

A Guide to Getting your Community Energy Scheme Connected



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Introduction

Who is this booklet aimed at?

This booklet is aimed at community groups looking to establish a community energy project.

Communities can be defined as local partners such as local authorities, housing associations, 'intermediary' or advisory organisations and local businesses, where the sharing of benefits focus on social outcomes, rather than only financial benefit for individuals or shareholders.

We appreciate that there are a number of aspects that will contribute to the success of your scheme. This guide is focused on providing advice and support to help community groups navigate through the complexities of getting connected to the electricity grid.

What is the purpose of this guide?

This guide will provide you with a greater understanding of the process for obtaining a grid connection, the information that is required to make an application for your particular scheme, what the associated timescales are and also provide you with useful contact information.

What is community energy?

Community energy covers aspects of collective action to reduce, purchase, manage and generate energy.

Community energy projects have an emphasis on local engagement, local leadership and control and the local community benefiting collectively from the outcomes. Community-led action can often tackle challenging issues around energy, with community groups well placed to understand their local areas and to bring people together with common purpose.

There are many examples of community energy projects across the UK, with at least 5000 community groups undertaking energy initiatives in the last five years. Examples of community energy projects include:

- Community-owned renewable electricity installations such as solar photovoltaic (PV) panels, wind turbines or hydroelectric generation.
- Members of the community jointly switching to a renewable heat source such as a heat pump or biomass boiler.
- A community group supporting energy saving measures such as the installation of cavity wall or solid wall insulation, which can be funded wholly or partly by the Green Deal.
- Working in partnership with the local Distribution Network Operator (DNO) to pilot smart technologies.
- Collective purchasing of heating oil for off gas-grid communities
- Collective switching of electricity or gas suppliers
- Rural businesses developing energy projects with a strong local and community benefit

At SP Energy Networks (SPEN) we are dedicated to supporting your community project and helping your project get connected.

Who are SPEN

SP Energy Networks are part of the Scottish Power group of companies. It is our responsibility to take the electricity generated from power stations, wind farms and transport it through our network, reducing it to low voltage at the end of its journey which is needed for homes and businesses.

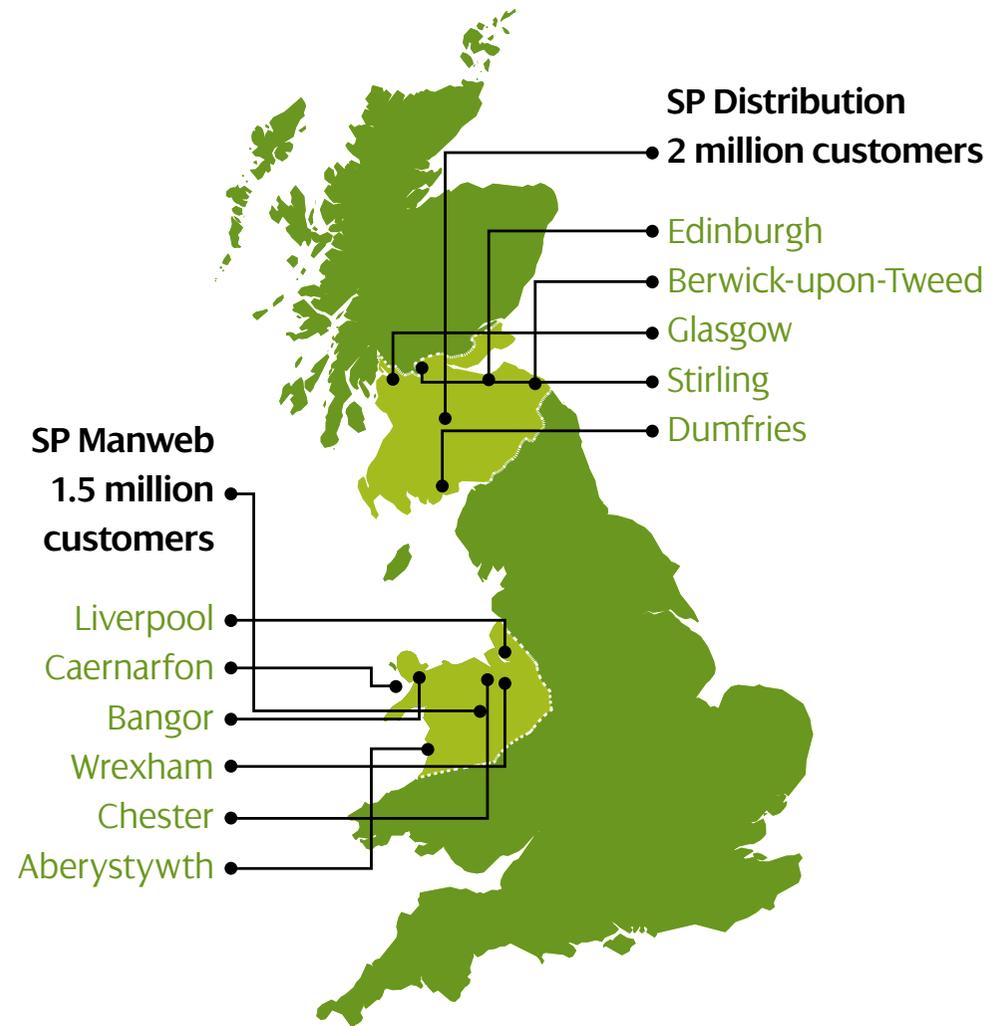
Our network has 30,000 substations (1 for every 100 customers), 40,000km of overhead lines (that's once around the globe!) and 65,000km of underground cables.

