

Insights Forum ENA Open Networks

23rd March 2023

Thank you for joining the Open Networks Insights Forum

This meeting will commence at 10:00

- If you are unable to play the audio through your device, you can **dial in by calling +44 20 3855 5885** and using access code **466 223 301#**
- All microphones have been set to mute to avoid background noise.
- Please ask questions or make comments **via the chat function** throughout the meeting.
- Please note that the webinar will be recorded and made publicly available on [ENA's YouTube channel](#). Please do not turn your video on if you don't want your likeness to be recorded and shared.
- The slides from the webinar will be made publicly available on ENA's website.
- If you would like any further information about the Open Networks programme or have any feedback you would like to submit, please get in touch with us at opennetworks@energynetworks.org.

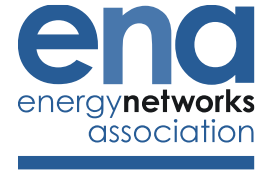
Agenda

| Item | Start | Finish | Time | Item | Presenter |
|------|-------|--------|------|--|--|
| 1 | 10:00 | 10:05 | 5 | Welcome from Chair Overview of agenda Housekeeping | Stuart Fowler (NG ESO) |
| 2 | 10:05 | 10:25 | 20 | Open Networks 2023 Overview of what Open Networks will be delivering 2023 and Q&A | Dr Avi Aithal (Head of Open Networks, ENA) |
| 3 | 10:25 | 10:45 | 20 | Standard Contract Overview of Standard Agreement Ver 2.1 and planned scope for Ver 3 development and Q&A | Andy Rice (NG ESO) and Wendy Mantle (SPEN-D) (Technical working group co-Leads) |
| 5 | 10:45 | 11:05 | 20 | Flexibility Products Overview of technical working group activity in 2023 and Q&A | Laura Brown (NPg) and Guy Shapland (SPEN-D) (Technical working group co-Leads) |
| 7 | 11:05 | 11:15 | 10 | Break | |
| 8 | 11:15 | 11:35 | 20 | Primacy Rules Overview of Increment 1 Primacy Rules and Increment 2 cost-benefit analysis and Q&A | Matt Watson (NG ED) and Stuart Fowler (NG ESO) (Technical working group co-Leads) |
| 9 | 11:35 | 11:55 | 20 | Planning Publications and Whole System Co-ordination Register Overview of 2022 updates to the Network Development Plan (NDP) Form of Statement and Q&A | Rita Shaw (Technical working group Lead, UKPN) |
| 10 | 11:55 | 12:00 | 5 | Recent and Upcoming ENA Events | Helen Jarva (ON Junior Project Manager, ENA) |
| 12 | 12:00 | 12:05 | 5 | AOB | Stuart Fowler (NG ESO) |

Open Networks 2023

Dr. Avi Aithal (Head of Open Networks, ENA)

Background



Open Networks 2022 highlights

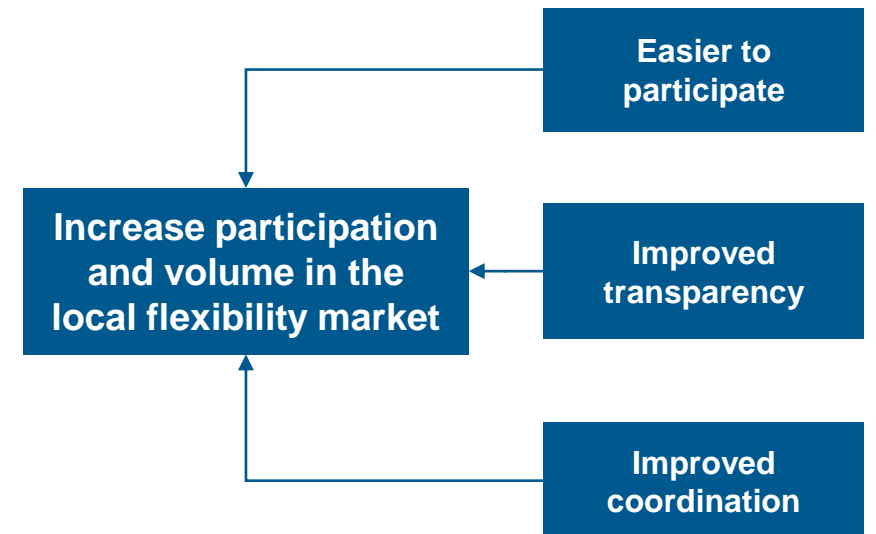
- 2022 marked **five years of work on the Open Networks (ON)** programme, a key driver in delivering the UK's Net Zero ambition as set out in [BEIS and Ofgem's Smart Systems and Flexibility Plan \(2021\)](#).
- Introduced the **Open Networks Challenge Group** to shape the direction of the programme, its priorities, and the outcomes it delivers by providing a more formal challenge function on behalf of the wider industry.
- **Unanimous support for the programme.** Stakeholders were strongly in support of ENA's and network companies' efforts to deliver the programme, especially acknowledging their commitment to providing resources and transparently engaging with stakeholders.
- **Noting key areas of improvement.** Our stakeholders noted that the programme needs to move beyond developing recommendations and strive to implement those recommendations swiftly and consistently across participating network companies.
- Need to focus on a smaller number of areas that lead to tangible results and **prioritise efforts on “big ticket items”** that flexibility service providers see as barriers to entering the market and deliver a consistent user experience for customers engaging with flexibility markets .

Open Networks 2023

In 2023, Open Networks is looking to demonstrate our ambition to address our stakeholders' concerns and refocus our activities around delivering tangible consistent changes to industry practices across the participating members, rather than stopping at recommendations for changes.

