SP Energy Networks

SPEN Demand Summit

Welcome

Alana Cairns

Agenda

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SP Energy Networks

Time	Topic	Speakers
09.30	Welcome	Alana Cairns
09.35	Business Overview	Gareth Hislop
10.05	Demand & Our Network	Ross Kirkwood
10.30	Supporting our Demand Customers	Alana Cairns
Morning Break		
11.00	Government Ambitions for AI Growth Zones	Chris Cheetham-West
11.30	Panel: What are the biggest opportunities/challenges in relation to Strategic Demand?	Gareth Hislop, Ross Kirkwood, Chris Cheetham-West, Allan Love/ Panel Host: Alana Cairns
12.05	ED3: Have your say!	Lynne Bryceland
12.15	Transforming our Transmission Business	Martin Hill
12.30	Closing Remarks	Gareth Hislop
Networking Lunch & Close		

Key Information

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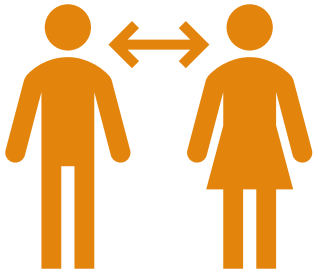
No planned fire alarms for today. If an alarm does sound, please follow signposts to exit and look for an SPEN staff member to walk with you to the safe location.

We have opportunities for engagement with our staff during the breaks.



We have allocated time after each speaker to ask questions using slido. There will be a dedicated panel session mid-morning.

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Visit Slido throughout the day or scan the QR code below

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Business Overview

Gareth Hislop

Demand Overview

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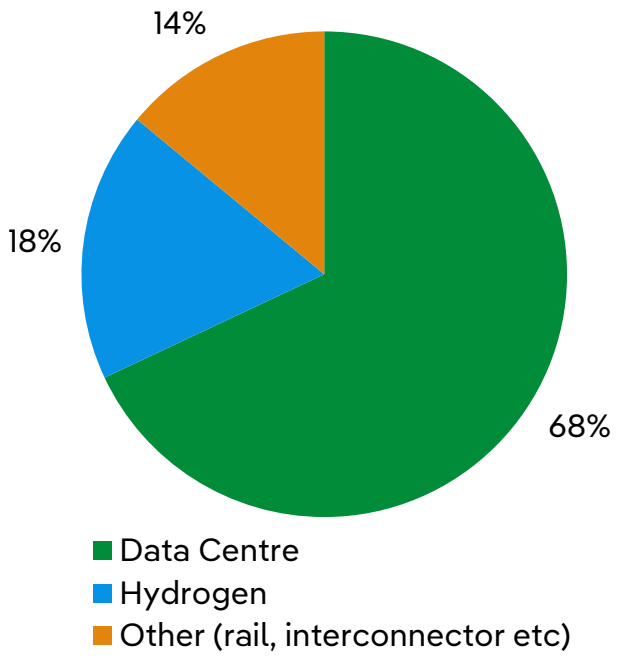
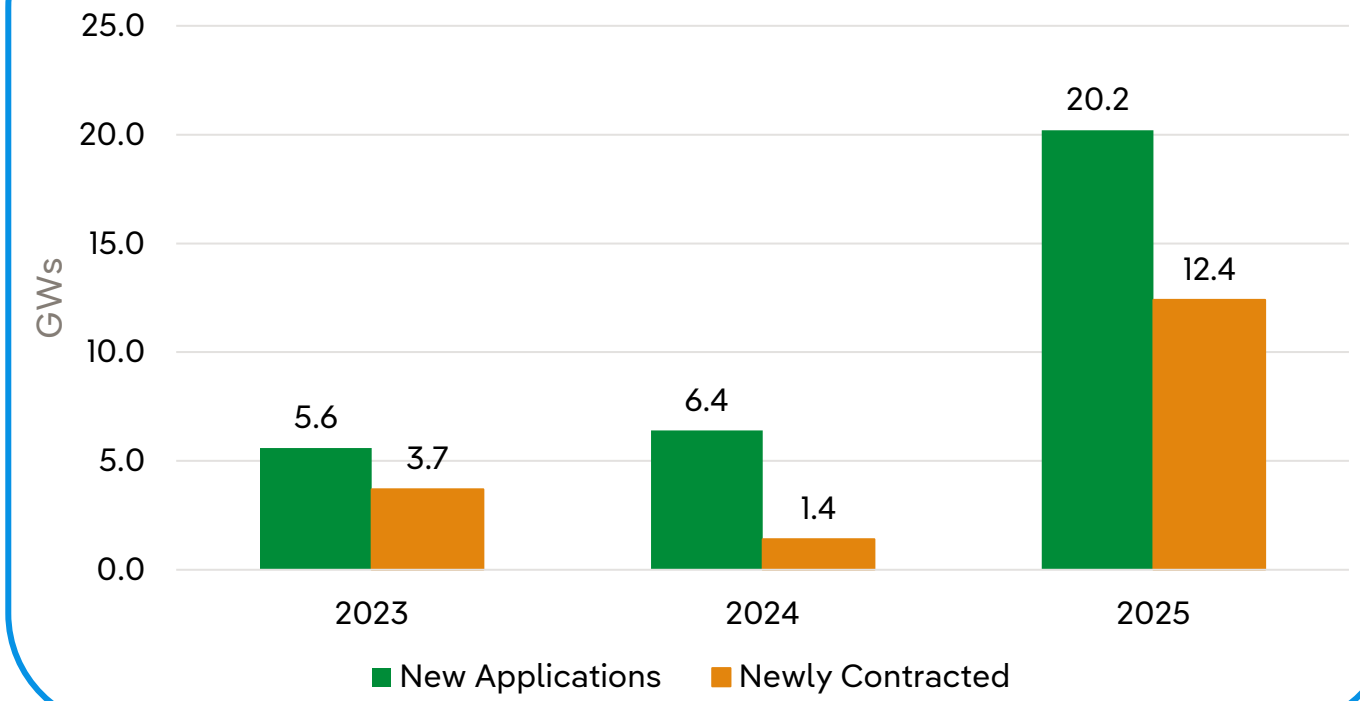
SPT currently has **68GW of contracted generation** and we have **17.6GW of demand contracted** with **17.5GW** having contracted in the last three years.

We have seen a real spike in interest in demand within our area with **20.2GW worth of Transmission applications** in our network this year. With similar trends occurring in our distribution world sitting at **1GW of demand applications** in 2024-2025.

Types of Transmission Demand



Transmission Demand Connection Numbers



Policy Enablers

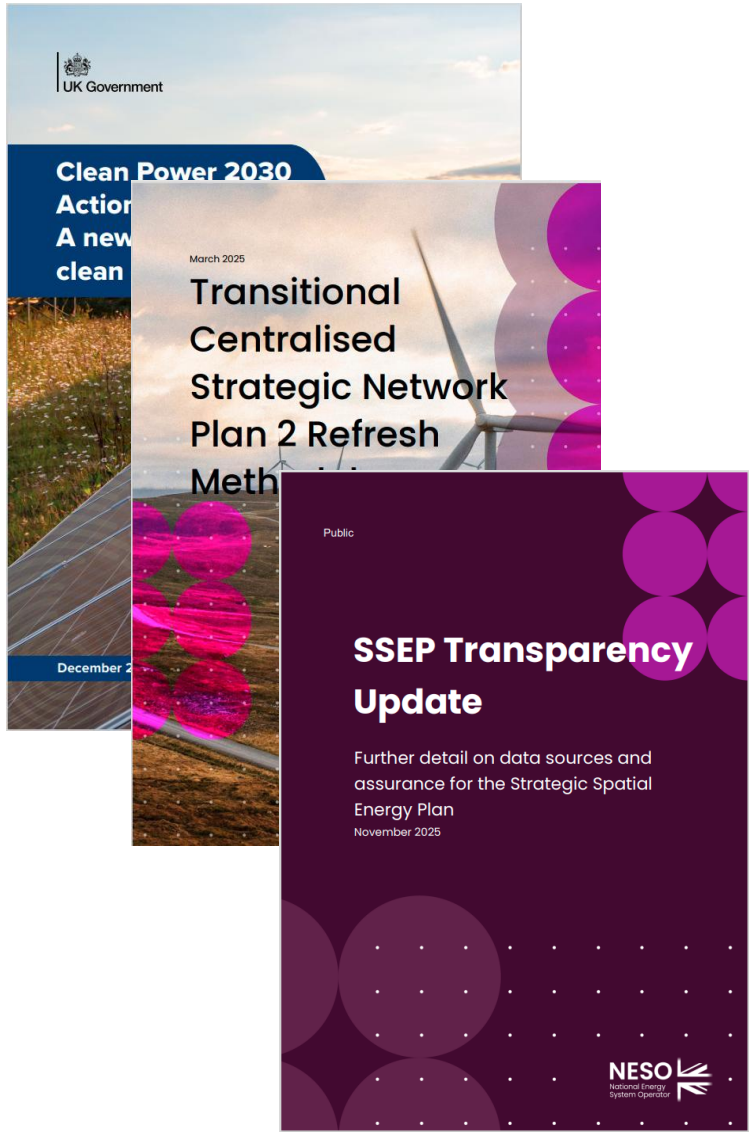
This time last year, we saw the publication of **Clean Power 2030**.

Clean Power 2030 needs to focus on **both generation and demand** to ensure both forecasts complement each other. Ultimately, reducing existing generation constraints, without significant additional network infrastructure requirements.

We continue to work with the **UK and Scottish Governments** on the planning changes and land reforms needed to facilitate the timely consenting of the required network infrastructure to facilitate customer connections. The introduction of the Planning and Infrastructure bill will be critical step in successfully achieving this.

We are **working closely with Ofgem and DESNZ** to support action across key policy areas such as:

- *Connections*
- *Planning and consenting*
- *Supply chain*
- *Resource and Skills*



2026 and Beyond

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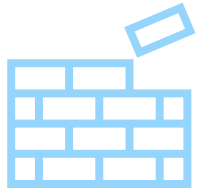
TM04+

How will the large volume of demand connections now added to the queue interact with TM04+?

