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Energy System Integration Team
Office of Gas and Electricity Markets
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12th January 2017

Dear Secretary of State,
Re: A SMART, FLEXIBLE ENERGY SYSTEM. A call for evidence.

PassivSystems is a leading innovator in the development of intelligent domestic energy management systems, with a particular focus on domestic renewable generation, renewable heat and district heating networks. Over the last 8 years, the business has been at the forefront of the use of intelligent controls to maximise consumer value from the use of storage flexibility.

We are strongly supportive of the direction of travel described in the call for evidence. It strongly aligns with the guidance we have been giving in discussions with the Climate Change Select Committee, the Prime Minister's Office, Cabinet Office, BEIS, Ofgem and a range of industry stakeholders. In these discussions we have highlighted the opportunity to grow demand side services through the reform of the capacity market, creating a sustainable market for demand side technologies and moving away from a reliance on expensive and poorly utilised generation plant to provide capacity for the winter peak.

PassivSystems has provided input to the response to the call for evidence compiled by Innovate UK, "A Grid Edge Flexibility Market Framework". We strongly support the approach described in the paper, which describes a mechanism by which grid edge demand services can recognise full system value and for this value to be able to flow to the end consumer.

In addition to support for the Innovate UK response, we wish to respond to the following questions:

Enabling Storage

Q6. The definitions only cover battery storage of electricity. We note that "Energy Storage Use Cases" produced for BEIS by DNV GL also considers storage of heat as a means of providing flexibility to the electricity system. We expect storage as heat to provide a significant contribution to whole system flexibility and would extend the description provided by DNV GL to include the storage of

heat in the fabric of buildings. This type of storage is not bi-directional, so does not fall under the proposed definitions and may require consideration as a separate category to ensure situations such as Use Case 6 in the DNV GL paper are accommodated by market mechanisms.

Smart Appliances

Q28. Yes, we agree with the 4 principles for smart appliances.

Q29. Option C, requiring appliances to be smart, will ensure that smart appliances will be adopted over the next 7 to 10 years through natural obsolescence to provide a significant flexibility capability. From our discussions with white goods manufacturers, we understand that the cost of incorporating the required communications capability into appliances is very low and this would therefore have minimal impact on pricing of appliances to consumers.

The roles of different parties

Q46. PassivSystems attended the inaugural meeting of the Smart Power Industries Alliance, which brought together a broad range of membership organisations across the energy landscape, where this call for evidence was discussed. During these discussions Dame Fiona Woolf recounted her experience of transforming energy markets across the world, highlighting that change was brought about through fundamental re-design rather than incremental change. We strongly support this view and encourage BEIS and Ofgem to consider the role of an independent system architect able to avoid the pitfalls of compromise and filibuster that can hinder such large change programmes.

Innovation

Q47 & 48. PassivSystems has successfully secured a range of different funding streams over recent years in the areas of residential DSR trials, optimisation platforms and residential battery storage. These areas remain extremely relevant and in need of innovation funding to cover the gap between now and the time when market reforms make commercial viability a reality. We have seen during that time that some innovation funding has sought to be very specific in terms of the promotion of particular technologies. We warn against this, as “picking the winners” can prevent new innovative technologies from getting to market. We believe that now is the time for pursuing significant field trials of technology. Again, the DNV GL analysis highlights that technology readiness is not inhibiting market development, however trust in emerging technologies remains low as there are no long-term, large scale demonstrations of reliable performance. Funding support of such demonstrations would help to address this market concern.

PassivSystems is keen to provide continued support to BEIS and Ofgem as the programme of work described in the call is progressed.

Yours sincerely

Colin Calder
CEO and Founder