



LEMA
Local Energy Markets Alliance



LEMA Response to Ofgem Consultation:

DNO's future role in supporting the rollout of low carbon technologies

Submitted to Ofgem Net Zero Strategy (Decarbonisation) team, DNOLCTPolicy@ofgem.gov.uk

1. About LEMA

The Local Energy Markets Alliance (LEMA) was established in 2023 as a self-funded, industry-led, not-for-profit alliance to tackle the local energy burden through the practical implementation of smart local energy systems (SLES), and in doing so to grow the market for SLES and low carbon technology (LCT) adoption.

Unlike other energy infrastructure assets, property LCTs are primarily owned by landlords and homeowners. The adoption of LCTs is held back by two main factors that impact property owners' purchase decision: low expected return on investment, and low trust in the energy sector to deliver a fair service.

Firstly, there is not currently enough value in the combination of flexibility and self-consumption to cover the cost of the assets, their maintenance and eventual replacement as well as generate a meaningful return on investment for the owner. In effect the energy savings generated only pay for the cost of the technology itself, giving little or no net gain.

Secondly, purchasing, installing, optimising and maintaining property LCT assets is complex, with many different technical, operational and financial aspects for the owner to consider. Our recent consumer focus groups run by the Energy Systems Catapult showed almost a complete lack of trust in the energy sector – including government, utilities and big business – to deliver fair and consistent service.

Achieving high levels of consumer LCT adoption requires both issues to be addressed.

LEMA's approach is based on the belief that this requires a 'consumer first' philosophy; our aim is to increase consumer value and create a financially attractive, uncomplicated and trustworthy energy service proposition.

At the heart of solving this problem is generating additional value by developing a new type of SLES – a Neighbourhood Flexibility System (NFS) - to collate and systemise the operation of local LCTs and create a new value stream through Dynamic Load Averaging (DLA). This is a **new type of flexibility** service that operates within Settlement Periods, managing load rather than consumption (KW rather than KWh). The NFS service is tied to the local primary substation, enabling a firm price (i.e. non-trading) contract between a Distribution Network Operator and a community of DLA-enabled LCT assets installed on homes and business properties within the substation boundary. The NFS operator manages electricity import and export loads within an agreed envelope – shifting load at moments of peak local demand - unlocking network capacity that would otherwise be dependent on expensive, long lead-time reinforcement. An initial value assessment conducted by NERA on behalf of SSEN indicates a potential DLA value in the order of low £000s per property depending on the level of congestion and growth requirements at a particular site.

LEMA's membership includes technology providers and energy services companies, Local Authorities, Energy Systems Catapult, York University, and Scottish and Southern Electricity Networks (SSEN). Over the past two years, LEMA members have collaborated to develop the foundations of a LEMA Approach to NFS implementation, including the DLA contract framework and commercial business model.

In September 2025, LEMA launched a Pathfinder Project initiative to demonstrate the viability, feasibility and benefits of DLA-enabled NFS in practice. The first Pathfinder Project is currently in progress, assessing the feasibility to accelerate new-build housing in North Bicester which is currently significantly constrained by network capacity. The project is supported by Oxfordshire County Council, Cherwell District Council, the Homes England ATLAS team, SSEN, and the local developer. This has generated direct, real-world experience of the conditions required for NFS implementation that is directly relevant to this consultation. LEMA is currently looking to start a second project at Ford Airfield in West Sussex. Further ones are proving difficult to identify, partly for the reasons highlighted in this consultation.

LEMA's response is made on behalf of the Alliance and reflects the collective view of our members. This response is submitted on a non-confidential basis and may be published by Ofgem.

2. Executive Summary

LEMA welcomes this consultation. The challenge it addresses – fragmented LCT rollout, under-utilised network flexibility, and the gap between national energy policy and local delivery – are precisely the challenges that LEMA was formed to tackle. The core consultation question – how DNOs can best support the rollout of low carbon technologies in a way that is efficient, equitable and deliverable – is precisely the problem that DLA-enabled NFS is designed to solve. LEMA has been working closely with SSEN to do this on a 'Business as Usual' basis leading to SSEN launching their Community Smart Access product last year demonstrating the commercial viability and trust in the LEMA Approach.

The benefits from a DLA-enabled NFS flow to residents and homeowners, local businesses, and to the local Network Operator. Residents and homeowners benefit through lower energy costs and affordable access to LCTs; local businesses and developers benefit through earlier connection in areas where network capacity is a bottleneck to growth, housing delivery or commercial investment; and networks benefit through improved local resilience, reduced peak demand stress, and a more active contribution to local area energy management.

