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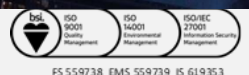
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ElectraLink's response to Ofgem's Future of Distributed Flexibility Consultation



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Dear Digitalisation and Decentralisation and Energy Systems Management and Security teams,

ElectraLink welcomes the opportunity to respond to Ofgem's 'The Future of Distributed Flexibility' Call For Input, which sets out the landscape of distributed flexibility today, presents the case for change and the requirement for a common digital energy infrastructure.

We believe there is already a case for change for distributed flexibility. With the roll-out of smart meters, tariffs and the ever-growing emphasis on electric, smart appliances, there needs to be a change to how electricity is currently managed and addressed.

We also recognise that there are already regulatory drivers – such as decarbonisation goals and the reduction of consumer costs – in place to encourage market change. The vision to implement a more flexible energy market to align with the technological advances and changing climate needs to be actioned so the entire GB market can be coordinated, with the same level of standardisation and centralised access. We support the vision for a common digital energy infrastructure to be in place as soon as possible to allow the industry to work holistically, allow for more flexibility within the market and allow for consumer pricing benefits.

From our work on Flexible Power, Data Curation and Phase One of the Automated Asset Register, we recognise the opportunities to improve knowledge and reporting of Low Carbon Technologies (LCT) and the importance of collaborative working on the provision of data to improve flexibility. We would welcome the opportunity to continue working with the industry to deliver the benefits of distributed flexibility.

We would be delighted to discuss our response and views in more detail. Please contact Stephanie.catwell@electralink.co.uk for further information.

Yours sincerely,

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Question 1

What do you think distributed flexibility could contribute to the energy system?

Distributed flexibility will allow network operators to manage demand. It will also mean that there will be greater use of renewable generation capacity for storing energy to use at peak times. This should in turn create a more reliable and sustainable energy system, for both distribution networks and consumers.

It also lends itself to the industry becoming more coordinated and connected as one energy system. The industry is working towards Net Zero targets and the inclusion of a more transparent system, where open data can be shared between DNOs and stakeholders to reduce entry barriers, improve half hourly settlements and optimise how consumers interact with their consumption.

There has already been extensive research into the value of flexible generation and demand to support network operations but having greater knowledge and quality data will help to unlock this value. For example, the Government's Smart Systems and Flexibility Plan 2021 shows that flexibility could also reduce annual energy system costs by £10bn a year by 2050. National Grid ESO stated in May 2022 in its report on Operational Visibility of Distributed Energy Resource (DER), that the increasing volumes of Flexibility resources would provide DSOs and the ESO with the ability to lower costs and deliver up to £150m per annum in savings through greater operational visibility of flexible assets.

In terms of Distributed Energy Resources (DER) and Consumer Energy Resources (CER) assets, we recognise that DER assets are known to the system operator and network companies but CER / Low Carbon Technologies (LCTs) are not. If we can understand and know what CER/LCT asset has been installed and their location, it will provide more opportunities to unlock the benefits of flexibility. For example, it will aid market competition which should help lower costs for balancing the increasing amount of renewable assets connecting to the system.

DESNZ recently undertook a feasibility study for the creation of an Automatic Asset Registration Programme. The Programme will fund the development of innovative solutions to replace manual registration of small-scale demand, generation and storage assets, as well as the development of a Central Asset Register (CAR), capable of collecting and sharing energy asset data, once successfully registered. ElectraLink worked on Phase 1 of the programme: Project FAIR. Project FAIR has demonstrated that the shift to a fully automated LCT asset register needs to be approached in stages and that at each stage opportunities and benefits can be unlocked. For instance, the final stage of this evolution would be a complete "plug and play" world where assets register themselves, share real time data, and identify performance issues and faults. We recognise that this journey begins by building a strong foundation with the CAR and AAR to understand where flexible assets are located. We hope that the industry continues to work towards a standardised approach with a robust governance and operating model alongside agreed data standards. Any future developments should be able to integrate with the AAR to improve its coverage of assets.

This vision is widely aligned to the strategy outlined by The Energy Digitalisation Taskforce in 2021, which noted the benefits from greater digitalisation in the energy sector. Primarily, they summarised the following factors:

- Understanding the data that exists, the data that is missing, which datasets are important, and making it easier to access and understand data;
- Revealing system assets and infrastructure, where they are located and their capabilities, to inform system planning and management;

- Achieving much better price discovery, through unlocking new markets, informed by time, location and service value data; and
- Enabling regulators to adopt a much more agile and risk reflective approach to regulation of the sector, by giving them access to more and better data.

Question 2

Will a focus on CER flexibility also help enable other forms of flexibility, especially distributed flexibility?

Consumers are increasingly connecting CER devices such as batteries, rooftop solar, and electric vehicle chargers. CER is a fundamental component of the energy market and is expected to play an increasingly important role in the transformation of the energy system to a decentralised, digitalised and net-zero system.

