

nationalgrid ► DSO

Operational Decision Making Roadmap

March 2025



Introduction

On 15th January 2025, we published our first **Operational Decision Making Framework** for stakeholder consultation.

Operational decision making is a core element of our DSO Operations responsibility. It requires informed trade-offs to achieve the best whole-system outcomes while balancing our **three key objectives**:

- **Managing the security of supply for our network**
- **Minimising the cost of running our network**
- **Maximising system access for all network users**


Within our Operational Decision Making Framework, we shared that in meeting our objectives, our decisions span across three key enablers, each with a tool-kit of measures;

Enablers;

Flexible Network Capacity



Increased Generation Production



Faster Connections

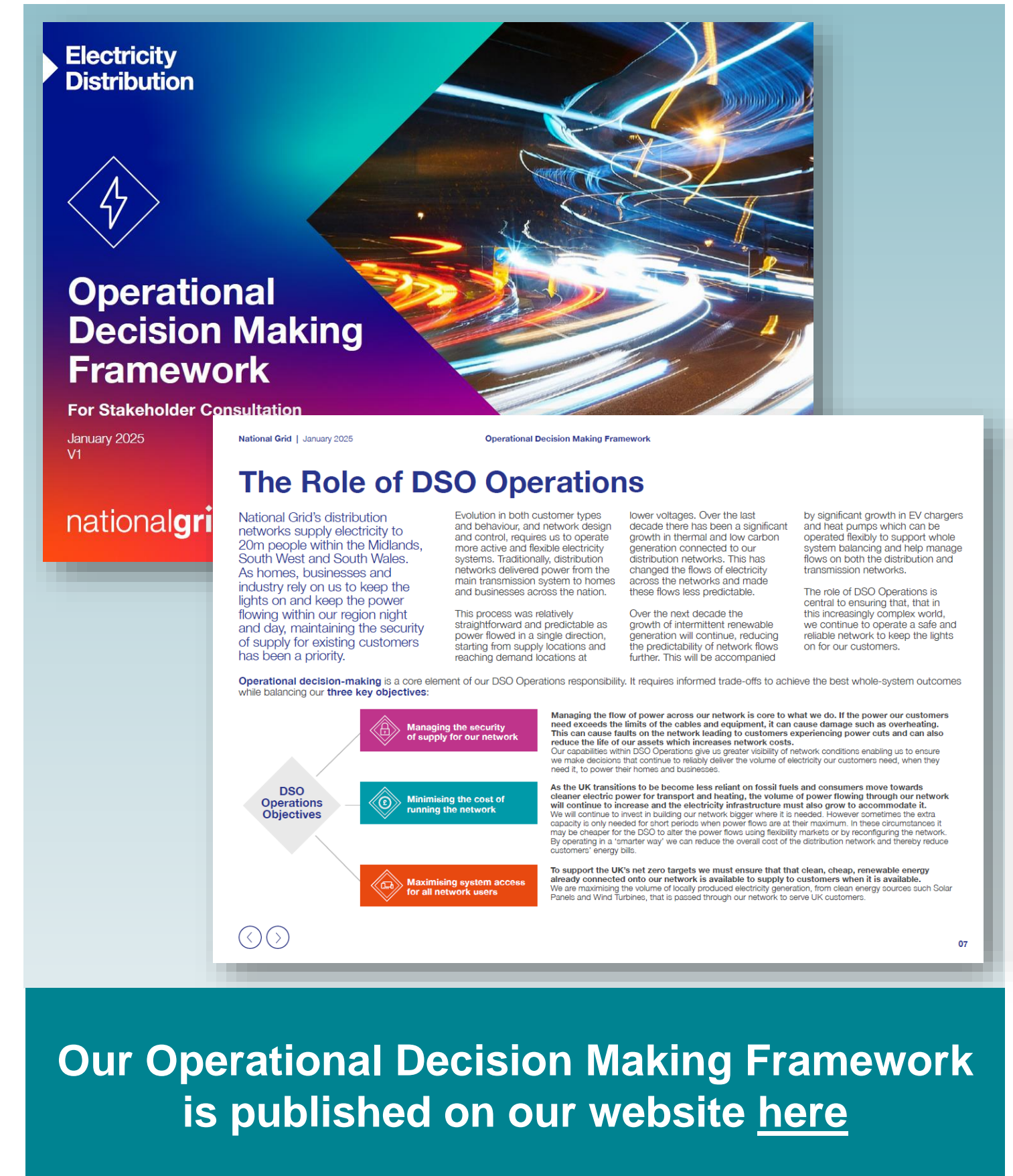


Toolkit;

