The Traxis Group

Response to Ofgem Consultation: "DNOs' future role in supporting the rollout of low carbon technologies".

Submitted to Ofgem Net Zero Strategy (Decarbonisation) team

Email: DNOLCTPolicy@ofgem.gov.uk

Response deadline: 2 April 2026

Response classification: Non-confidential

About The Traxis Group

The Traxis Group is a business consultancy specialising in developing and advising on commercial solutions that will enable the roll-out of Smart Local Energy Systems at scale. Traxis Group developed the original Dynamic Load Averaging (DLA) concept and then co-founded the Local Energy Markets Alliance (LEMA) to help introduce it to the market. We are developing the core algorithms that will enable Dynamic Load Averaging and are pro-actively working to establish a consortium to deliver it to the market.

Executive Summary

Traxis Group welcomes the opportunity to respond to this consultation.

At a local level the growth in LCTs, soon to be enhanced and accelerated through the Warm Homes Plan, is placing increasing pressure on local grid capacity. However, the LCTs that are causing the issue could also be a major part of the solution to it. The flexibility offered, particularly if supported by embedded storage, could be systemised to provide the ability to flatten demand curves and increase rather than restrict the utilisation of available capacity.

Traxis Group has developed a unique and innovative approach to co-ordinating or 'systemising' the deployment of LCTs into congested networks. Our Dynamic Load Averaging (DLA) solution is a new form of flexibility that manages within settlement period peak demands, i.e. managing KW rather than KWh. It operates in addition to flexibility trading of KWh adding value and releasing connection capacity.

This offers a new route to congestion alleviation by enabling the optimisation of LCT roll out into communities, using a DLA service to control the assets and maintain safety and diversity of the network. Adopting this approach, in conjunction with wider DESNZ objectives (e.g. the Warm Homes Plan) will enable acceleration of LCT technologies in areas that would otherwise be impossible to electrify, resulting in tangible individual, community and societal benefit.

We strongly support the LEMA vision of DNOs delegating responsibility for co-ordinating and systemising the roll-out and on-going operation of LCTs to DLA-enabled Smart Local Energy Systems (SLES) whilst retaining overall authority.

Consequently, as an organisation actively developing and implementing smart local energy systems we strongly support Ofgem's exploration of an enhanced role for DNOs in enabling low-carbon technologies and energy efficiency.

Smart Local Energy Systems have the potential to demonstrate how coordinated, place-based approaches - integrating energy efficiency, flexible demand, distributed generation, and storage - can deliver whole-system benefits. In this context, DNOs have a critical enabling role to play although this should be limited to playing a strategic coordination and enabling role, within carefully defined boundaries that are agreed so as to preserve competitive markets and avoid duplication with existing schemes.

Response to Consultation Questions

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?

Traxis Group very much supports DNOs taking on a meaningful co-ordination role in the deployment of LCTs to accelerate the energy transition. They are uniquely positioned to understand local network constraints and opportunities by:

- Targeting interventions where they deliver the greatest system value, using network insight, local authority partnerships and data tools to align LCT rollout, flexibility and local plans;
- Optimising the interaction between demand reduction, flexibility, and network capacity; and
- Managing deployment into congested networks, by implementing congestion alleviation solutions, for example tools such as SSEN's Consumer Smart Access Dynamic Load Averaging service.

DNOs hold and are obliged to share relevant network data (although data sets are by no means complete across GB's low voltage asset base); they understand local capacity constraints; and they have existing relationships with local authorities, businesses and developers. With respect to SLES, no other party is as well placed to identify and coordinate where LCT deployment would deliver the greatest system benefits.

In this regard DNOs would add most value as place-based coordinators, and should not, in our opinion, be responsible for installations or for asset ownership, as delivery should always remain market-led.

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

Yes, Traxis Group agrees with the overall rationale and scope of 'Enhanced Co-ordination'.

DNOs should primarily play a mix of strategic coordination and enabling roles, with carefully defined boundaries so as to preserves competitive markets and avoid duplication with existing schemes. The role should include:

- Acting as local system coordinators, aligning stakeholders and data;

- Identifying geographic priority areas for intervention; and
- Facilitating market-based delivery and operation of energy efficiency and flexibility.

In our view, targeted coordination and encouragement of smart local energy systems that manage demand profiles will deliver whole system benefits; combining energy efficiency, smart controls and flexibility enabled LCTs in constrained areas can reduce peaks, defer reinforcement and improve consumer outcomes.

We strongly support the Local Energy Markets Alliance (LEMA) vision of DNOs delegating responsibility for co-ordinating and systemising the roll-out and on-going operation of LCTs to DLA-enabled smart local energy systems whilst retaining overall authority.

Traxis Group is working closely with LEMA and SSE Networks on pilot projects during ED2 that will demonstrate this capability in the deployment and co-ordination of LCTs within a congested domestic network.

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?

Traxis Group is unable to comment on the effectiveness of existing Collaboration Plan requirements. We do however agree strongly on the importance of collaboration and partnerships in achieving successful outcomes for individuals, communities and society.

In this regard we strongly encourage enhancing Community Collaboration Plans by increasing the focus on place-based, site-specific coordination. In our experience co-ordination is greatly needed at this level to address barriers that can prevent implementation; for example the involvement of Local Authorities and local groups can be very helpful. The monitoring of these plans should start 'at the coal face' so to speak by measuring outcomes, e.g. in the acceleration of connections, increase in flexibility capacity and improvements in the utilisation of substation capacity.

Through our involvement in LEMA pathfinder projects we have experienced substantive project-level engagement to-date that has been highly valuable. Continued collaboration that drives positive outcomes across stakeholders should be encouraged and would be a significant step forward.

