Decision

Flexibility Market Asset Registration Decision

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This document sets out our decision on Flexibility Market Asset Registration, following on from the consultation we ran from 29th July to 23rd September 2024. Non-confidential responses to the consultation have been published alongside this document.

We set out our previous consultation position, summarise consultation responses, and explain how our thinking has evolved as a result of those responses. We explain our decision-making process and the rationale for proceeding with the Flexibility Market Asset Registration proposals, with the role of delivery body being assigned to Elexon as the Market Facilitator, who will also be responsible for the outlined enablers and design activities, as well as delivery and operation of the new digital infrastructure.

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Foreword

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The UK is a world-leader in flexibility, with a market-based approach which has more than demonstrated its success in recent years. However, to maintain and build on this success it is vital that the digital infrastructure underpinning these markets keeps pace and supports the growth we need to meet our flexibility targets as set by the Clean Power 2030 Action Plan.

Without a common approach to flexibility asset registration, flexibility service providers and consumers face barriers to accessing the full value of their assets. This disincentivizes them from participating, reducing network operators' access to flexibility, ultimately leading to inefficiencies in balancing supply and demand, resulting in higher costs and potential instability in the energy grid.

On the other hand, by establishing a Flexibility Market Asset Registration solution, we can streamline the process for flexibility service providers, making it easier for them to access the maximum value from the assets they control. This will increase market liquidity, giving market operators more options to efficiently manage and optimize flexibility assets allowing them to have confidence in consumer flexibility, and lowering costs for consumers.

By prioritizing common Flexibility Market Asset Registration, we lay the foundation for a future where distributed energy resources are seamlessly integrated and managed. This is the vision of Ofgem's Flexibility Digital Infrastructure work which started with a Call for Input in 2023. This is not just a technical upgrade; it is a pivotal step towards a sustainable and resilient energy future.

The establishment of a Flexibility Market Asset Registration solution is not merely a bureaucratic exercise. It is a visionary leap towards a transparent, efficient, and resilient energy system. By embracing this initiative, we can unlock the full potential of our flexibility assets, strengthening our ability to meet and even surpass the flexibility targets established by the Department for Energy Security and Net Zero.

Executive Summary

To achieve the government's Clean Power 2030 ambitions will require a significant increase in consumer-led flexibility. To support this our Flexibility Market Asset Registration decision will help ensure that consumers are able to obtain the maximum value from their assets' participation in flexibility markets, encouraging the maximum number of assets to participate in providing distributed flexibility.

From July to September 2024, we ran our consultation on Flexibility Market Asset Registration. In this we consulted on and set out our policy proposals for achieving a common approach for registering assets into flexibility markets, to move away from the current system where owners and operators of small-scale energy assets must register the same data about their assets, multiple times in different ways to access multiple flexibility markets. We believe this common approach is important as this is presenting a barrier to market entry for millions of small-scale assets that currently can operate flexibly, and the many millions more which are projected to be connected to distribution networks over the next decade and beyond.

We have proposed a solution to achieve this in a common, coordinated way, through the creation of new digital infrastructure where data is collected once, stored as a single source of truth, and can be accessed by multiple users who need it. Having received responses from a wide range of relevant stakeholders, we are confident that we should proceed with this intervention.

We proposed in our consultation that Elexon, in their new role as Market Facilitator, be responsible for enabling work to align National Energy System Operator and Distribution System Operation flexibility market asset registration processes, and detailed design work for this new digital infrastructure. Following further policy development and analysis of consultation responses, we have decided that, alongside the enablers and design work, the Market Facilitator should also take on the role of Flexibility Market Asset Registration delivery body, responsible for the deployment, and operation of the new digital infrastructure.

We have refined the scope, design principles, and functional outcomes that will be a starting point for the design of the digital infrastructure which Market Facilitator led Working Groups will develop further. We also expect the Interim Data Sharing Infrastructure Coordinator, when appointed, to work with the Market Facilitator to establish Flexibility Market Asset Registration as a use case of the Data Sharing Infrastructure.

Following this decision, we will carry out further work to bring Flexibility Market Asset Registration into the role of the Market Facilitator, including consideration of any required impact assessment, cost benefit analysis, or modifications to licences and industry codes.

We also aim to work with stakeholders to determine what further work may be required for the Flexibility Digital Infrastructure to deliver on the other outcomes we have identified as important.

1. Background and Consultation Position

In this section, we set out the background policy context for our review of the Flexibility Digital Infrastructure and Flexibility Market Asset Registration, the consultation position and decision-making process to date.

Context and background

1.1 According to NESO's advice on achieving the government's ambition for Clean Power by 2030, the UK must embrace as much renewable energy capacity as possible. This means that greater volumes of our electricity generation will come from wind and solar, which presents a challenge for our energy infrastructure due to the intermittency of such sources of power.

1.2 Alongside this growth in renewable energy capacity, our electricity system needs to adapt to the electrification of heating and transport. Electricity peak demand is likely to almost double over the next 25 years, to a peak demand of 104-119GW by 2050, according to estimates from NESO's Future Energy Scenarios 2024

1.3 As increasing volumes of renewable electricity generation continue to be deployed, the energy system must adapt and become increasingly flexible. Flexibility is needed to make the most of an electricity system which must change to best take advantage of intermittent renewable energy sources, to match consumer demand with renewable generation when it is readily available.

1.4 Flexibility is a crucial aspect of our future energy system to prevent generation overbuild, as well as to both avoid and optimise electricity network reinforcement. The estimated system costs savings from flexibility are between £30-70 billion by 2050 according to the previous government's smart systems and flexibility plan 2021, which will be reflected in savings on consumers' bill.

