



The Office of Gas and Electricity Markets

9 Millbank
London
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Dear Ms Frerk

The Low Carbon Hub is a community energy not-for-profit that either leads or advises on the vast majority of community energy renewable energy generation projects in Oxfordshire. The local DNO is SSE Power Distribution. The Oxfordshire grid is hugely constrained and getting connections for new projects is extremely difficult. It's not uncommon to be asked to wait for 2 years to connect anything more than 50kW, and SSEPD privately say they may have to start to restrict projects below 50kW in the near future. SSEPD appears disorganised and is not rushing to find a solution to the local connection issues. Consequently, lack of available grid capacity (at almost any price) is the single biggest factor preventing the further growth of community energy in Oxfordshire.

Our comments on your proposed scenarios are as follows:

Scenario 1

The Low Carbon Hub has extensive interaction with its DNO over a large number of projects across the county. There are significant parts of the network within the county where the system is so close to capacity that there is very limited scope for further improvement by taking a piecemeal approach to network upgrades, and we would agree that more pro-active anticipatory upgrades would make a big difference to the development of renewable energy locally. The local DNO is in fact making one of these – the addition of a 12-mile 132kV link between Bicester and the National Grid.

The DNO forecasts that this link will be completed in 2019 (though we are sceptical given the current rate of progress), but we need this new capacity now. The question is, could this need have been reasonably anticipated earlier so that we would not now be constrained? It would be sensible to work more closely with the City and County Councils re development plans, but the real issue is our DNO appears to have no incentive to be pro-active or to carry out any proposed works quickly. It is this aspect that needs to change. The incentives under the current mechanism are perhaps too indirect and far-off (intense effort now is only rewarded if events happen as expected in a few years time). Or perhaps it is just that the management of the



DNO is confused and ineffective. Is there any mechanism for replacing under-performing DNOs?

Distributed renewable energy connections will be an ever increasing feature of the DNO planning requirements, as there is still significant scope for developing renewable energy in the existing built environment, and with ever tightening energy performance codes for new housing, the majority of new-build housing planned in the county (tens of thousands of houses) will have solar panels incorporated as part of the build. There is currently insufficient export capacity on some parts of the grid to build more houses. The strengthening of the grid to take the whole system back from its current state of incapacity should be a socialised cost, as it comprises multiple upgrades and new distribution lines and cannot be reasonably ascribed to individual generation projects.

Q1 It's a question of whether a DNO chooses to take account of regional government/ local authority's plans and what is their incentive to do so. An incentive some time in the future is too remote and indirect and the risks are high. An RAV buy-back model could alleviate this. Forcing an application under this model if a local authority makes a formal request would also help move the system along.

Scenario 2

Q3 The RAV buy-back model is a good idea, as is then re-charging major new customers. Requiring a premium may delay new connections and therefore delay the recovery of the investment for the DUoS customers. In our area, the re-enforcements needed are often remote from the plant, however, so this mechanism is of limited use.

Q4 The issues in our region are of speed and focus of the DNO, not charging mechanisms.

Q5 Cost recovery. In our experience re community energy, however, this is a theoretical question. In practise there is usually only one part of a network that a small community energy scheme can connect to.

Q6 The charge should aim to recover costs before the full capacity of the network addition is reached, but should not be too high as it risks deterring new users that could speed overall cost recovery.

Q7 Time is not an appropriate factor.

Scenario 3

Devco models are too complex for the reinforcements required locally.

Scenario 4

Q19 Assessment and design fees would kill most community projects. By all means charge them to commercial projects.

Q23 The issue for community energy schemes is the initial payment of the connection charge, which usually needs to be paid in advance of the financing of the project itself. The community energy schemes we manage are able to pay their connection costs at the same time as the generation equipment is being installed, so what would help is simply a delay in payment of the initial tranche of the connection charge. This would have a minimal impact on other customers.