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

We are conscious that DSOs have made great strides in recent years to publish and make accessible open data and network visibility systems – a great example is SSEN's LENZA geospatial map-based planning platform. However we have found that accessing current DNO-published network data that is both relevant and accurate in the identification of potential SLES sites can be challenging, either from a lack of granularity and accuracy; inaccurate forecasting and forward visibility; commercial sensitivity; or (potentially) security limitations.

Targeted coordination delivers whole system benefit. Combining energy efficiency, smart controls and flexibility enabled LCTs in constrained areas can reduce peaks, defer reinforcement and improve consumer outcomes.

Traxis Group would welcome the introduction of 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 congestion hotspots and enables meaningful site-specific analysis for more accurate identification of SLES potential.

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?

Information that allows delivery partners to identify where network capacity constraints coincide with local development demand, e.g. new housing development pipelines and local business planning applications would be extremely useful for the identification of SLES opportunities. This data is currently held separately by local planning authorities and DNOs and is not shared with the market.

We believe it would be appropriate for Ofgem to consider whether enhanced data-sharing obligations could extend beyond DNOs to include local planning authorities, to enable joined-up opportunity identification.

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?

Successful and widespread implementation of low carbon technologies into domestic properties, will deliver tangible improvements in customer outcomes, but would be impossible without strong and effective cooperation and coordination with Local Authorities.

Through their work in developing Local Area Energy Plans and engagement with NESO's RESP process, it is clear that Local Authorities are the natural and most appropriate drivers for enhanced engagement with local communities and DNOs will have a crucial enabling and supporting role in this.

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?

Traxis Group does not have a view on the role of iDNOs in supporting the rollout of low carbon technologies. We assume that iDNOs will continue to be permitted to own low-carbon technologies on private wire networks, but only under specific regulatory conditions and with clear separation from their licensed distribution activities.

We anticipate that this will cause debate around obvious 'grey areas' as demand side response solutions are progressively introduced, especially as downstream flexibility markets mature; the DSO transition accelerates; and local energy systems (like those supported by SSEN's LENZA tool) become more accessible.

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?

Traxis Group recognises a complimentary relationship between Enhanced Co-ordination and the RESP process.

RESP provides a strategic regional framework for energy system planning with significant input and connection to Local Authority development and community engagement plans. Enhanced Co-ordination by DNOs will translate this into actionable, site specific engagement with both Local Authorities and delivery partners.

From the Traxis Group perspective the most important integration point is ensuring that RESP forecasts reflect the potential contribution of Dynamic Load Averaging enabled SLES in managing local network demand, both in terms of the capacity headroom that SLES can unlock and the speed at which SLES can be deployed relative to conventional reinforcement.

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

We consider that elements of the Expanded Role for DNOs as described would add value in the support and rollout of LCTs and EE. DNOs are well placed to provide network insight, Local Authority partnerships and data tools to align LCT rollout, flexibility and local plans.

The actual delivery of LCTs should remain market-led. We do not believe that DNOs should be responsible for installations or asset ownership; DNOs would add most value as place-based coordinators.

The Traxis DLA-enabled SLES framework is applicable to both retrofit of existing homes and to 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; that is creating the conditions to enable growth and consumer benefit by using a retrofit SLES on an adjacent existing estate.

An Expanded Role that is designed around promoting and enabling this DLA enabled SLES 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.

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?

Our view is that area-based deployment of LCTs will indeed deliver system and network benefits; that the existing demand-led market has not delivered the scale or pace of rollout required to date; and that SLES can be a part of a broad set of solutions to support an accelerated rollout of LCTs and EE.

Taken together, this enhanced coordination and delivery approach should deliver significant social and consumer benefit:

- The benefits of a DLA-enabled SLES go beyond direct congestion alleviation, network resilience and reinforcement. Consumers would benefit through reduced energy bills and the opportunity to take advantage of additional flexibility benefits;
- By enabling early connection of new housing developments, large scale refurbishment, or local business growth that would otherwise have been constrained, SLES can accelerate social and economic benefits to the wider local community.

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?

Of the three proposed archetypes for DNO involvement in LCT implementation, Traxis Group considers that a composite model made up of aspects of both "Laying the Groundwork" and "Widening Participation" would be most appropriate.

Based on our recent engagements with DSO strategy & planning, operations and flexibility services teams we would offer the following observations:

- We would expect DNOs to add most value as place-based coordinators (recognising core system planning, operations and data capabilities), and not as large-scale procurement and installation contractors (where DNOs have limited consumer engagement expertise; no sales and marketing knowledge; limited domestic LCT capability; and a need to be market and device agnostic).
- DNOs would bring existing strengths in network insight, Local Authority partnerships and data tools to align LCT rollout, flexibility and local plans, whilst maintaining market-led roll-out.
- Targeted coordination will deliver whole-system benefit, where a combination of energy efficiency, smart controls and flexibility-enabled LCTs in constrained areas can reduce peaks, defer reinforcement and improve consumer outcomes.
- Network-enabling costs are justified where they deliver system value. This includes investment and operational costs associated with enabling and procuring flexibility services from LCTs, where these demonstrably reduce or defer reinforcement and provide wider network and system benefits.
- Customer-side LCT and retrofit costs should remain market and customer-funded. Beyond clearly defined network-enabling activities (including flexibility services), DNO involvement should avoid socialising costs, distorting markets or undermining financeability.

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?

Yes, Traxis Group believes that targeted pilots have the potential to be highly valuable, and we strongly support their development as initial implementations designed to streamline and improve delivery. Once initiated, pilots will be in place for many years and will 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 market – specifically, how to ensure DNO involvement in coordination and (potentially) co-funding accelerates and does not impede the development of commercially-viable SLES propositions.

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

We have no particular view on this question.

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This response is submitted on a non-confidential basis