

Autumn OC2 Forum

1 October 2026

Agenda

Topic	Main Speaker(s)	Time
Welcome & introduction	Gabriel Diaz	10:00 – 10:10 (10 mins)
Winter planning outlook & considerations	Bethany Grant Victor Ulu Louis Priday	10:10 – 10:55 (45 mins)
Progress on Dynamic Line Ratings (DLR)	Mat Hofton	10:55 – 11:25 (30 mins)
Update from System Access Reform (SAR)	Alex Knight Andy Henderson	11:25 – 12:10 (45 mins)
Q&A		12:10 – 12:30 (20 mins)

Key Points

Ask questions and give feedback: Use the inbuilt Teams Q&A functionality or raise your hand when Q&A is opened to ask questions.

Submit early: Ask questions early to give our teams time to answer.

Keep it relevant: Please ensure questions are relevant to Network Access Planning and the content presented.

Question Order: Questions will be answered in upvoted order. Some may be taken away or answered later.

Q&A: All questions will be recorded & published.

Feedback: Please provide your valuable feedback in the poll at the end of the event.

Please remain on mute while our presenters are speaking, you will have the opportunity to contribute to questions and discussion at the end of the forum.



Welcome & Introductions

Gabriel Diaz

Since we last met

Summer 2026 in review

3,521

outages released

Apr–Aug 2026

18,072

plan changes

additions, updates and cancellations

1.14

F2F per 1,000

4 events cumulatively

£392.8m

customer value opportunities

6,536 GWh delivered to end-Aug

01 Maintaining system security

System security was maintained through low demand, voltage challenges and a heavily constrained network.

- Outage moves protected voltage security, including Generation outage optimisation.
- Strong collaboration with DNO's for enhanced Voltage management mitigations.
- Critical repairs were enabled at short notice and completed ahead of time.

02 Delivering 3,500+ outages

Delivery remained high despite significant churn and increasing interaction between outages, connections and reinforcement work.

- 9,382 outage additions to the current-year plan
- 6,187 updates to existing outages
- 2,503 outages moved to TBA or cancelled

03 Modernising outage planning

Strong delivery, but material pressure remains from late change, unplanned work, new requirements and complex prioritisation.

- Delivery of SAR remains critical and it's already enhancing how we manage cross-industry coordination.
- Balancing system access needs between Connections, Strategic Infrastructure, Network Upgrades, Maintenance and Repairs.
- Initial stages of AI development for improved assessments.

Winter planning considerations

Early Winter Outlook Overview

Final winter outlook report expected to be published around end of October.

Key message from Early winter outlook published in June:

Margins

Our analysis indicates that margins will be adequate, within the Reliability standard and comparable to recent winters.

The loss of load expectation (LOLE) associated with our de-rated margin is below 0.1 hours, which is well within the Reliability Standard of 3 hours.

The de-rated margin remains comparable to winter 2024/25 and 2025/26, as an increase in forecast peak demand has been largely offset by new capacity across a range of technologies, including battery storage, gas-fired power generation and wind generation.

Operational surplus

Our analysis shows that demand, and our reserve requirement, can be met under the forecast range of operational conditions expected this winter.

We expect a sufficient operational surplus throughout winter under a wide range of scenarios for demand, wind generation and generator and interconnector availability.

There may still be tight days when we need to use our standard operational tools, including system notices.

Markets

Early indicators suggest adequate generation availability in key interconnected power markets, but uncertainties remain.

Power prices remain above winter 2025/26 levels, with conflict in the Middle East affecting global energy prices.

We will continue to work closely with our strategic partners to monitor the fundamental factors influencing global energy markets and, where necessary, build resilience and mitigate risks.

We will continue working closely with neighbouring Transmission System Operators to coordinate and optimise interconnector flows.

Day Ahead Strategy (DAS) Margin Assessments

10:15–10:30

Bethany Grant
James Gawne

Day Ahead Strategy

Assesses upward and downward margin from day ahead to two weeks ahead.

Maintains operational support tools

Identifies risks and emerging operational issues before they become incidents.

Report into Electricity National Control Centre (ENCC). Feeding risks into the Operational strategy team

How do we assess upwards margin?

Upwards Margin assessments

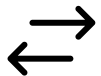
$$\text{System margin} = \text{Available Generation} + \text{Wind} + \text{Interconnector Flows} \\ - \text{Constrained Generation} - \text{Demand} - \text{Reserve}$$



Available generation – Assume all available generation can run.



Wind – latest wind forecast.



Interconnector flows – Use nominations where known, forecasts otherwise.



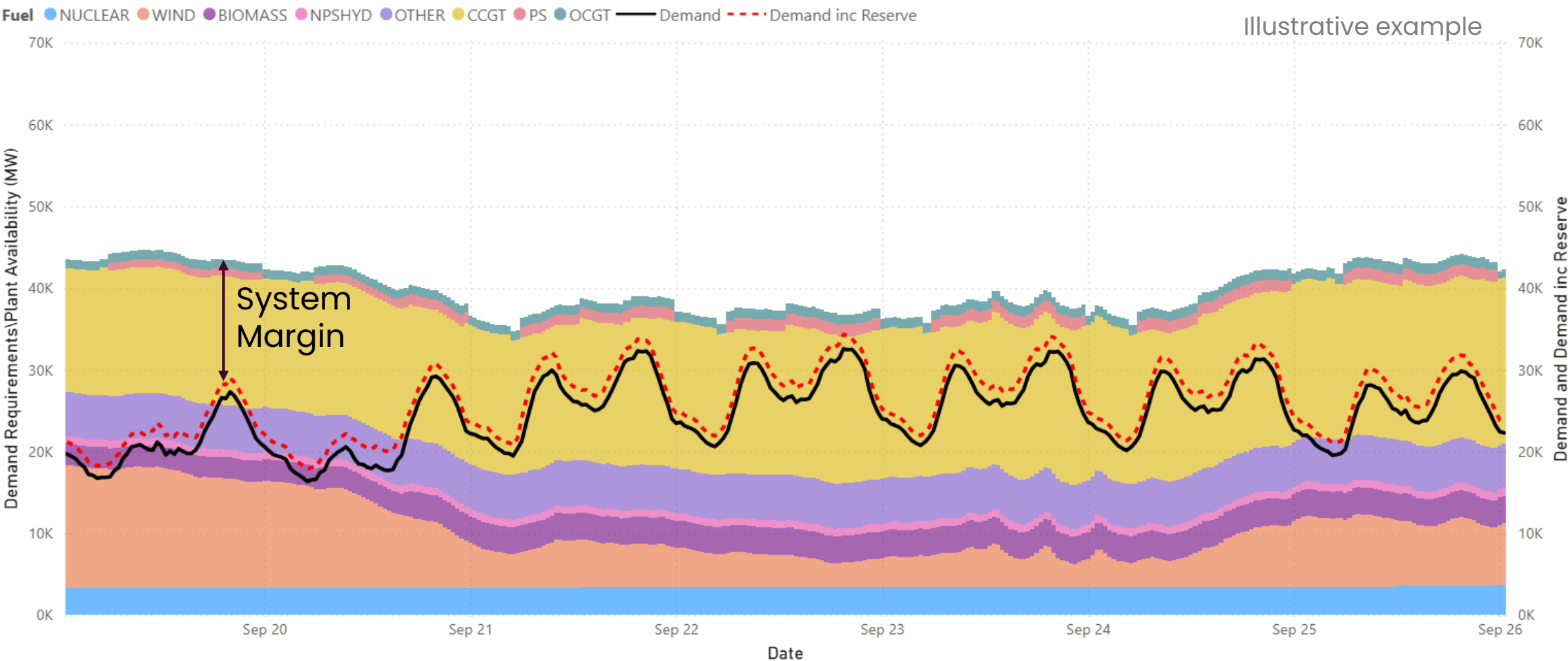
Demand and reserve – Combine NESO demand forecast with the operating reserve requirement.



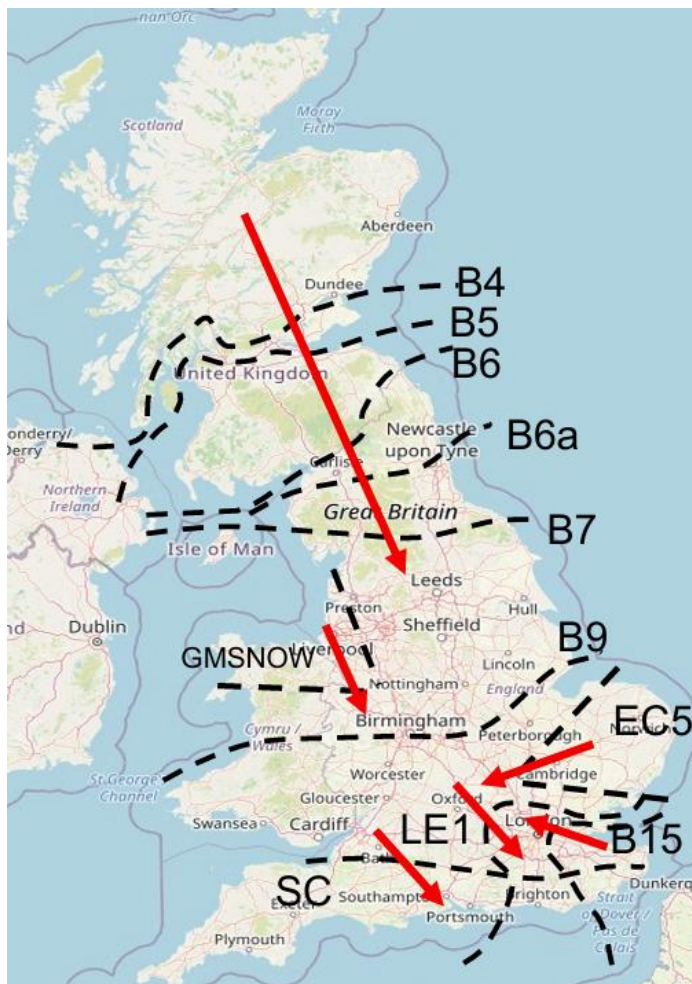
Network constraints – Reduced generation due to system limits.

