

Nuvve response to Ofgem Targeted Charging Review

5 May 2017

Questions:

- 1) Do you agree that the potential for residential charges fall increasingly on groups of consumers who are less able to take action than others who are connected to the system, is something we should address?**

The way the residual payment and utility business model are currently structured, the potential does exist for this outcome. We do feel that the manner in which UK addresses this developing issue is significant. Ofgem's decision should be made within the long-term context of the Forward Work Program 2017-2018 deliverables even as it complies with the stated principles of this consultation (reducing distortions; fairness; proportionality and practical considerations). The option for setting residual charges Ofgem chooses from those laid out in pages 40-42 of this consultation (and the underlying priorities the option reflects) must address both short-term requirements of the electric system and rate payers, but must also take care to move toward an environment that facilitates change to system value pricing and successful integration of existing and future distributed resources into the system.

- 2) If so, why do you think, or do you not think, that action is needed?**

Action is needed to continue the progress being made in the evolution of the electric system and set the environment for true grid modernization. This includes both championing the end user and looking ahead to the likely conditions grid operators will confront in the next 10-20 years. The basic utility revenue/rate of return model is ill-suited to the changes coming to the system and will prevent infrastructure companies from evolving at a pace with the system they administer. The consultation should be wary of falling back on seemingly analogous existing frameworks, and consider the impact their decision will have on the general direction of resource procurement in the UK. An SCR is absolutely necessary to fully visualize and plan for the market changes that must accompany increased flexibility of the UK electric system.

- 3) We are proposing to look at the residual charges in a significant code review. Are there any elements of the residual charges that you think should be addressed more urgently? Please say why?**

We believe residual charges *should not* be changed in advance of a significant code review, as the basic principle of the residual rate is debatable. To say that the residual charge is meant to be unrelated to actions taken by various stakeholders is to assume that the infrastructure balance sheet exists in isolation from the reality of infrastructure usage and maintenance. Though the residual represents infrastructure already built and corresponding sunk/fixed costs to be recovered over the life of the installation and meant to be socialized, it is our understanding that the charge is based in the balance sheet on an assumed consistent rate of growth in load/demand, and based on that, to spread the cost of the infrastructure over the projected life of the installation with a consistent rate of return. If, as the nature of the supply demand relationship changes in response to increasing amounts of resources distributed down as far as the residential level, and load growth correspondingly begins to accelerate beyond previously-modelled rates resulting in premature infrastructure upgrades due either to congestion or simple overloading, the remaining portion of the sunk cost will cut into the bottom line of the infrastructure provider. Will this then result in

increased revenue allowances to cover those sunk investments? That cost then becomes socialized as well, once again falling to rate payers. If distributed resources can be deployed and used specifically to prevent premature upgrades in situation where localized load growth would otherwise require them, there may be a system value to the action they take. We understand the arguments made in the Consultation document and agree that one subset of ratepayers should not foot the bill for the actions of another subset. But the system value of actions taken should not be ignored and relegated to become yet another type of hidden cost or benefit. This is a chance to acknowledge the complex underlying components that ultimately determine rates and assess their place in a system that is undergoing structural change.

In addition, we believe that to be truly forward looking, to work both in the spirit of the 2017-2018 Forward Work Program prioritizing flexibility, removal of undue barriers to storage, system value pricing, price signals, consumer protection, the evolution of the DSO/TSO relationship, and in keeping with the principles of reducing distortions, fairness, and proportionality/practical considerations, that the Consultation should include in the proposed SCR the possibility that *behind the meter* residential resources may become a significant resource of exported power. Deemed rates and prohibitively complex/costly export agreements/meters currently provide a disincentive to residences that may otherwise become part of localized markets in flexibility and system-level services. The manner in which the infrastructure system is being paid for is no longer appropriate and will impede the ability of DNOs to make a shift to DSOs, as well as their ability to assess and act on the increasingly dynamic needs of their networks.

4) Are there elements of the approaches in other countries that you think could be appropriate for GB residual charges?

Yes. New York in the United States is developing a “full value tariff” in pursuit of similar goals (and using knowledge gained from UK RIIO roundtable). In the attached document the New York Department of Public Service proposes to combine a capacity-based fee (“network subscription charge”) with a volumetric charge, considering it a step toward new DSO-based business models.

Also in the US, California is in the process of a similar assessment of locationally-based Distributed Resource valuation and development of a related pricing tool.

We also agree that the fixed-capacity charge adopted in the Netherlands is an appropriate step. Fuse size reduction, in which the user bears the risk of peak mitigation, is good step toward truly integrating and solidifying these resources. This is particularly relevant for private wire networks.

5) Are there other approaches that you know about from other jurisdictions, that you think offer relevant lessons for GB?

6) Do you agree that our proposed principles of assessing options for residual charges are the right ones? Please suggest any specific changes, or new principles that you think should apply.

The principles should take into account the Forward Work Program 2017-2018 priorities including price signals and system value.

