



Ofgem
10 South Colonnade, Canary Wharf
London E14 4PU

10 May 2023

Re.: Call for Input – The Future of Distributed Flexibility

Dear Sir / Madam,

We appreciate the opportunity to respond to the above Call for Input. Please find our answers below.

Please do not hesitate to contact me should you have any questions or require any further information.

Yours faithfully,

Jean Crisp

Global Industry Executive

T: 07815 654145

E: jean.crisp@atos.net

Authors:

Claire Everitt – Delivery Director (claire.everitt@atos.net / 07816 205261)

Chris Hill – Executive Consultant (christian.hill@atos.net / 07776 137403)

Section 1 - The imperative, potential, and challenges of flexibility

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

Distributed Flexibility is paramount to the achievement of the Net Zero challenge. We believe that it is essential to build on existing flexibility to deliver a more dynamic network, with both electricity input and offtake scaling up and down in response to the real-time balance between demand and supply.

More efficient usage of the system in this manner will result in a reduced requirement for network reinforcement overall, which drives greater efficiency and cost-management. Investment pathways will move from costly maintenance to network reinforcement to enable variable load to be effectively accommodated.

We agree that, as CER becomes more widespread, this has the facility to play a greater role as an energy source, as well as consuming energy. This will make available overall load reduction and efficiency of consumption for relatively brief periods, enabling the lowering or elimination of energy consumption for items such as freezers, for example. Reaction of this nature at the appropriate time encourages the implementation of automated services which are secure by design.

CER will be able to respond more effectively to nodal price signals (locational marginal pricing). This will also encourage visible market incentivisation through the proper application of both technology and customer pricing incentives to drive participation, for example through appropriately constructed customer-focused service tariffs, including fully dynamic Time of Use tariffs. This will also provide a significant enhancement to security of supply, rather than allowing CER load to operate in a purely parasitic fashion.

By implementing market-wide and open distributed flexibility, we enable the marketplace to take full value of the data available and the investment being made in market initiatives such as Market-Wide Half-Hourly Settlement (MHHS).

Distributed flexibility can only bring positive value to the energy system through its contribution to reduction of the price to the end customer, greater efficiency in system operations, enhanced security of supply, heightened carbon control and an increase in market liquidity attracting new, innovative market players and business models.

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

A focus on CER flexibility will work in tandem with enabling distributed flexibility. This will need to be enabled through a fully integrated, simultaneous transaction market. To enable

other forms of flexibility, the implementation of MHHS is paramount. As a result, suppliers will be incentivised to introduce creative service tariffs which will allow customers to respond to emerging capabilities and empower all market participants, including prosumers.

Domestic / small commercial customers will have the choice, through appropriate service availability, to participate in individual, stacked and aggregated markets. For larger commercial customers, where contracts are already tailored to their individual needs, the same choice will be available, although the opportunity for large-scale bundled CER at the relevant sites to potentially function as a Balancing Mechanism unit in its own right will be increased.

It is paramount that these markets are interoperable and do not function in isolation, but are interlinked through a cohesive, transparent digital framework which operates in a flexible and secure manner.

Section 2 - An approach pivot: The case for change

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

There is certainly a case for change. The market has been adapting at pace for a number of years to the point where every change has been responded to without effective consideration of market-wide rationalisation opportunities. The move to Net Zero requires more efficient and responsive use of network assets, incentivised through new ways of working as an industry and the provision of new services to customers.

Optimisation of the demand versus supply balance through CER and distributed flexibility will empower customers, who are already demanding more sophisticated and accessible services, to take control of their energy usage in near real-time. A common vision is required to implement new ways of working across the market. We need a market that can adapt at speed, is simplified, more accessible and interoperable.

A key focus must be to increase market liquidity, which has fallen sharply when compared to twenty or so years ago. By creating disparate, granular markets based on pools of distributed flexibility and CER, market participants will be able to more easily enter and exit shaped positions in line with their needs, reducing risk and boosting new market participant entry and future markets.

Markets can be disparate and potentially based on different classes of customer, from domestic to large industrial facilities. These will all need to sit within a single digital framework, with all markets feeding up to the general Balancing Mechanism, to ensure that

demand and supply can be balanced in real-time in the most efficient manner. Integral to this is new ways of data handling across the industry.

