Successful Delivery Reward Criteria

Box 13: Please set out your proposed Successful Delivery Reward Criteria

Successful Delivery Reward criterion	Evidence
The customer perspective Provide participating customers with smooth and reliable interactions and a good customer experience. Provide participating customers with tariffs and other commercial arrangements that will help the wider GB population to realise the benefits associated with low carbon networks. The industry will have key insights on customer aspects of low carbon networks. Research papers will cover: • Technology analysis and implications • Customer response and attitudes • Network impact • Opportunities for network management • Implications for future tariff arrangements The GB population will better understand low carbon networks supporting the customer transition to widespread active power system participation. Customer representatives will judge the project a success.	• A survey of Homes Demonstrator and participating industrial and commercial customers with defined net promoter score question – 02/2014. • Surveys for further trials delivered by participating retailers in association with the 20,000 smart meters deployed by E.ON – roll-out - 06/2012. • A Research Paper to disseminate the outputs from surveys and a full-day industry seminar attended by a panel of participating customers – 06/2014. • A document outlining I&C commercial arrangements – 07/2011. • Homes Demonstrator properties leased for two years – 06/2012 • A Research paper for the learning dissemination of Interim Homes Demonstrator - 06/2013 • A Research paper for the learning dissemination of Final Homes Demonstrator - 06/2014 • Message dissemination through a range of media in collaboration with Central Networks' public affairs teams, Government departments and Ofgem – Four articles per year. • Publication of MK*Smart*2020 project document – 03/2011 • An engagement website and a series of low carbon network podcasts delivered by The Open University – 08/2011. • Documented outputs from the Central Networks Customer Panel (key part of the governance structure) to be provided directly to OFGEM in order to define whether or not the project is a success – interim 06/2012 and final submission 06/2014. • Project success reviewed during Ofgem updates and visits.
Delivering reliable and cost effective low carbon networks Evaluate whether and under what circumstances low carbon networks are a more cost effective and reliable solution for the future than conventional reinforcement.	• Collection of data that has statistical robustness – 06/2014 • Extrapolation of the data collected, and through The Open University and Cranfield University, the creation of GB wide assumptions in order to evaluate the economic case for low carbon networks – 06/2014. • Presentation at a full day industry seminar of the economic analysis – 06/2014.

Ensuring MK*Smart*2020 delivers customers value for money Customer value is maximised with every pound spent on MK*Smart*2020. The capabilities outlined below are parts of an integrated solution which we believe will deliver low carbon networks to customers. Success will entail the delivery of these capabilities through the creation of a representative 2020 low carbon network. The capabilities as referenced in appendix 7.1 of the MK*Smart*2020 bid are: 1. Enhanced network planning 2. Integrated Metering data for network planning 3. Maintain statutory voltage 4. An ability to deploy persistent voltage reduction 5. Comprehensive grid state observability 6. Condition based operation and maintenance 7. Dynamic asset rating 8. Outage and fault intelligence 9. Load management and system demand optimisation 10. Enable and optimise EV charging 11. DG Integration 12. Integrated network optimisation 13. Market integration and optimisation By deploying these capabilities UK DNOs will be able to learn the value they bring, how they impact network and business operation and the implications for delivery.	• System go-live, with test scripts and a live demonstration of system functionality - 06/2012. • A day long session with Ofgem and all the UK DNOs demonstrate the solution in operation - 01/2013 to 04/2013. • Each of the capabilities can also be viewed live in operation or through the production of certain outputs. For each capability we have identified outputs that will provide evidence that the capability has been realised (01/2014 – much of the relevant data will be accessible from the research portal from 06/2012): 1. Review half hourly metering data and substation data against current network design standards. 2. Meter data in Low Carbon Intelligent Network Architecture (LCINA) data architecture and being used for active network management. 3. Data shown voltage impact of dynamic voltage management – voltage issue detected, optimisation performed, decision support provided, SCADA control order issued and impact assessed. 4. End point voltage data shown dynamically. Voltage still within statutory bounds but lower than the historical average. Associated energy consumption and carbon impact calculated. 5. Multiple grid state data items collected from multiple network devices and data allocated to appropriate LCINA database 6. Condition based data collected and analysed. Algorithms developed to predict impact of different operational regimes on asset health and life providing decision support outputs 7. Asset temperature data collected and used for decision making. 8. Simulation of a capability to detect faults and manage restoration. 9. Data captured on interruptible load availability and network impact of dispatch 10. EV network impact data collected. Used for customer scheduling and managing network impact 11. DG network impact - grid state data collected and analysed 12. Network impact of integrated active network management – management actions are attached to events to achieve the desired grid state outcome. 13. Data collected on the customer response to time and location tariffs. Linked with the impact on the grid state using network

