Connections

Ross Jones: Energy Saving Trust

Agenda and timings

12:30	Introduction	Ross Jones
12:35	Community Energy Strategy	Liam Cantwell
Application, connection design, development and network capacity		
12:40	Customer Relationship Management	Nicola Maxwell
12:50	Design and Development Teams	Derek Jessamine / Eugene Kenny
13:10	Quotes, connection offer expenses, tools available	Derek Jessamine / Eugene Kenny
13:30	Network capacity	Derek Jessamine / Eugene Kenny
13:50	Break	
Connection delivery and timescales		
14:00	Connection delivery	Paul Thomas
14:15	Land and planning	Laura Dempster
Connection case studies – community journeys		
14:30	Linlith-Go-Solar	Neil Barnes
14:40	Ashton Hayes	Richard Stradling
14:50	Closing remarks	Liam Cantwell

Community Energy Strategy

Liam Cantwell

SP Energy Networks

Who are we?

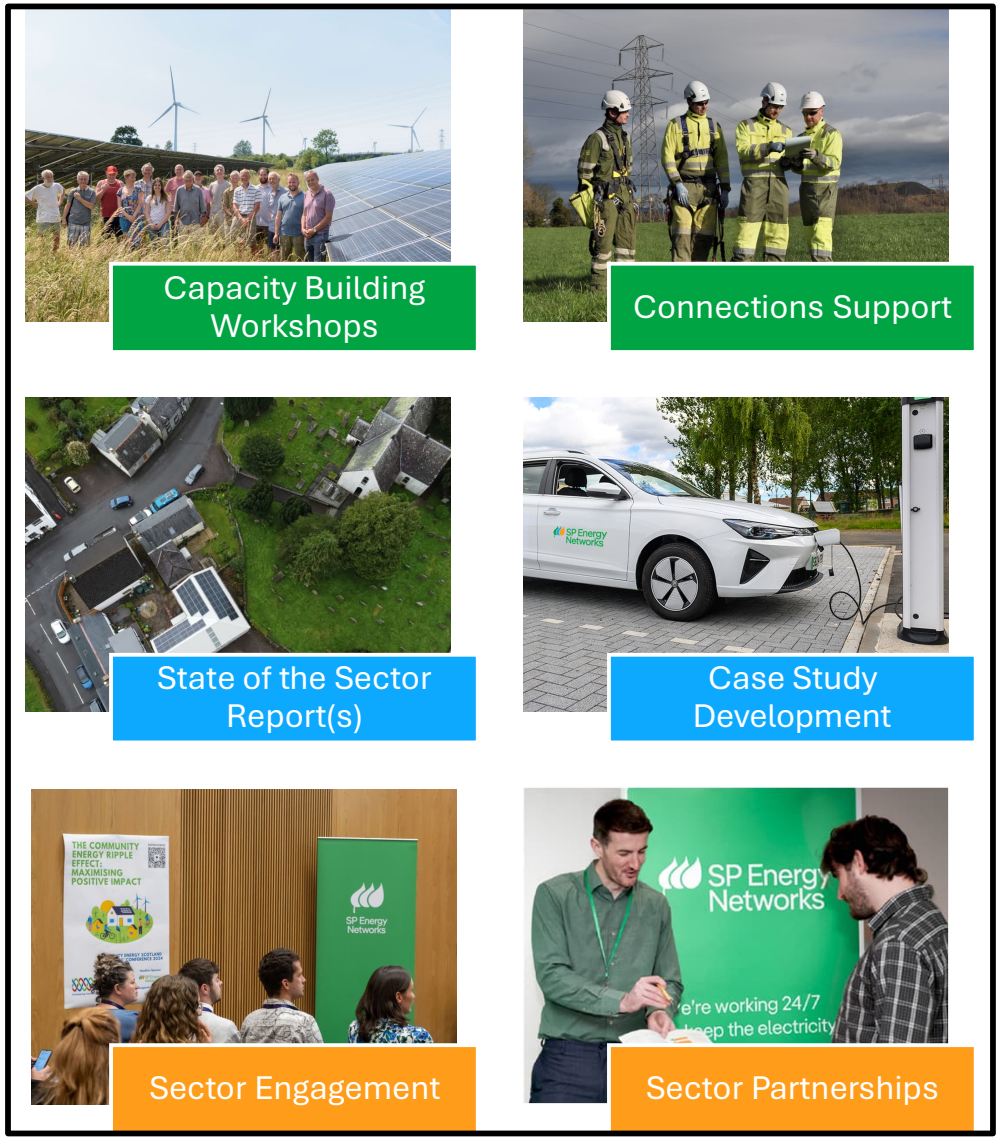
- Our role within the SP umbrella
- Government Policy – Ofgem – SP Energy Networks
- Community Energy Strategy

Support → Awareness → Continuous Improvement

Community Energy Webpage:

Register as a Stakeholder:

Community Energy Strategy



Supporting the Growth of the Sector

Growing the Community Energy Sector:

To sustain and encourage the growth of the community energy sector, there needs to be a focus on innovative strategies, effective engagement with new and existing partners, and collaboration across various sectors to ensure long-term success and resilience across communities. Below are our focussed areas we aim to target in order to continue the growth of the sector:

Accessibility

- Information
- Opportunities
- Guidance

Identification:

- Existing Projects
- New Projects
- Communities/Groups
- Affiliated Sectors

Building Partnerships

- Internal engagement
- Industry engagement
- Innovative engagement

Local Authorities

- Shared experiences
- Strategy alignment
- Option awareness

Education:

- Channels of engagement
- Targeted strategies
- Youth Engagement

SP Energy Networks: Engagement

Community Energy Webpage

Register as a Stakeholder

communityenergy
@spenergynetworks.co.uk

Community Energy Strategy

Customer Relationship Management

Nicola Maxwell

Design and Development Team

Derek Jessamine and Eugene Kenny

SP Energy Networks: D&D Team SPM

Sean Kennedy
Licence Design & Development Manager

- **Neil Woodcock** — Head of Customer Design Merseyside
- **Ken Brassington** — Head of Customer Design Cheshire & Wirral
- **Eugene Kenny** — Head of Customer Design Wales
- **Alex Woodall** — Development House Manager
- **Dianne Griffiths** — Customer Relationship Manager

SP Energy Networks: D&D Team SPD

Alastair Graham
Licence Design & Development Manager

- **Karl Watson** — Head of Connections Design (Major Generation Projects)
- **Harry McDade** — Head of Connections Design (East)
- **Derek Jessamine** — Head of Connections Design (East)
- **Audrey Mitchell** — Design Support Manager
- **Holly Goodwin** — Development House Manager
- **Customer Relationship Managers** — Rob Fusco; Sam Liddell; Nicola Maxwell

Quotations

Derek Jessamine

New Connections – Application Options

Budget Cost

I. Free of charge and with 10 or 20-day lead time
II. POC will be assumed as being nearest to the site entrance
III. The quote will be generated without a network study
IV. Suitable if your project is not fully scoped, or shovel ready
V. Costs may vary significantly from a Formal Quotation
VI. Capacity can't be secured at this stage

