

E.ON response: Ofgem consultation on DNOs' future role in supporting the rollout of LCTs

Executive summary and headline policy positions

We believe DNOs can best support the area-based deployment of low carbon technologies (LCTs) by a focusing on improving the effectiveness of their core activities, working alongside local authorities (LAs) and other actors with diverse expertise in delivery and consumer engagement.

DNOs should focus on **strengthened planning, data provision and coordination** to support area-based rollout of LCTs. Their core role is to provide clear, consistent system-need and capacity data, streamline grid connections (including bulk approvals), and work with LAs to target upgrades, particularly in areas of deprivation where capacity constraints overlap with need.

Improving the completeness, clarity and consistency of data across DNOs allows investors and installers to plan effectively, reduce delays, and avoid wasted effort or mis-targeted projects.

It is our view that DNOs **should not own, install, operate, or build customer-facing capabilities** for LCT assets. DNOs lack access to key markets needed to optimise asset value; long-term asset operation is therefore better suited to specialist providers. Without this enduring role, there is no need for DNOs to invest in customer-facing activities. Lastly, taking on installation or engagement roles would duplicate existing market capabilities and deliver poorer outcomes for consumers.

In summary:

Ownership and control	DNOs are not well placed to own or operate LCT assets as they cannot freely access all flexibility markets. iDNOs doing so for new-build sites could benefit households through providing access to flexibility and lower system charges.
Customers	Without an enduring role operating the assets, DNOs do not need to invest in building up consumer engagement or customer service capabilities. DNO resources and investment should instead be directed towards improved coordination, planning and connections.
Installations	Requires expertise, DNOs would need to partner for installs and build relationships with the supply chain
Data provision	Complete and clearly presented system-need, capacity and flexibility data, which is consistent across DNO, also with forecasts (including scenarios).
Technologies	Area-based rollout should adopt a technology agnostic approach and drive solutions that achieve an efficient energy system transition in the most cost effective way.
Funding	Potential for DNO mechanism to help with high cost, long-life assets where upgrades are not commercially viable, e.g. solid wall insulation
Collaboration	DNOs can help to locate priority areas by identifying where network constraints coincide with specific areas of deprivation. Prioritising enabling works e.g. application turnaround and connections.

Consultation questions

Question 1: 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?

Improved planning and coordinating role for the DNO

Yes, we believe DNOs have a vital role in supporting a cost-effective energy transition through better planning and supporting targeted delivery. We are fully supportive of an area-based rollout of low carbon technologies (LCTs) and energy efficiency measures, which is central to the government's Warm Homes Plan. We see a role for DNOs that enhances their core activities whilst also providing strong coordination, working with local authorities (LAs) and the private sector, to help maximise the efficiency of the roll out and the value of flexible assets on the distribution network. As part of this, a coordinated 'local delivery taskforce', that includes local authorities and NESO, would help focus on lower income households.

Our view is that ED3 needs to ensure that the DNOs plan long-term investment in the network, optimised by building in the use of flexibility. Batteries and PV not only reduce household bills but, especially batteries, can also be used to optimise network investment. If operated in a coordinated way, they can help to manage the increasing level of demand uncertainty and reduce the risks of over-investment.

As explained, we think that strengthening a DNOs core responsibilities alongside an area-based coordination role will deliver the greatest benefit. This is driven by our view that there would need to be significant change in the market for DNOs, in the future, to be able to achieve maximum benefit from the assets on the network including from the capacity, wholesale and balancing markets in addition to the system benefit from the DSO or NESO system perspective. DNOs cannot freely access these markets. Operation of the assets should therefore be undertaken by other actors that can.

It follows that, if DNOs should not have a role in operating assets, investment in developing consumer engagement capabilities would be misplaced. Long-term customer relationships should sit with the parties operating and managing the assets.

The success of area-based rollouts will depend heavily on consumer buy-in and on households choosing to invest and/or participate. However, household engagement is complex, and the barriers should not be underestimated, including for customers receiving fully funded measures. Ensuring a positive consumer experience—especially at the outset, when momentum for area-based delivery is still being built—is essential. While organisations can build this level of expertise where it is needed, our view remains that DNOs are not well placed for this role since they would not have a long-term link with the customer. Organisations with the established capabilities and experience to do this effectively are better positioned to lead. Further commentary on this is provided under Question 11.

Making the transition more efficient and affordable

As heating and transport electrify, households will increasingly become ‘prosumers’ who generate and use their own electricity. DNOs must prioritise coordinated network upgrades balanced with the use of flexible assets and timely customer connections to support these technologies and ensure the benefits of flexible behaviour are delivered.

