

National Energy Action (NEA) response to RIIO ED2 Open Letter

About National Energy Action (NEA)

NEA¹ works across England, Wales and Northern Ireland to ensure that everyone in the UK² can afford to live in a warm, dry home. To achieve this we aim to improve access to energy and debt advice, provide training, support energy efficiency policies, local projects and co-ordinate other related services which can help change lives.



Background to this response

Across the UK, 17,000 frail and elderly people died last year because they are unable to heat and power their homes adequately, if at all³. Millions more low-income working age households face increasingly unmanageable situations; repaying large or growing energy debts which can badly exacerbate existing mental health problems⁴ or prompt unsafe coping strategies⁵. NEA⁶ works across England, Wales and Northern Ireland to address these issues and one day we hope to ensure that everyone in the UK⁷ can afford to live in a warm, dry home. To achieve this, we aim to work with a range of partners to improve access to energy and debt advice, provide training, support energy efficiency policies, local projects and co-ordinate other related services which can help change lives. Some of the main current drivers for NEA's on-going collaborations and recent work with the energy networks include:

- ❖ Ofgem requiring networks and energy suppliers to enhance their work on the Priority Services Register (PSR)
- ❖ Requiring energy suppliers and Distribution Network Operators (DNOs) to be proactive in identifying 'need' and act on the stakeholder and collaborative incentives to trial new approaches which have a positive social impact at the same time as proving alternatives to conventional network reinforcement
- ❖ Ensuring exemplar network innovation projects are developed and disseminated fully and encouraging network companies to ensure fuel poor and vulnerable households directly benefit from these innovation competitions and allowances
- ❖ Encouraging the networks to deliver non-network solutions (either themselves and by partnering with others)
- ❖ Requiring Gas Distribution Networks (GDNs) to exceed the previous Fuel Poor Network Extension Scheme (FPNES) targets and supporting this activity on the ground
- ❖ Ensuring GDNs provide more consistent advice and support for vulnerable households when they have to disconnect gas supply at properties when the boiler is deemed to be unsafe
- ❖ Undertaking research and practical projects to raise awareness of the risks of Carbon Monoxide (CO) poisoning and acting on the key links between this and the risk of being in fuel poverty

Our response below centres on answering question 21 in the open letter, and our proposals for inclusion within the sector specific methodology.

The role of electricity networks now and in the near future

As well as continuing to strengthen their work being proactive in identifying 'need', throughout ED1, NEA has worked with several DNOs to trial new approaches which have had a positive social impact at the same time as proving alternatives to conventional network reinforcement (or deferring it). NEA has been encouraged by many of the DNO's appetite to develop these new approaches to manage grid constraints in contrast to network reinforcement via innovation trials, some the projects NEA is aware of are:

- ❖ The Solent Achieving Value from Efficiency (SAVE) Led by Scottish and Southern Energy Power Distribution (SSEPD) in the Solent and surrounding area. For more information visit: <http://www.energy.soton.ac.uk/save-solent-achieving-value-from-efficiency/>.
- ❖ Less is More Western Power Distribution partnered with the Centre for Sustainable Energy to help communities reduce their electricity demand, especially at peak times so that less money was spent on upgrading substations, to cope with rising demand. For more information visit: <http://www.lessismore.org.uk/>
- ❖ The Power Saver Challenge project with Electricity North West aimed to extend the life of existing network assets by working with customers to reduce the amount of electricity they use, in return of a reward. The aim was explicitly to test the feasibility of avoiding investment in an urban primary substation and extend the life of the existing asset. For more information visit: <http://www.powersaverchallenge.co.uk>.
- ❖ TOU trials within Energywise which involved low income households in East London who took part in trialing two different ToU tariffs. One trial was British Gas's free Saturday energy and the other is a Prepayment Critical Peak rebate (essentially PPM customers get sent a text asking them to avoid peak use on certain days and then they are given a rebate for the amount of energy they don't use within these periods based on historic consumption).

NEA and Agility ECO also produced a report investigating the possibility to divert budgets currently allocated to load-related network upgrades into local schemes that improve energy efficiency. In the report this concept is explained fully and is referred to as Alternative Investment Strategy (AIS). Specifically, the report looks to analyse the “Size of the Prize” on Northern Power Grid’s network, the economic feasibility of investment in local energy efficiency and how this compares to conventional network reinforcement and practical feasibility⁸.

