, in rural areas where there is limited network capacity but high demand from communities. Exploring the use of an energy centre deployed rapidly to get technologies into the community quicker.

Funded by the Ofgem Strategic Innovation Fund. The discovery phase involved consultation with 70 community groups over a 3 month period, focussed on communities with around 100 homes.

Looked at financing – next step of funding £0.5M to run Nov/Dec until May next year – gain insights on what do Community Energy groups need to accelerate their grid connections. Develop online tool that CE groups can look at network opportunities.

A subset of 7 community groups has been selected to work with. These are very rural hamlets/villages with weak networks. National Grid will conduct feasibility and then ultimately build one of the energy centres.

Energy Centre capacity

Will be very modular – typically up to 1 MW (ground mounted substation).

Plan to model batteries assuming they are importing and exporting electricity at the same time.

Benefit to the users

- Carbon benefit – the project will assess carbon reductions available
- National Grid cannot own the infrastructure or sell the energy but the project will explore energy savings for community

Jemma Jewkes, South Dartmoor Community Energy raised the topic of wifi. It is a frequent problem in rural communities that there is no wifi so people cannot have smart meters.

Analogue network is being switched off in 2025/26.

There are thousands of houses in South Hams. Jemma would be happy to research how many homes don't have internet. Lots of work going on in Devon Community Energy & With Regen.

Why is the waiting list so long for grid connection?

Laurence – developers would put in speculative application and then hold a place in the queue quite high up. They would still be able to keep their place even if not ready to go. National Grid is trying to reform process so that schemes which are ready can be re-prioritised.

Hayley Ash, SW Net Zero Hub added that projects with social value will have high priority (according to the Government Minister).

If your project is in the queue National Grid forecast how much energy you are going to be putting into the system but tend to be pessimistic. There is a mismatch between forecasting future network development and actual generation.

Charles Gamble, Community Power Solutions Ltd, raised the issue of the current 1MW limit. If you plan to generate > 1MW you need to submit a statement of works. It is difficult for a 1 MW project to make financial sense. Charles thinks the limit should be raised to at least 5MW and preferably 10MW. A different set of rules is needed.

There is currently a **consultation on the 'Connections Reform Project' on the National Energy System Operator (NESO) website**. See https://www.neso.energy/industry-information/connections/connections-reform for further info and to make a comment. **Closing date is 2nd December 2024**.

Impact of temperature

Laurence talked about the impact of temperature on network capacity. National Grid are looking at putting sensors on the network to record temperatures (cooling effect of wind). It is possible to get around 20% capacity uplift due to temperature variation.

Discussion on curtailment

For clarification curtailment is the difference between what generators can export to the grid and what the grid allows them to export.

Curtailment currently has to follow Ofgem's template. National Grid are developing an in house forecasting capability. Will get 2 suggestions – Ofsted mandated one and a more realistic one.

Electricity generators are instructed to reduce their export at certain times of year – Network Operators have the ability to disconnect them.

Curtailment is a particular issue for building wind turbines as you need a solid financial model.

Laurence mentioned **Project QFlex**, which investigated feasibility of marketplace to bid in reactive power to support voltage schemes. There is a lot you can do with units at high voltage.