As well as keeping the lights on, we provide customers with new or upgraded connections to our network. These connections range from, one-off connections to large residential, generation, retail and industrial developments, as well as sports stadia and leisure parks.

Where we operate

We serve 3.5 million homes and businesses and our network serves three of the UK's largest cities (Liverpool, Glasgow & Edinburgh), as well as three large rural areas (North Wales, Scottish Borders and Dumfries & Galloway).

To meet the needs of our customers, our business is structured into local Districts to allow us to be closer to the communities we serve.



Our District Structure

In Scotland, we have 6 districts: Ayrshire & Clyde South, Glasgow, Edinburgh & Borders, Central & Fife, Lanarkshire and Dumfries.



In England and Wales we have established 5 districts: North Wales, Dee Valley & Mid Wales, Merseyside, Mid Cheshire and Wirral.



Each of our Districts have an appointed District Manager who is responsible for overseeing all activities from fault response, asset management/replacement and connections activities

How the Electricity Network Works

Our electricity network was designed to allow power to flow from large power stations through the transmission network (275 or 400 kV) volts, then onto our distribution network flowing to the end consumer. Essentially power flows in one direction through the network.

At various stages within the network, transformers correct the supply voltage for households or businesses.

The introduction of small scale generators to the distribution network, known as Distributed Generation (DG) has meant that power must be able to flow two ways on the network.