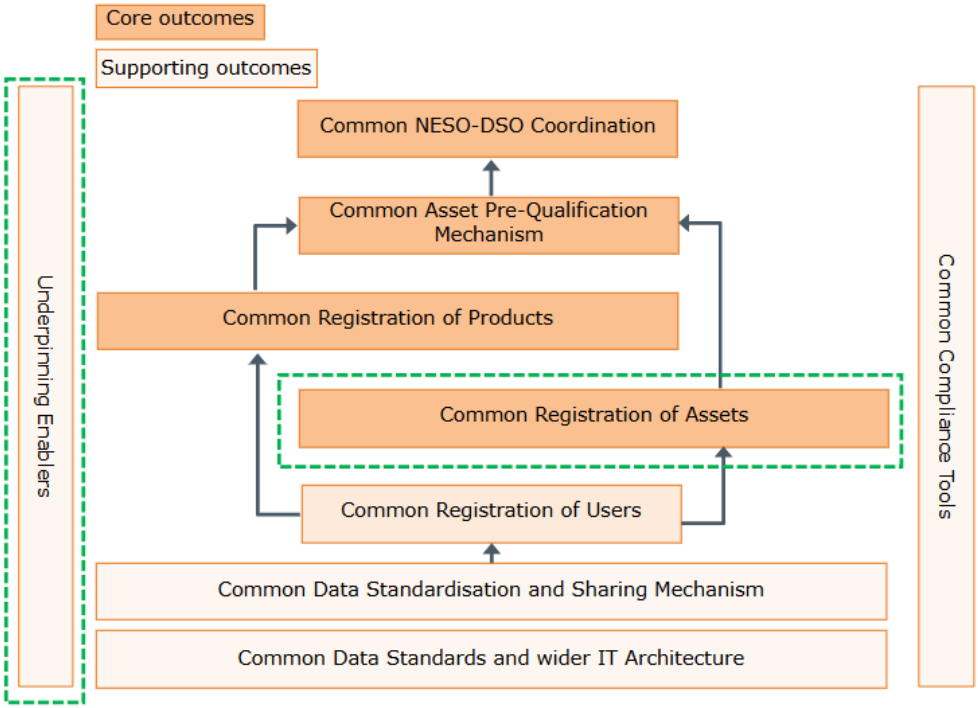
1.5 For flexibility to be fully integrated with energy markets we need a modern, digitalised energy system, which allows for the movement of high quality, granular data.

1.6 Our Flexibility Digital Infrastructure (FDI) policy aims to maximise the participation of distributed assets in flexibility markets by tackling market barriers, through the coordination of digital infrastructure across energy markets.

1.7 In turn, this will help to progress an energy system which can take full advantage of energy flexibility, allowing flexibility asset owners and flexibility service providers to seamlessly access flexibility markets.

1.8 Through this work we have identified from stakeholders that there are several potential outcomes that FDI could provide, which are illustrated in Figure 1, and described below.

Figure 1: FDI Outcomes



Common Data Standards and wider IT Architecture: data standards, communication protocols, and reference architectures.

Common Data Standardisation and Sharing Mechanism: coordinating services, tools, and frameworks to securely exchange standardised data across organisations.

Common Registration of Users: unified identity and access management services across flexibility markets.

Common Registration of Assets: common Flexibility Market Asset Registration would be a single source of truth for asset data which can be ported across flexibility markets, allowing assets to register 'just once' for multiple flexibility markets.

Common Registration of Products: a harmonised directory of flexibility markets, so that product requirements, processes, and value are provided in an easily comparable format.

Common Asset Pre-Qualification Mechanism: a cohesive process for pre-qualifying assets into markets, using asset registration data and product registration data.

Common NESO-DSO coordination services: a range of services to increase the transparency and coordination of system operator actions involving distributed flexibility.

Common Compliance Tools: overarching technical tools and governance processes to ensure outcomes are implemented according to commonly agreed rules and technical standards.

1.9 We have identified the common registration of assets as the priority for policy intervention, which was the subject of our consultation on Flexibility Market Asset Registration which ran from July to September 2024.

1.10 At present, owners and operators of small-scale energy assets (heat pumps, EV chargers, solar PV, domestic battery energy storage systems) must register data multiple times, in different ways, to access different flexibility markets. This is currently acting as a barrier for millions of small-scale energy assets which are trying to access flexibility markets. This, in turn, prevents consumers from gaining the best value from their assets.

1.11 By acting as a common, single source of truth for flexibility market access, Flexibility Market Asset Registration would provide asset owners and flexibility service providers with a single registration process to access flexibility markets.

Our decision-making process

1.12 This section highlights the decision-making process regarding FDI policy aims and outcomes, as well as the delivery of Flexibility Market Asset Registration, which includes the following key stages:

- March to May 2023 Call for Input: We published a Call for Input on the Future of Distributed Flexibility to identify key initial policy developments
- July 2023: We published our response to this Call for Input
- August 2023 to June 2024: We conducted a series of workshops, industry exercises and wider policy integration to refine our policy position on FDI outcomes and Flexibility Market Asset Registration
- July to September 2024: Publication of Flexibility Market Asset Registration consultation
- October 2024 to February 2025: Analysis of consultation responses, and further policy development
- March 2025: Publication of our Decision on the Flexibility Market Asset Registration consultation

Consultation position

1.13 In our consultation, we set out key policy positions. We outlined the progress towards the FDI outcomes and highlighted that Flexibility Market Asset Registration is a key priority for policy intervention.

1.14 We stated that the digital infrastructure should enable data collection, storage, and access, fully aligned with Data Sharing Infrastructure approaches.

1.15 We proposed that Flexibility Market Asset Registration would streamline the process for registering flexible assets into multiple flexibility markets. It would achieve this through new digital infrastructure allowing for data collection, storage and access.

1.16 The data would be collected once through data collection interfaces at the point of entering National Energy System Operator (NESO) and Distribution System Operator (DSO) flexibility markets.

1.17 This data would then be stored with a single source of truth record for each asset.

1.18 This data could then be accessed through machine interfaces as needed when entering additional flexibility markets.

1.19 We set out a scope that would cover the coordination of NESO and DSO markets, small scale assets, and static data for the purpose of Flexibility Market Asset Registration.

