

Net Zero Carbon Case Studies

Mini-diggers

Electric mini diggers drive a 70% reduction in service costs

In 2019 Electricity North West became the region's first company to purchase two state-of-the-art electric mini diggers.

The first models to go into full production in the construction industry, the new JCB mini diggers are fully electric and have zero exhaust emissions.

At £33,250, the diggers are more expensive than their traditional counterparts, but electricity running costs are significantly lower at £811 a year, compared to £1,090 in diesel costs.

Each vehicle will reduce our carbon emissions by 64 tonnes CO₂ equivalent (tCO₂e) a year which is valued at £32,090 using the [BEIS value of CO₂ equivalent](#).

We're so satisfied with the performance of the mini diggers, we bought two more.

As well as the environmental advantages associated with reduced carbon emissions, the electric diggers bring other benefits.

They are five times quieter than traditional diesel vehicles which reduces noise disturbance for customers and allows for better communication between our engineers; this is safer for them and the public.

Servicing costs for the diggers are expected to be up to 70% lower and they can be fully charged in two hours making them ideal for our engineers who work 24 hours a day to maintain the electricity network.

The vehicles are charged at our depots using electricity generated from renewable sources.



Costs

	Purchase cost	Operating cost (pa)	Cost over eight years
Electric mini excavator	£33 250	£811*	£39,738
Conventional excavator	£16 000	£1,090**	£24,720

* based on 15kw/h at £0.13 per kW/h

** based on 2.25 litres of diesel at £1.31/litre