Call for Feedback

Energy Sector Digitalisation Plan

Contact details for response	Greg Johnston	VirtualES@nationalenergyso.com

Introduction

The UK energy sector is at a pivotal moment as we work towards achieving clean power. Digitalisation is a crucial enabler of this transition, offering unique opportunities to enhance efficiency, integrate renewable energy sources and create a more resilient and flexible energy system. This **Call for Feedback** seeks your valuable input to shape a sector-wide digitalisation plan, ensuring it addresses the sector's needs and leverages ongoing initiatives. The focus of the plan at this stage is the Electricity sector.

Who Should Respond?

This is a sector-wide plan and as such we welcome feedback from a wide range of stakeholders, including, but not limited to:

- Energy companies (generators, suppliers, distributors, and transmission operators)
- Technology providers and innovators in the energy sector
- Regulatory bodies and policymakers
- Academic institutions and research organisations
- Industry associations and consumer groups
- Cybersecurity experts
- Data scientists and analysts working in the energy sector
- Environmental organisations and sustainability experts

Your diverse perspectives will ensure that the digitalisation plan is comprehensive, inclusive, and aligned with the needs of the entire sector. Please respond by **COP March 7th**

Why your views matter

Your input is crucial for several reasons:

Comprehensive Activity: Your feedback will help the digitalisation plan to identify potential gaps so we can be confident it addresses all critical aspects and challenges faced by the sector

Leveraging Existing Work: By sharing information about ongoing projects and initiatives, we can avoid duplication of efforts and build upon existing successes.

Identifying Barriers: Your feedback will help us recognise and address potential obstacles, whether technical, regulatory, or operational.

Collaborative Approach: This needs to be a digitalisation plan for the whole sector and the sector needs to work together to deliver a shared outcome.

How to respond

Please provide feedback by sending your written responses to Greg Johnston via the VirtualES@nationalenergyso.com inbox.

Logic Model

Core Strategic Themes

Digitalisation must help the energy industry achieve its ambitious targets for clean power. We have identified by reviewing the clean power publication areas where digitalisation can have significant benefit that enable other work to be undertaken most effectively. These are high level to capture more specific actions underneath them and explained later in this document.

Question to Consider:

1. *What areas of focus can be accelerated by Digitalisation to support a clean power system?*

Digital Capabilities

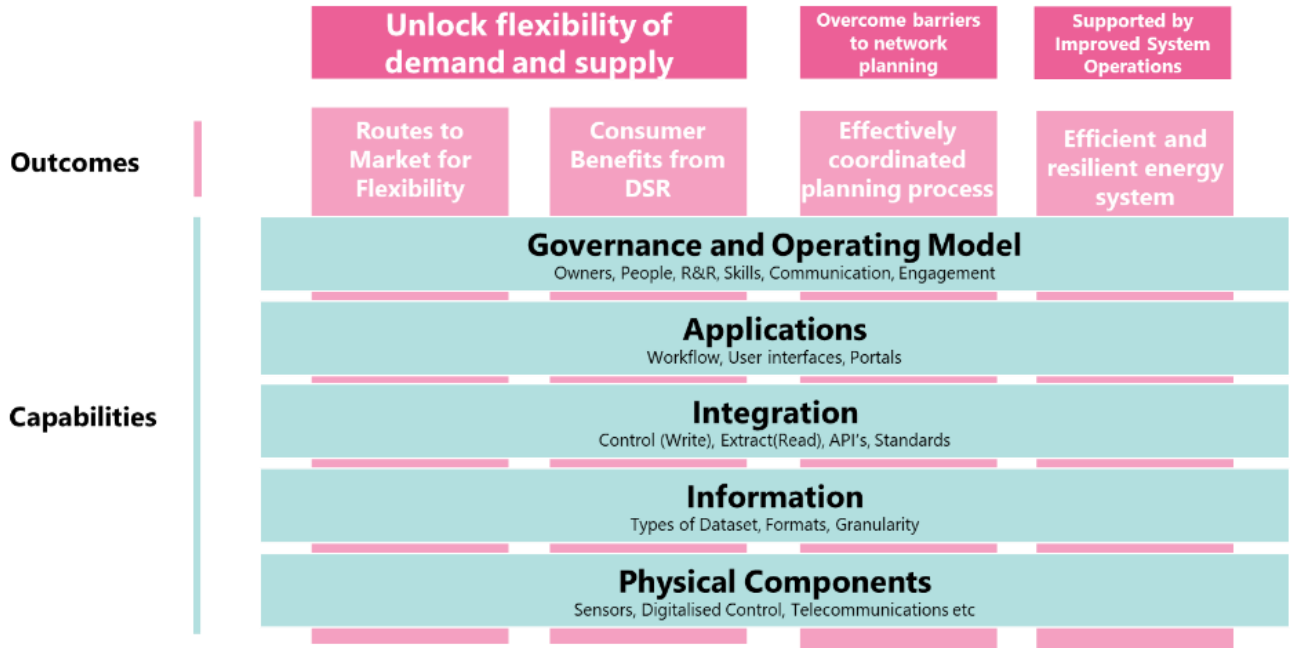
We have categorised the capabilities digitalisation can support into five groups.