Upwards Margin assessments

Half Hourly Surplus D+1 to D+7



Network constraints reduce usable generation

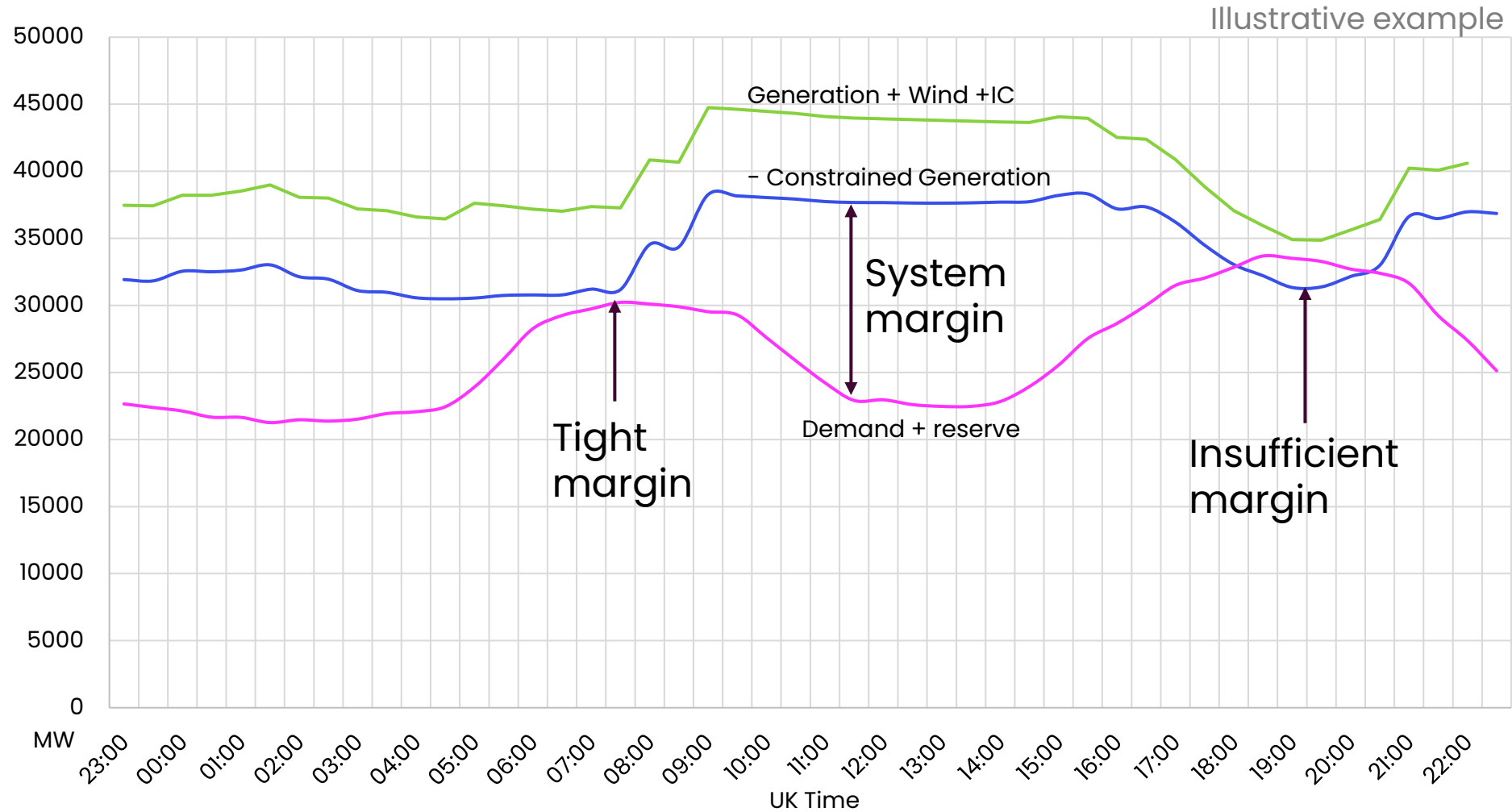


Illustrative constraint boundaries

- The transmission system is limited in its capacity to flow power (i.e. constrained)
- We model these constraints as specific boundaries with a limit on the volume of power that can flow across the boundary
- When a boundary limit is met, generation behind that boundary may be available but cannot be fully used to meet demand elsewhere.

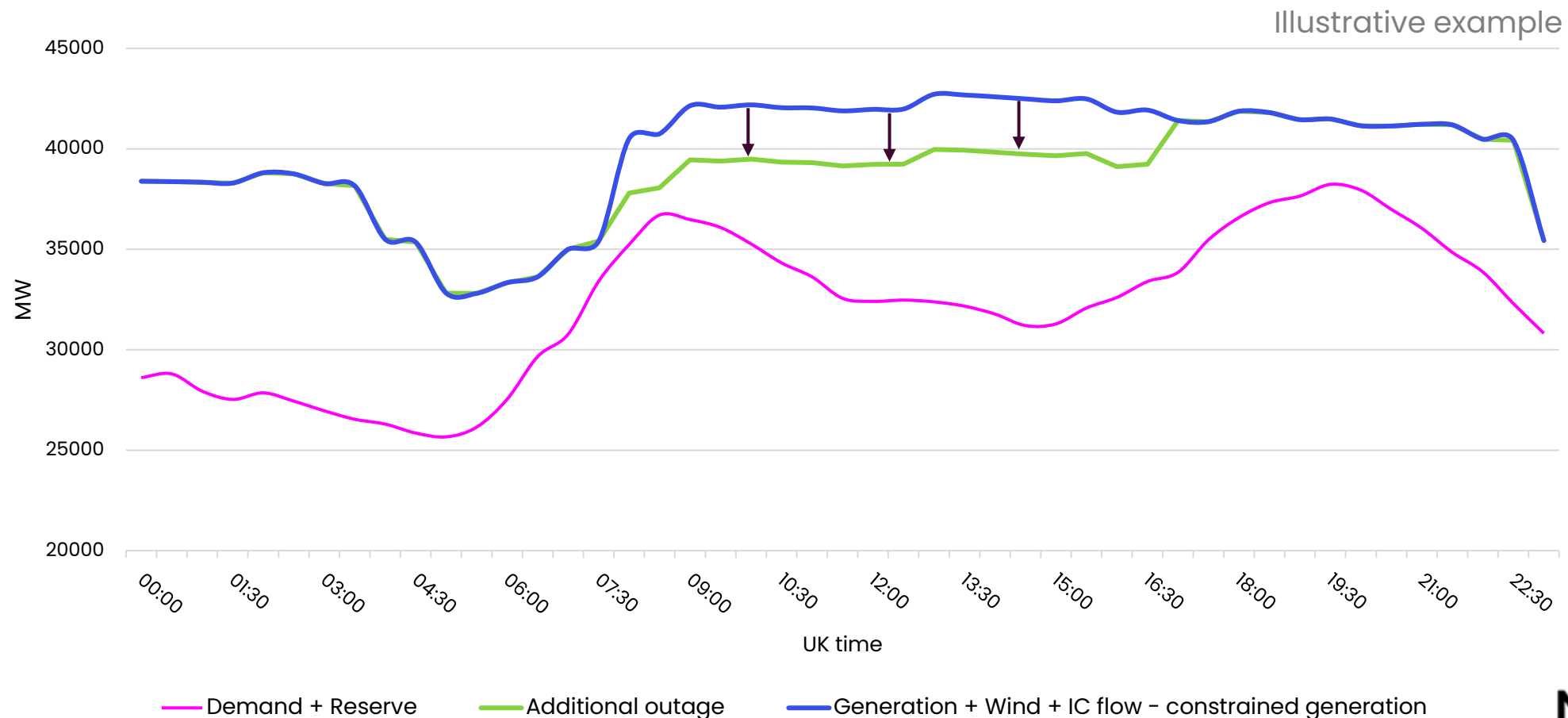
Our margin model accounts for some of the most significant constraint boundaries, giving a more realistic view of usable generation.

Constrained margin assessment



Outages reducing margin

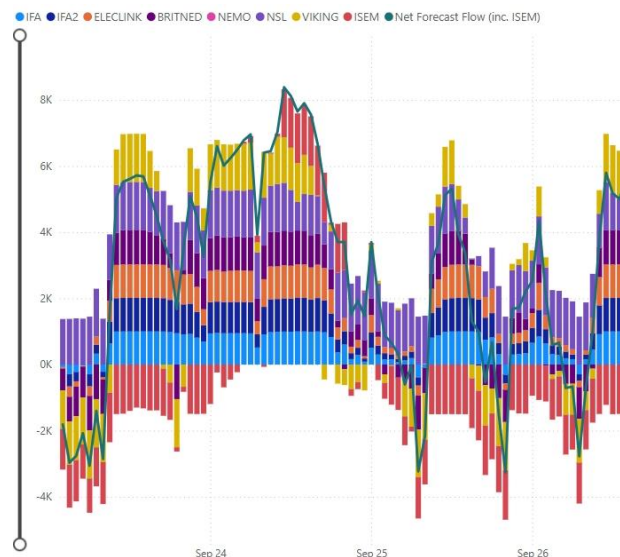
Example: Multiple outages lower the constraint limit between 08:00 and 17:00, tightening operational headroom by ~3GW.



Volatility in margin assessments

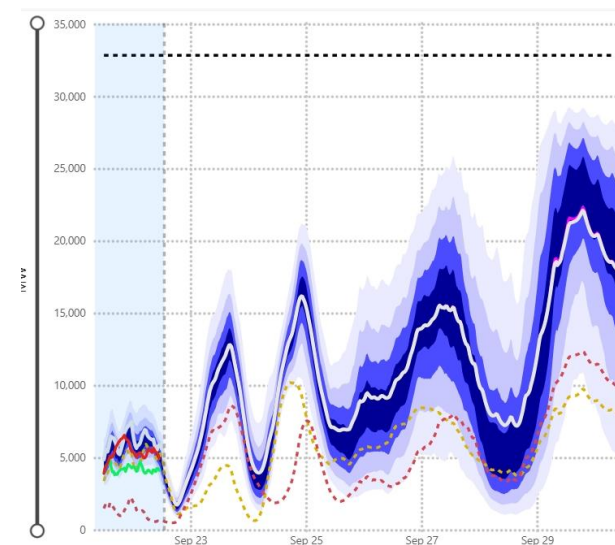
INTERCONNECTOR POSITIONS

Approximately 10 GW can move to and from the UK through interconnectors. Final IC nominations are not available until around 13:30 day ahead, and intraday trading can move the position again.



WIND FORECASTS

Forecast output changes as updated weather information arrives. Error in forecast improves closer to real time.



Uncertainty in input data propagates through to margin assessments. This error reduces closer to real time but does not disappear.

Winter Planning and Winter ERTS Process

10:30–10:40

Victor Ulu

Winter Planning and Winter ERTS Process

What is the Winter ERTS Process?

Winter ERTS (Emergency Return to Service) process runs from first week of November to last week of February in the coming year (Week 45 – Week 9).

The ERTS time allows the recall of transmission outages if generator margin is very tight (or for other urgent operational reasons)

Transmission outages can cause constraints and restrict available generation to meet demand

During the winter period, outages with an ERTS time ≥ 24 hrs undergo a risk assessment process before being planned

Outages that leave generation at single circuit risk are avoided

Where the work is essential, a risk assessment and mitigation checks are completed

Risk Assessment Considerations

Criticality of the work.

Timing, why does the outage need to be planned in winter?

What are the impacts of delaying or not completing the work?

Can arrangements be put in place to reduce and/or profile the ERTS time through the outage period?

What checks have been completed to confirm that ERTS times can be met?

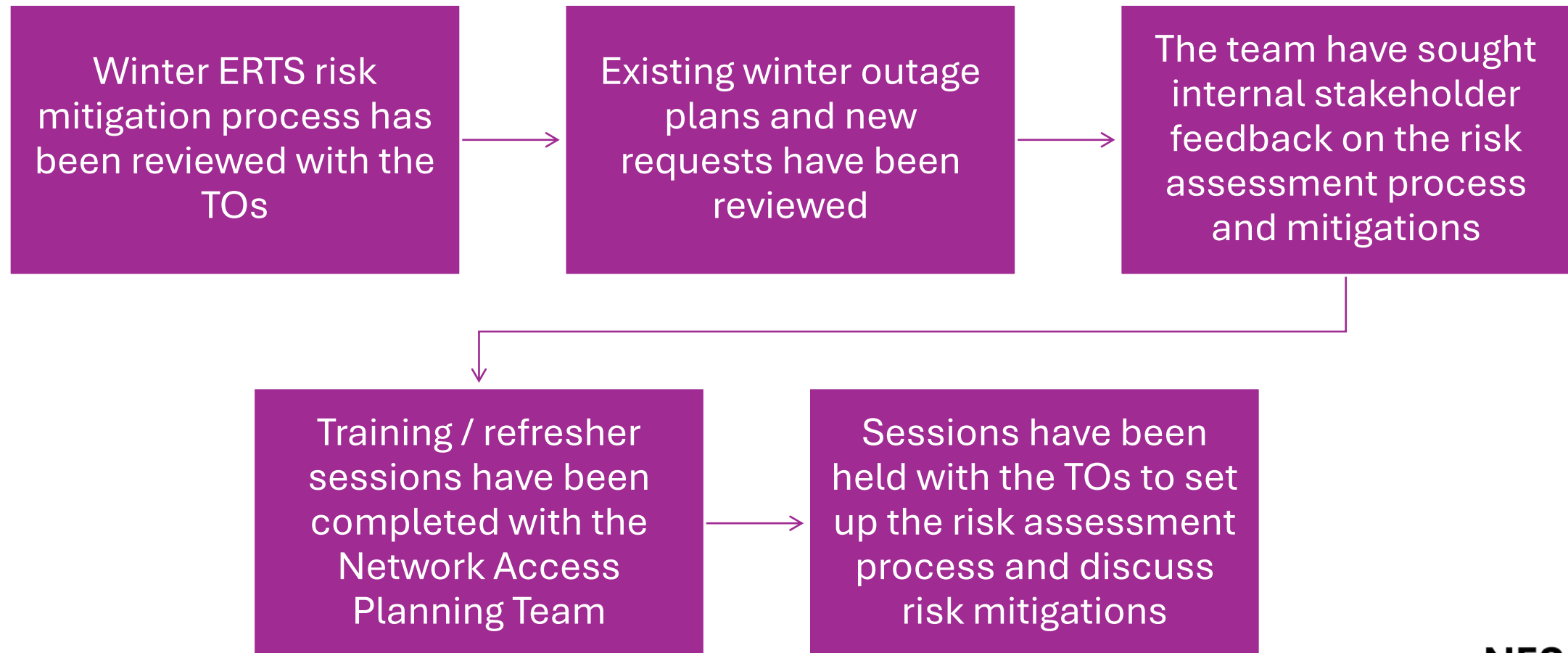
What other options have been considered to mitigate operational risk? E.g. extended working hours, works bundling, enhanced circuits rating, network reconfiguration, operational tripping schemes.