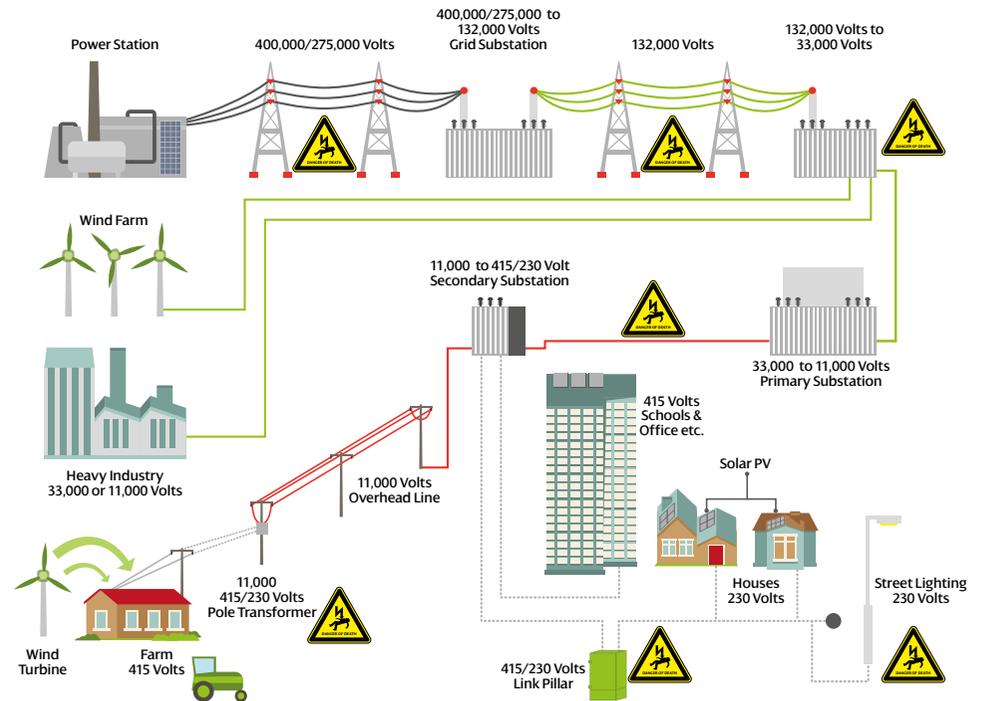
Connecting Generation to the Electricity Network

There are various ways by which Distributed Generation can be connected to the network, either by utilising the existing connection, an alteration to the existing connection or by installing a new connection to the network.

The connection required may need to be single or three phase. Schemes which require greater than 50 kW tend to require a three phase connection.

We are committed to getting your project connected, therefore we are investing in our network and also looking at various commercial arrangements to facilitate your connection.

From Power Station to Plug



We provide a wealth of information on our website to assist

We want to make connecting to our network as simple as possible and we understand that you may have some questions, prior to making your application. On our website you will find a wealth of information that will hopefully answer your questions.

Heat Maps

We now publish Heat Maps which have been created to empower customers with the relevant data to aid a better understanding of the network and assist in determining potential opportunities to connect Distributed Generation to the 11kV network in the SP Distribution plc area. [Further details just click here](#)

Document library

Our library provides a hub of information including SP Energy Networks specifications and guidance. [Further details just click here](#)

Guidance leaflets

We have a wide range of leaflets to assist with all aspects of the connection process. [Further details just click here](#)

Access to our cable records

You can access our network records free of charge on our Geographical Information System (GIS). This is done through our Utility Map Viewer (UMV) system. Access is available to companies, local authorities, councils and similar organisations through a web portal on a requested basis.

[Further details just click here](#)

Information for Distributed Generation Connections:

If you are looking at connecting Distributed Generation onto our network all application forms and useful guides are available. [Further details just click here](#)

Long term development statement

Our Long term development statement helps, existing and future users of our network to identify and assess opportunities for making new or additional use of our distribution systems, we have provided an overview of the design and operation of the network. You can also register for access to our full long term development plans. [Further details just click here](#)

We have experts on hand to assist

We understand that sometimes being able to speak to someone in person is often better. We also realise that often communities require some technical assistance to understand some of the information that we provide, such as our heats maps. We provide this service in a number of ways:

Local District days – drop in sessions

Every month, each District opens their doors to allow, our Stakeholders and customers to come in and speak to us about any specific issues that you might have such as; network questions; connections pre-application/ application and to resolve any technical issues. Our local experts are on hand to help, share information and are available to answer any questions.

The dates are published on our website. [Further details just click here](#)

Local Distributed Generation Experts

We have Distributed Generation experts located within each of our local offices. Their contact details can also be found on our website.

[Further details just click here](#)

Customer Engagement Managers

Our experience has shown us that your first step is to contact one of our dedicated Customer Engagement Managers who will be able to guide you through the connection process and provide account management. Details of our team can be found on our website at: [Further details just click here](#)

Events

We run several events throughout the year particularly for Community Energy Projects seeking a connection. [Further details just click here](#)



Applying for a Network Connection

At SPEN we offer a range of quote options to suit your requirements. Provision of these options vary in cost and timescales. The summary below will help you to decide which option to apply for:

Budget Estimate – If you are unable to make a Formal Application because the information required for us to prepare a Formal Quotation is not available, or you are not in a position to progress to the construction phase, we can provide an indication of the costs by means of a Budget Estimate. There is no charge for us to prepare and issue a budget estimate and we will provide this within the relevant Guaranteed Standard timescales.

