Public

# Forecasting Stakeholder Focus Group

23 October 2024

Rich Sykes, Product Manager
John Walsh, Energy Forecasting Manager

NESO
National Energy System Operator

# Welcome & Agenda

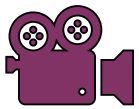
| Time | Title | Details |
|---|---|---|
| 15:00 – 15:15 | Welcome & setting the scene | • Role of the Group<br>• Previous discussions |
| 15:15 – 15:25 | Latest Energy Forecasting Improvements | • New wind power generation model<br>• New available data sets |
| 15:25 – 15:35 | Platform for Energy Forecasting (PEF) | • Release Plan walk-through |
| 15:35 – 16:15 | Product Development Beyond 2025 | • Interactive mural board session to explore forecasting product development themes beyond 2025 |
| 16:15 – 16:25 | Q&A | • Interactive Q&A session |
| 16:25 – 16:30 | Next steps | • Future engagement opportunities |
| 16:30 | Close | |

# Structure of the Session

Please post any questions you have for us in the Teams chat or raise your hand – when asking a question, please introduce yourself, and your organisation, this will enable us to follow up with you after the event if necessary

Out of scope questions will be forwarded on to the appropriate NESO team or expert for a direct response.  We may ask you to contact us by email to ensure we have the correct contact details for the response

If you have any further questions after the webinar, please do not hesitate to get in contact with us at box.balancingprogramme@nationalenergyso.com



Please note this session will be recorded and published on the NESO website

# Role of the Forecasting Stakeholder Focus Group

Rich Sykes, Product Manager

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# Role of the Focus Group

**Purpose**

The purpose of this forum is to establish a working group focused on improving the accuracy of energy forecasts, and exploring innovative methods of forecasting through the use of new data and modelling techniques.

The group will collaborate with industry stakeholders to align ESO's forecasting enhancements with their expectations, and continuously engage with them to develop plans that are ambitious and feasible

**Objectives**

- Improve the accuracy of Energy forecasts (Demand & Generation)
- Explore innovative methods of forecasting using new data and modelling techniques
- Collaborate with stakeholders to align forecasting enhancements with expectations

**Deliverables**

- Actionable recommendations to improve the overall accuracy of demand forecasts
- Exploration and evaluation of innovative methods and data-driven modelling techniques for forecasting
- Incorporating industry suggestions in our future roadmap planning
- Regular progress reports on the working group's achievements and milestones

**Stakeholder Collaboration & Engagement Process**

- Learn from stakeholders' experiences and understand their current pain points in forecasting
- Plan and implement improvements for the future of forecasting in line with the balancing programmes forecasting roadmap and the evolve initiative
- Engage with stakeholders bi-monthly* on an ongoing basis, both remotely and in person.
- Encourage stakeholder input to ensure plans are ambitious, achievable, and in alignment with industry priorities

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# Focus Group Discussions to Date

- How we forecast

- Forecasting problem – National Demand
  - Embedded generation
  - Time of use tariffs and demand flexibility

- Forecasting Roadmap updates

- Forecasting improvements we are making
  - Solar, wind, and national demand
  - Steps towards modelling non-renewable embedded generation