Health checks, inspections, maintenance, hot joint surveys that have been carried out.

Are there any conflicting outages that could be deferred or recalled?

Investigate enhanced circuit ratings options and enhanced post fault actions – to minimise or remove generator restriction.

Winter Planning and Winter ERTS Process

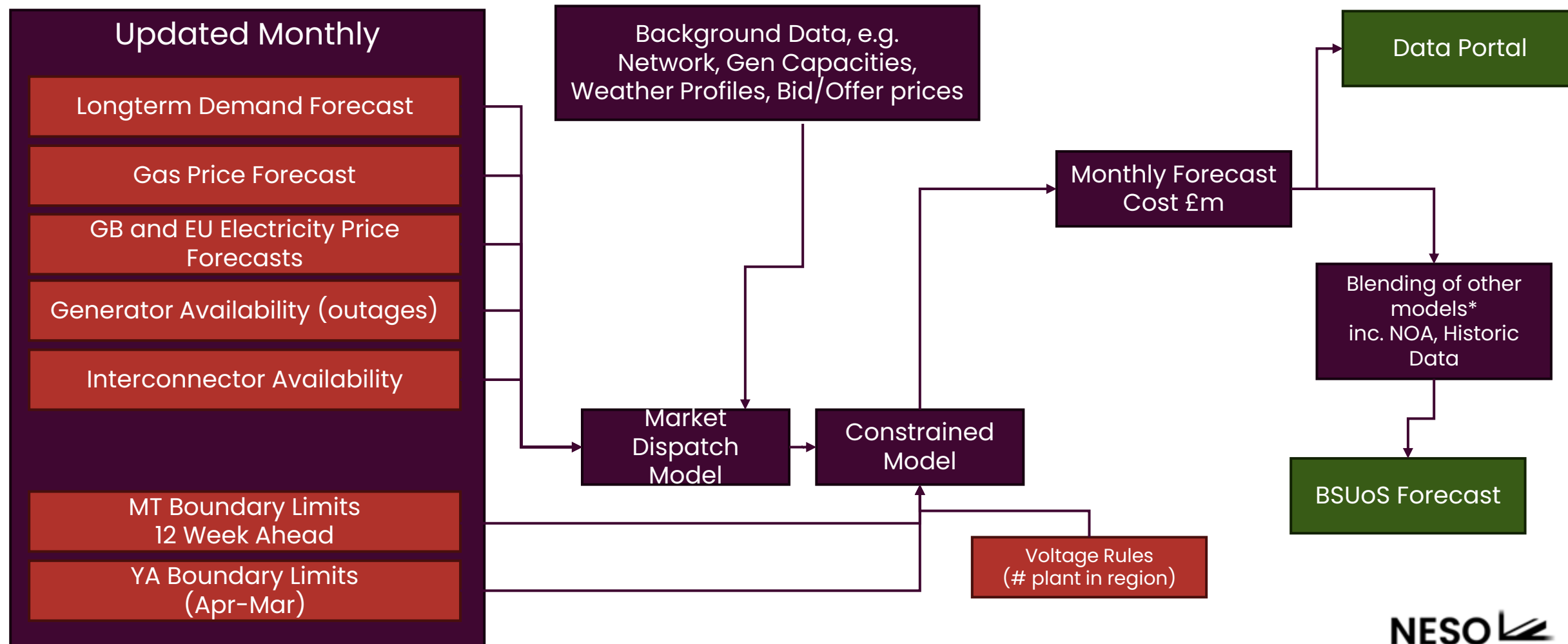


Constraint Cost Forecasting

10:40–10:55

Louis Priddy

Process – Generating The Forecast



Key drivers of costs

Constraint costs are influenced by both long and short-term drivers, factors within and outside the control of NESO

Network Capability

The volume of power able to flow across congested parts of the network.

Network Outages

The outage plan is continually updated at a 12 week ahead timeframe.

Gas Price

The largest changes month to month are typically due to revised gas price forecasts

Generation Outages

Where large units behind constraints move or extend outages this sometimes impacts the forecast costs.

Weather (Wind)

We use consistent wind data between model runs, so this won't impact the forecast. However, it does have a large impact on the outturn costs – particularly looking at individual months.

Gas Price Volatility

Gas Price Forecast (£/GJ)



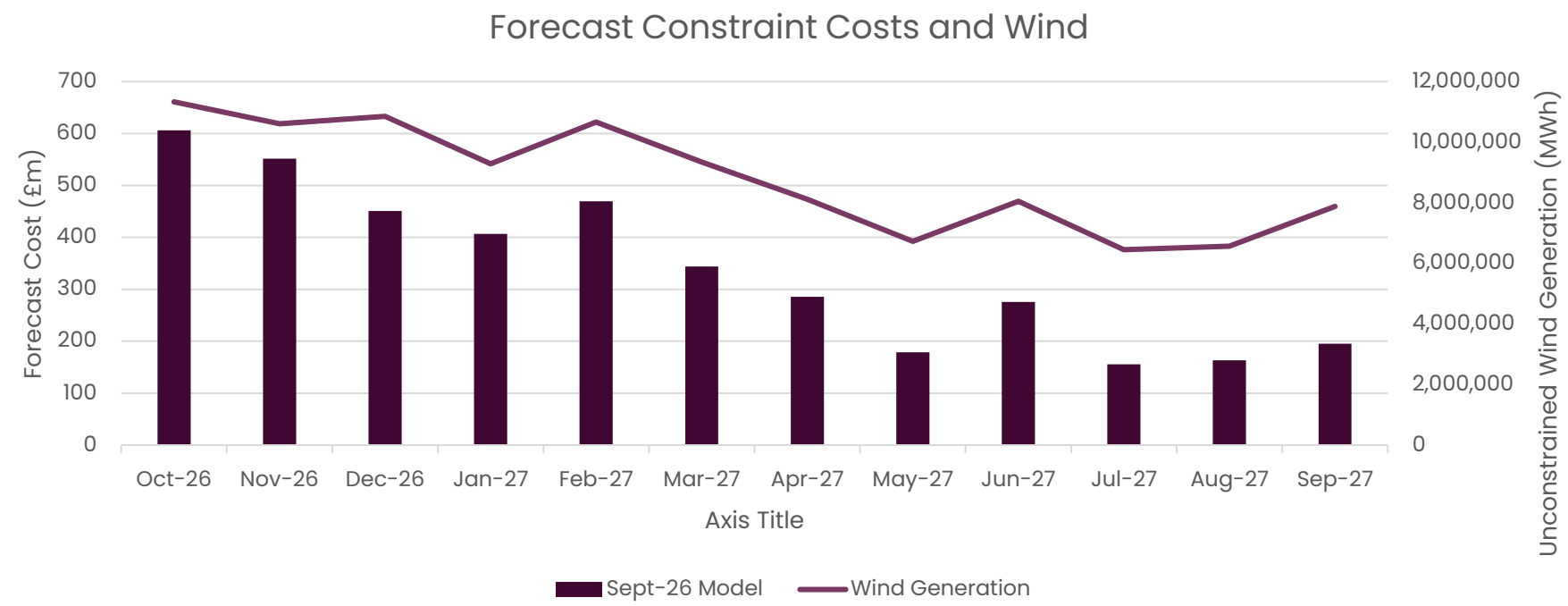
Gas prices jumped 78% between the end of Feb and the end of Mar.

Applying just this gas price change, modelled constraint costs **increased by 35%.**

Roughly speaking, if gas prices double, the forecast costs increase by a half. Over half the spend on balancing is with gas units.

Last month saw another jump, so October is now at 2.3x the price forecast in Feb.

Latest Constraint Cost Forecast For Next 12 Months

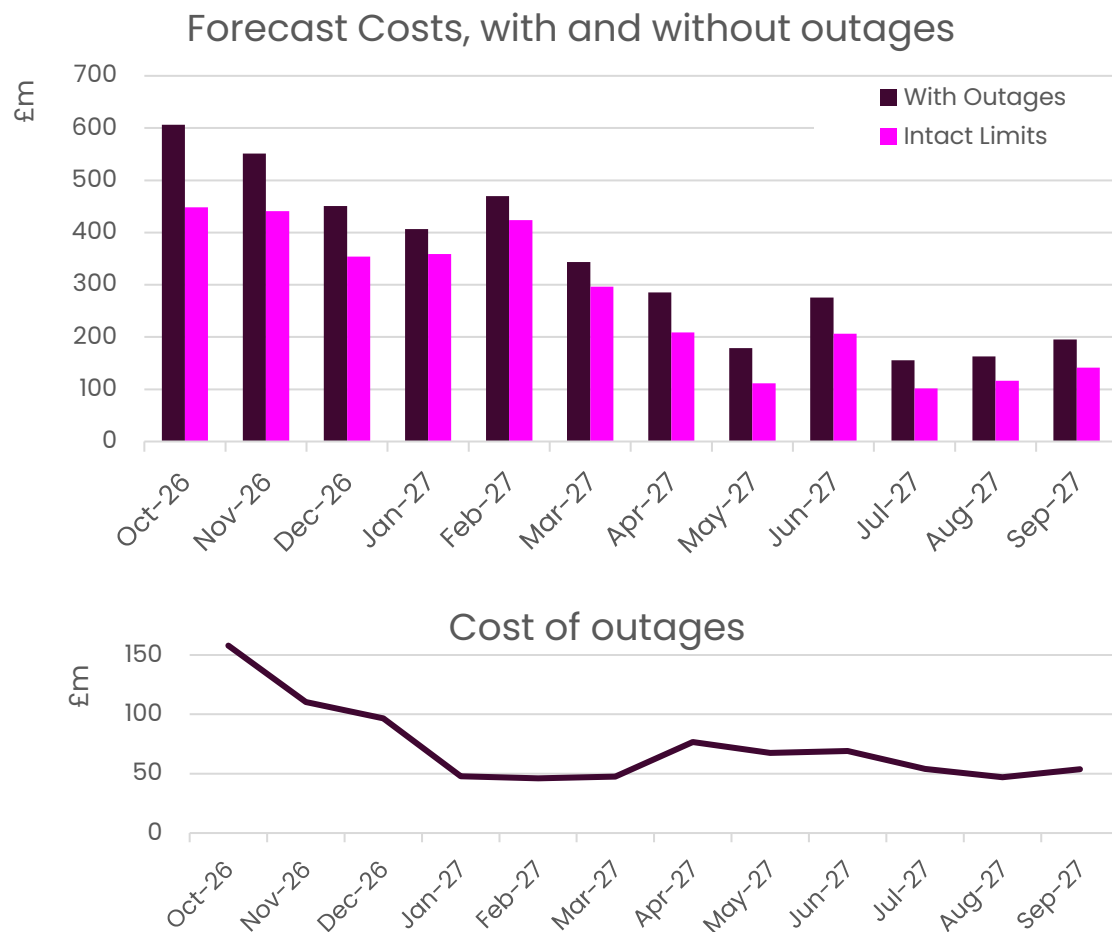


The total costs for the next 12 months forecast at the start of September were **£4.1b.**

Costs are heavily influenced by the assumed wind generation. This means individual months see greater errors than averaging costs over many months.

