



Renewable energy



Overview

As the region's distribution network operator we are playing a key role in preparing the electricity network for the challenges of a net zero future. We are also working to reduce our own carbon footprint and we are helping our customers and stakeholders to do the same.

Our role in the energy industry and our own journey to become a net zero organisation means we have a good understanding of the actions that businesses need to take to help the region reach net zero.

If you are looking to take the next step on your net zero journey, you could install renewable technology (also called micro-generation) at your home or business to generate your own power, instead of buying all of your energy from suppliers. Any surplus energy you generate can potentially be sold back to the grid.

Renewable energy is generated from natural resources such as the sun, wind and water, using technology to drive turbines and generate power, without releasing any harmful carbon emissions into the environment.

This case study focuses on projects to install renewable energy at one of our depots and a substation.

Why we took action

We are installing renewable energy at our sites for a number of reasons:

- The UK needs to commit to renewable energy if we are to meet our challenging emissions targets and transition to a net zero carbon economy.
- We are aiming to become a leader in the reduction of carbon emissions and achieve net zero by 2038.
- Protecting the environment is central to our plans, and a key step forward is to power our sites using clean renewable energy.
- We want to lead by example to inspire our people, our shareholders and our customers to reduce their own carbon footprints.
- We can save money on our energy bills by making our depots self-sufficient with their own onsite generation.



Our approach

In October 2019, we changed our electricity supply to 100% renewable energy. Electricity for our operational substations and most of our offices and depots is generated from a mix of wind and hydro, which saved 5,492 tonnes of CO₂ equivalent in the first 12 months.

But our aim is to achieve net zero carbon by transforming our estate to be as energy efficient as possible, and to use a combination of on-site and off-site generation to meet our energy demand.

Starting with two depots, our training academy in Blackburn and our depot in Oldham, we are testing and demonstrating a number of solutions to assess their suitability and relative benefits.

These include: ground-mounted solar panels; car port solar panels; upgraded insulation, windows and ventilation; air source or ground source heat pumps; new radiators and LED lighting.



What we did

We have installed solar panels on the roof of our Blackburn depot and at one of our substations.

Solar panel electricity systems capture the sun's energy using photovoltaic (PV) cells which are made from layers of semi-conducting material, usually silicon, and convert the sunlight into electricity. The stronger the sunshine, the more electricity is produced.

As the power of the sun is free, once the cost of the installation is paid, the electricity it generates is free.

We have installed a hybrid roof-mounted solar PV system at our Blackburn depot at multiple locations, which together generate around 39,260 kWh of electricity and avoid 7.6 tonnes of CO₂ equivalent a year.

Our plan is to continue with our solar installation at Blackburn and the nearby training academy to include three additional roof-mounted systems and solar car ports which will make the training academy site net zero. Once complete we expect to generate 124,663kWh of electricity a year which will avoid 24.1 tonnes of CO₂ equivalent.

We have also installed 128 ground-mounted solar panels at our Thorley Lane primary substation at the south Manchester enterprise zone, the first self-sufficient low carbon substation in the North West. The panels are expected to generate 35,396 kWh per year and save 6.8 tonnes CO₂ equivalent. In 2023 we will complete a second low carbon substation at the Lancashire enterprise zone in Samlesbury.



Next steps

Between 2023-2028 we will convert five more depots to net zero carbon equivalent at Preston, Blackburn, Salford, Carlisle and Kendal.

We will install solar car ports at our training academy so our EV chargers can be powered directly by the solar panels.

We are building five more low carbon substations in Manchester.

Help and support

As the region's distribution network operator, one of our roles is to provide information, advice and guidance to customers and businesses to help them take action to reduce their energy bills and carbon emissions. We provide free advice, information and signposting to other available help - all of which will enable you to make the right decisions about energy efficiency and low carbon technologies for your business. Drop us a line at gonetzero@enwl.co.uk or find out more about how to go net zero on our website at www.enwl.co.uk/gonetzero.