Governance and Operating Model	Captures the structures, responsibilities, skills and approach needed to ensure change is delivered
Applications	Collates the system needs for tools which manage interactions with humans
Integration	An intermediary layer which acts as a go between, mediator and translator between network physical components and higher level, abstracted systems (Applications)
Information	The lifeblood of the whole system and process; the enriched data at the right place, right time and right level of detail
Physical Components	Elements which partake in, or directly touch the Electricity network

Questions to Consider:

2. *What specific activities are needed in each of the five capability areas to achieve our clean power? – For example, what new physical components, if any are required to enable the outcome on overcoming barriers to network planning?*
3. *How can we ensure effective governance and collaboration across the sector to leverage benefits of digitalisation?*

We consider this in a matrix form as outlined overleaf. The rationale for this approach being that we anticipate individual capabilities enabling more than one outcome. This model allows us to avoid disparate - but similar - capabilities to spin up and drive complexity; instead, we can consider broadening a single capability to meet multiple output requirements. This matrix defines our identified outcomes for where digitalistion can be of most benefit to supporting clean power.


Unlock flexibility of demand and supply
Overcome barriers to network planning
Supported by Improved System Operations
Outcomes
Routes to Market for Flexibility
Consumer Benefits from DSR
Effectively coordinated planning process
Efficient and resilient energy system
Capabilities
Governance and Operating Model
Owners, People, R&R, Skills, Communication, Engagement
Applications
Workflow, User interfaces, Portals
Integration
Control (Write), Extract(Read), API's, Standards
Information
Types of Dataset, Formats, Granularity
Physical Components
Sensors, Digitalised Control, Telecommunications etc

Capability Requirements

To stimulate thinking on what the necessary capabilities are, we have dissected each outcome group into logical subsections, which we can then consider the capability needs from Physical Components to Governance and Operating model. For each of the below, consider what digitalisation related capabilities are required.

Unlocking Routes to Flexibility

- Smart Device Functionality – what needs to be in place to enable demand side response?
- Monitoring & Management – what needs to be on place to enable flexible dispatch?
- Market Interfaces - what needs to be in place to enable markets to function?

Overcoming Barriers to Network Planning

- Asset Visibility - what needs to be in place to bring asset transparency needed for effective system design?
- Coordinated Planning Mechanisms - what needs to be in place to enable sector wide effective system planning?

Improved Systems Operations

- Coordinated Digital Systems – what needs to be in place to support effective, sector wide system operations?
- Control Rooms of the Future - what needs to be in place to enable effective management and operation of the more complex power system in 2030?

Common themes per capability will be discovered and collated when looking across each swim lane (Physical Component, Information, Integration, Applications and Governance and Operating Model).

Question to Consider:

4. *Are there any key areas of consideration missing from the capability requirements?*
5. *What existing projects and activities are supporting, or acting contrary to delivering these capabilities?*

Existing activities and initiatives collated so far

We have conducted a review of sector wide initiatives which play in the sector digitalisation and have identified a number that may be developing capabilities required for the power system in the future:

This list is inclusive of:

- Innovation projects like DESNZ's AAR project and the Data Sharing Infrastructure led by NESO
- Regulation such as Data Best Practice or Digitalisation Strategies and Action Plans
- Policy work such as the Smart Secure Energy System (SSES) or the energy smart data scheme.
- Industry activities such as Half hourly settlement and the role of the market facilitator.

6. *Are there any digitalisation related activities or initiatives needed to support the transition to clean power that you think are strategically important?*
7. *Of the activities or initiatives provided in answer to question six, what outcome and capability does that relate to?*

Summary of Questions to Consider

Below is a summary of the questions posed throughout this document – we would value your feedback on any which you can contribute to:

1. *What areas of focus can be accelerated by Digitalisation to support a clean power system?*
2. *What specific activities are needed in each of the five capability areas to achieve our clean power? – For example, what new physical components, if any are required to enable the outcome on overcoming barriers to network planning?*
3. *How can we ensure effective governance and collaboration across the sector to leverage benefits of digitalisation?*
4. *Are there any key areas of consideration missing from the capability requirements?*
5. *What existing projects and activities are supporting, or acting contrary to delivering these capabilities?*
6. *Are there any digitalisation related activities or initiatives needed to support the transition to clean power that you think are strategically important?*
7. *Of the activities or initiatives provided in answer to question six, what outcome and capability does that relate to?*

National Energy System Operator
Faraday House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

virtuales@nationalenergyso.com

www.neso.energy

NESO
National Energy System Operator