1.20 We outlined functional outcomes and design principles for the proposed new digital infrastructure.

1.21 Our consultation proposed that the Market Facilitator should be responsible (through working groups) for delivering enablers work to align NESO and DSO market registration processes, as well as detailed design work for the new digital infrastructure.

1.22 We asked for views on potential digital infrastructure delivery body options, setting out potential entities which could be responsible for the creation or procuring of the digital infrastructure, its deployment, and on-going maintenance.

1.23 These options included: taking a minimum intervention approach and expecting a commercial solution to emerge from the market; assigning responsibility to either NESO (then ESO) or the Distribution Network Operators (DNOs) through a licence condition; assigning responsibility to Elexon as part of the Market

Facilitator role or assigning responsibility to another entity with an enduring role in the energy sector.

1.24 Additionally, we set out the previous government's Energy Digitalisation Strategy policy vision for asset visibility, and the progress which has been made towards achieving this vision. The Department for Energy Security and Net Zero is progressing policy in this area to improve visibility of all installed small-scale assets to support a range of use-cases, including flexibility, and we stated our intention for the Flexibility Market Asset Registration solution to align with this in the longer-term.

2. Summary of Consultation Responses

Section summary

In this section, we provide a summary of responses to the Flexibility Market Asset Registration consultation. This section is summarised according to the three key themes of the questions which were asked as part of the consultation – 1) Flexibility Digital infrastructure Policy, 2) Aims, Scope and Approach, 3) Activities and Delivery.

2.1 We asked nine questions on our proposals for common Flexibility Market Asset Registration and our wider Flexibility Digital Infrastructure (FDI) policy, with the aim of taking stakeholder views into consideration in the development of our policy decisions[1]. We sought views on the following:

- Do you agree that policy intervention is needed to deliver common Flexibility Market Asset Registration?
- Do you agree that for other FDI outcomes policy intervention is not needed at this stage? Are there any risks to consider with this approach to FDI delivery?
- Are there any other policy alignments or industry developments, in the UK or internationally, which should be considered as part of ongoing FDI policy development?
- Do you agree with the scope proposed for markets, assets, and data? Should anything else be considered?
- Do you agree with the functional outcomes? Should anything else be considered?
- Do you agree with the design principles? Should anything else be considered?
- Do you agree with the enablers and design activities needed and for the Market Facilitator to coordinate Working Groups for them? If not, what other activities and governance arrangements should be considered?
- What are the advantages and disadvantages of the proposed delivery body options for the Flexibility Market Asset Registration digital infrastructure?

[1] Additionally, we asked 3 questions on Asset Visibility policy, the responses to which have been passed to the Department for Energy Security and Net Zero to inform their on-going policy work in this area.

Are there any additional options that should be considered? Do you agree with the justification for discounting approaches?

- Do you agree with the timelines proposed? Should anything else be considered?

2.2 We received 50 responses representing a broad range of stakeholder groups, including code managers, consultancies, flexibility service providers, independent market platforms, market and network operators, equipment manufacturers, software providers, suppliers/generators, and trade associations.

Flexibility Digital Infrastructure

2.3 We asked for feedback on whether policy intervention was needed to deliver common Flexibility Market Asset Registration.

2.4 Stakeholders expressed strong support for a need for policy intervention to deliver Flexibility Market Asset Registration, in particular suggesting that the fragmented requirements between NESO and DSO markets was increasing costs and complicating access for consumers, and that a focused policy intervention is required to deliver at the pace desired by industry. Many stakeholders felt that a solution may not emerge from the market at all, and that this intervention would be an opportunity to ensure alignment with other initiatives including the Data Sharing Infrastructure and market-wide half-hourly settlement.

2.5 We asked if stakeholders agreed with our approach in delivering of the other FDI outcomes, and not to make additional policy interventions at this time. Most stakeholders agreed with this approach, with some suggesting that further interventions to deliver digital infrastructure specifically were unnecessary and that Ofgem should consider interventions focused on the underpinning enablers, particularly around standardisation, for the FDI outcomes. Some stakeholders partially agreed, with some requesting more detailed evaluation from Ofgem of the market delivery to date and more information about the factors which could trigger an intervention in future, to ensure that if it is determined that interventions are required in future these are timely. Others raised the risk of delivery of different digital systems and processes being uncoordinated and the importance of continued monitoring to mitigate this.

2.6 The final FDI-specific point we asked for feedback on was which policy or industry developments both in the UK and internationally, should we consider as part of ongoing FDI policy development.

2.7 Most stakeholders agreed that there was a need for integration with wider policy and industry initiatives. There was particular emphasis in the responses for alignment with: the EU Demand Response Network Code (EU DRNC); the Net Zero Innovation Portfolio (NZIP) innovation competition programmes Flexibility Markets Unlocked (FMU) and Automatic Asset Register (AAR); Ofgem's Data Sharing Infrastructure (DSI) and Consumer Consent work; the Government's Smart Secure Electricity Systems programme (SSES), and the Energy Network Association's (ENA) Open Networks programme and Connect Direct platform.

Aims, scope and approach

2.8 We sought feedback on our proposals for the new digital infrastructure to deliver common Flexibility Market Asset Registration. We proposed a scope for the solution covering the markets, assets and data we believed should be included in an initial iteration of the solution. We also set out functional outcomes and design principles that the new digital infrastructure should be aligned with.

2.9 Most stakeholders agreed with our proposed scope for assets, markets, and data, with a minority suggesting some potential modifications.

2.10 A common suggestion from stakeholders was that the market scope should include both the Capacity Market and wholesale markets, on the basis that these markets provided significant financial earning potential, and so it would be beneficial for flexibility service providers and their customers should these markers be included in scope.

2.11 Some stakeholders suggested that all small-scale asset assets should be registered, not just those participating in flexibility markets to allow the digital infrastructure to support additional use-cases, such as supporting network operations.

2.12 Several stakeholders also suggested that the terminology we outlined of 'static' and 'dynamic' data was unclear, as many of the data items given as examples of static data would be subject to change over time.