Evidence from the development of our LEMA Approach – including our Pathfinder Projects and consumer research - suggests that the consumer benefits from NFS are significant and outweigh the network benefits, that the NFS proposition is attractive, and that consumers want to be in control of their decision to adopt LCTs.

The conditions for LEMA's Approach to NFS are now in place. Technology is ready, the market is ready, and the policy environment is supportive. This is not a niche technical proposition – it is a practical, commercially-ready mechanism that directly addresses the coordination failure at the centre of this consultation.

The LEMA Approach is practical, incremental and commercially viable. A consistent, enabling role for DNOs that creates the conditions for NFS to be implemented at scale – without displacing the competitive market that is best placed to design, deliver and operate these systems - will accelerate its adoption. Our key recommendations are:

- Whilst we support Enhanced Co-ordination, and in particular the formalisation of Community Collaboration Plans and improved data sharing with a focus on outcomes, we believe it needs to flow downwards and become '**Neighbourhood Specific**'. Our experience shows that proactive DNO engagement at a site level has been a key factor in unlocking NFS opportunities. There are many more layers of the onion skin to peel away to enable practical implementation at the consumer level that cannot be achieved just through high level strategies and plans. This is what could be achieved through Smart Local Energy Systems that are integrated into DNO operations.
- SSEN's Community Smart Access (CSA) DLA-enabled connection product is a critical enabler for NFS projects in the SSEN network area. Regional inconsistency is a significant barrier to market growth, and we recommend Ofgem should use ED3 to create a consistent expectation that all DNOs develop equivalent access management products.
- On the Expanded Role, we urge caution. Our consumer research suggests that DNO involvement in funding and owning LCT assets is unlikely to be received well by consumers. It also risks either representing just one source of value, thus diminishing its viability, or needs to be extended to cover other sources of value increasing the role of a DNO into areas better addressed by other players. In both cases it risks distorting the market and undermining the commercial model for NFS operators and flexibility providers.

3. Smart Local Energy System Context

The electricity grid has traditionally operated on a demand-led basis. Network capacity has been sized to accommodate coincident peaks – surges in demand of short duration and high intensity, such as mass appliance use at the end of a major broadcast event. This has always required DNOs to hold significant reserve capacity that is used only rarely: a structurally inefficient but necessary feature of a stable grid.

LCTs are fundamentally changing the nature of this challenge. Flexible trading of energy – settlement-period balancing – helps manage aggregate supply and demand, but does not address the short-duration, high-intensity coincidences that occur within settlement periods. These within-period demand spikes – which LEMA members have modelled and evidenced – require real-time, within-period control of demand in kilowatts, not just kilowatt-hours. They are larger and faster-moving than the flexibility markets are designed to handle. As LCT penetration grows, the reserve capacity required to manage them safely will grow with it.

The consequence is that an increasing share of network investment may be drawn into building reserve capacity that is used for only a small fraction of the time. Conventional network reinforcement can be a slow response to a problem that is already accelerating: the decarbonisation rollout – particularly solar PV and electric vehicles – is already under way and is being actively stoked by government programmes including the Warm Homes Plan. This is not a research and development challenge. It is a commercial and operational challenge that requires solutions now.

LEMA's proposition is that neighbourhood-level Smart Local Energy Systems offer a faster, simpler and lower-cost alternative to centralised solutions. Rather than connecting and controlling hundreds of thousands of individual LCT assets centrally – which would require extensive consumer relationships, reliable centralised gateway infrastructure, and creates significant operational and security risks – a DLA-enabled NFS manages the collective consumption and export of a community of assets behind a primary substation as a single contracted entity.

Retrofit residential LCT deployment by our members is showing high levels of consumer engagement and proven benefits. Recent LEMA consumer research, sponsored by the Energy Systems Catapult, has shown a high level of acceptance for a NFS service targeted at new-build properties. The consumer research also highlighted a major trust barrier, indicating that consumers would far rather own LCT assets themselves and participate in a NFS than adopt a model where the assets are owned and operated by existing energy market participants – including DNOs and energy retailers.

LEMA's view is that NFS should be recognised as an important part of the energy system: National Transmission, Regional Distribution, and Neighbourhood Flexibility Systems. Embedding this in the regulatory framework – rather than treating it as a niche innovation – is the structural step needed to manage LCT growth at pace and scale.

4. Responses to Consultation Questions

Overarching Rationale

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?