- Procurement of Flexibility Services
- Dispatch of Flexibility Services
- MW Dispatch & Technical Limits
- Modelling Assumptions
- Network Maintenance Optimisation
- Network Maintenance Scheduling

The Operational Decision Making Framework describes our decision making processes across our enablers and how we use our toolkit to deliver the best system and customer outcomes in line with our objectives.

In addition, the framework outlined areas where we **identified further development opportunities** across our decision making activities and sought feedback from stakeholders on their views and priorities. The next page will summarise our proposed development opportunities, and later in this document we will share the **feedback we received**, how that has shaped our development priorities to inform our delivery **roadmap for development and implementation**.



Electricity Distribution

Operational Decision Making Framework

For Stakeholder Consultation

January 2025 V1

nationalgrid

The Role of DSO Operations

National Grid's distribution networks supply electricity to 20m people within the Midlands, South West and South Wales. As homes, businesses and industry rely on us to keep the lights on and keep the power flowing within our region night and day, maintaining the security of supply for existing customers has been a priority.

Evolution in both customer types and behaviour, and network design and control, requires us to operate more active and flexible electricity systems. Traditionally, distribution networks delivered power from the main transmission system to homes and businesses across the nation. This process was relatively straightforward and predictable as power flowed in a single direction, starting from supply locations and reaching demand locations at lower voltages. Over the last decade there has been a significant growth in thermal and low carbon generation connected to our distribution networks. This has changed the flows of electricity across the networks and made these flows less predictable.

Over the next decade the growth of intermittent renewable generation will continue, reducing the predictability of network flows further. This will be accompanied by significant growth in EV chargers and heat pumps which can be operated flexibly to support whole system balancing and help manage flows on both the distribution and transmission networks.

The role of DSO Operations is central to ensuring that, in this increasingly complex world, we continue to operate a safe and reliable network; to keep the lights on for our customers.

Operational decision-making is a core element of our DSO Operations responsibility. It requires informed trade-offs to achieve the best whole-system outcomes while balancing our **three key objectives**:

- **Managing the security of supply for our network**
Managing the flow of power across our network is core to what we do. If the power our customers need exceeds the limits of the cables and equipment, it can cause damage such as overheating. This can cause faults on the network leading to customers experiencing power cuts and can also reduce the life of our assets which increases network costs. Our capabilities within DSO Operations give us greater visibility of network conditions enabling us to ensure we make decisions that continue to reliably deliver the volume of electricity our customers need, when they need it, to power their homes and businesses.
- **Minimising the cost of running the network**
As the UK transitions to be become less reliant on fossil fuels and consumers move towards cleaner electric power for transport and heating, the volume of power flowing through our network will continue to increase and the electricity infrastructure must also grow to accommodate it. We will continue to invest in building our network bigger where it is needed. However sometimes the extra capacity is only needed for short periods when power flows are at their maximum. In these circumstances it may be cheaper for the DSO to alter the power flows using flexibility markets or by reconfiguring the network. By operating in a 'smarter way' we can reduce the overall cost of the distribution network and thereby reduce customers' energy bills.
- **Maximising system access for all network users**
To support the UK's net zero targets we must ensure that that clean, cheap, renewable energy already connected onto our network is available to supply to customers when it is available. We are maximising the volume of locally produced electricity generation, from clean energy sources such as Solar Panels and Wind Turbines, that is passed through our network to serve UK customers.

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Our Operational Decision Making Framework is published on our website [here](#)

Our Development Proposals

Within our Operational Decision Making Framework, we identified three key themes to focus on to drive Operational Decision Making development. These were informed by feedback National Grid DSO had received through wider stakeholder engagement in 2024 in forming its DSO charter. Within each of these themes, we identified development priorities that reflect our ambition to enhancing decision-making processes, leveraging advanced digital tools, and fostering whole-system collaboration.