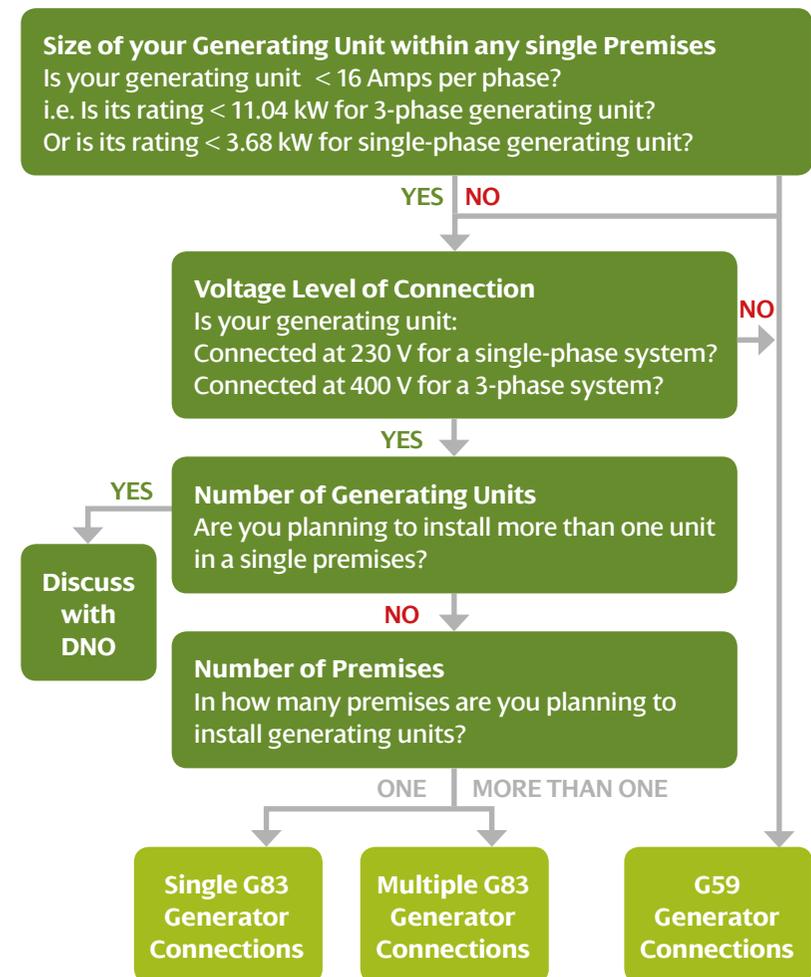
Feasibility Study – Prior to making a Formal Application you may request that a feasibility study is undertaken to establish the viability of making a connection. We will carry out network studies and provide an indicative connection assessment. There is a charge for this service. We will advise you of the cost, and require payment, prior to undertaking network studies. Timescales to provide the Feasibility Study will be agreed with you in advance.

Quote+ – An enhanced hybrid of the Feasibility Study and the Budget Estimate is also available. This free service allows you to know quickly whether or not a connection is possible within project budget and whether there are a range of connection options available. On submission of limited information, we will provide estimates based on your three different capacity options. For generation connections, should one of these options be taken forward within 5 days, your generation queue position is considered to be the date you requested Quote+. [Further details just click here](#)

Formal Quotation – A Formal Quotation is an Offer from SP Energy Networks to you that is valid for a period of 3 calendar months. There is no cost to prepare this offer however you will need to submit the correct application form along with the relevant information on application to allow us to process without any hesitation.

To apply for any of the above quotation options please email:
gettingconnected@scottishpower.com or email our dedicated community email address:
gettingcommunitiesconnected@spenergynetworks.co.uk

What process should I follow for my type of scheme



Note: This decision tree is only relevant where one generating unit is installed in each premises. In other cases please contact us directly to discuss.