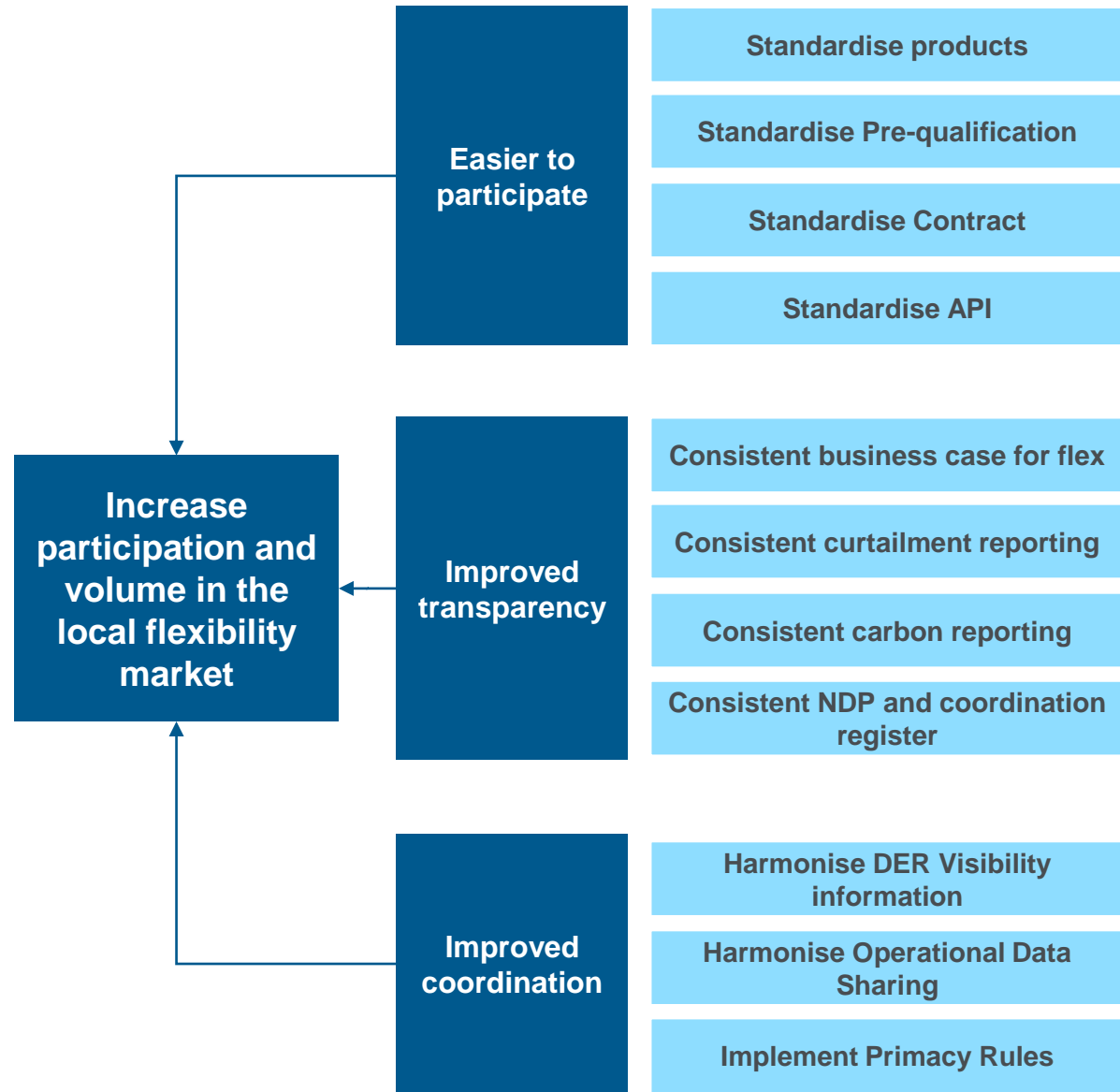
The focus of Open Networks will be to increase participation and volume in the local flexibility market. In line with the actions from the Smart system Flexibility plan, we will focus on:

- **Making it easier for flexibility service providers to participate in the flexibility market by standardising products, processes and contracts,**
- **Improving operational coordination between networks and companies to remove barriers to dispatch of services,**
- **Putting in measures to improve transparency of processes and decision-making.**



Open Networks 2023

- Programme objectives are delivered through a number of technical working groups.
- Individual areas have been scoped with specific measurable outcomes with clear success criteria and timelines for consistent implementation.
- These objectives will be delivered by consolidating the programme into three new workstreams aligned with the DSO roles as defined by Ofgem:
 - Planning and Network Development
 - Network Operation
 - Market Development



| |
|------------------------|
| Objective (open-ended) |
| Activity (directional) |

Planning and Network Development

| Technical working group | Description | Outcome |
|---|--|--|
| Carbon Reporting | Support Ofgem’s/BEIS’ initiative to achieve common methodologies for carbon reporting and monitoring across DNOs by the 2023 reporting and refine them further in 2024 reporting cycle. | All DNOs report using the agreed methodology by Dec 2023 & 2024. |
| Network Development Plan and Co-ordination Register | Review and update the Network Development Plan (NDP) by 2023 and the Whole Electricity System Coordination Register Form of Statement as required by 2024. | All DNOs report using the agreed methodology by Dec 2023 & 2024. |
| DER Information | Implement plans for receiving consistent information from Distributed Energy Resources (DER) with appropriate governance by April 2024 (and/or trigger code modifications as appropriate). | All DNOs use consistent DER visibility specifications by Dec 2023. |

