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23 September 2016

Re. Open letter on charging arrangements for embedded generation

Dŵr Cymru Welsh Water is the statutory water and sewerage undertaker that supplies over three million people in Wales and some adjoining parts of England. We are owned by Glas Cymru, a single purpose, not-for-profit company with no shareholders. Welsh Water is a large electricity user but also has significant embedded generation. Most embedded generation is renewable sources: hydro, solar, anaerobic digestion (biogas CHP) and wind. Where possible we utilise the power we produce to operate our assets on the same site and the remainder is exported via the distribution system.

We do also have some diesel standby generation to ensure our operations continue '24/7' to provide drinking water to our three million customers then collect, treat and dispose of their waste water. Although used infrequently, diesel generators keep our power demands down at critical times such as triad periods so helping to reduce the stress on the electricity network and helping keep the generators in an operating readiness for their 'real' job during power cuts.

Our renewable generation from CHP, and to a lesser extent hydro, is also used where it can be to support National Grid efforts to reduce demand and increase generation at periods of stress in the power networks. Embedded benefits are one way in which this can be rewarded without the need for the more competitive market of large transmission-scale energy generation. With falling power prices and subsidies, embedded benefits are becoming an important component in the increasingly difficult challenge of making economic cases for renewable energy investment. On site renewable energy also helps insulate 24/7 businesses from the escalating costs of TNUOS.

The open letter refers to the growth in distributed generation as "leading to an inefficient mix of generation". Yet there is a real risk that steps to reduce embedded benefits will dis-incentivise such generation and create even more inefficiency as standby, discretionary, generation becomes even more underutilised. The reduction in transmission and distribution losses from embedded generation should also be factored in when comparing with the efficiencies of transmission connected generation.

As a major energy user, we are also concerned that the removal of embedded benefits may increase the risk to security of supply, particularly in the short term as the capacity market is still in its early

days and does not yet provide a clear way of encouraging small, local, flexible generation. The removal (or concern over the removal) of embedded benefits is likely to impact upon the development of new-build distribution-network connected generation. As well as creating a risk to security of supply, we are also concerned that if local embedded generation is discouraged this could reduce competition and increase future prices which, as one of Wales' largest energy consumers would be very bad news for ourselves and our customers.

Embedded generation behind the meter also helps reduce demands on the distribution network, thereby reducing the demand from the local Distribution Area supply point from the National Transmission Network. This allows consumers who operate 24/7 providing vital services, such as the Water Industry or Hospitals, to mitigate the TNUoS costs to themselves, reducing their own cost pressures, and also improving overall grid resilience in its times of highest stress.

The idea that TNUoS benefits could be capped forces businesses to be exposed to the risk of ever higher TRIAD costs. Businesses providing '24/7' services like ours have limited options to significantly change consumption in the short to medium term. Whilst, new assets can be designed with the facility to avoid certain power using equipment running at certain times of day, however, it is not a quick process to do this.

If any changes are introduced then transitional arrangements will be needed to avoid some of the issues referred to above and we would strongly recommend only applying those changes to plant not already consented or built.

In conclusion Welsh Water is concerned that changes to smaller embedded generation benefits would restrict the benefits from built and operating embedded generation schemes, and create an increased risk to resilience. Were it to be implemented we would recommend it being restricted to new generation.

Yours sincerely

Mike Pedley  
Head of Energy