2.13 There was broad support for the proposed functional outcomes, with some stakeholders suggesting additional considerations. For example, stakeholders suggested that Ofgem should weigh the flexibility of various user experiences for asset owners against the added complexity of multiple interaction methods. Stakeholders also suggested that the non-functional outcomes include futureproofing to avoid lock-in to existing market arrangements

2.14 Several stakeholders also suggested that we should consider aspects of consumer consent, such as being able to process multiple flexibility service providers claiming access to the same assets within the flexibility market.

2.15 Finally, there was broad support for the design principles which were outlined within the consultation, with stakeholders again suggesting some potential changes such as aligning the 'data quality' principle with the Government Data Quality Hub's data quality dimensions.

Activities and delivery

2.16 Our position in the consultation was that the Market Facilitator should be responsible for delivery of the underpinning enablers and detailed design work. We also set out a range of delivery body options for the digital infrastructure, alongside a proposed delivery timeline.

2.17 We sought feedback on the delivery of the underpinning enablers and detailed design work, with a strong majority supported our proposals for the Market Facilitator to undertake the enablers and design activities through a working group approach.

2.18 Stakeholder responses suggested that the design stage work could begin under the ENA Open Networks programme while the Market Facilitator is being established.

2.19 Some stakeholders stressed the importance of the working group approach to ensure that the views of all market participants, including those which are consumer-facing, were reflected in the design of the digital infrastructure.

2.20 We set out the potential delivery bodies for the digital infrastructure itself, setting out the advantages and disadvantages for each we had identified. A strong majority of stakeholders responded with a preference for Elexon as the Market Facilitator to be assigned the role of delivery body.

2.21 The key reasons for supporting Elexon as Market Facilitator to take up this role included the importance of the entity responsible for the delivery of Flexibility Market Asset Registration having neutrality in terms of the operation of flexibility markets.

2.22 In addition, stakeholders felt that Elexon had a strong track record and experience in delivering market-wide digital services, including the registering of assets into markets.

2.23 Stakeholders also highlighted that the responsibilities of the delivery body match up well with the responsibilities of the Market Facilitator.

2.24 Stakeholders generally felt that the options of the NESO or the DSO collectively delivering a solution were unsuitable due to a lack of neutrality from the operation of flexibility markets, while the 'business as usual' approach of a solution emerging from the market was unlikely to occur.

2.25 A minority of stakeholders supported the idea of another entity with an enduring role in the energy sector being appointed delivery body, however a majority of these stakeholders were equally supportive of Elexon as Market Facilitator.

2.26 Finally, we sought feedback on the proposed delivery timeline. We proposed that the common Flexibility Market Asset Registration digital infrastructure should be deployed between 2025 and 2028. As this would mean delivery was prior to the predicted sharp increase in the installation of small-scale flexibility assets and aligned with when various technical solutions will be completed or expanded.

2.27 Stakeholder feedback on the proposed timeline of delivery was mixed. Some stakeholders recommended that more detail was provided on the delivery timeline, while others felt that the timelines were too slow and needed to be accelerated, with particular emphasis on the competition of the rollout of market-wide half-hourly settlement amongst other initiatives.

3. Decision and Reasoning

In this section we set out our decision to proceed with the Flexibility Market Asset Registration intervention, that the identified enablers to align the market registration processes across DSOs and NESO, the detailed design work for the digital infrastructure, and the delivery of the digital infrastructure itself should be carried out by Elexon as Market Facilitator, and associated reasoning.

3.1 We have decided to progress with the Flexibility Market Asset Registration proposals, as outlined in the consultation, with the underpinning enablers, and design and delivery of new digital infrastructure to be carried out by Elexon as a component of their role as Market Facilitator.

3.2 The work we envisage for Flexibility Market Asset Registration aligns well with the existing role of the Market Facilitator, and we believe that Elexon's track record of delivery on complex technical projects means they are well-placed to lead on the design and delivery of this new digital infrastructure. The responses to our consultation also demonstrate strong stakeholder support for this approach.

Our updated position on Flexibility Digital Infrastructure

3.3 We continue to believe that all Flexibility Digital Infrastructure (FDI) outcomes, outlined in section 1.81.8, are important and should be delivered to fully enable distributed flexibility. Delivery might take the form of commercial provision or common public good provision, depending on what is most appropriate for the different outcomes.

3.4 For all FDI outcomes, the first thing which must be delivered is process alignment across NESO and DSO markets. Some of this has been achieved already by the ENA Open Networks programme and more will be done by the Market Facilitator. We are looking in more detail at how Market Facilitator workplans align with delivering other FDI outcomes. We will continue to monitor industry progress in this area.

3.5 Our current thinking, which considers consultation responses, suggests that the NESO-DSO Coordination outcome is one which might require intervention in future at an appropriate point. However, this requires more research and consideration as it is a complex area at an early stage of development.

3.6 We will engage with stakeholders over the next few months to progress policy thinking on other FDI outcomes and will provide an update on policy intent for any future interventions.

Our updated position on the aims and approach

3.7 We have updated some of the positions we set out in the Aims and Approach section of the consultation, which concerned the solution scope, and described functional outcomes and design principles for the solution.

3.8 As stated in the consultation, we intend for the scope, design principles, and functional outcomes to be further refined through the detailed design process, which will be undertaken via working groups convened by the Market Facilitator.

Solution scope

Data

3.9 In our consultation we provided examples of data items required for the registration of assets into markets which we believed would be collected through the Flexibility Market Asset Registration solution, which we referred to as 'static data', and data items we believed would not be required to be held and accessed in common relating to the operation and financial settlement of flexibility provision, which we referred to as 'dynamic data'.

3.10 While the exact data items which are collected by the solution will be decided during the detailed design phase, we agree with stakeholder feedback that the 'static' and 'dynamic' labels may be misleading, as certain 'static' data items will be subject to updates which will be important to capture.

3.11 We would expect the working groups during the detailed design process to consider the events that might cause the captured data items to need to be updated, the timescales in which these are likely to occur and how the Flexibility Market Asset Registration digital infrastructure will accommodate this.