Network Operation

| Technical working group | Description | Outcome |
|-------------------------------------|--|--|
| Primacy Rules for Service Conflicts | Define and implement ‘Primacy Rules’, including processes and information flows for the ESO and the DNOs to manage service conflicts. (Iteration 1 in April 2023 and iteration 2 in October 2023). | All DNOs implement designed processes and information flows by Dec 2023. |
| Dispatch Systems Interoperability | Development API standards for dispatch system interoperability across ESO and DSO for the summer 2024 flexibility tender. | All DNOs adopt common dispatch specification by Dec 2023. |
| Operational Data Sharing | Facilitating sharing real-time operational and forecasting data between ESO and DNO (and non-network stakeholders). | 80% of data shared between DSO-ESOs are harmonised by Mar 2024. |

Market Development

| Technical working group | Description | Outcome |
|-------------------------|--|--|
| Standard Agreement | Improve existing Standard Agreement for procuring flexibility services across DSO and ESO by aligning the contract schedules for flexibility tenders beyond December 2023. | All DNOs using common T&Cs and schedule headings by Dec 2023 |
| Procurement Process | Alignment of sign-up and pre-qualification processes for flexibility service procurement across DNOs by December 2023. | 80% of common DPS and PQQ questions across DNOs by Dec 2023 |
| Flexibility Products | Align DSO flexibility product definitions. At least 80% of tendered flexibility should be tendered through identical products by 2024. | 80% of flex market-testing is with common products by Dec 2023 |

**We'll be looking to include work on the alignment of the flexibility services settlement processes*

Programme-level activities (ENA-led)

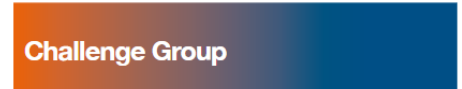
| Technical working group | Description |
|--|---|
| Common Evaluation Methodology | Governance of Common Evaluation Methodology (CEM) (and tool) used to evaluate flexibility and traditional intervention options. |
| ANM Curtailment Information | Alignment of sign-up and pre-qualification processes for flexibility service procurement across DNOs by December 2023. |
| Baselining tool | Hosting the Baselining tool and tracking hits to the tool. |
| Strategic Roadmap for flexibility | Review the state of play of the industry, ON and innovation projects and update the roadmap to reflect the latest view. |
| Conflicts of Interest and Unintended Consequences (Col) Register | Updating the heatmap and risk register for entries agreed to be tracked via Open Networks (in Dec 2022 publication). |
| Flex figures | Review and update flexibility figures for 2022/23 based on 2023 C31E submissions. |

