

The Future of Distributed Flexibility

National Grid response to Ofgem's call for input

10th May 2023

This response to the Ofgem Call for Input on 'The Future of Distributed Flexibility' dated 1 March 2023 (the Call For Input) is from National Grid plc (NG), including our electricity distribution business, National Grid Electricity Distribution Holdings Limited (NGED), which owns and operates an electricity distribution network of 550,000 square kilometres serving nearly 8 million customers in the East and West Midlands of England, South West and South Wales. NGED is responsible for the regional distribution of electricity from the transmission network, providing a safe, stable and reliable electricity supply and ensuring the highest quality of customer service. It facilitates the connection of supply and demand customers to the distribution system and is investing to adapt and develop its distribution network to connect new sources of low carbon and green energy to homes and businesses in support of the transition to net zero

The response consists of four parts:

- Part 1: Executive Summary, setting out our central messages in response to the Call for Input
- Part 2: Our responses to the specific questions raised in the Call for Input.
- Part 3: Broader comments on the Call for Input
- Appendix 1: Components needed for DSO flexibility markets

PART 1: EXECUTIVE SUMMARY

We welcome the opportunity to respond to Ofgem's Call for Input on the Future of Distributed Flexibility. We are grateful that Ofgem is both seeking views on the proposals it has set out in the call for input and open to hearing further proposals and solutions about how to best facilitate coordination across the energy system.

Within National Grid Electricity Distribution, we have been working hard to maximise the value of distributed flexibility. Through our "Flexibility First" approach, last regulatory year we tendered for 388MW, procured 154MW and dispatched over 1.7GWh of services to help manage our network as efficiently as possible and allow the connection of assets to participate in wider flexibility markets. In our new ED2 settlement there is a clear value for flexibility and clear incentives for its procurement.

However we continue to see much of the volume in our tenders for flexibility go unawarded and get regular feedback from our Stakeholders about the limited value on offer and the complexity of involvement across the flexibility value chain. As such we see a clear case for change. There is huge potential for Flexibility to add significant value by reducing costs across the system, but this might not be realised.

We have taken a range of actions to improve the situation where we can, including:

- Cooperation with other network licensees via the Open Networks project delivering elements such as the Standard Agreement, the Common Evaluation Methodology and the common Products.

- Establishing the [Flexible Power](#) collaboration to share the learning and technology we developed for operating distribution level flexibility services
- Developing our [Market Gateway](#) to help digitise the commercial elements of flexibility procurement
- Amended our baselining methodology to improve stackability with a range of services including tariff based flexibility.

We see more coordinated market as a key way to reduce the challenges seen by our stakeholders, and the key point to making distribution led flexibility services work at scale. If not providers will tend to prioritise the larger and more geographically unified services provided by the wholesale markets and the ESO.

We are a part of the value chain, and coordination & standardisation across our slice has been slower and more complex than hoped. We laid out thoughts on how to improve this in our [Evolution of Flexibility Service](#) paper. We also seen the need to better coordinate across the whole value stream, from wholesale markets across to ESO ancillary services.

We see the development of common digital infrastructure as a key enabler that we will keenly support, but it is one of many. Without work on the wider policy and governance, this development will be more complex than needed and will deliver sub optimal results. Digitalising multiple disparate processes will be much more complex that a unified one. As such we propose an incremental approach to delivery, with rapid innovation cycles focussing initially on areas where the policy is clearer and the benefits greatest. This should grow in time, as the wider questions are resolved, with a core interaction that digitalisation and scale are at the heart of any decision. We need to recognise that many of the challenges we face are complex, and that they will take time to resolve. The UK is seen as a world leader in this space and as such is addressing industry leading challenges. The method used for digitalisation will depend on the specific use case. Some may simply need a common set of standard and interfaces, with competitive third parties building out capabilities, whilst others will benefit from common systems. Either way we see the need for a central, independent and accountable entity to manage and govern this work. We feel this aligns with the Market Facilitator role proposed in the parallel “Future of local energy institutions and governance” consultation which we support.

This opportunity for distributed flexibility is large, and the benefits to our distribution network and the wider energy system are clear. We are keen to continue the discussion on how to deliver an efficient and coordinated approach to distributed flexibility and are happy to engage with Ofgem bilaterally on via workshops and working groups to ensure they are met.