Better integration of CER can help customers get more value from their resources and enable the electricity market to operate more efficiently, reliably and securely in a manner that benefits all consumers. We are already on the right tracks with smart charging arrangements for EVs and Low Carbon Technology (LCT) detection. If more assets are registered so we can understand their locations and capabilities, then system planning and management will be better informed. This should in turn allow for more flexibility and more dynamic pricing.

The data systems needed for CER flexibility could encompass current industry initiatives, like the Automated Asset Register (led by DESNZ), the Digitisation of Connections (led by ENA), the Smart Meter Data Repository (led by DESNZ) and potentially Flexr (led by ElectraLink). The provision of quality data systems would enable markets to create value a wealth of granular data not currently available, which would create opportunities for the scope of flexibility to expand.

We would hope that this would lead to a higher uptake of customer participation in the energy market. Consumers will have access to a wide range of interoperable and secure smart appliances, and incentives will need to be considered to encourage active behaviour in the energy market, ie: consumer rewards for participating in demand side response.

The creation of a market that encourages consumer participation is key and strong communication with consumers need to be considered. There also needs to be consideration for how consent management for CER data will be handled and how the associated governance and security will be implemented. Performance measures should be put in place to track CER installations, consumer participation and incentives.

Question 3

Is there a 'case for change' and a need for a common vision for distributed flexibility?

Yes there is already a case for change for distributed flexibility. With the roll-out of smart meters, tariffs and the ever-growing emphasis on electric, smart appliances, there needs to be a change to how electricity is currently managed and addressed.

There are already regulatory drivers – such as decarbonisation goals and the reduction of consumer costs – in place to encourage market change. The Energy Data Taskforce has also set out expectations for a more transparent and standardised approach to market data. Arguably, a common vision already exists to implement a more flexible energy market to align with the technological advances and changing climate. This vision needs to be actioned so the entire GB market can be coordinated, with the same level of standardisation and centralised access.

In the short-term, we have taken steps with the Distribution Network Operators (DNOs) to assist with collating Distributed Energy Resources (DER) data, specifically, the development of Flexr. Flexr was a DNO data provision and standardisation service that would have connected to the data held by all six DNOs and their DER customers. The aim of Flexr was to accelerate the development of flexibility markets through non-differentiating services, which will enable increased innovation in the flexibility market space and reduce barriers to entry for stakeholders.

While the industry agreed upon separate portals and data standardisation, rather than using one platform, the goal to create a central data service that can enhance planning, forecasting, operation and whole of system integration with external stakeholders is still necessary. We can see this through the inception of projects like the Smart Meter Data Repository and Data Curation. Data Curation is the organisation and integration of data collected from various sources. We believe there are three main stages of the data curation process: data identification, data cleansing, and data transformation. Data Curation will be needed to ensure that flexibility actors have the data they need, and to ensure quality is consistent and that it adheres to standards. Where many organisations are providing data sets that need to be interoperable, Data Curation would benchmark the data against standards and against other similar datasets to ensure genuine interoperability.

We have also worked on projects like Phase One of creation of an Automatic Asset Register, where we emphasise that an LCT solution should centralise installation information, integrate data into organisations internal systems, standardise format/naming conventions and be provide consistently structured data covering all asset types.

We also note that ENA has a working stream to working to standardise processes. We would support the procurement of standardised flexibility products but that does not necessarily require one standard platform.

In summary, for a truly optimal flexible system, key data systems are needed. Some of these already exist, but are not being used (e.g. Flexr for low friction DNO data provision), while others are in development (FAIR / AAR will be crucial to add liquidity to flexibility markets by enabling the inclusion of much smaller, behind the meter assets) and others still need to be created (such as Data Curation, to ensure that standards are being met and that data is truly interoperable across many different organisations).

Question 4

What is your vision for how to accelerate the delivery of accessible, coordinated and trusted markets for distributed flexibility?

The industry needs to define a roadmap to accelerate the delivery of distributed flexibility. As previously mentioned, there are already numerous projects in progress across the networks which should contribute to flexible generation and demand. The ability to integrate with current and future digitalisation projects will be key; such as the ENA Digitalisation of connections, Smart Meter Energy Data Repository, Digital Spine and new smart products and installation applications being developed by the industry such as UKPN Smart Connect App.

The AAR Project, commissioned by DESNZ, is a fantastic opportunity for GB to enable flexibility markets through better quality and more accessible data on Low Carbon Technologies (LCTs) and Distributed Energy Resources (DERs). We are keen to continue working with the DNOs, as we did for Phase One of the project, to fix existing industry problems regarding LCT registration (only 40% of assets are currently registered), which we believe can be achieved without draconian rules for the asset notification process, for the purpose of extending the reach and data quality of the AAR. This supports network planning cost challenges for the new RIIO ED2 period starting in April and the move towards the more integrated and dynamic networks operations required to achieve net zero by 2050.

