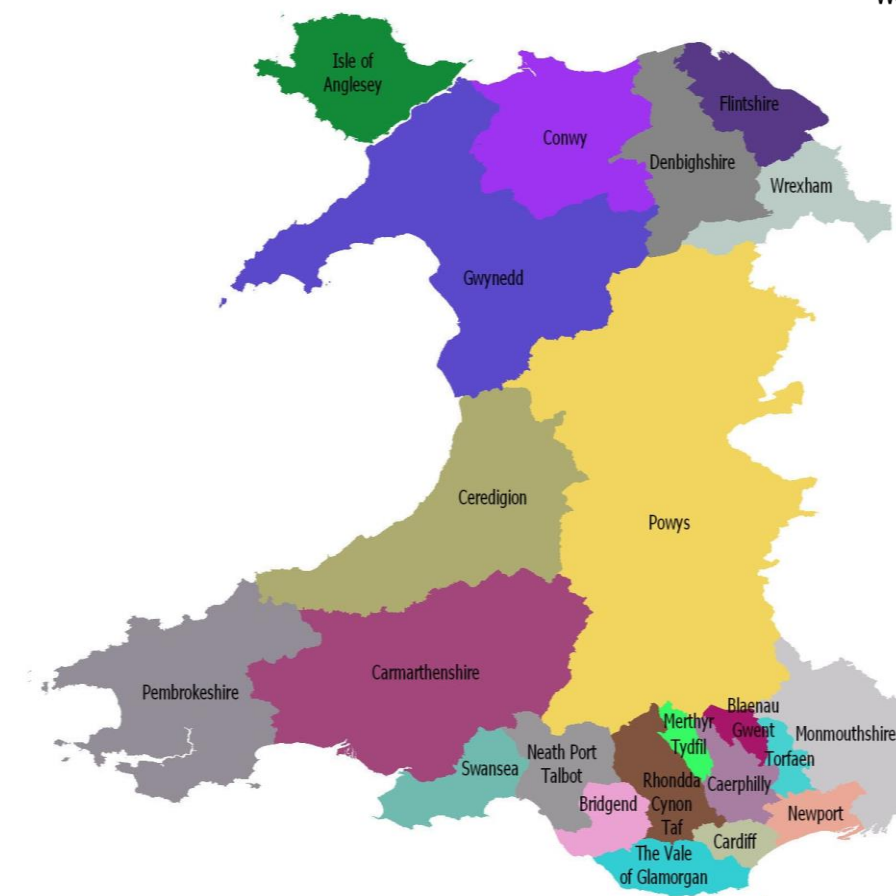


Pweru Cymru yn adnewyddol

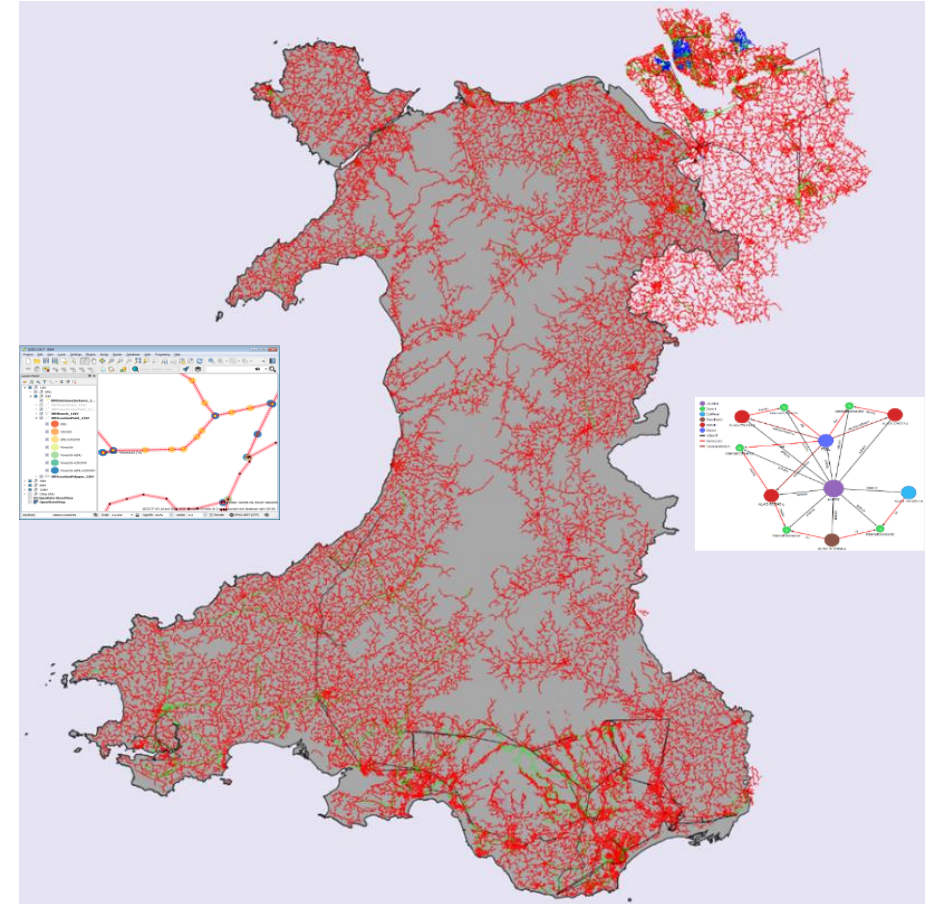
Powering Wales Renewably

Show & Tell Presentation
April 2024



Pweru Cymru yn adnewyddol | Powering Wales Renewably

- Net-zero power system by 2035
- The Welsh Government has ambitious decarbonisation plans
- The project will deliver:
 - The first Welsh energy system network status digital twin. Multiple industry and external datasets, correlated to support specific use cases.
