

UK takes the next STEP in curbside electric vehicle charging

World-first technology that could unlock electric vehicle charging for people without driveways or garages is being trialed across London.

Startup company Trojan Energy is installing 200 of its chargers across Brent and Camden. Each charge point is slotted into the ground with a flat and flush connection. The technology has no permanent footprint or street clutter as the hardware is only visible when a vehicle is charging.

The Subsurface Technology for Electric Pathways (STEP) project has been awarded £3m in co-funding by Innovate UK. If successful it will enable entire streets to be filled with the charge points so that no matter where a driver parks, they will be able to charge their EV.

The technology consists of 2 parts – a charge point slotted into the ground, and a ‘lance’ which is inserted into the charge point in order to charge. The charger can provide charge rates from 2kW to 22kW, and up to 18 chargers can run in parallel from one electricity network connection. This will in turn create opportunities for electric vehicle owners to use spare capacity in their batteries to provide services to electricity network operators which could make the cost of owning and running EVs cheaper.

The trial will be located in the London boroughs of Brent and Camden, both of which are at the forefront of the EV transition in the UK. Both boroughs have rapidly growing EV usage, encouraged by council policy determined to drive down air pollution in their neighbourhoods.

Cllr Shama Tatler, Lead Member for Regeneration, Property and Planning at London Borough of Brent, said “We’re thrilled to be among the first to try these innovative new charging points. Electric vehicles will play an important part in improving our local air quality which we know can have a detrimental impact on people’s health. I hope these discreet curbside chargers will make electric vehicles accessible for more people and get us one step closer to our aim of becoming a zero carbon borough.”

The technology has been developed by Trojan Energy, a team of ex-oil industry engineers determined to use their subsea skills for good, and contribute towards solving the problem of high CO2 emissions.

Trojan Energy Managing Director, Ian Mackenzie said “We are grateful for the support we have received from our consortium partners and Innovate UK. This backing will allow us to bring our discreet curbside charging to cities where the need to transition to EVs is greatest. Our technology will allow us to electrify whole streets at a fraction of the cost of traditional charging infrastructure and without the need for curbside clutter. We are really looking forward to the challenge of bringing this revolutionary new solution to London and beyond”.

Element Energy, a strategic energy consultancy specialising in the analysis of low carbon energy, are leading the project. Element Energy will be guiding the project using their sectoral and project management expertise, to achieve the best commercial and environmental return for investment.

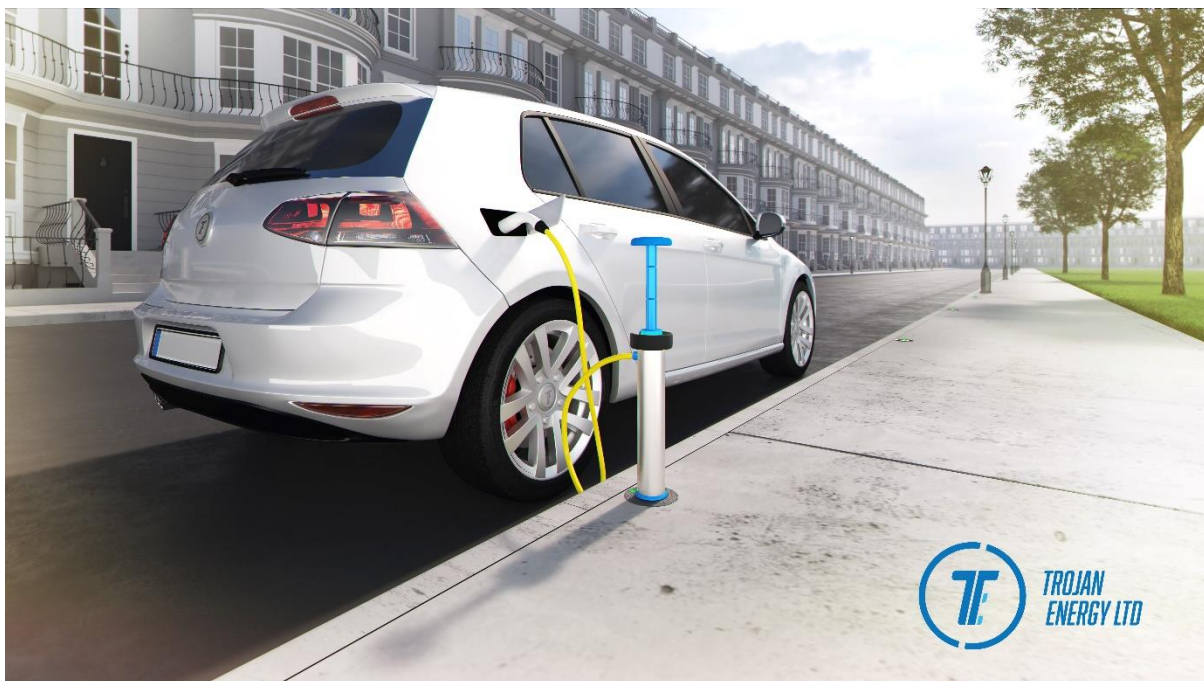
Celine Cluzel, Element Energy Director, said “STEP is trialling a solution to what is often the Achilles’ heel of charging infrastructure: scalability. The project is also conducting research on consumer and wider street users’ preference – a typical gap in research so far. These facts, combined with the excellent team brought together, make us confident that the trial will be a significant step forward for the uptake of electric vehicles.”

Other members of the consortium include UK Power Networks, Birmingham City Council and the University of Leeds. Award winning renewable electricity supplier Octopus Energy will also be recruiting their customers for the trial and providing expertise in backend billing which will be invaluable to EV owners.

A key aspect of the trial involves collecting consumer feedback on the technology and gathering new information on the charging behaviour of EV drivers who park on-street. This research will be led by the Institute for Transport Studies at the University of Leeds, who are a world-renowned research establishment, alongside input from Element Energy who have previous experience of conducting EV trials. Feedback from this research will crucially inform the development of commercialisation plans.

For more information on the project, please contact Sarah Clements at sarah.clements@element-energy.co.uk.

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A CGI of the new Trojan Energy charge point, allowing discreet curbside charging.

Quotes

As London's biggest electricity network operator, UK Power Networks brings unparalleled technical expertise which will ensure the deployment is as smooth as possible. With an eye on the future, UK Power Networks realised the potential scalability of the Trojan system and joined the team to ensure the system can scale without detrimental effects to their network. **UK Power Networks' Dr Giulia Privitera said** "Off-street parking makes up 60% of residential parking in London, and we have a responsibility to make sure that no customers are left behind in the electric vehicle revolution. We are excited to support this project and look forward to seeing the insights it will offer us into consumer behaviour."

Octopus Energy's Zoisa Walton said "Creating incentives to make electric vehicles more accessible and more usable is an extremely important endeavour to us, so we're really excited to be working

with STEP on this project. Our technology has already enabled us to create a standardised payment system for EV owners in the Electric Juice Network, and this news is yet another step in making electric vehicles the norm and making our planet cleaner and greener.”

Jillian Anable, Professor of Transport and Energy in the Institute for Transport Studies at the University of Leeds said “Transport is a crucial sector for decarbonising the UK economy, as carbon emissions from transport, and particularly cars, continue to rise, undoing the gains in other areas. A major plank of the government’s plan is to electrify the car fleet, but not everyone can park and charge off-street in drives and garages. If electric cars are to be made available to people in terraces and flats too, then on-street charging needs to be sorted out. We want to research how this new technology is taken up, and whether Trojan’s particular device resolves some of the concerns about early charging stations.”