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To: DNOLCTPolicy@ofgem.gov.uk

DNOs' future role in supporting the rollout of low carbon technologies

Dear Ofgem,

Sustainability First is a long-standing charity and think tank focused on social and environmental issues in the energy and water sectors with a record of engagement on approaches to policy and regulation.

We have worked on the issues around RIIO price controls over many years with several major Sustainability First projects examining particular aspects. We have also served as members of the earlier government / Ofgem Smart Grids Forum, Ofgem's Strategic Advisory Board for market-wide half-hourly settlement and Ofgem's RIIO-2 Challenge Group. We provided a full [response](#) to the ED3 Framework Consultation and a short response to the SSMC.

In this letter we offer some broad reflections on what Ofgem is proposing. We also attach short answers to some of the questions.

Support for pilots

We have previously encouraged Ofgem to look at all of the work that has been undertaken to date in this area. This includes multiple DNO projects on energy efficiency funded via the Network Innovation Allowance and also the Strategic Innovation Fund. Sustainability First produced a comprehensive paper to Ofgem in March 2021 on 'What is the DNO Role on Energy Efficiency?'¹.

Where new roles for DNOs are considered, the best approach is likely to be to trial alternative approaches to the new role in limited areas, before deciding which, if any to roll out on a national scale. We had made a clear proposal in 2021, sadly not pursued, for a beacon innovation project of just this kind on energy efficiency, to enable a clearer view on next steps for the start of ED3. Given our previous proposal, we are pleased that in its consultation Ofgem acknowledges the benefit of carrying out pilots in relation to any potential Expanded Role in this space. Such an approach to addressing the evolving role of DNOs would likely lead to far superior outcomes to spending time and resources trying to figure out the best model in theory and then launching it everywhere in one go.

However, Ofgem then also needs a way of ensuring that successful innovations are rolled out as BAU across all networks. This is an ongoing theme in the innovation space which Ofgem is

¹ https://sustainabilityfirst.org.uk/wp-content/uploads/2021/03/RIIO-ED2_SSM_-_Note_to_Ofgem_on_DNO_Energy_Efficiency.pdf

seeking to address through a more programmatic approach. In the consultation Ofgem flags a number of recent innovation projects (such as the E.ON / NPG EmpowerFlex partnership). Ofgem needs to reflect on how projects like this could be rolled out more widely if they are seen as successful.

Existing obligations

We continue to remind Ofgem that DNOs do have an existing licence obligation in this area. Condition 31 E.1 refers to *'promoting the uptake of measures to improve energy efficiency where such services cost-effectively alleviate the need to upgrade or replace electricity capacity and support the efficient and secure operation of the distribution system. This may include procuring energy efficiency services, where it is economic and efficient to do so'*. In our view this existing role needs to be given more prominence and already provides clear guidance on where DNOs should be funding measures (ie limited to where it is cost effective for them to do so, as is the case with flexibility).

We also noted previously that energy efficiency plays an important role in *enabling* flexibility with electric heat. Absent a separate thermal store (which adds costs and takes up space) consumers will be dependent on the thermal mass of their properties to use heat flexibly (by pre-heating their home). The consultation mentions the benefits of energy efficiency in terms of overall demand reduction and peak shaving but not broader flexibility benefits. With a growing reliance on flexibility (for DSOs and the system at large) this “enabling” aspect of improved energy efficiency needs greater recognition.

Crucially, as we flagged in our 2021 paper, for DNOs to make cost effective use of energy efficiency there needs to be an agreed common evaluation methodology so that the costs and benefits in avoided / deferred network investment are assessed on a standard basis across DNOs.

Our view on the proposals

In terms of the roles set out in the consultation:

- We see a **strong case for DNOs playing an Enhanced Co-ordination Role** based around improved data and collaboration with local authorities and community groups to help identify where energy efficiency and LCTs (solar and battery) could deliver the greatest societal benefit and make most sense from a network perspective. In our view this should also include DNOs making a contribution to funding of LCTs / energy efficiency where it would reduce DNO costs (in line with SLC 31E). Given our work on the Future of Gas², we were pleased to see reference to collaboration with gas networks as a potential part of this role.
- We are **less convinced at this stage that there is a case for giving the DNOs an Expanded Role**. Socialising these costs through the RAV and ultimately the energy bill is a regressive form of funding. In our view funding for these measures for those unable to pay should ideally come through taxation. We do recognise the benefits of an area-based approach but would hope that could be facilitated through improved co-ordination, including through the RESPs. That said, given the scale of the challenge, we see merit in pilots to explore any opportunity areas identified through this consultation.

² <https://sustainabilityfirst.org.uk/tag/future-of-gas/>

In particular we would be keen for any pilots to be centred in particular on lower income households and those at risk of fuel poverty.

