Energy Networks Association Response to BEIS Call for Evidence: Building a Market for Energy Efficiency

Energy Networks Association (ENA) represents the companies that operate and maintain the gas and electricity grid network in the UK and Ireland. Serving over 30 million customers, they are responsible for the transmission and distribution network of "wires and pipes" that keep our lights on, our homes warm and our businesses running.

Understanding the track record of our energy networks since privatisation in 1990 is key to understanding the role that they can play in helping Government meet its short, medium and long-term objectives for energy policy.

Our energy networks are recognised around the world for their strong track record of safely and securely providing the UK with the gas and electricity it needs in three key areas:

1. Trusted performance - The average gas customer will experience an unplanned interruption once every 140 years and for electricity customers, since 1990, there has been a 50% reduction in number of customer interruptions, and a 60% reduction in length of customer interruptions.

2. Reduced costs & increased investment - Network costs are now 17% lower than they were when at the time of privatisation and are projected to remain flat, and in some areas fall, into the next decade. By 2020, the UK's energy networks will have attracted some £80 billion of investment since 1990. New investment in the networks is forecast at £45bn between 2017 and 2023.

3. Energy innovation - Independent research carried out by Pöyry has shown that innovation projects by local electricity Distribution Network Operators (DNOs) could deliver up to £1.7bn of benefits by 2031. Additional benefits will flow from the innovation undertaken in the other network sectors Electricity & Gas Transmission and Gas Distribution.

Recognising the value of a Whole-System Approach to decarbonisation

Whilst it is clear that our future approach to energy efficiency will be a key aspect of delivering Government's energy objectives, it should be recognised that the greatest efficiencies in delivering a secure, low-carbon sustainable energy system will be best realised through the adoption of a 'Whole-System' approach, including energy efficiency.

A Whole-System approach means looking at optimal network investment and operational decisions for the whole energy network, not just the individual parts in isolation. It also means considering interactions across energy vectors (e.g. heat networks, energy storage or transportation) so that wider options and value can be taken into account. This work is supported by consideration of the connections, data links, interfaces, coordinated planning opportunities, potential impacts and shared learnings across electricity and gas networks and other energy vectors, both currently and in the future.

ENA members believe that if our power, heat, transport and waste sectors are all interdependent, then so must the solutions for their decarbonisation. A Whole-System approach is based on our energy networks using new smart technologies to work together in an integrated way, building on the strength of our existing gas and electricity network assets. This is well illustrated by the fact that over 80% of peak energy usage is currently derived from gas and without the gas grid there is simply not enough energy for the UK to function, or the means to transport that energy to end users during peak periods. With the population expected to increase by 22% by 2050, total energy demand will increase significantly. We therefore need to look at the energy system as whole in delivering future investment and developing smarter solutions needed to deliver our energy objectives and clean growth.

Call for Evidence

Our members welcome this BEIS Call for Evidence and note that it outlines a range of barriers to investment in energy efficiency on both the demand and supply side and invites views about the role of Government in overcoming barriers and stimulating the market through more direct interventions. We also note the range of potential solutions it considers, many of which have been advocated by businesses and industry representatives and might potentially include a role for Distribution Network Operators (DNOs) and Gas Distribution Network Operators (GDNs).

Barriers and Potential Opportunities

We recognise that there are a number of supply side barriers that currently result in a lack of incentive to invest in energy efficiency measures and to a significant degree this is due to the lack of certainty in the savings that will be made from investment in a particular measure. Taking a simple example, a network operator would need to understand and have a good degree of certainty of the impacts of energy efficiency investments in constrained network areas in order to invest in energy efficiency projects over network reinforcement.

We therefore agree that a holistic approach would be most effective whereby those market players that might potentially realise a value from energy efficiency are effectively combined in order to build a value chain and identify opportunities that deliver a positive investment case. However, the ability to identify opportunities of significant scale and to build a value chain that incentivises energy efficiency investments with benefits clearly accruing to the investor/those that benefit is likely to be challenging. Therefore, whilst the aggregate value of energy efficiency investments needs to be well understood, the practicalities of effective implementation may dictate a macro-economic type approach based on the principle of wider societal good.

Responses to specific questions in the call for evidence.

How could both DNOs and GDNs be incentivised or required to deliver energy efficiency savings?

