

Demand Side Response and Distributed Generation

REPORT	DESCRIPTION
A1 Residential Demand Side Response for outage management and as an alternative to network reinforcement	Presents the impact on the distribution network of a wider scale roll out of a dynamic Time-of-Use tariff
A2 Residential consumer attitudes to time varying pricing	Outlines the results from the quantitative and qualitative assessment from the survey and interviews of customers on the dTOU trial
A3 Residential consumer responsiveness to time varying pricing	Explicitly describes the quantitative results in terms of load reduction and load shifting
A4 Industrial and Commercial Demand Side Response for outage management and as an alternative to network reinforcement	Presents the results from the I&C DSR trials and outlines the key considerations for DNO implementation of DSR and P2/6 planning assessments
A5 Conflicts and synergies of Demand Side Response – analyses the impact of multiple parties contracting DSR and potentially accessing the same resource	Analyses the impact of multiple parties contracting DSR and potentially accessing the same resource
A6 Network impacts of supply-following Demand Side Response report	Focuses on the impact of low carbon led generation and the DSR market as DNOs will experience it in the years ahead
A7 Distributed Generation and Demand Side Response services for smart Distribution Networks	Presents the quantitative analysis of the I&C DSR trials and introduces alternative baselining techniques
A8 Distributed Generation addressing security of supply and network reinforcement requirements	Looks at the impact of having more DG connected to the distribution network and the potential improvement on security of supply
A9 Facilitating Distribution Generation connections	Determines how smart technologies such as Active Network Management can facilitate more capacity on the urban network for generation
A10 Smart appliances for residential demand response	Outlines potential response from smart appliances

Electrification of Heat and Transport

REPORT	DESCRIPTION
B1 Impact and opportunities for wide-scale Electric Vehicle deployment	Focuses on presenting the results from the EV monitoring trials and the analysis on diversity and profiles for the observed loads
B2 Impact of Electric Vehicles and Heat Pump loads on network demand profiles	Considers and models the expected impact of EVs and HPs at a wider scale based on the trial findings
B3 Impact of Low Voltage connected low carbon technologies on power quality	Connected low carbon technologies on Power Quality – covers the detail of the power quality of LCTs and the impact on the LV network
B4 Impact of Low Voltage connected low carbon technologies on network utilisation	Connected low carbon technologies on network utilisation – analyses the direct impact of high EV and HP uptake on the network at scale
B5 Opportunities for smart optimisation of new heat and transport loads	Outlines the potential smart solutions such as Time-of-Use tariffs and ANM to address the impact of EVs and HPs on the network

Network Planning

REPORT	DESCRIPTION
C1 Use of smart meter information for network planning and operation	Presents the analysis of domestic customer's profiles as well as the voltage assessment from the engineering instrumentation zones
C2 Impact of energy efficient appliances on network utilisation	Outlines the potential for reduction on energy use by efficient appliances
C3 DNO Learning Report on Network impacts of energy efficiency at scale	Models the impacts and benefits of appliance efficiency on the distribution network
C4 Network state estimation and optimal sensor placement	Describes a new approach to calculate the status of the networks without having full visibility of the network using a state estimation technique.
C5 Accessibility and validity of smart meter data	Assesses the validity of the smart meter data gathered throughout the trials

Future Distribution System Operator

REPORT	DESCRIPTION
D1 Development of new network design and operation practices	Outlines the key changes and considerations required for implementing the LCL findings into planning and network operation processes
D2 DNO Tools and Systems Learning	Describes the Information Systems and Operational telecom systems required for the integration of smart meters and smart grid solutions
D3 Design and real-time control of smart distribution networks	Considers the potential new planning approaches including Option Value of DSR and Min/Max regret investment
D4 Resilience performance of smart distribution networks	Develops the assessment of reliability for DSR and introduces an alternative approach to network reliability consideration
D5 Novel commercial arrangements for smart distribution networks	Defines some of the key considerations for the electricity industry on how dynamic networks will require more commercial flexibility
D6 Carbon impact of smart distribution networks	Quantifies the carbon impact of deploying a full smart network and presents the impact of LCLs trials