Open Networks 2023 Governance

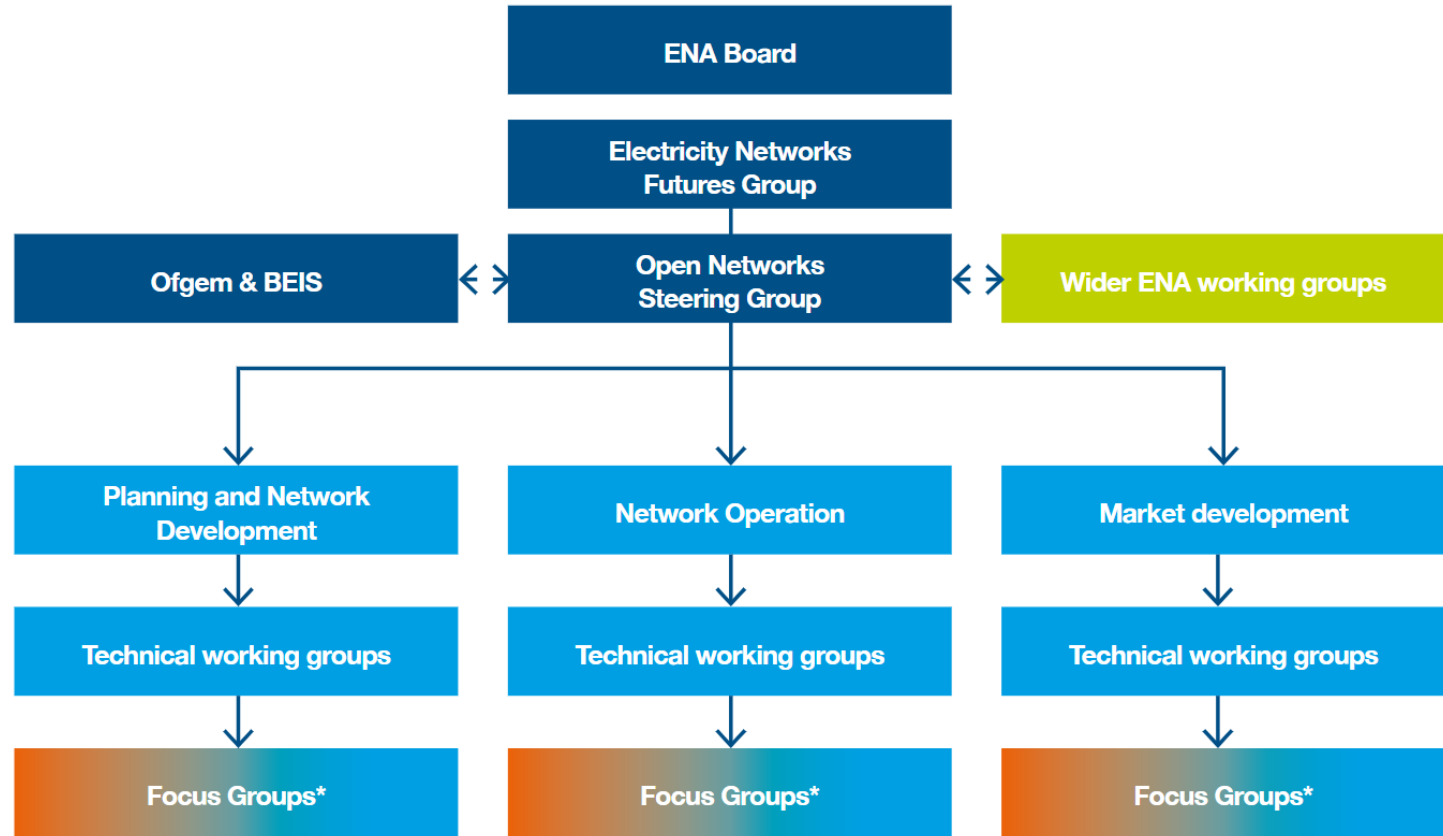
Key

- Strategic / Senior groups
- Stakeholder groups
- SME / Delivery groups
- Wider ENA

Challenge, review & shape proposals



Broader engagement



*optional

Open Networks 2023 Governance

Under the **ENA board**, Electricity Networks Futures Group (ENFG) will be the group that holds the funding for the Open Networks programme but will delegate authority for the spend of that budget and the management and delivery of the programme to the Open Networks Steering Group.

The **ON Steering Group** is the key group with the responsibility to direct the delivery of the ON programme to time, cost, and quality. The ON Steering Group will be a small group with a single representative from each operator organisation including BEIS, and the ENA ON Team. Additionally, the Steering Group will also be attended by the ON Challenge Group Chair to provide the link to the Challenge Group.

The **ON Challenge Group** - chaired by an independent Chair, the ON Challenge group shape the direction of the programme, its priorities and the outcomes that it delivers by providing a more formal challenge function on behalf of the wider industry.

Ofgem and BEIS provide input into the ON Steering Group, specific workstreams and product teams where this is of particular value. The programme team liaise with Ofgem and BEIS on an ongoing basis to discuss progress and address any issues.

The **Insights Forum** has been setup alongside in 2022 for stakeholders wishing to engage more broadly with the programme.

Technical working groups will be formed from ENA member resources to develop key areas under in the different workstreams., which will be led by a Lead who will have accountability for delivery of their products in line with the scope and timescales set out in the PID.

For key working groups, Open Networks will facilitate **Focus Group** consisting of key industry stakeholders at key development stages for stakeholder to feed into the development of the subject area. These targeted Focus Groups will be facilitated by the Technical working group Leads.

Q&A

Standard Agreement

Andy Rice (NG ESO) & Wendy Mantle (SPEN-D)
(Technical working group co-Leads)

Introduction

Review of 2022 deliverables for Standard Agreement working group

- **Gap analysis**
- **Main focus – service-based schedules**
 - Rationale for moving to service-based schedules for the Standard Agreement
 - Presented in two Open Networks Challenge Group meetings in 2022
 - Consulted on schedule approach in August 2022

2023 Standard Agreement technical working group focus

Review of Standard Agreement focusing on:

- Liabilities
- Domestic participation
 - Access to site
 - Data protection – GDPR
- Cyber security
- Anti-corruption and bribery
- Plus review of past industry feedback
- Collaboration with other ENA working groups (Procurement Processes & Primacy Rules)
- Further alignment of service-based schedules

2023 Standard Agreement technical working group focus - continued

Review of standard agreement focusing on

Liabilities - We are looking at the alignment of liabilities focusing on values, services which may be a barrier to participation whilst providing the company with sufficient cover.

Domestic participation - With services participation seeing an increase from domestic assets we are looking at clauses that may hinder participation, including access to site and data protection.

Cyber security - With the increased focus on cyber security we are looking to develop standard clause taking account of each company's requirements.

2023 Standard Agreement technical working group focus - continued

Review of standard agreement focusing on

- **Anti-corruption and bribery** – Review of latest legislation and further standardisation across the organisations.
- **Collaboration with other ENA work groups (Procurement process + Primacy work)**
- As the output of other working groups materialises we will be looking to reflect this where necessary in the Standard Agreement.
- **Further alignment of service-based schedules** - This will focus standardisation of content where applicable and allow for closer to real-time procurement and moving toward a framework approach to contracting.
- **Review industry feedback** – whilst working on the areas mentioned above, we will consider feedback received that focus on these areas plus any new topics.

Q&A

Flexibility Products

Laura Brown (NPg) & Guy Shapland (SPEN-D)

(Technical working group co-Leads)

Flexibility Products

- The ENA ON have developed four distinct, standardised Distribution Flexibility Market Products

| Product | DNO Requirement | Payment and Dispatch Structure |
|----------------|--|--|
| Sustain | To manage an ongoing requirement to reduce peak demand | Typically, dispatch is scheduled well in advance for a fixed fee |
| Secure | To manage peak demand on the network, usually weekday evenings | Predominantly paid based on utilisation, but with some use of availability payments also. Timing of dispatch varies by DNO (e.g. WPD dispatch one week ahead while UKPN dispatch in real time) |
| Dynamic | To support the network during fault conditions, often during maintenance work | Typically dispatched at short notice with low availability payments and high utilisation payments |
| Restore | To support the network during faults that occur as a result of equipment failure | Typically dispatched at short notice with low availability payments and high utilisation payments |