The report highlighted the cost effectiveness of a variety of AIS investment types. These were calculated in terms of cost per household, for each kW of demand reduction at peak time⁹. The report also included an adjustment for “confidence level”, which reflects the certainty placed in the various energy efficiency measures to achieve the peak load saving, in the context of a diverse population of customers. The number provided is based on industry research¹⁰, and calculated by considering average engagement levels of households in a population¹¹, their receptiveness to a change of behaviour¹², the ability and desire to use technology to best effect and any rebound effect¹³ likely in that population¹⁴. This research highlights the variables which impact the ability of permanent demand reduction to contribute to peak reduction. By using the steps below, it would be possible for all DNOs to routinely identify the following opportunities in a given part of a particular distribution area (or across all distribution areas)¹⁵:

- I. Identify ahead of time load related ‘reinforcement hotspots’ within a geographic territory
- II. Obtain a forecast from the DNO of the business as usual reinforcement costs
- III. Establish an alternative cost-benefit analysis indicating which ‘other actions’ could be taken to either defer or mitigate the reinforcement need in an area entirely (through permanent electricity demand reductions, not demand shifting).
- IV. This would require working with supportive agents to simultaneously assess the scale of electricity demand reduction potential within that area of the network and aggregate this potential
- V. It would then be possible to grade the potential aggregation of electrical demand reductions
- VI. Evaluate if the AIS met the ‘Golden Rule’ test set out below

Dependencies and key current barriers

It is important to note that in order for these alternative energy efficiency projects to occur, first they must be located in similar locations to those places where the DNO/DSO is planning to invest in network reinforcement alongside areas with relatively high population density, high deprivation and high penetration of electrically heated housing. This means the opportunity to invest in these projects will not be evident in every instance and this ‘convergence’ will not always occur in a planned reinforcement a DNO’s may be planning on their network.

Another critical challenge for these alternative investments (and the key for delivering value to all energy customers, not just the direct beneficiaries of these measures) is that the contribution by the DNO to the cost of these projects would always have to be lower than the cost of the business as usual network reinforcement (the so-called ‘Golden Rule’ referenced above). Where the ‘Golden Rule’ criteria is met this would ensure the investment in energy efficiency is more cost effective than reinforcement; benefiting all energy consumers on that network whilst also providing a direct social outcome for the recipients of the energy saving measures¹⁶.

Despite the positive progress in trialing these approaches and its potential value in the future (either for the companies, the direct beneficiaries of the energy saving measures or DUOS customers in general), NEA notes that the relative “hassle factor” of aggregating domestic properties means that DNOs will invariably focus on larger non-domestic energy uses to secure these outcomes. The preference to contract for commercial DSR opportunities (or default to conventional reinforcement) should be considered by Ofgem to be a form of market failure and we highlight a continued reliance on the current generic share factors will not be sufficient to avoid Business As Usual (BAU). As a result, NEA stresses the opportunity below for a weighting to be given to domestic DSR or demand reduction projects that have a direct social benefit as opposed to focusing on commercial DSR projects.

NEA also states that if Ofgem are to dramatically enhance the role of DNOs/DSOs in delivering energy efficiency, a further incentive could also be adopted by reconfiguring the current losses incentives, so that the equivalent energy savings that currently realised via reducing line losses instead delivered in domestic properties via the upgrading of white goods, lower cost appliances or upgrades to inefficient electric heaters. Again, the priority should be targeting this assistance to low income household with little or no disposal incomes, as they can’t currently benefit from improved product standards, despite potentially benefiting the most from these energy efficiency gains. As with the model above, where the ‘margin of feasibility’ is tight DNOs/DSOs would also be encouraged to identify complementary energy efficiency activity that is already being planned or developed within an area. This is where the potential exists to ‘piggyback’ a DNO investment alongside 3rd party fund instead of making the investment entirely independently (albeit with the same intention of avoiding an unnecessary reinforcement of the network) making this activity complimentary to current EE schemes. This would align well with Ofgem’s endeavour to facilitate a ‘whole systems approach’ where the best system solution is found, which is not necessarily the best solution for an individual network.

Recommendations for the upcoming sector specific consultation

As well as this paper, NEA has recently highlighted¹⁷ how both electricity and gas network companies can take several steps to fully realise their role in supporting low income and vulnerable customers and helping to fund and facilitate energy efficiency improvements. These proposals were based on NEA's response to the RIIO 2 framework consultation which set out five key proposals; three are relevant to electricity distribution networks. For the electricity distribution network, we proposed:

- I. Reforming the current share factors and weighting Demand Side Response (DSR) or demand reduction projects dependent on whether they have a direct social and environmental outcome;
- II. Reforming the current losses incentive so that DNO/DSOs are incentivised to deliver energy savings within domestic properties by replacing energy inefficient appliances or electric heating;
- III. Any future innovation funding (Network Innovation Allowances or Network Innovation Competitions) should directly support consumers in the transition to a low-carbon future, particularly those in or extreme risk of fuel poverty.
- IV. Alongside providing funding for gas network extensions for fuel poor customers in RIIO GD2, there should be consideration for whether financial assistance is justified in either connecting fuel poor households, or upgrading their connections, in RIIO ED2. This will help off electricity grid customers to connect, potentially vastly improving their lives. It could also help these households to upgrade their connection in the context of moving to low carbon electrical heating, something that can be necessary, especially for higher powered heating sources.

In addition to this, we propose that RIIO-ED2 brings DNO licence responsibilities into line with that seen in RIIO-GD2, by introducing a vulnerability licence condition, and having a clear vulnerability focus within the framework. We are keen for the momentum created in the formation of RIIO GD2 to be taken into the DNO price control.