We hope you find our comments helpful and would be happy to discuss further.

Yours faithfully

Judith Ward, Associate

Maxine Frerk, Associate

Annex: Response to Ofgem questions

Overarching rationale

Q1. Should DNOs play a role in co-ordinating and supporting a cost-effective energy transition through improved planning and supporting/directing targeted delivery? How can they help make the transition more efficient and affordable for everyone, and do they have a role in supporting lower-income households?

We agree there is a role – the challenge is what the scope should be.

There is benefit in a more planned, area-based approach to heat decarbonisation (including, ultimately, a more efficient approach to gas connections). However, as the consultation notes there is a need for more clarity on the roles that RESPs or the Warm Homes Agency might play to inform decisions on the DNO role. Inevitably there will need to be collaboration across all these bodies.

DNOs could have a stronger role in supporting vulnerable customers – more akin to that of GDNs through their VCMA allowances where they can signpost households to front line organisations who can provide advice and support with grants etc.

DNOs could also provide some direct funding to contribute to installation of measures which would be part of compliance with Condition 31 E.1 on energy efficiency.

Enhanced Co-ordination

Q2. Do you agree with the overall rationale and scope of 'Enhanced Co-ordination'?

Yes

Q3. What are your views of the effectiveness of the existing Collaboration Plan requirements? Do you think the enhanced Community Collaboration Plans we have described would be helpful to stakeholders and, if so, how best should they be monitored?

We agree that enhanced Community Collaboration Plans are a potentially helpful element of this proposed role. However, we have concerns that an overly prescriptive approach by Ofgem at this stage removes the scope for innovation and learning, including as the RESP role develops. We agree that ISGs have an important role to play in holding the DNOs to account for the quality of their engagement.

Q4. How useful is the data currently published by DNOs, and is it presented adequately?

And Q5. What are your views on strengthening the System Visualisation Interface requirement, and would it be valuable for DNOs to collate and publish additional non-network datasets, if so, which datasets would be most beneficial?

We don't have direct experience of using this data, although our experience of trying to compare performance data illustrates the challenges that exist when DNOs all adopt different formats and baselines.

In line with existing obligations DNOs should already be engaging stakeholders to ensure they are providing data in a format that is of value to them. The value in DNOs providing non-DNO data is where they can link it with their own data (and hopefully gain insights themselves as well as then sharing that data).

We have raised concerns as part of our PIAG³ work about the inability of DNOs to access individual consumption data from smart meters. Restricting DNOs to aggregated data limits their ability to gain insights at a customer level which would seem to be needed for this Role.

Q6. What are your views on the Working with Local Authorities and others proposals we have set out above? What if any, would be the key elements of this? Are you aware of particular entities who would benefit from such advice?

Our understanding that is that DNOs are currently offering varying degrees of technical support to Local Authorities in developing local area energy plans and Ofgem should ensure that it understands any existing good practice. The variety of arrangements can present a challenge to Local Authorities that span across more than one DNO area.

Equally it is clear that local authorities vary significantly in terms of their resources and expertise which can impact how readily they can access funding from government schemes such as those announced in the Warm Homes Plan. There could therefore be a role for DNOs to provide support to local authorities if this would help drive access to energy efficiency / LCTs in areas where this would also benefit the DNO.

Q7. How could iDNOs support the proposals in this portion of the consultation? How could either private wire connected properties or license-exempt networks feature in these proposals?

No comment

Q8. We are keen to understand how these proposed Enhanced Co-ordination activities could best integrate with NESO's RESP processes in the near and long term, and how these proposals could complement, or be in tension with, RESP development?

This remains unclear. We would expect DNOs to need to engage directly with stakeholders (ie not just via the RESPs) as they look at a more granular street by street level at what upgrades are required. However, core decisions around heat network zoning or priority action areas for LCT installation probably should be led by the RESPs, with their more formal governance structures.

Expanded Role

Q9. Do you think if DNOs adopted the type of Expanded Role described above this would add value and support the rollout of LCTs and EE? Could this model provide an effective and viable way to deliver network and system benefits? If so, could this be achieved while also prioritising support for low-income households?

We agree that any role must supplement, rather than replace, the existing supplier and installer led market – but as articulated it is not clear whether this would be the case. The case study that is presented of E.ON and NPG working together is a positive one (albeit, as we understand it, time limited). However arguably this sort of initiative falls within Enhanced Co-ordination as the consumer engagement and installation / ongoing support is supplier led with funding from a mix of sources including payment for network flexibility (which should be a standard network offering).