Should you have any questions about the points raised in this consultation, please contact Benjamin Godfrey, Direction of Distribution System Operator, via bgodfrey@nationalgrid.co.uk.

PART 2: RESPONSES TO THE CALL FOR INPUT QUESTIONS

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

The benefits of distributed flexibility are well established and documented. As referenced in the Call for Input, the potential system wide benefits are multiple billions per year from 2030 onwards. That value is spread across a wide value chain from the reduction in the investment needed in new generation through to more efficient balancing.

A portion of that value will be realised on the distribution network, where the primary value case is through the deferral of reinforcement. We operate a Flexibility First approach to load related investment, and in ED2 we are expecting to defer £94m of reinforcement.

As detailed in the Call for Input, the connection of more Low Carbon Technologies will have a profound impact on the network and the energy system as a whole. The ability to harness the flexibility of such assets will reduce the impact on the network, avoiding costs and accelerating the push to net zero.

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

As stated in response to Q1, the value of distributed flexibility is significant. It is a key opportunity that should be seized by all the relevant parties. CER in particular offer the greatest opportunity for truly liquid constraint management markets for DSOs.

We believe that systems and processes should be built to reduce barriers for all participants and that processes should remain technology agnostic wherever possible. This will allow for genuine competition for the provision of services, and ultimately benefit to the end consumer.

For example reducing the administrative burden for asset registration will reduce costs for all distributed flexibility and is not limited to CER. This may impact the relative competitiveness of different asset types and business models, but should ultimately serve to reduce the cost of flexibility service provision. We have developed our [Market Gateway](#) platform building on combined feedback from our Future Flex trial which was focussed on domestic flexibility, as well as general feedback from wider participants. We believe it will improve access for all FSPs.

We believe that a well implemented SFE will benefit all distributed flexibility and support its development.

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

Over the ED1 period there has been significant change and progress in the use of distributed flexibility. From no flexibility used at the start of the regulatory period we have trialled and then deployed a number of services. We have now built a position where we run regular procurement and have dispatched over 1.7GWh in the 22/23 regulatory year. We have also built a robust process for the identification of needs and their comparison against reinforcement options. There has been significant work on alignment via the Open Networks project and we now have licence conditions covering our processes for procuring services. The UK is generally seen as a leader in DNO led flexibility services.

Going forwards, in ED2 there is a clear funding mechanism for DNO flexibility services and a clear incentive for DNOs in their use and the treatment of relevant stakeholders.

In parallel there have been huge changes to the way the ESO procures and the general context of the wholesale market in the UK.

However we do see a clear case for change in how distributed flexibility markets are operated. We have not been able to secure the volumes of flexibility services that would allow us to maximise their value with a number of clear messages coming from our stakeholders. These focus on the value proposition for FSPs. The value on offer simply isn't high enough to justify participation. This can be broken into a number of sub components:

- Limited value of DNO services due to counterfactual;
- Limited value compared to wider markets (such as ESO ancillary services);
- Challenges stacking our services with wider revenue streams;
- Cost and complexity of registration and qualification;
- Limited scale of our markets (locational and varying requirements by DNO); &
- Complexity of the wider market.

We have strived to improve on these where ever possible through the delivery of new processes and systems (The [Flexible Power portal](#), our [Market Gateway](#)) and through a desire to share learning wherever possible via Open Networks and the Flexible Power collaboration.

However we acknowledge that those challenges persist and that many are beyond our remit. Programmes such as the Open Networks project and the Flexible Power collaboration have worked hard to try a deliver improvement wherever possible, but each has limited resource and remit.

As such we see there is clear case for change. We want to see liquid markets for distributed flexibility and these are not yet in place.

However it is important to be clear on the source of the challenges so any proposed solutions will deliver the benefit desired. As such a common vision for flexibility must:

- Look as holistically as possible. As detailed in Question 1, the value of flexibility is broad and the ability to harness all revenues must be sought. This must include the value from: the wholesale market, imbalance management, the Balancing Mechanism, ESO ancillary services, the Capacity Market, DSO constraint management.... Digitising and improving as small subset will not be sufficient;
- Cover both tariff based and dispatched flexibility. This is essential so that explicit and implicit signals complement each other and provide clear signal to market participants;
- Address the complex technical, commercial and regulatory challenges of many key topics such as stackability and primacy so that products can be as attractive and varied as possible for FSPs whilst remaining technically viable for System Operators and ensuring security of supply can be maintained;
- Understand the institutional responsibilities and authority of the different parties. The links to the parallel consultation on the "Future of local energy institutions and governance" are significant, with the emergence of a central Market Facilitator role; &
- Focus on digital systems to support the above and enable the scale and ease of access needed.