3.12 We still anticipate that required data will include both flexibility service data – data relating to the Flexibility Service Provider and their contract with the consumer, and technical asset data – data relating to the specifications of the asset itself and its network connection, with exact data items subject to determination by the Market Facilitator-convened working groups.

Assets

3.13 For the scope of the assets, we stated that all assets of less than 1 MW capacity, which participate in flexibility markets, should be in scope of the solution. The 1 MW boundary was chosen as the point at which assets must be aggregated to

access NESO (then ESO) markets, as we believe these assets face the largest barriers to registering into flexibility markets.

3.14 While we continue to believe that the solution should focus on small-scale assets, we recognise that in practice as markets are integrated into the Flexibility Market Asset Registration solution it may be simpler to include all assets participating in these markets into the Flexibility Market Asset Registration solution rather than excluding those above a specific threshold.

3.15 Therefore, while we expect at a minimum that all assets with a capacity less than 1 MW which are registered for markets integrated into the Flexibility Market Asset Registration solution be included, this should not be considered as an upper limit where it is more practical for some or all assets above this threshold to be included.

3.16 Some stakeholders were supportive of the Flexibility Market Asset Registration solution capturing data on all small-scale assets, regardless of participation in flexibility markets, to support additional use cases, for example network operations.

3.17 While we agree that supporting additional use-cases would be of value to some stakeholders and do not rule out the possibility of the Flexibility Market Asset Registration solution supporting additional use-cases in future, in the interests of timely and efficient delivery of a solution for the flexibility use-case, we do not support the solution scope being expanded at this time.

3.18 The Department for Energy Security and Net Zero is progressing policy around Asset Visibility which seeks to provide a solution to these additional use-cases. It remains our aim that the Flexibility Market Asset Registration solution align with the resulting policy developments in this area.

Markets

3.19 We set out in the consultation that the Flexibility Market Asset Registration should cover the DSO flexibility markets, and the NESO (then ESO) ancillary and balancing services, including the Balancing Mechanism. We stated that wholesale markets and the Capacity Market should be out of scope, with the former being a substantially different market type with its own governance arrangements and digital infrastructure, and the latter being the subject of an on-going reform process.

3.20 While we recognise the potential advantages to flexibility service providers and their customers for the inclusion of both of these markets in the scope, we

believe the disadvantages outlined in the consultation, as well as our desire for delivery of the solution in a timely manner means that these markets should remain out of scope for the initial solution.

3.21 However, we would expect the Market Facilitator to explore the earliest possible timescales for inclusion of wholesale markets and the Capacity Market into the scope of Flexibility Market Asset Registration. In our Market Facilitator Policy Framework consultation we proposed a second delivery period of the Market Facilitator from 2027-2029, during which the Market Facilitator scope may be reevaluated. This may include consideration of bringing wholesale markets and the Capacity Market into scope of the Market Facilitator and could also include consideration of bringing these markets into the scope of the Flexibility Market Asset Registration digital infrastructure.

3.22 Additionally, we recognise that there may be additional complications with the inclusion of the Balancing Mechanism within the scope of the Flexibility Market Asset Registration solution. Specifically for assets operated by independent aggregators registered to take part in balancing markets (Virtual Lead Parties) the registration process for the Balancing Mechanism and wholesale markets will be the same, and it will not (without changes to this process) be possible to distinguish between assets intending to participate in one of these markets from those participating in the other, or both markets. Therefore, while we currently expect the Balancing Mechanism to remain in scope, it will be up to the Market Facilitator led working groups, with continued support from Ofgem, during the detailed design phase to determine how this complication is best dealt with; whether this involves including assets operated by Virtual Lead Parties which participate in wholesale market within the scope, or leaving the Balancing Mechanism out of scope until wholesale markets in their entirety are brought into scope, or if a different solution can be found.

Design Principles

3.23 In our consultation we set out draft design principles to guide the design of the Flexibility Market Asset Registration digital infrastructure. We expect these to be refined through the design process by the Market Facilitator convened working groups.

3.24 We agree with stakeholder suggestions that 'scalable' and 'flexible' should be considered as design principles, to reflect that we expect the solution to be able to accommodate both significant increases in participation in flexibility markets and potential changes to the markets themselves.

3.25 We have also modified the 'Competitive and Innovative' principle to add that the value of the use of the latest technological developments must be balanced against cost and suitability, and the 'Cost effective' principle to include consideration of the whole-lifecycle cost, including consideration of potential scope expansions from the beginning.

3.26 Updated design principles are as follows:

Design Principle 1 – Quality Performance and Usability

- must effectively deliver the necessary technical functions
    - especially considering good user experience and effective data management
    - also considering general security and operational capabilities, and enabling wider integrations

Design Principle 2 – Timely and Pragmatic Delivery

- must deliver the outcomes needed in the timelines required
    - delivering at pace and responding to industry needs; while pragmatically considering coordination needs, sector readiness, trials/testing, update approaches, and future extensibility

Design Principle 3 – Cost-Effectiveness

- must maximise benefits at least cost, costs should be efficient and proportionate
- should consider whole-lifecycle cost including likely future scope and functionality increases

Design Principle 4 – Scalable and Flexible

- must consider the expected growth of flexibility assets and flexibility markets
- must be adaptable to potential new user needs, changes in markets, and consumer behaviour

Design Principle 5 – Secure, Resilient, and with Data Privacy

- given possible Critical National Infrastructure interactions, must have appropriate cyber-physical security and resilience
- given consumer interactions, must have appropriate data privacy and consent mechanisms

Design Principle 6 – Competitive and Innovative

- must avoid vendor or technology lock-in and be interoperable
- must be technology-agnostic while supporting the use of the latest technology developments where these are suitable and while remaining cost-effective

Design Principle 7 – Legally Deliverable

- the relevant entities must have the necessary powers to deliver the solution

Design Principle 8 – Effective Accountability

- must have clear responsibilities, ability to convene stakeholders, and operate transparent processes

Functional Outcomes

3.27 We also set out functional outcomes which the Flexibility Market Asset Registration digital infrastructure should provide. We expect these to be refined through the design process by the Market Facilitator convened working groups.

