

Getting your project connected- a guide to Distribution Network Operators

If you would like the option of exporting the energy you generate, you will need to connect to the grid and unfortunately it's not as simple as just plugging in. This page provides you with:

- A brief introduction to the electricity network and the challenges it is currently facing
- The reasons why you need to apply for a connection
- A guide to which application process is right for your project
- The different options that are available to you
- Information on who your local Distribution Network Operator is and what they are doing to support community energy.

Introduction to the electricity network

The electricity network is made up of the transmission network, run by National Grid, and the distribution network, which is run by six Distribution Network Operators (DNOs) in England. The transmission network transports electricity over long distances at a high voltage and the distribution network operates at lower voltages in order to supply our homes and businesses.

Large power stations are connected to the transmission network, whereas the smaller generators feed energy into the distribution network. The smaller generators are known as Distributed Generation (or DG). They can range from microgeneration installations on homes up to megawatt-scale schemes.

You can find out more about the electricity network on the [National Grid](#) website or in the introduction of each of the [Energy Network Association connection guides](#).

Challenges: a changing electricity network

Our electricity network was designed to carry energy from the large power stations, through the transmission network, down through the distribution network and into our homes and businesses. It was not designed to accommodate high levels of distributed generation.

The increase in distributed generation has introduced new challenges. These include:

- Making the power flow in the distribution network more dynamic and unpredictable, which can cause:
 - Thermal limits to be exceeded (the cables get hotter as they transfer more electricity. There is a limit to how hot they can get before they become unsafe)
 - Reverse power flows (the flow of energy in the opposite direction from consumers, and therefore having an impact higher up the network)
- Contributing to fault levels and causing the network to exceed safe levels if it is already close to its fault level limit (the highest electric current that can exist in a particular electrical system under short-circuit conditions before it becomes unsafe)
- Effecting power quality limits (the quality of the voltage from your generating plant needs to match the quality on the grid).

Some parts of the electricity network are now at capacity due to the amount of distributed generation that has been connected. It may still be possible to get an electricity connection, but it might take longer and be at a higher cost due to the need to modify or reinforce the network. The DNO is obliged to offer you the cheapest connection to meet your request.

It's really important to speak to your local DNO as early in your planning process as possible, because the available capacity in the network may determine the size of project that you are able to develop. See the 'Who is your local Distribution Network Operator' section below to find out how to contact your local DNO.

