HITACHI

Hitachi ZeroCarbon

Optimise Prime

Accelerating the global transition to zero emission EVs.

Our impact at a glance:

3

major fleets analyzed to assess charging and grid impact.

8000+

EVs involved in the world's largest commercial EV trial.

2030

used as the projection horizon for infrastructure and grid planning.

The world's largest EV trial

Funded by Ofgem's Network Innovation Competition, we partnered with UK Power Networks, Royal Mail, Uber and British Gas (Centrica) to **lead the world's largest trial of over 8000 EVs**, called Optimise Prime.

The trial aimed to accelerate the transition of fleets to zero emission EVs by identifying and reducing the barriers to electrification, including those resulting from the current design and operation of the electricity distribution network.

Making commercial EVs viable

Through the trial, we gathered data alongside our partners on the usage of commercial EVs and trialled how to reduce the impact and pressure on the grid. By working collaboratively with major UK fleets and technology providers, as well as the local distribution network operator, we could understand the impact of electrification on businesses, the network, and stakeholders to develop and test the right solutions.

Our team analyzed data from over 8000 EVs, across three different fleets, to identify charging demand, infrastructure requirements, and the associated impact on the grid until 2030. On top of this, our team developed a technology solution which provided smart charging for electric fleets and enabled the provision of flexibility services for the grid.

Changing the trajectory of commercial EV fleets

In working together, the trial enabled us to:

Develop our ZeroCarbon Charge solution; we tested and developed software for smart charging services, and worked with Royal Mail to to provide flexibility services (demand side response) to the network operator

Forecast impact of electrification on the grid; the trial enabled the network to plan ahead to adapt and support the expected increase in demand from EVs

Successfully demonstrate the use of flexibility services; this minimized the impact of electrification on the grid

Develop and trial a new type of grid connection; called a profiled connection, this reduces cost barriers to electrification by mitigating the need for grid connection upgrades

Forecast future demand for EV charging from fleets; we identified areas with highest demand to inform infrastructure policy and planning

Develop a fleet electrification guide for commercial fleets; this outlined the key steps and technical requirements to successfully transition to an electric fleet – enabling fleets to accelerate their electrification plans

" Optimise Prime is bringing all of these partnerships together to unlock the transition of fleets to a decarbonized transport sector."

Ian Cameron,
Head of Innovation, UK Power Networks