Digitalisation and Automation

We recognise the increasing complexity of flexibility markets and the need for scalable, automated solutions. Our focus areas include:

Flexibility Market Clearing: As participation in flexibility markets grows, clearing activities will become more complex.

- Engage with Flexibility Service Providers (FSPs) to understand their priorities across more complex clearing scenarios.
- Partner with experts to develop appropriate clearing algorithms which are transparent and shared with market participants & integrate these algorithms into our tool suite to enhance automation and efficiency.

Curtailment Modelling: Existing manual processes require development to ensure scalability.

- Develop new tools to automate outage-related studies and improve their scalability.

Whole System Constraint Management: Building on our current work, we aim to expand use cases for managing constraints.

- Implement the next phase of the MW Dispatch project.
- Collaborate with the National Electricity System Operator (NESO) to explore further coordination opportunities.

Situational Awareness

Improving our situational awareness is essential for delivering improved and timely operational decisions. Our focus areas include:

Flexibility Services: Enhance the quality and granularity of data by accessing wider datasets.

- Utilise insights from the ongoing rollout of low-voltage (LV) monitoring within the DNO.
- Leverage smart meter data to refine our understanding of network conditions.

Short-term Load Forecasting: Expand our data sources to strengthen forecasting capabilities.

- Develop more representative day loading cycles for improved modelling.
- Continuously improve operational forecasting through integration with wider datasets.

Managing Market Conflicts: Increase coordination with NESO.

- Gain greater visibility into service conflict frequency and high-risk areas.

Transparency

Transparency is key to building trust and ensuring that stakeholders can engage effectively with our processes. Our focus areas include:

Flexibility Services: Provide stakeholders with accurate and up to date visibility into flexibility needs and decision outcomes.

- Develop automation tools to share flexibility opportunities and dispatch decision outcomes on a weekly basis, evolving to a daily basis as we introduce day ahead flexibility trading.
- Introduce feedback mechanisms to explain the rationale behind decision making.

Increased Curtailment Identification: Open, transparent and accessible data

- Collaborate more closely with outage planners to review annual outage plans proactively.
- Enhance communication with stakeholders by sharing outcomes of curtailment modelling activity

Managing Market Conflicts: Open, transparent and accessible data

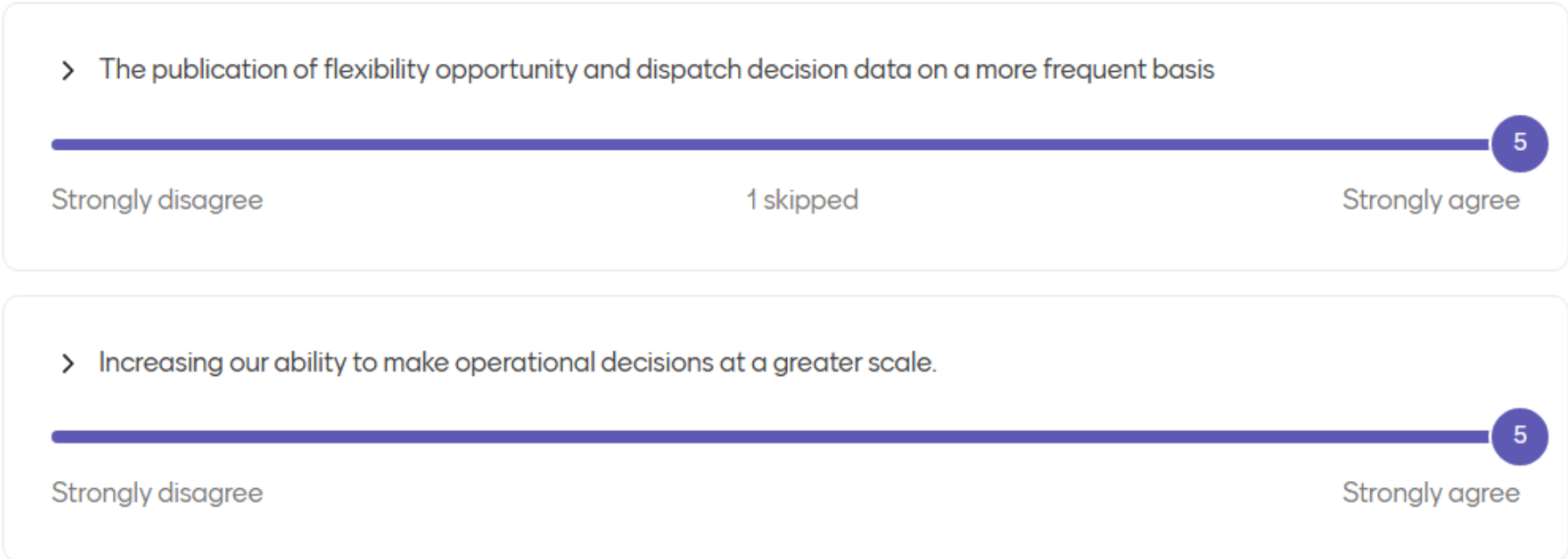
- Simplify the development and implementation of primacy rules to improve industry understanding.
- Tailor reports as part of the ENA's Open Networks programme for wider accessibility.