Quote Plus

I. Free of charge and with 20-day lead time
II. Provides for up to 3 different capacity options
III. POC assumption, network study and cost variation from a formal offer similar to Budget Cost
IV. Capacity can't be secured at this stage however interactive queue position can be established
V. Letter of Authority required from landowner

Feasibility Study

I. In depth study will consider requested loads & identify connection locations & voltages
II. Will look at likely capacity needs to understand tipping point for connection voltage.
III. Most suitable for advanced scoping of location & multiple load options
IV. Charges applicable, vary according to load requirements (£500 - £7,000+)

Formal Quotation

I. A least cost 'offer' as obligated by Ofgem and is valid for 3 months
II. Can be extended for further 90 days subject to certain criteria
III. Must be a single load application, with complete & relevant documentation/info
IV. Most quotations will take 15 – 65 working days depending on voltage
V. Connection Offer Expenses (COE) Costs apply >50kVA generation or >250kVA demand

Quotation Options - SP Energy Networks

New Connections – How to Apply

Online Application	http://www.spenergynetworks.co.uk/pages/which_type_of_connection.aspx
Postal Application	SP Energy Networks Network Connections 320 St Vincent St Glasgow G2 5AD
Telephone Application	0800 389 1783

New Connections – Minimum Information for Application

Minimum Information

- Customer name and address (correspondence address), other contact details and preferred method of contact
- Site address and site plan at an appropriate scale to indicate the site boundary, the layout of buildings and roads, the proposed location of the substation(s), the proposed location of each metering point
- Letter of authority where the applicant is acting as an agent of the Customer
- Date when the Customer requires the connection(s) to be made
- Maximum capacity (kVA) and Technical details of any electricity generator that is required to operate in parallel with the supply (ENA form and Single Line Diagram (SLD))

Additional Information

- Further details regarding the intended usage of the electrical equipment to be used by the Customer
- Further details regarding land ownership and/or land rights that is likely to be known by the Customer
- Confirmation of the design option to be reflected in the quotation where the Electricity Distributor has more than one practicable option under consideration.

RIIO-ED2 Regulatory Instructions and Guidance: Annex G - Connections

Connection Offer Expenses

Eugene Kenny

SP Energy Networks: Connection Offer Expenses

Connection Offer Expenses apply to a connection that exceeds 250kVA for demand and 50kVA for Generation.

This is an upfront charge for the connection quotations through assessment and design fees, which apply for a new connection or modification to an existing connection.

You will be informed at the application stage if a Connection Offer Expense is required for us to produce the connection offer. If it is, the charge is payable regardless of whether you go on to accept the connection offer.

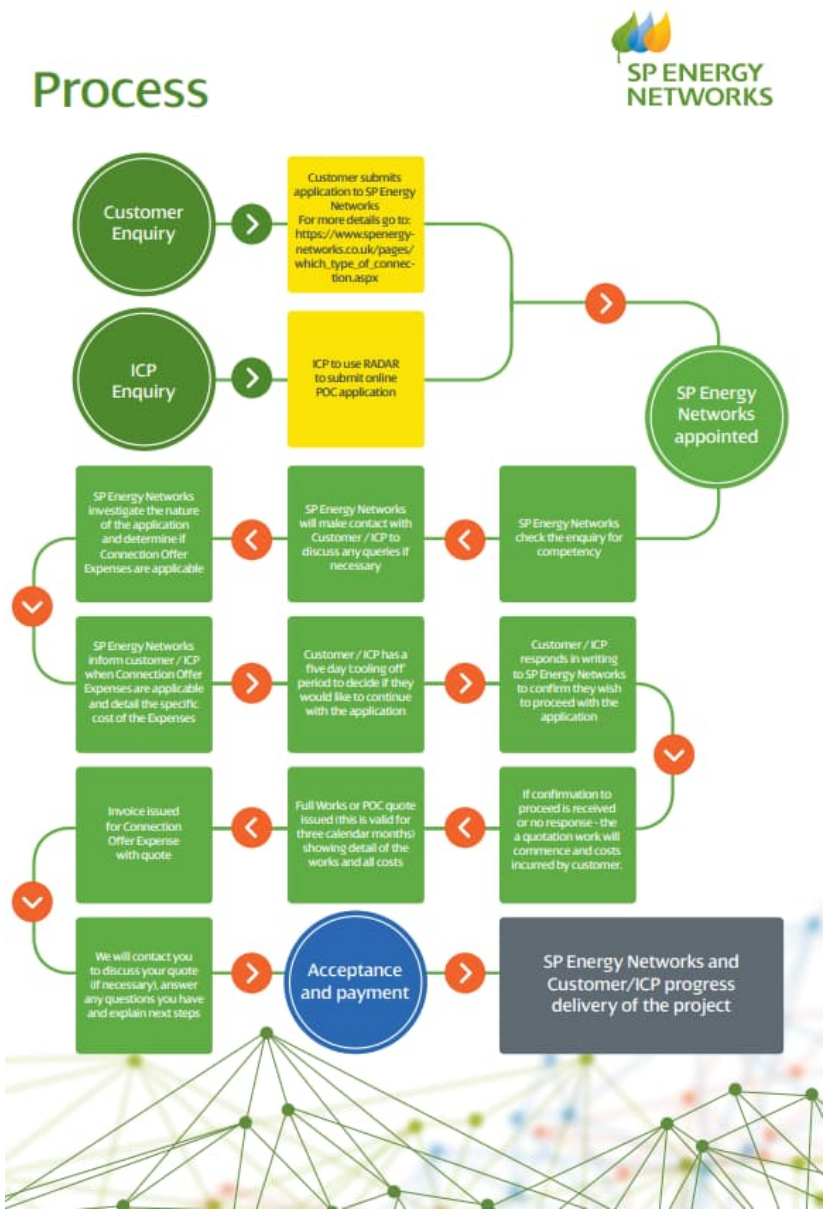
If you decide you no longer wish to pursue your application and you notify us in writing within five days of receiving our notification, we will not charge you. If you cancel after that ‘cooling off period’ has expired we may charge you for any costs reasonably incurred, up to the point of notification.

The assessment charge is subject to the type of connection (Demand or Generation), capacity and if the enquiry is Full Works or POC.

SP Energy Networks: Connection Offer Expenses

Once an application is made and has progressed beyond the cooling off period, our designers will prepare your quotation offer and when this is sent, we will also send you an invoice for the cost of producing the quotation.

This invoice will have 14 working days to pay from the issue of the offer. You will need to pay the connection offer expense charge in all cases, even if you do not choose to progress the quotation to construction.