The DNO could undertake the following roles which build on their existing activities and would help address process or data-related barriers that hinder the installation and connection of LCTs (solar with batteries, standalone batteries, and heat pumps):

- Provide data to show areas where there is system need for LCTs. This would give private sector investors information on where, from a DSO perspective, there is most value from installing the different technologies.
- Provide data identifying areas with current and forecast capacity to support LCTs. This would ensure households are targeted appropriately and avoid progressing projects in areas where installation is not feasible. Using the system data, DNOs should pre-approve or provide bulk approval of grid connections (G99 applications) - this would help speed up, scale and streamline area-based delivery of LCTs.

The area-based schemes

E.ON, and other energy suppliers, have experience of delivering area-based schemes. We believe these provide learnings which should be applied when designing future schemes. These include:

- Delivery partners will need the resources and expertise to manage complex schemes with suitable IT systems, procurement, and customer call handling capabilities.
- Grant schemes must have the flexibility to work in combination with or alongside other LCT grants and consumer loans to facilitate access for all households under an area-based approach.
- Flexibility and capability to integrate new technologies e.g. plug-in solar, as smoothly as possible into HEM so that they can be eligible under schemes and benefit households without undue delay.

Alongside households, it will also be important to consider non-domestic buildings in any regional approach.

Lower income households

We believe that DNOs do have a role in supporting lower income households under an area-based approach. Firstly, through the identification of the areas where network capacity or constraints coincide with specific areas of deprivation. This will help to prioritise the streets/postcodes which should be upgraded first and inform the most appropriate combination of technologies. Secondly, through the pre- or bulk-approval of grid connection applications, DNOs can help to expedite the process and ensure that these households start seeing the benefits of lower bills as quickly as possible. While improvements to the connections process overall should aim to streamline the process for all households, this is most important for households and communities where affordability is a particular challenge. Furthermore, homes situated in areas without local network constraints – so can easily accommodate heat pumps –

should not have to wait for DNO approval to connect. This would unlock the option for broken gas boilers to be immediately replaced with a heat pump, in suitable properties.

Question 2: Do you agree with the overall rationale and scope of 'Enhanced Co-ordination'?

Yes, we agree with the overall rationale for DNOs playing a greater co-ordination role under an area-based approach. We believe the proposals are sensible and will help to overcome some of the current barriers. We support taking a more strategic, long-term approach to network investment and customer flexibility under the ED3 price control period. There is potential for DNOs to lead on local delivery taskforces but, as recognised in the consultation, the role of RESPs is also being developed and duplication must be avoided. We agree that the role of DNOs should be considered alongside the development of RESPs.

We would welcome all steps by DNOs to improve efficiency by minimising the time for connection requests or providing bulk approval in advance in areas where they have assessed that there is capacity. As mentioned in our response to Question 1, this is particularly important in more deprived areas so that lower income households are not exposed to unnecessary delays in the rollout of upgrades and can start seeing the benefits flow through into lower energy bills as soon as possible. We also support taking action to improve the unlooping of supplies and to support installers with guidance for their activities.

Accurate and comprehensive data will provide the foundation for cost-effective and well-planned local schemes. It will underpin effective stakeholder collaboration to align LCT and energy efficiency programmes with network planning and investment from a local perspective.

We agree with the proposal to strengthen the SOO License Obligation to improve the quality and availability of data that DNOs provide to stakeholders. We believe this will enable a better understanding of the network in a local area. A required minimum standard could be used to ensure a base level of consistency, for example in naming conventions across datasets and across DNOs. See further details under Question 4.

As part of ED3, Ofgem should include the requirement to develop a network plan that optimises investment and flexibility over the longer term, around 15 years. This would act as a basis for area-based delivery.

Question 3: 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 support moving from retrospective reporting towards a more proactive, forward-looking framework for stakeholder engagement during the ED3 price control period. We believe this would underpin stronger collaboration between stakeholders for local area upgrades and network investment.

The shift away from national schemes (like ECO) to an area-based approach under the Warm Home Plan puts a bigger responsibility on DNOs to work closely with LAs and other local

stakeholders, to identify the right areas to upgrade, taking into consideration both network and household needs. In our view, Community Collaboration Plans have the potential to support this but must be developed in coherence with the RESPs, Warm Homes Agency (WHA) and other Local Power Plan developments. We believe this should be subject to further consultation which describe the interactions and vision in more detail.

Notwithstanding this view, we have the following comments:

DNOs will need to engage with LAs and other local stakeholders to gather and interpret local electricity needs, including;

- Forecasts of local demand growth (this should include low / expected / high scenarios)
- Existing embedded/distributed generation and forecasts (with scenarios as above)
- Local network constraints and opportunities including financial elements

Consistent and reliable forecasts on the need (and market opportunity) will help FSPs plan their investments in a more targeted manner. See Question 4 for more detail.