G83 – Microgeneration Projects - single

Where customers, developers or installers wish to install a single generator of less than 16A/phase, there is a legal obligation to inform SP Energy Networks, as the DNO licence holder, before or at the time of commissioning.

This obligation and the associated requirements are defined within the Electricity, Safety, Quality and Continuity Regulations 2002.

The Energy Networks Association document G83/2-1 provides guidance and the Stage 1 process for single installation connections.

Further information regarding G83 single connections, guidance and forms can be found on our website. [Further details just click here](#)

G83 - Multiple

Where customers, developers or installers wish to install more than one unit either in a single installation or as part of a development, an application must be made to SP Energy Networks, as the DNO licence holder, in advance.

This is an obligation under the Electricity, Safety, Quality and Continuity Regulations 2002. These types of connections will generally fall under the guidance contained within the G83/2-1 Stage 2 connection guide.

A G83/2-1 Stage 2 Application Form must be completed along with the associated equipment test certification in line with G83/2-1. Applications should be sent to: **gettingconnected@scottishpower.com**

We will consider the application and advise of any work, cost and associated timescales.

Further information regarding G83 multiple connections, guidance and forms can be found on our website. [Further details just click here](#)

G59 – Larger Schemes

In general, for generators in excess of 16A per phase (3.66kW), the connection must comply with Engineering Recommendation G59/3, published by the Electricity Networks Association.

Further information regarding G59 for larger schemes, guidance and application forms can be found on our website. [Further details just click here](#)

Guaranteed Standard of Service

In 2010, the Office of Gas and Electricity Markets (OFGEM) developed new Connections Standard Licence Conditions (SLC) and Guaranteed Standards of Performance (GSoP) pertaining to metered and unmetered electricity connections services provided by DNOs.

The purpose of the standards is to ensure that customers are guaranteed a good level of service and are compensated when they do not.

The standard sets out our commitment for the provision of contestable and non-contestable connection services. The services covered by this condition are:

- Providing Point of Connection Quotations.
- Responding to design submissions in relation to connections.
- Completing Final Works and Phased Energisation as non-contestable connections services.

The standard specifies definite timelines for the provision of the above services and insists on monitoring and reporting.

For generation quotations our standards of service are 45 working days for Low Voltage connections and 65 working days for High Voltage connections.

Choice – Contestable and Non Contestable Works

You have a choice in deciding who will undertake your connection works.

New Distributed Generation network connections can be provided by an Independent Connection Provider (ICP), Independent Distribution Network Operator (IDNO) or SP Energy Networks. These connections may be adopted by SP Energy Networks or an IDNO.

We publish a full list of Alternative Connection providers on our website. [Further details just click here](#) or alternatively a full list of all accredited Connections Providers can be found on the Lloyd's Register NeRS website. [Further details just click here](#)

Understanding the Cost of your connection

Charges of Methodology

We publish details on our charging methodology to help you understand how we arrive at your connection charge.

We are bound by our statutory and licence obligations to ensure our offer is the 'The Minimum Scheme'. This is the scheme with the lowest overall capital cost (as estimated by us), solely to provide the requested capacity that you would like to connect. The Minimum Scheme shall be consistent with our statutory and licence obligations including the requirement to develop, maintain and operate efficient, co-ordinated and economical electricity Distribution System.

We may recover the reasonable costs incurred, both direct and indirect, in providing a connection and may, where allowed by our Licence, apply a margin on some of those costs.

The costs to be charged to you as a Connection Charge may be split into three categories:

- Costs for providing the connection which are to be paid in full by you
- Costs for providing the connection which are to be apportioned between you and SPEN (an example of this could be Reinforcement of the network that adds capacity (network or fault level) to the existing network).
- Costs to be paid by you in respect of works that have previously been constructed or are committed and are used to provide the connection

Some costs may be borne in full by us and will not be included in your Connection Charge.

The full details of how we calculate your Connection Charge is detailed in our statement of methodology and charges. [Further details just click here](#)

Accepting your Connection Offer

A formal Acceptance and relevant payments are required to progress with your connection.

