

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

Authors:	Peter Griffin	pgriffin@regen.co.uk
	Poppy Maltby	pmaltby@regen.co.uk
	Tamsyn Lonsdale-Smith	tlonsdalesmith@regen.co.uk
Approved by:	Merlin Hyman	mhyman@regen.co.uk

About Regen

Regen provides independent, evidence-led insight and advice in support of our mission to transform the UK's energy system for a net zero future. We focus on analysing the systemic challenges of decarbonising power, heat and transport. We know that a transformation of this scale will require engaging the whole of society in a just transition.

Regen is a membership organisation with over 200 members who share our mission, including clean energy developers, businesses, local authorities, community energy groups and research organisations across the energy sector. We manage the Electricity Storage Network (ESN) – the industry group and voice of the grid-scale electricity storage industry in GB.

Summary and recommendations

Regen welcomes this consultation and agrees that better coordination between the rollout of Low Carbon Technologies (LCT) and network planning is essential to achieving a cost-effective energy transition. We have long argued for a more area-based approach to the energy transition and for greater involvement of networks in supporting this.

We support Ofgem's proposed Enhanced Co-ordination role for DNOs and offer qualified support for further exploration of an Expanded Role, subject to caveats around governance, accountability and the primacy of local actors.

Key recommendations:

- **Recommendation 1:** DNOs should play a strengthened co-ordination role in area-based roll outs of LCTs. This should be clearly scoped to data sharing, network planning alignment, and stakeholder engagement – not direct LCT installation or consumer-facing delivery, for which trusted local suppliers or local authority actors are better placed.
- **Recommendation 2:** Local authorities, community energy groups and the proposed Warm Homes Agency are better positioned to lead area-based LCT and energy efficiency delivery. DNOs should be responsive partners and contributors, not the lead entity.
- **Recommendation 3:** Where DNO investment yields demonstrable network benefit, a simple, standardised methodology should be developed to calculate and fund that contribution through TOTEX savings. Ofgem should provide clarity on what constitutes a ‘network benefit’ before any Expanded Role pilots proceed.
- **Recommendation 4:** Pilots of an Expanded Role should be clearly scoped and independently evaluated, with a particular focus on low-income households and interaction with Warm Homes Plan delivery structures to support area-based delivery models.

Responses to 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?

Yes.

We strongly agree that local leadership and area-based approaches will be essential to the energy transition. Regen's 2020 paper '[Local Leadership to Transform our Energy System](#)' set out a stronger role for local authorities, and our 2022 paper '[The Local Delivery of Clean Heat](#)' examined place-based approaches.

We have also long argued that DNOs have an important role to play in supporting a more coordinated energy transition and in effective place-based approaches to LCT rollout, given their network data, regional presence, and long-term investment horizons. Our '[Energy Networks for the Future](#)' paper from 2019 argued for:

“Creation of a new partnership between private networks and public stakeholders whereby the networks take a more explicit role to deliver decarbonisation, support regional economic growth and other societal outcomes, while also working with regional partners to improve local resource planning and reduce investment risk”.

It is important, however, that this role is clearly defined to provide clarity to partners and the market.

Key points:

- An area-based approach to low carbon technologies is key to an effective energy transition. In our view, democratically elected local authorities should lead this approach.
- DNOs hold valuable data (e.g. DFES, looping data, PSR data) that, if properly shared, could significantly improve the targeting of LCT and Energy Efficiency (EE) programmes.
- DNOs will be carrying out network upgrades to enable LCT roll-outs and this needs to be coordinated with the delivery of area-based schemes.

- The Warm Homes Plan's area-based approach and the creation of a Warm Homes Agency represent a significant structural shift that DNOs should support, not duplicate.
- There is a risk that without clearly defining the problem, DNOs will be assigned a role without a clear rationale. Ofgem should be explicit about the problem this intervention is solving. Is it about accelerating LCT adoption, reducing network reinforcement costs, or improving targeting of low-income households?

On lower-income households, DNOs have relevant experience (for example, NGED has funded community energy groups to deliver energy efficiency and low-cost measures, including through their vulnerability team, and SSEN has undertaken extensive engagement with registered providers and local authorities). However, local authorities, suppliers and community groups are better placed to lead consumer-facing support for lower-income households. DNOs should be required to contribute data and network-planning insight to schemes targeting these households.

Recommendation: DNOs should be expected to be responsive partners to area-based delivery, contributing network data, planning insight and coordination, but delivery itself should be led by local authorities. DNOs should not be the lead delivery body for LCT or EE installation.

Enhanced Co-ordination

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

Yes

Regen agrees with the rationale for Enhanced Co-ordination. Strengthening DNOs' data sharing, stakeholder engagement, and alignment with local delivery programmes is a logical and proportionate extension of existing ED2 obligations. This is the area where DNOs can add the most value with the least risk of market distortion or duplication.