We will continue to engage with NESO, DESNZ and government to support change in policy to support our demand projects.

Ensuring Progress



How are we going to ensure projects continue to progress with continued policy changes?

Our contracted position on projects will always be our priority to progress. We continue to connect projects throughout TM04+. Just recently we saw the energisation of Hagshaw Hill 2 Repowering.

2026

How will we manage with the new challenge of increased demand on our network?

Ahead of connections reform we started to recruit resource in our design, policy and commercial teams with the people and skills needed, with new expertise required to meet all challenges. This will continue into the new year.

Resourcing

How will we engage with our key stakeholders?

Increasing customer engagement & introducing new touchpoints with digital tools and open data without losing our personal touch. We will continue to support you on your connections journey.

Building Relationships

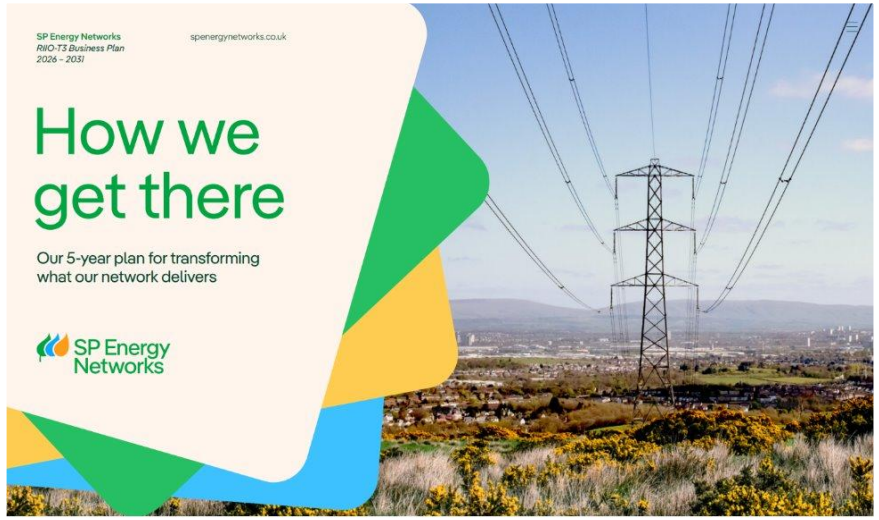
Ofgem to publish its RIIO-T3 final determination on 4th December 2025.

At draft determination (1 July '25) 95% of SPT's forecast investment, of more than £11.6bn nominal from April 2026 to March 2031, with a nominal RAV growth of more than £9.0bn, endorsed by Ofgem

RIIO-T3 final determination (FD) expected 4th December with associated Ofgem stakeholder and investor calls the same day.

Statutory licence consultation, to enact FD policy, 16th December to 16th January '26.

Amended transmission licence to be published no later than 3rd February '26 to allow ***56 day notice.***



Negotiation Timeline:

- *11th Dec 2024* T3 BP submission
- *1st July 2025* Ofgem published draft determination
- *26th August 2026* Response to DD consultation submitted
- Engagement with Ofgem
- ***4th December 2025*** **Ofgem issue Final Determination**
- *February 2026* Decision to accept RIIO-T3 licence changes
- *April 2026* RIIO-T3 commences

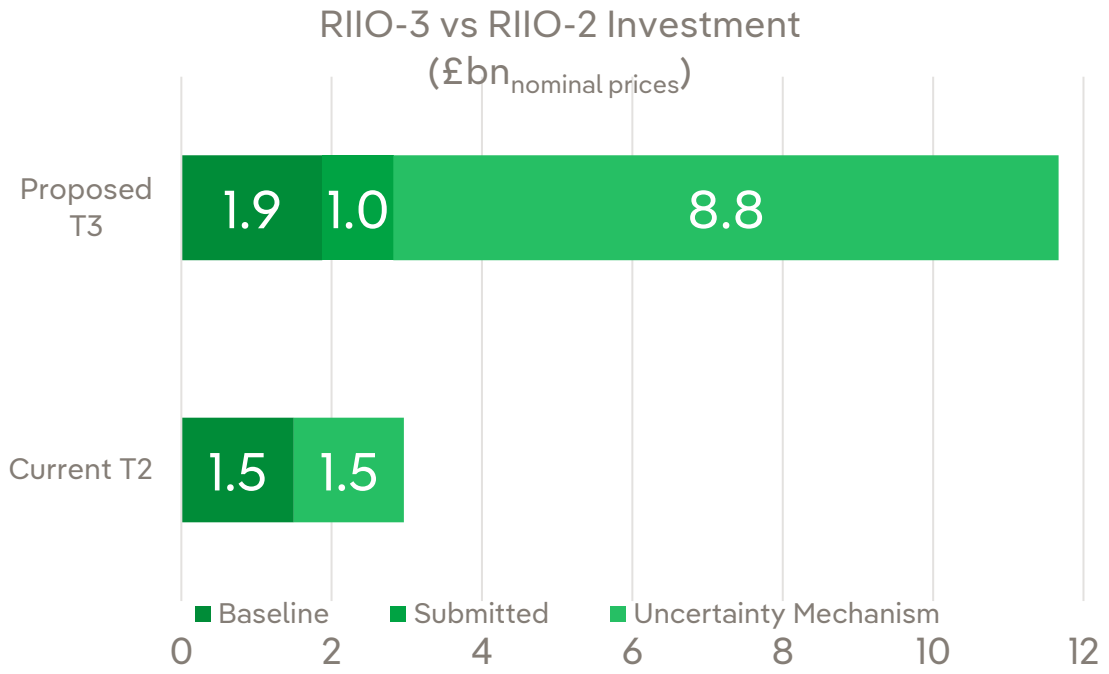
Significant increase in the scale and pace of Investment during RIIO-T3

UK Decarbonisation Targets

- UK has a target **to fully decarbonise its electricity grid by 2035**; supporting the legally binding targets to achieve net zero by 2050 (2045 for Scotland)
- Infrastructure investment is recognised as a key pillar to achieve this, particularly relating to constraints around the Scottish border

Political Context

- Focus of **RIIO-T2** was on **impacts to customers and reducing costs**, however, there is now recognition that investment now will increase energy security and reduce cost volatility in the future
- As such, **for RIIO-T3** there is strong government understanding that electricity networks will underpin the **UK's net zero targets**, with scale and pace of delivery key to success



Increase in Project Volume and Scale

- Our **top 10 projects** by expenditure account for **44% of our total proposed RIIO-T3 investment**
- Our top 3 projects (HVDC projects: EGL1, EGL4 and WHVDC2) account for one third of our RIIO-T3 investment

Consistent with Transmission sector – Expected 4.5x increase in Investment

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Demand & Our Network

Ross Kirkwood

Overview

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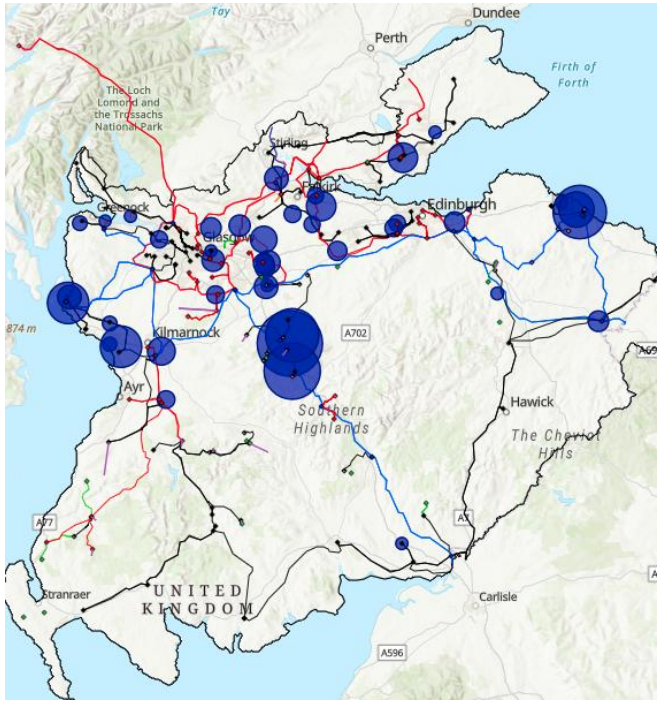
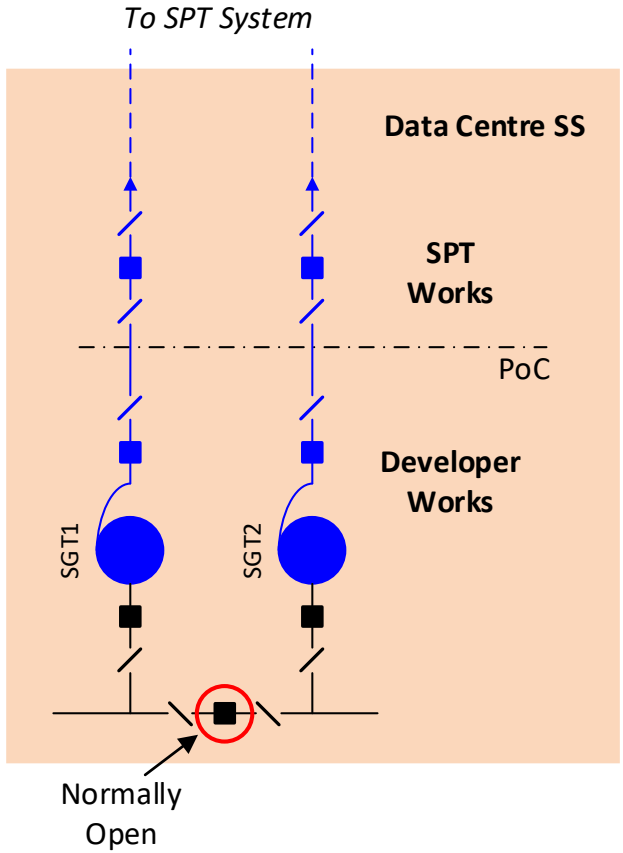
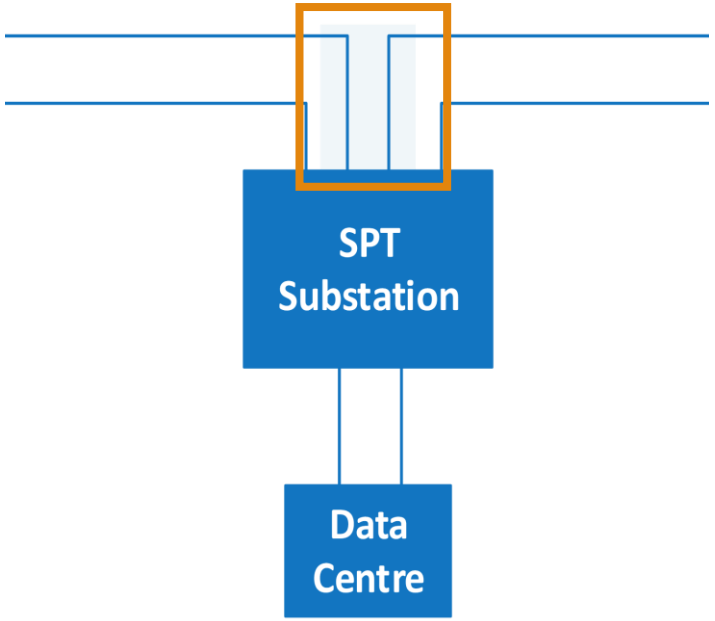
1. Demand connections activity within SPT area.