Stakeholder Feedback

On the 23rd January, we hosted a webinar to disseminate our ODM Framework and directly gather feedback from stakeholders, this webinar was attended by 35 stakeholder representing Flexibility Service Providers, Generation Owner/Operators and wider industry stakeholders from industry bodies, consultants and academia. During the course of the webinar, we used menti-meter to ask for; **feedback on our development proposals** and **the clarity and transparency of our ODM Framework**. Here we've summarised the responses we received.

Development Priorities

1. Do you agree with our development priorities? In particular;



2. Which of our development priorities deliver the most value to you?

- > 1st Increase visibility of flexibility needs and decision outcomes
- > 2nd Enhance the quality and granularity of flexibility market data
- > 3rd Simplify communication of market conflicts to improve industry understanding
- > 4th Strengthen our shorter term forecasting capabilities
- > 5th Sharing outcomes of curtailment modelling activity
- > 6th Automate and scale our generation curtailment capabilities
- > 7th Increase coordination with NESO to reduce market conflicts
- > 8th Expand our use cases for Transmission constraint management
- > 9th Flexibility Market Clearing Automation

Stakeholder feedback

Clarity & Transparency

1. Have we been clear in describing the remit of our operational decision making and the frameworks we employ to ensure effectiveness?



2. Has the information we've provided in our Operation Decision Making Framework been transparent enough?



Wider feedback

Webinar attendees were also given the opportunity to tell us of any gaps or areas of priority we hadn't identified, they told us;

“we want data that helps us understand why flexibility market decisions have been made”

“its important to also demonstrate the quality of decision making”

“it is difficult to find information on when flexibility opportunities open”

In addition, stakeholders could also submit their feedback directly to our mailbox, and we engaged in bilateral conversations with some of our known key stakeholders. The feedback we gathered outside the webinar told us;

“we would welcome day-ahead markets and are keen to see work that enables these”

“transparency of your flexibility utilisation decisions helps us adapt our market bidding strategy”

“we acknowledge you publish a lot of data, but it's not particularly easy to piece this data together in a way that we can understand your decision making inputs”

“there is not enough data available that quantifies what level of curtailment is happening and how the DSO is supporting curtailment reduction”

