



Response to Ofgem's RIIO-2 Framework Consultation

Faraday Grid Limited

Introduction

Faraday Grid Ltd (FGL) welcomes the opportunity to respond to Ofgem's consultation on the RIIO-2 price controls. FGL are developing an entirely new technology, the Faraday Exchanger (FE), to address short term volatility and frequency, which when deployed across the electricity grid will create a Faraday Grid, enabling significantly greater integration of renewable energy; increased grid stability and resilience to cyber-attack; as well as contributing to reduced cost of energy for consumers.

We make the following comments in response to Ofgem's Framework Consultation, published in March 2018.

Innovation

We support Ofgem's proposal to focus innovation funding on transformative changes in the energy industry. We note that Ofgem intends to specify the issues it deems critical for the energy transition and target funding towards those issues. However, it is essential that Ofgem is open to fundamental network innovation such as the Faraday Grid and does not restrict opportunities for innovation to existing technologies that are targeted at mitigating existing challenges, such as storage and demand-side response. The latter solutions can become much more effective if the core electricity network architecture could be modernised using technologies such as the Faraday Grid.

System-wide perspective

We are encouraged that Ofgem recognises the need to define, and incentivise, approaches that result in the most effective and efficient outcomes across the energy system. Distributed energy resources increasingly represent a more cost-effective alternative to network reinforcement and extension. The Faraday Grid is a platform that enables many of these solutions to become more compatible with existing electricity grids. The Faraday Grid is enabled by a network of autonomous decentralised devices known as FEs. The FEs control power flows to resolve some of the physical grid constraints and allow substantially more renewable generation to be connected while requiring much lower system costs than prevail today. To enable investment in transformative technologies such as FEs, the regulatory framework needs to place appropriate incentives on electricity network companies to take a system-wide view. The framework also needs to enable joined-up thinking across system boundaries and between operation and investment, ensuring that collaboration is encouraged. The framework should also include incentives and mechanisms to facilitate and promote third-party solutions.

Role of Networks

The regulatory framework currently applied in Britain was developed in the context of a centralised energy system. As the system becomes more de-centralised, the lines drawn between different levels of the industry become increasingly blurred. DNOs are beginning to take on more system operator roles, and their ultimate role may be as providers of transactive platforms for distributed energy services. Ofgem's role in this is twofold: (1) ensure that DNOs are incentivised to transition into their new role by introducing competitive and regulatory mechanisms that are appropriate for the energy transition; and (2) removing regulations that prevent industry players from participating in all parts of the energy system and providing the most efficient solutions. Where economically efficient, DNOs should be able to access the different revenue streams that could be provided by investing in system enhancing technology such as FEs. Such an approach ensures the greatest rate of adoption for transformative technologies that can provide significant benefits to consumers. There is a risk that these benefits could be lost if DNOs are required by default to procure predefined solutions such as ancillary services from synthetic markets.

Reliability and Security of Supply

Inertia, which is essential for electricity systems to operate within voltage and frequency limits, has historically been provided freely as a side-effect of burning fossil fuels to generate electricity. The greater role played by intermittent, renewable generation in the British electricity system is to be encouraged but presents real risks for the stability of the energy system given a reduction in the level of accompanying inertia. Lessons from international markets such as Australia demonstrate the potentially catastrophic consequences of not valuing inertia. Deployment of the Faraday Grid could deliver short term savings to consumers in excess of £1 billion annually in the current system and prevent the doubling or tripling of electricity prices that could take place if carbon targets are met with only renewable generation capacity and current grid technology.¹ As such, the Faraday Grid could be integrated into the existing system at no additional cost beyond current asset replacement budgets.

The Price Control Process

We are encouraged by Ofgem's intentions to simplify the price control process and promote more stakeholder engagement. In doing so, Ofgem should consult on its detailed proposals as early in the process as possible. This would provide sufficient time for third-party stakeholders, such as FGL, to engage with the proposals and to respond in the most effective way. This would enable innovative perspectives that challenge the status quo, and would ensure that the regulatory framework evolves to facilitate a transformative energy sector.

¹ See FGL submission to UK Cost of Energy Review (2017):
<https://www.gov.uk/government/publications/cost-of-energy-independent-review>



Concluding Remarks

Overall, we consider it important that Ofgem develops the RII0-2 framework with a view to enabling transformative innovation. This includes careful consideration of how the price control framework interacts with related developments: the transition to DSOs, the creation of an independent transmission ESO, and network charging reform, to name just a few. We look forward to engaging with Ofgem further as you develop your policies for RII0-2 and beyond. If you have any questions about the Faraday Grid or our submission please do not hesitate to contact me.

For Further Information Contact:

Richard Dowling

Chief Economist and Head of Government Affairs

Faraday Grid

E: richard.dowling@faradaygrid.com

T: 0131 306 0411

W: www.faradaygrid.com