Once we have received your acceptance we will inform you who has been assigned as your Project Manager and begin to work with you to achieve your required project timescales.

Depending on the nature of your connection and the equipment required, timescales can vary significantly. However for a standard connection, within an unconstrained area we will be able to be on site within 8 weeks from acceptance.

However there are a number of items that are required for completing your connection that may have an impact on timescales:

Plant: Where equipment or plant is required for your project we require 16 weeks from the date of acceptance to place orders and receive the order

Legal Agreements: the sooner that legal discussions are initiated the better, as often discussions and reaching agreement can become protracted, especially if a third party is involved

Road Openings: we must comply with NRSWA (New Roads and Street Works Act) and traffic restrictions enforced by the council on certain roadways

Construction

Our project manager will meet you on site and explain what to expect when we come to complete your works. They will also explain what your site responsibilities are and what works we will be undertaking.

Metering

SPEN are not responsible for the installation of your meter, this is the responsibility of your energy supplier and your chosen Meter Operator.

Once you have decided to proceed with your project, you must appoint both a supplier and a meter operator. A list of retail companies and their contact details can be found on the OFGEM website www.ofgem.gov.uk

Legal Consents Requirement

To get you connected to our network, we often need to secure legal agreements in order to locate our equipment or cables on your land or a third parties land.

The agreements that we require are detailed below:

- Where we require to locate apparatus on third party land, we require the transfer of the freehold or alternatively the grant of long leasehold of any substation site which forms part of the Contestable or Non-Contestable Works
- We require the grant of a permanent servitude / easement (deed of grant) for any Electric Line (overhead or underground) that forms part of the Contestable or Non-Contestable Works which will not form part of an adopted or prospectively adopted highway. In certain individual circumstances we may accept a wayleave as an alternative. This will be determined on a case by case basis
- If the land rights required cannot be obtained on a voluntary basis through negotiation, we may, after discussion with you, exercise our powers of compulsory purchase under the Electricity Act 1989 or apply to the Secretary of State or the Scottish Ministers for a Necessary Wayleave

We will always work with you to minimise the need for legal consents, as we know that gaining these can affect the time taken to deliver your project and we cannot proceed with our works until these are in place

Network constraints and Flexible Arrangements

The introduction of Distributed Generation to our network has led to it becoming increasingly constrained, meaning that during peak times, parts of the network equipment are operating close to their voltage or thermal limits. This means that we need to reinforce our network to accommodate further connections, often this reinforcement is required at transmission level. We recognise that communities are unable to move the location of their project and therefore we recognised the need to provide flexible arrangements

Our Heat Maps provide an understanding of our network and areas that there are still potential connection opportunities without the need to reinforce.

Flexible Arrangements

SPEN have worked collaboratively with National Grid who operate the transmission network to identify ways in which embedded generation projects can be connected in advance of the transmission reinforcement works being completed. Examples of this include:

- the development of the commercial arrangements to facilitate projects connecting under our Accelerating Renewable Connections (ARC) project
- the ability to connect on a restricted availability access basis at constrained Grid Supply Points (GSPs) ahead of the completion of GSP upgrades

If you would like further details or to discuss if these flexible arrangements could be applied to your installation, please contact us to discuss.

Export Limiting Devices

Export limiting Devices provide a mechanism for customers to increase the amount of generation installed to counterbalance their import requirements. SPEN are taking an industry leading position on this, and are collaborating with the ENA to develop an industry standard. [Further details just click here](#)

Statement of Works Process

Small generators wishing to connect to the distribution network, will not necessarily be connected to the transmission network however due to the volume of distributed generation connections, often this may have an impact on the transmission network. National Grid will be contacted to assess whether there is a need to reinforce the transmission network as a result of the new distribution connection, and this is called a Statement of Works (SOW). This may mean additional costs to your project and/or your project cannot proceed until the transmission network has been reinforced. We will work with you through this process and keep you informed.

