

SP Energy Networks Heat Map Easy Guide

The following pages will guide you through the key features of our online heat maps to show case the various changes and facilities that have been made in the past year. The link below takes you to SP Energy Networks Heat Map web page.

www.spenergynetworks.co.uk/pages/connection_opportunities.aspx

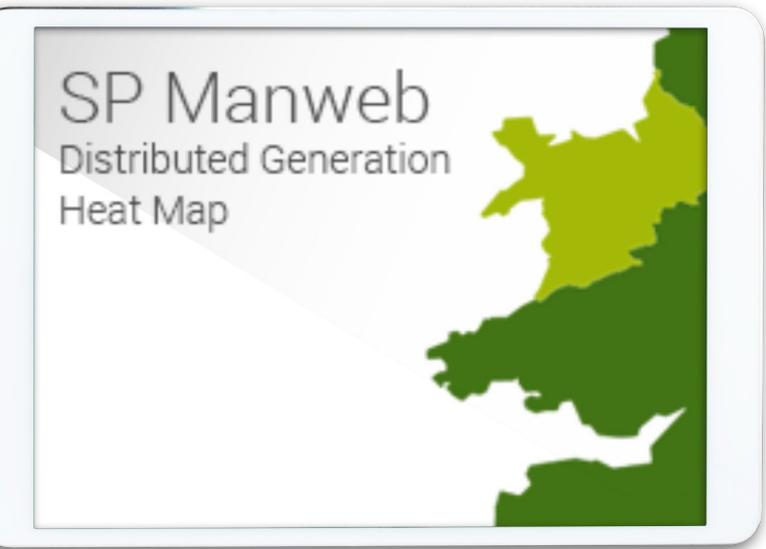
Generation Connections

Are you thinking about installing a new generator? If so, it will need to be connected to our network either through your existing supply or through a new electricity connection.

Before we can connect you, we have to make sure that our existing network is capable of providing the power you need to operate your equipment.

For smaller projects (smaller than or equal to 50kW) there is normally no need to worry about the capacity of our network but for larger projects we may need to carry out some work to connect your generator. We recommend that you engage with us at an early stage as it's important that you are aware of the timescales and costs involved before you begin your project.

In advance of this we have a series of heatmaps that will give you an indication of the networks' capability and a better understanding of potential opportunities to connect your generator to the electricity network.



SP Manweb
Distributed Generation
Heat Map



SP Distribution
Distributed Generation
Heat Map

SP Energy Networks Heat Map Easy Guide

Terms

Once on this page click on the license area you wish to review and this will take you to the SP Energy Networks terms.

DISTRIBUTED GENERATION SP DISTRIBUTION HEAT MAPS TERMS

This application provides an indication of the potential opportunities to connect Distributed Generation (DG) to the 11kV and 33kV network in the SP Distribution plc licence area (Central & Southern Scotland).

Each substation and circuit have been assigned one of the following categories:

Category	Description
Green	All operational factors are within tolerable limits and so opportunities may exist to connect additional Distributed Generation without reinforcing the network (subject to detailed studies).
Amber	At least one factor is nearing its operational limit and hence, depending on the nature of the application, network reinforcement may be required. However, this can only be confirmed by detailed network analysis.
Red	At least one factor is close to its operational limit and so installation of most levels of Distributed Generation and a local connection is highly unlikely. It may also require extensive reinforcement works or given the lack of a local connection, require an extensive amount of sole user assets to facilitate such a connection.

Whilst all reasonable care has been taken in the preparation of the information and data presented within these pages, SP Energy Networks is not responsible for any loss that may be attributed to the use of the data.

By clicking 'OK', you acknowledge that you have read and understood the information provided above.