SP_Energy_Networks_Connections_Offer_Expenses_FAQs.pdf

Connection_Offer_Expenses_Leaflet.pdf

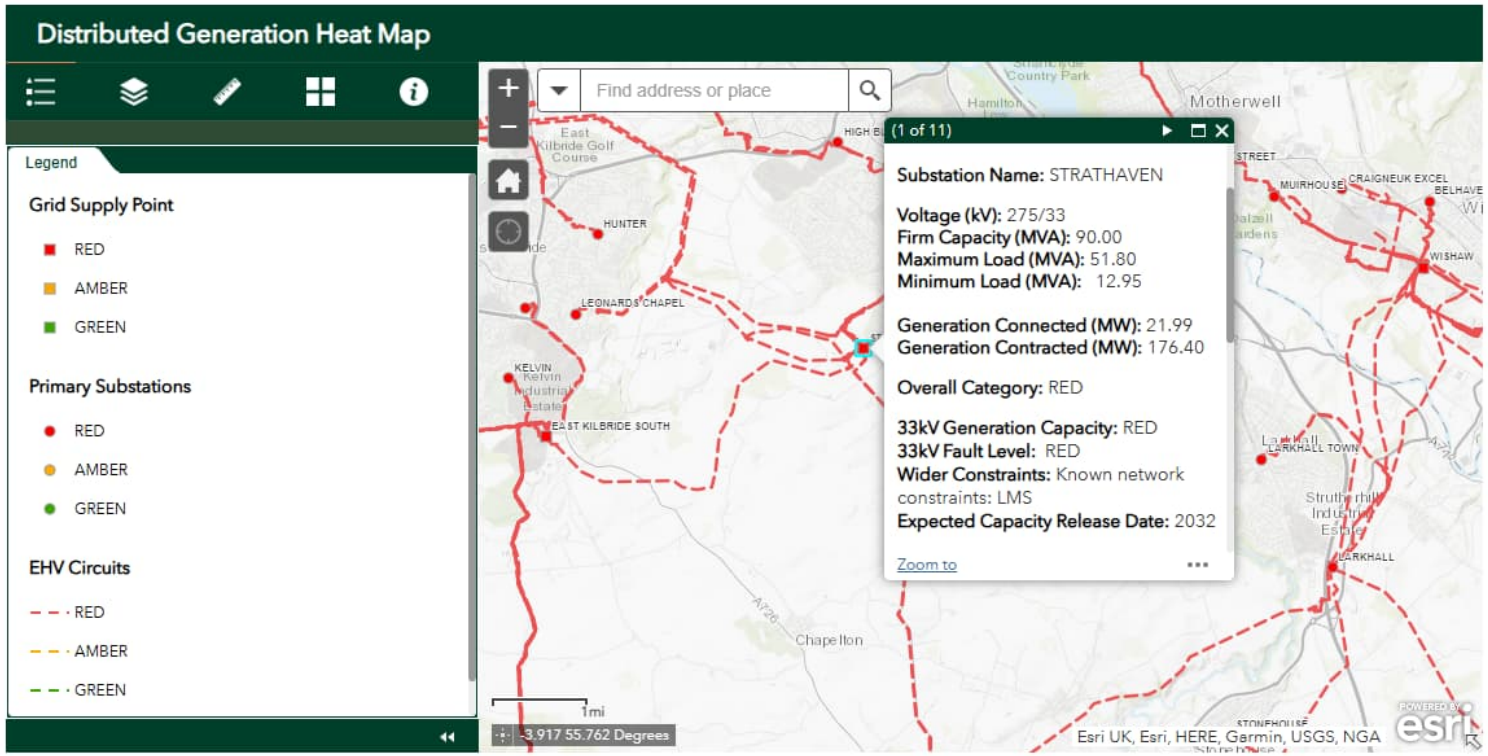
Statement_of_Methodolgy_and_Charges_for_Connection_to_the_SP_Distribution_plc_and_SP_Manweb_plc_Elec.pdf