We note that a Consumer Value Proposition in SSEN's ED2 plan included a proposal to do essentially what Ofgem is now consulting on. This was rejected at the time by Ofgem on value-for-money grounds, with Ofgem concluding that "the level of direct network benefits does not justify the level of spending." We welcome the broader approach to customer value now being considered.

We agree that there will be a need to align the strategic direction set by the RESP Strategic Boards and the Warm Homes Agency to ensure a clear approach to prioritising

area-based LCT rollout schemes. We also note that the cadence of RESPs is structured around 3-yearly production cycles, which could sit awkwardly with the type of rolling operational co-ordination role envisaged here. Ofgem will need to avoid creating two parallel but unaligned planning rhythms.

Recommendation: Ofgem should proceed with the Enhanced Co-ordination proposals, but should set clear, measurable outputs and an evaluation framework from the outset.

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?

Regen supports the proposal to strengthen Collaboration Plans into Community Collaboration Plans, with more proactive stakeholder identification and clearer integration of stakeholder investment plans into DNO network planning. DNOs have made significant progress in building relationships with registered providers and local authorities, and this should be built upon.

Regen also welcomes the requirement for DNOs to evidence how network planning has changed as a result of stakeholder engagement through the assessment of their plans. DNOs use the Distribution Future Energy Scenarios (DFES) process to gather insights from stakeholders and integrate them into network planning, but there is more work to do to make the impact of stakeholder engagement transparent.

We also agree that Scheduling and Co-ordination Agreements (SCAs) with stakeholders should be encouraged where this could facilitate the sharing of retrofit and investment plans in specific, agreed-upon areas.

For monitoring, we recommend that Ofgem reviews the quality and utility of Community Collaboration Plans. DNO's Independent Stakeholder Groups (ISGs) should review the quality and utility of the CCPs and feed this back to Ofgem to incorporate into their assessments. ISGs may include direct engagement with local authorities and community energy stakeholders. This allows stakeholders to include local feedback while alleviating the risk of excessive administrative responsibilities for overburdened local authorities and other local groups.

Recommendation: Ofgem should retain its current mandate to review the quality of Community Collaboration Plans. ISGs should include local authority and community

energy representatives and should independently verify the quality of Community Collaboration Plans against a clear set of stakeholder utility metrics.

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

Greatly improved but further development is needed to support LCT rollout strategies

Local authorities need visibility of Low Voltage (LV) domestic lines feeding into neighbourhoods where LCT rollout is planned. LV asset and constraints data are an important dataset required for place-based LCT rollout schemes. Local authorities have told Regen that the data shared through tools such as LAEP+, LENZA, Parity Projects, and other data-sharing avenues is insufficient for the proactive planning and roll-out of LCT infrastructure, such as on-street EV charging.

Regen strongly supports the proposition to present different network build options to local authorities to inform decision-making.

Another issue is the interoperability of DNO data for local authorities that cross more than one DNO boundary. DNOs should coordinate to make this a simple customer journey for Local Authorities.

DNOs hold a range of further datasets that are highly valuable for LCT and EE planning, including Distribution Future Energy Scenarios (DFES), looping data, and Priority Services Register (PSR) data. Positive strides have been made by networks in open data-sharing, however there is still work to do to ensure the presentation of this data is granular enough and accessible enough for the local authority, housing association, and community energy stakeholders who most need it.

Recommendation: Ofgem should require DNOs to ensure open data and a simple customer journey for local authority and community energy users planning area-based LCT roll-outs, including those with more than one DNO in their geographic area.

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?

Strengthening the SVI requirement is strongly supported. In addition to network data, the following non-network datasets would be particularly valuable:

- EPC data and housing stock condition data (to identify suitable properties for LCT/EE interventions)
- LCT potential assessment layers (see NESTA heat pump suitability, EV charger pavement suitability)
- Local authority retrofit pipeline data (to align network investment with planned delivery programmes)
- Smart meter installation data (penetration rates by area, to identify gaps and inform targeted rollout)
- Fuel poverty indicators and indices of deprivation (to prioritise support for lower-income households)

We note that smart meter rollout data is particularly important. There is a risk that LCT deployment proceeds without smart meter infrastructure in place, limiting the ability to realise flexibility benefits. Ofgem and DESNZ should not assume that LCT adoption automatically drives smart meter uptake. As the case of adoption in France shows, there is significant value in ubiquitous smart meter adoption, driven by the data this produces and the network optimisation that this can support.

Recommendation: DNOs should be required to use a platform that collates and publishes EPC data, housing condition data, and fuel poverty indicators alongside network data in the SVI, which is co-designed with local authority users.

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?

Regen considers that local authorities are the primary place-based actors with existing statutory responsibilities for housing and planning and are best placed to lead area-based delivery, with DNOs acting as responsive technical partners to provide data and expertise.