³ <https://www.smartenergydatapiag.org.uk/>

We agree that there are likely to be benefits from an area-based scheme in terms of more efficient delivery. However, it is not clear that this needs to be DNO led. In particular, with a lot of Warm Homes Plan funding being channelled through local authorities (and targeted at low-income households) they would seem the more obvious partner to lead this, co-ordinating with the DNO through the RESP or directly to identify areas where there could also be system benefit. Making the link with gas network planning is important but would be hard for a DNO to lead on and would seem better handled as part of the RESP activity.

Q10. What are your views on us considering these proposals using a network benefit and wider system benefits approach? Do you have relevant information on the likely network, system, consumer or efficiency benefits of such an approach?

Where there are network benefits we would expect the DNOs to be doing this anyway under their existing obligations, as they do now in procuring flexibility services.

More work is needed to agree a common evaluation methodology so that a consistent approach is taken to assessing the costs and benefits of energy efficiency as an alternative to network investment. As we discussed in our 2021 paper on the Role of DNOs in Energy Efficiency⁴, energy efficiency will typically have a higher up-front cost than flexibility but delivers enduring benefits in terms of load reduction. As noted in our cover letter, the benefits of energy efficiency in terms of enabling more flexible operation of heat pumps needs to be acknowledged as a part of this.

Q11. Do you have any views on the archetypes presented and their implications? Do you have any other approaches we should consider?

Laying the Groundwork – There does seem to be some merit in this approach if other upgrade work (unlooping and fuse upgrades) is being done on an area basis. Directing customers to the Warm Homes Agency (rather than individual installers) would probably make more sense and would fit with a narrative around the area now being heat pump ready. We can't immediately see the case for DNOs bulk purchasing equipment on behalf of installers.

Widening Participation - We would note that existing electric heated homes (direct electric and storage heaters) are typically occupied by low-income households. Moreover, an early focus for heat pump deployment may well be in local authority or social housing. As such there is a case for DNO focus to be centred on lower income households and those at risk of fuel poverty. With relatively higher running costs for electric-heat as opposed to gas there are strong affordability reasons to minimise energy demand for these lower-income households.

Focussed Intervention – We are not currently convinced of the case for DNOs taking on a wider role around installation and funding of measures and for this to be funded by customers at large.

Do you have any evidence on key components notably:

*On **the technologies and measures** that should be supported: Do you have evidence on the relative costs and benefits of different technologies? How could heat pumps and other low-carbon heating technologies be included whilst still offering wider system benefits?*

⁴ https://sustainabilityfirst.org.uk/wp-content/uploads/2021/03/RIIO-ED2_SSM_-_Note_to_Ofgem_on_DNO_Energy_Efficiency.pdf

There are potential network benefits in energy efficiency or solar / battery. It is hard to see any benefit for the network in installing heat pumps. While the consultation talks about the ability to provide flexibility through heat pumps this is really only needed because of the additional system load created by the heat pumps themselves. The key point is that where heat pumps are installed (to aid de-carbonisation) it is important that they can be operated flexibly. DNOs providing additional funding for thermal storage could help make any heat pump being installed be more flexible (as could energy efficiency).

We would also stress the role that storage heaters can provide in limiting peak demand on the system and providing flexibility. While they may be superficially less efficient than heat pumps the markedly lower up-front cost combined with negligible maintenance can make them a better solution for small properties (or where heat pumps are not suitable). We expanded on these points in our recent response⁵ to the DESNZ consultation on alternative heat solutions and would encourage Ofgem to include these within scope.

On the identification of suitable properties and consumer engagement: Would DNOs be well placed to proactively identify suitable properties and/or engage with consumers, or are there other actors better placed to perform these functions?

DNOs do not have a direct customer facing role and most customers are not aware who their DNO is. As such DNOs would likely need to work through third parties to engage with consumers as part of any wider local works they are undertaking.

As noted above DNOs (and as highlighted in our PIAG work) do not currently have access to individual customer consumption data which would be key to identifying suitable properties.

On the potential funding approaches and implications: what are your views on the feasibility, or risks from these approaches; do you have evidence from other sources that is relevant to these considerations?

We would expect DNOs to provide some funding where network benefits can be delivered (in terms of flexibility – as in the E.ON NPG example⁶ - or potentially resilience. This is likely to be location specific and will depend on the network situation in that area. DNOs already run tenders for the provision of flexibility services which is a route to providing funding (assuming the requirements and commercial terms are suitably defined so as to include LCTs / EE).

The Retrometer ENWL example highlights that the majority of benefits do not accrue to networks but suggests this points to network collaboration. We assume that, as with other examples given, the network benefits on their own would not be enough to fund the full costs but could make a contribution as part of “mixed funding”. This feels right to us but points to the importance of linking this work with wider thinking (such as in the Warm Homes Plan) on how best to deliver the core funding.

