

Important information from your electricity network operator

Electricity  
north west

Bringing energy to your door

# Celsius



**Good news.** We are improving the electricity network that supplies your street as part of our Celsius project.

## Who is Electricity North West?

We operate the local electricity network and distribute electricity to all 2.4 million homes and businesses in the North West.

## What are we doing?

We are looking at smarter ways of managing high temperatures at substations, by trialling a range of cooling techniques. These could be modifications to equipment fitted inside our substations, or small changes to a substation's structure which will cool it down. This will help to reduce costs for all electricity customers. The project is called Celsius.

## Why are we doing this?

To help protect the environment we need to use fewer fossil fuels like gas and oil and use cleaner sources of power. This means that in the future we will need more electricity for running electric cars and heating systems. The more electricity that flows through our network, the hotter the equipment in our substations becomes.

## How will I benefit?

By cooling our existing substation equipment we can make it last longer which helps us operate the network more efficiently. This will help us to meet the increased demand for electricity, without increasing customers' bills.

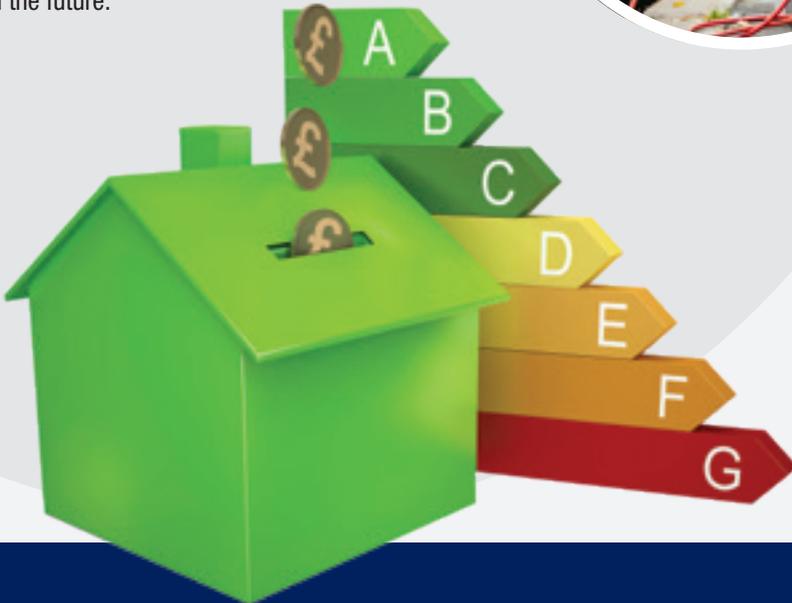


At Electricity North West it's our job to deliver a safe, reliable supply of electricity from the national grid to your home through our network of overhead lines, underground cables and substations. You may not have heard of us before, as you normally only need to contact us if you have a power cut. In many ways we are a 'behind the scenes' company. We don't send you a bill for our services. Instead, your supplier passes on part of what you pay them and we use this to maintain your power supply.

## Changing the way we use electricity

It's also our job to plan for the future and help reduce the impact of fossil fuels like gas and oil on the environment. As we use fewer fossil fuels, we will start to need more electricity for low carbon technologies such as electric heating and electric vehicles. This means that demand for electricity will rise significantly, placing a huge strain on our network. The cost of upgrading the network to meet this increased demand will mean higher bills for customers. So we are trialling smarter, more affordable techniques to use the existing network more efficiently, which will reduce costs for all our electricity customers in the future.

*There are already 87,000 electric vehicles registered in Great Britain with the Government set to ban all new petrol and diesel cars and vans from 2040.*



# Celsius

## Meeting the electricity needs of the future

Greater electricity usage will lead to an increase in current flowing through the network. This will cause our equipment to be at risk of overheating. Usually, when this happens, we replace the equipment which is costly and disruptive to customers.

We have developed new ways of monitoring our substations that will help us to identify where equipment is in danger of overheating. The monitoring will enable us to:

- **Identify** parts of the network where high demand is causing our cables or equipment to overheat. This type of monitoring will become increasingly important as more customers replace petrol and diesel cars with electric ones and change from gas to electric heating systems.
- **Understand** the effect of the increased use of low carbon technologies on the temperature of equipment in our substations.
- **Measure** how much substation temperatures are influenced by environmental factors especially heat from the sun.

In Celsius, we are trialling a range of very simple solutions that we can deploy quickly and cheaply to cool the equipment inside substations.



*A typical ground-mounted substation where we are trialling the Celsius techniques in your area.*





## Trialling the cooling techniques

An important part of the project is to trial the various Celsius cooling techniques and how they affect our customers. The first stage is to gather temperature data from 520 substations. We will then trial a range of cooling techniques at 100 of these substations so we can understand the benefits of each technique.