Month	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26	Jan-27	Feb-27	Mar-27	Apr-27	May-27	Jun-27	Jul-27
Constraint Cost (£m)	606	552	451	407	470	344	286	179	276	156	163	195

Network capability and outages



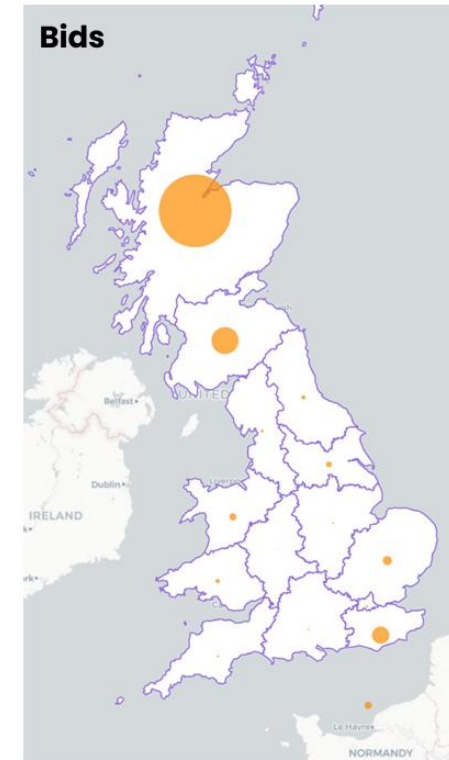
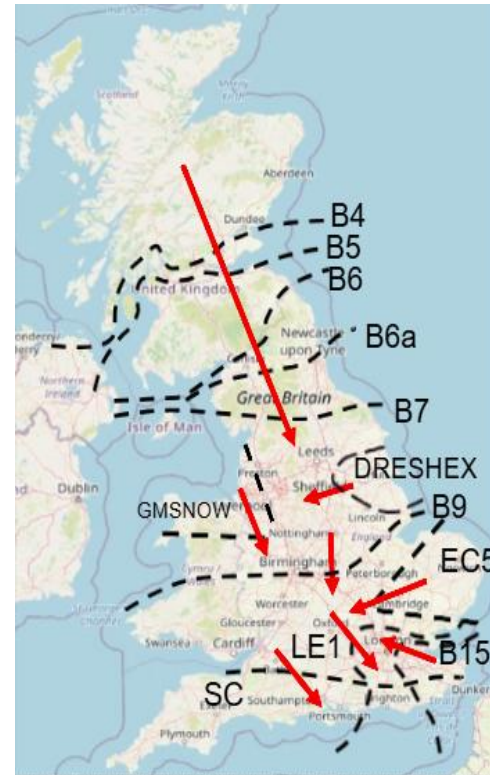
- Over the full year **over 75%** of the forecast cost is present *before* considering outages. This shows the limitations of the current network.
- To reduce this element of constraint costs new network should be built. However, to do so requires outages – increasing constraint costs in the short-medium term.
- Where possible, outages are taken in summer, when demand is lower. As more outages are planned, this “outage season” has extended further into autumn and winter than in years gone by.

Dynamic Line Rating: Unlocking more from the existing network

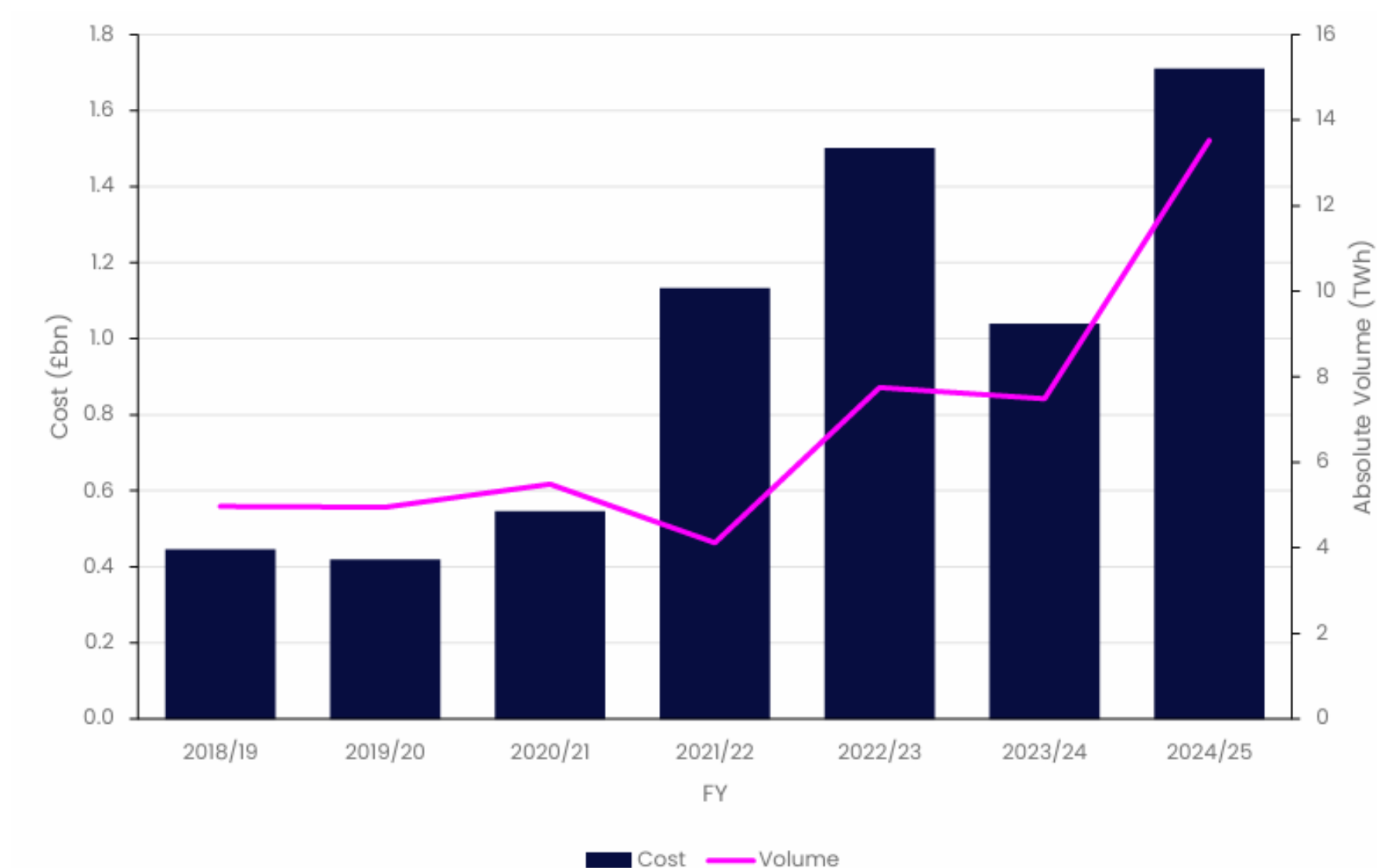
Mat Hofton

Network Power Flow Constraints

- A boundary splits the system into two parts crossing critical circuit paths that carry power between areas where power flow limitations may be encountered.
- The transmission system must be kept secure against credible faults and generation loss.
- Each boundary has a transfer capability, with limiting factors:
 - thermal ratings (DLR benefit here)
 - low voltage constraints
 - dynamic stability
- Large volume of generation situated in the north, higher demand in the south.
- NESO balancing actions – Bids reduce generation, Offers increase generation. Generation and demand remain balanced.
- Increased generation volume, boundary capacity stays the same > increased balancing costs



Thermal Constraint Costs

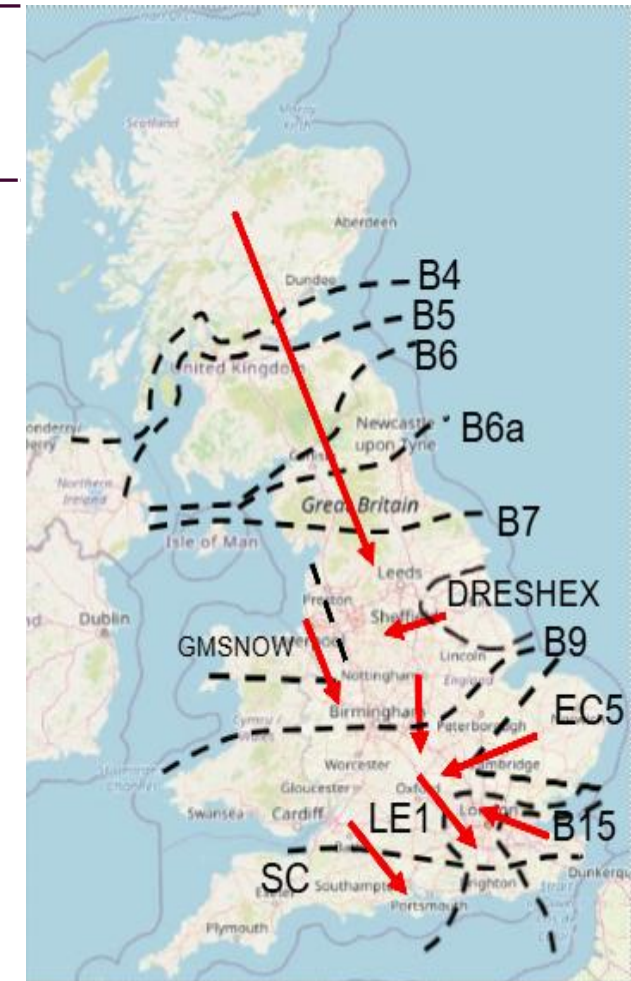


Optimising constraints delivers consumer value

NAP coordinate outages for maintenance, reinforcement and connections > reduces boundary capacity

- Optimal outage placement
- Substation running arrangements to re-direct flows
- Tap QBs
- Use post fault actions and higher short term 10 or 20min ratings
- Intertrips and auto switching
- Automatic Sequential Switching
- Static enhanced ratings
- **Sensor and non-sensor based Dynamic Line Ratings (DLR)**

Boundary	Max. Capacity (MW)	Typical Capacity (%)
B4/B5	3400	50
B6 (SCOTEX)	6800	76
B6a	8000	54
B7 (SSHARN)	9850	64
GMSNOW	5800	39
FLOWSTH (B9)	12700	79
DRESHEX	9675	44
EC5	5000	100
LE1 (SEIMP)	8750	69
B15 (ESTEX)	7500	73
SC1	7300	55

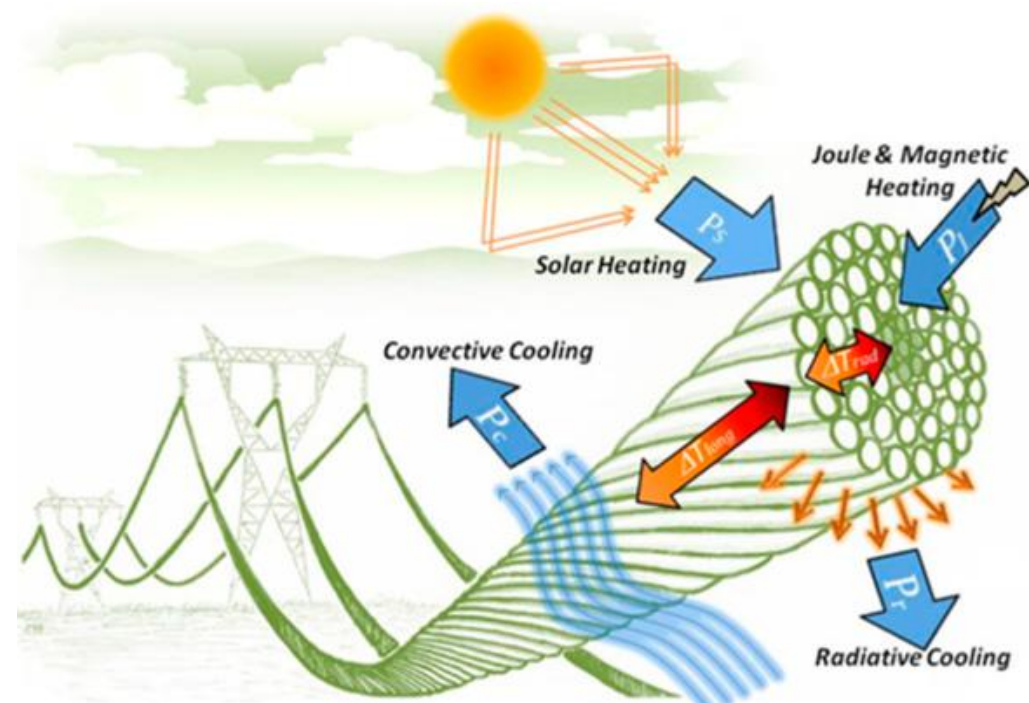


What is Dynamic Line Rating?