On the MPAN loan proposal we would note that this was tried previously in the form of the Green Deal and we would strongly encourage Ofgem to look at some of the learning from that

⁵ <https://sustainabilityfirst.org.uk/publications/consultation-submissions/desnz-consultation-response-alternative-clean-heating-solutions-february-2026/>

⁶ Also explored through past innovation projects such as SSEN’s [Social Constraint Managed Zones](#) project and UKPN’s [Energywise](#)

programme that was heavily criticised⁷, While the concept sounds simple it proved highly complex and customer uptake was very low, in part – but not solely - because of the high interest rates. While there have been successful examples in the US, account needs to be taken of the different structure of the energy market and the housing market when looking at international examples.

We have concerns about the use of the DNO RAV to fully fund interventions given the regressive nature of paying for such work through bills. While the near term (in-year) bill impact may be lower than ECO, cumulatively over time the cost would be higher. There are therefore significant inter-generational fairness questions⁸ as well as intra-generational (who pays and who benefits) questions that Ofgem would need to explore.

On responsibility for installations: *what are the risks and opportunities if DNO's were responsible for installations? What are the options for partnerships and how could different responsibilities offer better outcomes?*

At this stage we cannot see a case for DNOs carrying out the installation and are concerned this could be a distraction from their core role.

On ownership and control of assets: *how can necessary level of network or system benefits be achieved without DNO control and ownership? Does this pose other risks and challenges, and how might these be overcome?*

Networks can procure flexibility (or indeed resilience) as a service in the same way they do now, relying on contractual terms rather than direct control and ownership. If control is required this could be procured (as SSEN Distribution have done with some ex RTS customers where they needed to manage the diversity of load in Load Managed Areas⁹)

Q12. Do you have views on whether pilots of these approaches would be valuable? And, if so, whether the pilots should potentially include a range options across archetypes, or whether the scope should be narrowed in advance? What should be the main focus of any pilots?

If these Enhanced Role options are being considered we would support the use of pilots, as flagged in our covering letter and would encourage a focus on lower income households.

We would also encourage the inclusion of gas distribution networks in any pilots. In our work on the Future of Gas¹⁰ we have highlighted the need for a more co-ordinated approach to gas disconnection and ultimate decommissioning). We have also pointed to multi-occupancy buildings as a potential early opportunity (given the costs to GDNs of upgrading these buildings). With over 20% of customers living in MOB, and with a higher prevalence of low-

⁷ See NAO report - <https://www.nao.org.uk/press-releases/green-deal-and-energy-company-obligation/>

⁸ A complex issue on which Sustainability First has commissioned Frontier Economics to do ground-breaking work: <https://sustainabilityfirst.org.uk/publications/expert-viewpoints/and-what-about-your-grandchildren/>

⁹ <https://utilityweek.co.uk/ssen-pays-energy-suppliers-to-manage-load-through-smart-meters/>

¹⁰ <https://sustainabilityfirst.org.uk/tag/future-of-gas/>

income households, we would encourage Ofgem to explore whether anything could be done in this space.

Q13. How could iDNOs support the proposals in this portion of the consultation?

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[delete]

Extracts:

e LPP also expects they will have key roles to play in developing and enabling Smart Community Energy and Smart Local Energy Systems, local area-based responses to system and market needs.

There also remain challenges of market failures (such as split incentives in the private rental sector⁶), and low uptake of key technologies. Addressing this requires upfront capital to realise longer term reductions in energy bills, and consumers with low incomes will need support to realise these savings.

There is a growing body of expert opinion that a more area-based approach to the transition in homes would be useful.^{8 9 10 11} A more strategic, co-ordinated approach to the rollout of LCTs would increase certainty for networks. Greater certainty should reduce risk around the timing and impact of network upgrades and so reduce cost to consumers. [Ought to review the refs at least briefly...]

Area-based uptake of low carbon heating technologies, such as heat pumps, can also create efficiencies by enabling grouped or streamlined gas disconnections from gas distribution networks. [agreed!]

We are considering if DNOs could play a role in accelerating the transition, reducing costs, and targeting support (especially at low-income households), while helping ensure the network and system operate efficiently and effectively.

There may be interactions between these proposals and the work of the National Energy System Operator (NESO) in its role as regional energy strategic planner. The development of Regional Energy Strategic Plans (RESPs) will require local stakeholders, including DNOs, to collaborate on national and regional system plans to support the energy transition.

+ role of Warm Homes Agency

In order to deliver excellent consumer propositions and outcomes - and help drive significant uptake of LCTs - there is a critical role for innovation and the competitive market (as we recognised in our Markets Regulatory Strategy and Vision to 2030)¹⁸. We will need to consider how any significant role for the DNOs works in concert with this, rather than undermining it.