Tools Available

Derek Jessamine

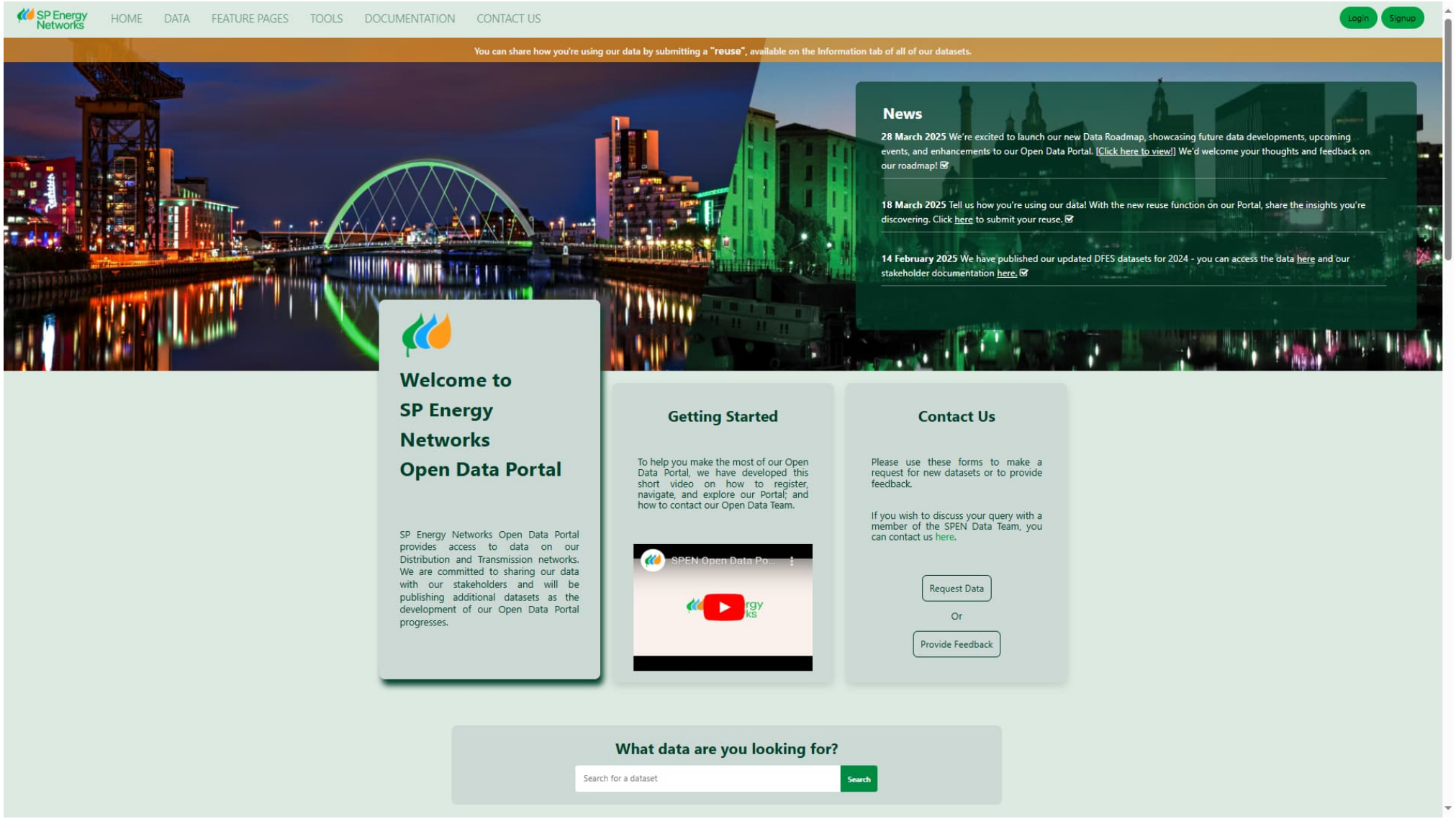
SP Energy Networks: Tools available

Distributed Generation Heat Maps - SP Energy Networks



SP Energy Networks: Tools available

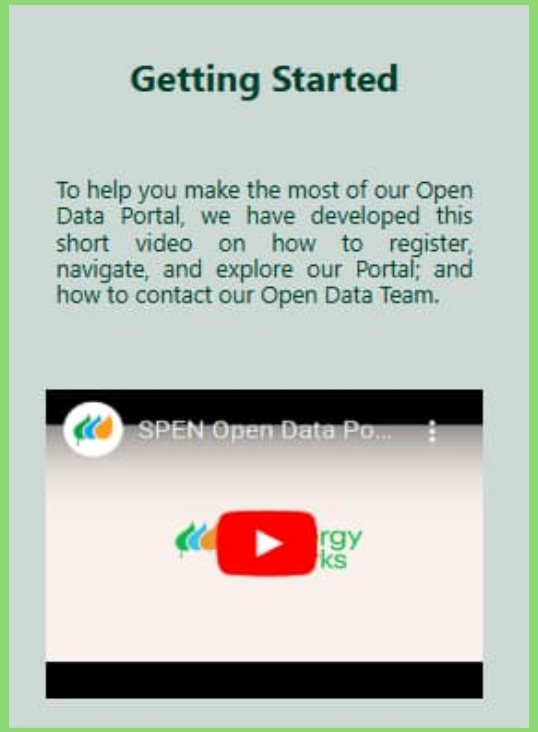
SPEN Open Data Portal



SP Energy Networks: Tools available

Open Data Portal

- Long Term Development Statement
- Network Development Plan
- Distribution Future Energy Scenarios (DFES)
- Generation Connection Heat Maps
- Embedded Capacity Register (ECR)
- Operational Data
- Curtailment
- Flexibility
- Local Authority Network Insight Tool (LANIT)



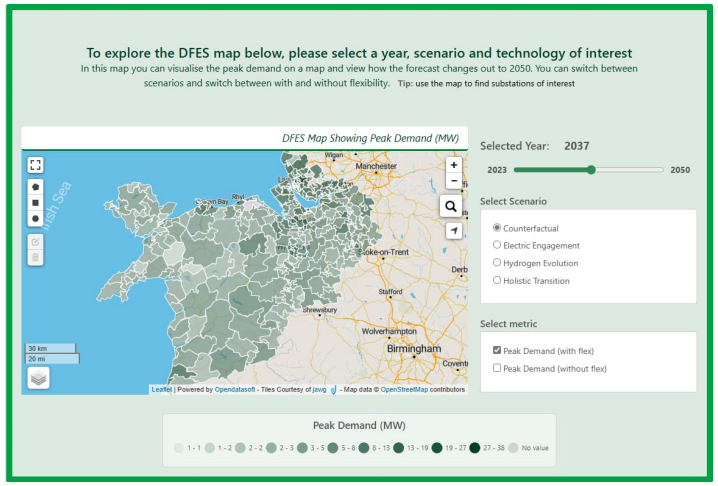
Capacity Issues

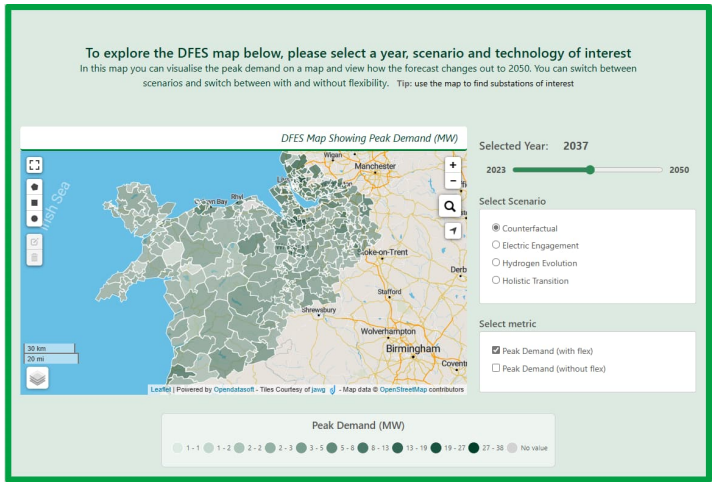
Derek Jessamine and Eugene Kenny

SP Energy Networks: Capacity Issues SPM

Distribution Future Energy Scenarios (DFES). This sets out our forecasts for how electricity generation and consumption may evolve in the SP Manweb licence to 2050.

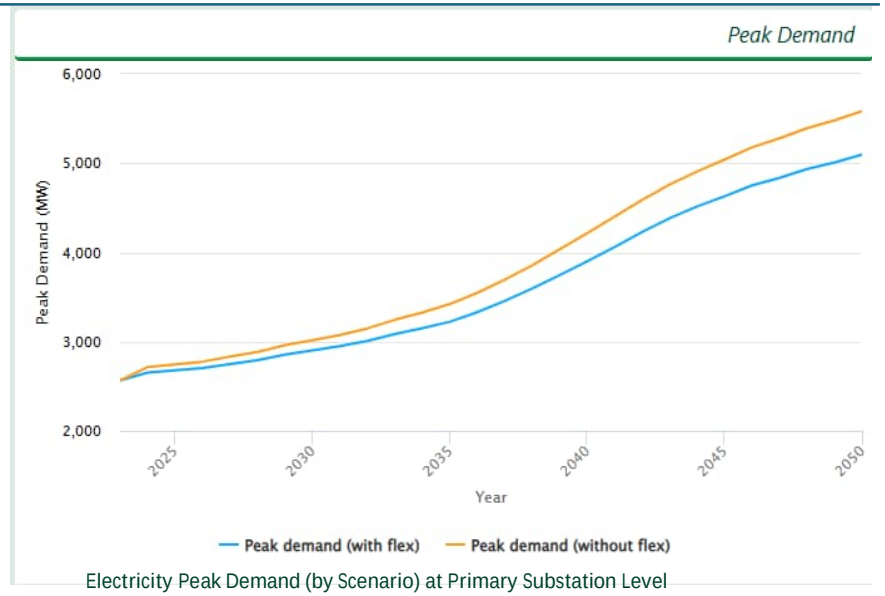
The DFES provide users with geographically granular forecasts out to 2050, covering changes to our distribution networks out to 2050 as a result of GB's transition to Net Zero. Forecasts cover the uptake of Low Carbon Technologies (LCTs), changes to peak demand, changes to installed Distributed Generation (DG) and storage.