DNOs have already built productive relationships with local authorities in this space during ED2. This experience should inform the design of the formal obligation.

Entities that would particularly benefit from DNO technical advice include local authorities developing local energy planning, housing associations with large retrofit programmes, community energy groups developing area-based projects, and registered social landlords.

Regen strongly welcomes the proposal for DNOs to share possible network build options via online geospatial mapping portals to help local authorities plan proactively.

Recommendation: Local authorities should assume the accountable lead role, with DNOs providing technical support. DNOs should be required to provide LV asset data and upgrade plans (geospatially represented) to local authorities upon request.

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?

Regen notes that iDNOs and licence-exempt networks serve a significant number of properties, particularly in new housing developments, and these should not be excluded from the Enhanced Co-ordination framework. iDNOs should be required to participate in Community Collaboration Plans and data-sharing obligations proportionate to their network area.

Recommendation: Ofgem should develop proportionate obligations for iDNOs to participate in Enhanced Co-ordination activities and data sharing, to avoid creating a two-tier system.

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 is a critical design question. While there are opportunities to ensure that local delivery feeds into the RESP and enhances this process, there are risks of tension between Enhanced Co-ordination activities and RESP processes, particularly around data collection methodologies, planning horizons, and stakeholder engagement protocols.

We support the proposal that DNOs should be expected to demonstrate to stakeholders how their input has influenced network planning decisions. However, if DNOs are required to follow RESP numbers in their network planning, this may be challenging. Ofgem should be clear that RESP provides a clear structure and framework, and an opportunity to identify key priorities for an area, but that DNOs need to continue to carry out their own, more granular and 'live' assessments of changing network demands and to respond to these in their plans.

Key points:

- RESP processes are structured around 3-yearly production cycles, whereas the type of rolling operational co-ordination envisaged here is continuous. Alignment will require deliberate design.
- DNO Enhanced Co-ordination should feed into network planning as well as enhancing RESP data inputs at a granular level, providing more localised demand-side intelligence.
- There is a risk of duplication if both DNOs and RESP processes are engaging the same local stakeholders independently. Clear protocols are needed.

Recommendation: Ofgem and NESO should jointly develop a clear protocol for how DNO Enhanced Co-ordination activity feeds into RESP processes, including data handoffs, stakeholder engagement sequencing, and governance arrangements.

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?

The current focus should be on coordination with an ‘expanded’ role to be piloted at the start of ED3.

Regen believes further piloting and consideration are required for an Expanded Role that includes DNOs taking responsibility for LCT installation or funding. Our concerns include:

- Ofgem has not clearly defined the problem it is trying to solve. Is the goal to accelerate LCT deployment, reduce network reinforcement costs, or improve targeting of low-income households? Different objectives imply different interventions.
- Supporting LCTs or energy efficiency measures through the regulated asset base may not be effective, because:
 - it will increase electricity costs, just as we need to be reducing bills and reducing the ‘spark gap’
 - it is not the fairest or most progressive way to collect costs
 - it is hard to see how measures installed in people’s homes can be considered an asset that DNOs can borrow against.

- Financial contributions from DNOs should be focused where they are offering a network saving:
 - electrification of heat and transport will drive reinforcement regardless in most areas that require it
 - installing heat pumps into direct electric homes and batteries may be the exceptions to this
 - flexibility is likely to be the biggest driver mitigating reinforcement, and it is still unclear how much flexibility heat pumps will be able to provide, especially when compared to energy storage.
- DNOs are not well-placed as local ‘place-based actors’ in the way that local authorities or community energy organisations are. Their geographic footprint does not map onto communities, and they lack the local accountability, democratic oversight and trusted relationships needed.

Regarding low-income households, any Expanded Role must include robust ring-fencing to ensure that benefits flow to lower-income households rather than being captured by households already inclined to adopt LCTs. Without this, the risk is that DNO investment simply subsidises deployment that would have happened anyway.

Recommendation: Ofgem should proceed with Expanded Role pilots but with a clearer problem definition and theory of change, in consultation with stakeholders. Pilots should be area-based, independently evaluated, and explicitly targeted at low-income households.

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?

Regen supports the principle of using a network benefit framework to justify DNO expenditure on LCT and EE support. However, we believe this needs to be simple and practical. Carrying out full network benefit analysis with sufficient rigour to justify expenditure could be impractical.

Key analytical challenges:

- Determining the counterfactual is inherently difficult. If electrification is happening anyway, the marginal benefit of accelerating or coordinating it may be small.

- Network benefit calculations are complex and context-specific. A standardised methodology risks either over- or under-estimating the genuine network benefit in any given area.
- The interaction between energy efficiency measures and network investment is particularly hard to quantify. EE reduces demand, which may defer or reduce network reinforcement – but the timing and magnitude of this effect is uncertain.
- Smart controls (e.g. staggering heat pump usage) can help manage network stress at the end of distribution lines, but it is unclear whether this should be treated as a flexibility market function or a network investment function.