The supporting framework (SLAs, reporting etc) should aim to underpin this to create greater consistency across regions/DNOs.

Deployment at pace requires effective collaboration between key stakeholders. Local delivery taskforces that bring together the LA (who holds the vulnerability and housing data, and the Warm Homes Plan budget), the DNO (who controls grid connections), and the supplier / battery provider would fast-track bulk approvals and allow efficient data sharing. NESO representation is likely also to be needed. Enhanced collaboration could see the DNOs acting as the coordinator of local delivery taskforces. However, this would need to be further considered in conjunction with how the RESP process is designed.

While we understand the desire to make stakeholder engagement a more prominent part of DNO accountability, we believe that requiring DNOs to show how network investment decisions have been shaped by local decarbonisation strategies could have unintended consequences, driving DNOs to focus on demonstrating this requirement rather than the structured process delivered through the RESP. There is also the potential for incoherence in DNO strategy if they are required to accommodate RESP outputs and demonstrate a change in approach from stakeholder engagement as well as their own plans. Any additional reporting around stakeholder engagement, including metrics to assess how successfully the Community Collaboration Plan has been implemented, would need to be reliably demonstrated and should not drive an adverse effect.

Question 4: How useful is the data currently published by DNOs, and is it presented adequately?

Flexibility services

The data currently published by DNOs are valuable, but fragmented and often insufficient to support proactive investment by flexibility service providers (FSPs). Current processes rely on combining data from several sources including the Distribution Network Options Assessment

(DNOA), Network Development Plan (NDP), and flexibility procurement portal datasets to understand the current and forecast need for flexibility across the different DNO Constraint Management Zones (CMZ).

Visibility of the flexibility need and market opportunity, however, remains incomplete as the key underlying parameters relating to expected utilisation and indicative ceiling/guide prices are often missing or reported inconsistently across networks. More granular and standardised data, provided consistently across DSOs, would enable FSPs to develop solutions and plan investments aligned with network and customer needs.

Below are the key parameters that would support FSPs in meeting network flexibility needs in a more targeted way:

- historical, current and forecast total flexibility need, per CMZ (MW);
- historical, current and forecast unmet flexibility need, per CMZ (MW)—accounting for past procurement;
- the year by which forecast flexibility need would cease (or reduce), given planned network reinforcement;
- historical, current and forecast dispatch/utilisation per CMZ (and where relevant, availability, both in hours or MWh)
- expected maximum revenue or ceiling/guide prices available for flexibility, per CMZ and per annum (£ total revenue and/or £ per MW flexibility needed) — split between availability and utilisation payments, where relevant;
- the list of postcodes associated with each CMZ;
- where applicable, specification of the type of flexibility services required. For example, solutions using flexibility to secure greater system resilience would require the DNO being able to rely on the capacity being available when it is called upon.

This data should be available using APIs (application programming interfaces), across all DNOs, in a consistent format to allow market participants to assess the size and durability of the opportunity and make investment decisions accordingly.

In addition, it would be helpful to make explicit the certainty that can be placed in different forecasts. DNOs should develop a common taxonomy of the level of confidence that they have in different forecasts (e.g. similar to what UKPN does for the longer term system needs forecasts underlying its DNOA).¹ It is already common practice for DNOs to indicate with disclaimers where data is indicative only, which we expect to be continued in future (e.g. with regards to the expected utilisation and maximum pricing per CMZ).

Connections – early visibility of likely restrictions

There needs to be earlier visibility of likely restrictions and costs for upgraded infrastructure. Whilst a standard minor connection can cost a few hundred pounds, we are seeing more connections which require either an export limitation to be agreed or infrastructure upgrade which can push costs to £1,000 -£2,000. We only become aware of this after a customer has

¹ UKPN (2026), 'Long term system need – February 2026', 24 February, available at <https://media.umbraco.io/ukpn-cms/toxdr45k/long-term-system-needs-february-2026.xlsx>

already gone through a sales journey, had a site visit and a design completed. It would be more efficient to have visibility of likely restrictions and costs for upgraded infrastructure much earlier in the process. For example, these could be placed on DNO websites.

Connections – process

Delays under the current connections process create bottlenecks which impede on installer work and household engagement. It is common for households to drop out of the process and forgo the LCT installation due to the time taken to gain approval. This will be detrimental to area-based rollouts and could also impact on an LA's ability to attract delivery partners for their schemes. Improving this process should be a dedicated focus for the DNOs, with standards and monitoring in place.

