ELECTRIC NATION

YOUR ELECTRIC VEHICLE YOUR SMART CHARGE

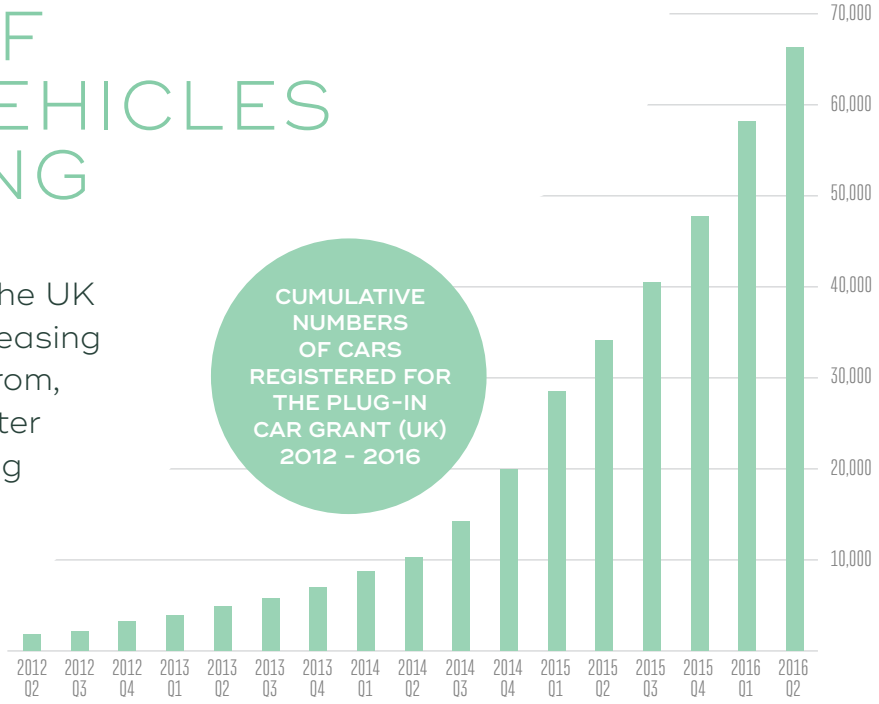
BE PART OF THE ELECTRIC NATION COMMUNITY

WESTERN POWER DISTRIBUTION

Serving the Midlands, South West and Wales

NUMBERS OF ELECTRIC VEHICLES ARE GROWING

Sales of electric vehicles in the UK are rising and there's an increasing range of models to choose from, with larger batteries and faster charging times. This is helping to reduce emissions and to lower running costs for owners – and people like the driving experience that electric vehicles offer.



THE CHALLENGE

ELECTRIC VEHICLES AND THE LOCAL ELECTRICITY NETWORK

The UK electricity grid has sufficient capacity to deliver power to electric vehicles, however if clusters of EVs develop in local areas and they're all charged at peak times then some local electricity networks may become overloaded.

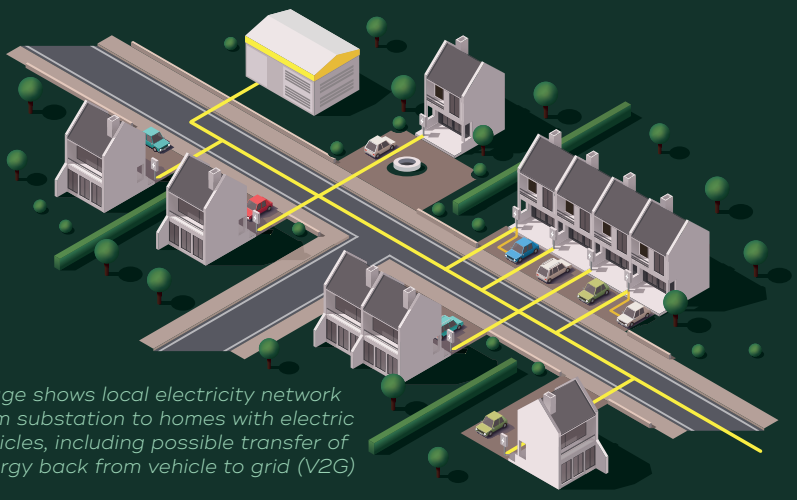


Image shows local electricity network from substation to homes with electric vehicles, including possible transfer of energy back from vehicle to grid (V2G)

AT LEAST 32% OF LOW VOLTAGE SUPPLY CABLES WILL REQUIRE INTERVENTION WHEN 40% – 70% OF CUSTOMERS HAVE EVS

The previous My Electric Avenue project tested monitoring and control technology by recruiting clusters of EV users; all people in a cluster were fed by the same local electricity substation feeder. The 'cluster trials' aimed to simulate a 2030 network; these clusters were primarily in residential situations (charging at home) with a limited number in business situations.

The results of the project's modelling showed that across Britain 32% of supply cables (312,000 in all) will require intervention when 40% – 70% of customers have EVs. Intervention using smart technology, rather than digging up the roads to install new cables, has been predicted to give an economic saving of around £2.2 billion by 2050.

ELECTRIC NATION IS TRIALLING A SOLUTION TO MANAGE EV CHARGING CHALLENGES

The potential capacity issue for local electricity networks caused by clusters of electric vehicles charging at the same time could be alleviated by a smart charging system that manages the charging between people's vehicles and the electricity substation.

Electric Nation is seeking to recruit 500-700 people buying or leasing new electric vehicles (including pure electric and plug-in hybrids) to take part in the largest trial of its kind.

FREE!* **Trial participants will get a free* smart charger installed. Benefits include:**

- This will be one of the latest, most intelligent on the market, offering the capability for controlled charging and time of use tariff management
- Will allow money to be saved by programming charge off-peak (after the trial, and when combined with a time of use tariff from the participant's electricity supplier)
- It will link to an app that will provide data about the participant's home charging
- It will allow the use of the existing electricity supply to homes rather than having to install new higher capacity cables
- The smart charger can be kept after the trial

£2.2 BILLION SAVED

WHAT WILL THE OUTCOME OF THE PROJECT BE?

The findings of the trial will help electricity network operators manage the effect of the additional load caused by charging EVs on the local electricity network. **This will allow electric vehicle numbers to grow and potentially save at least £2.2 billion on electricity network reinforcement by 2050 – along with avoiding the disruption caused to customers by the need to dig up the road to lay more cables.**

**Subject to eligibility and conditions*

JOIN US

If you're buying or leasing a new electric vehicle (including pure electric and plug-in hybrids), you're invited to become part of the Electric Nation community. Initially the trial will take place in certain geographical locations, the WPD network areas in the South West, South Wales, West & East Midlands. You'll get a free* smart charger and you'll be helping to future-proof our electricity networks for increasing numbers of electric vehicle drivers.

**Subject to eligibility and conditions*

FOR MORE INFORMATION AND TO CHECK ELIGIBILITY:
VISIT WWW.ELECTRICNATION.ORG.UK

COLLABORATION PARTNERS

Electric Nation is the customer-facing brand of CarConnect, a Western Power Distribution (WPD) and Network Innovation Allowance funded project. WPD's collaboration partners in the project are EA Technology, DriveElectric, Lucy Electric Gridkey and TRL.

ea technology · driveelectric electric car leasing · Lucy Electric · TRL

WESTERN POWER DISTRIBUTION
Serving the Midlands, South West and Wales