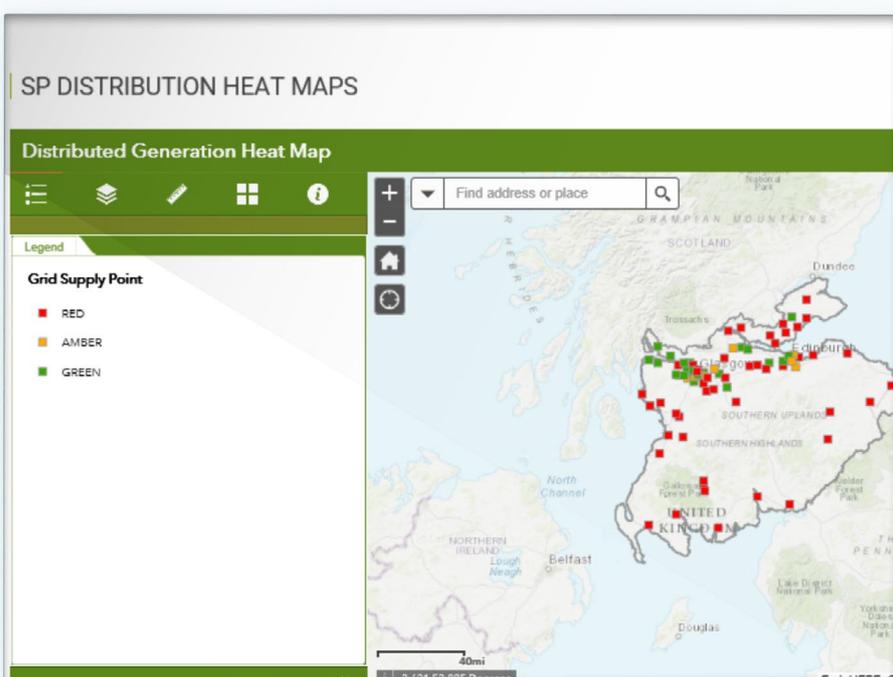
SP DISTRIBUTION HEAT MAPS

Distributed Generation Heat Map

Legend

Grid Supply Point

- RED
- AMBER
- GREEN



Features

The next set of screen shots will help to showcase some of the features and information that can be obtained from our heat maps.

Red indicates no connection capacity, Amber some limited capacity. Red no capacity to connect either due to faults or the theoretical capacity limited has been reached, connected and contracted.

Green indicates that currently there is connection capacity at this location and you can check how much by opening the information box at the location to see if this meets the needs of your proposed project.

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Tools

To aid search and clarity the heat maps have various filters and tools to help you with your inquiry as outlined below