2. What SPT needs to know regarding your application

3. Design considerations for "Large" Demand Connections



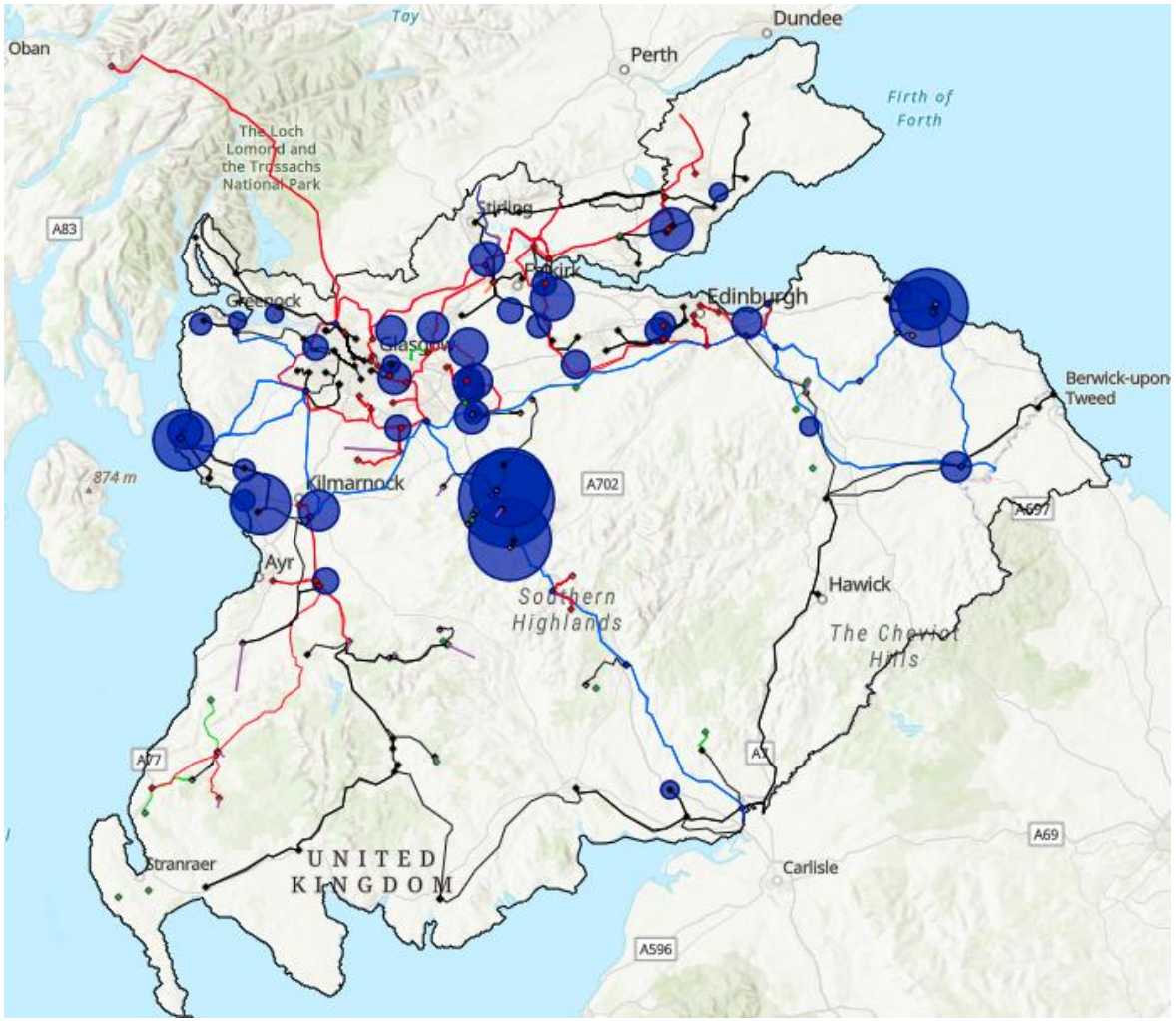


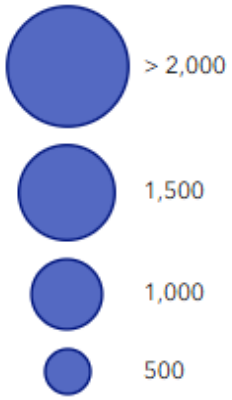


Transmission Connected Demand Projects: Contracted

SPT Area - Contracted Demand Projects: c.17.6GW

For context, the existing winter peak demand across Scotland (SPT and SSEN) is c.5GW





Breakdown of 'Gate 2 (Initial Checks)':

Data Centre – 11.3GW *(27 projects)*

Electrolyser / Hydrogen – 6.0GW *(7 projects)*

Other – 0.3GW *(6 projects, incl. rail)*

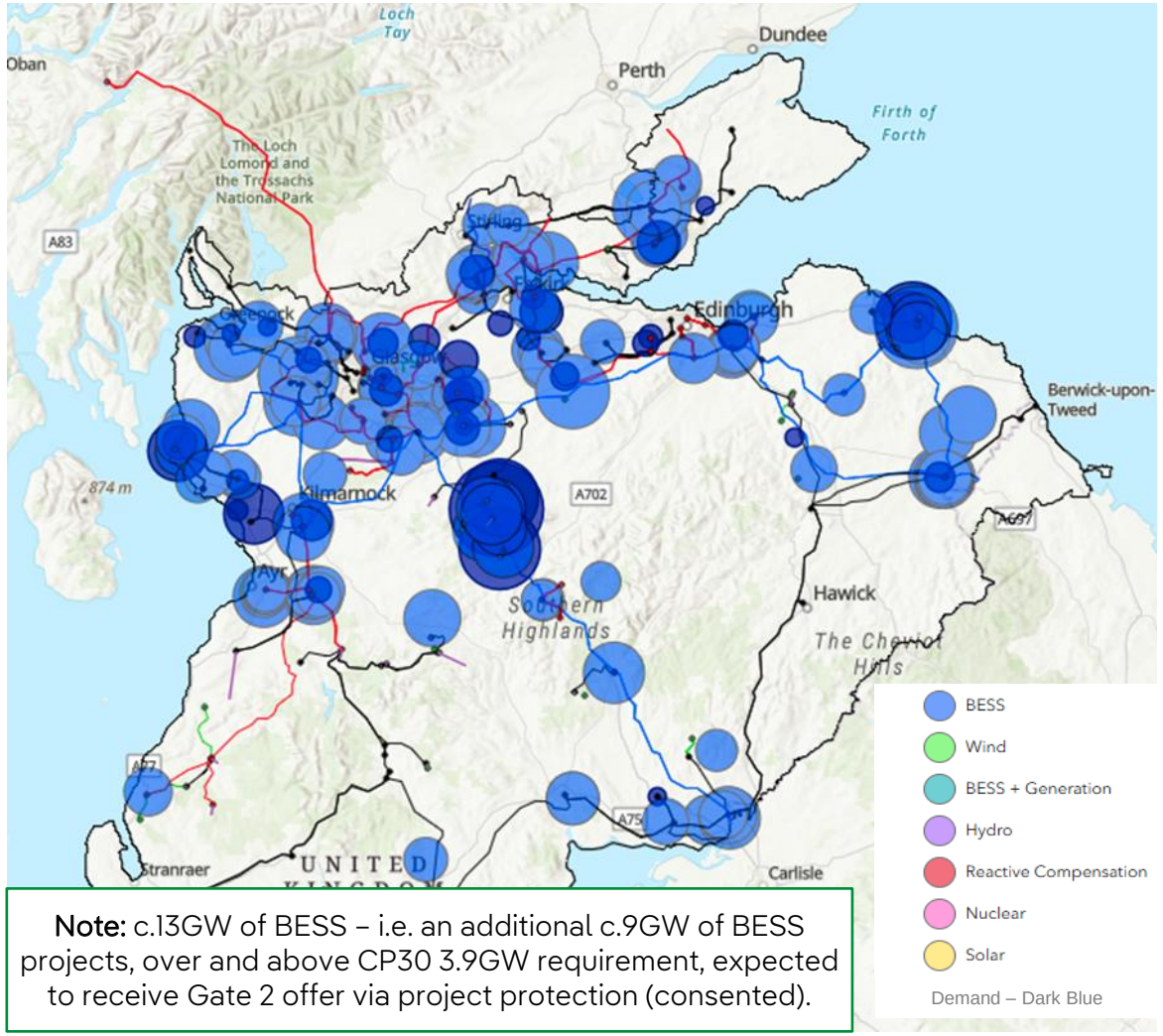
Total – 17.6GW

Note: The above is a preliminary view only, based on data received to date from the NESO, and which remains subject to validation and change as part of the Connection Reform process.