Market transparency is a significant enabler. For example, this will serve, to some degree, to reduce the dominance of quick-response generation such as CCGT and pump storage hydro in setting the peak price at times of system stress.

Without a common vision, adaptive governance and data strategy, the marketplace will struggle to pivot to successfully accommodate new ways of working.

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

The market has many participants, operating in different ways, with varying levels of digital maturity and investment capability. Our vision is based on an agile approach, with strong governance and engagement that facilitates involvement based on each participant's own strategy. The approach should be to build the enablement framework first, pilot with early movers and create a transparent, secure, easily accessible ecosystem which does not hinder market entry and assures that each participant can operate at their own pace.

Creation of and access to distributed flexibility markets should be digital and online, comprising robust security measures. These should also operate within a clearly defined framework, with rules for participation, including any credit requirements, being transparently communicated. The introduction of nodal pricing will provide the proper price signals to incentivise investment in, and trading of output from, distributed flexibility in the areas where this is most required.

The data to inform these markets is also of paramount importance. Data should be provided from CER at the most granular level possible, being aggregated within relevant regions. By introducing nodal pricing, this will allow greater data granularity on separate areas of the network.

One main area of consideration is access to this data. Although this will always belong to the energy customer, we believe that permission for granular data provision, both import and export at an MPAN level, should be on a right to use basis or, as a minimum, opt out, as any other approach will negatively affect the ability of data to be made available at a suitable level of granularity. This is essential to achieve a real-time market and to address data volumes sufficient to provide a cohesive view of the grid state in the relevant area from a balancing point of view.

To ensure the delivery of distributed flexibility is accelerated, it is essential to implement a rationalised governance and enablement framework, predicated upon accessibility and transparency. All structured to achieve the goals of every stakeholder and enable change and decision making at speed, bringing benefits to the end customer in an efficient and cost-effective way.

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

An agreed end state will provide a goal to work towards; it will be much easier to encourage participation in markets of the type proposed if the desired outcomes are clearly defined and communicated. To achieve appropriate acceleration, stakeholder engagement to agree the end goal is paramount.

The goal needs to focus on flattening demand peaks, increasing market liquidity and raising prosumer participation. This requires creation of the proper incentives and execution of these through a swift, robust and secure digital data infrastructure. The more participation that results, the more liquidity will be increased and the more effective the resulting price discovery is likely to be, particularly in network areas which currently face constraints.

This needs to result in new, innovative service offerings enabled by wide-scale data provision and analysis resulting from these arrangements, which will then further increase liquidity and customer market interaction in a “virtuous circle”.

Cohesive acceleration is only optimised by having sightline of the goal and the accompanying culture change necessary for adoption. The two must not be treated as mutually exclusive for the end vision to be achieved.

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

A common digital infrastructure will facilitate open access to energy data sources. While market interoperability is key, this can only be achieved through streamlined market coordination and a consolidation of codes of practice that focus on enabling digitalisation. Addressing core national data ownership is essential for both security of supply and the achievement of Dynamic Data Sharing.

This must be addressed cohesively across all market participants, including customers, and managed and enabled through a framework of rationalised governance and digital tools. Industry-wide automation and clarity of ownership is required to deliver the right value and

enable digital market operations. Implementation of a common digital infrastructure is therefore subject to the ability to coordinate across existing and evolving market initiatives.

Given the importance of half hourly data across the whole market, the successful delivery of MHHS is a significant milestone essential to enable this. The projected MHHS go live date of December 2026 should drive the consideration for the implementation of the common digital energy infrastructure. This means that the development work must proceed in parallel and be coordinated as part of a market wide energy initiative timeline, allowing benefits to be expedited shortly after MHHS implementation.

We would recommend that Ofgem focuses in the short-term on what can be provided now, and the lead times required to start building the digital infrastructure to support the vision laid out in the consultation document. This approach will provide for the execution of this at the earliest possible stage following MHHS go-live.

Further consideration also needs to be given to interaction with the multiple initiatives currently in progress across the wider market, including the Digital Spine Feasibility Study, the Interoperable Demand Side Response Programme and other streams under the Net Zero Innovation Portfolio, as well as Modernising Energy Data Access, Data Best Practice and initiatives undertaken by the Energy Networks Association and Innovate UK.

