

Project ID	DIP060		
Long Title	Low Carbon London		
Short Title			
Keywords	Region; Urban; Multi-sector/Grid; Electricity; Power Quality & Grid Integration; Smart Grids; Demand Response; Active Network Management; Electric & Hybrid Vehicles; Transport System Enablers; Policy; Stakeholder Engagement & Behaviour Change; Energy Strategy Development; Alternative Suppliers & Tariffs;		
Location (Town, Region, Country)	London		England
Latitude and Longitude	51.51N		0.13W
OSGB code	TQ 30 80		
Status	Complete		
Start Date	2011		
End Date	2014		
Description	<p>Low Carbon London (LCL) is a pioneering project that has trialled and demonstrated a broad range of smarter potential approaches to how distribution network operators may invest and operate in the future. By bringing together leading industry specialists, the project is a multi-party approach emulating what the 2020 or 2030 electricity supply chain (from System Operator to distribution network, distributed generation and supply) may look like.</p> <p>To best demonstrate, test and quantify the impacts of the future low carbon distribution network, LCL conducted several trials which included;</p> <p>Monitoring Low Carbon Technologies (LCTs) for both power quality and network impact at scale;</p> <p>Implementing Smart Meters to understand their potential as both a network information point as well as the facilitator for future Time-of-Use (ToU) tariffs;</p> <p>Conducting Demand Side Response (DSR) and signing new commercial arrangements with Industrial & Commercial (I&C) customers;</p> <p>Testing demand flexibility for network Constraint Management (CM) and Supply Following (or “wind twinning”) by implementing a residential Dynamic ToU tariff;</p> <p>Analysing opportunities (including Smart Appliances) for energy efficiency;</p> <p>Monitoring Distributed Generation and validating opportunities for Active Network Management (ANM); and</p> <p>Developing new tools, and outlining planning, operational and investment practices.</p>		
Sectors	Domestic, non-domestic		
Funding Sources	Low Carbon Network Fund		
Budget £	£36 million		

Partners	UK Power Networks, EDF Energy, Siemens, Transport for London, Imperial College, Enernoc, Logica, Flexitricity, Smarter Grid Solutions, Sainbury's, Thames Gateway Institute for Sustainability, GLA, National Grid, London Development Agency
Energy vectors	Electricity, Heat, Transport
Scale (lab/site/small /community/region/national)	Region
Technologies demonstrated	Network data acquisition, active network management, smart meters, smart appliances, EV charging
Economic models demonstrated	Time-of-use tariffs, new commercial models
Other concepts demonstrated	Demand response, grid constraint mitigation
Industry engagement	
Consumer engagement	
Project Reports (incl. links)	<p>Substantial library of reports and presentations, including a closedown report, at website.</p> <p>Publications:</p> <p>http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.458.8516&rep=rep1&type=pdf</p> <p>https://ieeexplore.ieee.org/abstract/document/7741076/</p> <p>https://www.researchgate.net/profile/James_Schofield6/publication/293176172_Low_Carbon_London_project_Data_from_the_dynamic_time-of-use_electricity_pricing_trial_2013/links/56b6889d08ae5ad36059b61c.pdf</p> <p>https://spiral.imperial.ac.uk/handle/10044/1/25575</p>
Datasets (incl. links)	<p>TOU Tariff Trial Data: https://discover.ukdataservice.ac.uk/catalogue/?sn=7857&type=Data%20catalogue</p> <p>Smart Meter Consumption Data: https://data.london.gov.uk/dataset/smartmeter-energy-use-data-in-london-households</p> <p>Electric Vehicle Charging Data: https://data.london.gov.uk/dataset/low-carbon-london-electric-vehicle-load-profiles</p> <p>Heat Pump Load Profiles: https://data.london.gov.uk/dataset/low-carbon-london-heat-pump-load-profiles</p>
Website/social media	http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Low-Carbon-London-(LCL)/
Information sources	http://www.smarternetworks.org/project/edft2001