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CHARGING ARRANGEMENTS FOR EMBEDDED GENERATION – OFGEM OPEN LETTER – STATKRAFT’S RESPONSE

Dear Frances,

Thanks you for providing the opportunity to respond to your “Open letter: Charging arrangements for embedded generation” published 29 July 2016.

About Statkraft

Statkraft is a leading company in hydropower internationally and Europe’s largest generator of renewable energy. The Group produces hydropower, wind power, gas-fired power and district heating and is a global player in energy market operations. Statkraft has 4200 employees in more than 20 countries.

Statkraft has been a developer and investor in the UK since 2003. We are operating several onshore wind farms in the UK, the Rheidol Hydro power plant and the Sheringham Shoal offshore wind farm. Together with Innogy, we are developing the Triton Knoll offshore wind park, which is located 20 miles off the Lincolnshire coast. Statkraft also have ownership shares in the Dudgeon offshore wind farm, which is now is under construction, and in Forewind, the consortium developing Dogger Bank.

Statkraft is among the largest providers of Power Purchase Agreements to independent renewable power generators in the UK. We are also a provider of energy services to industrial and commercial consumers.

Statkraft's response

1. Embedded benefits are real, significant and should be recognised

We welcome Ofgem's letter which presents a succinct overview of network charging challenges currently faced by the electricity industry. We are however concerned about the potential consequences of the proposed changes currently being developed through the CUSC and BSC modification process. The scope of these piecemeal modification proposals cannot encompass the full suite of implications of changes and are unlikely to result in balanced, well-considered solutions. The starting point for Statkraft is that embedded generation is clearly advantageous for grid costs. Such generation reduces the need for grid investments and reduces losses. It is reasonable and cost-effective to reflect this in the grid charges to embedded generators.

Ofgem recognises in the open letter benefits from embedded generation. Nevertheless the overall message in the letter is that current arrangements, and in particular the TNUoS demand residual payments to embedded generators, are leading to severe distortions in the Capacity Market.

Smaller renewables generators connected to the distribution grid bring benefit to the energy system by reducing carbon emissions and other pollutants. In addition, they have a beneficial location in the grid, resulting in less need for grid investments and reduced losses. Proximity to demand is also beneficial for security of supply. Wind power delivers high capacity factors and high production in the demand-heavy winter period. Hydro power can be controlled and reliably deliver capacity whenever it is most needed. It is easy to agree that the 100 MW threshold is somewhat arbitrary. There is still good logic that it is smaller/moderate sized generators in the distribution grid that, through the direct netting out of local demand, give the largest relative savings in distribution grid and transmission grid combined.

High payment for generating in triad periods as Ofgem point to is not convincing evidence that the market is distorted. The triad scheme is a way to represent the periods of peak demand in a way that is not easy to manipulate or second-guess. Ability of generators to meet demand when need is highest is of significant value for the market. A high triad value compared to the Capacity Market clearance price is also not in itself proof of a distorted market. There are a range of factors that influence both the Capacity Market outcome and the size of embedded benefits.

2. Embedded benefits should be addressed through a Significant Code Review (SCR)

The Capacity Market appears to be the overarching worry for Ofgem, and to address this the priority is rather to swiftly make changes to the TNUoS residual demand payments rather than address the issue through a SCR.

Our view is that this is an issue with important principles in play and significant re-distributional impacts. We think it justifies a SCR to be undertaken, and a more permanent, worked-through solution than what is likely to come out of the current modification proposals. Simply targeting one element of the charging arrangements (demand residual TNUoS tariff) for one type of network user (embedded generation, below 100 MW) is likely to result in further market distortion, compounded by weakened investor confidence.

3. Implications of removing triad benefit for embedded renewables

Removing demand residual TNUoS for embedded generators implies the TNUoS charge will become purely locational for this class of generators. Statkraft does not see strong evidence for purely locational tariffs only for embedded generation. There is no evidence provided which supports this approach or indicates that it is more cost reflective and fair.