 - The first whole-system representation of flexibility requirements, DER availability and dispatch.
 - The first top-down and bottom-up comparison of Local Area Energy Plan's, T&D energy network development plans, and the connection queue, for alignment and actual delivery tracking.



Source: [Powering Wales Renewably \(ENA Innovation Portal\)](#)

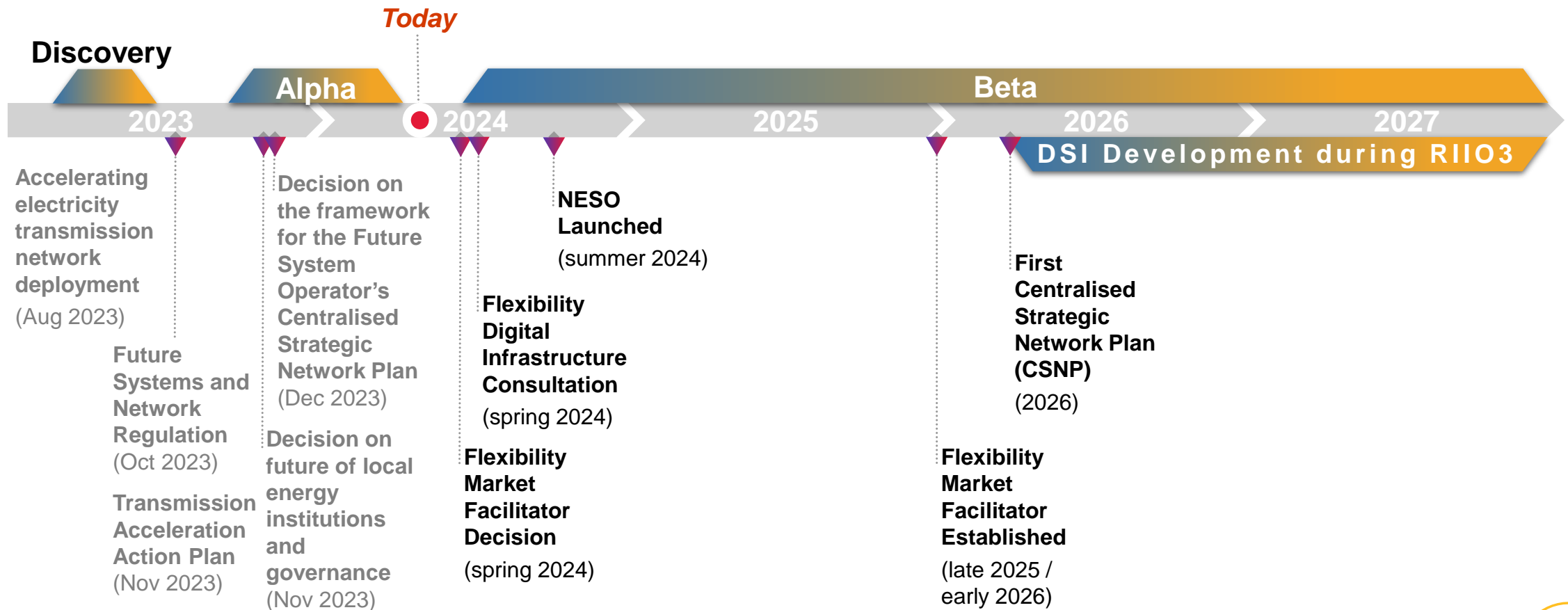
Project Outline – Ambitious & Innovative by Design