1. Enter street name or post code to take you directly to your location

2. Click here to use your current location to zoom in

3. Zoom in or out

4. This takes you back to the home screen and removes all filters and tools

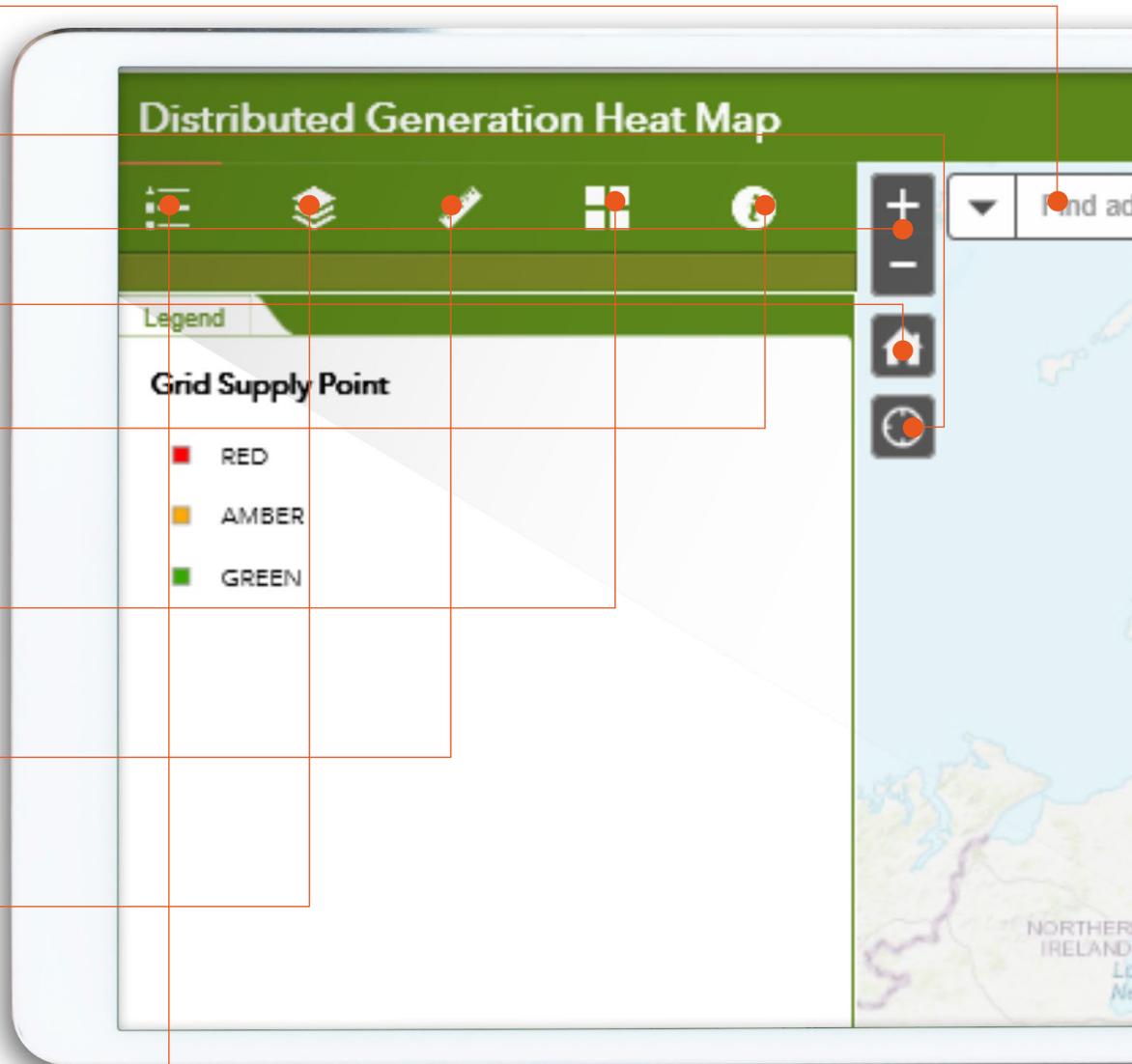
5. This icon opens a text box that explains the heat map process and indicates when they were last updated normally monthly

6. This tool allows you to switch from views, street, satellite, dark, light & topography

7. The rule tool lets you measure distances as the crow flies between your planned connection points

8. Layers tab lets you see the various layers you can switch on or off; grid supply points, primary substations, EHV, HV and Flexible tendering areas

