

First Tier LCN Project Registration

DNO(s)
WPD (West Midlands)
Registration date
07/02/2011

Project description	
Project title	Hook Norton Low Carbon Community Smart Grid
Project background	Hook Norton is a dynamic rural community in Oxfordshire with around 2,500 residents and 800 properties. Last year, the village was awarded £400k from DECC's Low Carbon Communities programme to help its residents 'decarbonise'. Thanks to the Hook Norton Low Carbon group and the limited company which they have set up, the money has been spent on a variety of different projects which, over time, will return money back into the community. Initiatives undertaken to date include home retrofits (£5 to £40k interest free loans), a school makeover (including a 17.5kW PV installation) and a small automatic metering deployment. Plans are now underway to obtain planning consent and funding for a community wind turbine (330kW) to the North East of the village. Hook Norton, like many rural villages represents a unique challenge when it comes to carbon reduction because success can only be achieved via a high level of engagement with the local community. Given the fantastic work that has already gone on in Hook Norton, Central Networks aims to develop a range of tools and techniques that can be used to support the low carbon transition within rural communities.
Scope and objectives	<ul style="list-style-type: none"> To develop and explore customer engagement and incentive programmes. This aspect will include a small scale domestic demand response trial. To develop community data measurement and display capabilities (e.g. to ascertain the total electricity consumption of the village by installing measurement devices at various locations. Subsequently, to provide this and other relevant information back to the local community via a web portal/customer interface (which if successful, could then be used for other villages)) To deploy Power Line Communications (PLC) technology at scale within the low voltage (LV) network, illustrating its potential capabilities for enabling smart grid end point measurement and data aggregation. To test and compare a variety of 'off the shelf' asset monitoring solutions for HV/LV pole-mounted and ground-mounted substations. The quality of the products will be assessed, alongside the installation methods. To test and demonstrate a miniature smart grid telecommunications network (with multiple technologies) that will enable both local and remote network visibility To explore the changes that could be made to a network control system for enabling simple forms of Low Voltage (LV) network monitoring and management
Success criteria	see potential for new learning
TRL(s)	5-8
Predicted end date	Feb-2012
External Collaborators and external funding	Partners confirmed to date: AND Technology & Renesas Electronics (Technology partners), National Energy Foundation (Community Engagement and Knowledge Transfer), Hook Norton Low Carbon (Customer Liaison). Confirmed external contributions to date total £58,140
Solutions	<p>There are to be six key areas of focus:</p> <ul style="list-style-type: none"> Customer engagement and incentive programme(s) Community data measurement and display capabilities (web portal etc) At-scale Power Line Communications (PLC) demonstration HV/LV substation monitoring technologies and associated installation methods A miniature smart grid telecommunications network using two or more technologies LV network simulation in distribution management system
Potential for new learning	<p>(a) Accelerates the development of a low carbon energy sector</p> <ul style="list-style-type: none"> A framework for engaging with communities about their low-carbon aspirations Information technology tools that can be then used in other communities <p>(b) Has the potential to deliver net benefits to existing and/or future customers</p> <ul style="list-style-type: none"> Ability to accommodate new technologies in the knowledge that the networks are not being adversely impacted Will accelerate the carbon reduction in this particular community (and subsequent ones) <p>(c) Has a Direct Impact on the operation of a DNO's Distribution System</p> <ul style="list-style-type: none"> The project will explore the benefits of added intelligence in HV and LV networks Will explore PLC technology for smarter LV grids Small scale demand side management trial to be initiated <p>(d) Generates new knowledge that can be shared amongst all DNOs</p> <ul style="list-style-type: none"> Possible reduction in longer-term capital spend on rural communities Greater understanding of future network design requirements for rural areas A range of tools and techniques that can be applied for rural areas. <p>(e) Focuses on network Solutions that are at the trialling stage</p> <ul style="list-style-type: none"> At-scale UK demonstration of Power Line Communications (PLC) technology in an LV distribution network. Demonstration of a smart grid telecommunications network 'access layer' <p>(f) Does not lead to unnecessary duplication</p> <p>Given the LCNF is still in its infancy (in terms of delivery of projects) this is not considered to be an issue at this stage, although Ofgem have stated within their LCNF guidance that there will be a review two years into the process. The majority of the objectives laid out above are considered relatively unique at this point in time.</p>
Risks	<p>Customers don't understand what is going on</p> <p>Customers don't feel involved</p> <p>'Big brother' concerns (NB: 50% of the project team will be focussed on dealing with the customer aspects)</p> <p>Security of data</p> <p>Lack of site for Telecomms</p>
Scale of Project	All of the Hook Norton residents will have access to high-level village consumption data. 200-300 householders will be invited to participate in more specific trials.
Geographic area	Hook Norton, Oxfordshire
Does the Project involve customer engagement?	Yes
Funding	
Revenue allowed for within the DPCR5 settlement (£)	0
Indication of the total Allowable First Tier Project Expenditure (£)	350,000

Publication

Does the DNO provide Ofgem with consent to publish its First Tier LCN Project Registration Pro-forma in full?	Yes
If not, please justify which parts the DNO considers to be confidential	na

Related Undertakings

Payments to Related Undertakings (£)	0
If a payment is to be made to any Related Undertaking that is a Distribution System User, have the same terms been offered to similar Distribution System Users of the part of the network that is within the project boundary?	
Has the DNO used reasonable endeavours to make the opportunity available to similar Distribution System Users of the part of the network that is within the project boundary?	

IPR arrangements

If IPRs are generated, will they conform to the default IPR arrangements set out in the LCN Fund Governance Document?	Yes
If no, then please provide a compelling justification for the project being approved	na