Transmission Connected Demand Projects: Contracted

Contracted Demand and BESS Projects

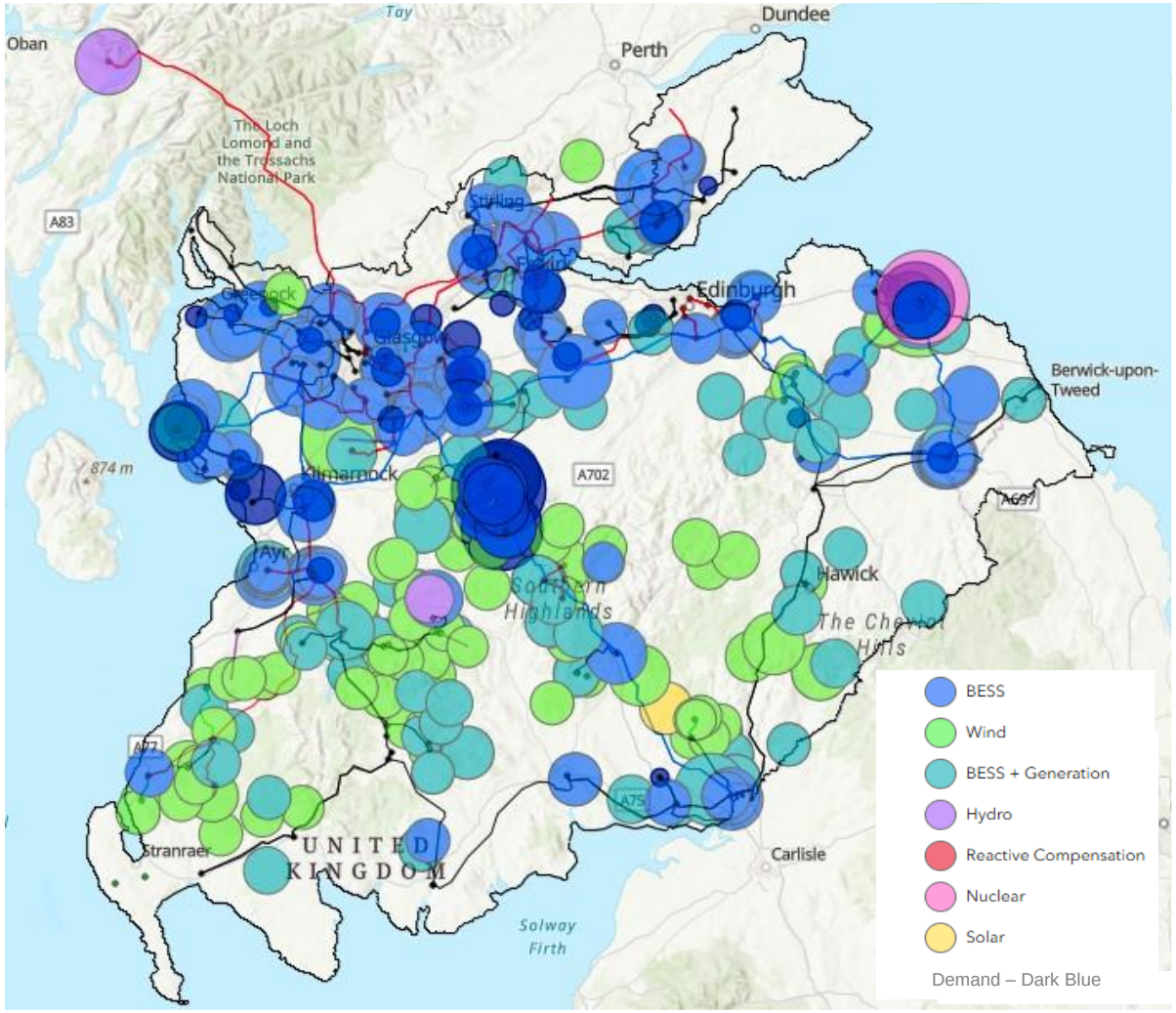
Excl. co-located BESS



Note: c.13GW of BESS – i.e. an additional c.9GW of BESS projects, over and above CP30 3.9GW requirement, expected to receive Gate 2 offer via project protection (consented).

Contracted Demand and all Generation Projects

Excl. offshore wind projects, incl. Connected (light blue)



What Do We Need to Know From You?

Key details that SPT require to support your demand connection.

- SQSS Compliance Level *
- Capacity of the Project in MW
- Point of Connection location / coordinates *i.e. where is your site*
- Details of how your site will operate *
- Appetite for ramped connection *
- Assumed power factor for operation
- Preference on connection circuit type *i.e. cable or overhead line*
- Interactivity with other developments *

SQSS Compliance Level

Demand connections are assessed under Chapter 3 of SQSS *(generation connections are Chapter 2)*

New, large demand connections could materially change existing demand groups **(Groups D, E and F).**

Requirements of these groups may trigger reinforcements to ensure compliance and operation of transmission system.

SQSS Table 3.1 states demand groups based on MW values.

Table 3.1 Minimum Planning Supply Capacity Following *Secured Events*

Class	Group Demand		Initial System Conditions	
	Minimum	Maximum	Intact System	With Single *Planned Outage* Note 1
A	0	≤1 MW	**In repair time** *Group Demand*	Nil
B	>1 MW	≤12 MW	**Within 3 hours** *Group Demand* minus 1MW **In repair time** *Group Demand*	Nil
C	>12 MW	≤60 MW	**Within 15 minutes** Smaller of (*Group Demand* minus 12MW) and two-thirds of *Group Demand* **Within 3 hours** *Group Demand*	Nil
D	>60 MW	≤300 MW	**Immediately** *Group Demand* minus 20MW Note 2 **Within 3 hours** *Group Demand*	**Within 3 hours** Smaller of (*Group Demand* minus 100MW) and one-third of *Group Demand* **Within time to restore *planned outage*** *Group Demand*
E	>300 MW	≤1500 MW	**Immediately** *Group Demand* Note 3	**Immediately** *Maintenance Period Demand* **Within time to restore *planned outage*** *Group Demand*
F	>1500 MW	∞	**Immediately** *Group Demand*	**Immediately** *Group Demand*

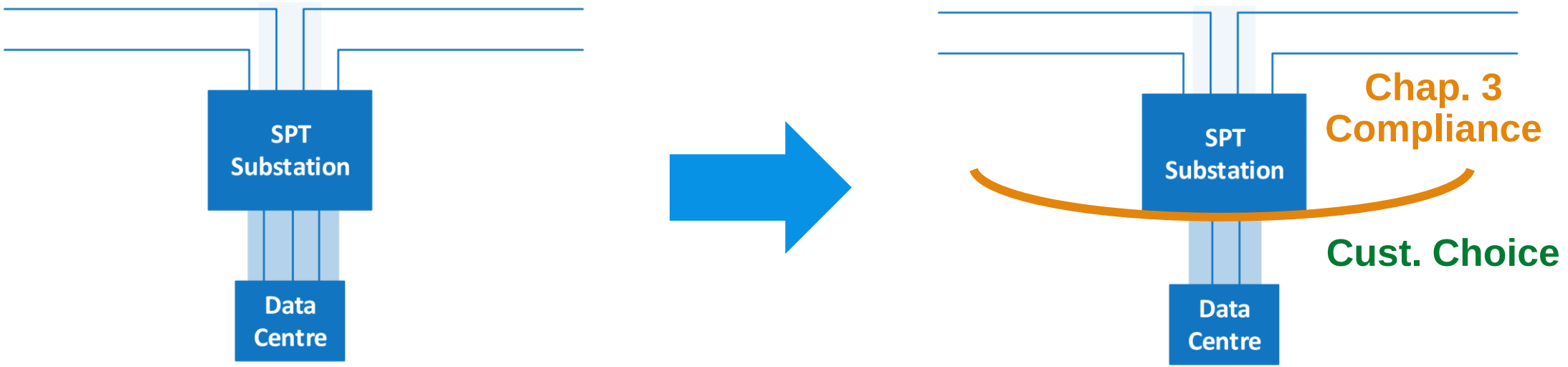
SQSS Compliance Level

SQSS interpretation would say that three circuits may be required between “SPT Substation” and “Data Centre”.

This might be too onerous for your requirements.

SPT approach would be for developer to confirm the number of connecting circuits they would require.

SPT would ensure SQSS compliance from “SPT Substation” to the remainder of the system.



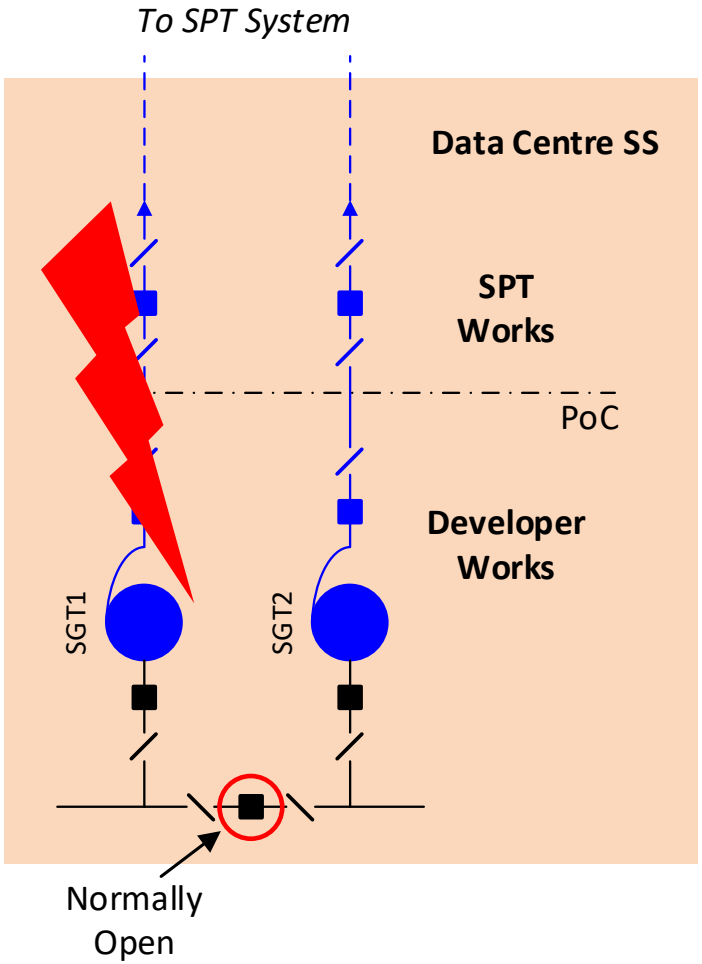
More than two circuits may be wanted but SPT would like to seek confirmation ahead of application being assessed.