How DLR Works

DLR systems typically involve the installation of sensors on transmission lines that monitor various environmental factors, such as:

- Ambient temperature: Affects the thermal capacity of the conductor.
- Wind speed and direction: Wind can cool the lines, allowing them to carry more current without overheating.
- Solar radiation: Impacts the temperature of the lines.
- DLR sensors collect data that is processed to provide real-time ratings, which can significantly increase the amount of electricity transmitted during favourable conditions.
- Non-sensor DLR can also deliver rating improvements.



Conductor temperature is calculated from the heat balance equations.

Where:

q_c = Convective cooling

q_r = Radiative cooling

q_j = Joule heating (I^2R losses)

q_s = Solar heating

q_m = Magnetic heating (e.g., from steel cores)

$$\overbrace{q_c + q_r}^{\text{cooling}} = \overbrace{q_j + q_s + q_m}^{\text{heating}}$$

- Wind speed and direction
- Air temperature
- Ambient temperature

What is Dynamic Line Rating?



Conductor mounted

Requires an outage to install. Developing Drone installation techniques to remove outage requirement.

Direct measurement

- Electrical Parameters
- Direct Conductor Temperature
- Sag Calculations
- Environmental Sensors

31



Non-contact

A non-contact solution removes the need for outages or destructive testing.

LiDAR Sensor for conductor position monitoring

Computational Analytics Software combines sensor data with topological, weather and engineering data. Using a Monte Carlo Simulation it determines a probabilistic thermal rating.

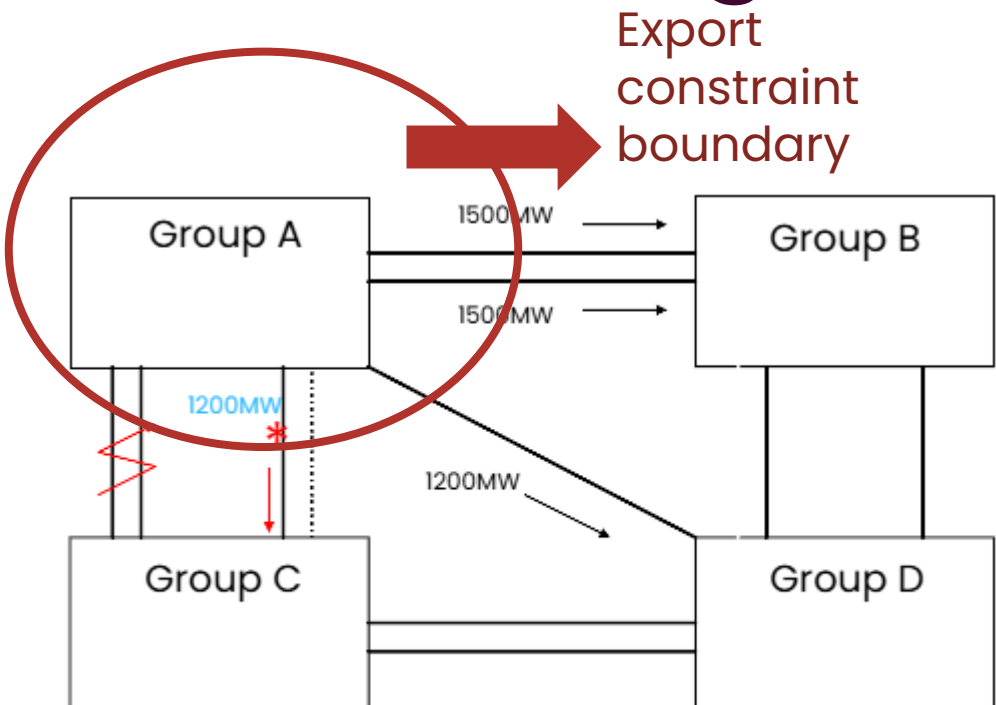


Optical fibre

Either using the fibre wrap in the earthwire or installation of fibre in the conductor.

Using vibration monitoring to detect conductor motion and derive conductor sag and wind conditions. Does not require an outage to install.

Thermal Constraints and short-term ratings



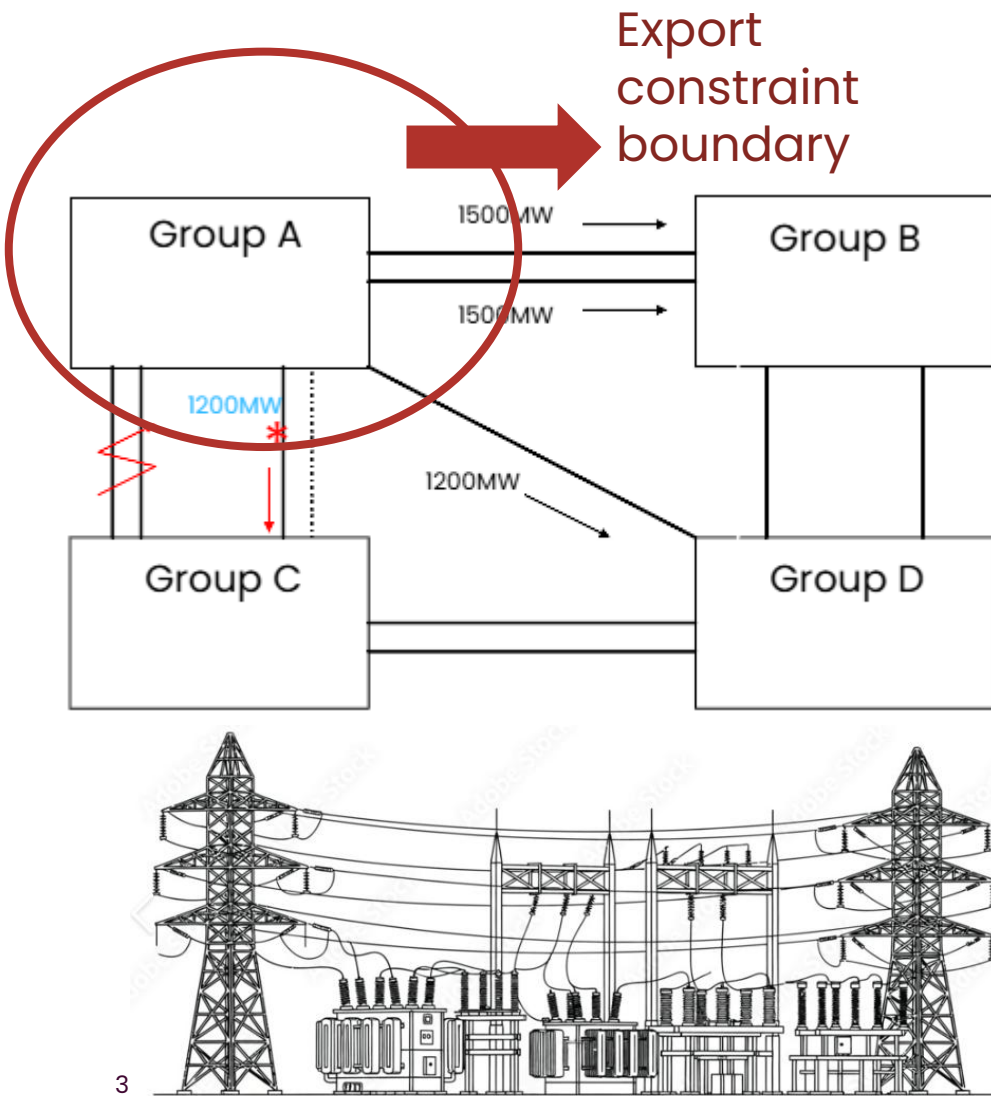
Define a constraint

- We check every credible fault, and simulate the resulting circuit overloads
- We need to find the worst possible fault and overload (defined by security standards)
- This fault and overload sets the maximum possible export from the constraint group

Optimising flows with short term ratings

- Circuit ratings / limits are set to avoid excessive thermal heating
- If a circuit is left overloaded, temperature rises causing:
 - Sagging of lines, melting grease
 - Leaking/boiling of oil
 - Reducing circuit life expectancy
 - Bulging of transformer tanks, oil leaks
- Overloaded circuit assets take time to heat up
- Circuits have continuous and short-term ratings (e.g. 10min, 20min)
- The ratings for 10 or 20 minutes are much higher than the 6 hour or continuous ratings – due to thermal heating.
- We can use the higher short-term ratings to maximise the boundary capacity – as long as we can reduce the power flows with 10 or 20 minute time window.

