

Project ID	DIP028		
Long Title	Electric Nation (previously CarConnect)		
Short Title			
Keywords	Small-scale; Domestic; Transport; Power Quality & Grid Integration; Smart Grids; Demand Response; Active Network Management; LV Grid Monitoring; Smart Devices; Electric & Hybrid Vehicles; Smart Transport Networks; Transport System Enablers; Energy Strategy Development;		
Location1 (Town, Region, Country)	Bristol		England
Latitude and Longitude	51.45N	2.59W	
Location2 (Town, Region, Country)	Milton Keynes	Buckinghamshire	England
Latitude and Longitude	52.04N	0.76W	
Location3 (Town, Region, Country)	Nottingham		England
Latitude and Longitude	52.95N	1.16W	
Location4 (Town, Region, Country)	Derby		England
Latitude and Longitude	52.92N	1.47W	
OSGB code			
Status	Ongoing		
Start Date	2016		
End Date	2019		
Description	<p>A monitoring algorithm will be developed that will detect PIV charging by directly monitoring the LV substation such that the number and potentially type/category of vehicles can be identified, the impact on the feeder cables and transformers understood and to produce guidelines for managing EV charging. The collected data from pre-established PIV clusters on the WPD network will be fed back to refine the Network Assessment Tool.</p> <p>A smart charger test system will be established to</p> <ol style="list-style-type: none"> I. Enable selection of suitable smart chargers for the customer trial and II. Develop and test the PIV/V2G demand control services before and during the customer trial. <p>Up to 700 new PIV drivers will be recruited, in order to provide the project with statistically significant data ensuring diversity in driver behaviour and PIVs (battery size and nominal charger rate). Trial participants (customers) will be sought from a wide area across WPD's licence areas, concentrating, but not exclusively, on larger conurbations and in particular the recently announced winners of OLEV's Go Ultra Low City Scheme in WPD's licence areas, namely Milton Keynes, Bristol and Nottingham & Derby. Trial participants will provide their own car for use in the trials. The project will provide trial participants with "smart" chargers for their home on their</p>		

	agreement to participate in the trial, to be subjected to PIV demand control and to have data collected regarding their PIV usage and charging. This data will be used to inform development of the PIV/V2G demand control services and research into customer behaviours relating to their journey planning and charging behaviours. The customer trials will apply PV/V2G demand control on simulated PIV induced network stress scenarios. Customer acceptance of PIV/V2G demand control will be assessed by a contracted market research company. Linked to My Electric Avenue (follow on)
Sectors	Transport
Funding Sources	Network Innovation Allowance
Budget £	£5.8 million
Partners	Western Power Distribution, EA Technology, Fleetdrive Management
Energy vectors	Electricity, transport
Scale (lab/site/ small/community/region/national)	Small
Technologies demonstrated	LV grid monitoring, smart controls, demand response devices, active network management, EV charging
Economic models demonstrated	Grid services, deferred network investment
Other concepts demonstrated	Demand response, DNO-consumer engagement, grid constraint mitigation, consumer impact analysis
Industry engagement	
Consumer engagement	
Project Reports (incl. links)	Library at Western Power website link. Library: http://www.smarternetworks.org/project/nia_wpd_013/documents Library: http://www.electricnation.org.uk/resources/
Datasets (incl. links)	
Website/social media	http://www.electricnation.org.uk/ https://www.westernpower.co.uk/Innovation/Projects/Current-Projects/Electric-Nation-(formerly-CarConnect).aspx
Information sources	http://www.smarternetworks.org/project/nia_wpd_013