Outcomes for 2023

Flexibility Products

- Alignment of products specifications, integrate with 2023 tender rounds and revise the Catalogue

| Workstream | Technical working group | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | |
|--------------------|-------------------------|--|-----|------------------------|---|-----|------------------------|---------------------|------------------------|---|--|-----|------------------------------|--|
| Market Development | Standard Agreement | Develop Standard Agreement Ver 2.1 | | | | | | | Stakeholder engagement | | | | | Implementation of Ver 3 Standard Agreement |
| | | Proposal to standardise format of contract schedules (Ver 3) | | | | | | | | | | | | |
| | Procurement Process | Pre-qualification standardisation proposal | | | | | | | | Implementation proposal - internal validation | | | | |
| | | | | | | | Stakeholder engagement | | | | | | | Implementation revision to plans/specs if needed |
| | | | | | | | | | | | | | | |
| | Flexibility Products | Updated active power product definition/specification | | | | | | | | | | | | |
| | | | | | | | | Implementation plan | | | | | | |
| | | | | | | | | | | | Implementation and revision as appropriate | | | |
| | | | | | | | | | | Flexibility Product Catalogue Stackability update | | | Non-standard products review | |
| | Settlement Process | Review of existing practices | | Detailed delivery plan | Timeline to be completed following completion of detailed delivery plan | | | | | | | | | |

| | | | | |
|------------------------|-------------|----------------|---------------|-----------|
| Stakeholder engagement | Development | Implementation | Annual update | Continued |
|------------------------|-------------|----------------|---------------|-----------|

Development and Implementation plan

Development (currently working on this)

- Collation of all the existing procured product use cases and technical specifications
- Detailing interpretations and technical requirements such as ramp rates etc.
- Analysis of variations (comment on initial findings)
- Discussions on validity of current product offerings and consensus on relevance moving forward
- Agreement on alignment of specifications
- Provide recommendation to Steering Group

Implementation

- Seek agreement from the Market and the Regulator
- Plan implementation ideally ahead of autumn tender rounds
- Seek agreement internally
- Signal to the Market the intentions
- Implement

Engagement and Communication

- Ensure consistency of deployment
- Engage with the Market to ensure they are well briefed on the plans
- Provide opportunity for feedback and challenge
- Revise the Product Catalogue
- Revise Stackability Report if applicable

Q&A

10 Minute Break



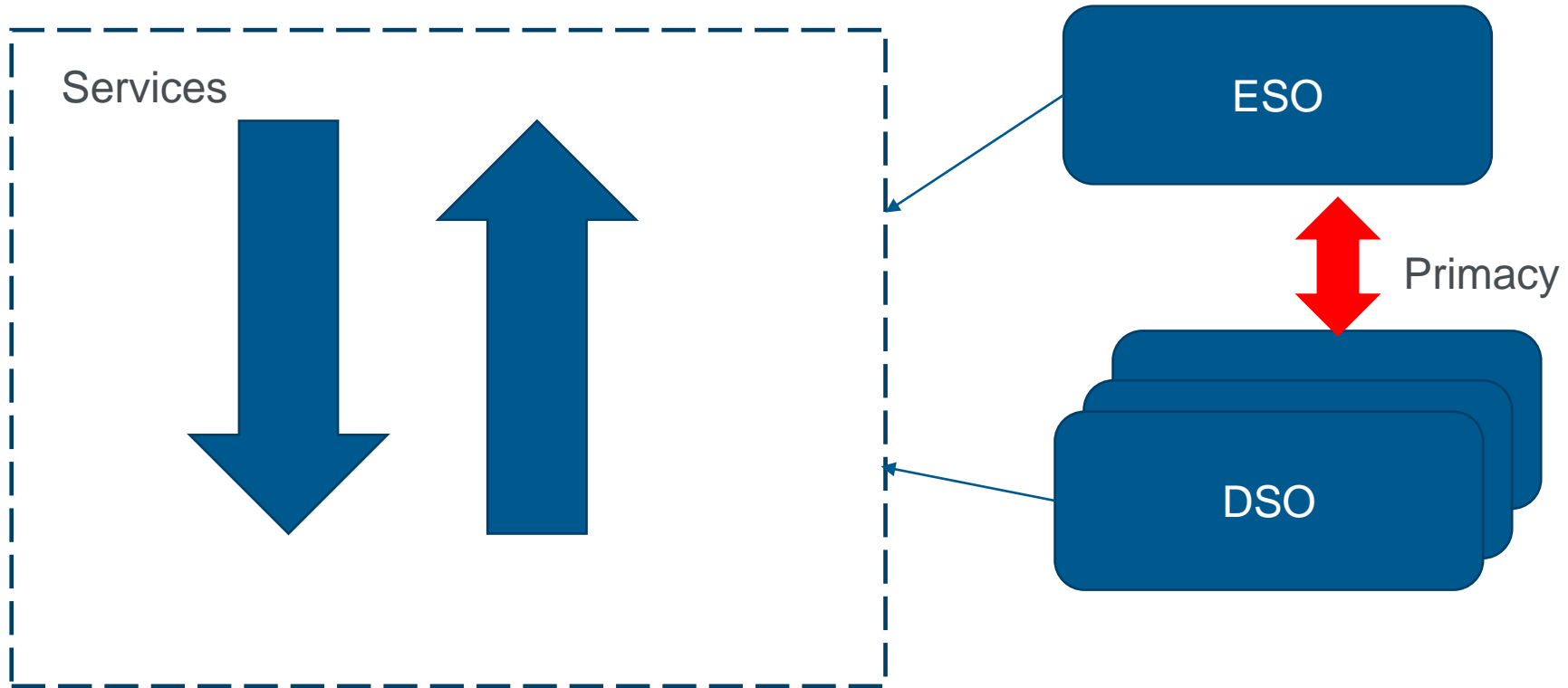
Primacy Rules

Matt Watson (NG ED) and Stuart Fowler (NG ESO)
(Technical working group co-Leads)