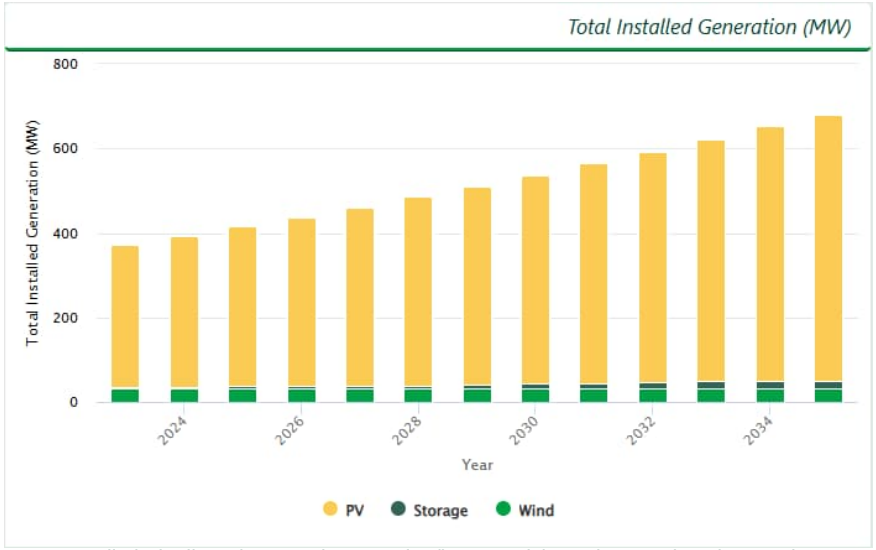


[DFES Feature Page SPM — SPENOpenDataPortal]

[DFES_24_SP_Manweb_2024.pdf]

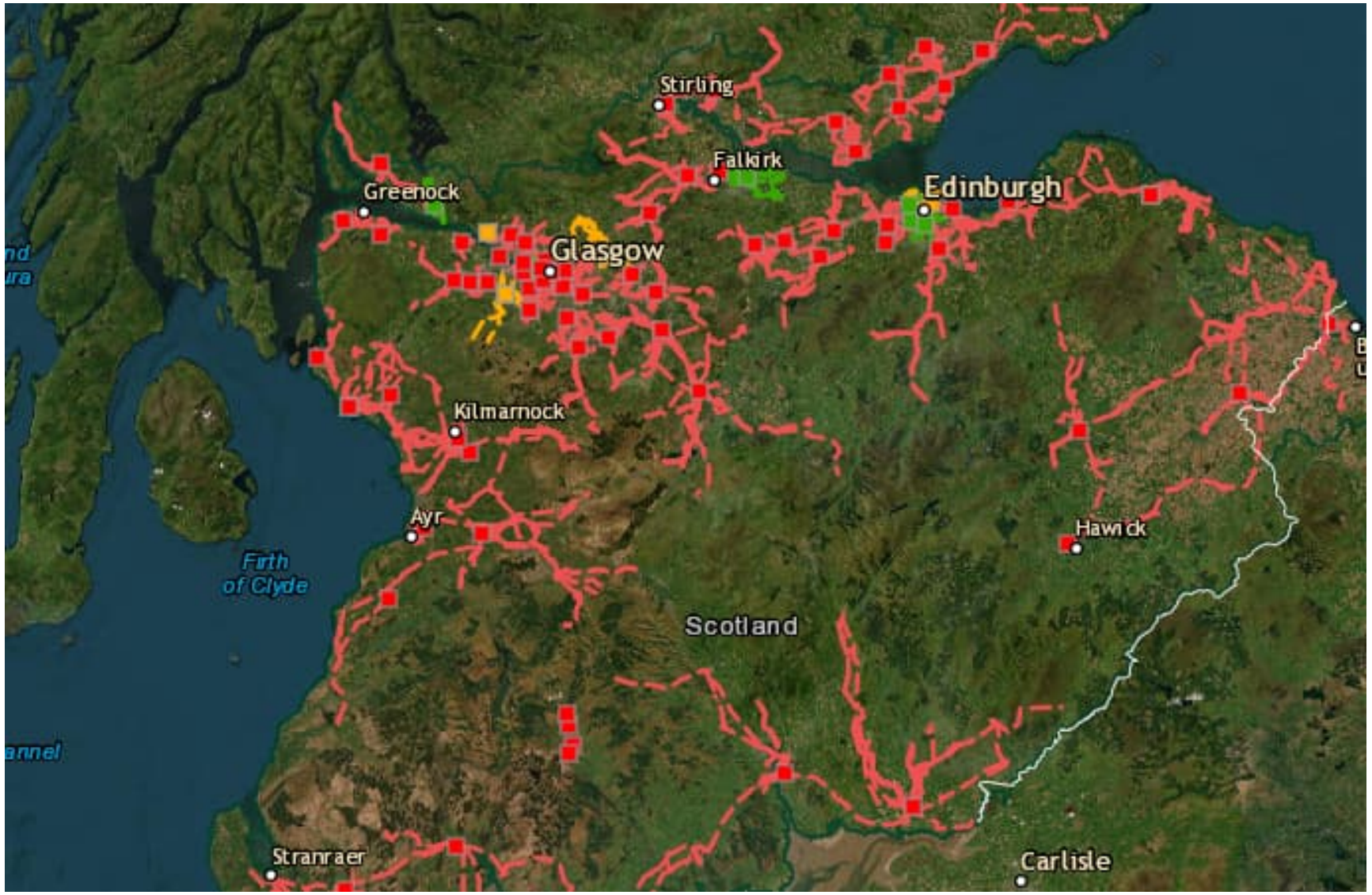


Electricity Peak Demand (by Scenario) at Primary Substation Level
In this line graph, you can visualise the peak demand capacity for a selected date range, showing the expected growth in capacity, including and excluding flex.



Installed Distributed Generation Capacity (by Scenario) at Primary Substation Level
In this chart you can visualise the generation capacity for a selected date range, showing the expected growth in capacity broken down by technology

SP Energy Networks: Capacity Issues SPD



1. Thermal Capacity
2. Fault Level
3. Connections Reform

Break

Delivery

Paul Thomas

Connections Delivery

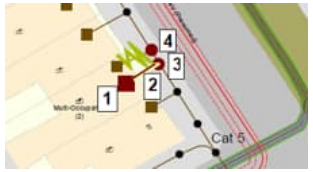
Minor Connections – Low Voltage (LV)

Domestic and small commercial supplies, fall under our Time to Connect (TTC) work stream

- LVSSA – small low voltage demand connection to single premises, involving a single-phase connection and no significant other work
- LVSSB - more than one but less than five single-phase connections at domestic premises ii) fewer than five single-phase connections at domestic premises and an extension of the existing network, or iii) single premises requiring a two-phase or three-phase connection

LVSSA – TTC target completion with 17 DAYS from acceptance date

LVSSB – TTC target completion within 23 DAYS from acceptance date



BASIC PROCESS

Job Payment and acceptance → Site visit and Pre-vet → Design confirmed and date of connections agreed → Permits and notices submitted → Off site excavations carried out → Electrical works carried out → Backfill and reinstatement carried out → Follow up call to check customer happy with works

Customer requirements & responsivities

Customer ready to install – no scaffold up, building water tight and secure
Meter position & Ducting installed – external meter box and duct laid to boundary / internal meter position and cable entry installed
Register MPAN with supplier and organise meter installation

Possible complications

If third party wayleave required this can delay connection by months
Busy roads / routes may need road closures / specialised Traffic management – delays and additional costs
Unlooping of existing supplies / reinforcement to network