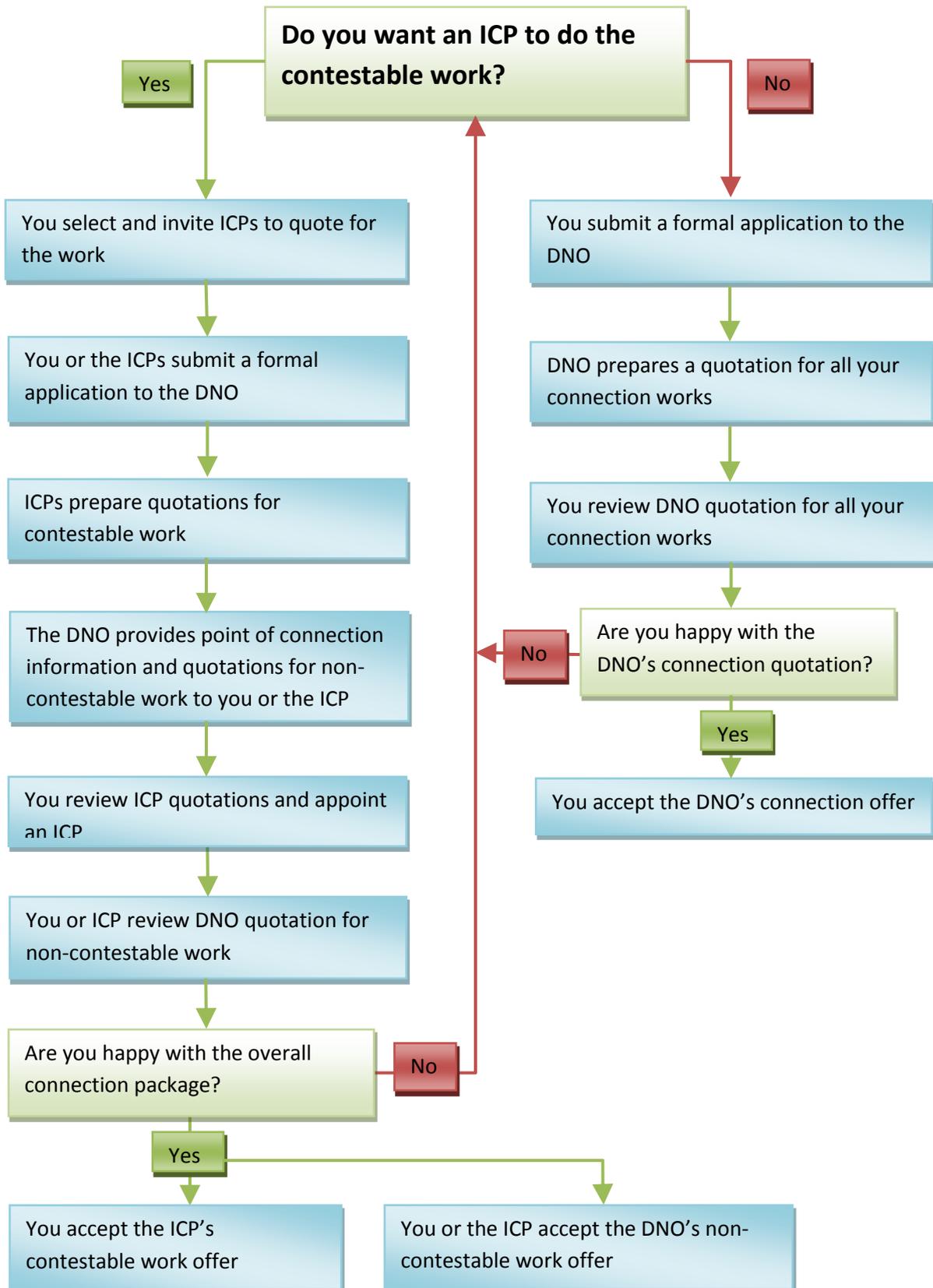
Why you need to apply for a connection

Your DNO will need to assess the impact your project may have on their network and look at whether any reinforcement work is required to protect the system and existing customers. They will provide you with a connection offer, which will set out any connection charges, the options available to you and any conditions that you must agree to. If you are working in partnership with a developer or installer, they will probably handle the application process on your behalf. If not, you may wish to consider employing a consultant to help you through the process.

Which application process is right for your project?

There are four different application processes. The size of your scheme and the engineering classification of your technology determine which application process is right for your project. Follow the flow chart below to find out which application process applies to your project and how to find further information. The Green boxes on the right of the diagram explain terminology used in blue boxes.

Independent Connection Provider (ICP) and you will need to decide whether to appoint one or for the DNO to carry out both the non-contestable and contestable work. The flow diagram below might help you decide:



Who is your local Distribution Network Operator?

Below is a summary of DNO contact details and what they are doing to support community energy. It is worth noting that there are also some independent distribution network operators (IDNOs) that own parts of the network. If you are not sure who your local network operator is, you can find out on the [Energy Networks Association website](#).



Electricity North West

About	Electricity North West owns, operates and maintains the North West’s electricity distribution network, connecting 2.4 million properties, and more than 5 million people in the region to the National Grid
Support offered to community energy	<ul style="list-style-type: none"> • They are planning to run a set of workshops on how to connect to the network. Contact Electricity North West on 0800 048 1820 to find out more • In the past, Electricity North West has provided sponsorship of the Power Up North conference.
Contact	www.enwl.co.uk 0800 048 1820 connectionapplications@enwl.co.uk