9. Legend Icon to give names to various areas of the map



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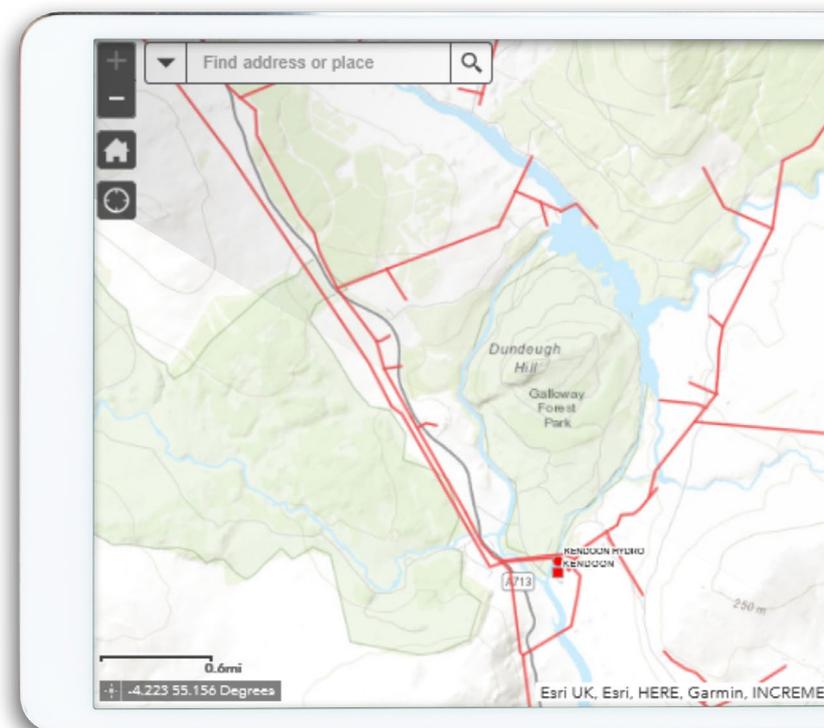
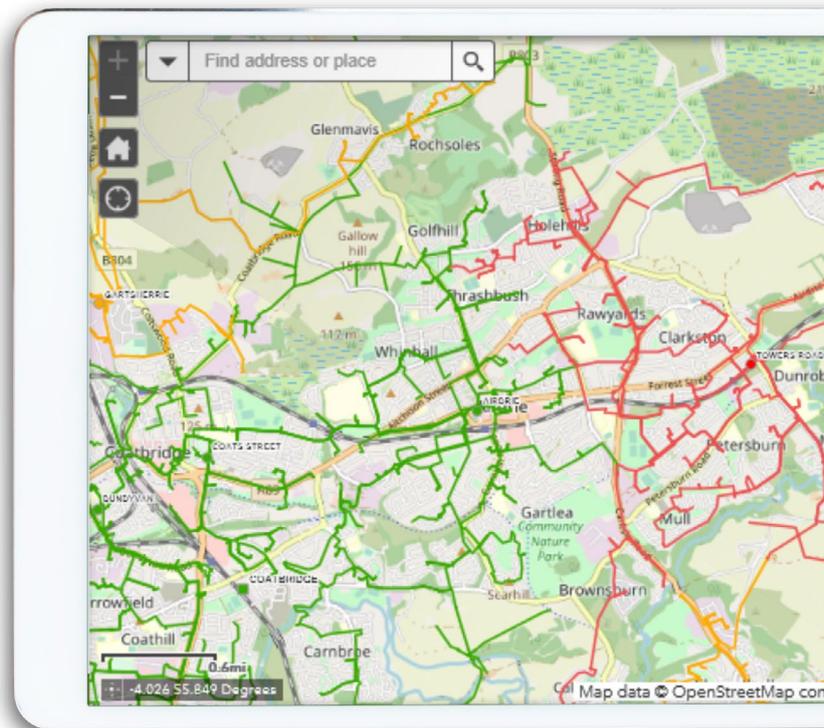
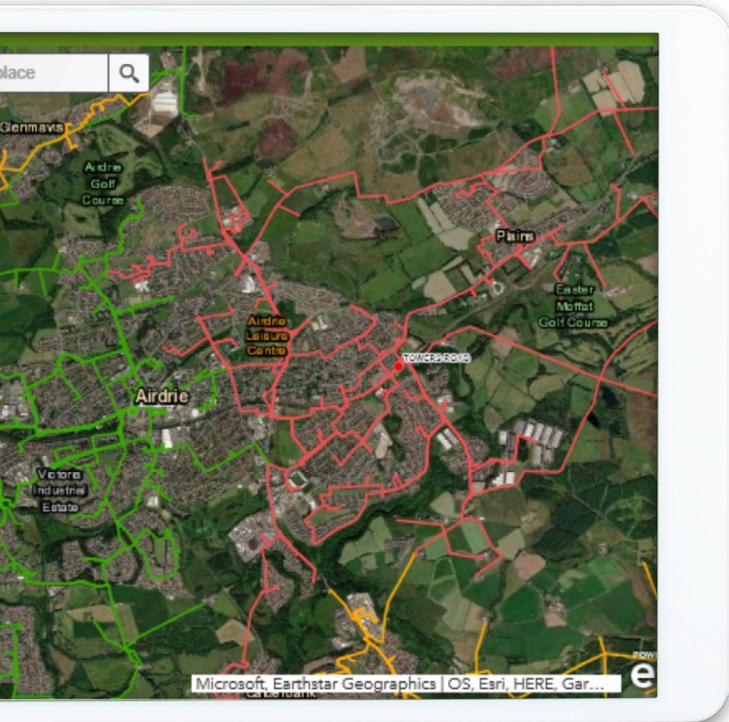
Three Street Views