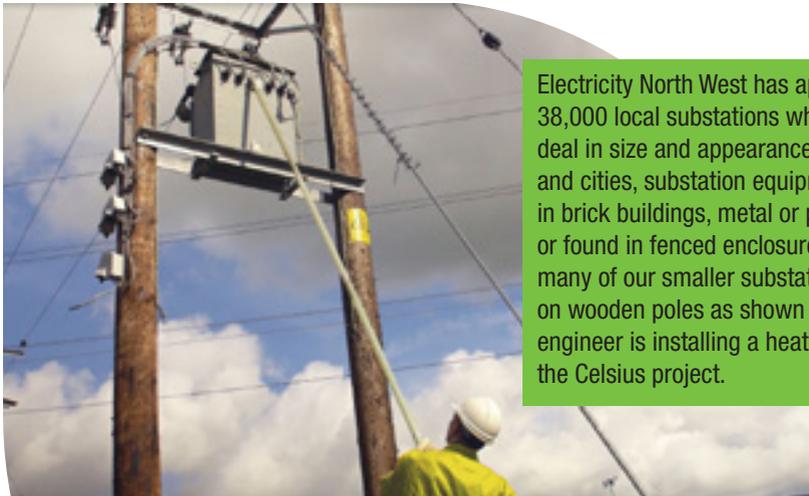
These simple cooling solutions won't be suitable for all substations. As part of the trial we want to understand where they can be used, how our customers feel about them and whether customers think these quick, simple solutions are preferable to the early replacement of equipment.

## How Celsius will benefit you

As a customer, your supply will continue to be as safe and reliable as usual.

By delivering new cooling solutions to manage temperature at substations, Celsius will:

- make the best use of our substation equipment
- enable customers to connect low carbon technologies to the electricity network, including electric vehicles and solar panels
- delay or even prevent the need to replace substation equipment
- reduce long-term costs for customers.



Electricity North West has approximately 38,000 local substations which vary a great deal in size and appearance. In our towns and cities, substation equipment is usually in brick buildings, metal or plastic structures or found in fenced enclosures. In rural areas, many of our smaller substations are mounted on wooden poles as shown here, where our engineer is installing a heat sensor as part of the Celsius project.

# Frequently asked questions

## How will Celsius affect me?

You will not notice any difference in the reliability of your electricity supply as a result of the Celsius project and we don't need to install any equipment in your home. It is unlikely that you will be aware that we have carried out any work at or near to our substations. In a small number of cases, we may need to turn off your electricity supply for a short period while we install one of the cooling techniques. If we need to do this, we will contact you before the work is carried out and ensure that the time you are off supply is kept to a minimum.

If a Celsius cooling technique is applied at your local substation as part of this trial, you may notice a small change in its appearance or the noise it makes.

## Will you need to replace the equipment anyway?

Sometimes the problems caused by increased demand and generation mean we have no choice but to replace some of our equipment. But in other instances we can make better use of our existing equipment by taking simple steps which mean we can defer or avoid the need to replace it altogether. This is great news for our customers because it keeps bills down.

## Is Celsius the only solution to meeting the electricity needs of the future?

Overheating at substations is just one of a number of network problems caused by increased demand and generation. We are constantly striving to improve how we manage our network with new research, innovation and technology. Celsius is just one of many techniques that we are trialling to meet the electricity needs of the future.

## How soon is Celsius required?

We already monitor our network in areas where there are large numbers of solar panels because this can cause overheating and other types of problems. In the future we expect more customers to install solar panels, there will be more electric vehicles on our roads and more customers will change their gas central heating to electric. It's not easy to predict how quickly these technologies will become the norm but we expect to see notable changes over the next ten years.

## Is this project anything to do with smart meters and will I need a smart meter or other equipment installed at my house?

Celsius is **not** related to smart metering, so we don't need to fit a smart meter or any other kind of equipment at your home. It's extremely unlikely that you'll notice any of the work that we'll be carrying out as part of the Celsius project.

## Why are you telling me this?

Our industry regulator Ofgem expects us to communicate this information to you. Ofgem provides funding for local electricity operators like Electricity North West to develop innovative solutions to meet the predicted increase in electricity usage. It's our responsibility to make you aware of any action we are taking to prepare your local electricity network for a sustainable future and how that might affect you.

## Engaging with our customers

Understanding what you think is important to us. **We will be contacting customers who live or work near to substations where we are trialling cooling techniques.**



## I rely on electricity for special medical needs - will I be affected by the trials?

The Celsius techniques will not directly affect you or your electricity supply but you may want to consider joining our priority services register. We have set up this service for our more vulnerable customers who may need additional support in the unlikely event of a power cut.

As part of our priority services we work in partnership with the British Red Cross who can help you with practical necessities when things go wrong. To find out more about our services for vulnerable customers or to join our priority services register, call us on **0800 195 4141** or visit our website at: [www.enwl.co.uk/priority](http://www.enwl.co.uk/priority).

## What do I do if I have a power cut?

The electricity supply in our region is extremely reliable but from time to time problems can arise. Celsius will not affect your electricity supply but in the unlikely event that you have a power cut or need to report an emergency, we're here to help you 24 hours a day, 365 days a year. You can call us on **105** or **0800 195 4141**, minicom **0800 458 9767**.

You can also get advice about what to do in a power cut by visiting our website at [www.enwl.co.uk/power-cuts](http://www.enwl.co.uk/power-cuts).

Find out more about Celsius  
at [www.enwl.co.uk/celsius](http://www.enwl.co.uk/celsius)  
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