Section 3 - What that future could look like

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

Any common digital energy infrastructure must include the data input capabilities and data paths, solution architecture, non-functional and operational requirements, interoperability, interfaces, applicable standards and compliance needs, including data protection. To enable open access to all types of market participant delivering flexibility services, we have considered the flexibility exchange to be the most appropriate. This will avoid the creation of economic barriers to participation.

This should be supported by an iterative agile approach to build functional, data and technical solution models used for initial implementation and ongoing change. We would recommend node software designs to “desk test” interfaces, functionality, scalability and reliability of the exchange platform. This approach enables engagement with stakeholders to review and refine throughout the process.

The exchange platform should be cloud hosted, as close to stateless as possible, to allow for a decentralised, microservices approach which provides resilient, flexible systems capable of

continuing operation during planned or unplanned system downtime affecting certain system components. The infrastructure should incorporate robust cybersecurity features to restrict access to authorised users and to guard against malicious attempts to compromise or interfere with the operation of this.

Our recommendation is to continuously design and develop componentised, independent micro services, capable of rapid independent evolution, extensibility and momentum in delivering the right service experience to service users and minimising the cost of future change. This model provides for incorporation of established and new interfaces, controlled access and transparency within a secure and compliant framework. This will enable future simultaneous real-time transactions and the provision of data within market timelines.

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

Our suggestion in our answer to question 7 above is a proven approach to delivering models such as the proposed Flexibility Exchange, delivering significant advantages from a flexibility and resilience standpoint. We believe this approach is the most appropriate to deliver the outcomes required by both Ofgem and industry.

With reference to the archetypes proposed by Ofgem, we consider the medium archetype as appropriate, allowing the creation of a Flexibility Exchange hosting multiple markets to facilitate and co-ordinate optimised market participation and operation.

This archetype will better serve to drive participation and, most importantly, enable more processes to support a wider range of markets when compared to the proposed thin archetype. This therefore seems the most optimal solution to aim for to ensure that maximum value can be derived from CER and distributed flexibility at the earliest possible stage, while avoiding the creation of economic barriers to market entry.

Section 4 - Delivery considerations

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

We take the view that a common digital energy infrastructure should be new-build, so the latest technology can be leveraged, whilst also avoiding a dependence on legacy technology. Interoperability is key; provision will need to be made for this infrastructure to connect with existing infrastructure such as that hosted by DCC, Elexon and the planned Future System Operator (FSO) (likely to use and build on existing systems currently operated by NGESO), as

these bodies and their functions will form an integral part of the overall digital system proposed.

A cloud-based, microservice solution provides for ease of integration, reduced cost of change and easy adaption as the marketplace evolves and will also accommodate the established marketplaces in operation today.

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

Common areas for consideration include existing marketplaces in operation today, the current codes of practice, licence conditions, industry codes, guidelines regarding what needs to change to be able to operate digitally and interoperability needs. The balance of investment for grid reinforcement to accommodate new flexibility services, including connections, must be addressed to create a level playing field for existing and new CER providers.

We must address timeline, in line with all existing industry initiatives, industry operating models and the culture change needed to successfully achieve new ways of working. Any institutional delivery model must be predicated based on simplification and expedition of existing and new processes, whilst addressing the cost to serve.

Guidance on understanding and implementing the resulting changes should be provided to all participants, with additional support, where required, for smaller and new players. The required level of engagement and participation in the delivery of the programme will need to be encouraged through licence amendment for the relevant categories of market participant.

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

Subject to how the infrastructure is procured, whether as a service or where capital expenditure for hardware is required, this incurs different approaches to the financial delivery model.

Capex costs are likely to be front loaded and provision should be made for this in terms of cost recovery from the relevant market participants. We would recommend an “as a service” model, with performance-related targets aligned to the operational expenditure.

We also recommend a model similar to Elexon, a not-for-profit entity with public money subsidy where required. We feel this can be justified based on the public good, as

implementation will result in faster delivery of Net Zero and heightened security of supply as well as the increased empowerment of customers to manage their energy spend.

The fairest way to apportion cost, without creating barriers to entry, is to socialise this based on market share, whether on the consumption or generation side.