We agree that common digital enablers can provide significant value, and strongly support their development, as long as these are supported by the wider market enablers needed to achieve the vision. Digital developments alone will not deliver the desired benefits, and could add more

complexity to the system if poorly implemented. However if well specified, and with a focus on low regrets options, they can enable and support an effective market.

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

As detailed in question 3 there is a clear value, and a strong desire for accessible, coordinated and trusted markets for distributed flexibility.

To deliver this we support the proposals in the parallel “Future of local energy institutions and governance” consultation for creation of a Market Facilitator role.

We see this role as key to delivering the enablers needed to make flexibility work. As detailed above, these include, but also go far beyond the delivery of common digital infrastructure. We believe the incentives are there for alignment, but that the challenge has been on having a broad enough mandate to consider and deliver changes across the value chain.

This should include key question such as how service stacking and primacy should be delivered. As detailed in our [Evolution of Flexibility Services](#) paper, the way different requirements are specified differs across the sector with some designed as products (with individual procurements for different needs, and stacking the focus of the FSP) and others, such as the BM as services (with common procurement for multiple needs and stacking left to the System Operators). This leads to complex interactions.

The Market Facilitator must be technically capable, independent and accountable to allow it to accelerate the pace of development beyond that of the slowest party. It should look to deliver the required policy changes, alongside the digital technology to allow efficient operations at scale. These work streams are inherently interlinked and should not be decoupled.

Our work on the Flexible Power collaboration is a good example of the interlinkages between policy and digital alignment. Following the development of the Flexible Power brand and portal, we opened this up to all DNOs as a vehicle to try and drive a consistent experience for FSPs and improve market coordination. Five DNOs joined the collaboration and some alignment has been delivered with a common website by all and some operational on the portal. However this shared digital infrastructure has highlighted a number of process and operational differences across DNOs as well as the different governance and financial requirements across organisations. These have led to long and complex discussions on the areas for alignment and where the digital platform needs to be made more flexible. These have slowed the pace of development and roll out.

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

Clarity of vision will always help when delivering any output. However it just one element. Alongside it there needs to be the right governance structure to ensure that vision is delivered with sufficient quality and in a timely manner.

We feel the complexity of the proposed systems should be acknowledged. In many cases the need is to digitise complex technical processes with multiple interdependencies and numerous stakeholders. Any such work will need to be resourced suitably by all relevant parties to ensure the best outcome. In addition there are a number of wider industry changes. As such, any such governance must retain the ability to be agile and adapt as it delivers and learns more, whilst retaining accountability for delivery.

We support a clear overarching vision, with a prioritised action plan, combining the digital and wider enabler to deliver incremental targets. This should be built on discreet use cases with clear value propositions and well understood dependencies. We provide more of our views on the use cases in later questions.

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

The limitations around distributed flexibility are already being seen and so improvements should be planned for deployment as early as possible. However given the scale of the challenge and evolution of the market, we would align with the proposal in the IBM paper of incremental delivery. With a number of clear use cases and well understood dependencies, a plan for delivery can be established. Priority should be given to use cases with many dependencies, that are relatively well understood, which do not have current solutions and where the benefits unlocked will be the greatest. We will detail our views on specific use cases in later questions, but for example:

- Common asset registration would remove significant burden from providers. It is early in the flexibility life cycle and without it, the benefits of later elements are limited. Common prequalification would be a natural follow up, but would require further alignment from System Operators before it could be digitised. This work is underway via the ENA's Open Networks Project
- Whilst Settlement could be standardised relatively simply, there are far fewer contact points with FSP and each System Operator already has processes that work relatively well. As such the benefits would be limited
- For topics such as stackability and Primacy, any digitisation work should progress alongside the technical work on the relevant rules.

We would welcome wider discussion on the prioritisation of these use cases to ensure that we maximise the value generated by any work in this space.

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

We believe that there is strong merit in common digital energy infrastructure, and that it should be developing in an incremental and agile way. This will allow genuine value to be released in the short term, whilst allowing greater learning to accumulate for later use cases.