Current issues registering LCTs with the DNOs include:

- SLAs on G99 and G98, and reliance on manual processes, often cause delays
- Inconsistencies across DNOs
- Lack of DNO support when trying to address a customer issue, causing further delay

All the above increases the risk of assets being installed before approval, leading to non-compliance and possible safety issues. The ongoing inconsistencies across DNOs with regard to metering issues, which is well-established, must be avoided for the rollout of LCTs as this could impede LCT growth on the network.

For new build housing, issues with the G98 and G99 applications could have a significant and detrimental impact on the level of solar installed on new homes due to process delays and complexity discouraging larger arrays. This could limit the customer benefits of solar that can be achieved under the Future Homes Standard.

Asset registrations

Ofgem recently consulted on asset visibility and asked whether improvements to the minor connections process would encourage registration by installers. In our response, we voiced support for the proposals and for the possible introduction of Service Level Agreements (SLAs) and/or minimum standards that DNOs would have to meet for minor connections requests. We would also be keen to see standardisation between individual DNOs. Inconsistencies in the process cause operational challenges and can be a deterrent to registration, particularly for smaller installer businesses and sole traders.

We also noted that there is a significant variation in processing timescales for minor connections applications. For our Solar activity, the average time for an application to be approved is 13.10 days across all DNOs. 90% of applications are approved within the 45-day SLA, but there is no escalation process for those that are not. A reduction in the 45-day SLA would reduce the overall end-to-end solar journey and help facilitate well-coordinated area-based deployment at scale.

We considered it might be helpful to outline some of the issues we have come across when trying to consider the scale of the DSO need which include:

- Missing National Grid Electricity Distribution data on the extent of forecast constraints.

- Inconsistent Distribution Future Electricity Scenarios (DFES) forecasts:
 - Not all DSOs had up-to-date DFES forecasts based on the latest 2025 FES;
 - one DNO had different forecast scenarios and naming conventions that did not include the ‘holistic transition’ as one of these.
- Naming conventions and missing postcodes: Inconsistent substation naming conventions across datasets and a lack of matching postcodes per substation complicated the mapping of DNO constraint areas to potential E.ON supply (leaving around 4% of primary substations unmapped).
- Difference between DFES and operational forecasts: Demand headroom forecast under the DFES ‘holistic transition’ scenario often differs from networks’ operational ‘best view’ and near-term flex procurement need statements (e.g. in the DNOA).

Question 5: What are your views on strengthening the System Visualisation Interface requirement, and would it be valuable for DNOs to collate and publish additional nonnetwork datasets, if so, which datasets would be most beneficial?

We support the aim of improving the quality of the data shared by DNOs with stakeholders to inform area-based rollouts of LCTs and make local energy system planning more robust.

Consistency and clarity of the data provided, both content and format, is essential so that it is easily understood and accurately interpreted by users. It must also be easy to access. We therefore see merit in the proposal to explore with stakeholders how DNO-held information and other datasets, could be presented in alternative formats. It is very important to include likely trajectories for all elements with scenarios to enable FSPs to target and plan more efficiently.

It might be useful for DNOs to categorise geographic areas using a simple RAG system with green indicating no local capacity issues (‘ready to go’), amber (some constraints) and red for areas where no capacity or margin exists. This should be down to individual house/street level and may also need to differentiate between technologies, such as heat pumps can be installed (as winter peak is not a constraint) but not solar PV (as summer export is too much). Pre-approval could be given in ‘green light’ areas to connect heat pumps, solar PV, batteries, EV chargers etc (where the grid can easily accommodate these). This would avoid the need for individual G99 applications, helping to streamline the process for households and installers.

As noted for Question 3, duplication of costs and investment must be avoided. NESO has invested in a digital visualisation platform for the RESP process so the potential for efficiencies in utilising or adapting this rather than instructing DNOs to build their own should be explored.

Actual smart meter data and predicted HEM:EPC electricity consumption data (where no smart meter data is available) should be made available to help DNOs forecast and model domestic energy consumption and help target properties. Data on annual, half hourly, peak demand or PV export together with HEM:EPC recommended measures could be used to target geographic areas of interest.

In addition, HEM:EPC could be developed to include a 'log-book' of the data inputs used to generate the home EPCs. As well as improving the accuracy and efficiency of generating EPCs, this would also help with identifying which properties do/don't have certain technologies for the purposes of grid planning and optimisation."

Lastly, it is essential that the HEM:EPC 'Smart Readiness Metric' currently being developed supports the rollout of LCTs by reflecting installations with a suitable increase in the EPC rating.

