

Paving the way for a low carbon future



electricity
north west

Bringing energy to your door

C₂C

Electricity North West is leading the way in developing smart solutions to meet the UK's future energy challenges. The company is looking at innovative ways to test its customers' willingness to be flexible with their demand for electricity, and keep their bills down too.

Electricity North West, the company who operates the electricity network in the North West of England, is conducting a trial known as Capacity to Customers (C₂C) as part of Ofgem's Low Carbon Networks Fund. C₂C will use new technology and innovative commercial contracts to increase the amount of energy that can be transmitted through the region's existing electricity network.

How it works

The existing electricity network is designed to keep the lights on when things go wrong by keeping some capacity for emergency use. This allows electricity to be re-routed following a power cut (fault). Typically, the majority of customers are affected by a fault once every three years. So for most of the time, only half of the total capacity is used with half reserved for emergencies. By reconfiguring the network and working smarter, this extra emergency capacity can be released for everyday use.

360 high voltage circuits have been selected for the trial serving 12% of Electricity North West's customer base to ensure that the trial is statistically significant and representative of the whole of the UK's high voltage network.

All circuits selected are being fitted with remote control devices before the start of the trial in April 2013. Automation software will use this remote control to decrease the amount of time the majority of customers are off supply after a fault.

The company is working with the University of Strathclyde to develop and validate network models using data generated by monitoring equipment installed on the network. The University of Manchester is using this data to assess the carbon and economic benefits of the project.

As well as reconfiguring the high voltage system to release the extra capacity, the company is asking

business customers to reduce their demand after a fault in exchange for payments or lower connection charges.

Talking to customers

The company has been using a variety of channels to talk to new and existing business customers about taking part in C₂C. These include a targeted mailshot, a website which features an explanatory video and an in-depth customer survey involving the 1800 business customers on the trial circuits. The survey helped the company to gauge interest in C₂C and understand if customers were willing to take part in the trial. Results from the survey revealed that over 50% of surveyed customers found the idea of C₂C appealing.

Widespread roll-out of C₂C contracts could reduce the amount of new infrastructure that would normally be needed to meet the growing demand for electricity.

The company has run customer focus groups to help formulate its customer communications and seminars to explain how the project works to potential trial participants.

An industry knowledge-sharing event will be held in April 2013.

Putting contracts in place

The customer survey also helped Electricity North West understand how best to structure C₂C contracts so that the customer and the company get best value. The commercial templates have now been designed and the company is ready to talk business to customers in the trial area who are interested in taking part.

The company is working with the Universities of Strathclyde and Manchester to develop and analyse models of the trial circuits.

For existing customers, the commercial arrangement is based on a monthly incentive payment in exchange for delaying the restoration of their supply after a fault. The company signed up its first trial customer in March 2013. The Bolton Arena, an existing customer, has agreed to a managed contract for the 18 month trial period in exchange for incentive payments. In the unlikely event of a fault the restoration of the arena's power supply could be delayed up to a maximum of eight hours.

A new customer will be given the choice of a standard or C₂C connection quotation. A standard quotation usually includes charges for reinforcing the electricity network because of the additional load created by the new connection. If a new customer signs up to a C₂C contract, the cost of network reinforcement is waived in exchange for delaying the restoration of the customer's supply after a fault.

Widespread roll-out of C₂C contracts like these could reduce the amount of new infrastructure that would normally be needed to meet the growing demand for electricity.

The findings of the 18 month trial can apply to other electricity Distribution Network Operators (DNOs). So, if successful, C₂C will form the blue-print for the UK's future electricity network.

To find out more visit: www.enwl.co.uk/c2c

To find out more about Ofgem's low carbon network fund visit www.ofgem.gov.uk

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