The archetypes proposed, with different allocations of use cases are a useful way of breaking down a large and complex solution into smaller and more manageable chunks. We suggest these are developed in an incremental way, prioritising the lower regret elements that had more dependencies and higher value released.

We do however feel that more nuance is needed with the definition of the use cases themselves and the on/off platform split. For the latter we would suggest a third category "enabled by". These are functions that would be enabled by common interfaces, but where the actual function could be delivered by one, or multiple third parties. A number of these could be developed ahead of common systems. We presented a similar vision in our latest [Evolution of Flexibility paper](#). This covers the concept of interface systems which allow for the common exchange of data between System Operator and FSPs/Third Party Market Platforms. The key components are detailed in Appendix 1 to this submission.

We have reviewed the use cases and propose the following amendments. As shown there are many where we feel there could be merit in multiple options and detailed analysis is required. We are keen for significant follow up on these use cases, how they are defined, prioritised and then delivered.

Use Case ID	Title	Brief Description	Status/Priority	On/Enabled By/Off SFE	Comment
1	Maintain Taxonomy	An easy way for the SFE admin user to make changes to the taxonomy through the UI	High	On	Focus should be on creating initial common Taxonomy.
2	User Registration	Registration of users onto the exchange facilitating access to multiple markets through a unified experience.	High	On/Enabled By	This is highly dependent on what other use cases are managed on the platform.
3	Asset Registration	FSPs register assets 'once', by providing detailed information (such as asset type, location, asset size, connection point) common to all products/markets.	High	On/Enabled By	Could start with common data standards and interfaces enabled by the SFE ahead of a common system. Data sharing could allow for a decentralised approach to this. This is interlinked with use case 9 & 15
4	Product Registration	Allow a SO to register a product in full detail.	High	On	Work is ongoing in Open networks to standardise the parameters defining DNO products. Common definition across all products would add significant value.
5	Rule Enablement	A rules engine, ensuring adherence to the rules around participation in multiple markets.	Low	TBC	This is dependent on the policy work to determine the rules. The outcomes will determine the requirements of this engine.
6	Reporting on prices and volumes for market trends	Provision of information around prices and volumes that were sold, broken down by product and asset type, to support FSPs, analysts and investors in understanding market trends.	High	On/Enabled By	There are a number of existing platforms for the publishing and sharing of this information (ESO Data portal, our Connected Data Portal, BMRS, Wholes Market Operators...). Focus should be on definition of this data and accessibility (avoidance of pay walls). Could be combined with use cases 8, 10 & 16.
7	External information provision (market rules)	Presenting current market rules in a single place to make them easy to find	High	On	There is clear value in this. This links with use case 4.

8	Asset value based on historic data	Enable FSPs to develop a high-level understanding of what their asset would have been worth in the past to support building an initial business case. Asset value per asset type.	Low	Enabled by/Off	If use cases 6 and 7 are done correctly this should be able to be done off the SFE. This is a market activity and depends on many FSP specific factors that the SFE will not be aware of. This could lead to misinformation and is better treated in use case 28 (also off SFE).
9	Understand Eligibility for Prequalification	Enables FSPs to easily understand which products their asset(s) could get prequalified for.	Low	Enabled by/Off	This requires much FSP and asset specific knowledge. Value is limited if use case 15 is done well enough and is automated.
10	Reporting on trade, dispatch and settlement for asset performance	Provision of information around trades, dispatch and settlement broken down by asset type and product to support market and asset performance analyses	High	On/Enabled By	This should be combined with use case 6.
11	Market Conflict Identification	If one asset is participating in two markets and there is a conflict, users are alerted to it.	High	TBC	As per use case 5, this is dependent on the policy work to determine the rules. The outcomes will determine the requirements of this engine.
42	Visualisation of Assets - De-prioritised	Enable users to visualise both single and grouped assets to better understand their value, making analytics more accessible to other parties.			Linked to use case 3, 9 & 15
13	Market testing of Products	Enable SOs to test new products by allowing FSPs to provide early feedback.	Low	On/Enabled By	Tied to use case 4
14	Streamlining Contracts across markets and products	Simplifying and digitalising contracts across multiple markets.	High	On/Enabled By	This is aligned to the Open Networks work on the Standard Agreement but would need policy work to widen further. There are a number of technical solutions already in place to manage the digitised contracting. Must include the updating of contract terms
15	Centralised Pre-Qualification	Enable FSPs to enter data that is common to the pre-qualification processes for many products in one place, reducing admin burden and repetition.	High	On/Enabled by	We see the value in this use case to reduce the cost off asset qualification. As per use case 3, common data standard and interfaces, and data sharing may limit the need for centralised system