Identifying DLR Opportunities



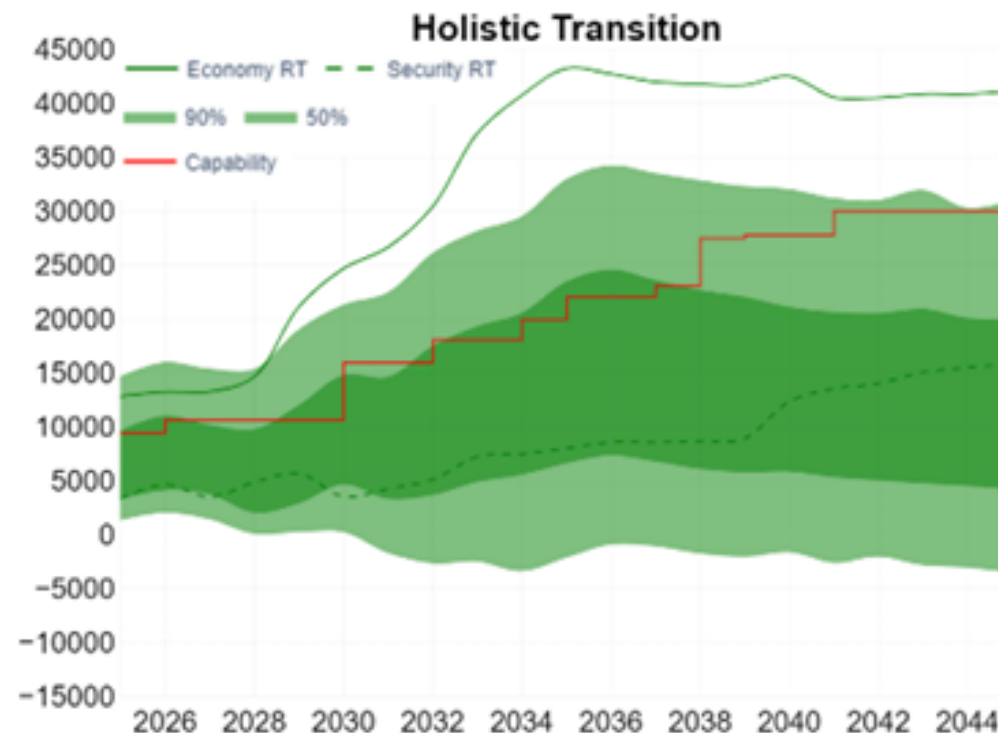
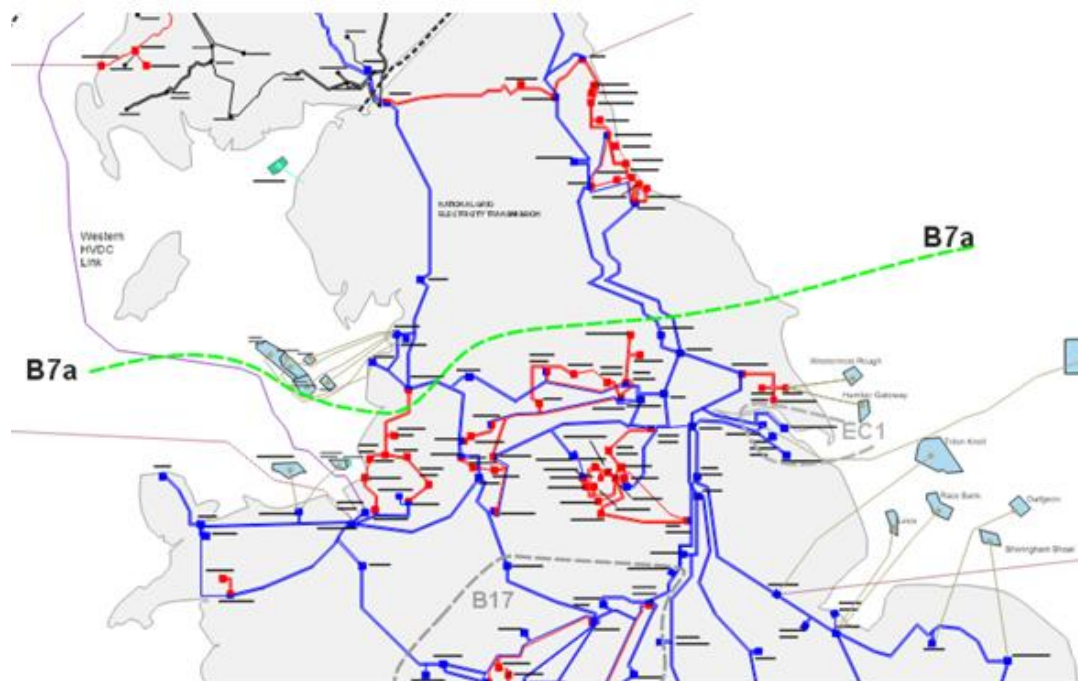
How to identify opportunities for DLR

- Enhancing the rating of the worst overloaded circuit will increase the export boundary constraint and reduce balancing costs.
- Enhancing the rating of other circuits (not worst overloads) delivers no benefit.
- DLR installation therefore needs to be targeted

Circuit limiting elements

- A circuit can be made up of many assets with different rating profiles
- Some asset may not have short term ratings
- Currently, DLR can only increase the rating of overhead lines
- Example: If a circuit contains both and overhead line section, circuit breakers with lower ratings – installing DLR on the overhead line will not deliver benefit

B7a Constraint boundary example

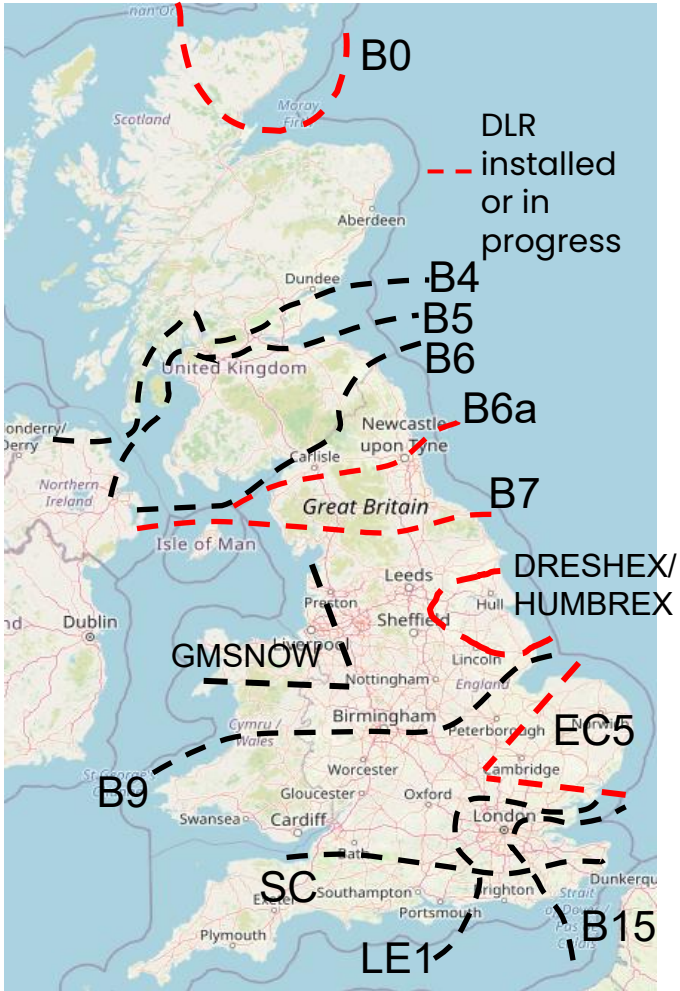


- The boundary capability is limited by a thermal restriction on the Penwortham – Washway Farm 275kV circuit.
- Enhancing the overhead line with DLR delivers an increase in the B7a capability – during circuit outage conditions only
- When the boundary is intact (no outages) the constraint is limited by voltage
- On average the DLR can deliver a 3 – 5% increase in line rating, equivalent to a similar increase in boundary power flow limit.

Rollout progress

Sensor based DLR						Non-sensor DLR	
	Live circuits	Planned	Delivered + planned	Benefit assessment completed	Average rating increase at DA	Non-sensor DLR available	Average rating increase at DA
NGET	27	12	39	40	3 to 5%	~61	3 to 5%
SPT	0	33	33	in progress	TBC	104	1%
SSENT	10	6	16	2	3 to 5%	0	TBC

- B0, B6a, B7 delivered
- DRESHEX, HUMBREX, EC5 Oct/Nov 2026
- GMSNOW reviewing requirement
- B4, B5, B6 development in progress – targeting 2027 – 2030, some asset restrictions
- DLR deployed on LE1 in 2024, subsequently superseded by re-conductoring works
- B9 – typically limited by voltage
- Cable sections limit DLR benefits on the South Coast, LE1 and B15



NESO and the TOs will continue to look for further opportunities as the network develops

Benefits delivered

Actual constraint cost benefits delivered 2025/26 – £36m

Lancashire/Yorkshire: SSHARN3 sensor-based DLR (12 circuits) – **£8.1m**

NGET non-sensor weather based DLR – **£25.6m**

SPT non-sensor DLR (Thermally Adjusted Ratings system) – **£2.4m**

Outlook for 2026/27 estimated a total ~£55m benefit

Over the past 6 months, April – Sept:

Estimated benefit – **£24m**

Actual outturn benefit delivered so far – **£19m** (with some benefits still to be calculated)

Individual circuits enhancement periods – **23**

Next phase

Expand deployment in Scotland over 2027 – 2030
Continuous review of DLR opportunities in E&W

Improvements and automation of non-sensor DLR calculations

Ongoing collaboration for ratings data transfer upgrades

Ratings Management System upgrades 2027 – 2028

Buried cable enhancements

Transformer enhancements

Cable tunnel modelling

Drone installation and live line installation to accelerate roll-out



Break

System Access Reform (SAR)

Alex Knight

Agenda

1

Setting the scene

Insights from March OC2 Forum and outcomes for today
About SAR
The case for change
Programme plan

11.25 – 11.35

2

Transmission Acceleration Project (TAP): update

Progress to date
Next steps

11.35–11.50

3

High-level overview and update: End-to-End (E2E) Solutions

Key issues
Proposed solutions
Interim escalation framework

11.50–12.05

4

Engagement

Existing and future engagement

12.05–12.10



We look forward to your participation – there will be an opportunity to ask questions in the Q&A section

1

SETTING THE SCENE

Alex Knight



Your feedback in March '26



of you understood the problem
SAR is trying to resolve



of you expect System Access
Reform to impact their
organisation's activities.

- 45%: significant impact
- 53% a moderate impact

Key themes



- Increase **transparency and visibility** of plans
- Clearer **governance and prioritisation**
- Outage **volumes and complexity** are increasing
- More **engagement** and regular updates
- Greater **planning certainty**

"The challenge SAR is addressing and its importance are broadly understood, with attention now shifting towards how reform could be implemented."

Outcomes from today

- **Refresh** understanding of SAR
- **Outline progress** since our last session
- Demonstrate areas where **feedback** has helped validate and refine the **emerging approach**
- Provide **greater visibility** of the solutions being explored
- Highlight opportunities for **ongoing engagement**



System access has become a sector-wide risk

Investment, outage volumes and in-year change are all rising faster than the planning process was designed to handle and the cost of that gap is already visible.

£70bn

TO investment in RIIO-T3 — c.4x the last five years plus £22bn DNO investment (ED2)

20,000+

Change requests to the Year Ahead Plan last year

£3.2bn

Forecast rise in constraint costs to July 2027

2–4x

Change request volumes by 2030 if nothing changes

Consequence of inaction

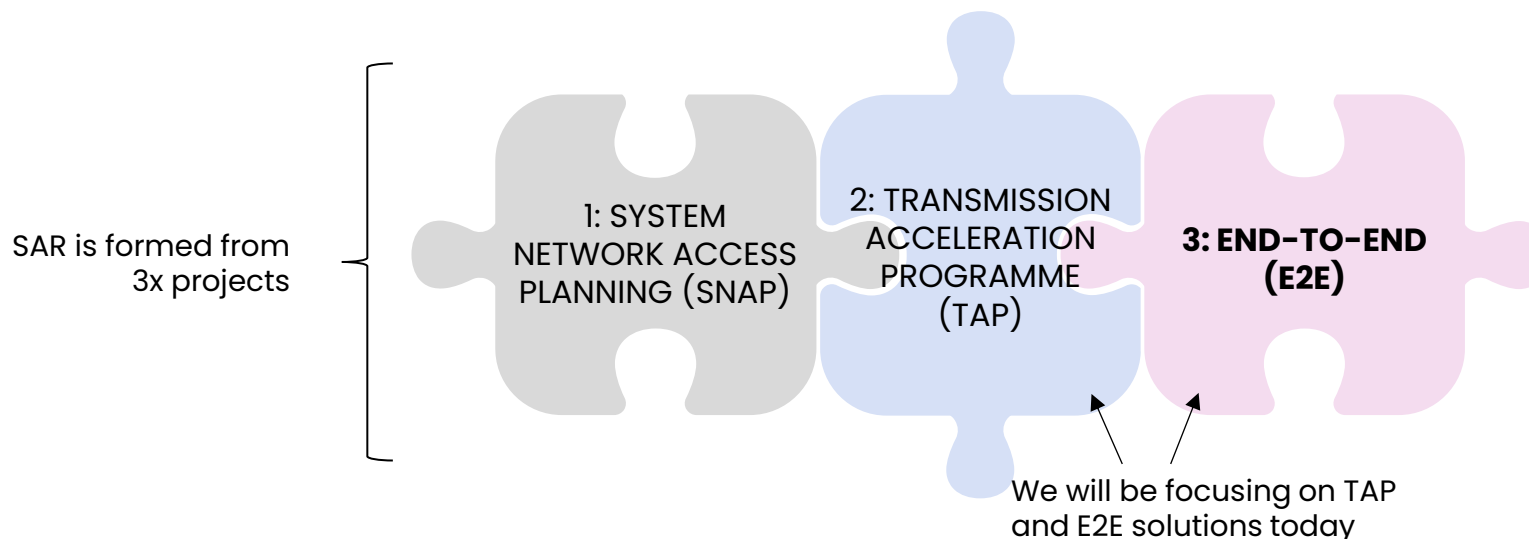
If access cannot be secured when it is needed, critical network upgrades and customer connections are delayed. That slows connections for generators, increases system costs and undermines progress towards GB's decarbonisation targets.