# Latest Energy Forecasting Improvements

John Walsh, Energy Forecasting Manager

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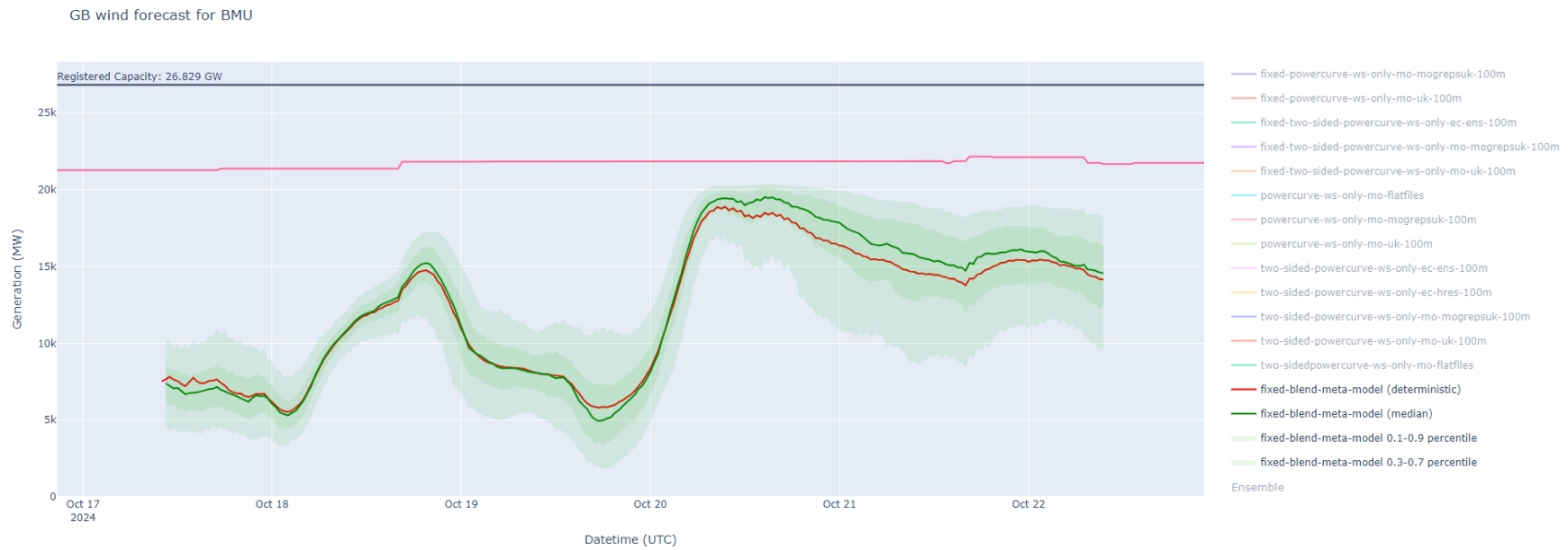
# New Wind Power Generation Model

PEF-Azure is our new flexible and scalable platform, to enable the development of new forecasting products, following modern data science and software development best practice.

The model in the initial release will benefit from some initial improvements:

- Use of richer weather forecast (NWP) data.
- 24 frequent forecasts per day (from 8 per day)
- Ensemble forecasting, where a range of equally-likely weather scenarios are used to support risk-based decision making (e.g., constraints, margins, reserve).
- Automated adjustments for *notified* (REMIT/eGAMA) windfarm outages (inc partial reductions).
- Improved 1C Metric performance.



# New Available Data Sets

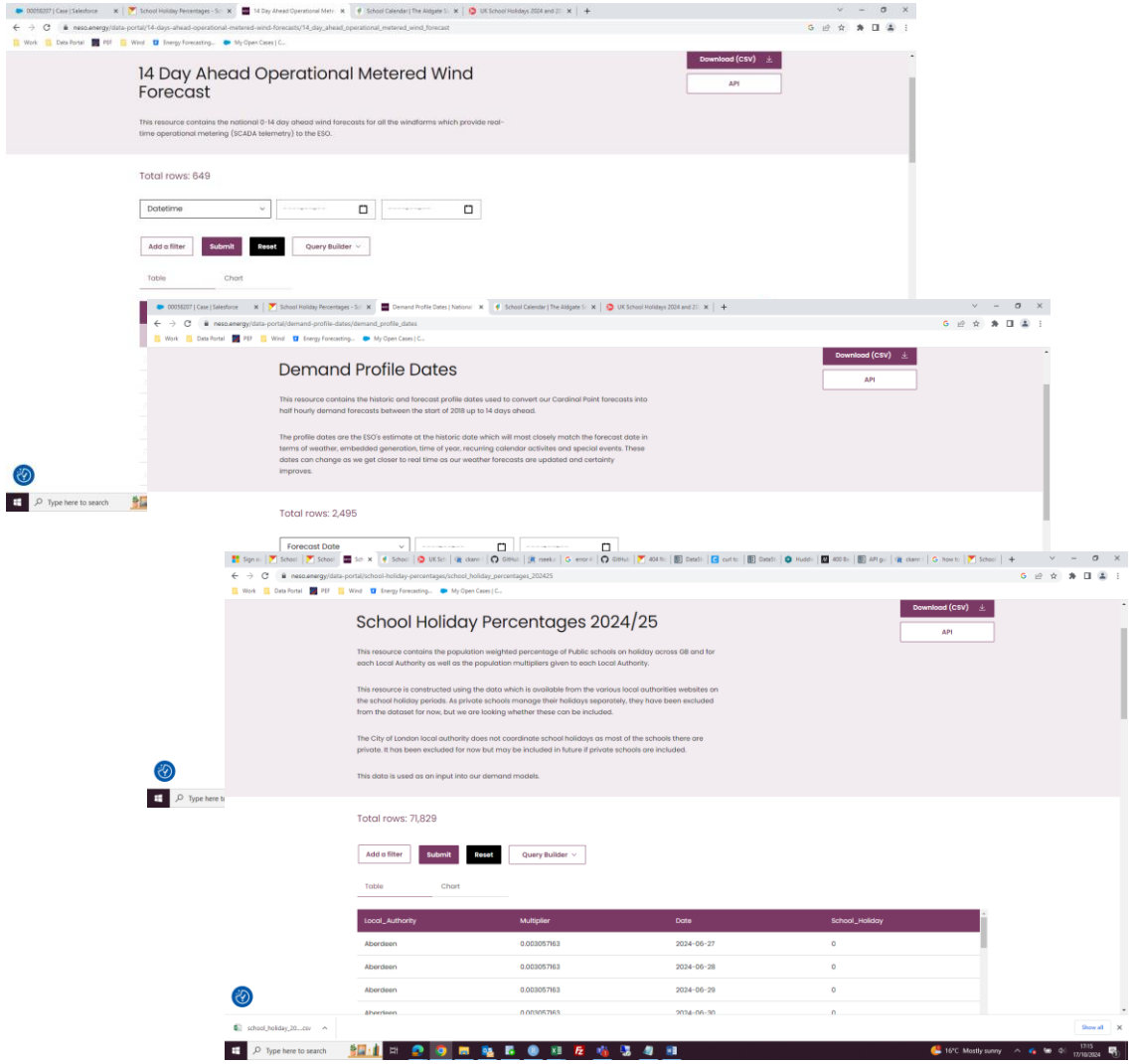
At the previous Forecasting Stakeholder Focus Group, additional datasets were requested covering a wide range of data entities and NESO business functions.