16	Visibility of Current & Future Flexibility Needs for all Networks	Create a list or heat map with details on where there is a flex need in short/medium/long term. Enables FSPs to find or build assets in the right locations. Enable retailers/suppliers to identify which of their customers are particularly attractive for provision of flex.	High	On/Enabled By	This should be combined with use case 6
17	Fully Informing Consumers - De- prioritised	Provide a portal for consumer facing information on flexibility, enabling consumers to understand how their assets are being used in markets, the roles of market participants, and market governance arrangements.	Low	On/Enabled By	We see value in this use case to help with the legitimacy of the wider flexibility market and to CER and DER to hold the FSP to account
18	Transparency of DER Positions & Actions	Enable market coupling by creating transparency of asset position and action.	High	On/Enabled By	Should be relatively simple if use case 10 is developed well
49	Grid Supply Point Visibility for DER Assets - De-prioritised	Provide visibility of grid supply point for all DER assets (which have been accepted into markets)			Linked to use case 3, 9 & 15
20	Probabilistic Products enabling Small Assets	Allowing FSPs to send us the actual profile they ran after probabilistic dispatch	remove		This is not a specific digital function, but a policy decision. Provision of metering is needed for settlement later in the process
21	Facilitate Small Asset Participation	<ol style="list-style-type: none"> 1. Enable comparison with other existing entry requirements to help consistency between markets for Sops 2. Help SOs see how many more assets could enter their market if they lowered a specific market entry rule 3. Ratings for Buyers 	remove		This is not a specific digital function, but a policy decision
22	SO Disclosure of rational behind asset dispatch	Add transparency around dispatch decisions	Low	On/Enabled By	Linked to use case 8, 10 & 16

23	Ability for SO to veto another SO planned dispatch -De prioritised	Ability for SO to veto another SO's planned dispatch.	-		Tied to wider Primacy Rules
24	Transparency of Proposed and Planned Assets - Deprioritised	Provide transparency on planned flex asset projects, to give investors a view on the momentum in the market to build confidence in the longevity/stability of the market.			Dependent on the specific products. Linked to use case 8, 10 & 16
25	Secondary Market	Creating a Secondary market where FSPs can resell their successful bids. This allows FSPs to be less locked into their positions, enabling them to earn as much money with their assets as possible.	Low	On/Enabled By	Dependent on use cases 18 and policy work to facilitate.
26	Transparency of assets below 3.5kW	Simplify PQ process for smaller assets and incentivising their registration.			Tied to wider improvement to asset registration and qualification (use cases 3, 9, 15)
27	Bid strategy support - 3rd party	Enable 3rd party to help FSPs to understand the best deal for their assets at any point in time	Medium	Enabled by/Off	The SFE should make this easier with easy data availability (use cases 8, 10 & 16) clear definition of products (4) and market rules (7), and clear d, but detailed strategy requires information and expertise not held by the SFE.
28	Asset value prediction - 3rd party	Third party service to forecast the asset value for a specific asset (group)	Medium	Enabled by/Off	As per Use case 8. We believe this should be enabled by the data on the platform, but managed off platform
29	Change Management	Business process implementation around market, standards, taxonomy and rule changes where Regulators/ SOs have to follow a defined process within SFE to implement market changes. Allow market participants to engage in the change management process.	Medium	On/Enabled By	This is as much a policy role as a digital one

30	Streamlining user rating	Streamlined process for rating the performance of that user (eg like Airbnb), so that FSPs/SOs can see past performances of the users assets and comments from people who they previously traded with	Low	On/Enabled By	This should be based on core data availability from use case 10
31	Risk Calculation	Calculation on how likely it is that an asset won't perform (based on historic performance and participation in multiple markets). This should be both on asset level and aggregated for predefined geographies to flag areas where the SO might have an issue	Low	Enabled by/Off	This should be an SO specific role based on risk management strategies. It will be informed by data in use case 10
32	Settlement	The determination and settlement of amounts payable in respect of trading charges (including reconciliation charges) in accordance with the code (including where the context admits volume allocation)	Low	On/Enabled By	Whilst there is some value in sharing this function, there are many existing systems that can facilitate this. This is a function to the SOs and so there is limited value in consolidation
33	Dispatch	Send instruction signal to assets to confirm set point, start and end time.	High	On/Enabled By	We believe there is real value in a common dispatch interface. This is being taken forward by Open Networks to enable FSPs to simplify their interaction with SOs
34	Optimisation across all markets and voltage levels	Optimizing demand, supply and constraints across all markets	Medium	TBC	This depends on many outcomes from the above and clear policy decisions on stackability and primacy.
35	Auctions	Undertake a market clearing ("auction") process for buying and selling flexibility at the lowest cost.	Medium	On/Enabled By	In the short term, the standardisation of product and offer information will help deliver this. Over time, there may be value in developing common capability to drive use case 34. We the clearing engine as distinct from the collection of offers (Use case 40). The latter is functionality expected of our market gateway