Interactivity

There are occasions where we receive two or more applications for connection which make use of the same part of the distribution system. “Interactive Connection applications” result in circumstances where the distribution system is unable to accommodate the connection of both (or all) applications without additional works being carried out and costs incurred. To ensure fairness and equality of treatment between competing applicants we have an interactivity process which is detailed within our SPEN statement of methodology and charges.

Getting in Touch

Customer Engagement Managers

Name	Location	Email Address	Tel. Number
Elaine Forsyth	Scotland	Elaine.Forsyth@spenergynetworks.co.uk	0775 362 4157
Jillian Violaris	Scotland	Jillian.Violaris.2@spenergynetworks.co.uk	0771 743 0658
Johan Gillespie	Scotland	Johan.Gillespie@spenergynetworks.co.uk	0792 111 3137
Rachel Salter	England & Wales	Louise.Edwards@spenergynetworks.co.uk	0775 362 4941
Louise Edwards	England & Wales	Rachel.Salter@spenergynetworks.co.uk	0775 362 4442

Generation Experts

Name	District	Email Address
Jerome Bell	Edinburgh & Borders	Jerome.Bell2@spenergynetworks.co.uk
Kenny Spence	Glasgow & Clyde North	Kenneth.Spence@spenergynetworks.co.uk
Stuart Love	Dumfries	Stuart.Love@Spenergynetworks.co.uk
Victoria Provan	Dumfries	Victoria.Provan@Spenergynetworks.co.uk
Tony Sneddon	Central & Fife	Tony.Sneddon@spenergynetworks.co.uk
Philip McLellan	Ayrshire	Pmclellan@spenergynetworks.co.uk
Derek Jessamine	Lanarkshire	Derek.Jessamine@spenergynetworks.co.uk
Sofia Cobo de Guzman	Wirral	Scobo@spenergynetworks.co.uk
Steve Hannah	Wirral	Steve.Hannah@spenergynetworks.co.uk
Tony Mills	Dee Valley	Tony.Mills@spenergynetworks.co.uk
Clare Bevan	Dee Valley	Clare.Bevan@spenergynetworks.co.uk
Paul Ritchie	Mid Cheshire	Paul.Ritchie@spenergynetworks.co.uk
Rob Payne	Mid Cheshire	Robert.Payne@spenergynetworks.co.uk
Tim Ritchie	North Wales	Tritchie@spenergynetworks.co.uk
Gwynfor James	North Wales	Gwynfor.James@spenergynetworks.co.uk
Frank Taylor	Merseyside	Frank.Taylor@spenergynetworks.co.uk
Alastair Oldfield	Merseyside	Alastair.Oldfield@spenergynetworks.co.uk

Glossary of Terms

Term Definition

Accreditation The appropriate qualifications to allow alternative connection providers to operate on our electrical network

ANM Active Network Management; using technology to enable generators to connect in constrained areas on a commercially un-firm basis

ARC Accelerating Renewables Connections; SPEN 'Low Carbon Networks' funded project to consider innovative methods for connecting DG quicker and cheaper

AVR Automatic Voltage Regulator; this is a device which can be deployed on our overhead line network and controls the voltage to ensure the network remains within statutory limits

Budget Quote A budget quote is provided to aid customers with up front planning of projects and is a simple review of the network within the vicinity of the proposed development and does not include detailed modelling of the system. A budget quote cannot be contracted

BMCS Broader Measures of Customer Service

CCCM Common Connection Charging Methodology

CIC Competition in Connections; ability for a customer to seek connection to the network using a Lloyds accredited ICP of your choice

CIC Industry Code of Practice This is a proposed industry standard which is being developed jointly by DNOs and OFGEM. The code is aimed at making it easier for alternative connection providers to get their customers connected and better inform customers of their choices

Collaborative Connections These are connections where multiple customers are brought together to benefit from shared connection costs and shared assets to maximise the amount of generation connected in any part of our network

Contestable When we talk about contestable work, these are the 'off the system' works, which can be completed by either ourselves or a Lloyds accredited ICP of your choice. Non-contestable works must be completed by the DNO, i.e. SP Energy Networks

Contracted Capacity Register This lists generators that are contracted but not physically connected to our network

