

DNO Group	Project Name	Description	Question 1: Have the outputs and/or findings from any of these Projects been deployed on your networks? Please provide evidence of the extent and impact of any such deployment.	Question 2: Have the learnings from any of these Projects been incorporated into your operational practices? Please provide evidence of how such a change has provided valuable benefit for consumers.
Northern Powergrid	Customer-Led Network Revolution	A project that brings together the trialling of smart meters and customer-side interactions with new network technologies.	Alongside our own Flexible Networks and Accelerating Renewable Connections (ARC) projects we have adopted and deployed a range of flexible connection solutions on our networks. Customer Led Network Revolution and the two projects highlighted above have been complementary and pushed some of the smart network solutions from theoretical solutions to lasting practical alternatives to network reinforcement. On our network we have deployed the following :- The lasting network solution for the Dunbar area, is an ANM scheme learning from our ARC trial and the learnings from CLNR 6 schemes deploying Dynamic Thermal Rating learning from Flex Nets and CLNR.	The learnings from CLNR have supported our understanding and network impact analysis for the uptake of LCTs and informed the TRANSFORM model that was used to estimate the LCT uptake as part of the RII0 ED1 business plan development. We have still to see the impact of the wholesale rollout of smart metering and particularly any incentive for suppliers to address network issues through tariff design
WPD	Low Carbon Hub	A project to investigate how new network technologies can increase the capacity of wind generation that can be connected to a rural distribution network. New commercial arrangements were also explored.	The main technical learning from the LCH project was the use of Distribution Statcoms on the network to provide voltage control. The results of this project have informed the studies for SPEN's Technical Review of Non-conventional Statcom applications NIA project, which studies how Statcoms can be used to handle network issues, particularly in N-1 scenarios.	The findings in the project informed our approach on new commercial arrangements around Active Network Management (such as ARC, part of LCNF Tier 2 regime). This project and its findings are being referenced as part of the industry efforts on DSO and are being integrated into SPEN's Dumfries and Galloway IRM project.
WPD	SoLa BRISTOL	A project investigating the potential for battery storage in conjunction with PV solar generation to be used within homes, schools and an commercial buildings to provide network and customer benefits. A variable tariff was trialled to incentivise customers to use the battery to reduce electricity consumption at peak times.	The SoLa Bristol close down report concluded that "there is little benefit currently for customers and DNOs to pursue the method". Therefore we have not deployed the method on our network. Nonetheless we believe that domestic installations of this type will become more prevalent as the industry moves towards half-hourly metering and the provision of demand side response services. Therefore we believe that the project has delivered valuable learning that will feed into projects such as FUSION and LV Engine.	For the reasons stated in the response to question 1 the learnings from this project have not been incorporated into our operational practice currently. However the learnings could become more relevant in future as customers begin to see the value in this type of installation.
WPD	FALCON	A project deploying smart interventions on the HV network and novel commercial arrangements with customers. Data from these trials was used to develop an investment tool to model where these techniques can be deployed efficiently across the whole HV network.	Project Falcon 11kV simulation tool led to WPD's Common Information Model (CIM) NIA project. The outputs from this and SPEN's NIA Data Intelligence for Network Operations (DINO) project were closely aligned. Together, this has helped form the basis of the requirements of SPEN's procurement of a Smart Data Integration Fabric which we hope to deploy into BaU in 2019. This will facilitate improvements in data quality and integration which will enable the network for DSO and smart grid operations in the future.	Together with SPEN's DINO (as part of NIA), this has helped form the basis of requirements of SPEN's procurement of a Smart Data Integration Fabric which we hope to deploy in BaU in 2019.
UKPN	Flexible Plug & Play	A project trialling ways to improve the control of the EHV network to connect increased volumes of wind generation. The project will trial an open communications platform and develop an investment model for connecting renewable generation to the distribution system.	The Flexible Plug and Play project by UKPN was very timely and necessary. From our experience, existing Load Management Schemes could potentially cause damage to the customers wind turbines. The traditional network reinforcement and generation curtailment approach are costly. The FPP project implemented the same platform as in the Orkney smart grid. For the FPP project, Imperial college London developed a network planning tool called Strategic Investment Management which has potential for wider industry adoption. The learnings useful for our projects: We used the knowledge in our ARC project to avoid unnecessary duplications.	We have not yet adopted any policy yet, but Flex Plug and Play forms part of the industrial efforts on DSO, and its roll out in the UK
SSE	I2EV (My Electric Avenue)	A project investigating the use of a domestic 'smart socket' to manage network constraints caused by Electric Vehicles (EVs). Also known as 'My Electric Avenue'	My Electric Avenue is one of the earliest Tier-2 projects comprehensively looking into the domestic electric vehicle applications and the feasibility of demand side response by using smart sockets. It forms an important part of the industrial efforts to understand the customer, the technology advancement in the EV sector and the potential impact on our distribution networks. This project generated lots of learning and significantly upskilled the industry such as EA Technology. One example of this is the improved understanding of the impact of EV on the traditional design of new housing schemes and corresponding need to increase the After Diversity Maximum Demand (ADMA) of multiple customer types, resulting in an increase in the total demand on the distribution network. The outcomes of My Electric Avenue have also proved invaluable, assisting us in our lobbying with key stakeholders like Scottish Government, and BEIS, informing our network analysis to understand the potential impact of wide-scale EV adoption.	As one of the earliest innovation projects My Electric Avenue resulted in a significant leap in our understanding of the impact of EVs on our networks. The projects has paved the way for additional innovative solutions to be developed by networks companies, academia and industry alike, ensuring that DNOs and key stakeholders have the knowledge and understanding to facilitate the transition to electrified transport in the future. The pace of change in the coming years is expected to accelerate and therefore projects such as this have been key to pushing the boundaries of technologies and have led directly to subsequent innovative solutions such as LV Engine and Fusion (SPEN NIC 2017), Electric Nation (WPD) and the proposed 2018 NIC projects, Charge (SPEN) and Optimise Prime (UKPN).
ENWL	Capacity to Customers	A project that trials new operational techniques to release latent capacity within the existing high voltage (HV) network. The project will utilise this capacity by combining network automation and 'interruptible' contracts with large customers.	The main technological focus of this project is the meshing or interconnection of radial circuits to release additional network capacity. Given that SPEN has been operating heavily meshed circuits since the 1950s the learning from this project was always unlikely to generate significant new learning for ourselves. The biggest benefit this project has had for SPEN though is the independent validation of the merits of interconnected networks.	N/A