LEMA supports DNOs taking on a meaningful co-ordination role in the energy transition. Our experience is that DNOs occupy a unique position: they hold the network data, they understand local capacity constraints, and they have existing relationships with local authorities, businesses and developers. With respect to NFS, no other party is as well placed to identify where NFS and LCT deployment would deliver the greatest system benefits.

The structural case for DNO co-ordination is grounded in how the energy system is evolving. As LCT penetration grows, the task of managing within-period demand peaks cannot be addressed by conventional reinforcement alone – the pace of deployment is too fast and the cost too high. Nor will conventional flexibility services solve the problem. What is needed is a hyper-local, or site specific, focus: Neighbourhood LCT control systems, sitting between regional distribution and individual households, that can manage demand collectively in real time. DNOs are the natural anchor for this – contracting for outcomes at substation level, sharing the data and connection products that enable neighbourhood NFS to form and operate, and integrate neighbourhood-level flexibility into their network planning.

However, the co-ordination role must be structured carefully to complement rather than distort or displace the competitive market. The local consumer and business benefits from LCT-enabled NFS outweigh the network benefits – and therefore the market should be consumer-focussed and consumer-led. DNOs should create the conditions for NFS, and support and enable consumers and businesses to install LCT assets and benefit from the flexibility market, but they should not seek to own the LCT assets or operate the NFS solutions themselves. The operational complexity and consumer relationship requirements of running neighbourhood energy systems are better handled by competitive market participants than by regulated network companies.

Enhanced Co-ordination

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

LEMA agrees with the rationale and scope of Enhanced Co-ordination. The proposals to strengthen collaboration, improve data sharing and visualisation, and formalise DNO working with local authorities are well-directed and consistent with what our Pathfinder Project experience shows is needed. However, increased value could be derived from extending the co-ordination to the hyper-local level, perhaps by supporting and enabling Local Authorities to take the lead at this level.

Our experience with SSEN demonstrates what proactive DNO engagement at a hyper-local level can unlock. SSEN’s Community Smart Access product and its structured involvement in the North Bicester LEMA pathfinder project gave all parties a credible basis on which to progress. The opportunity for Enhanced Co-ordination is to create the conditions for this kind of engagement to become the norm across all network areas. We are already exploring the opportunity for additional Pathfinder Projects in the Ford area of West Sussex, working in collaboration with West Sussex County Council and SSEN.

Question 3: What are your views on the effectiveness of existing Collaboration Plan requirements, and would enhanced Community Collaboration Plans be helpful?

LEMA cannot comment on the general effectiveness of existing Collaboration Plans across different DNO regions. What we can say, from our pathfinder project experience, is that the kind of substantive, **project-level** engagement that SSEN has demonstrated is highly valuable – and that collaboration which drives outcomes of this quality at this level would be a significant step forward.

The risk with any plan-based engagement obligation is that it becomes a compliance exercise rather than a genuine driver of collaboration. We would therefore encourage Ofgem to ensure that enhanced Community Collaboration Plans are designed around local or site-specific outcomes rather than process. The three elements that matter most from a NFS perspective are:

- A requirement for DNOs to proactively identify areas where network capacity constraints coincide with housing or economic development demand – the ‘hotspots’ where NFS can deliver most value – and to share that information with local authorities and NFS delivery partners in a form they can act on. The ‘presumed open’ principle of information sharing should be reinforced, with the onus on DNOs providing sufficient information (acting in coordination with the Local Authority) to enable the market to respond and offer solutions
- A requirement for DNOs to develop and publish DLA-compatible connection products, with clear terms, eligibility criteria and timelines, as a standard part of

their connection offer – because without a credible product, no amount of stakeholder engagement can move a NFS project forward

- Reporting against the quality and outcomes of engagement, not just against the existence of a plan or the number of meetings held. Reporting should also drive DNOs to identify and address areas where lack of access to data, or lack of sufficient data, is preventing outcomes from being achieved

Question 4: How useful is the data currently published by DNOs?

Current DNO-published network data has limited utility for NFS opportunity identification. The key gaps from our experience are:

- Granularity: published capacity data is often at a level of aggregation that does not allow meaningful assessment of specific development sites
- Forward visibility: understanding planned reinforcement timescales and their impact on available capacity is essential for NFS business case development, but this information is not consistently available
- Connection enquiry data: connection enquiries are commercially sensitive and not shared, which means that the ‘hotspots’ where NFS could unlock stalled development are invisible to the market

LEMA would welcome a requirement for DNOs to collaborate with Local Authorities to identify and publish more granular, forward-looking capacity and demand profile data, at a level that supports the identification of hotspots and enables meaningful site-specific analysis.