Agenda

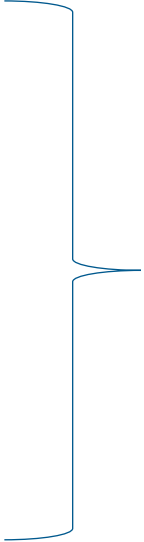
- What is Primacy?
- Why is it important?
- What are we doing about it?
- Where have we got to?

Primacy – What is it?



Why is it important

- System Safety
- Economic
- Balance
- Customers
- Net Zero
- Whole System
- ESO to FSO



The wider system benefits that align with Ofgem's strategic aims and Government Policy

What are we doing about it?

- Industry Working Group
- All DNOs and ESO
- Large number of Use Cases
- Increments planned out
- Current plan - Rescope and replan to accelerate delivery
- But, this is a complex area
- Longer term arrangements as well as deliver value/benefits in the here & now

Where have we got to ?

Today

| Product Element | Feb-22 | Mar-22 | Apr-22 | May-22 | Jun-22 | Jul-22 | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 | Apr-23 | May-23 | Jun-23 | Jul-23 | Aug-23 | Sep-23 | Oct-23 | Nov-23 | Dec-23 | Jan-24 | Feb-24 | Mar-24 | Apr-24 | May-24 | Jun-24 | Jul-24 | Aug-24 | Sep-24 | Oct-24 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Iteration 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop TCM & BM Rules & Processes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement BM rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test BM Rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement TCM rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test TCM rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Review rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Publish V1.0 of rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Establish governance process | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement Rules across DNOs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop Investment CBA process & implementation plan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Finalise Investment CBA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iteration 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop ANM vs STOR rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engage Consultants | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Develop Rules Analysis CBA for Single Usecase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Select Rules to implement & Delivery Plan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Understand Wider Rules Analysis CBA framework | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Review rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Publish V1.0 of rules | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Implement Rules across DNOs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Iteration 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Select Use cases & Develop Delivery Plan | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Increment 2- review based on learning to date

Where have we got to?

Mid-
March

April
2023

June
2023

Sep
2023



ENA/Ofgem
Sign Off of BM
Use Case

- DNO's with no risk of conflict will implement throughout the year
- TCM Use Case testing and implementation
- UKPN implementation of RDP and enhancement to BM Use Case
- Review of status/plan/comms and replan
- Review of Codes/Data etc.

Q&A

Planning Publications – The Network Development Plan (NDP)

Dr Rita Shaw CEng MEI (UKPN)

Technical working group Lead

Network Development Plans

New regulatory requirement for DNOs – first published 1st May 2022

- **A medium-term view of their ‘best view’ plan for network development**
 - Based on network as in the previous Long Term Development Statement

- **Proposed infrastructure and flexibility services for next ten years**
 - Shares what, where and why with stakeholders
 - What development occurring in my area?
 - What flex services will be procured?

- **Indicative unused substation capacity per year per scenario**

Contents of the NDP

The “NDP” comprises three standalone reports – all to be published for the first time 1st May 2022

1) Network Development Report (NDR) – update every 2 years

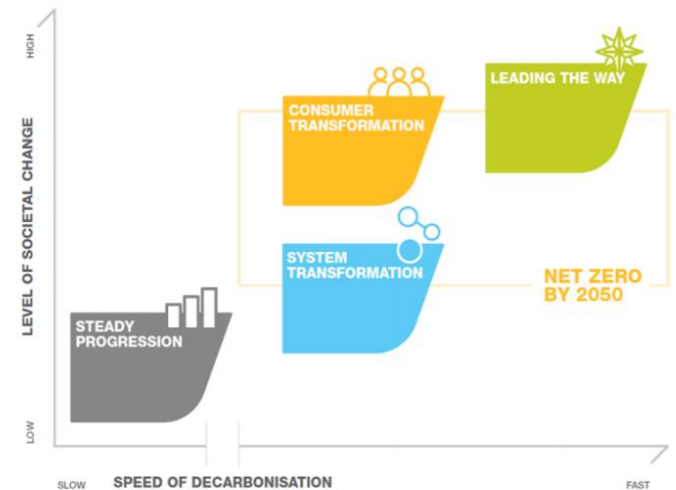
- Introduction to the purpose of the NDP
- High level plans 0-10yrs from highest distribution voltage (eg 132kV) to the lower voltage of primary substation
 - For network infrastructure & flexible service requirements, plus justification

2) Network Headroom Report (NHR) – update annually – consultation version produced August 2021

- For all Grid and Primary substations (those in LTDS)
- Demand headroom and Generation headroom over time to 2050 in all DFES