Flexibility services

E.ON aims to co-invest in assets and develop firm flexibility offerings targeted where both the network and households need it most (i.e. vulnerable and low-income who are most at risk of missing out on the benefits of LCTs). As demonstrated by the NPG EmpowerFlex partnership that Ofgem references in this consultation, we believe that the value for such customers lies in providing a package of measures in a targeted way (e.g. combining battery storage and energy efficiency retrofit plans).²

To provide a full and comprehensive view of the broader distribution network context, and target our investments and efforts, the following non-DNO/non-network datasets would be most valuable, at the CMZ level:

- EV and heat pump uptake including scenarios —which networks are already required to provide as part of their business plan forecasts (linked to the tRESP common planning scenarios);
- likely heat network zones/planned heat networks; and
- the location of social housing developments, existing and planned.

This would allow FSPs to consider how to design complementary offerings across different flexibility asset types (e.g. combining FSP assets with aggregation of customer assets), or target interventions at low-income households.

Ideally, DNOs should combine the data from questions 4 and 5 into a single, regularly updated and granular picture of current and forecast network conditions, demand, supply and planned infrastructure.

Question 6: 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?

We believe all the proposed activities would be helpful to LAs, particularly if standardised to some extent e.g. the same type of information available across DNOs and in the same format. This could be a requirement or provided as guidance. Some DNOs are already starting to provide platforms to give better information to LAs, for example UKPN, which can provide learnings for how to best structure and present the information. LAs also know and understand their community's needs. It is likely that they will also have established a level of engagement and trust

² Ofgem (2026), 'Consultation DNOs' future role in supporting the rollout of low carbon technologies.', 3 March, p. 28.

with local households, including low-income households through local support programmes and collaboration with local charities (not just on energy affordability) from which area-based LCT and energy efficiency rollouts can benefit/grow.

We support the proposal for Independent Stakeholder Groups (ISGs) to monitor the quality of DNO engagement and report to Ofgem to ensure these activities are effective. The different stakeholders include:

- NESO / Strategic Spatial Energy Planning (SSEP) / tRESPs
- RESPs
- Local Power Plan
- Local Area Energy Plans (LAEPs)
- Warm Homes Agency

There is potential for DNOs to coordinate local delivery taskforces using existing mechanisms where appropriate. However, the ultimate objective must be for all local area-based work to be coordinated effectively with no duplication which may mean via RESPs.

Question 7: 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?

We do not see a significant role for iDNOs in terms of enhanced coordination.

Question 8: 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?

We fully support integration with the RESP process and strongly consider that enhanced DNO activities should be embedded within this, acting as bottom-up input for RESP processes. This will create efficiencies (reduced cost to consumer) and support a single strategy for regional roll out of LCT (against the RESP forecasts). It also allows the RESP process to embed and provides a single route for stakeholders, such as LA's and smaller entities, through which to engage. DNOs could be required to support LAs in developing their RESPs to help identify areas where there is sufficient grid capacity to prioritise the electrification of homes.

We believe there is also scope for the RESP process to deliver the outcomes of enhanced co-ordination which would avoid some of the costs associated with requiring DNOs to build new processes for stakeholder engagement. The right approach is to develop these frameworks / processes with full transparency and alongside each other to avoid duplication and unnecessary complexity for all stakeholders involved in area-based LCT roll outs.

We agree that the scope of work of the RESP Strategic Boards, the WHA and LAEP activities should be kept under review to prevent duplication and ensure co-ordination between these actors.

We are aware that Ofgem has other initiatives ongoing to streamline and improve FSP market access, for example through the Flexibility Market Asset Registration (FMAR) and Flexibility Digital Infrastructure (FDI). Alongside these, Enhanced Coordination should bring together all relevant information into a near term DNO forecast showing how supply, demand, and headroom gaps are expected to evolve over at least three, but also five and ten years. This would support investment decisions in areas such as standalone batteries, heat networks and insulation based solutions by helping market participants understand where unmet need is greatest. Once ED3 reinforcement programmes are agreed, their expected impacts should be incorporated into the same dataset.

This approach can complement RESP development by reducing risk for investors and help mobilise the private capital needed to deliver RESP scenarios.

Question 9: 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 fully agree that any future DNO role must complement what others do in driving forward home electrification and energy efficiency. The future framework – encompassing WHP schemes (grants and loans), the new WHA and RESPs – must be designed to work in the interests of consumers and in a way that supports and encourages competition and innovation. We do not believe it would be in the best interests of consumers for DNOs to own, install or operate assets on their networks.