Connection Operation

Inclusion of a **single line diagram** of developer installation would aid visualisation of connection and how interfaces would work.

e.g. SPT would require developer to run with an open bus section CB on your side to ensure no paralleling of the SPT system through yours.

This would mean that for the loss of a circuit would temporarily see the loss of 50% of your site until switching is done to close the bus section

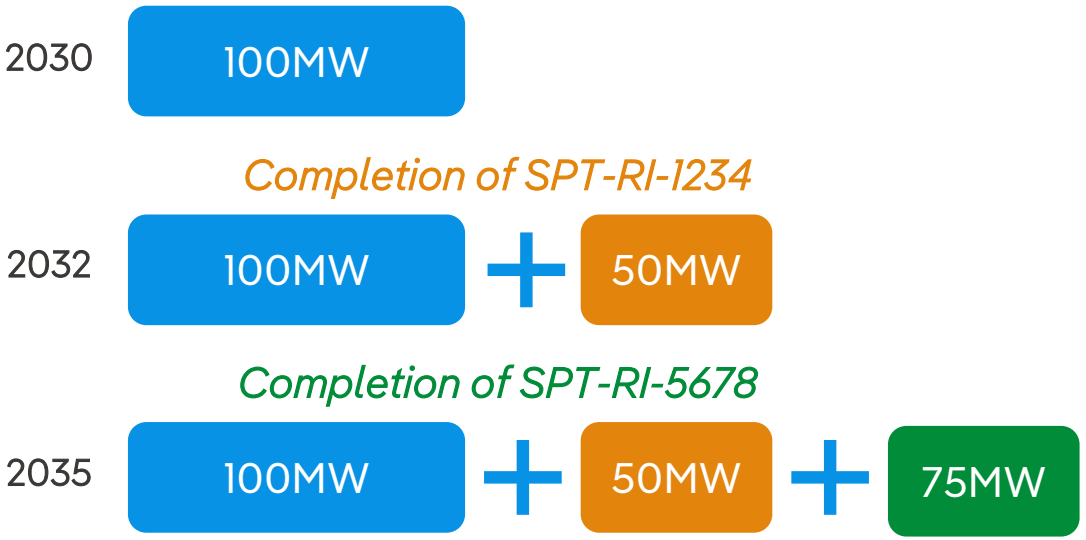


Phased Connections & Interactivity

Is there an appetite for a phased connection?

Outlining this at the application stage will help SPT understand if any involvement would be required from the DNO (SPD) to connect a smaller amount of MWs.

Any staging may influence what reinforcement works may be required and when e.g.



Interactivity with other developments

How do you want us to consider this application in conjunction with any other sites you may be looking into?

Is your intention that all would come forward or just one?

The implications for SPT is if we need to study the system with connections coming forward at multiple locations.

System Design Considerations

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Data Centre looking to connect into existing SPT substation.

Existing configuration whereby SPT substation fed from 2 x 400kV circuits.

To make network SQSS compliant TO may need to **“turn in”** other circuit into substation.

SPT CONSIDERATIONS

Do space/bays exist at SS to do this?

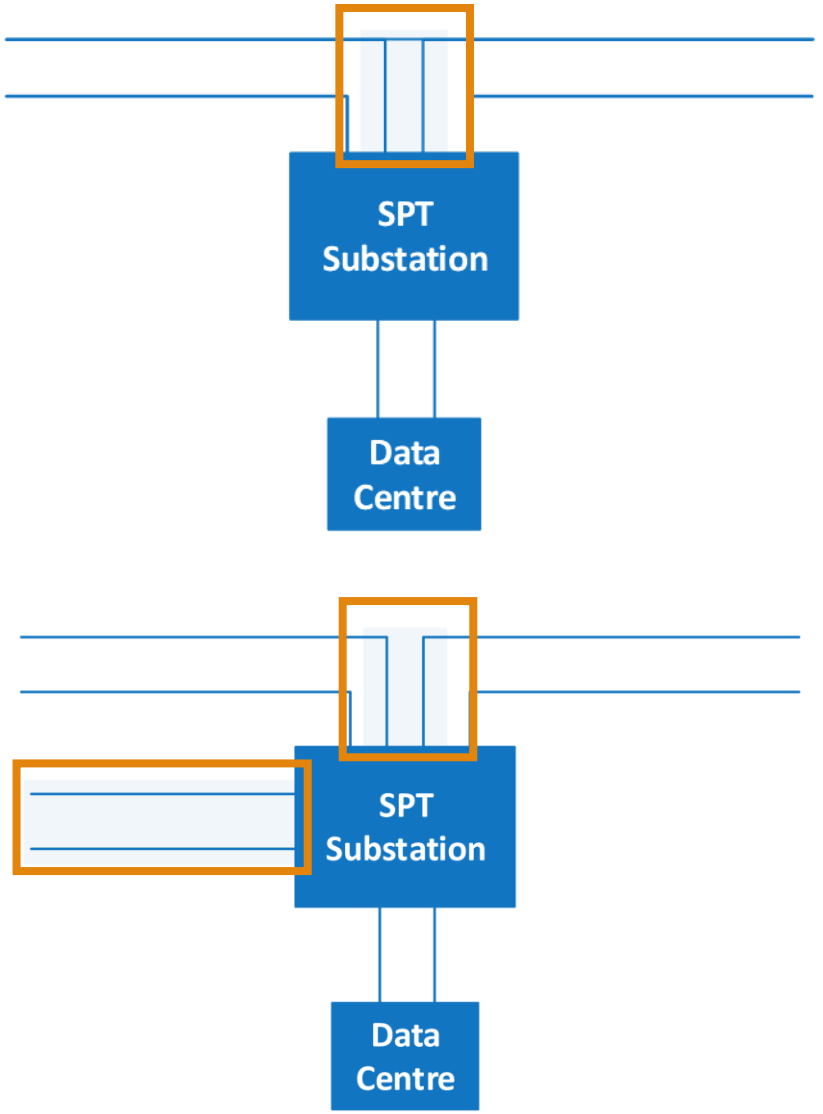
TO may need to install additional busbar sections/coupler circuit breakers

Distance from SS to OHL: could require new build OHL infrastructure to be constructed.

Demand group may be such that as well as turning in additional circuit that **a further double circuit may be required** to maintain Chapter 3 compliance.

This could apply to Groups D and E.

Example of this shown with new double circuit coming into SPT substation.



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Supporting your Demand Journey

Alana Cairns

Engaging with Us

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Supporting our new Demand Customers

Increasing resourcing into our Customer Liaison team to support these new connections coming onto our system.

Offering guidance and input into policy & process needs, to ensure demand is considered.

Website re-design is fully underway, and we have launched our new pre-application tool ahead of the next window opening.

Managing Expectations

Timing of the next application window will be critical.

You will not get a new connection next year, but we want to chat to you about realistic options for your connection.

Launching our T3 enablers to enable improved enhancements to our customer management systems and heatmaps. We want to keep improving.

Our top priority is providing you with the most economic, efficient and coordinated offer for the whole network.