Larger 3 phase supplies 69kVA and over will need Half Hourly CT Metering

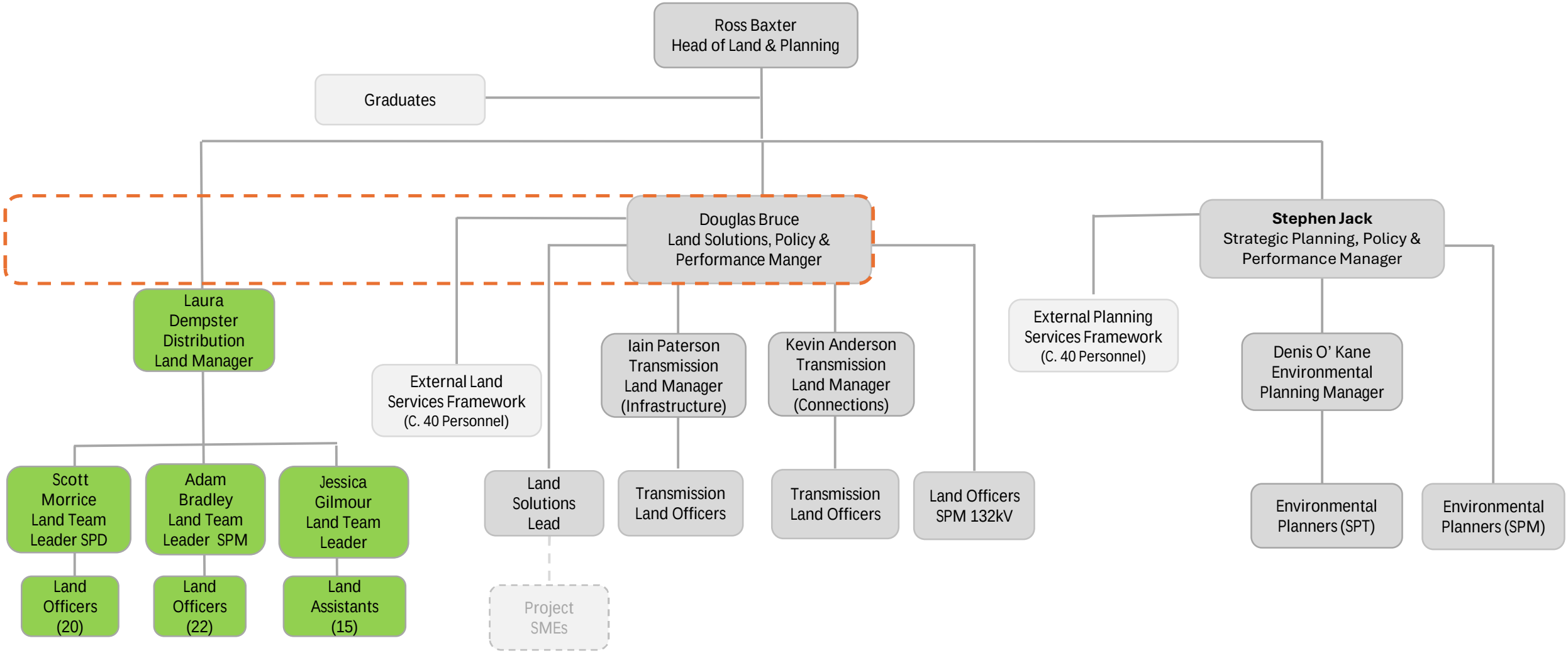
Guidance documents are available on our Getting connected website – www.spenergynetworks.co.uk

A NEW CONNECTION

Land and Planning

Laura Dempster

Land & Planning Organisational Chart



Purpose of Land Rights

- The appropriate land rights required to install and keep installed the Distribution networks are the foundation for delivery of the EDII programme. In order to fulfill statutory licence obligations and to fulfill our obligation to connect new customers to the existing network, appropriate land rights must be secured with relevant landowners / occupiers and any associated 3rd parties for all apparatus including cables, overhead lines and substations.

- Failure to do so places ongoing operation and maintenance of the network at risk. As a consequence, SPEN must negotiate suitable terms for appropriate land right prior to the installation of apparatus.

- It is not an option to install apparatus without land rights (exceptions apply, with consent of the wider Business). This is in breach of SPEN's Land Code of Conduct and places the licence business at risk of prosecution for trespass and considerable risk of inflated landowner payments to resolve the land right once the apparatus is installed and energised.

Types of Land Rights

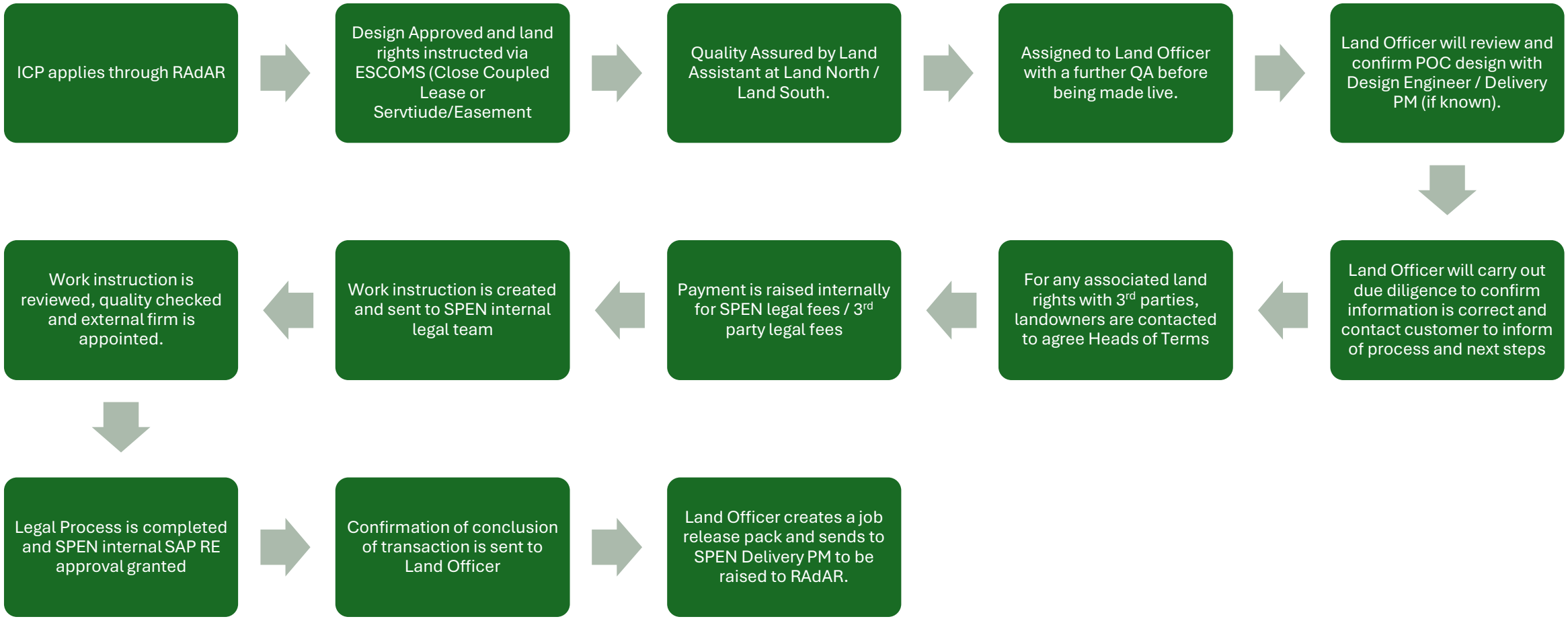
There are broadly two main types of land rights:

i. Secure Rights – this is a permanent right which runs with the land and is binding on successor landowners
   - o Ownership / Purchase – substation
   - o Lease / Leasehold - substation
   - o Servitude – cables and OHL

ii. Non-secure land rights – this a non-permanent right which is personal to the landowner. It is not binding on subsequent landowners.
   - o Voluntary Wayleave – applicable to underground cables and overhead lines only

For POC projects the most suitable land rights are secure and often involved a Close Couple Lease or Servitude/Easement.