System Access Reform Programme



SAR Programme Objectives

- **Enable Whole-System Coordination:** Establish an integrated approach to system access planning that aligns NESO, TOs, and Users
- **Accelerate Delivery:** Support the UK's Clean Power 2030 and Net Zero 2050 ambitions by enabling faster, more efficient delivery
- **Embed Digital-First Capabilities:** Introduce advanced tools, automation and data-driven decision-making to replace inefficient processes.
- **Enhance Transparency and Customer Experience:** Provide clear, consistent and accessible information to stakeholders to improve trust
- **Build Future-Ready Capabilities:** Develop scalable frameworks and governance models that can adapt to increasing system complexity and future requirements



Working in partnership: initial step – TOs



"We see a considerable opportunity to improve visibility, tackle long-standing pain points and develop a system access process that reflects the scale and pace now required. Delivering this depends on strong partnership with the transmission owners."

Graham Stein
Head of SAR
NESO



"We have a major programme of build and maintenance ahead, requiring more and increasingly complex system access. As we connect strategic demand and support economic growth, maintaining network resilience remains essential."

John Wilson
Senior Programme Lead
NGET



"Nothing is broken today – system access works well. But from where I sit, the challenge is accelerating. SAR is about getting ready for that and continuing to plan for our network growth and our connecting customers."

Martin Cammidge
Senior Programme Lead
SP Energy Networks



TRANSMISSION



"Though remote, our region spans a quarter of the UK landmass and is a major clean-energy exporter. We're key to Clean Power 2030, but the scale ahead means existing processes which have been successful for decades now need to evolve."

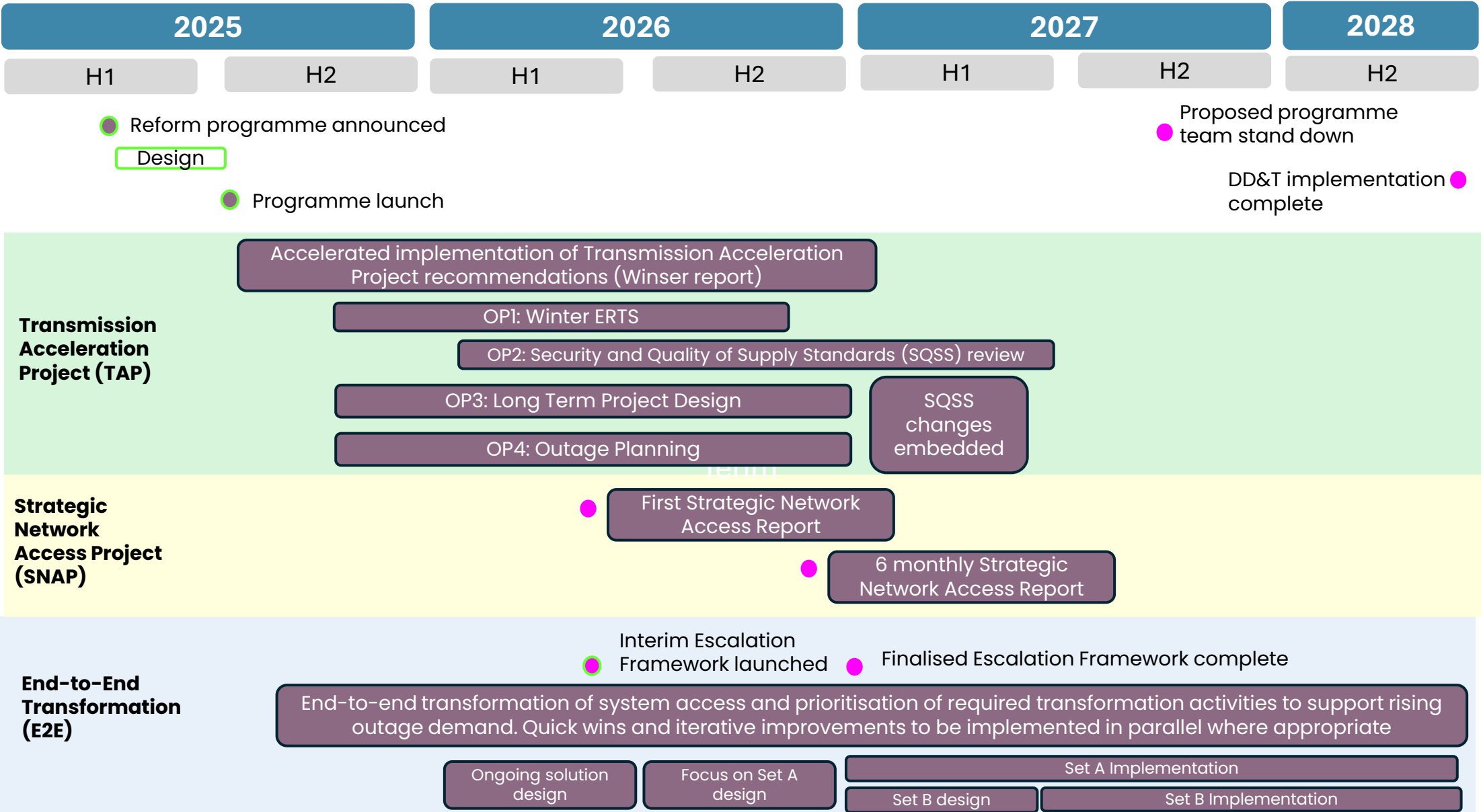
Jim Molley
Senior Programme Lead
SSEN

SAR programme team members are working alongside their own colleagues in each organisation

KEY

- NESO Accountability
- NESO and Others
- Complete

Programme plan



SYSTEM ACCESS

Industry transformation of the electricity transmission outage plan approach

Delivery of the network reinforcements will require significant increase in system access requests (outages) which current processes cannot support



2

TRANSMISSION ACCELERATION PROJECT: UPDATE

Andrew Henderson

Transmission Acceleration Project (Winser Report): Progress to date



Enhanced process to support winter working (OP1)

- More outages enabled for 2025/26 compared to the previous winter due to successful trialing of new processes across the year and reflected in STCP11-1



Code modifications in progress (OP2)

- SQSS GSR 035 (Review of the SQSS security criteria relaxation on case-by-case basis) – Consultation open
- GSR 036 (Review of the 275kV upper voltage limit and voltage limit relaxation) – Consultation Closed



Costs included in Long-term planning (OP3)

- System Access costs now included in strategic planning timescales to incorporate system access costs into TO design work and reflected in STCP16-1



Readiness checks and improved outage coordination (OP4)

- TOs have improved governance processes in place which are linked to outage planning go/no-go's
- Recommendations on improving outage notification and coordination action plan produced (Problem Statement 1)
- Recommendation on improving coordination with generators action plan produced (Problem Statement 2)
- Publishing of NAP KPIs on NESO website to improve transparency and workshops held on future KPI's to drive performance

2.1

PROBLEM STATEMENT 1

User late response can postpone outages or create stakeholder uncertainty

Problem Statement 1: Evidence

Data from FY2025/2026:

- **40% (3,226/8,100)** of planned outages, showed notification requiring or awaiting agreement/response
- Of these, **1,218 records, 38%**, had evidence of acknowledgement, notification, or response received
- The remaining **2,007 records, 62%**, had no further recorded update after notification was sent

FY2025/2026 Data	Total outage objects (8100)	Percentage of total	Percentage of total outage objects requiring notification
Outages with third party notification requirement	3226	40%	100%
Evidence of acknowledgement or response	1218	15%	38%
No evidence of response after notification sent	2007	25%	62%

Problem Statement 1: Root Causes

OC2.3.1.3.5

(b) By 1000 hours each Friday

Generators, Interconnector Owners, Restoration Contractors (as provided for in OC2.3.1(f)) and **Network Operators** will discuss with **The Company** and confirm in writing to **The Company**, acceptance or otherwise of the requirements detailed under OC2.4.1.3.5.

Root Cause	Proposed Mitigation
User contact information held by NAP is not accurate in all cases	Create workstream to address this issue internally in NESO and to be shared across departments. Increase user awareness of CC.5.2.1(n) requirement
Not all Users may be aware of the requirements of the OC2 deadlines and why they are important across industry	NESO plan to deliver a dissemination piece to industry
Users may be aware of the OC2 deadlines but failing to respond to NESO notifications for other reasons (for example: lack of resource)	Clear steps that NESO will take in this case will be produced as part of this workstream

Next steps: Transmission Acceleration

Activity	Further Context	Timeline
Proposal and implementation of potential Grid Code OC2 changes associated with OP2: SQSS GSR035 modifications	Industry workgroup sessions continue. Engagement underway with DNOs and industry stakeholders to feed into risk assessment process and how this would look embedded into operational teams. GSR035 consultation remains open until 12 October and can be found here.	Q1 2027
OP2: GSR036 additional communication may be required following Ofgem decision on consultation	GSR036 public consultation on increasing upper voltage limit on 275kV back to 1.1pu has closed and awaiting Ofgem decision.	Q4 2026
Review of 3rd party liaison process including OC2 obligations and improved outage planning coordination	As part of a critical activity to look at how NESO operates with DNOs, DCC and generators and to implement a more efficient programme of engagement with them, there may be potential Grid Code changes which NESO will look to implement. Formation of Problem Statement 1 & 2 where further GCDF and external User engagement will occur.	Q1 2027
Investigation into greater long-term plan visibility for DNOs/Users and increased outage planning coordination	TAP is working alongside the E2E project to review the existing outage planning timescales/procedures to streamline transmission outage planning. Additional benefit could be increased coordination with DNOs/Users.	Q3/Q4 2026

GSR035 – SQSS Relaxation & request for support

Following the development of the relevant SQSS modification GSR 035 and Appendix K to establish the risk assessment process, NESO will work collaboratively with Transmission Owners, Distribution Network Operators, generators, directly connected customers and other affected Grid Code users to develop the risk assessment process and its minimum requirements.

CALL FOR NOMINATIONS

We invite organisations to nominate colleagues with suitable planning, operational or technical expertise to contribute to these workshops; proposed timings shown below. details will be shared with confirmed participants.

WORKSHOP	DATES AND TIMINGS (TENTATIVE)
01	26 Oct · 14:00–16:00
02	4 Nov · 10:00–12:00
03	11 Nov · 10:00–12:00
04	25 Nov · 14:30–16:30
05	3 Dec · 15:00–17:00

**Please
complete this
[form](#) to express
your interest to
attend these
workshops.**

3

E2E TRANSFORMATION JOURNEY, PROPOSED SOLUTIONS AND AN INTERIM FRAMEWORK

Ellie Harley (Baringa / NESO), Muhammad Abrar (NESO) with :

- Mark Jones (Southern & Scottish Electricity – Transmission)
- Kirsten Cooper (SP Energy Networks)
- Lisa Stimson (NGET, part of National Grid plc)

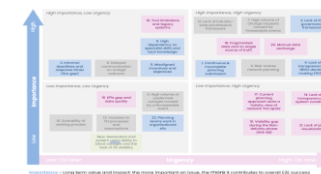
Define Phase

How did we get here?