In terms of the first proposal, the DNO to DSO transition will present a wealth of opportunities for networks to find new, alternative ways of running their network, far beyond the traditional method of simply putting wires in the ground. It is important that these approaches become main stream and the most vulnerable customers can become key beneficiaries of the next price control. We propose to do this through reforming the current sharing factors and weighting DSR or demand reduction projects dependent on whether they defer or reduce BAU costs but also achieve direct social and environmental outcomes. This would also help offset the likely negative impact of socialising EV connections/reinforcement for energy customers who are non EV.

Secondly, DNOs have long had an incentive to reduce the losses on their networks. The cost effectiveness of these reductions has deteriorated with time, as the 'low hanging fruit' has been taken early. At the same time, there has been a clear gap in funding for low income households to benefit from more efficient appliances or white goods. The Government assume everyone has had access to increasingly efficient appliances (via improvements through EU products Directives) and therefore this reduces everyone's exposure to increasing policy costs, paid for regressively through energy bills. Sadly, this isn't the case for many low income households and reforming the current losses incentive so that DNO/DSOs are incentivised to deliver these energy savings within domestic properties (by replacing energy inefficient appliances or electric heating rather than just focus on line losses) would be an effective way for networks to deliver a positive outcomes but again with a strong social and environmental benefit.

Thirdly, innovation funding has, for too long, mainly been focussed on projects that have an incremental impact on technical network operations, which possibly should now be part of networks' BAU activities. Any innovation funding should therefore have the potential to be transformative, and where possible should help those who need the most support to transition to a lower carbon network and energy system. Any future innovation funding (Network Innovation Allowances or Network Innovation Competitions) could therefore aim to directly support consumers in the transition to a low carbon future, particularly those in or at extreme risk of fuel poverty.

¹ For more information visit: www.nea.org.uk.

² NEA also work alongside our sister charity Energy Action Scotland (EAS) to ensure we collectively have a UK wider reach.

³ See: <http://www.nea.org.uk/wp-content/uploads/2019/02/Joint-NEA-E3G-PR-FPAD-150219.pdf>.

⁴ Christians Against Poverty (2015) The poor pay more: Prepayment meters and self-disconnection.

⁵ According to our own recent call for evidence the strategies include going to bed early to stay warm, under-heating the home and avoiding the use of central heating, using un-safe or un-serviced heating appliances, cutting back on electricity and using candles instead of lights, spending the day in heated spaces such as a library, café or even A&E, not inviting friends and family into the home, cooking using alternative sources such as a BBQ, cutting back on buying food and a reliance on food banks, cutting back on buying essential personal items and formal and informal borrowing from friends and family. Although our survey did not evidence this, we know that In extreme cases people may resort to energy theft which is extremely dangerous. Over 150,000 cases were uncovered last year and many of these caused death or major or injury.

⁶ For more information visit: www.nea.org.uk. NEA also provide the secretariat for the All-Party Fuel Poverty & Energy Efficiency Group in Parliament to raise awareness of the problem of fuel poverty and the policies needed to eradicate it.

⁷ NEA also work alongside our sister charity Energy Action Scotland (EAS) to ensure we collectively have a UK wider reach.

⁸ To read the report visit: <http://www.northernpowergrid.com/downloads/1704>.

⁹ Our analysis only covers domestic AIS, and there may be non-domestic AIS which could be suitable.

¹⁰ NEA Report "Technical Feasibility Study for Electricity NW Ltd into Electricity demand Reduction in Heaton Norris and Heaton Mersey areas of Stockport" May 2013.

¹¹ City-Scale Domestic retrofit Schemes: Learning from the early adopters:

<http://www.tandfonline.com/doi/abs/10.1080/09640568.2014.965299#.VNnL1vmsU9Y>.

¹² What Works in Changing Energy Behaviours in the Home? – A Rapid Evidence Assessment – DECC Final

Report <https://www.gov.uk/government/publications/what-works-in-changing-energy-using-behaviours-in-the-home-a-rapid-evidence-assessment>

¹³ BRE Energy Follow Up Survey 2013 <https://www.gov.uk/government/statistics/energy-follow-up-survey-efus-2011>.

¹⁴ The service level standard that a DNO is required to guarantee leaves little space for speculation on the ability of a solution to a network problem to deliver. Current traditional methods of asset upgrades deliver a certainty nearing 100%, because the extra capacity created is a known factor, and this is an aspect on which AIS will have to compete against. In this report, we accept the judgement of the NEA experts as a valid reference point. Further research, including that already undertaken by other DNOs (for example the SAVE project), will help explore this point.

¹⁵ Strategy decision for the RIIO-ED1 electricity distribution price control, Ofgem, 04 March 2013.

¹⁶ NEA also highlights that this model, or the losses incentive model noted in the paper, could also be reconfigured or used to extract a contribution via the TSO, who instead of contracting for new interconnectors, could be encouraged to invest these funds in demand reduction projects. However, this has option is not considered further in the paper.

¹⁷ A Price Control for Everyone - A collection of individually authored essays on how RIIO-2 can deliver improved support for people in vulnerable circumstances, Citizens Advice, December 2018.