36	Simple market participant search	A search function to find other market participants and point you at their APIs so that you can find out more about them. Inform people who the different market players are	Low	On/Enabled By	Should be relatively simple if use cases 3 & 4 are carried out well
37	Market monitoring	Enable continuous observation of market activities to enable identification of regulatory issues, market faults and security issues. Includes analytics.	Medium	On/Enabled By	Tied to the previous use cases around data availability
38	Impartial route to recourse in case of dispute	A process to manage disputes around platform processes.	Medium	On/Enabled By	This is more of a policy question that on of digital enablers
F1	Feature	Collect data on prices, volumes, dispatch, trades, metering and settlement	High	On/Enabled By	Core to all the data sharing use cases
New 39	Metering collection	Collection of metering to support the settlement process	Medium	Enabled by	This can be a simple API to collect metering data.
New 40	Offers collection	Collection of metering to support the settlement process	Medium	On/Enabled By	This collates information and passes it onto the clearing engine in use case 35.

As covered earlier we also stress the need to progress the relevant enablers alongside the build so that true value can be unlocked.

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

As detailed above we believe that an incremental approach to delivery would provide the most benefit. This probably fits closest to the medium archetype. We believe that the thin archetype would only provide limited benefits, and that the thick archetype will struggle to deliver in the medium term.

Instead the use cases should be prioritised with a clear resolution path for the highest priority ones. This path needs to include:

- Any wider enablers needed to facilitate;
- A clear view of the current position, and existing systems and the key stakeholders;
- A clear view of the end state (for that increment of work, a further improvement could be delivered later);
- A clear view on governance and ownership of any systems/standards build and how they will be maintained.

We believe the answer to each of these may differ per use case. Where clear ownership is required we see value in allocating this to the emerging Market Facilitator.

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

We believe this should be decided on a use case by use case basis, considering what is already in place. Where significant investments have already been made, and systems are easily adapted, this could be a low regrets option, however given the number of different actors and the potential changes needed in some cases it will be easier to start from scratch. At a minimum, where existing systems are in place, they should be used to understand in a more practical way the use case and any potential pitfalls and challenges.

In all cases the following factors need to be considered:

- Costs to build, maintain and further develop any systems. The latter in particular can be significant for such systems. Lower initial costs should not be sought at the expense of enduring running costs;
- Speed of deployment. There is value in delivering benefits quicker, but this could compromise enduring development ability and may drive further iteration and hence costs;
- Any data sharing limitations. The ownership and management of data across these systems is key to understand. This should be reviewed as these would have significant impacts on the end design;
- Resilience of system. These systems will provide a central role in the Energy System and so they must be resilient, have very high availability and be cyber secure.

The following examples may help highlight some of the trade-offs that need to be considered.

To allow the digitisation of user management, contract signing, asset registration, prequalification and auction management we have recently launched our [Market Gateway](#). This is being delivered in a rapid innovation cycles, and is expected to have further development of the next few years implementing the outputs of the Open Networks project.

This was built to respond to a clear need from our stakeholders to digitise these processes to allow them to scale up the number of assets and zones for flexibility. It also allows us to manage that scale far more effectively internally.

Before initiating this work we investigated the available options to us including third party platforms and the ESO's development of their Single Markets Platform. A number of factors led us to developing the Market Gateway ourselves (including the need to operate across a number of third party market platforms, the cost of development and enduring operation, agility and speed of deployment).