Three typical views, street, satellite and topography.

Street view provides details of all streets by name and focuses on the road lay out in relation to our distribution network.

Satellite view gives an over all view from space to give the customer a chance to see all the key features, such as buildings, trees etc. that they may need for planning their projects.

Topography view highlights the key features of the terrain that is important when deciding a cable route and or the movement of equipment to proposed sites.



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Key Functions

The key function for all your detailed information is contained in the nodes for grid supply points and primary sub stations.

It is key to note that the page of information displayed can be scrolled up and down to show more information and will be one of multiple pages in this case 1 of 16.

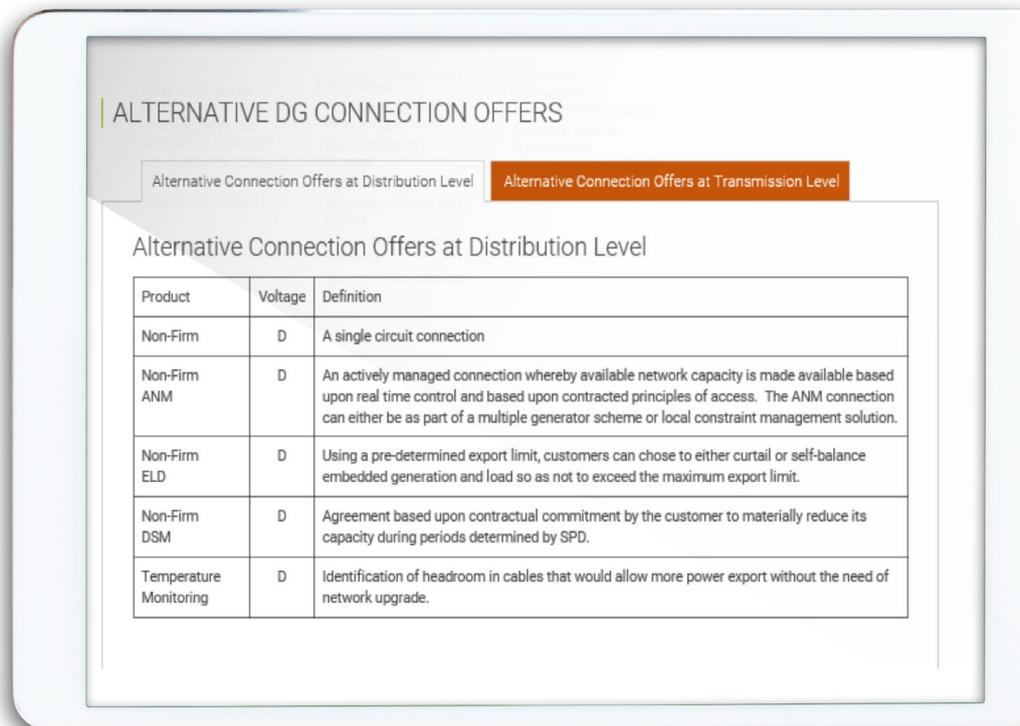
In addition the name and contact details of the relevant engineer are shown too.



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Alternative Connection Offers

Where your preferred area is constrained RED there may be other potential flexible offers we can suggest for you as outlined below.

