

Project ID	DIP097		
Long Title	Smarter Network Storage		
Short Title			
Keywords	Single Site; Multi-sector/Grid; Electricity; Direct Electric Storage; Smart Grids; Demand Response; Active Network Management; LV Grid Monitoring; Energy Strategy Development;		
Location (Town, Region, Country)	Leighton Buzzard	Bedfordshire	England
Latitude and Longitude	51.91N	0.65W	
OSGB code	SP 928 251		
Status	Complete		
Start Date	2013		
End Date	2016		
Description	<p>The transition to a low-carbon electricity sector will create a range of challenges for distribution networks and the wider electricity system. Cost effective forms of flexibility will be required as an alternative to the significant reinforcement otherwise needed to accommodate increased demand peaks and a more intermittent and inflexible supply-side. Energy storage is one such source of flexibility and, as identified by the Smart Grid Forum, is one of the key smart interventions likely to feature in the future smart grid.</p> <p>Challenges in leveraging the full potential of storage on distribution networks across a number of other industry applications, and a lack of scale demonstrations are currently hampering the efficient and economic uptake of storage by the electricity sector. The SNS project will tackle these core challenges, demonstrating the multi-purpose application of 6MW/10MWh of energy storage at Leighton Buzzard primary substation, and deferring £8.6m of traditional reinforcement.</p> <p>Novel commercial arrangements with other key industry participants and a unique smart optimisation & control system will be developed to maximise the value of the storage across the system. Once proven successful, replication of the method across GB could conservatively provide savings of over £0.7bn by 2040 compared to business-as-usual approaches. This trial will provide important analysis on the range of future business models for storage, model contracts for optimising the use of flexibility, and improved understanding of the economics of storage for DNOs ahead of the smart grid transition across RIIO-ED1 and RIIO-ED2.</p>		
Sectors	Grid		
Funding Sources	Low Carbon Network Fund		
Budget £	£18.7 million		
Partners	UK Power Networks, AMT-SYBEX, Durham University, Imperial College, Kiwipower, National Grid, Poyry Management Consulting, Smartest Energy, Swanburton		
Energy vectors	Electricity		

Scale (lab/site/ small/community/region/national)	Site
Technologies demonstrated	LV grid monitoring, smart controls, active network management, battery storage, large scale smart grid
Economic models demonstrated	Grid services, new commercial models, deferred network investment
Other concepts demonstrated	Grid constraint mitigation
Industry engagement	
Consumer engagement	
Project Reports (incl. links)	<p>Closedown Report: http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Smarter-Network-Storage-(SNS)/Project-Documents/SNS+Close-Down+Report+v1.0+PXM+2017-03-31.pdf</p> <p>Library at project website. Library: http://www.smarternetworks.org/project/prj_416/documents</p>
Datasets (incl. links)	
Website/social media	http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Smarter-Network-Storage-(SNS)/
Information sources	http://www.smarternetworks.org/project/prj_416