We acknowledge strong overlap between the Market Gateway and the Single Markets Platform and through the development of the Market Gateway we have tried to align where possible. However there are a number of challenges with this:

- Varying contractual structures. These should reduce as we further align behind the Open Networks Standard Agreement;
- Varying pre-qualification processes. Again this should reduce as we seek to align within Open Networks this year;

- Varying data collected for internal, market and regulatory standard;
- Different development paths and timelines. Ultimately both are new systems and the developing parties have various time bound commitments to their stakeholders, pausing work to align, or adding further dependencies would endanger those commitments.

Ultimately we see the value in alignment across platforms. This could take a number of forms:

- Adoption by one party of the others platform;
- Redevelopment of a new platform;
- Development of common interfaces to both platforms and data sharing across them.

All of these are contingent on relatively common processes and would provide much more benefit if alignment was delivered across the whole flexibility value chain. We would see the development of common interfaces (alignment of data requirements and APIs) as a low regrets action, that can be delivered at pace to best capture the early value. This would build the ground for data sharing and any future common system.

The development of two similar but different systems highlights the challenges of organisations trying to respond to stakeholder feedback and deliver value to customers, but where good tactical reasons around speed of deployment and realisation of benefit have prevented the strategic benefit of coordinated systems.

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

We see a number of key considerations for the designing the institutional delivery models for the common digital energy infrastructure. These include:

- Independence: this infrastructure will serve a large number of stakeholders, as such the delivery body must be independent to avoid potential conflicts of interest. This independence should also avoid partisanship and support the use of third party systems and tools where relevant;
- Accountability: this infrastructure is key to the delivery significant benefits. Any entity must have the right regulatory and financial incentives in place to continue to develop this work with the right pace and quality;
- Expertise: this must span core digital capabilities of the infrastructure, but also the energy and markets that it is supporting. There is significant complexity and nuance that will be facilitated, and the delivery entity must be able to hold and synthesise this;
- Agility: as mentioned previously, the delivery model must allow for adaption and reprioritisation of the use cases as learning emerges;
- Security and resilience: the models must have security and resilience built in by design to support these critical systems;
- Ongoing maintenance: the models must give clarity on enduring ownership and maintenance of any systems and standards developed.

We believe there is a strong case for this delivery to be taken forwards by the emerging Market Facilitator role. However as mentioned in earlier questions, this may simply involve the standardisation of interfaces, with platforms developed by competitive third parties.

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

We believe the financial models are highly dependent on the delivery model selected for each use case and as such may differ across them.

As detailed in earlier questions we see a key role for the Market Facilitator. How it is funded will depend on which entity takes on the role. In either case, it must be sufficiently funded to have the expertise, independence and accountability needed.

Where third parties are involved in the delivery of digital infrastructure we see the need for different models as they might be:

- Delivering capabilities that part of the core SFE. These should be tendered for in compliance with any relevant procurement legislation;
- Delivering capabilities enabled by the SFE. These would be free to set their own commercial models.

PART 3: BROADER COMMENTS ON THE CALL FOR INPUT

Beyond the specific questions raised we wanted to highlight a few further thoughts that emerged from the reading of the call for input. We are happy to discuss further develop thinking around the topics

- We disagree with the notion that flexibility is at its most valuable closest to real time. As described in the call for input it is tied to the number of alternative actions available to the buyer. Where this is reinforcement, this will be in planning timescales. If we cannot secure flexibility at the correct times, then to manage a safe and secure network we will need to start the reinforcement works. We do see value in shorter term markets, but generally as a way to optimise our utilisation of flexibility and reduce costs;
- We also want to challenge the statements around the lack of ambition or incentive to delivery coordinated markets for flexibility. Improving the coordination of flexibility markets should drive increased participation, allowing us to maximise the value of flexibility for our network. We see the primary issue as one of mandate. We are a single entity in a complex value chain. As stated in your call for input, distribution flexibility makes up only 10-20% of the value stream. As such we need strong and well intentioned engagement from the whole sector to tackle the value problem;
- The call for input and the SFE focuses heavily on a number of the interactions between buyers and sellers, System Operators and FSPs. There is limited discussion on the downstream work on the relationship between FSPs and DER/CER. This is an area in which we have a very limited remit, but acknowledge the importance of. Without it, there is a limited pool of assets available to the FSP and in turn the System Operator. This relationship, and the requirement to manage it must not be forgotten in the case for change.

APPENDIX 1: Components needed for DSO flexibility market

The following diagram was created for our [Evolution of Flexibility Service](#) paper.