Summary and Next Steps

Q27 The biggest benefit to the connections process would be swifter action from the DNO, both in responding to and dealing with enquiries and in planning and executing the reinforcement work.

Q28 The NTBM benefits listed are all real, but it's hard to see why other users of the network should be compelled to pay for them.

Other comments:

1. Most of the constraints in the county that we encounter are for the export of power, rather than the consumption of it (though there are some areas of the network that are very close to capacity for winter peak too). One of the issues is that the DNO's fault detection systems in many cases cannot distinguish between reverse flows through distribution breakers caused by fault currents and those caused by local power generation. It is our view that the DNO's control systems should be fit for purpose and that they should be upgraded as a matter of urgency and that the cost of this should not be attributed to individual generators (because we would consider this type of constraint to be caused by the DNO's failure to modernise, a grid management structure can manage reverse flows is a pre-requisite to the general development of renewable energy and it affects whole regions of the grid, even for relatively small generating capacity additions).
2. If the DNO were forced to implement flexible connection approaches (e.g. "flexible plug and play") it would make a massive difference to the connection of small schemes. Our experience is that these schemes can suffer some disconnection during periods of peak reverse flows without destroying their financial viability.
3. The DNO is preventing companies from connecting solar panels on their own roofs (until further works are carried out – generally 2 years), even where all of the electricity generated would be consumed internally within the company and there would be guaranteed no export to the grid. The logic is that the current load on the system represented by that company is assumed by the DNO to continue into the future, and is counted on by the DNO as part of the load balance in the locality. A reduction in demand by that company would therefore impact the DNO's calculations of net flows in and out of the locality. This would also logically happen if the company changed its production patterns or invested in more energy efficient machinery, and in this instance any costs associated with the changes in load balance on the distribution network would be socialised. If the same change in net power consumption by the company is caused by an investment in solar panels, however, the DNO has the ability to stop it, and so it does. We would propose that it be impossible for a DNO to prevent the connection of renewable energy generation capacity that does not export to its distribution system.
4. In all of the discussions we have had with the DNO about the grid reinforcement necessary to connect a given scheme, the DNO's calculations are opaque and change every time we ask the question. Sometimes it seems as



though the DNO is making it up as it goes along, though it may be that the rate of connection requests coupled with the number and severity of the constraints on the network really does mean that the situation continually changes from one week to the next.

One question that jumps out however is what standards is the DNO applying to calculate the remaining capacity in a given substation? It may be that changing the safety margin of the method of calculation could immediately release new capacity for connections. Community energy of course cannot afford to pay technical grid specialists to contest the DNO's technical findings.

5. The other aspect of our interactions with the DNO is that even simple re-enforcements seem to take an excessive time to plan and implement. Letters take weeks to be responded to, it can take months to get minutes of a single meeting commented on. A simple upgrade of switchgear for example is quoted as 18 to 24 months. Is there a way that the DNO can be encouraged/made to do things more quickly.
6. Grid capacity is taken up quickly by commercial developers, who have the expertise, the knowledge and the relationships with the DNO. This means that when new grid capacity is released, it can quickly disappear again, while a community energy project (which has less readily available funds) either lacks the awareness of the new possibilities or lacks the immediate financial capacity to act on the knowledge. This means that community energy gets quickly pushed to the back of the queue again. Perhaps there could be a separate reservation of grid capacity for rooftop (or similar scale) community energy?
7. There are commercial developers on congested distribution networks in Oxfordshire that are sitting on many MWs of capacity that they will never use because planning permission has been refused. We have to wait a year before this is released, while the developer tries to find other companies to share the grid point and make a new planning application, while negotiating for a share of the action. It would be useful if there were a mechanism for the DNO to more quickly reclaim allocated capacity that will clearly never be used.

We are very pleased that the connection of community energy projects is being prioritised by Ofgem and would be delighted to contribute to any work or discussions that might help us to connect more community energy generation capacity in Oxfordshire.

yours sincerely

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