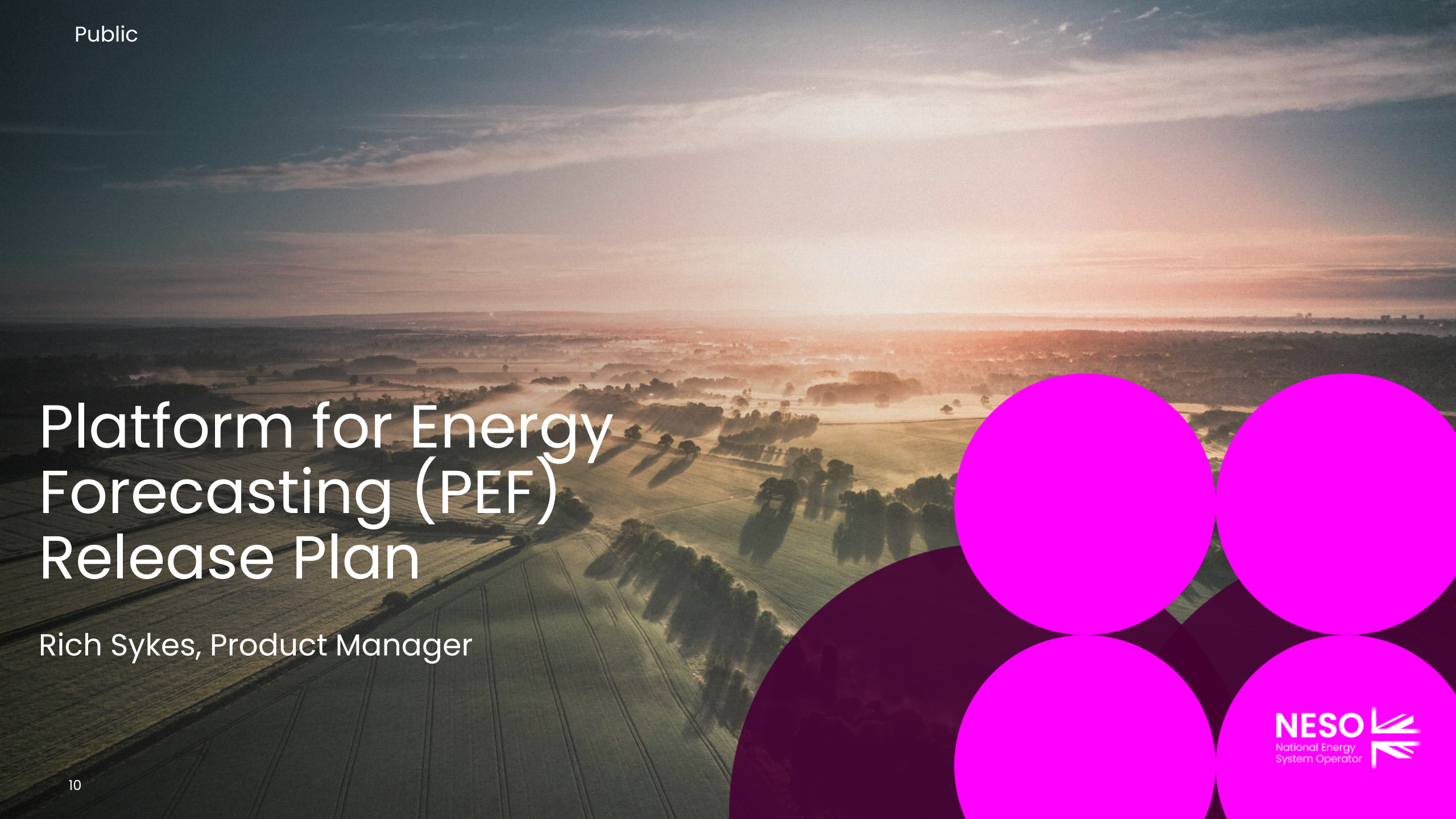
Energy Forecasting have published three new data sources, comprising:

