Heat Pack

A simple guide to low carbon heating for property and business stakeholders

In this guide

How this guide will help you

We're determined to facilitate the 'Net Zero' carbon emissions revolution (more on that on page 3) and engage with customers from all backgrounds to make it easy to switch to low carbon, at the lowest possible cost. We've put this guide together to provide support to property and business stakeholders who are interested in learning more about decarbonising heating.

We want to listen to you to make sure we are answering the questions you have, so we've written this guide with a wide range of interested parties in mind. We've also teamed up with leading organisations to make sure we're meeting the needs and ambitions of all ambitions of all. If you have feedback or questions, please get in touch with us at innovation@ukpowernetworks.co.uk.

Our research so far has shown that there is always more support we could offer and that lack of awareness and education is a major barrier to low carbon heating. We hope this guide can act as a useful resource to equip readers with information that can help them in their decarbonisation journey, whatever form that might take.

We surveyed 412 industry stakeholders to understand their views on heating decarbonisation

87%

Said we should focus on supporting customers' decision making process on low carbon tech

95%

Said they believe the new build sector would be an early adpoter of low carbon heating

Learn more about our company, industry and how we're regulated

About us

We are the UK's largest distribution network operator (DNO). We own, maintain and operate all of the wires, cables and substations of the electricity distribution network across London, the South East and East of England (highlighted in orange below).

Our core role is to keep the power flowing safely, efficiently and reliably while providing excellent customer service to more than eight million homes and businesses in our areas.

We're not the same as commercial energy suppliers. We don't generate or buy electricity or sell it to customers. Energy consumers pay a small portion of their monthly bills - on average £6.32 a month - to us as to transport energy to them.

92%

Customer satisfaction score 2020

21p

Per day cost. Industry lowest

99.99%

Network reliability

Why low carbon heating matters

When we talk about ‘low carbon heating’, we mean any type of heating that emits significantly less carbon emissions than standard alternatives. Traditional systems - which are currently used by the vast majority of properties in the UK - use high carbon fossil fuels like natural gas, oil, diesel or petrol.

‘Electric heating’ is just one example of low carbon heating. Electric heat pumps - devices that use electricity to transfer heat from one environment to the other, similar to how a refrigerator works - are already commercially available options for businesses and developers. But why spend time and money installing a brand new low carbon heating system when a traditional system is available or already in place?

In the future it’s likely that major changes in Government policy, consumer attitudes and new technologies will bring low carbon heating into the mainstream. The Government’s ‘Ten Point Plan for a Green Industrial Revolution’, published in December 2020, sets out an ambition to support low carbon heating in two major ways in the coming years: driving the growth of low carbon hydrogen gas and scaling up the electric heat pump market. This is on top of its predecessor Government’s legally binding commitment to achieving ‘Net Zero’ carbon emissions by the year 2050. We’re currently forecasting up to 540,000 heat pumps on our networks alone by 2030, up from around 20,000 today.

As a result, many of our business and property stakeholders have started to ask us how they can stay ahead of the curve and support Net Zero by installing some kind of low carbon heating.

Commercially available low carbon heating options

- **Electric heat pumps**
- **District heating with a low carbon source**
- **Immersion boilers**
- **Solar thermal panels**
- **Biomass heating systems**
- **Heat storage (such as a hot water tank)**

Find out more at Which? ▶

How to connect

- Installing a heat pump | See our website to find out the steps you should take if you are installing a heat pump on behalf of a customer. If required, we'll get in touch with you to understand and confirm the next steps. The same process applies to heat networks powered by large heat pumps. Read more

Upgrading an existing connection

Upgrading a main fuse to 80 or 100 amps

Generally, customers need this when installing a power shower or an electric vehicle, or when a qualified electrician has recommended an upgrade. We'll aim to complete a site visit within 10 days. Read more

Up to 70kVA (usually when converting a house to flats or installing high power electrical equipment)

See our website which details the steps you'll need to take. Read more

Beyond 70kVA (on rare occasions when 70kVA is not enough)

For most customers, up to 70kVA meets their requirements. However, if you have a unique situation and require a larger connection, we'll do everything we can to help. Read more

New builds or developments

Over 1MVA (very large commercial developments)

This is the largest type of work we complete and can be complex. Generally, we will aim to provide a quote within 50 days and complete the work within 2 years. Read more

Under 1MVA (large commercial developments)

We'll aim to provide a quote within 25 days and complete the work within 26 weeks. Read more

More than 70kVA (commercial property)

As this is a larger job, we'll aim to provide a quote within 25 days and complete the work within 12-14 weeks. Read more

More than 70kVA (more than four properties)

As this is a larger job, we'll aim to provide a quote within 25 days and complete the work within 12-14 weeks. Read more

23-70kVA (for one to four properties)

Generally, we will provide a quote within 11 days for this work. Read more

How we can help

Generally, we'll help most property or business customers by ensuring the wires and cables feeding either there property, or their customers', are suitable for new electrical equipment should they wish to switch to install a low carbon heating source.