The table below summarises our views:

Role	Do DNOs have this skill now?	Effort required	Should DNOs develop?	Rationale	Potential risks
Operate assets	No	Very high	No	Cannot access key markets to maximise customer value	Inefficient operation, market distortion
Install assets	No	Medium	No	Need to build up links with supply chain	Split accountability with asset operator which adds complexity
Own assets	Yes	Low	Maybe	If Ofgem can be satisfied there is no conflict of interest with DSO markets or by another party operating the assets	Reduced innovation – linked to operation; sub-optimal outcomes for consumers

Customer engagement	No	Very high	No	Not needed if no role in operating assets	Split accountability with asset operator adds complexity
Provide system / capacity data	Yes	Low	Yes	Core DNO function can be enhanced	Confusion if not done in line with other information eg RESPs, WHA etc

In terms of an Expanded role, the ‘Laying the Foundations’ model could supplement better coordination and mapping by supporting faster roll-outs and improving the customer experience. Anecdotally, issues around unlooping supply have come up frequently in discussions around individuals’ personal experiences of exploring the viability of a heat pump for their home. Addressing this could help to unlock smoother area-based delivery and encourage uptake.

The ‘Widening participation’ model with hybrid funding could be progressed to over time to achieve a truly area-based approach. It would need a fully joined up approach across all tenures and demographics so that every household can be included, once integrated DNO planning and local investment/upgrade strategies have bedded-in and area-based schemes have become more widely established. It would need to come after ‘laying the foundations’ which would build up a level of awareness (of what’s happening) and trust in the process.

We share the concerns expressed in the consultation document around the risk of low income and vulnerable households being disadvantaged as a result of the energy transition. We support continuing to explore ways that DNOs can prioritise low income households, alongside achieving system and/or network benefits. The Empower Flex partnership approach complements the enhanced co-ordination role we expect DNOs to take in ED3 as well as possible expanded responsibilities. While our approach mobilises private capital to reduce the burden on bill payers, it could also work alongside and expanded, area based DNO role seeking to minimise system costs.

If support for LCTs is targeted towards low-income households in grid-constrained locations, a dual benefit can be achieved. The LCTs can be directly used to minimise the need for substation reinforcement and alongside directly reducing the bills of the household hosting the LCT.

Question 10: 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?

DNOs could coordinate with prospective heat networks to provide anticipatory investment in the network to allow for a large heat pump installation or an electrified heat network. This reduces the upfront cost for heat networks and socialises the cost of upgrading the electricity network to support them.

Question 11: 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:

- a) 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?
- b) 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?
- c) 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?
- d) 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?
- e) 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?

Below we give our views on each of these categories.

Technologies

We agree with adopting a technology agnostic approach. This is preferable to avoid biasing the market and preventing innovation. Whilst we would agree that the combination of solar, battery storage and smart controls have the greatest potential for achieving bill savings and grid management, the right solutions for different areas will depend on the needs of the area and no low carbon technologies should be ruled out of scope.

Insulation

Insulation remains a key measure for reducing overall energy consumption, benefiting both the network and consumers (through lower bills and increased comfort). Whilst the Warm Homes Plan embodies a shift towards upgrading more homes with low carbon technologies, it recognises the ongoing importance of making home more energy efficient. We believe that insulation is an essential retrofit measure that reduces demand (good for bills - reducing fuel poverty, carbon and energy security) as well as complementing LCT.

Insulating a building can reduce the size (and maximum demand) of the heat pump required, thereby mitigating the additional load of installing a heat pump. Ensuring a building has adequate and appropriate insulation prevents the decarbonisation of heating having unintended consequences (e.g. oversized heat pumps which make the running costs unnecessarily high or places higher than expected demands on the network). See comments in Funding as well.

Heat pumps

Whilst heat pumps add load, those that perform better than average, i.e. are more efficient or can shift load (using thermal storage of the building or thermal stores etc) can help offset this.

Areas without local network constraints that can easily accommodate heat pumps should not have to wait for DNO approval to connect. This would unlock the option for broken gas boilers to be immediately replaced with a heat pump, in suitable properties.

Batteries

This is the technology with the most widespread potential to benefit the network and save bills for customers. We have been trialling standalone batteries as a solution (alongside energy efficiency measures and time of use tariff or flexibility services) to improve affordability and reduce fuel poverty in a number of trials³.

Funding mechanisms could be used to incentivise the use of batteries with higher performance characteristics (e.g. fast charge/discharge) or other desirable attributes (e.g. safer, longer life) to encourage innovation.

