

Net Zero Carbon Case Studies

Carbon neutral depot

Carbon neutral depots realise a 28% return on investment

Electricity for our operational substations and most of our offices and depots is 100% renewable and is generated locally at Walney Wind Farm, off the coast of Cumbria, saving 5,492 tonnes of CO₂e per year.

But our aim is to achieve net zero carbon by transforming our estate to be as energy efficient as possible, and to install onsite generation to meet most of our own energy demand.

Starting with two zero carbon exemplar depots in 2020, our training academy in Blackburn and our depot in Oldham, we will test and demonstrate a number of solutions to assess their suitability and relative benefits which will help other businesses in the North West understand what is achievable.

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

At our training academy, we have installed 788m² of solar panels on the existing roof and a purpose-built car port structure. This will generate 133,000kWh of electricity, and help to avoid 31 tonnes of CO₂e emissions and save £21,000 in energy per year.

The cost to implement the various initiatives at the two sites is £1.1 million, saving £41,000 per annum in energy bills (based on today's prices) and 82 tonnes of CO₂e.

Cost of interventions

Training academy cost (£)	Annual saving (tCO ₂ e)	Oldham cost (£)	Annual saving (tCO ₂ e)
696,261	53	315,664	29

Over 25 years, we can demonstrate a 28% return on investment which incorporates a carbon saving of £271,000, using the BEIS value of CO₂ equivalent.

Return on investment and benefits over 25 years

	Capital investment	Energy savings per annum (£)	Energy savings over 25 years (£)
Training academy	(696,261)	21,000	525,000
Oldham	(315,664)	20,000	500,000
Cost of carbon			271,072
Total	(1,011,925)	41,000	1,296,072
ROI	+28%		