For domestic properties, it is likely that the existing electricity connection is sufficient to install an electric heating solution. In some situations the property may require a fuse upgrade. This is free in many cases, but depends on the circumstances. If you need some advice, our Ask the Expert form can be used for ad-hoc and specific enquiries. If you would prefer to speak to someone, our phone lines are open 8:30-17:00 Monday-Friday at 0203 324 1460. If you would prefer to contact us by email, we will respond to queries within 48 hours: connections.gateway@ukpowernetworks.co.uk

The previous pages shows a summary of what to expect for different types of work, however more detailed information can be found on our Connections Guides webpage.

A note on costs - these can vary considerably depending on your project. The best way to budget your project is to apply for a connection upgrade and we'll send you a quote.

Pre-application support

If you need support before making a connections application, there are a number of ways we can help you. As well as the contact options above, you can book a one-to-one meeting. Other services are noted here.

If you need to make a connection request, please do ensure the following information is available:

- Property and address details
- Reference number if you have received a quote from us previously
- Details of how much power you need
- A location map of where the property or work site is

Other resources before you apply

Email one of our experts directly

Simply email team a question about any aspect of your connection work and we'll respond within five working days.

Find out more

Technical Design Specifications

Our design specification library contains technical information to help you with your works.

Find out more

View our connections guides

Have a look through our useful guides which will help you plan your connections work.

Find out more

Book a one-to-one digital meeting

Our 'Ask the Expert' surgeries give you the chance to have a one-to-one discussion with us before submitting an application for a new heating connection. These surgeries are an opportunity for you to discuss projects with our design team before you apply.

Find out more

Frequently asked questions

What is UK Power Networks?

We are the UK's largest distribution network operator (DNO). Find out more on page 2.

Who is in UK Power Networks' areas?

We cover London, the South East and East of England. Each DNO is working to facilitate low carbon technology in their individual region, however, we're working closely with the Energy Networks Association to establish GB-wide practices. Find out the DNO for any UK address here: Who is my DNO?

How can we achieve our commitment to Net Zero before 2050?

The largest carbon emitters are transport, heating and energy supply. We are working to 'decarbonise' these areas and you can get involved as a consumer and business operator. See page 3 onwards.

What is UK Power Networks' role in low carbon heating?

As mandated by our regulator, Ofgem, We are a 'technology agnostic neutral market facilitator'. That means our role is to provide information and facilitate Net Zero carbon emission by supporting consumers through their low carbon technology journey, whatever form that might take.

Are there flexibility opportunities?

Flexibility is the idea that people could participate in new energy markets by altering their energy use, particularly when electricity demand is high. Right now heat flexibility is still in the early innovation stage. Learn more about how we procure flexibility here.

Are there any incentives available for installing low carbon heating?

Yes, there's something called the non-domestic renewable heat incentive (RHI). Learn more.

Where are your standards and technical documents?

We are currently and consistently reviewing our technical standards to keep up with the latest developments in the sector. View here.

Are there any incentives available for installing energy efficiency measures?

Yes. Visit BEE Anglia for details if you're in Norfolk or Suffolk. For funding across Kent, Essex and East Sussex, visit Low Carbon Across the South East (LoCASE)

I've heard about heat networks (district heating). What is it and how can I do it?

A heat network is a system of pipes which takes heat from a large, central source and delivers it to a number of different properties. The government has made £320 million in funding available to invest in heat networks. Overview | Government funding

Further resources

Energy Savings Trust
Advice on saving energy at home

Heat Pump Association
Information about heat pumps

Making the Most of Local Energy
A previous UK Power Networks Publication

Heat Networks Investment Project (HNIP)
Government funding for district heating

Our Heat Strategy
Published March 2020

Energy Networks Association
EV and Heat Pump notification process

Which? Guide
Heating with renewable energy

Simple Energy Advice
Government-backed resource with advice on low carbon heating options

Domestic RHI Scheme
Renewable Heat Incentive

Non-Domestic RHI Scheme
RHI for businesses

Our EV Strategy
Re-launched in October 2019

Green Homes Grant
Government funding for home improvements

Thank you!

We'd like to extend our enormous gratitude to our collaborators who helped us shape and co-design our Heat Pack. Without your valuable input, it wouldn't have been possible.

citizens advice

Find out more

COMMUNITY ENERGY SOUTH

Find out more

HPF HEAT PUMP FEDERATION

Find out more

Passivhaus Trust

Find out more

Greater South East Energy Hub

Find out more

OVESCO

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