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**Ecotricity Response to Ofgem Open Letter:
Charging arrangements for embedded generation**

Dear Francis,

Ecotricity is an independent renewable energy generator and supplier, with around 180,000 gas and electricity customers. Our commitment to those customers is that the money they pay for their energy bills will contribute towards powering the UK by renewable sources. We have followed this pledge since first generating renewable electricity in 1998, and are now at the forefront of new renewable generation with on-going research into tidal power, storage and biomethane.

We have 24 wind parks, all of which are distribution connected. We were also pioneers of the Merchant Wind Power model, in which we install wind turbines directly on the sites of large energy users including factories, large retail centres and industrial parks. This model brings benefits to the system by reducing the amount of power that must be transmitted across the network.

Ecotricity agrees that it is necessary to review the system of embedded benefits. However, we are concerned that in trying to focus only on TNUoS demand residual and rushing the changes; Ofgem will end up creating a less efficient system with more distortion and insufficient recognition of system benefits. The proposed removal of the triad benefit for embedded generators will have a significant impact on the incomes of those effected. We do not believe that sufficient research and analysis has been done to justify this change. Rather than attempting to make piecemeal changes on the basis of limited evidence, Ofgem needs to

conduct a full review of network charging and an in depth assessment of the benefits that distribution connected and private wire generation bring to the system as a whole.

Insufficient Evidence of Over Compensation

Ofgem has not done sufficient analysis to justify the removal of this benefit and the reversal of the principle of net metering. Ofgem's open letter argues that embedded generators are over-compensated in relation to network charges and that this puts them at a competitive advantage compared to transmission connected generation. The primary remedy that it proposes is to move from a system of net demand to one of gross demand, meaning that suppliers would no longer be able to net off their embedded generation.

Whilst it is clear that distribution connected generators benefit from TNUoS demand residual payments and other embedded benefits, these benefits are based on the fact that embedded generation reduces the load on the transmission network. Ofgem acknowledges that there are benefits, but states that these are between £1 and £6/kW. Two National Grid reviews are referenced to support this, one from 2013, the other from 2010. We do not believe that either of these reviews are sufficiently detailed, robust, or up to date to justify a complete abandonment of net charging. Other studies, including one by Cornwall Energy, has estimated an appropriate Triad charge value of £32.30/kW and it therefore appears that there is insufficient knowledge and little agreement about what the system benefits of embedded generation are.

CUSC Modifications

We do not believe that Ofgem should approve either CUSC modification discussed (CMP264 and CMP265). Firstly, we are concerned about the way in which the modifications have been rushed through with no time for in depth quantitative analysis of their justification; whether they are indeed cost reflective or their impact.

Secondly, we believe that the modifications raised have too narrow a focus and are based on the incorrect assumption that embedded generation has no system benefits. A more comprehensive analysis of the benefits that embedded generation brings to the system; the costs it faces; and the way in which it is rewarded, is needed. Focussing on triad avoidance without looking at the full picture risks creating further market distortions.

Thirdly, neither modification would enable a smooth transition: CMP264 poses a risk to existing generation, which will have been commissioned and attracted investment on the assumption of triad avoidance benefit. In the context of numerous other policy changes, applying any major financial reduction to existing generation would further undermine investor confidence. CMP265 on the other hand has a start date that is too soon to allow sufficient time for industry to adjust.

Finally, by focussing solely on net charging, both modifications miss the point and fail to adequately address the need for an updated transmission charging system. Ofgem notes its concern over the growth in the size of the demand residual component of the TNUoS charge, but this has not been caused by an increase in embedded generation. We argue that these

concerns stem from the make-up of the Demand TNUoS charging regime; a view that others in the industry share, like Renewable UK.

Increasing complexity in the system & Potential for discrimination

If the grandfathering method is followed, this will introduce complexity into the charging mechanism; however, a failure to include grandfathering would retrospectively penalise investors and significantly damaging investor confidence.

An immediate change would discriminate those parties who have already made their decisions, but are yet to build/about to commence building of the generation, as their final decision would have been based on the fact that this generation would receive embedded benefits.

Embedded Wind Generation

We believe there is a misconception that embedded wind generation is a significant beneficiary of triad avoidance benefits, or a significant contributor to reducing demand on the transmission system.

This is a misunderstanding of the situation: whilst it is true that onshore wind is not dispatchable, and therefore cannot be turned on specifically to receive triad avoidance; high wind generation tends to coincide with high consumer demand. This means that whilst wind generators cannot "play the system" by only generating at expected triad periods, they do in fact reduce net demand during triad and other high demand periods. In addition, it should be noted that wind generation is relatively predictable on a day-ahead basis and National Grid can include it in its estimates. Wind generation should therefore continue to be rewarded for reduction in the strain on the transmission system that it brings.