Clearly Network Companies could, in some circumstances, directly benefit from investment in energy efficiency. For example, a targeted roll out of energy efficiency measures might deliver a reduction in demand sufficient to avoid the costs and disruption of traditional network reinforcement. This in turn can speed up waiting times for connections to the network for new generation and demand customers facilitating our energy and industrial objectives.

Network Companies operate within the RIIO Framework which is designed and overseen by the energy regulator Ofgem. RIIO has been positive for consumers and has more strongly aligned network companies with the interests of their customers and stakeholders. Through RIIO, network company revenue is linked to incentives, innovation and delivering clear outputs. The “sharing factors” in the framework ensure both customers and networks share any outperformance in a regulatory period. RIIO has led to positive outcomes for consumers, for example, it has driven costs saving together with increasing standards of service through the use of mechanisms and incentives. Further, the RIIO innovation mechanisms are supporting cost savings.

There are a number of different approaches that could be taken to enable network companies to take a more active role in delivering energy efficiency, given such things as the regional monopoly type coverage of network companies, the continuity and familiarity with the households and businesses they serve and the regulatory environment in which they operate.. One option would be to place an obligatory type requirement on network companies, some form of incentive or a mixture of both. There may be other approaches, for example an established market for energy efficiency could enable network companies to play a role in that market on a competitive basis and utilising special purpose vehicles that do not form part of their regulated business. Each of these types of options offer pros and cons; for example, differences in the cost of financing and the effectiveness of a particular initiative.

Our members are keen to explore options that help to deliver Government’s energy and industrial objectives whilst delivering best value for consumers.

Do current market arrangements allow for DNOs and GDNs to fully realise the potential of energy efficiency savings? If not, what needs to change?

Generally, the current market arrangements do not allow for network companies to fully realise the potential of energy efficiency savings. As mentioned above there are a number of market actors that could potentially directly benefit from energy efficiency measures. One of the challenges is how these benefits are monetized and accrue to those that would invest in and/or deliver energy efficiency measures. For example the avoided costs of generating capacity, carbon emissions and fuel of reducing levels of peak demand.

Although network companies have incentives to carry out energy efficiency under their existing contractual arrangements, there are barriers to pursuing this such as uncertainty over savings delivered by energy efficiency, the lack of network company experience in delivering projects, and an inability to monetise the additional benefits of energy efficiency that do not accrue to the network company, for example, reduced generation costs.

Network companies current energy efficiency measures

The current RIIO framework already contains incentive mechanisms that drive network companies to reduce the costs of delivering their business plans over the 8 year price control period. Cost savings are shared with consumers and the use of innovation including energy efficiency type measures are already well integrated into the network companies’ tool-kits.

Under the Fuel Poor Network Extension Scheme (FPNES) GDNs have delivered efficiencies through the connection of tens of thousands of households to the networks where a gas connection is the best form of assistance for them. The scheme's aim is to help vulnerable and fuel poor households switch to a natural gas or a heat network to heat their homes, with funding provided to eligible households to help cover the costs of connecting to the gas or heat network.

Whilst it is the case that network companies have responded well to the various innovation initiatives created by Ofgem that encourage the development and use of energy efficiency measures, for example, the Gas & Electricity Network Innovation Allowances (NIAs), Electricity Network Innovation Competition (NIC) and Low Carbon Networks Fund (LCNF) have led to a number of projects including the joint Wales & West Utilities & Western Power Distribution "Freedom Project", UK Power Network's "Energywise Project" and Scottish and Southern's "Save Project" (Solent Achieving Value from Efficiency); the type of large-scale 'behind the meter' type roll-outs referred to in the call for evidence are not directly incentivised or required.

Conclusion

Our members welcome the opportunity to respond to this Call for Evidence and recognise that network companies have unique characteristics that may lend themselves to the delivery of energy efficiency measures. However, they also recognise that there may be a number of different approaches to realising the potential for greater energy efficiency each with varying challenges. As a principle our members support the rationale and objectives behind the call for evidence and stand ready to assist in any way they can should Government wish to progress this issue.

This response should be read in conjunction with ENA's response to the 'Call for Evidence: Cost of Energy Review' available on our website at http://www.energynetworks.org/news/publications/consultations-and-responses/

If you have any questions on the points raised in this response, please contact John Spurgeon, Head of Regulatory Policy, Energy Networks Association email: john.spurgeon@energynetworks.org

Energy Networks Association
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