3.28 We agree that data lineage and versioning are critical outcomes, as it will be vital to ensure data accessed through Flexibility Market Asset Registration is up to date and relevant and have reflected this in the 'Data quality' output.

3.29 We have also updated the 'Data quality' output to align with data quality dimensions definitions from the UK Government Data Quality Hub.

3.30 Futureproofing has been added to the non-functional outcomes to reflect that the digital infrastructure should evolve with the market and not be a blocker to any market reforms.

3.31 The updated functional outcomes are as follows:

Functional Outcome 1 – Single master data record

- data is stored as a single source of truth for asset data
- data is standardised and machine-readable (*see Non-Functional Requirements below) with a 'common backend Application Programme Interface (API),' but with highly configurable data fields dependant on the user/asset/product needs
- data is maintained though data management services and (if necessary) synchronisation services
- to include appropriate metadata

Functional Outcome 2 – Unique ID

- unique asset ID and unique user ID, linked to master data record
- enables de-duplication of asset data records
- enables accurate and permission-based data access

Functional Outcome 3 – Data Quality

- data quality is sufficient for users to reliably use it for their needs, measured against the data quality dimensions:
    - Accuracy
    - Completeness
    - Uniqueness
    - Consistency

  - Timeliness
  - Validity
- wherever possible, data fields are populated using trusted external data sources with data elements marked if able to be validated
- data lineage and versioning should be provided where practical

Functional Outcome 4 – Appropriate Collection Points

- able to collect flexibility market registration data at point of market entry with consideration of appropriate points for collecting updates to data
- data collection though multiple 'common client APIs' across NESO and DSO markets, which are aligned with the 'common backend API' of the single master data record, enabling 'just once' registration

Functional Outcome 5 – Common data access

- a 'common backend API' available for multiple NESO and DSO users, and other users as needed, to access the single master data record, enabling 'just once' registration

Functional Outcome 6 – Data exchange mechanisms

- will require machine-readable interfaces and may require user interfaces
- ability to create and read/write master data, including data update mechanisms
- ability to search and access master data, e.g. using metadata catalogue, with real-time exchange
- supported by data compliance tools
- all permissions based e.g. Role Based Access Control (*see Non-Functional Requirements below)
- all standard and secure

Functional Outcome 7 – User experience

- modern digital and user-friendly interfaces (e.g. API and maybe Graphical User Interface), and supporting documentation to provide a good user experience

Functional Outcome 8 – Consumer consent framework

- GDPR compliant, including the publication of a clear framework for managing consent related to flexibility market asset registration data
- aligned with Ofgem's Consumer Consent work, making use of best practice in the sector
- easy and dynamic mechanism for asset owners to grant and manage consent with relevant parties, with that consent releasing data from the asset register in an appropriate and timely fashion

Functional Outcome 9 – Integration with wider systems

- integrates in a machine-readable, interoperable way with:

  - other FDI outcomes e.g. product register, pre-qualification, NESO-DSO coordination
  - NESO and DSO procurement systems to enable 'just once' registration for all flexibility markets
  - Consumer Consent solution as a mechanism for asset owner consent
  - external sources to populate data fields with trusted data
  - relevant elements of the DSI

Non-functional Requirements

- Standard data models and communications protocols
  - this requires aligned NESO-DSO flexibility procurement processes, then agreed standards and protocols for data exchange mechanisms, should align with DSI approaches
- Trust framework
  - to classify user roles and associated permissions and provide identity management services, should align with DSI approaches
- Reference Architecture
  - to enable interoperability across systems, should align with DSI approaches
- Futureproofing
  - the solution should avoid being locked into existing market arrangements, and must be capable of evolving as the market evolves

Our updated position on delivery and timescales

3.32 In our consultation we set out our position on the delivery of Flexibility Market Asset Registration and the timescales associated with this delivery. We set out a range of delivery body options, stated our desire for alignment with the DSI, Consumer Consent policy work, and Asset Visibility policy work.

3.33 We still intend, as stated in the consultation, for the Market Facilitator to be responsible for the delivery of the enablers work to align and digitise DSO and NESO market registration processes, and to undertake the detailed design work for the Flexibility Market Asset Registration digital infrastructure.

3.34 We expect this work to be completed through working groups convened by the Market Facilitator, with suggested membership drawn from the NESO, DSOs, Independent Market Platforms (IMPs), Original Equipment Manufacturers, Flexibility Service Providers, consumer groups, and other relevant interested parties. We also expect that membership of these groups include organisations which do not currently operate in the UK but may do so in future.

Delivery Body Selection

3.35 The Flexibility Market Asset Registration delivery body that we have selected is Elexon, in its role as Market Facilitator.

3.36 The Market Facilitator was the most popular choice in consultation responses by a significant margin, which demonstrates the stakeholder buy-in that will be critical for the success of Flexibility Market Asset Registration.

3.37 We believe that neutrality and accountability are critical for the Flexibility Market Asset Registration solution to be trusted by flexibility market participants, which many stakeholders highlighted in their responses. We are confident that Elexon is a trusted impartial entity in the sector, and that the proposed governance arrangements in our Market Facilitator Policy Framework consultation will embed accountability within that role.

3.38 Additionally, we believe Elexon has a strong track record of technical delivery with experience delivering digital services and with the operation of markets, this experience combined with the fact that the delivery body responsibilities align well with the responsibilities already outlined for the Market Facilitator, make Elexon, in its role as Market Facilitator, the most suitable choice.

3.39 We recognise concerns that Elexon taking on the role of Flexibility Market Asset Registration delivery body alongside the role of Market Facilitator could potentially overload Elexon, impacting delivery of both Flexibility Market Asset Registration and key activities outlined for the Market Facilitator. However, we are confident that Elexon can scale their capacity as needed to deliver on this work alongside the other work of the Market Facilitator, and that the governance of the Market Facilitator will ensure Elexon can be held to account on delivery. We are also confident that the delivery of Flexibility Market Asset Registration will have no impact on the other work which Elexon is responsible for, including delivery of market-wide half-hourly settlement.