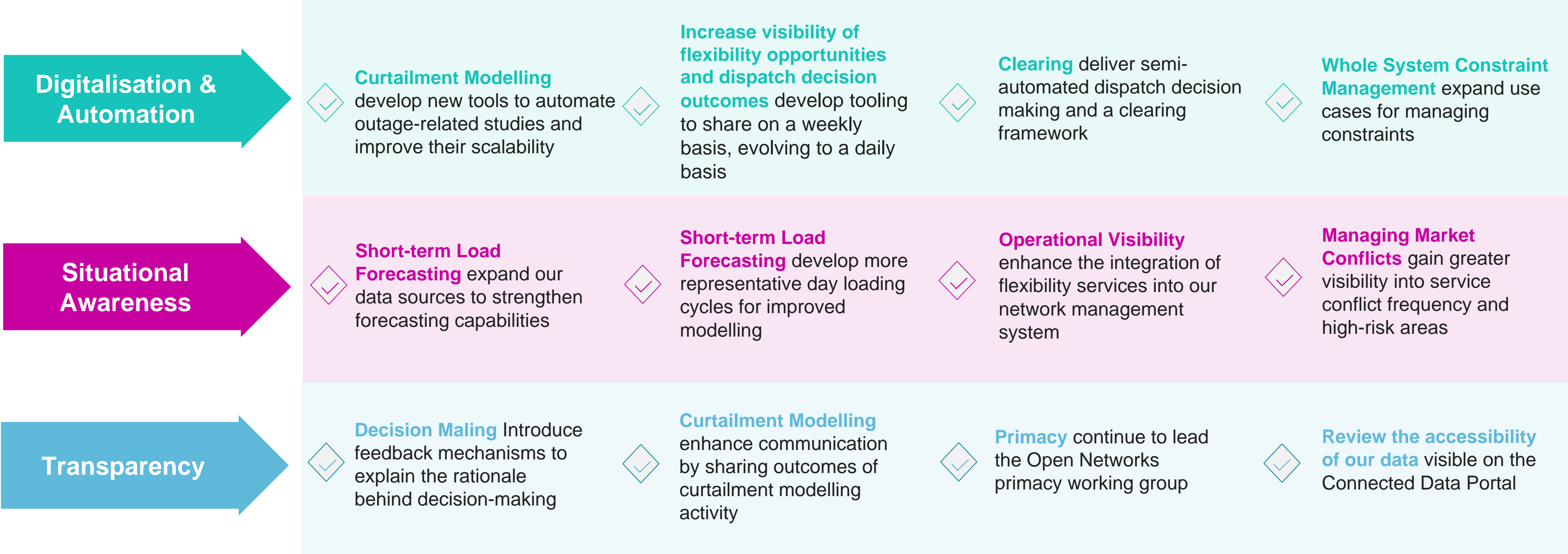
“approaches to flexibility clearing should be standardised across DSOs”

“primacy will increasingly become important, progress on this needs to be shared more widely in a clear way”

Aligning our Development Priorities

Feedback Area	Feedback Summary
<p>Digitalisation & Automation</p>	<p>While stakeholders agreed that we should be improving our market clearing capabilities, they were not clear on the value of us doing so. Some feedback also suggested that approaches to flexibility market clearing should be standardised across UK DSOs. We will seek to develop a clearing framework in collaboration with industry and DSOs. In parallel, we will continue to work on increasing our clearing capabilities through automation, this will enable our ability to operate at scale and provides greater opportunity to deliver increased value to consumers</p> <p>Stakeholders strongly agreed with the development priorities we'd identified to increase our ability to operate at scale and enable day ahead flexibility markets. We will continue to prioritise activities that deliver scalability</p>
<p>Situational Awareness</p>	<p>Stakeholders raised concerns that our work on market conflicts 'Primacy', is not clear or visible to them. As well as continue to lead the Open Networks Primacy Group, we will seek to gain and share greater visibility into market conflict frequency and high-risk areas</p>
<p>Transparency</p>	<p>Stakeholders welcomed our plans to provide more transparency on decision making inputs and outcomes related to flexibility services. One stakeholder suggested we should also provide data on the accuracy of our decision making We will continue to prioritise activities that increase the transparency of our flexibility decision making, and we will explore ways in which we can demonstrate the effectiveness of our decision making</p> <p>Increased visibility of curtailment activity and associated data is a priority for stakeholders that could experience reductions in generation production during planned outages. As well as prioritising development that aims to further reduce the impact of curtailment, we will seek to provide more data on curtailment available</p> <p>Some stakeholders shared that they find the data we currently publish difficult to manipulate and interpret. The accessibility of our data will remain a priority development area</p>

Our ODM Development Roadmap



Next Steps

Over the next 12 months we will prioritise development in the areas outlined on our Roadmap.

In August, we will issue an Operational Decision Making Roadmap Progress update, informing stakeholders of our activities and progress.

We are committed to reviewing our Operational Decision Making Framework and Operational Decision Making Roadmap in collaboration with stakeholders annually.

We expect to begin formal stakeholder engagement in January 2026 with a view to publishing our updated ODM in March 2026, however, we welcome feedback on our Operation Decision Making activities at any time, please get in touch with our team to share your views or request a meeting; NGED.EMC@nationalgrid.co.uk