- 7) In future, which of these parties should pay the transmission residual charges: generators (transmission- or distribution-connected), storage (transmission- or distribution-connected), and demand, and why?**

Storage should not pay the transmission generation residual charge for reasons stated earlier.

- 8) In future, which of these parties should pay the distribution residual charges: generators (transmission- or distribution-connected), storage (transmission- or distribution-connected), and demand, and why? What proportion of these charges should be recovered from each type of user?**

- 9) Do you support any of the five options we have set out for residual charges below, and why?**

a. *We support Option C (repeat/copy & paste from earlier sections)*

- 10) Are there other options for residual charges that you think we should consider, and why?**

No

- 11) Are there any options that you think we should rule out now? Please say why.**

We believe Options A and B limit the role of distributed resources, particularly those behind the meter. Both options insert one incentive linked to one manifestation of grid condition, creating an overriding priority that may run in opposition to the most beneficial action for a certain type of resource at a given location and time. This will reduce the ability of system administrators to visualize and utilize distributed resources for flexibility.

We believe Option D in particular should be ruled out. Deeming assumes an arbitrary average (see solar example) that decreases the visibility network providers have of their own network usage in the name of simplicity. Deeming implies the opposite of the preceding sentence on that page, “establishing a user’s gross demand inherently implies knowing generation output from behind the meter...” There is a mixing here of the priorities of generation and distribution. They are not the same and while they impact one another, they should not be conflated.

We also believe Option E. should be ruled out. (“A hybrid approach could be that whilst low usage domestic consumers pay a volumetric consumption, other pay fixed charges based on capacity.”) A completely different incentive scheme for users at the same level of the distribution system will further obscure the realities of the physical system rather than facilitating the transparency necessary for increased flexibility.

Questions:

- 12) Do you think we should do further work to analyse the potential effects of the charging arrangements for smaller EG (called ‘embedded benefits’)?**

Yes. This consultation ignores the possibility that behind the meter resources could be compensated in any way other than a deemed rate. This omission perpetuates a disincentive for integration of highly distributed kW-scale resources that do or will exist behind the meter. We do not advocate feed-in tariffs or other artificial incentives. Rather, we urge that the consultation consider this type of resource when developing “system value” arrangements, searching for the true fair market value of such resources deployed at specific times and places.

13) Do you think changes are needed to the current charging arrangements for smaller EG, and when should any such changes be implemented?

14) Of the embedded benefits listed in our table, do you think that any should be a higher or lower priority? (page 44)

15) Do you think there are other aspects of transmission or distribution network charging which put smaller EG, or any other form of generation or demand, at a material disadvantage?

The definition of “small” is overly broad. There is no differentiation between 99MW and 100kW either in terms of how they would interact with the grid or their location on it. This reflects an assumption that EG will primarily be directly grid connected and, in the case of storage, a legacy interpretation based on hydro and CAES. For EG, there must be some distinction between higher voltage grid-connected single-location units and those behind the meter. This is particularly relevant when considering voltage control in response to uneven line loading and the effects of uncontrolled residential pv.

Also, the item *“8.4 Storage largely competes with generators in providing services to suppliers, customers, and network operators, so we think that residual charges should apply to storage in a similar way as to generators.”* contains circular logic and an inappropriate conclusion. Contextualizing assets is not the same as valuing them. Even if storage is nominally providing the same service, the way it is interacting with the grid is simply different compared to generators. Will regulatory definition effort also be predicated on this kind of logic? This perception, and the action the consultation proposes as a result, is making an assumption that runs ahead of the still-developing regulatory definition of storage. Assuming storage will in future compete primarily with generation underestimates its potential applications, and presumes the new regulatory definition will treat it as a generator (therefore possibly influencing the process of definition).

16) Do you agree with our view that storage should not pay the current demand residual charge, at either transmission or distribution level?

We do agree, specifically when exporting. We feel that residential/behind the meter resources should be reconsidered in this process, specifically the deemed rate/uncompensated export conditions that constitute a disincentive to DSR activity.

17) Do you agree with our view that storage should not pay BSUoS on both storage and generation?

We agree.

18) Which of the BSUoS approaches described is more likely to achieve a level playing field for storage?

This depends to some extent on the ultimate regulatory definition of storage, particularly that subset installed behind the meter.

19) Do you think the changes in this chapter should be made ahead of any wider changes to residual charging that may happen in future? Do you agree with our

view that these changes should be implemented by industry through the standard code change process?

It depends on what the goal is. If the goal is to integrate distributed resources, including storage, and set the environment for development of a more flexible system, then we believe this should be part of a significant code review. These decisions will have affect the development of new resources, as well as the direction the energy industry takes. Focusing on existing applications, current infrastructure revenue models, and concerns about the viability of existing baseload resources does not move toward “future proofing” the system or its associated regulatory and market mechanisms. Working with current scale and grid location, particularly in the case of Demand Response, will continue to allow behaviors that respond to an incomplete price signal resulting in actions that may or may not be of net benefit to the system. While it is a future goal, Ofgem must consider the context of its actions and whether or not those actions move the UK closer to or further from the ultimate goal of system value-based network administration.