3) NDP Methodology – update as required

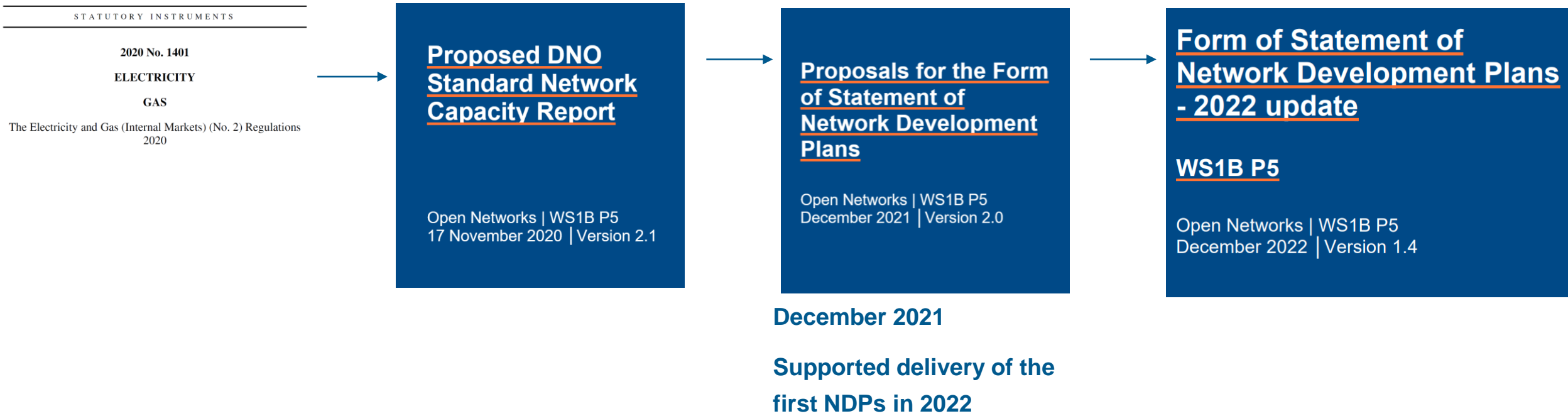
- Explain calculation of the network headrooms
- Explain end-end process and assumptions to justify network developments



What has been produced?

The ENA Open Networks programme engaged and developed a ‘form of statement’ with the detail of how to deliver on the licence requirement.

This delivers a common approach for all DNOs’ NDPs.



Learning from collaboration and experience

Form of Statement of Network Development Plans - 2022 update

WS1B P5

Open Networks | WS1B P5
December 2022 | Version 1.4

Update in December 2022

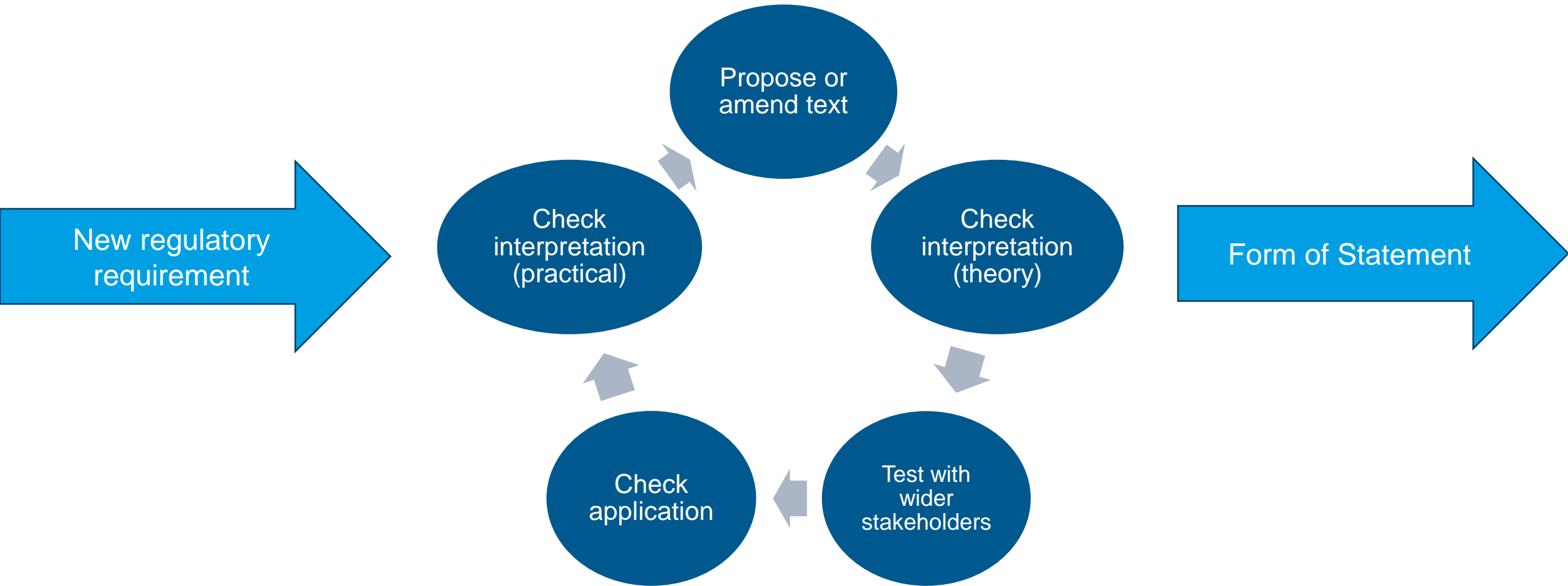
Learns from feedback collaboration and experience

Support the 2023 and 2024 NDPs

Clarifications

[ON22-WS1B-P5 NDP FoS 2022 update v1.4.1 \(energynetworks.org\)](https://energynetworks.org)

Benefits of working via Open Networks on defining NDP



Excerpts from the ‘Form of Statement’