CRAM Connection Registration and Management. This was a legacy IT system utilised to manage CIC enquires where a Lloyds accredited ICP of your choice was being employed to complete the contestable works

CRM Under our SP brand name of Athos, CRM is our new Customer Relationship Management system which will help us better serve our customers

Customer A customer is defined as someone who is or has applied for a connection to our network

Customer Surgeries These are held monthly for any customers who wished to discuss a project with us at any time in the process

DG Distributed Generation; this is the connection of generation to any point of the distribution system, from 230V up to 33,000V in Scotland or 132,000V in England & Wales

DNO Distribution Network Operators, responsible for owning operating, and maintaining the electrical network in their licensed geographical area

Dual Offers These are formal offers which facilitate the acceptance of either the full works or just the noncontestable works, with the contestable works completed by a Lloyds accredited ICP of your choice

Export Management Device These are devices which seek to manage the local demand alongside any generator, essentially restricting export to our network

Feasibility Study A feasibility study is a chargeable service to run a number of network models and advise what capacity is available where on parts of our network. This does not facilitate a connection offer, and does not carry any contractual link to a formal connection offer

Formal Connection Offer A formal Connection offer facilitates a contract between us and the applicant to accept our offer and progress the construction works associated with the connection

G59 G59 is the industry standard for generators greater than 16 amp per phase

G83 G83 is the industry standard for small scale embedded generators for connections up to 16 amp per phase, 3.68 kW single phase connection or when multiple generators are to be connected

Glossary of Terms

Term Definition

GRP Enclosures 'Glass Reinforced Plastic' enclosures. Our traditional solution for a substation which requires a battery set is a brick building. GRP solutions utilise glass reinforced plastic technologies (GRP) to provide substation enclosures that can provide similar environments to brick-built substations

GSPs A Grid Supply Point is the point at which electricity enters the distribution network, leaving the transmission network

Heat-maps These are maps of our HV network, colour coded based on the available capacity on any given circuit

ICP Independent Connection Provider

IDNO Independent Distribution Network Operators develop, own, operate and maintain local electricity distribution networks

IFI Innovation Funding Incentive (IFI) was introduced by Ofgem to encourage Electricity Distribution, Electricity Transmission Network Operators to apply technical innovation in the pursuit of investment in and operation of their networks. It will be replaced by the Network Innovation Allowance (NIA) in 2015

Jointing Jointing is a method of connecting two sections of cable together

LCNF Low Carbon Networks (LCN) Fund was established by Ofgem as part of the electricity distribution price control that runs until 31 March 2015. The fund offers capital to support projects sponsored by the Distribution Network Operators (DNOs) to try out new technology, operating and commercial arrangements

Link boxes A link box provides a point of isolation at the interface of an IDNO (Independent Network Operators) and a DNO network

Market Segment This is the regulatory terminology which defines DGLV and DGHV

Metering This is the mechanism for settlement to ensure your generation receives the correct rates for your tariff and is a key part of the balancing and settling arrangements, which are laid down in the Balancing and Settlement Code (BSC), and is administered by ELEXON

Non-Contestable Where we talk about on-site works, these are typically within either the customers land boundaries or the CDM boundary within which a Principle Contractor operates

On-site On-site works are typically within either the customers land boundaries or the CDM boundary within which a Principle Contractor operates

POCs Point of Connection to the electrical network

Quote + Quote + is a new product which we are currently trialling, which provides options for our customers quickly whilst maintaining queue position

RAAdAR Register of Adopted Asset Requests; this is our current IT system utilised to manage CIC enquires where a Lloyds accredited ICP of your choice is being employed to complete the contestable works

SoW The Statement of Works process should be followed when it is identified that a generator seeking a connection to a DNO's network may have an impact on the transmission network

Substation A part of our network where DG is connected and we transfer power across boundaries, either by voltage level or a customer's point of common coupling

Wayleaves This is the process which secures the legal right for apparatus to be installed at any given location and secures the connection to your site for a defined period of time





SP ENERGY NETWORKS

Connections Contact Details

Central & Southern Scotland

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gettingconnected@scottishpower.com

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Network Connections**
55 Fullarton Drive
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