There is a particular impact on generators in Scotland from this specific proposed change as the locational demand charge is heavily negative in both the north and south of Scotland. Therefore, removing the residual element (but maintaining liability for the locational element) would not only remove a potential value stream from generators but would introduce a significant net charge, over and above the distribution use of system charges faced by these projects. This would therefore provide a perverse incentive to generators in these areas to minimise output (and perhaps maximise demand) during triad periods – this is a potentially detrimental consequence of piecemeal approach currently being pursued through industry processes.

When comparing the situation for embedded and transmission connected generation Ofgem seems to have let out the fact that embedded generators are exposed to significant connection costs (per MW capacity) compared to transmission connected projects. At transmission, connection charges are very shallow – limited to assets that can only be used by an individual user. However, at distribution the charging arrangements are much deeper – with new connectors exposed to the entire cost of new infrastructure and shared costs of network upgrades (as well as DNO transmission connection charges). These differences immediately result in a charging disparity between distribution and transmission.

A primary concern for Statkraft is that even if much renewable generation is intermittent, triad avoidance benefit represents an important revenue stream also for these embedded renewable energy projects. Due consideration must be given to the potential impact new charging arrangements could have upon these generators.

The impact also on intermittent renewables generators is likely to be significant. National Grid forecast that the average output from embedded wind during the triads is 10% of installed capacity. Although power purchase agreements vary from site to site, a significant proportion of this value stream was realised by the generators – and relied upon when making investment decisions. Developers of renewables have made investments based on the aggregate framework at the time of investment decision. We already have seen the LEC scheme, a part of the income stream for renewables generators, suddenly and surprisingly being taken away last year. A hasty cut in embedded benefits will add to negative ex-post adjustments of the investment cases and will be detrimental for the investor confidence of renewable generators in the UK.

4. Implications of removing triad benefit for the developing energy storage market

The changes foreseen will also have an impact on the development of the energy storage market. The business-case for such solutions will, in this early phase, to some extent depend on behind the meter solutions.

50MW of the 200MW of Enhanced Frequency response capacity recently procured by National Grid were secured by service providers that were seeking to augment the service provision income stream with triad avoidance payments. The contract award is for four years, with service provision starting by end of March 2018, at the latest – potentially

leaving these projects exposed to changes before April 2022 and, indeed, likely afterwards too.

5. Concluding remarks

Should Ofgem after all conclude that a swift introduction of changes to embedded benefits being justified and necessary, this should not comprise cuts on the embedded benefits for renewables generators. Solid grandfathering and transitory arrangements need to be put in place to safeguard the investments in embedded renewable generation. An uneven playing field that undermines a well-functioning capacity market will not be helped by cutting embedded generation benefits for renewables. Embedded renewables is no threat to a well-functioning capacity market.

As stated, there may well be a case for Ofgem to more broadly address the issue of charging arrangements through a SCR. It might be that an appropriate long term solution includes setting some kind of upper limit on the TNUOs demand residual level to be recovered by embedded generators. If a solution leading to significant income reductions for embedded renewable generators is considered, this needs to be supplemented with reasonable grandfathering arrangements that safeguards the investments made in embedded renewables generation.

Ofgem's letter points out that any changes to TNUoS demand residual charging arrangements may not affect embedded generation that is behind the meter, and that any change may further incentivise certain generators to locate behind the meter or via private wires. This is something Ofgem will seek to address in "Related work".

We support the observation that significantly changing (reducing) the benefits for embedded generators will strengthen incentives for behind the meter solutions. This needs to be taken into account, and demonstrates that it is worth being very cautious in making radical but piecemeal changes. Any attack on behind the meter solutions is also likely to impact the development of local storage solutions negatively. Ofgem should be mindful to not restrain developments here when technology is still immature and commercial solutions are still in a development stage.

Yours sincerely,
for Statkraft UK Ltd.

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