- The complete set of Wind BMU forecasts, covering ~245 units.  Note: BMRS only captures ~95% of NESO-registered windfarms.

- The selected *Profile Day* used by NESO to create it's National Demand forecasts.

- The GB *public-school holiday* factors used by NESO, to adjust it's National Demand forecasts during periods of school holidays.





# Platform for Energy Forecasting (PEF) Release Plan

Rich Sykes, Product Manager

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# Platform for Energy Forecasting (PEF) Release Plan

### Q3 FY 24/25 (Oct 24-Dec 24)

**Key Capabilities:**
- Visualisations and validation tools for the Energy Forecasting team

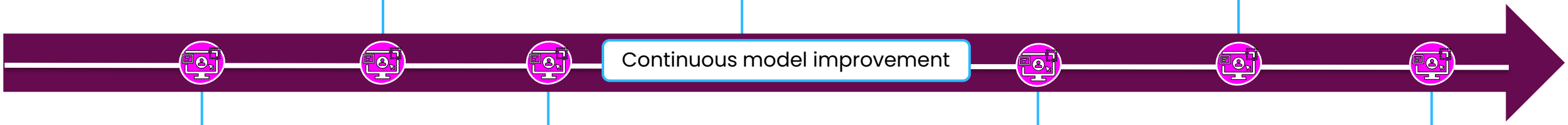
### Q1 FY 25/26 (Apr 25-Jun 25)

**Key Capabilities:**
- Reporting and situational awareness tools for the control room

**Key Enablers**
- Integration with Network Access Planning tools for improved studies

### Q3 FY 25/26 (Oct 25-Dec 25)

**Key Capabilities:**
- Continuous visualisations and validation tool improvements




### Q2 FY 24/25 (Jul 24-Sep 24)

**Key Capabilities:**
- New Strategic Azure Platform deployed
- New Wind Power Generation Model

**Key Enablers**
- API's to enable OBP integration

### Q4 FY 24/25 (Jan 25-Mar 25)

**Key Capabilities:**
- Models migrated from Legacy tools to Strategic Azure Platform

**Key Enablers**
- Forecast output changes for Quick and Slow Reserve

### Q2 FY 25/26 (Jul 25-Sep 25)

**Key Capabilities:**
- Continuous reporting and situational awareness tool improvements

**Key Enablers**
- Forecast grouping to support restoration regional reporting

### Q4 FY 25/26 (Jan 26-March 26

**Key Capabilities:**
- Advanced Analytics data integration

**Key Enablers**
- Legacy Energy Forecasting System retirement strategy

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# Forecasting Product Development Beyond 2025