Enhancing Our Digital Tools

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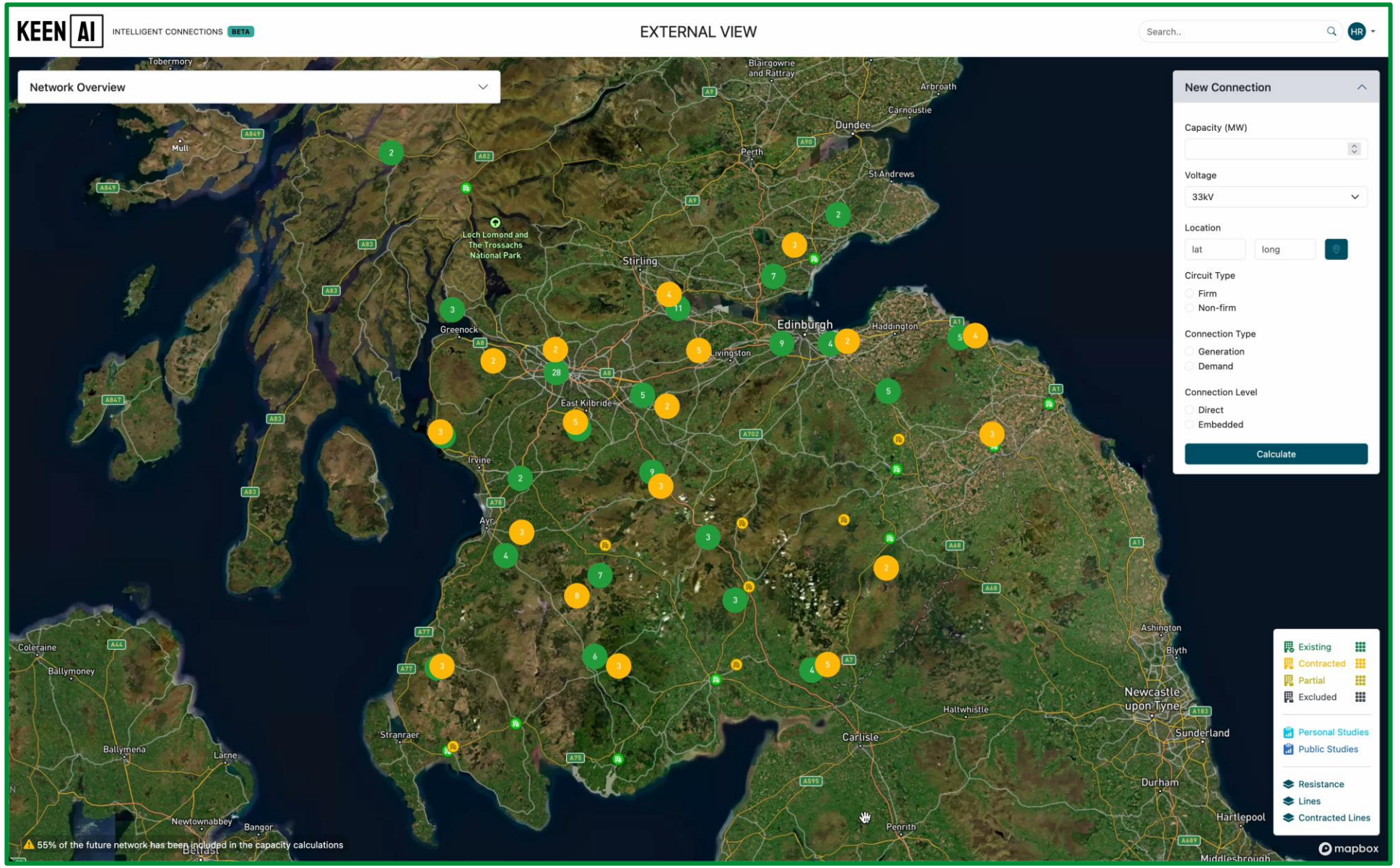
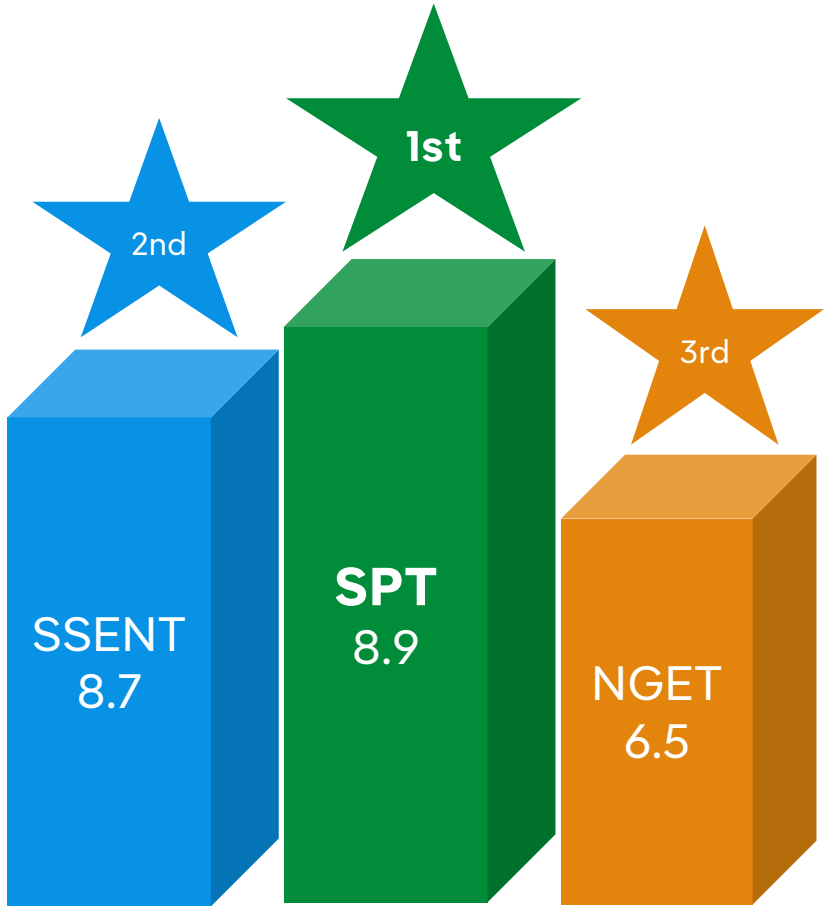


RIIO-T2 Quality of Connections Incentive

For 2024-25, SPT placed as top performing TO in the Quality of Connections Incentives scoring for our connecting and connected customers.

Customer feedback at each milestone in the customer's connection journey is key for us to learn of customer issues and address them immediately.

We see strong value in the Quality of Connections Incentives tool in helping us deliver for our customers. We were disappointed that this was removed from the RIIO-T3 framework (2026-2031). However, we plan to continue to survey our customers.



SPT is committed to delivering for our customers throughout their connections journey.

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Government Ambitions for AI Growth Zones

Chris Cheetham-West

Department for Energy Security & Net Zero

Why AI Growth Zones

Why AI?

- Drives economic growth;
- Improves public services; and
- Opens up new opportunities rather than just threaten traditional patterns of work.

Why data centers and why in the UK?

- Advances on AI driven by extraordinary and sustained investment in compute.
- However, unlike some infrastructure not all of it needs to be in the UK. We are taking a pragmatic not isolationist approach – certain AI workloads can and will be serviced offshore in collaboration with the United States, the European Union, and other global allies
- However, AI will be a foundational underpinning of our economy in future, so onshore capacity needed for:
  - low latency requirements;
  - maximising adoption benefits for key industrial strategy sectors;
  - protecting sensitive data and minimise national security risks; and
  - ensuring resilience from global shocks.
- AIGZ programme designed to deliver this compute capability in the UK quickly.
- Now announced 4 AIGZs – Culham, Blythe, North Wales and South Wales.

Department for Energy Security & Net Zero

November announcement - Delivering AI Growth Zones

Four key buckets:

1. **FOCUS FOR TODAY - Building an energy system that works for AI** – by accelerating grid connections and introducing targeted pricing support to incentivise data centre buildout where it will benefit the energy system.

2. **Reforms to develop a facilitative planning system** – including updating national planning policy for data centres, streamlining consent processes, and protecting land for AI Growth Zones.

3. **Ensuring AI Growth Zones bring benefits to all** – from jobs and local investments to skills and adoption programmes.

4. **Supporting investors**– including through a cross-government AI Growth Zone Delivery Unit and by leveraging public sector capital to unlock private sector investment and accelerate AI Growth Zone development.

4 Criteria:

1. Technical feasibility*
2. Delivery feasibility
3. Local impact
4. Level of government support requested

*Sites must demonstrate access to at least 500MW of power capacity by 2030.

Application window open indefinitely.

Department for Energy Security & Net Zero

Incentivising demand in the right place

- **RATIONALE -** When data centres locate in Scotland and the north of England, they can use excess renewable generation and reduce the overall cost of our electricity system.

- **BENEFIT -** Where data centres in AI Growth Zones facilitate these savings, they will receive a discount on electricity costs. For a 500 MW data centre this will be up to:
  - £24/MWh in Scotland
  - £16/MWh in Cumbria
  - £14/MWh in the North East

- **IMPLEMENTATION -** Consultation from DBT to set out details, data centres in eligible AI Growth Zone projects will be exempt from paying a portion of the costs that they pay into the electricity system.

- **TIMING** - Aim is for scheme to apply from April to 2027, with a review point in 2030.

Department for Energy Security & Net Zero

Accelerating Grid Connection Announcements

1. Support data centres in AI Growth Zones under the **Connections Accelerator Service,** which will offer enhanced engineering support for strategic projects.

2. **Reserve and reallocate capacity** for strategically important projects, such as AI Growth Zones, using new powers in the **Planning and Infrastructure Bill.**

3. Provide developers with **self-build options** and establish a new high voltage task and finish group, starting early next year.

4. **Manage speculative demand** through a DSIT data centre strategic plan.

Other work:

- Ofgem's Demand Queue Guidance
- NESO Call for information

Any Questions?

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Panel: What are the biggest opportunities/challenges in relation to Strategic Demand?

Our Panel

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Alana Cairns

Host

SP Energy Networks

Gareth Hislop

Head of Market Development & Commercial Operations

SP Energy Networks

Chris Cheetham-West

Director of AI

DESNZ

Ross Kirkwood

New Connections & Reinforcement Design Manager

SP Energy Networks

Allan Love

Transmission Policy Manager

SP Energy Networks

SP Energy Networks

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ED3 - Have your say!

Lynne Bryceland

ED3 Connections Strategy – Supporting Demand Connections

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1 

Decarbonisation

Distribution networks sit at the heart of decarbonisation and are critical to reaching CP2030 and net zero targets. We need to ensure networks continue to be resilient in a changing climate.

2 

The scale of investment is increasing

We anticipate investment in ED3 could be 50% greater than ED2.

3 

Investing ahead of need

Ofgem, has been clear that now is the time to move away from deferring investment and that network capacity is essential.

4 

The benefits of investing in networks

ED3 investment will support the growing demand for electrification, have a positive impact on connections (generation and demand) timelines and allow homes and businesses across Scotland, England and Wales to decarbonise faster. It will also lead to wider socio-economic benefits.

5 

Long term strategic planning

We welcome Ofgem's focus network planning out to 2050. This gives clear signals to a constrained supply chain to build capacity. We will strengthen our relationships with suppliers to meet the rapidly growing demands of electrification.

6 

We need a skilled workforce

Building on our strong ED2 workforce programme, we will continue to build the workforce of the future as we face significant shortages.

7 

Creating an impact locally

We are committed to working with local communities to support strategic initiatives that will drive economic growth and create jobs for generations to come.

8 

Collaboration in strategic planning

We will work collaboratively with the NESO and regional stakeholder on the tRESP and RESP which will form the basis for future investment plans.

9 

First class engagement with customers and stakeholders

We will effectively engage with a wide range of customers and stakeholders to incorporate diverse perspectives, address concerns and align our strategies with the needs and expectations of those we serve.

