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Ms Frances Warburton  
Ofgem  
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Dear Frances

### Charging arrangements for embedded generation

Thank you for giving BH EnergyGap the opportunity through your open letter to respond on this important issue. BH EnergyGap is developing a number of Advanced Conversion Technology (ACT) projects that will dispose of waste by turning that waste into energy in an environmentally benign manner.

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 small scale (<50MWs) energy projects (in the right locations) as an alternative to conventional fossil fuelled generation and transmission assets.

Current embedded benefits arrangements suffer though from a number of shortfalls, summarised as follows:

- Charges are not proportional to costs. It is only reasonable that charges should reflect costs, and there is no doubt that some embedded generation charges (as with 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. It is unlikely that indirect benefits are flowing through to consumers.
- 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. 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.

BH EnergyGap therefore proposes 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 ACT projects. 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:

- a. 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.
  - b. Embedded Generation connected to Grid Supply Points that spill power on to the **Transmission System are clearly using the Transmission System and hence getting a “free ride”**. **An immediate step 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.
  - c. As set out above, embedded generation charging (which will also impact on other developments such as ACT projects) needs to be subject to a wider overall review. The following areas need to be included in the overall review of embedded generation issues:
    - i. losses;
    - ii. the causes of the residual charge;
    - iii. **the EU €2.5/MWh cap;**
    - iv. embedded benefits; and
    - v. whether they genuinely relate to avoiding using the transmission system, role of the DSO and environmental costs imposed on society but not on polluters).
3. 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.
  4. 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.
  5. Even a consumer/ generator (prosumer) who is connected to the distribution system but rarely draws power as he has in-house generation uses the wider system, as should his in-house generation become 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”**. **ie. the prosumer uses the system as a back up**. Hence no system connected demand should avoid paying some contribution to TNUoS charges (“Back Up” charge) but this should amount to a limited amount we suggest 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

suggest 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, and cannot be avoided by offsetting usage against embedded generation. This charge would, however, vary with both location and time. So at hours when the Transmission network is under-utilised (eg. overnight) the charge would be small - Back Up only. Very high charges would apply, however, at winter peak periods; high charges at shoulder and summer peaks; and medium charges 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.

Embedded generation ACT projects have a key role to play in reducing the environmental impact of waste disposal and energy generation and 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 ACT projects will have a damaging effect on the development of such projects in the UK at a crucial early stage in the development cycle.

If you have any questions in relation to this response please do not hesitate to contact me on the contact details below, or my colleague, Nic Rigby on 07989 494432 ([nic@consult-nrg.co.uk](mailto:nic@consult-nrg.co.uk)).

Yours sincerely



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