Rich Sykes, Product Manager

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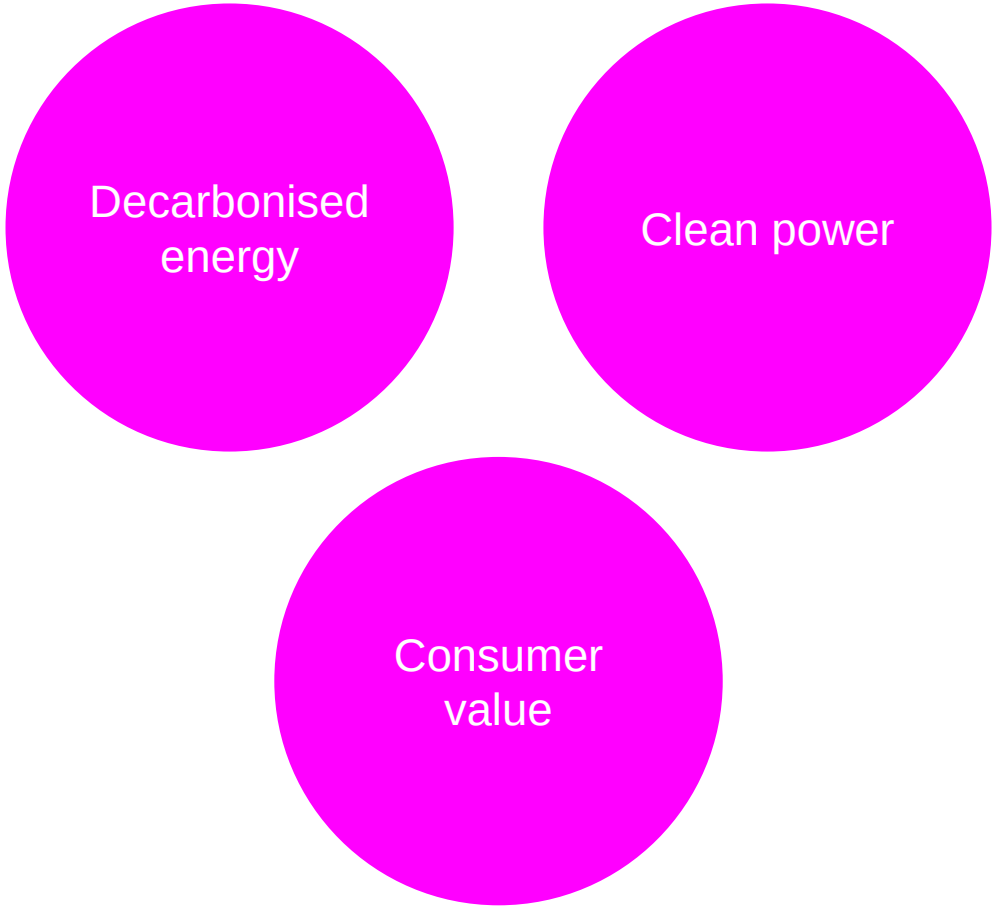
# Product Development Beyond 2025

At the June 2024 Balancing Programme event we hosted 3 breakout sessions which looked at product development beyond 2025 in the forecasting space.

- Participants could:
  - Suggest their own ideas for new capabilities
  - Were requested to give a date for when each new capability was needed
  - Given 3 votes to prioritise capabilities




Topics identified at the event we want to dive further into:

- Interconnector forecasts
- Inertia forecasts
- Constraint forecasts
- Demand side flexibility availability forecasts
- Publish our forecast methodology
- Elexon boundary level forecasts
- Learnings from other industries; data, AI etc

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# Q&A

Rich Sykes, Product Manager
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# Engagement Opportunities . . .

NESO newsletters with Balancing Programme content issued regularly, providing updates between online & in-person events

Offer of 1-1 relationship managers within the Balancing Programme

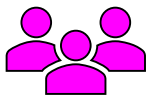
You can sign-up to our London November Balancing Programme Event by clicking here

# Next Steps . . .

Slides from today's session will be published on our website, along with the webinar recording

Subscribe to our new NESO newsletter **here**; please select **Future of Balancing Services inc. Balancing Programme** to keep up to date.

We welcome your feedback & questions – please get in contact with us at box.balancingprogramme@nationalenergyso.com.



Sign-up to our other Stakeholder Focus Groups for Optimisation & Forecasting - Balancing Programme Stakeholder Focus Groups.

If you are interested in a regular meeting with a representative from the Programme and would like more information, please get in contact using the email address above.

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