Question 5: Would it be valuable for DNOs to collate and publish additional non-network datasets?

The most valuable additional data for NFS opportunity identification would be information that allows delivery partners to identify where network capacity constraints coincide with local development demand – for example, new housing development pipelines and local business planning applications. However, this data is currently held separately by local planning authorities and DNOs and is not shared with the market.

LEMA recommends that Ofgem consider whether enhanced data-sharing obligations should extend beyond DNOs to include local planning authorities, to enable joined-up opportunity identification.

Question 6: What are your views on the Working with Local Authorities proposals?

In our view, Local Authorities are the natural and most appropriate drivers for enhanced engagement with local communities. DNOs have a crucial enabling and supporting role, and LEMA supports formalising DNO technical support and advice to Local Authorities.

Our pathfinder project experience highlights that local authorities have a critical convening role, bringing together the local agents and stakeholders around a shared

project. Without that support, the opportunity would not have crystallised. However, it also demonstrated that local authorities may lack the technical capacity to assess NFS opportunities independently or to engage with DNOs on network constraint detail. A structured DNO technical offer with support would significantly reduce that barrier.

Question 7: How could iDNOs support these proposals?

LEMA sees that iDNOs could play an important role in the adoption and operation of NFS – potentially in an ‘iDSO’ role. However, we do not have sufficient evidence to support a more developed view or recommendation at this stage.

Question 8: How could Enhanced Co-ordination activities integrate with NESO’s RESP processes?

LEMA sees a complementary relationship between Enhanced Co-ordination and the RESP process. RESPs will provide the strategic regional framework for energy system planning; Enhanced Co-ordination by DNOs will translate this into actionable, site-specific engagement with local authorities and delivery partners.

From a NFS perspective, the most important integration point is ensuring that RESP forecasts reflect the potential contribution of DLA-enabled NFS to managing local network demand – both in terms of the capacity headroom that NFS can unlock, and the speed at which NFS can be deployed relative to conventional reinforcement. This would be further supported by NESO recognising NFS as key component of the grid.

Expanded Role

Question 9: Would an Expanded Role for DNOs add value and support the rollout of LCTs and EE?

LEMA’s view on an Expanded Role is nuanced. We recognise the rationale: area-based deployment of LCTs can deliver system and network benefits, and the current demand-led market has not delivered the scale or pace of rollout required. We also recognise that NFS can be a part of a broad set of solutions to support the rollout of LCTs and EE.

The LEMA DLA-enabled NFS framework is applicable to both retrofit and new-build scenarios. The priority for new-build housing development or local business expansion within a substation boundary can be exactly what justifies a DLA contract – creating the conditions to enable such growth by using a retrofit NFS on an adjacent existing estate. An Expanded Role that is designed around promoting and enabling this dynamic DLA-enabled NFS implementation and operation as the delivery mechanism – would be well-suited to support LCT rollout, delivering a combination of consumer, network and local business growth benefits.

However, we have both commercial and technical concerns about configurations of an Expanded Role that involve DNOs directly owning and controlling LCT assets. Commercially, a DNO that funds and owns the LCT assets within a NFS is, in effect, competing with the market it is supposed to be enabling – LEMA members are actively building these propositions. But the concern is also technical: centralised control of large numbers of individual LCT assets by a DNO creates a significant operational and security risk. The neighbourhood NFS model, by contrast, delegates control to local systems that operate autonomously within contracted parameters, making the overall system more resilient.

Our position is: if an Expanded Role is pursued, it should be designed to draw in competitive market participants rather than replace them. The model of DNOs bulk-procuring LCTs on behalf of installers (as in the Laying the Groundwork archetype) or co-funding in proportion to network benefit (as in Widening Participation) is more compatible with a healthy NFS market than full DNO ownership and control.

Question 10: What are your views on using a network benefit and wider system benefits approach?

LEMA supports the use of network benefit and wider system benefits as the framework for evaluating Expanded Role proposals. From a NFS perspective, we would add two important considerations.

First, the benefits of DLA-enabled NFS go beyond direct network resilience and reinforcement. Consumers within a NFS scheme benefit through significantly reduced energy bills, and the opportunity to participate in additional flexibility benefits.

Second, by enabling early connection of new housing development or local business growth that would otherwise have been constrained, NFS can accelerate social and economic benefits to the wider local community.