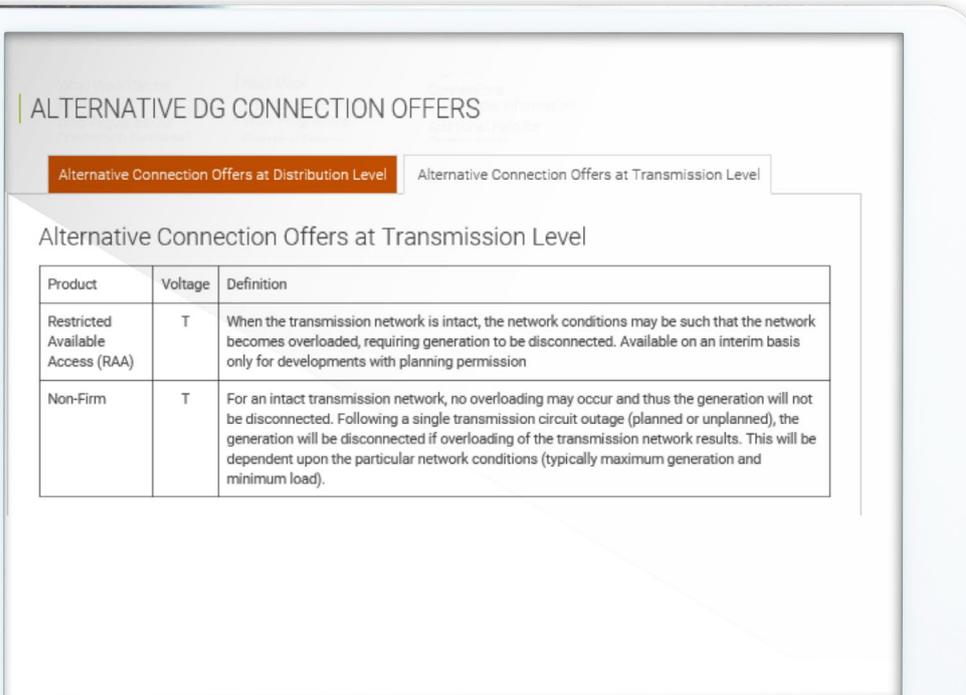


ALTERNATIVE DG CONNECTION OFFERS

Alternative Connection Offers at Distribution Level | Alternative Connection Offers at Transmission Level

Alternative Connection Offers at Distribution Level

Product	Voltage	Definition
Non-Firm	D	A single circuit connection
Non-Firm ANM	D	An actively managed connection whereby available network capacity is made available based upon real time control and based upon contracted principles of access. The ANM connection can either be as part of a multiple generator scheme or local constraint management solution.
Non-Firm ELD	D	Using a pre-determined export limit, customers can chose to either curtail or self-balance embedded generation and load so as not to exceed the maximum export limit.
Non-Firm DSM	D	Agreement based upon contractual commitment by the customer to materially reduce its capacity during periods determined by SPD.
Temperature Monitoring	D	Identification of headroom in cables that would allow more power export without the need of network upgrade.



ALTERNATIVE DG CONNECTION OFFERS

Alternative Connection Offers at Distribution Level | Alternative Connection Offers at Transmission Level

Alternative Connection Offers at Transmission Level

Product	Voltage	Definition
Restricted Available Access (RAA)	T	When the transmission network is intact, the network conditions may be such that the network becomes overloaded, requiring generation to be disconnected. Available on an interim basis only for developments with planning permission
Non-Firm	T	For an intact transmission network, no overloading may occur and thus the generation will not be disconnected. Following a single transmission circuit outage (planned or unplanned), the generation will be disconnected if overloading of the transmission network results. This will be dependent upon the particular network conditions (typically maximum generation and minimum load).

We hope this guide has helped and encouraged you to explore all the key features if you have any further questions please contact one of our SPD or SPM account managers and they will be happy to respond:

www.spenergynetworks.co.uk/pages/connections_contact_us.aspx