

For the attention of Frances Warburton

Ofgem

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Dear Frances

Charging arrangements for embedded generation

Thank you very much for giving Cumulus the opportunity to respond on this important issue. Cumulus is developing a unique form of storage that will be highly cost reflective in terms of managing the mismatch between off peak energy delivery from intermittent generators and energy demand at system peak as well as providing an environmentally benign alternative to further development of network assets.

The Low Carbon Network Scheme has been highly effective in demonstrating how storage can provide a genuine alternative to network assets. TNUoS is the principal mechanism used to recover the cost of the transmission network and therefore the levying of and avoidance of TNUoS should be one of the mechanisms to encourage the development of storage (in the right locations) as an alternative to transmission assets.

Current embedded benefits arrangements suffer though from a number of shortfalls

- All charges should be cost reflective and there is no doubt that there is a reasonable case that charges/ costs associated with some embedded generation like a number of other charges do not result in cost reflectivity.
- Embedded benefits are providing value to generators but no benefit is going directly to consumers and hence it is unlikely that indirect benefits are flowing through to consumers.
- the structure of TNUoS is changing due to the EU regulation that requires average TNUoS to be no greater than €2.50 per kW, the increasing share of offshore transmission costs being levied on consumers and the fact that the cost recovery under TNUoS is rising but usage of the network is falling. The change in structure means that the value of TNUoS avoidance is likely to be greater than the benefit in terms of reduced need for transmission assets.

Cumulus therefore propose that the solution should be made up of the following elements:

1) In terms of short term measures changing the relationship between transmission costs and embedded generation (by revoking all embedded benefits) would result in unintended consequences as this will significantly damage the fragile early development of storage. Also investor confidence in a stable charging system is likely to be severely damaged. So any review of charging embedded generation should be part of a wider review see 3 below.

2) There are though two issues which probably do need addressing immediately. These are

2.1) The building or operation of environmentally damaging diesel plant funded by the EMR Capacity Market. Given the objective of EMR was to facilitate transition to environmentally benign generation this requires immediate steps and cannot be considered as an investor confidence issue, because it is an unintended consequence of EMR. The solution may be to simply dis allow embedded generation (unless they have a Bilateral Embedded Generation Agreement BEGA) from the Capacity Market until the review proposed below is completed. ie only DSR (Demand Side Response) that results from load being reduced rather than replaced by local generation would be allowed.

2.2) Embedded Generation connected to Grid Supply Points that spill power on to the Transmission System are clearly using the Transmission System and hence free riding. Immediate steps could be to only allow new Generation that has a BEGA if greater than 100kW to connect to these parts of the network. All new Generators even at domestic scale connecting under these GSPs in particular would be informed of a review of embedded benefits.

3) As set out above embedded generation charging (which will also impact on other developments such as Storage) needs to be carried out as part of a wider overall review. The following areas need to be included in the overall review of embedded generation issues (losses, payment of both generation and demand charges by storage, the causes of the residual charge, the EU €2.5/MWh cap, embedded benefits and whether they genuinely relate to avoiding using the transmission system, role of the DSO and environmental costs imposed on society but not on polluters).

4) Any changes to the embedded generation charging regime needs to reflect the extent to which a consumer or generator actually uses the transmission system and the marginal cost of that usage. So off peak usage of the transmission system should have a low charge and a party that reduces load at times of peak usage of the system should be credited with the fact that they are supporting the system rather than using it.

5) As described above generators are offsetting consumer charges but it is unlikely that any value is flowing through to consumers. This is a market failure issue rather than a reason for not allowing embedded benefits. There are a number of solutions to this problem. The problem has probably developed due to the lack of transparency in terms of suppliers informing consumers the detailed basis of their charges. But providing more information on consumer's bills may not be sufficient to resolve this problem. An alternative might be that consumers have to agree to allow their TNUoS charges be replaced by a payment to an embedded generator or more draconian would be to disallow licenced suppliers from signing embedded generation agreements and only allow consumers to sign up to such arrangements. In both of these circumstances it would be reasonable to allow suppliers to make a charge for the administration of these offsets.

6) Solutions, even a consumer/ generator (prosumer) who is connected to the distribution system but virtually never draws power as he has in house generation uses the wider system as if his generation is ever unavailable he will draw power. Even if that generation is never unavailable the prosumer is still relying on the network unless he is truly "off grid". i.e. the prosumer uses the system as a back up. Hence no system connected demand should avoid paying some contribution

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to TNUoS charges ("Back Up" charge) but this should amount to a limited % (less than 10%) of TNUoS charges being levied on those who permanently use the TNUoS system.

The remainder of the Residual Charge after removing costs that can be charged directly to those who cause them could be levied using a £/MWh charge which is paid by all connected consumers and generators ie it cannot be avoided by offsetting usage against embedded generation. This charge though will vary with both location and time. So at hours when the Transmission network is under utilised (i.e. over night) the charge would be small, Back Up only, but very high charges would apply at winter peak periods, high charges at shoulder and summer peaks and medium at other periods. In areas where there is an excess of generation, generators will see above average levels of charge and consumers would see Back Up charges only. In areas where there is limited generation (eg central London and parts of the South East) generation will see Back Up charge only and consumers a high charge.

Impact on Storage

The solution proposed above is intended to ensure that storage and DSR parties who reduce the load on the electricity network at peak times and congested locations pay only the Back Up charge.

Embedded generation and storage have a key role to play in reducing the amount of network assets that we rely upon it is therefore critical that such assets receive appropriate benefits including value by offsetting TNUoS charges. Removal of all embedded benefits at this point in the development of storage which already suffers from inappropriate level of regulatory burdens will help kill off storage in the UK before it can even start to develop.

If you have any questions in relation to Cumulus Energy Storage please do not hesitate to contact Nick Kitchen at the address and phone number below. If you have any questions in relation to the detail of the attached response please do not hesitate to contact Nic Rigby on 07989 494432 or via the address below.

Yours sincerely



Nick Kitchen, CEO



Nic Rigby, Advisor to Cumulus Energy Storage