10 

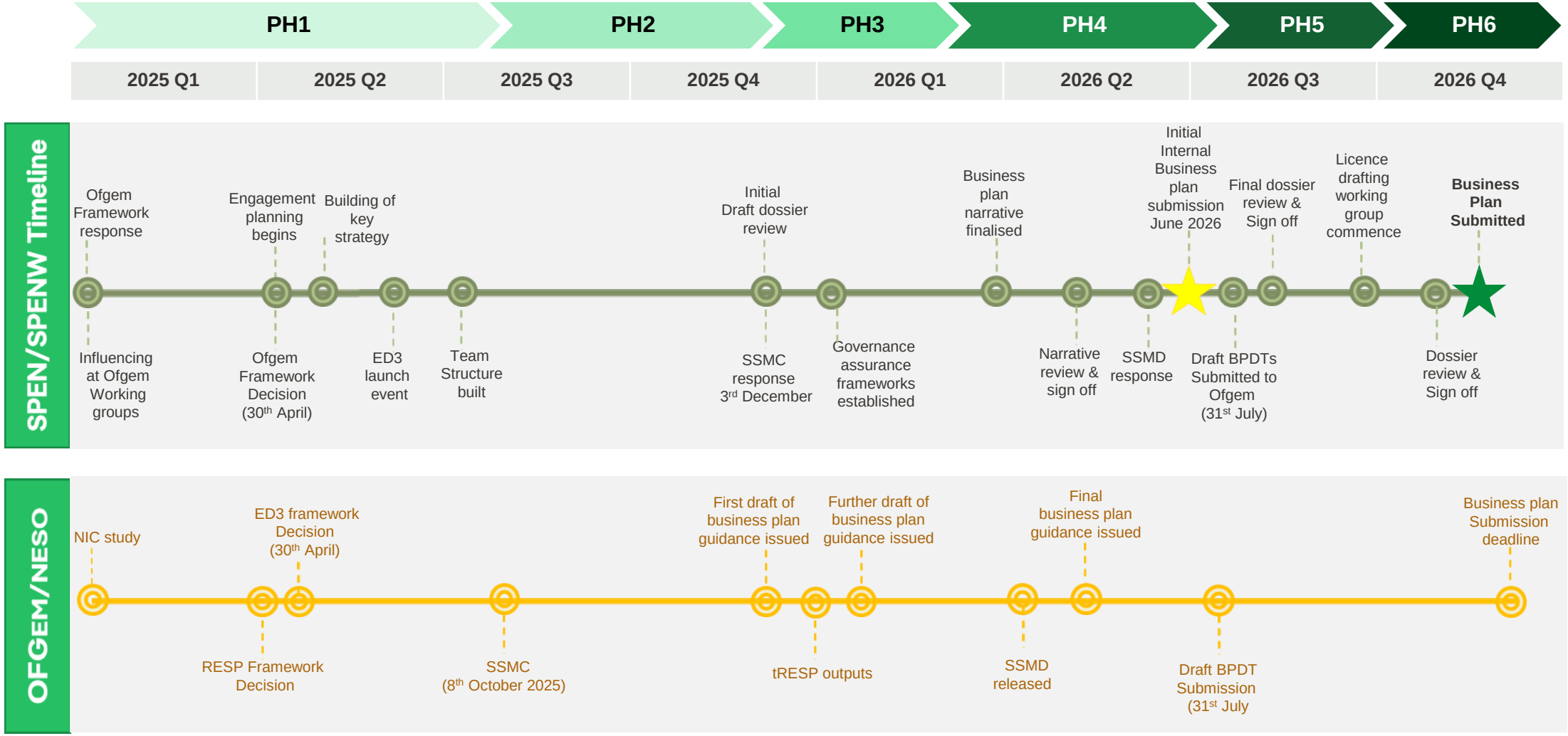
Strong incentive-based regulation

Ofgem must retain strong incentive and output-based regulation, which has driven great outcomes for consumers. Where Ofgem is more directive, targets need to be realistic.

To facilitate supporting our customers in the delivery of timely connections

RIIO-ED3 Project Timeline

We are working towards a joint SPEN & SP ENW Ofgem ready **Internal Draft Business Plan by June 2026**, with a final plan submitted to Ofgem in **December 2026**.
Tailored customer and stakeholder engagement on connections will commence in the New Year.



ED3 Connections Strategy – Supporting Demand Connections

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We'd welcome your input into the following questions to help share our Connections Strategy for ED3:

1. What is your **current experience** of SPEN as a connecting demand customer?

2. What are your **expectations** of SPEN as a connecting demand customer?

3. As a demand customer, do you require **different support** to a connecting generation customer? If so, please provide details.

4. How should our **ED3 Connections Strategy** support demand customers with their connections?

Using slido, label your response with **ED3-1, ED3-2, ED3-3 or ED3-4** and provide your feedback.

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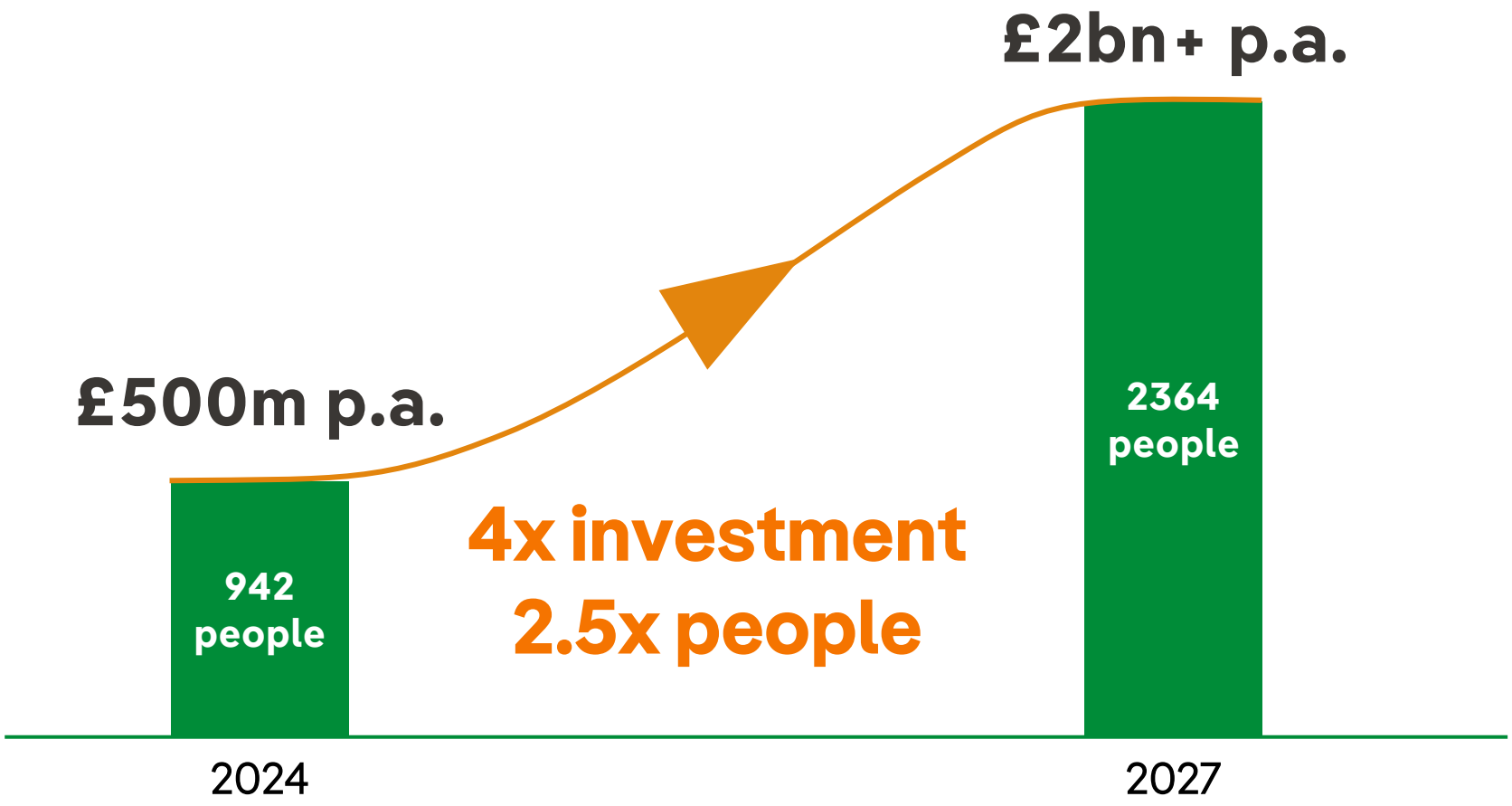
Transforming our Transmission Business

Martin Hill

SPT Growth

Level of investment for RIIO-ET3 is expected to be more than *four times* that in RIIO-ET2.



SPT Operating Model

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Plan & engage → **Design** → **Develop** → **Deliver** → **Operate**

Network Planning & Regulation

System Planning and Design, Regulation, Commercial, Asset Management

HVDC Portfolio

HVDC projects: EGL1, EGL4 and WL2

Strategic Portfolio

CP2030 projects – HND, TCSPN2 etc.