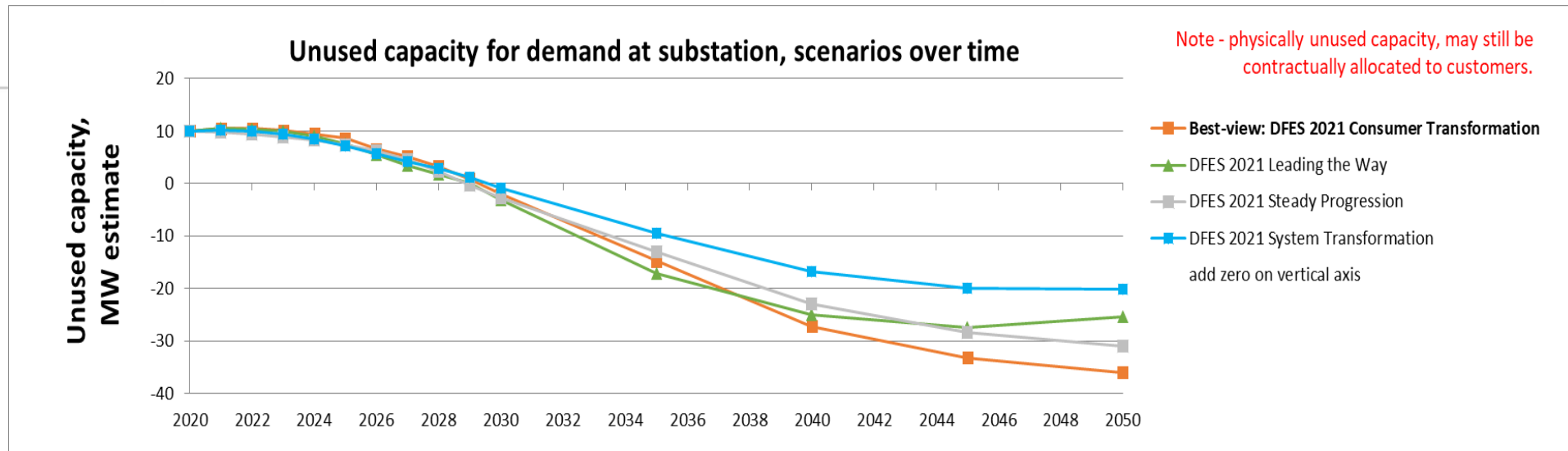
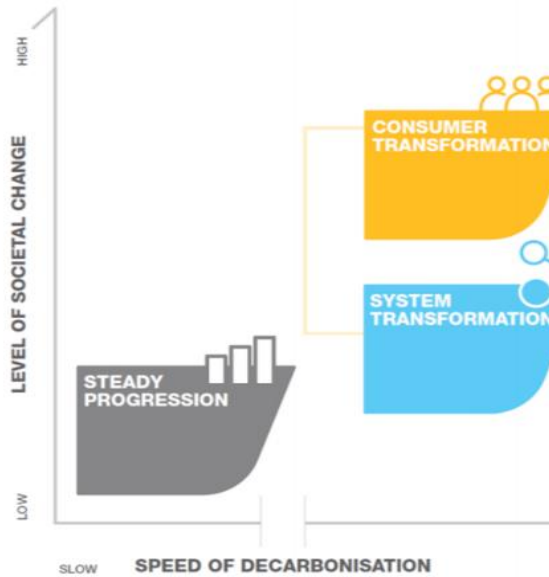
Network **Scenario** Headroom Report (per scenario and year)

| Substation Name | Voltage kV | BSP Group | GSP | Substation location | Demand Headroom MW | Generation Headroom MW |
|-----------------|------------|-----------|-----|---------------------|--------------------|------------------------|
|-----------------|------------|-----------|-----|---------------------|--------------------|------------------------|

Network Development Report

| Flexibility services | New infrastructure |
|---|--|
| <ul style="list-style-type: none"> • Magnitude • Expected timescale • Voltage • Location of the requirement • Nature of requirement / flexibility product type, for example post or pre-fault • Nature of the service, for example demand-side response, energy efficiency, or other alternative to asset-based reinforcement | <ul style="list-style-type: none"> • Expected timescale • Details of connectivity including voltage • Asset quantities approx. circuit lengths, number of transformers etc • Equipment ratings • Approximate geographical locations and options for possible circuit routes |

Example output from Network Scenario Headroom Report



Areas clarified in the 2022 update

Definition of headroom as unused rather than contractually available capacity

Approach to consultation

Clarifying the upper and lower voltage boundary in the NDP
MW or MVA units

Scope of infrastructure projects in the Network Development Report
Comparison and relationship between the LTDS, NHR and NDR methodologies

Areas for future clarification – beyond the NDP

- Transmission-distribution interface is outside the NDP scope
- BUT clear stakeholder interest in providing investment, headroom and capacity information at the transmission-distribution interface.

Electricity Ten Year Statement
for transmission system

Grid Supply Points

Network Development Plan
for distribution

- To supplement the 2023 NSHR, working with the Transmission Owners to provide 'Earliest in Service Dates' per Grid Supply Point for demand and generation
- Not per year per scenario like the rest of the NSHR, but addresses the stakeholder feedback.

Q&A

Recent and upcoming ENA events

Helen Jarva (ON Junior Project Manager, ENA)

Recent and upcoming ENA events

Open Networks 2023 Launch Webinar

21 February 2023

[Presentation slides](#) and a [recording of the webinar](#) are available online.

Safety, Health and Environment (SHE) Management Conference

24 – 25 May 2023

The 32nd annual SHE Management Conference will take place 24-25 May 2023 at Croke Park, Dublin and is hosted by ESB Networks. [Register online.](#)

AOB