Ecotricity's wind parks would lose 11-12% of their profits per year if we were to lose these embedded benefits. This is consistent with Renewable UK, who confirmed that on average, embedded benefits account to 5% of revenue streams for parties and this would amount to a significant loss in revenue.

Investor confidence

This will cause significant impact on Investor confidence with it already shaken by frequent major policy changes.

The proposed loss of this triad avoidance benefit for onshore wind, must be seen in the context of wider policy changes. The loss of embedded benefits will see a large drop in revenue streams at a time when the industry is reeling from other cuts; which have led to significant job losses, as well a scaling back in investment at a time when new renewable generation is desperately needed.

Storage

We would like to stress the importance of storage to the system. It is vital that, should they go-ahead, storage developments be exempt.

Energy Storage is not a form of electricity generation so should not be considered to be competing with other generation technologies. Rather it is an effective means of reducing stress on both the transmission and distribution system: balancing intermittent generation and consumer demand. Embedded benefits provide a vital mechanism through which this system benefit is recognised. The Government has repeatedly stressed its desire to ensure that storage is developed to its full potential. Storage, and in particular batteries, are just at the point of becoming commercialised and need all the support that they can get to make their widespread use realised. It would be counterproductive for it to be penalised by removing the Triad benefit.

Differential treatment of distribution and transmission connected generation

We believe that by seeking to reduce the differentiation between distribution and transmission connected generation, Ofgem is looking at the question the wrong way around. Distribution connected generation does not currently use the transmission network and therefore it does not make sense to include it in the transmission charging regime. Therefore, the question should not be whether they are treated differently in respect of charging, it should be whether these differences are justified. As noted above, a full review of all charging arrangements and system benefits is needed to establish whether the differential treatment is set at the right level.

Avoiding Long Term Market Distortions

We do not believe that it is possible for future market distortions to be avoided under Ofgem's current approach. Removing net metering will lead to an inefficient system in which the charging system does not adequately reward embedded generation for the benefits it brings.

The only way that such distortion can be avoided is for Ofgem to abandon its piece meal approach and accept that a more comprehensive charging review is required. This should include a requirement on the National Grid to regularly monitor the actual benefits that embedded generation brings to the transmission system.

Security of Supply

Ofgem should bear in mind that embedded generation can be installed in a short time frame, whereas it can take many years to commission and install transmission connected generation. Given the rapid changes in the UK energy market; the potential for smart meters to alter consumer behaviour; and the unpredictability of the global energy market, it makes sense to ensure that embedded generation remains profitable.

Capacity market

It is clear that a key driver behind the changes to embedded generation is to make new build gas more competitive relative to other generation, by driving up the cost for embedded generation, particularly diesel generators.

Ecotricity's view is that there should be no subsidies for fossil fuel generation and we believe that this desire to increase the cost of the capacity market, simply to make new gas commercially viable, makes a mockery of its justification for cuts to renewable generation. Nonetheless, we agree that diesel generation is particularly problematic, due to its high level of pollution; however, this could be prevented by simply imposing emissions standards as a condition of participation.

Network charging should be based on the cost and benefits that particular generation brings to the network and should not be driven by concerns about the capacity market. If the Government change the capacity market, it should do so directly. Claiming that the capacity market is technology neutral and then attempting ensure that more expensive technologies win by adjusting costs elsewhere is, in our view, a disingenuous approach, which simply increases costs to consumers.

Behind the meter and private wire connected generation

It is not clear why private wire and behind the meter generation is seen as a problem in relation to network charging. This is generation that does not use either the transmission or distribution network and therefore it is right that it does not pay for either. Furthermore, it reduces the demand that the onsite consumer has on both networks and therefore it is appropriate that these consumers should not pay network charges for electricity for this power.

Behind the meter generation will reduce demand on the grid, but we do understand that this can cause the unwanted issue of negative load.

If Ofgem's primary concern is with generation behind the meter being switched on specifically for expected triad periods, then this should be addressed by assessing whether triads continue to be a cost reflective way of measuring system cost.

As noted above, embedded wind generation cannot be ramped up specifically for triad avoidance and this applies equally when wind turbines are connected to an end customer via a private wire. Nonetheless, onsite wind generation does provide significant system benefits by reducing network demand and rather than viewing it as a distortion, Ofgem should be seeking ways to incentivise it.

Conclusion

To adequately evaluate the embedded benefits, a holistic approach needs to be taken. If this narrowly targeted issue was resolved, it still wouldn't address the supposed problem as a whole and the resolution may in fact unleash more problems across the industry.

Ecotricity welcomes the opportunity to respond and hope you take our comments on board. We also welcome any further contact in response to this submission. Please contact Holly Tomlinson on 01453 769366 or holly.tomlinson@ecotricity.co.uk.

Yours sincerely,

P.A. 

Alan Chambers
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