Core Portfolio

Asset modernisation, new connections & reinforcements

Operations

Customer Service – Control Room

Enable

SPT Cross-cutting functions

- Supply Chain
- Community Engagement and Sustainability
- Performance and Reporting
- Transmission Services

SPEN / Corporate support

- Control
- People and Organisation
- General Services
- Legal
- Land & Planning
- Business Transformation
- Process & Technology
- Cyber Security

Core Portfolio

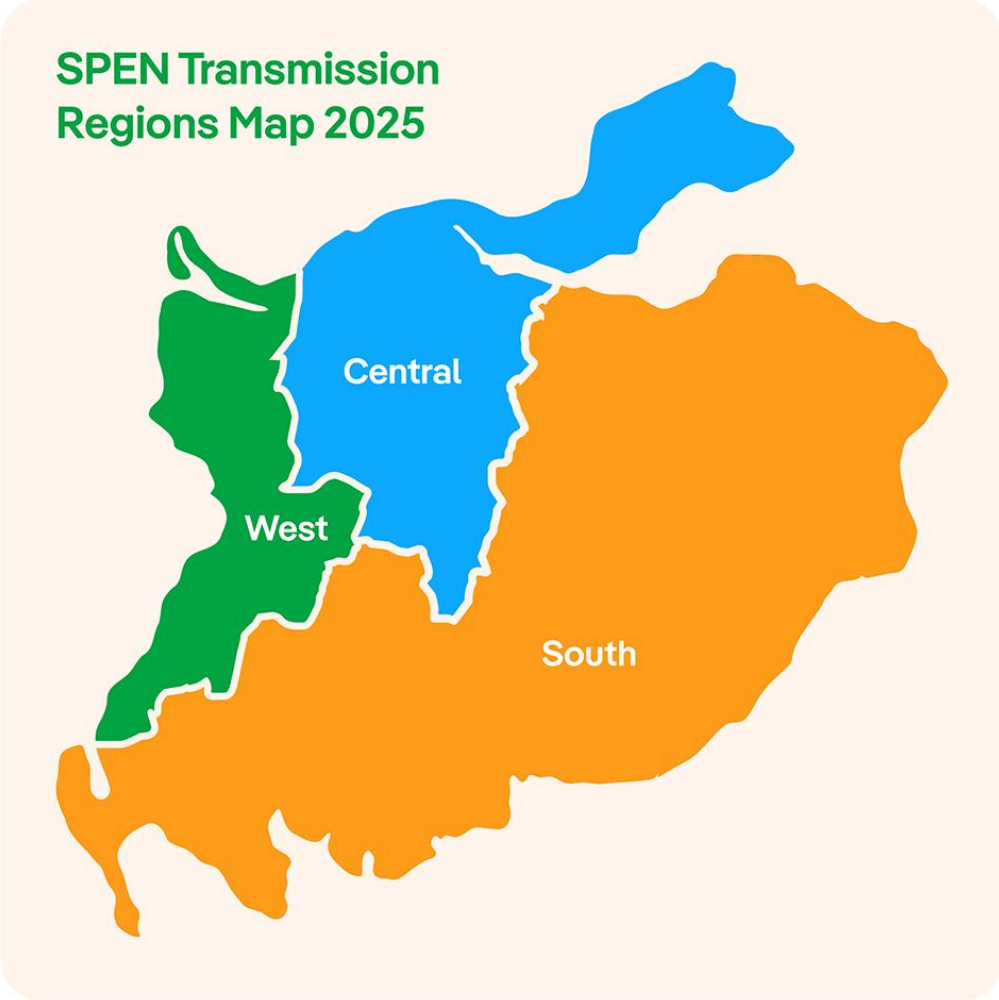
£7billion pipeline over next *10 years*

750 project orderbook

Geographic structure across

3 regions

- embedding functional expertise



Development and Delivery aligned within each region.

SPT Senior Management Structure

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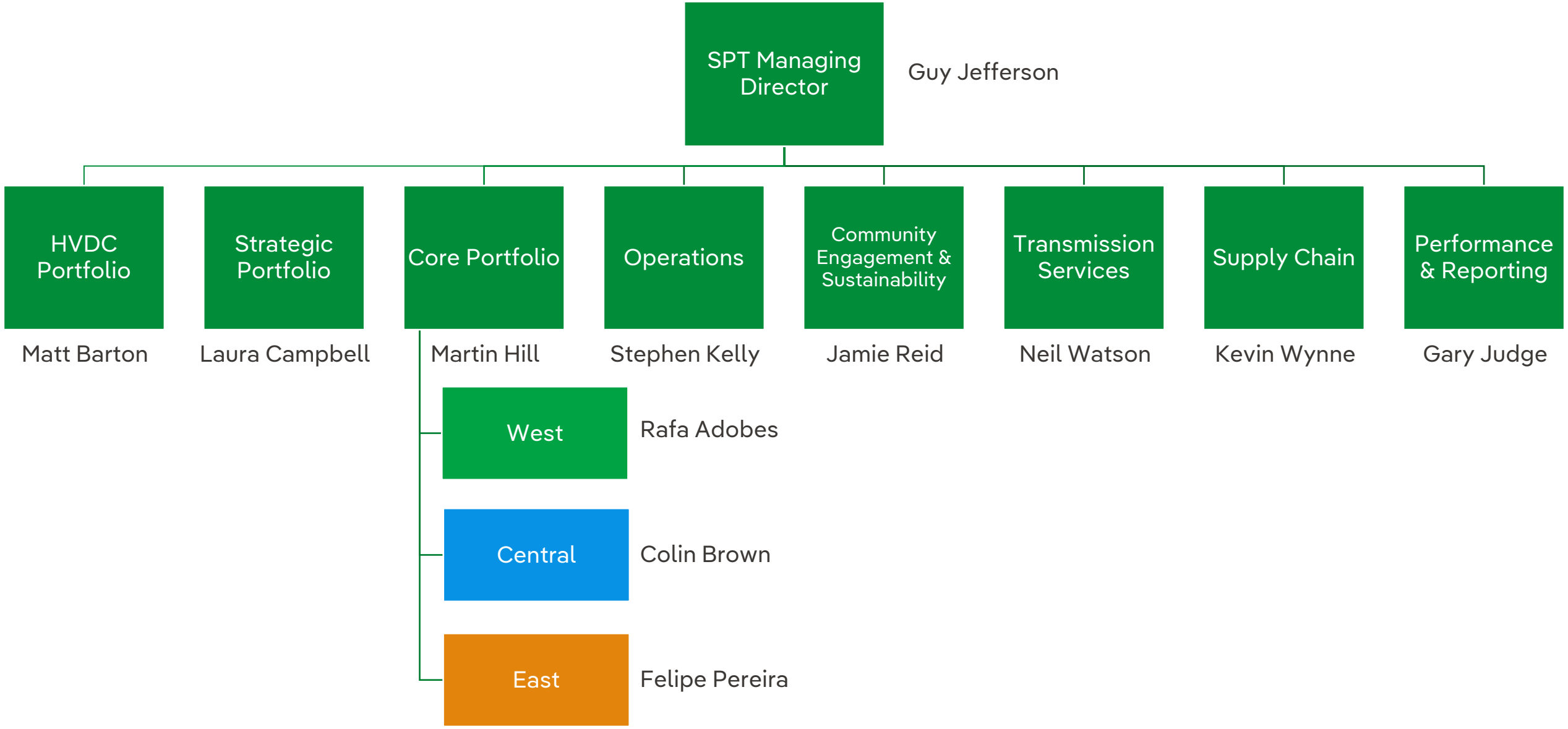
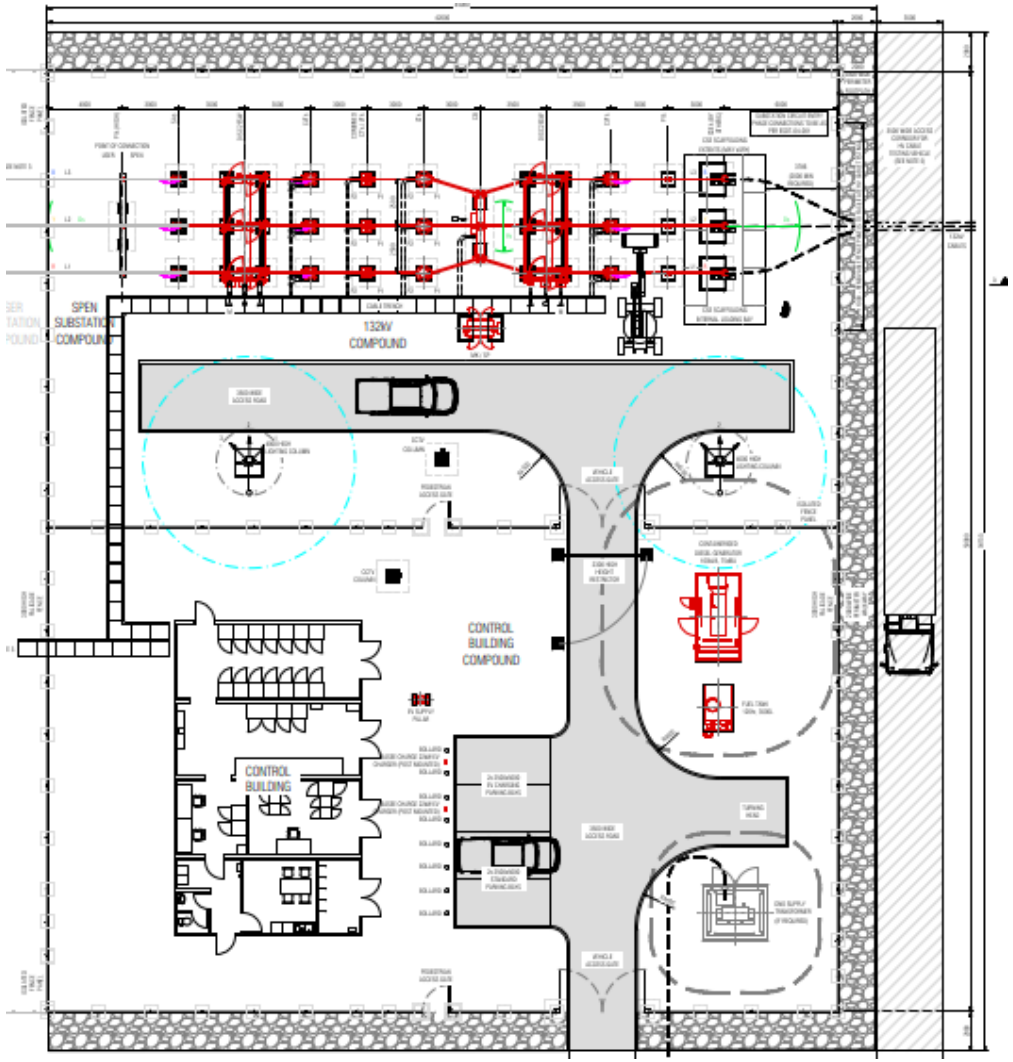


Design Standardisation

Programme of standardised substation solutions being developed



Deliverables:

- **Standardised** layout and design
- Designed in BIM

Benefits:

- ✓ Resource **cost and time savings** on concept, basic and detailed designs.
- ✓ **Standardised construction requirements** to drive cost efficiencies and time to deliver
- ✓ **Standardised O&M** for sites which are repeated

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Close & Thanks

Gareth Hislop

Providing Feedback

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We would love to hear your thoughts on today's event, so scan the QR code below for the opportunity to provide some feedback.