POC Land Rights Road Map



Timescales for Projects

Project Type	Lead Time
Close Coupled Lease	34 weeks approx.
Underground cable Servitude / Easement	30 weeks approx
OHL Servitude / Easement	64 weeks approx. – applicable if planning is required

Challenges

- SPENs biggest challenges are where the customer journey is mainly impacted is caused by incorrect plans at the outset or insufficient information. This can cause an impact of up to 12 weeks' delay.

- L&P and have been working closely with the Custom(Relationship Managers within Design & Development to better our understanding on requirements to improve the customer journey and minimise delays.
- We are in the process of creating a document which sets out L&P's requirements to ensure we have enough information at the point of instruction. This focuses mainly on SPENs legal drawing standards,


SP Energy Networks

SP Distribution – Plan Guidance

Can you confirm Land Titles have been provided?
Can you confirm a road adoption plan has been provided?
Can you confirm an approved electrical drawing (Design approval drawing) has been provided?
Can you confirm the solicitor details have been provided for both the DNO and Developer?
Can you confirm a legal plan has been provided?
LEGAL DRAWING STANDARDS
Can you confirm the plan provides OS Co-ordinates?
Can you confirm the plan shows the compass orientation of north?
Can you confirm the plan has been created at an appropriate Scale? Urban 1:1250 / Rural 1:2500 / Mountain 1:10000
Can you confirm the plan includes a scale rule?
Can you confirm the plan documents an inset Plan that does not obscure part of the larger subjects?
Can you confirm the inset plan does not differ from the detail shown on the larger plan?
Can you confirm the legend refers to "servitude" and not wayleave or easement?
Can you confirm the area to be leased/purchased is clearly identified/shown on the plan? (preferably with measurements)
Can you confirm that each individual part of the plan is shown in a distinct colour that DOES NOT EXIST in any other part of the plan? (e.g. one colour for access route only, another colour for cable only, another colour for combined cable and access. Hatching may also be utilised to make such a distinction) (if CCL, the substation outlined in one colour and the RMU outlined in a separate colour)
If a CCL, can you confirm the DNO LAQ plan, shows the access/cables abutting the DNO's area? (image 1 below for reference)
If a CCL, can you confirm the access shown on SPENs plan (SPSSL Plan) enters the substation and abuts the RMU? (image 2 below for reference)
Can you confirm the intended access route abuts a publically adopted highway? (image 3 below)
Can you confirm the legal plan provided is compliant with SPENs standard as detailed above?

IMAGE 1

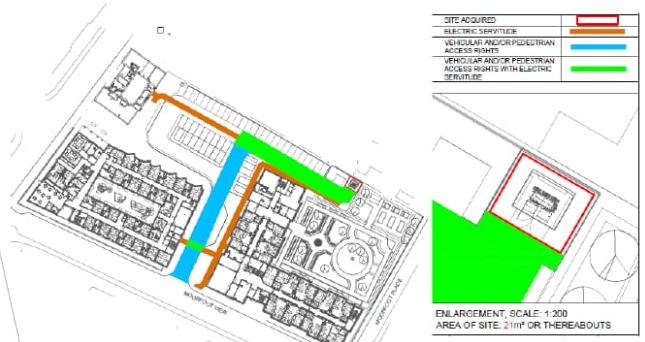
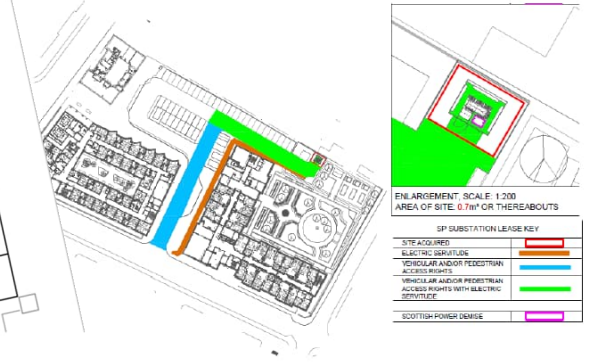


IMAGE 2



Connection case studies: Linlith-Go-Solar

Neil Barnes

What local communities need to do for a solar grid connection
Case Study: Linlith-Go-Solar - A Positive Journey

Project Background

- Five community-owned Solar PV systems, 70kWp in total, or the equivalent of about 20 homes, installed 2019/2020 in 3 sports club roofs in Linlithgow by the CDT
- Funded by local community bonds with Scottish Communities Finance Ltd & grant support from LES CARES and SPEN/EST Green Economy Fund
- 25-year Power Purchase Agreements & Roof Leases in place
- Revenue surplus after bond repayments and maintenance goes back into local community benefits managed by the Trust

Connection Journey

- Grid connection G59 application process was relatively smooth and efficient overall with some support from Locogen consultants
- Each application had to be done separately and took around 6-8 weeks
- SPEN officials were very helpful and accessible, including grid engineers and administrative staff
- Grid connection G59 applications were relatively expensive for the size of project, for processing forms and a cash-poor community organisation
- + 20% VAT adds to the financial burden
- Application forms were somewhat hard to decipher - should use layperson's terms
- Green Economy Fund was a huge boost to LgS phase 2 development but clearance was very challenging, which added significantly to the overall burden of red tape on top of the above

Lessons Learned for Other Groups

- Begin discussions with SPEN Grid Engineers and officials and submit grid applications as early as possible
- As of April 2019, replacement G98, 99 & 100 grid approval process in place (includes G59) via EU regulations - seek advice or work with a technical consultant or installer but most often that requires additional funding
- A well-managed Project Plan is vital in terms of each stage of development, timing and resource deployment and there is significant overlap and some risk as project progresses: Feasibility > Agreement to proceed with site owner/tenant > Fundraising > PPA & Lease negotiations > Planning permission > Grid Application > Building warrant Contractor tendering > Installation > Commissioning (not all steps may be necessary)
- Bigger projects may need grid upgrade, inhibitor and take longer for grid approval - can be cost prohibitive
- Projects need person or team to stick with it from inception to going live and beyond
- Perseverance is key!
- Webinar Event: Wed 7th May 10-12pm & ?-4pm

Connection case studies: Ashton Hayes

Richard Stradling

Connection case studies – community journeys: Ashton Hayes

~ 1000 people, 430 homes

www.goingcarbonneutral.co.uk/

A 20-Year Journey

2005

November
Garry Charnock puts forward the Carbon Neutral Concept to Parish Council meeting
Approved by majority vote

2006

January
Public meeting at Ashton Hayes Primary School. **70+% of adult residents attend.**
Mandate to proceed with project