Northern Powergrid

About	Northern Powergrid runs the electricity distribution network that provides power to customers in the North East, Yorkshire and northern Lincolnshire.
Support offered to community energy	<ul style="list-style-type: none"> • Online guidance on connections: general guidelines; generation connection guide; and a connection guide specifically for community energy is coming soon • Monthly connection surgeries for early discussions about the capacity of the network (and options to keep the price low), the process of applying and the choices available to you • Setting up of local networking (LinkedIn Groups) through: North East Community Energy Network and Yorkshire and Humber Community Energy Network • Community events. Summaries of previous community events, held in April 2014 and February 2015 (including presentations), are available which included “provision of experts”, “promotion of funding available” and “provision of peer support”, as well as a networking opportunity for local practitioners • Setting up of a North East specific project (the North East Community Energy pilot) with Community Energy England and Vonne to provide resources for and support the growth of community energy groups in the region.
Contact	www.northernpowergrid.com 0845 070 2703 Community.energy@northernpowergrid.com

SP Energy Networks

About	SP Energy Networks provides power to 1.5 million customers in Merseyside, Cheshire, North Wales and North Shropshire, as well as 2 million customers in Central and Southern Scotland.
Support offered to community energy	<ul style="list-style-type: none"> • A dedicated email address for community groups - gettingcommunitiesconnected@scottishpower.com - to ensure they offer the most appropriate assistance to community projects • A series of connection guides • The provision of heat maps, which provide an indication of the level of generation capacity available on the local network • The introduction of ‘Quote +’ which provides communities with 3 options for connection upfront whilst still reserving their place in the queue • Providing half day workshops for any community or charity organisation to provide information on our process, key contacts and early discussion on potential projects • Providing monthly ‘walk-in’ sessions at local depots to allow communities to come and speak face to face with a design engineer about a project.

Contact	www.spenergynetworks.co.uk SP Distribution: Elaine Forsyth 07753 624157 SP Manweb: Rachel Shorney 07753 623898 gettingcommunitiesconnected@scottishpower.com
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Western Power Distribution

About	Western Power is the electricity distribution network operator for the Midlands, South West and Wales. It delivers electricity to over 7.8 million customers over a 55,500 square kilometres service area.
Support offered to community energy	<ul style="list-style-type: none"> • A specific guide to Connecting Community Energy available on its website • Presentations from a series of workshops held in June and October 2014 and February 2015 on how to get a connection. Further events to be held in winter 2015/16 – details available here • Quarterly surgeries are run to give you an opportunity to have early discussions with an engineer to discuss your requirements and the connection process • Community representation on their Customer Connection Steering Group
Contact	www.westernpower.co.uk 0845 724 0240 or wpdnewsuppliesmids@westernpower.co.uk for Midlands 0845 601 2989 or wpdnewsupplies@westernpower.co.uk for south west

UK Power Networks

About	UKPN owns and maintains electricity cables and lines across London, the South East and East of England.
Support offered to community energy	<ul style="list-style-type: none"> • Monthly surgeries are run to give you an opportunity to have early conversations with an engineer to discuss your requirements and the connection process • Power of Giving Fund, which awards grants totalling £300,000 a year to local groups that make a real difference in reducing fuel poverty, enhancing energy efficiency or promoting the low carbon economy • Plans to have a dedicated page on their website for community energy groups.
Contact	www.ukpowernetworks.co.uk 08701 964 599 DG-Q&A@ukpowernetworks.co.uk

Scottish and Southern Energy Power Distribution

About	Scottish and Southern Energy Power Distribution is responsible for maintaining the electricity networks supplying over 3.7 million homes and businesses across central southern England and north of the Central Belt of Scotland.
Support offered to community energy	<ul style="list-style-type: none"> • Bespoke guide for community connections • Specific contact for community energy champions: community.energy.champion@sse.com • All contract managers are briefed on community energy and able to provide you with additional support • The Microgeneration Guide incorporates specific information about community energy • Workshop held for community groups to brief on connection process – for upcoming events click here or email the community energy champion for more information.
Contact	www.ssepd.co.uk 0845 078 6770 for less than 50kW / 0845 072 4319 for greater than 50kW community.energy.champion@sse.com