Ofgem and DESNZ should work closely to ensure that innovation projects survive and become BAU if they can be proven to be beneficial to the industry. For example, AAR/CAR and SMDR could be fast tracked and integrated into regulation.

Overall, the vision needs to encompass the following areas:

- Understand infrastructure and architecture to enable a flexible market
- Identification of key actors, roles and responsibilities
- Understand how marketplace is governed and the authorities responsible
- Customer awareness and engagement
- Existing technologies and how these will contribute
- Principles for working together / data trust
- Ensure that published data meets standards, which means a data curation role may be needed especially for the “thinner” layers of flexibility integration platforms

Question 5

Will certainty of an end vision help accelerate enabling work and make it cohesive?

Yes, we would agree that an end vision will help to accelerate work towards distributed flexibility as it will provide a clear signal to market participants. We would propose that alongside an industry roadmap, an end vision needs to incorporate communications for consumers, as well as education and engagement plans with the wider marketplace. All governance should be standardised with centralised systems where practicable to ensure that industry participants are following the same rules.

Question 6

When should a common digital energy infrastructure be in place? And therefore, when should development begin?

We believe a common digital energy infrastructure should be in place as soon as possible to allow the industry to work holistically, allow for more flexibility within the market and allow for consumer pricing benefits.

As per our response to Question 4, it is evidenced that the industry is already working towards developing a more flexible solution.

Question 7

What should a common energy digital infrastructure look like, and why? Please consider the archetypes or develop your own proposition.

We see benefits in all of the proposed archetypes, except the BAU model as we believe there needs to be a greater driver towards flexibility that is supported by the industry as a whole.

If a thin architecture is chosen, then there needs to be more emphasis on standards and industry agreements to ensure a level of coordination. There will need to be a greater degree of data curation to ensure the standards are being implemented and to benchmark data quality.

If a medium architecture is chosen, we can build on what currently exists to create the single source of truth. Flexible Power, a service currently delivered by ElectraLink, is a prime example of collaborative working to create a single point of information in respect to DNO flexibility service requirements. Currently, flexibility providers are able to view flexibility locations, requirement data, procurement notices and documentation published by DNOs on the joint website. Flexible Power also included data curation as part of the service and could be expanded to encompass all DNO flexibility requirements. In the future, this could integrate with third party competitive marketplaces to stack flexibility products across DNOs and the FSO.

The industry may benefit from using a wrap around for multiple infrastructures rather than replacing a whole system. A transitional roadmap could be created that makes the best use of current and future projects, in order to create an energy system that produces the benefits of a thick solution, ie: end-to-end delivery of distributed flexibility.

Question 8

What is your view on the desirability and feasibility of the archetypes or your own alternative proposition?

We would be mostly supportive of the implementation of a medium or thick solution as these have more emphasis on the creation of a holistic energy system, with standardisation in governance, data access and provision.

As previously noted in our answers – and within the consultation itself – we would support learnings and solutions to be taken from current innovation projects. The outputs of AAR, SMDR and Data Curation for example would be invaluable to implementing distributed flexibility.

Question 9

Should a common digital energy infrastructure be new-build, or should it build out from existing infrastructure?

Our preference would be for an extensive approach to accommodate current institutions and build on existing technologies. We would propose that a transitional roadmap is used to highlight the current innovation projects, lead times for delivery and how each one contributes to the creation of a common digital energy infrastructure. We believe that there is merit in utilising the work being undertaken for projects like AAR and Data Curation and using these to help shape a flexible marketplace.

Question 10

What are the important areas for consideration when designing institutional delivery models for a common digital energy infrastructure?

We agree that the four critical roles identified in the consultation are necessary when designing the infrastructure. We have noted the key considerations under each role.

1. Accountability
 - a. Industry roles
 - b. Quality data provision
2. Ownership and responsibility
 - a. Assets, industry actors and markets
 - b. Funding
3. Input and advice
 - a. Lessons learned from previous and current innovation projects
 - b. Industry engagement
 - c. Consumer engagement
4. Technical delivery
 - a. Interoperability of existing technologies
 - b. Creation of a rich data environment
 - c. Cyber security
 - d. Enable scalable deployment globally.

Question 11

What are the important areas for consideration when designing financial delivery models for a common digital energy infrastructure?

Any financial delivery model to support a common digital energy infrastructure needs to be transparent, and clearly identify costs and benefits to ensure it is funded in a fair manner from those benefiting from the solution. The financial delivery model should not be a barrier to delivery flexibility for the network and should be designed to include the development of a robust governance process that allows all key stakeholders to engage and ensure the solution provides value for money.
