Energy efficiency: What is the DNO role?

10.00 – 12.00 Tuesday 14th September 2021 (virtual)

A workshop hosted by Everoze, WPD and Sustainability First

Summary of roundtable discussion

1

In ED2, what **gaps** could DNO energy efficiency schemes or trials fill?

E.g. gaps in knowledge, expertise, partnerships

1) **Improving understanding of the combined benefits of thermal insulation schemes for DNOs with a focus on:**
    a. **Consolidating the evidence and research that has already been carried out**
    b. **Exploring poorly understood sources of value**
    c. **Developing cost-benefit analyses (CBAs) to evaluate energy efficiency interventions**

a. Considerable work has been undertaken exploring the benefits of energy efficiency (EE) for DNOs. Yet to date, there have been few efforts made to i) consolidate and reach agreement on the different sources of value and their scale, and ii) validate and evidence the results of small scale and desk-based studies. Proving the benefit at scale and across different network locations should be a priority.

b. EE comprises multiple different technologies with a wide range of use cases, conferring an equally wide range of potential benefits to the DNO, not all of which are well understood. We need to improve our understanding of the full range of benefits and their value to the network.

c. To be able to support large scale EE interventions, we need to be able to show how the cost-benefit stacks up for DNOs against alternatives (network investment, flexibility). As well as the costs (upfront capital, implementation etc.), any EE CBA tool should carefully consider all EE benefits (individual, societal, and enduring). The CBA should take account of uncertainty on both sides of the equation, considering the growth in electricity demand, the growth in flexibility and the option value that EE offers to the electricity system. The CBA tool developed by the ENA may offer a good starting point.

2) **Coordinating and bringing together the diverse beneficiaries of EE**

EE interventions offer co-benefits to many different parties. For instance the network benefits to DNOs and the ESO, health benefits conferred on the health service, and money saved and home comfort improvements to the homeowner. However, from a pure network standpoint alone, EE investment is likely to be warranted at relatively few congested network locations. Elsewhere, investment can only be justified if the advantages for the network are combined with other benefits. With effective partnership and collaboration, DNOs will be well placed to help coordinate different beneficiaries, determining how their own funding contribution could best complement funding from others. To take on this role, DNOs will need policy and regulatory support.

3) **Data gathering**

There are significant gaps in our understanding of homes in each network area. Better data on home energy use is needed to understand where interventions should be focussed and in which homes. Any data gathering exercises should pay careful consideration to privacy concerns and data protection regulations, and recognise the principles of the 'supplier hub' model.

4) **Understanding other elements key to EE success, including:**
   a. **The supply chain**
   b. **Consumer acceptance**

a. If DNOs are to initiate EE interventions at scale, they will need a good understanding of different actors and pathways to energy efficiency delivery, including knowledge of the supply chain and network of installers for EE technologies.

b. Domestic EE interventions cannot be delivered by DNOs without the approval and acceptance of the consumers who will be affected. DNOs will need to consider how best to integrate any plans they may have to offset network investment via energy efficiency schemes with the delivery of their vulnerability strategies. The needs of consumers should be prioritised to improve the acceptance of new measures.

2

What might the **focus and outcomes** of **DNO involvement** in EE schemes look like? How might these objectives evolve over time?

E.g. avoided network investment, vulnerability, demand reduction

1) **Ofgem require thorough justification of DNO involvement**

Ofgem requires that the focus and outcomes of DNO involvement in EE schemes be thoroughly justified and firmly in line with the remit and licence duties of the DNO. There are many areas where EE can come under the remit of the DNO, including customer vulnerability, load management and as an alternative approach to network reinforcement. Ofgem encourages DNOs to explore the use of EE across such areas but will require firm justification in the ED2 business planning process, which is guided by achieving net-zero at the lowest cost to consumers. Investigation of the role of other parties and how efforts are shared is also encouraged.

2) **DNO EE activity could be better coordinated, and look to upcoming UK government policy for strategic direction**

DNOs need to be mindful of the risk of duplication of efforts on a topic where bespoke, local approaches are key. DNOs should be alert to this, ensuring coordination between schemes and being on the lookout for duplication where there are no clear consumer benefits. In the wake of the new Heat and Buildings Strategy, the ENA will be well positioned to bring DNOs together with key parties to support good coordination.

3) **Information sharing**

DNOs have a unique view across their networks, including on future development of electric heat and uptake of other low-carbon technologies. Analysis and communication of such information should be a focus of DNO involvement in EE schemes. This can have multiple benefits, from aiding (and persuading) consumers to make well-informed decisions on their home energy use, to helping local authorities in directing support toward areas and households which most need it and which have the greatest potential for positive network impact from EE. DNOs are trusted and could engage more actively in promoting the benefits of improved energy efficiency measures. To do this, they will need support and buy-in from others, especially from the energy suppliers that own the customer relationship.

4) **Coordinated interventions across EE and flexibility**

Consumer behaviour will change to meet net-zero targets. Smart meters, electrified heating, energy efficiency improvements, domestic flexibility technologies, and electric vehicles are all cornerstones of government strategy and will all require consumers to adapt. To ease this process, interventions need to be considered collectively and coordinated to bring minimum disruption and minimum cost to consumers.

3

How might such schemes be **funded**?

E.g. DNOs, other funding

1) Funding from existing pots can be used for small-scale projects

There are a number of funding sources for DNOs to recoup the costs of providing EE advice and small-scale interventions under the current price control mechanism. Such funding in ED2 includes the network innovation allowance and potentially the vulnerability strategy incentive.

2) DNO thermal insulation projects as an offset to network reinforcement have yet to be funded as a business-as-usual approach

Modelling undertaken as part of several NIA projects suggests that thermal insulation of homes could be a cost-efficient alternative to network reinforcement at certain congested locations. EE does not have a dedicated funding pot, but, subject to Ofgem's need for 'thorough justification', there are several approaches to funding for DNOs to explore.

3) DNOs are not the sole beneficiary of EE and do not need to be its sole source of funding

DNO funding will only ever be part of the equation. Many other parties that benefit from the effects of EE interventions can also provide their share. The concept of 'revenue stacking' for flexibility technologies, where investment is only made viable through the combination of multiple different income streams, is well understood. The same idea should be applied to investment in EE. The major challenge then becomes how to develop collaboration between all beneficiaries to unlock collective funding, which benefits the individual household as well as delivering wider affordability and net-zero benefits.

4) Funding that is sourced from network charges can be regressive

All DNO-based funding is ultimately sourced from the charges that network users pay on their bills. This charging can be regressive. Equally, it is noted that EE should reduce the overall amount of network reinforcement necessary and its resultant costs. Fairness for the consumers should be a priority when considering funding mechanisms for EE schemes.

Organisations in attendance

Active Building Centre
Agility Eco
Association for Decentralised Energy
BEIS
Centre for Sustainable Energy
Citizens Advice
Climate Change Committee
EDF Energy
Electricity North West
Energy for London
Energy Networks Association
Energy Savings Trust
Energy Systems Catapult
Energy UK
Everoze
Frontier Economics
Graham Oakes Ltd
Midlands Energy Hub
National Energy Action
Northern Power Grid
Ofgem
Ombudsman Services
Regen
Scottish and Southern Electricity Networks
Smart Grid Consultancy
Greater South East Energy Hub
SP Energy Networks
SSE Energy Services
Sustainability First
UK Power Networks
Welsh Government
West Yorkshire Combined Authority
Western Power Distribution