1

AS – IS Review

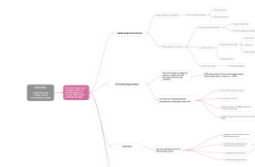
Structured workshops with NESO and all three TOs to map the end-to-end system access process and identify pain points across all planning horizons (6YA → DA).



2

Root Cause Analysis

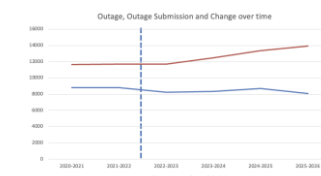
Synthesis of pain points into systemic root causes across five themes: planning approach, governance & incentives, data quality, systems & tooling, and people & ways of working.



3

Data Analysis

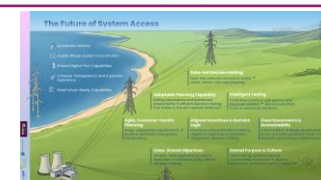
Quantitative analysis of eNAMS ROB extracts and DESNZ outage datasets (Apr 2020 – Mar 2026) to test solution hypotheses.



4

Future State Vision

Co- defined the E2E future state vision and design principles for system access planning, aligning to the SAR programme objectives.



5

Solution Design

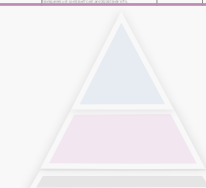
Collaborative development of indicative solution options for each transformation area, supported by analysis and insights from parallel industries.

Transformation Area	Key Challenges	Key Objectives	Key Solutions	Key Risks
System Access	Complexity of the system, lack of visibility, and limited capacity for growth.	Improve system visibility, increase capacity, and reduce complexity.	Implement a new system architecture, increase capacity, and simplify the system.	Increased complexity, reduced capacity, and increased risk of failure.
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6

Solution Prioritisation

Sequencing of 29 solutions into three groups to sequence or reallocate solution design. Capability Set A (9 solutions) collectively agreed to start with initial design



E2E Problem Statements

The six problem statements agreed during the Define phase have been refined into four overarching E2E problem statements, supported by 12 detailed problem statements. This revised structure preserves alignment to the original root cause analysis while providing a clearer and more coherent framework for assessing evidence and developing solutions.

Problem Statement 1

There is insufficient visibility of future outage requirements, reducing the ability to coordinate, optimise and de-risk the outage plan over the long term.

Problem Statement 2

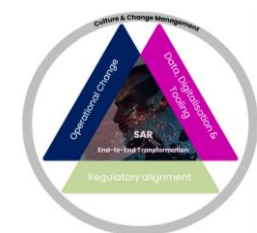
Outage plans are subject to significant in-year change, reducing predictability and limiting the ability to efficiently deliver outages on time.

Problem Statement 3

There is no clear, consistently applied framework for prioritising outages and resolving conflicts, leading to uncertainty and inconsistent decision-making.

Problem Statement 4

TO-NESO planning information is fragmented and exchanged through manual processes, reducing data quality and increasing planning effort.



End-to-End Transformation Solutions

Three solution workstreams are currently underway to design Capability Set A solutions



PROCESS & GOVERNANCE

Aims:

- Create an end-to-end planning process supported by stage gate quality reviews
- Design a strategic long term planning model with governance forums for long-term planning
- Design a rolling submission model for short-term planning

Progress

- Solution design progressing through focused design sprints with NESO & TOs
- Long term planning sprint currently underway with broad support for stage gate and outage categories

Solutions within workstream:

- Strategic Long Term Planning
- Rolling Submission Model
- Stage Gates
- Strategic Governance & Coordination Forum
- Minimum Data Standards
- RACI



PLAN OPTIMISATION

Aims:

- Enable end-to-end plan optimisation across the full 6-YA to DA lifecycle
- Create an optimisation demonstrator to produce outage sequencing and bundling recommendations

Progress:

- Sessions held with NESO
- Development of demonstrator tool progressing in line with design plan.
- Plan optimisation scoping document drafted.
- Web app development wireframes are work in progress

Only the plan optimisation solution sits within this workstream



PRIORITISATION FRAMEWORK

Aims:

- Introduce a structured prioritisation framework for assessing, managing and prioritising outage submissions and change requests
- Define evaluation criteria and scoring methodology

Progress:

- Development of prioritisation framework progressing in line with design plan
- Outage ranking sessions beginning to extract priority drivers across organisations
- Sessions held with TOs

Only the prioritisation framework solution sits within this workstream



Escalation Framework – Overview

1

Context

- We are seeing more clashes between key projects requiring outages at the same time
- This particularly includes ASTI projects clashing with new customer connections

2

Problem

- BAU planning process is well equipped to resolve most clashes
- A small number of clashes require greater time and effort to resolve
- These clashes are particularly complex and could have significant impacts if delayed

3

Solution

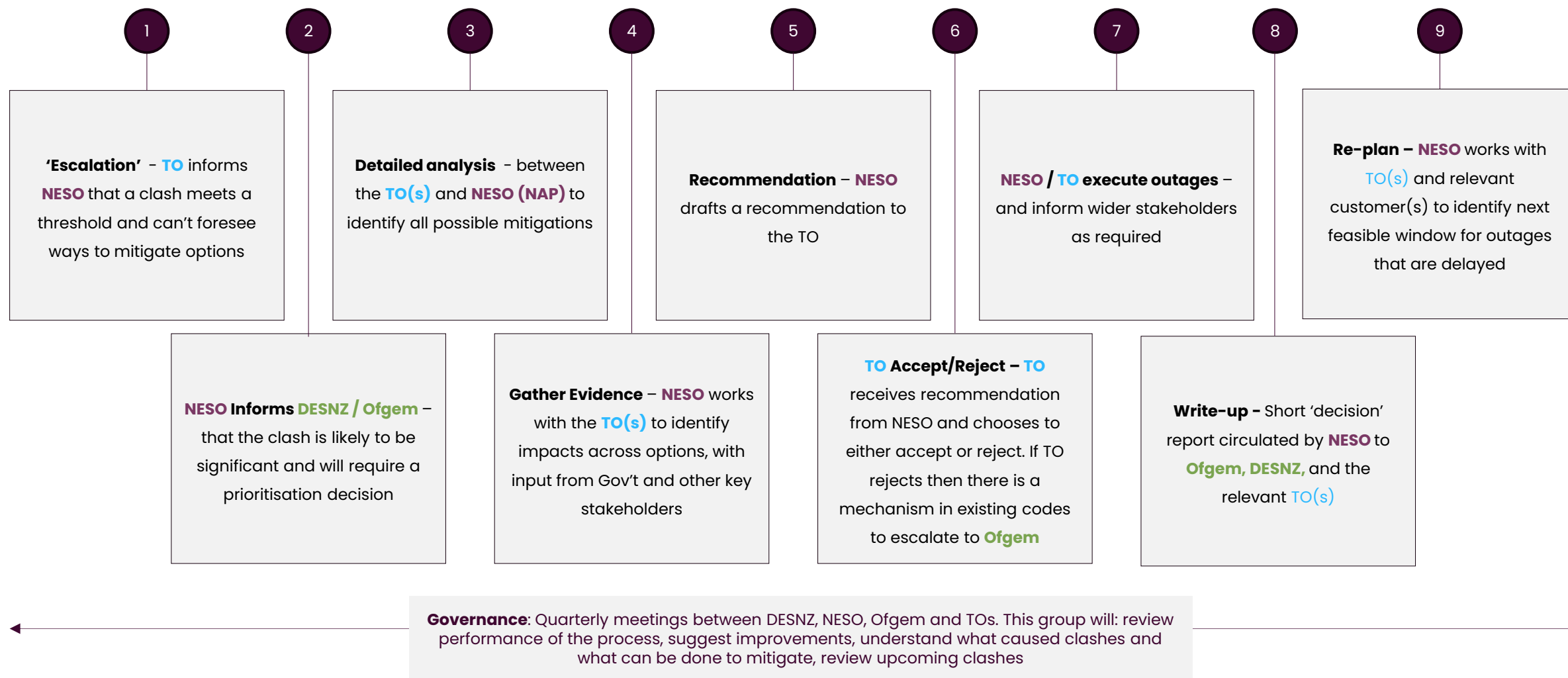
- We need a more structured process to manage clashes
- This particularly includes clearer roles and responsibilities
- We need more timely and comprehensive input from affected stakeholders
- We would like to provide greater transparency around key decisions

4

Action

- NESO and the TOs developed an interim framework which we are using
- We are continuously improving the interim framework
- We are also working together to finalise the enduring framework – this could require changes to licences and codes
- We expect to consult industry on the changes

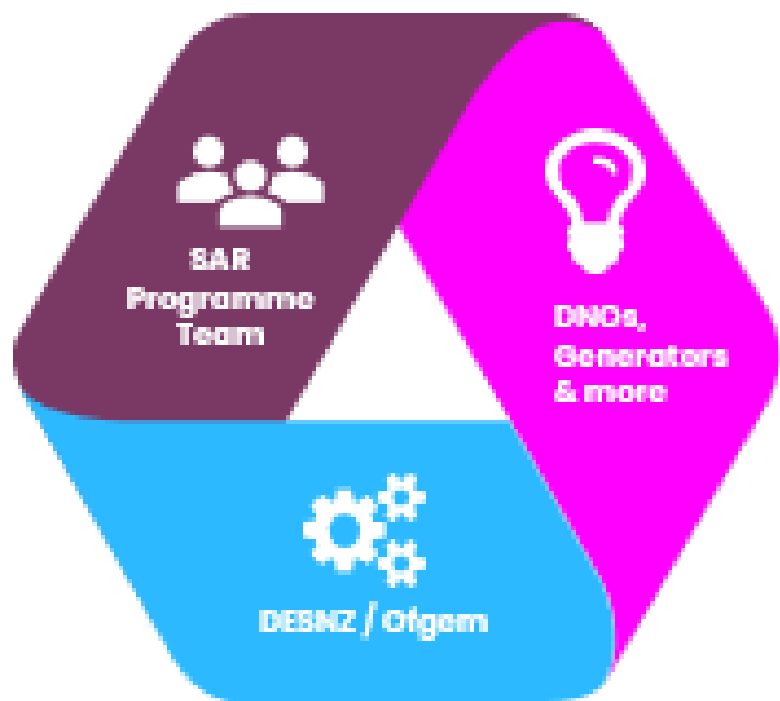
Escalation Framework – illustrative example (interim process)



4

ENGAGEMENT

Engagement



- We are engaging a **broad range of industry stakeholders** through established channels including: OC2 Forum | Electricity Networks Programme Board | Electricity Networks Delivery Forum | Code modification panels
- Alongside these forums, we are carrying out **targeted engagement** to explore emerging topics and gather stakeholder input as the programme evolves.
- **Recent and ongoing engagement includes:** DNO planners and leader engagement sessions, monthly DNO workshops, generator workshop.
- **Further engagement planned** for the coming months.
- **Next steps**
 - [Sign up](#) for the upcoming risk assessment workshops and future engagement opportunities
 - Visit our [webpage](#) for updates
 - [Contact us](#) if you have any questions

4

APPENDIX

Key contacts

Please reach out if you would like additional information or want to be more closely involved.



Graham Stein
Programme Director
graham.stein
@neso.energy



Alex Knight
Programme Manager
alex.knight
@neso.energy



Buchi Madu
E2E Delivery Manager
buchi.madu
@neso.energy



Kiran Mann
Project Manager – TAP
Kiran.Mann
@neso.energy



Dozie Nnabuife
Project Lead
Dozie.Nnabuife
@neso.energy



Andy Henderson
Analysis & Insights Manager
andrew.Henderson
@neso.energy



Ellie Harley
Engagement Lead
ellie.harley
@baringa.com



Duncan Saffy
Digital Capability Lead
duncan.saffy1
@neso.energy



William Maitland
Process Capability Lead
william.maitland@
neso.energy



Q&A

Please ask questions
using the Teams
functionality, or raise
your hand

Close

Thank you