May
Students from University of Chester carry out baseline survey of domestic carbon footprints in village

www.goingcarbonneutral.co.uk
website set up

2007

April
Media attention (Financial Times Magazine (12M readers), BBC TV at Live Earth, Wembley) enable us to spread our message

June
University of Chester survey reveals **20% drop in domestic CO_2 emissions**
First UK grassroots conference on carbon neutrality at the University of Chester

September
Film about project *Our Footprint, Our Journey* wins IVCA Clarion Award

2008

March
Cheshire County Council constructs UK's first Carbon Neutral footpath from village to Mouldsworth station
Oxfam bring Sahena Begum and Farid Hasan Ahmed from Bangladesh to village **extending our international connections**

July
Dr Mary Gillie and Prof. Roy Alexander present microgrid concept to village. Carbon Connections awards **£80,000 for a feasibility study**

2009

July
BBC carries out 15 Live broadcasts about new UK Low Carbon Transition Plan White Paper from the village, which features our project

October
Village team visit Nøtterøy, Norway to inspire their community

2010

Team members give talks across the UK on carbon neutrality maintaining our commitment to outreach

June
5th University of Chester footprint survey reveals **23% reduction** in domestic CO_2 emissions since 2006

September
Department of Energy and Climate Change awards £410,000 to village to develop microgrid ideas

2011

March
Demonstration low carbon Sports Pavilion completed with DECC grant. 10kWp photovoltaic panels on roof. A further 15kWp on village school

October
Ashton Hayes Community Energy C.I.C. (AHCE) is established to manage renewable generation assets on behalf of the community

2012

January
Scottish Power Energy Networks begins two-year project monitoring energy use in village which assists energy and planning decisions

November
Snow Angels formed to help in times of bad weather

2013

June
Village begins work with CWaC on a Resilience Plan

September
Ashton Hayes invited to join the DECC Community Energy Contact Group providing a direct line to government

Acknowledgements
Garry Charnock
Prof. Roy Alexander
Kate Harrison
Dr Mary Gillie
Lynn and Richard May
The Holland family
Ashton Hayes Parish Council
Ashton Hayes Primary School
Chester City Council/CWaC
DEFRA
DECC

Our key sponsors
RSK Group
Legat Owen
UEA/Cred
EuroTree Services
EA Technologies
Scottish Power Energy Networks

Technical support
University of Chester

RSK

2011

- Demonstration: Low carbon Sports Pavilion completed with grant. 10kWp photovoltaic panels on roof, Heat Pump and EV Charger.
- 15kWp photovoltaic panels on village school roof.
- Ashton Hayes Community Energy C.I.C. is established to manage renewable generation assets.

A 20-Journey

2014

April
Kate Harrison's work on the project is featured in the Guardian **maintaining public outreach**
November
Plans for more solar panels in the village announced: 15kWp installed Spring 2016

2015

May
Eight University of Chester students conduct a further domestic carbon footprint survey in the village
October
Steve Holland begins filming our End of Decade film ***Our Footprint, Our Journey - 10 years on***
November
Ashton Hayes attend World Future Council meeting on 100% Renewable Cities at Kassel in Germany sharing ideas and learning from others.

2016

January
10th anniversary event at village school. **Survey results show a 33% reduction in some domestic carbon footprints**
August
Project features on front page of New York Times. Journalist Tatiana Schlossberg visits the village

2017

March
Agnes Scott College, Georgia, USA visit village as part of a trip learning about NW England
May
Garry Charnock invited to talk about the project at the Telluride Mountain Film Festival in Colorado, USA
November
Engineer from Uzbekistan visits village as part of trip funded by the John Smith Foundation to research innovations applicable to his country

October
We extend international outreach by presenting our decade of activity to the Indian Climate Parliament Group in London

2018

June
Dr Rebecca Collins begins *Growing up Green* study examining the influence of the project on the adult behaviour of those who grew up in the village
September
Sunny weather brings bumper crop of solar generation

2019

BBC TV and radio visit village and school to coincide with new climate change report
October
AHCE purchases a sensor to monitor air quality in the village.

2020

Work with village school to establish a 'Junior Board' so that the children can have a direct influence on the project
Work begins with Energy Local to make better use of our renewable electricity generation by establishing a local energy club

2021

January
15-year project anniversary, celebrated over Zoom due to the pandemic

WWW.GOINGCARBONNEUTRAL.CO.UK

2016

- Additional 15kWp photovoltaic panels on village school roof.
- Transformer upgraded by SP Energy Networks.

A 20-Year Journey

2024

- Battery and Backup Gateway installed at the Sports Pavilion.

2025

- Plans for 26kWp photovoltaic panels ground-mounted at Community owned Pub.

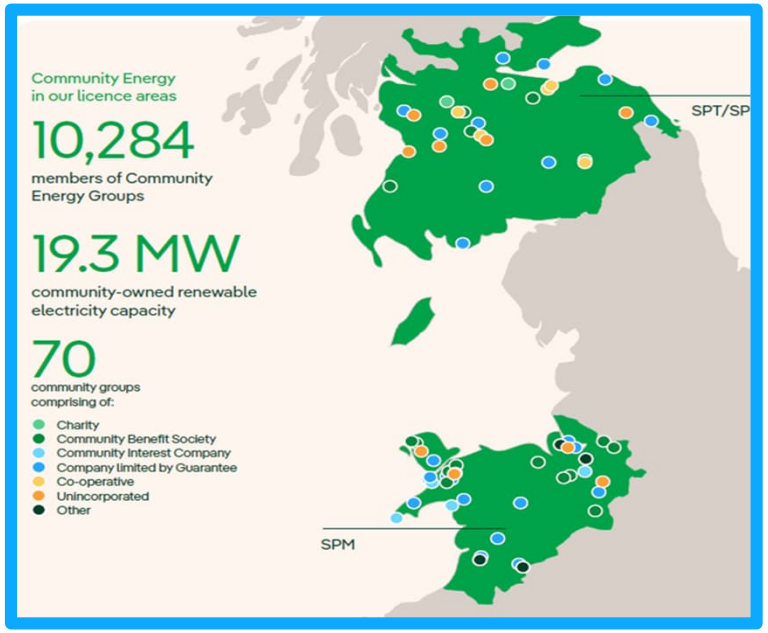
Key Points

- Local Community Engagement is vital.
- Ask for help from SP Energy Network - Community Energy contacts.
- Use Professional support, if available: It will give you confidence to press forward.
- Being outside your comfort zone is not unusual, but opportunities can arise.
- As a Volunteer, you have freedom to push the boundaries – you can’t be sacked.
- Seek the pragmatic solution.

Closing remarks

Liam Cantwell

SP Energy Networks: Final Remarks



Engaging with us:

- Community Energy Strategy
- Community Energy Partnerships
- Connections Support
- Flexibility Opportunities
- Development of LHEES
- Flexibility Summit – Liverpool

  17th September 2025

Our engagement:

- Strategy Development
- Community Energy Webpage Development
- Wider Sector Support
- Sharing Success: *Case Studies/Workshops*
- Workshop information
- Workshop content

Community Energy Webpage

communityenergy
@spenergynetworks.co.uk

Public use

Register as a Stakeholder

Flexibility Event (Interest)