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Dear Ms Guzeleva

Thank you for the opportunity to comment on the questions set forth in your letter of 7 December 2012, *Low Carbon Networks Fund – electricity demand*.

The Institute for Sustainability is a charity, established by a broad range of businesses, academics and public sector bodies to *significantly accelerate delivery of sustainable cities and communities*. We do this primarily by working with partners to help shape and deliver innovative demonstration projects in buildings, infrastructure and transport. Our project partners include large and small businesses, universities, local authorities, landlords and Distribution Network Operators .

We strongly support changes to the Low Carbon Network Fund governance document that support the trialling of equipment delivering electricity demand reduction and shifting measures. Our activities suggest that wide-scale deployment of such equipment will have a significant, but poorly understood, impact on the Distribution System. LCN Fund First Tier programmes are now needed to better understand and predict this impact.

Our specific responses to the questions set out in the letter are as follows.

Question 1: Do you agree that that trialling electricity demand reduction or shifting through the LCN Fund could provide DNOs with valuable learning on their role in supporting the development of a low carbon economy?

We strongly agree with this proposition.

The Institute for Sustainability, as part of the Low Carbon London project and our wider activities, participates in several trials focused on demand reduction. These include, for example, trials of varied home energy management systems in a range of social housing settings. Such equipment offers a twofold approach to reducing energy use:

1. With improved and informative displays for customer feedback these systems have the potential to significantly impact a customer's information, awareness, and energy use behaviour
2. With learning-based algorithms that automatically adjust energy use based on occupant behaviour, these systems can dramatically reduce demand through passive means.

There is good reason to believe a significant untapped potential for demand reduction through network-connected equipment exists in the UK. Furthermore, the Institute is promoting trials where large clusters of customers all adopt demand reduction equipment at roughly the same time when, for example, one or more social housing tower blocks are simultaneously retrofitted. As these customers are likely to be served by a

single or small set of electricity network substations, such wholesale change in area energy use will have a dramatic impact on local network demand profiles.

DNOs clearly cannot effectively plan for network reinforcement without a thorough understanding of how such equipment, deployed at scale, may affect energy use. The LCN Fund provides the mechanism for this DNO learning and innovation but only if the guidelines are adequately revised to consider such demand reduction equipment as part of the distribution system.

Question 2: Does the drafting proposed in annex 1 facilitate the trialling of electricity demand reduction or shifting through the LCN Fund?

The proposed language only partially facilitates the trialling of electricity demand reduction and shifting through the LCN Fund. Specifically, we agree with the language proposed to be added as the new 4th bullet in section 3.10.1:

Equipment that is funded through the LCN Fund for the purpose of reducing or shifting the electrical demand of commercial or domestic customers will be deemed to be connected to and form part of the Distribution System if it is being used to test the impact of electricity demand reduction on the Distribution System"

We also agree with the proposed changes to SECTION SIX – Definitions.

However, we note that the language set out in the (annex 1) 5th bullet of section 3.10.1 is potentially in conflict with the proposed additional language in section 3.10.1. As "Equipment [...] funded through the LCN Fund for the purpose of reducing or shifting the electrical demand of [...] customers [...]" is likely to:

- a) measure the consumption of electrical energy, and
- b) potentially provide such measurement data to a licensed electricity supplier

the installation of such equipment, while permitted by the guidance language of the 4th bullet, may be disallowed by the language set out in this 5th bullet:

It must not be related to the procurement, installation, operation and decommissioning of any device on any customer's premises that measures the consumption of electrical energy and provides such measurement data to a licensed electricity supplier.

As such, we suggest that the language in this 5th bullet be removed or reworded to clearly allow Distribution System equipment on the customer's premises that measures and reports energy usage for the purpose of reducing or shifting electricity demand.

Once again, thank you for the opportunity to respond to your questions. We support OFGEM's interest in promoting demand reduction and provide benefits to customers.

Yours sincerely



Ian Short
Chief Executive