Regen's view is that a standardised contribution methodology – based on a simple calculation of TOTEX savings – is more likely to be practical and durable than a full network benefit analysis for each intervention. Ofgem should provide an incentive structure that rewards this contribution without requiring complex case-by-case justification.

Regen welcomes the proposed inclusion of all benefits mentioned. To reflect the overall benefit of LCT installations and retrofits, the calculation should also include quantifying future capacity constraint alleviation (e.g., if an electric-heated tower block installs a heat pump, which releases network headroom), regardless of whether a network reinforcement has been avoided.

Recommendation: Develop a simple, standardised methodology for calculating DNO contributions to LCT/EE programmes. This should be based on TOTEX savings and should be robust but not burdensome. Full benefit-cost analysis for individual interventions is unlikely to be practical or proportionate.

Recommendation: All system, wider and direct consumer benefits should be considered at a high level, and the calculation methodology should be tested to ensure that low-income housing is not disproportionately excluded from any eventual trial or BAU rollout.

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

- 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?
- 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?
- 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?
- 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?

On the archetypes presented: Regen supports the trial of Laying the Groundwork and Widening Participation-type models. Approaches like Focused Intervention that significantly increase consumer bills risk are unlikely to be seen as appropriate by bill payers.

Technologies and measures: Regen agrees that technologies like solar, battery storage and smart meters add clear network benefit and should be included. Heat pumps should be included but require careful treatment. The network implications of heat pump deployment are significant and context-specific. DNOs are well placed to provide data on network capacity and identify areas where heat pump deployment is network-beneficial. However, heat pump installation is a specialist consumer-facing function that should remain with qualified installers. Furthermore, heat pumps are less likely to add flexibility value and therefore mitigate reinforcement; it is still unclear how much flexibility heat pumps will be able to provide in reducing local network peak demand on the coldest days, especially compared to energy storage.

Property identification and consumer engagement: DNOs are not well-placed to proactively engage consumers directly. Their data on property suitability (looping, connection capacity, DFES) is valuable for identifying priority areas, but the consumer-facing engagement function should sit with local authorities or community energy organisations. Regen therefore supports approaches under Widening Participation or Laying the Groundwork that would consider priorities of partner funding organisations and local authorities, with an emphasis on greater system and wider benefits alongside network benefits. Local authorities, community energy organisations or housing associations should lead customer engagement.

Possible funding models: We would support piloting the Laying the Groundwork funding model, with enhanced financial support through new or existing schemes (e.g. Boiler Upgrade Scheme and Smart Export Guarantee).

The Regulatory Asset Base (RAB) model should not be the default. RAB funding is appropriate for network assets but its extension to LCT/EE support would represent a significant change in the regulatory model that could increase consumer bills without a guaranteed benefit. However, we think there is value in piloting a co-funding approach under the Widening Participation scheme focused on supporting low-income and fuel-poor households.

Responsibility for installations: DNOs should not be responsible for LCT or EE installation, although they could have a coordinating role. This would put them in direct competition with suppliers and specialist installers, distort the market, and require competencies that DNOs do not currently possess. The precedent for DNOs entering homes (3-phase upgrades, unlooping, power cut support) is limited and does not scale to full LCT installation.

Asset ownership and control: Network benefits can be achieved without DNO ownership of consumer assets through smart control and flexibility mechanisms. DNO ownership of consumer LCTs would raise significant consumer protection and competition concerns and should only be considered where it is the only mechanism to enable area-based roll-outs.

Recommendation: Pilots of the Laying the Groundwork or Widening Participation-type models should be carried out. Technologies trialled could include solar, battery and heat pump installations. DNOs should not be responsible for installation, should not own assets, and should not be the primary consumer-facing engagement actors.

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?

Regen welcomes the proposal to test pilots of an Expanded Role, but some key questions should be addressed with careful consideration:

- Who would be the trusted intermediaries, and how would they be incentivised to partake in a trial?
- How will network benefit be calculated so as not to exclude low-income households?
- Who owns the data and what provides it? Should smart meters be used?
- Learnings from previous pilots on retail market reform and the relationship with DNOs and suppliers reveal that most people don't know the difference between the two. How would this be addressed?
- How do we ensure that any pilots could be expanded to build on for eventual BAU?
- How can we "test" this through the DEVO deals and strategic authorities?

Recommendation: DNOs should carefully consider the list of questions set out above when designing a future trial.

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

iDNOs operate in specific, often high-density areas and may have a more direct relationship with individual developments. They should be included in any Expanded Role framework on a proportionate basis, with obligations scaled to their network footprint.

Recommendation: iDNOs should be included in any Expanded Role framework on a proportionate basis.