- ✓ Integrated whole energy system approach
- ✓ Data & Digitalisation enablement
- ✓ Reduce time, risk and cost to Net zero
- ✓ All stakeholder common view of system challenges
- ✓ Innovate solutions to the Welsh EST blockers
 - PWR is more than just visualisation, use cases that address:
 - Foundation energy system network status
 - Flexibility coordination
 - Integrated energy system transition planning

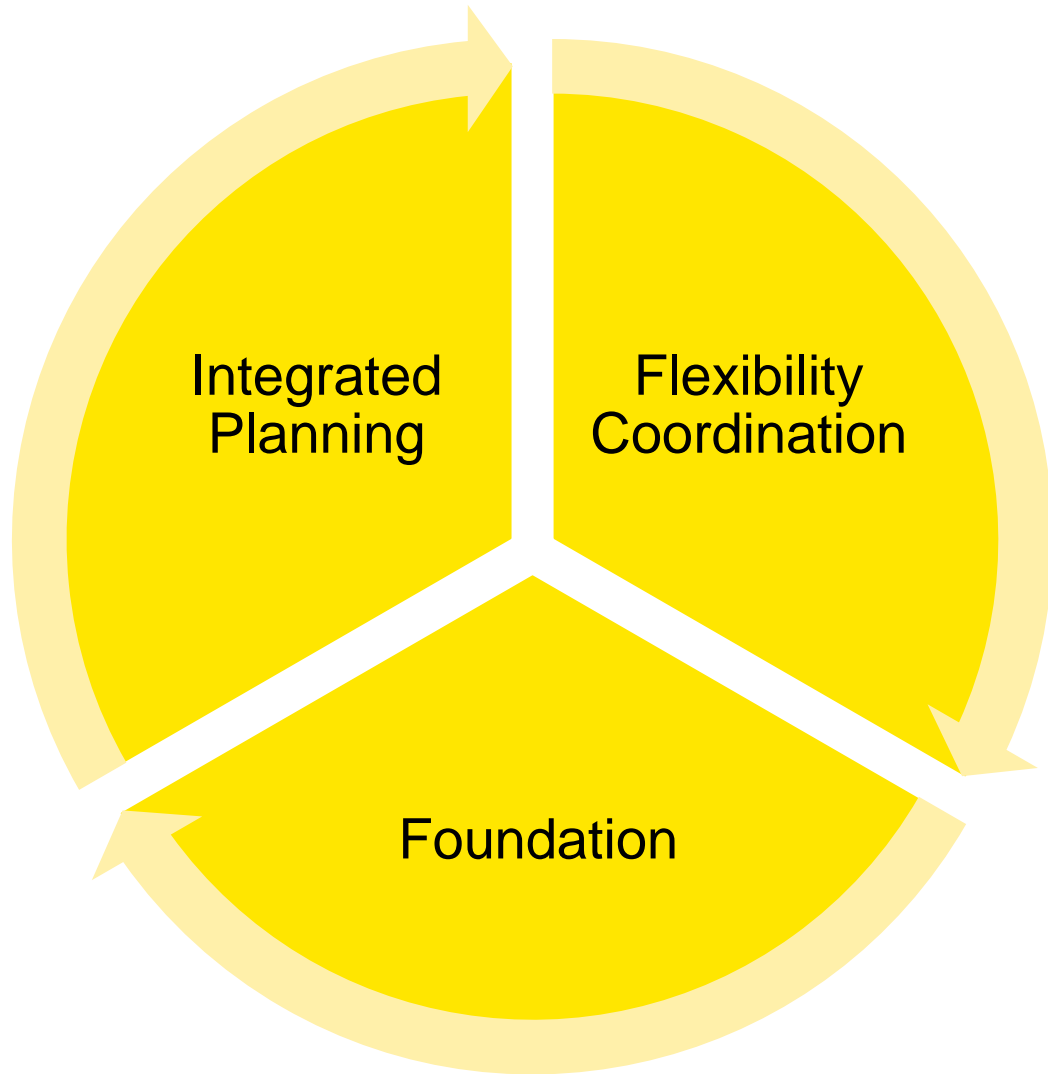


Powering Wales Renewably – the time is right!

- Powering Wales Renewably is taking place in a rapidly evolving regulatory landscape
- It addresses key regulatory challenges



Powering Wales Renewably is focused on 3 Use Cases



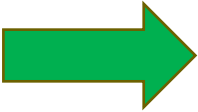
Foundation- Create the Whole System Network Model, and its status including accepted connections. Interoperable by design.

Flexibility Coordination – models the coordination potential for ESO/DSO flexibility requirements, off-setting and ANM interaction.

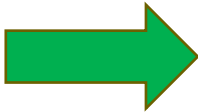
Integrated Planning- cross vector coordination to provide stakeholders with one version of the truth in respect of energy system transition planning.

We are building momentum

Discovery



Alpha



Beta....



Engaged partners and wider stakeholder groups



ESO CGI

nationalgrid Electricity Distribution nationalgrid