When installed in combination with solar, batteries can enhance the benefits for customers, the network and the DNO but also brings some challenges. These are set out below:

Customer perspective:

- Higher bill savings: batteries offer savings through off-peak arbitrage. With solar, customers benefit directly from consuming self-generated power during the day.
- Faster payback: coupling a battery with solar generation accelerates the overall payback period of the solar installation.
- Energy independence and reduced carbon emissions: excess daytime solar energy can be stored for later use.
- Challenges:
 - higher upfront costs
 - safety considerations of where to site the battery, with or without solar (PAS63100 requirements are likely to become mandatory).⁴
- Overcoming capital cost barriers: the potential for adding solar to a battery system via co-funding could drastically reduce the upfront capital expenditure, which remains a primary barrier for adoption for some customers.

DNO perspective

- Reduced baseload dependency: the combined system reduces the home's reliance on the grid by storing excess generation. This complements active demand turn-down during flexibility windows.
- New build integration: Provides DNOs the ability to contract controllable flexibility directly from new load sources e.g. new developments and social housing clusters.
- Challenges:

³ Coventry Affordability Trial, Glasgow, Crowle and Starbeck

⁴ PAS63100 is likely to become mandatory in the future and will require batteries to be sited outside the home and over 1m from doors, windows and vents.

- asset ownership and ‘export conflict’: adding solar panels complicates the technical and metering setup, particularly when the flexibility provider owns the battery and the homeowner owns the solar panels. If the DNO requires the battery to discharge for grid flexibility, it can create conflicts over who receives the financial benefit for the exported solar energy
- Inverter capacity limits: exporting stored solar energy alongside battery capacity to support the grid can be limited by other LV requirements e.g. feeders, capping the total flexibility the DNO can extract from the site.

Possible solutions to the issue of ‘export conflict’ include virtual sub-metering (although this adds complexity for the customer), integrated ‘flex-SEG’ agreements where the flexibility provider also manages the SEG, or having a Fixed "Flexibility Premium" credited on the bill.

In the future, a standardised rate per kWh for flexibility could build customer trust through transparency and reduce the admin burden of manually tracking and estimating diverse rates.

Energy system

- Maximised renewable generation: adding solar ensures the battery is actively capturing clean, locally generated energy rather than simply storing grid power.
- Mitigating solar spikes: the battery can absorb excess solar generation, preventing localised grid spikes on sunny days, and shifting that clean power to peak periods.
- Challenges:
 - Policy uncertainty: Ambiguity around future regulations (e.g. the ED3 framework, Future Homes Standard) makes stakeholders reluctant to invest at scale.
 - Asset stranding risks: customers switching providers may require physical technician dispatch, adding costs and potentially stranding assets.
 - Tariff and SEG churn complexity: Homeowners changing their energy supplier or their Smart Export Guarantee (SEG) provider for solar export requires continuous asset reconfigurations to ensure metering is handled correctly.

Solar without batteries

Standalone solar will be of limited benefit in constrained areas during winter when any generation will not alleviate evening peaks during winter. On the flip side, too much solar in the summer could create new problems for the grid in certain areas, for example on high density housing on homes near a solar PV farm.

Some of the issues of excess generation can be offset by solar diverters (immersion heaters in a hot water cylinder) or EV cars. There may be the ‘optimum’ size of solar panels but this likely to depend on each property and household circumstances. In addition, some properties are not suitable for solar due to inadequate roof space or too much shading, but standalone batteries can still provide a good solution in these cases.

Other technologies

The following technologies could also play a role in helping to manage the grid when deployed alongside the main LCTs:

- Controls – to help systems avoid peak times.
- Voltage regulation – to help stabilise voltages on network wires.
- Power factor correction – to help reduce high reactive power line currents.
- Frequency control – to help maintain grid stability.
- Internet of things – e.g. aggregating control of appliances (eg freezers).
- Ancillaries – eg solar diverters (for self-use in hot water cylinders, reducing export).
- Time-of-use – incentivising tariffs which better align with DNO needs.
- Thermal stores – hot water tanks and separate heating thermal stores can shift demand (like electric batteries).
- Building fabric – shifting demand by storing energy in the structure or ground.

Customers

Retrofitting LCT in homes requires a high level of trust from customers, for both the installation process itself and in the technology so that households can make an informed choice. Establishing strong household engagement and building up trust will be critical to the successful rollout of area-based schemes.

However, these are capabilities that take years of investment and effort to develop. In the absence of a clear role for DNOs requiring them to maintain an ongoing relationship with the customer, we do not think the investment in time and resource would be warranted. While there are no reasons why DNOs would not be able to build and hone their capabilities in this area over time, including establishing the necessary links to charities and other groups that support vulnerable customers, given our view that DNOs should not operate the LCTs for customers, there is no long-lasting role and therefore it is not in the best interest of customers or the system to require DNOs to develop these capabilities from scratch.