Question 11: What are your views on the archetypes presented?

Of the three archetypes, LEMA believes the Laying the Groundwork model is most compatible with the development of a competitive NFS market, provided it includes a clear expectation that DNOs develop DLA-compatible connection products as part of their co-ordination role. This archetype aligns DNO activities with what the market needs most: proactive identification of opportunity areas, network data sharing, and connection products that enable NFS – without DNOs taking on roles that properly belong to competitive market participants.

The Widening Participation archetype has strong merit if structured around co-funding of network benefits only, with households retaining ownership of assets and competitive market participants leading installation and operation.

The Focused Intervention archetype, in which DNOs fund and control LCT assets recovered through the RAV, presents the greatest risk of market distortion and additional operational risk through centralised DNO operation and control.

On technologies: LEMA's experience is focused on integrated NFS incorporating solar PV, battery storage, heat pumps and EV charging. We support technology agnosticism in principle but note that DLA-enabled NFS delivers its greatest value when a range of flexible assets can be managed collectively – restricting scope to batteries and solar only would undermine the system benefits of the NFS model.

Question 12: Do you have views on whether pilots of these approaches would be valuable?

Yes – pilots would be highly valuable, and LEMA would strongly support their development as initial implementations designed to streamline and improve their delivery. Once initiated the pilots will be in place for multiple years and need to be structured, funded and operated on a 'business-as-usual basis, not a pseudo trials basis. Pilots should be designed to test and improve the interaction between DNO activities and the competitive NFS market – specifically, how to ensure DNO involvement in co-ordination and (potentially) co-funding accelerates and does not impede the development of commercially-viable NFS propositions.

In particular, the initial roll-out of new systems have a higher cost before economies of scale and value-engineering enables cost reductions. Recognising this and using initiatives such as the Warm Homes Plan to help offset these higher costs at the outset and drive efficiencies through focusing on co-ordinated delivery would be highly valuable and accelerate market adoption.

Question 13: How could iDNOs support the Expanded Role proposals?

LEMA does not have sufficient evidence to support a developed view or recommendation on the role of iDNOs at this stage.

5. Conclusions and Recommendations

LEMA's response can be summarised in five recommendations:

- **Recognise the importance of a “consumer first” perspective in supporting the rollout of low carbon technologies.** DNOs are in a prime position to link the all-important hyper-local aspects of delivery *and operation* of LCTs. These proposals need to go further to recognise and build in a ‘bottom-up’ delivery methodology in ED3 that complements the top-down planning. LEMA members are building a wealth of practical understanding and expertise in how this could be done and would be happy to assist in framing a potential solution that is commercially viable, ready to be deployed at the start of ED3 and rolled out incrementally throughout the period.
- **Recognise Neighbourhood Flexibility Systems as the missing key component of the grid.** Ofgem's cost-benefit framework for ED3 should capture the reserve capacity costs that NFS can avoid, not just the reinforcement costs it defers. This materially changes the economics of NFS investment and should be reflected in how DNO activities are incentivised. Approximately 50% of local capacity is kept in reserve to cater for short duration demand peaks and used for <0.1% of the time. Safely reducing this margin by using dynamic load averaging would have a significant impact on active grid efficiency leading to accelerated release of growth capacity and potential reductions in the cost of energy.
- **Create consistent expectations for DLA-compatible connection products across all DNOs.** SSEN's Community Smart Access tool has demonstrated that a credible, well-developed DNO connection product is the essential enabler for NFS projects and would be a major factor in the facilitation and acceleration of government LCT rollout targets. Ofgem should use ED3 to establish a clear expectation, backed by appropriate incentives, that all DNOs develop equivalent products, so that NFS can progress wherever the network conditions exist to support it.
- **Design Community Collaboration Plans around hyper-local outcomes.** Plans should require DNOs to proactively identify and share information on network constraint hotspots, to develop DLA-compatible connection products as a standard offer, and to report on the quality and outcomes of engagement. Engagement with NFS delivery partners should be included alongside local authorities.
- **An Expanded Role is supported but to the limited extent that complements and enables the competitive NFS market.** DNOs should contract for NFS outcomes at substation level, not own or control LCT assets. Consumers must be put in control, and the consumer proposition should be market-led, not DNO-led. DNOs and Local Authorities should be required and incentivised to work together to enable the market to deliver; supporting Local Area Energy Plan and growth outcomes, LCT rollout and community benefits, and efficient local network operation.