Set out vision and use cases & benefits to customers



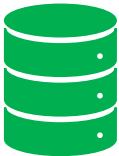
100's of hours of stakeholder discussion

New partners:

CENIN



Built a prototype to articulate PWR potential



Validated and defined use cases against common vision



Listened and responded to stakeholder and industry changes, e.g. Whole System and RESP/ Winsor report



Build the Data Sharing Infrastructure to support the Use Cases



New Partners:



Bring together organisations and communities to democratise Net Zero



Listen and engage with Open data throughout the project

Learnings from Alpha phase

Whole System – Multi Vector



Off-setting to reduce curtailment

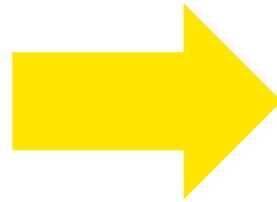


Open Data Barriers



Powering Wales Renewably will be a pathfinder and accelerator for:

- Open Data
- Decentralised Data Sharing
- Digital Democratisation of Energy System
- Strategic System Planning



Wales can lead the way on reaching net zero objectives by rolling-out the PWR solution across GB.

Next Steps

- Preparing application for the Beta phase
- Presenting on the Gemini Call (a Digital Twin Hub weekly stand-up, hosted at Connected Places Catapult)
- Talk to us if you would like more information, or are interested in engaging with us as part of the Beta phase project

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Thank you and Questions