Position on Delivery by Open Networks programme

3.40 Many stakeholders expressed the need for the Flexibility Market Asset Registration solution to be delivered at pace, and suggested the ENA Open Networks programme could begin work in the interim.

3.41 As Elexon are beginning to take responsibility for transitioning the existing Open Networks programme into the Market Facilitator role, we do not believe the existing Open Networks programme should be given any additional responsibility for Flexibility Market Asset Registration.

3.42 However, we do expect Elexon to consider whether aspects of the Flexibility Market Asset Registration work can be included alongside this transition and what work can be initiated ahead of the Market Facilitator launch in late 2025.

Alignment with Data Sharing Infrastructure

3.43 We expect Elexon and the Interim DSI Coordinator[2], when appointed, to work together to develop the Flexibility Market Asset Registration digital infrastructure as a flexibility use-case of the DSI.

3.44 Our expectations of the process for advancing a DSI use-case will be set out in the response to our Governance of a Data Sharing Infrastructure consultation to be published in Spring 2025.

Alignment with Consumer Consent

3.45 In our Consumer Consent consultation we outlined proposals for a body to deliver a Consumer Consent solution.

3.46 If in our response to this consultation, due for publication in Spring 2025, we confirm this expectation, then we would expect this body to work with Elexon to determine what interactions between the Consumer Consent solution and Flexibility Market Asset Registration digital infrastructure are both practical and desirable, both during the development of these systems, and in future iterations of each.

Responsibilities on Network Operators

3.47 In addition to the delivery body, NESO and DNOs will have additional responsibility for Flexibility Market Asset Registration.

3.48 We expect NESO and DNOs to participate in the enablers and design working groups convened by the Market Facilitator.

3.49 NESO and DNOs will also be required to develop and deploy machine interfaces (APIs) according to the specifications developed through this enablers work.

3.50 We will explore whether these responsibilities can be conferred by the Market Facilitator through the proposed NESO and DNO licence conditions/modifications that we will be progressing to enable the work of the Market Facilitator. If this is not practical, we will seek to separately modify/introduce these licence conditions to enable the Market Facilitator to progress Flexibility Market Asset Registration.

[2] Ofgem proposed the Interim DSI Coordinator role in the Governance of the Data Sharing Infrastructure consultation. The Interim DSI Coordinator will lead DSI governance across the pilot and MVP phases of DSI development, until end-2028. Ofgem is currently assessing which body will take on the Interim DSI Coordinator role based on responses to this consultation.

Delivery Timelines

3.51 We would expect the Market Facilitator to explore options, including the use of existing technical solutions, to achieve delivery of the Flexibility Market Asset Registration digital infrastructure in 2027, ideally before the completion of the roll-out of market-wide half-hourly settlement, or as soon as possible afterwards.

Impact Assessment, Cost-Benefit Analysis, and Cost-Recovery Method

3.52 In our consultation we set out that we would consider the need for an impact assessment and/or a cost-benefit analysis, as well as potential cost-recovery mechanism in future.

3.53 As we intend for development and delivery of the Flexibility Market Asset Registration to be carried out as part of the operations of the Market Facilitator, we will seek, if timelines allow, for the Flexibility Market Asset Registration to be included in the impact assessment and cost-benefit analysis we will be undertaking for the Market Facilitator. If this is not possible, then we will progress these analyses for the Flexibility Market Asset Registration in future publications. In either case, this impact assessment will be subject to statutory consultation. We are confident from the work we have undertaken to develop Flexibility Market Asset Registration policy, including analysis of the response to our consultation, that the case for intervention is strong, however development or procurement of the digital infrastructure will be dependent on a positive cost-benefit analysis.

3.54 We intend that, as the delivery and operation of the Flexibility Market Asset Registration digital infrastructure will be a function of the Market Facilitator, that cost-recovery for Flexibility Market Asset Registration will be undertaken through the model selected for Market Facilitator, which will be set out in future publications.

3.55 More information will be published in the decision on our Market Facilitator Policy Framework consultation, due to be published in spring 2025.

4. Next Steps

This section sets out the next steps that Ofgem will take to implement the outlined decision, as well as an indication of the delivery milestones and timescales we expect for delivery.

4.1 We will carry out further work to assign the role of the Flexibility Market Asset Registration delivery body to Elexon as Market Facilitator, as well as the responsibility for the enablers and detailed design work, aligning with the on-going work to support Elexon in taking up the Market Facilitator role, and requiring DNOs and NESO to comply with its outputs.

4.2 We expect that this will involve including the delivery body function of the Flexibility Market Asset Registration proposals in the Market Facilitator governance framework document, which as outlined in our Market Facilitator Policy Framework consultation, we will be consulting on and publishing by the end of 2025.

4.3 Additionally, modifications to NESO's ESO Licence, and the Distribution Licence will be required to ensure compliance with the outputs of the Market Facilitator, which we expect will cover the activities relating to Flexibility Market Asset Registration, these will also be published and consulted on by the end of 2025.

4.4 We will support Elexon beginning the underpinning enablers and detailed design work, as they prepare to formally take on the Market Facilitator role.

Timeline with key milestones

4.5 We want the first iteration of the Flexibility Market Asset Registration digital infrastructure, covering the initial desired scope, to be operational before the completion of the rollout of Market-wide Half-Hourly Settlement, in 2027.

4.6 Exact timelines, particularly for the technical delivery of the digital infrastructure, we expect to be determined and shared by Elexon (as Market Facilitator) at an early stage of the detailed design work, considering potential alignment with relevant domestic and international initiatives.

4.7 In advance of this, we have developed indicative timescales for the identified activities, which broadly fall into three phases: (1) before the Market Facilitator goes live, (2) from when the Market Facilitator is fully operational to the Flexibility Market Asset Registration digital infrastructure going live, and (3) post-launch of the digital infrastructure.