E.ON has over twenty years of experience engaging with households (both low income / vulnerable and those who pay for measures themselves) and overcoming the associated challenges. Despite this, engaging households is still difficult to navigate and the barriers should not be underestimated, including with funded households who would be receiving something that would benefit them for free.

During the most recent year of ECO, E.ON's Obligation Delivery team has improved their conversion rate to 12% meaning that for every 100 households contacted, we have only been able to install energy efficiency measures in twelve. This is despite the scheme targeting low income households for whom affordability is a persistent challenge and who may also have energy debt.

Our innovative battery pilot with NPG⁵, where we installed residential batteries alongside insulation at no upfront cost in customers' homes and gave them a guaranteed discount on their energy bills, achieved conversion rates of only 1%. These examples illustrate the complex nature of consumer engagement with energy-related solutions.

⁵ [E.ON Next and Northern Powergrid launch joint initiative to help lower electricity bills | E.ON News](#), May 2025

Customer relationship requires brand awareness, a skilled team able to educate customers, and a technical team able to complete quality installations and in a way that is respectful to the resident and their home. Post-install, a customer support team is needed to maintain a trusted and productive relationship with the customer, potentially for the entire lifetime of the asset.

Funding

Energy efficiency

Given the high cost but long-life of solid wall insulation (SWI), there could be potential for targeted SWI upgrades at scale (e.g. whole street) to be funded through the DNO mechanism and recovered over a period commensurate with the life of the measure (40 years). This is different to our views on LCTs since energy efficiency measures do not need to be operated and when done to high quality can be left for the customer to see the benefit. Given this removes our concern re operating an asset it also removes the linked concerns re owning ie the long lasting customer relationship and split accountability. This would benefit low-income households as well as lower baseline energy demand on the network (where there is electric heating) by upgrading areas with inefficient housing stock.

The mechanism would be funded via the DUoS charge on bills. This would mean a lower amount is added to the bill each year compared to the recent energy company obligation, although the charge would remain in place for longer.

SMEs

It could be possible for DNOs to fund non-domestic upgrades in the SME sector which is often not commercially viable for the private sector. Many SMEs are struggling with high energy costs but do not have access to funding for LCT and EE improvements. An added complication is that their premises are often leased. A role for DNOs in helping to tackle this could be explored, working in collaboration with LAs and landlords.

Reflecting the grid benefits (i.e. avoided reinforcement) over these timeframes would unlock the full value and should be reflected in the DNO credits paid.

Installations

We consider that DNOs could be involved in the installation of energy efficiency or LCT measures but that other stakeholders may be better suited since they have been involved in area-based schemes have a wealth of expertise and established relationships with the installer supply chain. There must be a focus on ensuring good consumer outcomes.

Ownership and control

We do not believe that DNOs should own or control LCT assets as this risks introducing a fundamental conflict of interests. We believe that flexibility providers seeking to optimise the benefits in the interests of consumers should therefore be independent of the DNOs.

However, DNOs would have to work hand in glove with delivery partners and asset owners to unlock their expertise on the local infrastructure and enabling quicker route through to install or supporting with network upgrades to allow greater storage. In return, they could receive a share of the flex benefits. (See also Question 6).

Question 12. 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?

We would support the use of workshops or design sprints to test both an enhanced and extended role for DSOs. This should include testing wider markets for potential conflicts of interest. We have delivered several pilots to date and believe others have done the same. Combining the lessons from these pilots in advance would help decide what to test and how. In our view, any ED3 pilot should be testing scale and streamlining rather than original concepts which we think may already have been piloted. We would welcome the opportunity to be involved in ongoing discussions and future pilot projects.

Question 13. How could iDNOs support the proposals in this portion of the consultation?

There is an opportunity for iDNOs to better support local grids on new build developments by investing and owning LCT for the site (on the homes) to derive flexibility and transmission synergy benefits for the households i.e. grid balancing on a small scale. This would support FHS delivery, where the developer doesn't want to add cost to build and the tenant doesn't want additional bills or complexity for the LCT on the property.

iDNOs could also have a role ensuring the resilience of new-build developments by being incentivised to require adequate storage and capacity for the site. A "whole estate" view could be taken, with the LCT installed by the operational provider (installer) to a standard signed off by the iDNO. The value of the installations would be adopted by the iDNO on the asset book and repayment over 15 years from additional duos charges on the bills.

The assets would be steerable to manage power and flexibility. Overall bills would reduce, LCT gets installed at point of build within the framework of FHS with the IDNO controlling the standard and operation of the asset.

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