Phase one (Quarter 2 of 2025 to Quarter 1 of 2026)

- In advance of the Market Facilitator launch in late 2025 we expect that work can be undertaken on enablers and detailed design work, including:
    - convening of working groups for the enablers activities and detailed design activities
    - design of common Flexible Market Asset Registration processes for DSOs and alignment with NESO requirements
    - refining of scope for markets, data, and assets, and of design principles and functional outcomes
    - stakeholder engagement to determine specific Flexibility Market Asset Registration digital infrastructure requirements
    - design of collection and access machine interfaces, and storage solution
    - working with Interim DSI Coordinator to establish Flexibility Market Asset Registration as a DSI use-case and the development of a data sharing trust framework

Phase two (Quarter 2 of 2026 to Quarter 2 of 2027)

- After the Market Facilitator is launched, with the appropriate powers to ensure compliance with outputs, and an agreed funding model, then the common asset registration processes for DSOs aligned with NESO can be enacted, and the Flexibility Market Asset Registration digital infrastructure can be developed or procured in accordance with the detailed design from Phase one, with continuing refinement to the design as necessary. Therefore, activities in Phase 2 would include:
    - publishing the agreed DSO flexibility asset registration processes as a Market Facilitator output, including machine interfaces for collection and access to data
    - procurement/development of the Flexibility Market Asset Registration digital infrastructure
    - piloting/testing of Flexibility Market Asset Registration digital infrastructure
    - launch of Flexibility Market Asset Registration digital infrastructure

Phase three (Quarter 3 of 2027 and beyond)

- When the Flexibility Market Asset Registration digital infrastructure is launched, the Market Facilitator will be responsible for its on-going operation and maintenance. In addition, we anticipate a number of relevant changes in the policy and market landscape which should be accounted for by the digital infrastructure. These include:
    - the Market Facilitator scope may expand in the second delivery phase (2027-2029) to include wholesale markets and the Capacity Market, we therefore

would expect the Market Facilitator to explore the viability of adding these markets into the scope of the Flexibility Market Asset Registration

- we expect, if progressed by Ofgem, the Consumer Consent digital infrastructure will be operational. We therefore expect the Market Facilitator to explore what additional interactions between this and the Flexibility Market Asset Registration digital infrastructure are possible
- additionally, we expect the Market Facilitator to monitor the operation of flexibility markets and the Flexibility Market Asset Registration digital infrastructure to determine any updates necessary to accommodate market changes
- finally, we expect that if digital infrastructure, or other relevant processes, emerge from the Government's work on Asset Visibility, that the Market Facilitator determine the optimal path for the Flexibility Market Asset Registration digital infrastructure to interact with and contribute to the delivery of this, if this has not been possible at an earlier stage of development

Appendices

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Appendix 1 – Glossary

Term	Definition
API	Application Programming Interface. A software intermediary that allows two applications to talk to each other. For example, to allow data to be extracted or shared within or between organisations.
Distributed flexibility	The ability for DERs and CERs, connected to a distribution network, to modulate their operation in response to an external signal to deliver a flexibility service. CER – Consumer Energy Resources is the collective term for consumer owned energy system assets. These can include demand, storage, and generation assets, such as EVs (including V2G), heat pumps, HVAC, white goods, batteries, and rooftop solar or wind. DER – Distributed Energy Resources is the collective term for business-owned small-scale power generation or storage devices connected to the distribution network, located close to where energy is consumed. Their purpose is to provide energy system services or business services. Examples include medium sized solar farms, wind farms or batteries, commercial electric vehicle fleet charging, and industrial and commercial demand-side response from equipment or buildings.
DSI	Data Sharing Infrastructure. An Ofgem policy for a mechanism to securely share standard data between energy sector organisations. This develops and delivers the Energy Digitalisation Taskforce recommendations for a Digital Spine.
DSO	Within a DNO, the Distribution System Operator role manages the operation of the distribution network. This can include network planning, network operation, and flexibility market development.
FDI	Flexibility Digital Infrastructure is an Ofgem workstream aiming to maximise the participation of distributed assets in flexibility markets by coordinating digital infrastructure to address market barriers.
Flexibility market **Flexibility service** **Flexibility product**	Flexibility market is the general term for a market, service, or product used to procure flexibility. This can include DSO local flexibility markets, NESO balancing and ancillary services including the Balancing Mechanism, wholesale markets, the Capacity Market, and peer-to-peer P2P services (i.e. PPAs), etc.
Flexibility Service Provider	An umbrella term for the party who takes delivery and other contractual risks when providing flexibility services. This may be the asset owners, asset operators, aggregators, Virtual Lead Parties, and Demand Side Response Service Providers.

Market Facilitator	A new role, assigned to Elexon, tasked with reducing friction across distribution markets and aligning distribution and transmission market arrangements, to help unlock the full value of flexibility.
NZIP	Net Zero Innovation Programme. A Department for Energy Security and Net Zero innovation funding mechanism which supports industry innovation in net zero technologies.
Single Source of Truth	A single trusted source of data, which may draw data from various sources to present a single "master record."
Stacking rules	Stacking rules refer to the decision frameworks for coordinating NESO and DSO access to the same flexible asset, essentially defining which markets a single asset can participate in concurrently.

Appendix 2 – Related publications

- Consultation: Flexibility Market Asset Registration | Ofgem
- Call for Input: The Future of Distributed Flexibility | Ofgem
- Open letter on the Open Networks Project | Ofgem
- Consultation: Market facilitator policy framework | Ofgem
- Consultation: Market facilitator delivery body | Ofgem
- Decision: Market facilitator delivery body | Ofgem
- Consultation: Governance of the Data Sharing Infrastructure | Ofgem
- Consultation: Consumer Consent Solution | Ofgem
- Call for Input: Data Sharing in a Digital Future | Ofgem
- Energy Digitalisation Strategy | Ofgem, BEIS, Innovate UK