	data. Command and load impact data flows for national system balancing demand response (including industry interaction) Documented evidence will be produced to prove that these capabilities have been realised. This will be supported by a research paper and full day seminar to explain the analysis and insight on capability value, learning and implications. An interim analysis will also be published – 06/2013. Full and final analysis to be published – 06/2014.
Low Carbon Intelligent Network Architecture Dissemination UK DNOs will be provided with a low carbon network IT system reference architecture which will be open and vendor agnostic. LCINA will be highly relevant to UK DNOs. An IT system architecture, very different from the one we have today, will need to emerge, evolve and be scaled as the UK transitions to a low carbon electricity distribution network. Success involves generating the foundations of a future-ready, flexible, scalable and replicable architecture which can evaluate the need and tailor an IT solution that meets the needs of a low carbon network for any DNO.	There will be two LCINA releases: • Initial – 07/2011 • Final – 10/2013 Releases will include: • LCINA materials (documents outlining the reference architecture, describing what it is, how it works and how to use it.) The final release will also include empirical evidence and learning from MK*Smart*2020 and implications for the reference architecture • IPR arrangements for the UK licence for the free DNO use of the reference architecture • A day-long handover seminar to which all UK DNOs will be invited where LCINA is described and questions can be asked The LCINA architecture output will cover: • Capabilities and technical functionality • Architectures for – data, analytics, sensor networks, communications, applications and integration • End-to-end security (aligned to Centre for the Protection of National Infrastructure guide for SCADA security best practice and drawing on US National Institute of Standards and Technology Smart Grid Cyber Security)

Dissemination of Tested Hypotheses and Lessons Learnt
 	
MK*Smart*2020 hypotheses tested. MK*Smart*2020 has the necessary scope to test a large number of hypotheses that we believe are critical to understanding future low carbon electricity distribution networks. Testing these hypotheses will provide DNOs with key insights that can applied in DPCR6 and beyond, shaping the way in which the industry addresses low carbon challenges and opportunities. The hypotheses,
	Deployment Lessons Learnt dissemination – 09/2012 – will include:
	• A series of documents provided to all UK DNOs with insight and learning related to challenges experienced, solutions applied, deployment best practice and future implications:
	  ○ Systems integration – go-live 06/2012
	  ○ Communications fulfilment – network acceptance 12/2011
	  ○ Network hardware installation – completion 01/2012

alignment with MK*Smart*2020 scope, testing methodology and research owners are outlined in appendix 3. DNOs have practical insight that will support them in safely and efficiently delivering low carbon networks. MK*Smart*2020 is designed to reflect an integrated and comprehensive future low carbon network deployment making the deployment lessons learnt relevant for the future.	Interim analysis will also be published – 06/2013. We will disseminate a document, supported by a series of industry seminars – 06/2014 – that include the following: • Target hypotheses • Testing approach • Testing outcome • Empirical data and analysis • Low carbon network implications Three day long industry workshops covering areas above
Acceleration of a low carbon energy system Identify network challenges associated with low carbon adoption and specifically the impact upon network performance. Understand the low carbon network solutions which can maintain network performance with high penetration of customer low carbon adoption. Learn about and demonstrate wider industry interactions and implications for low carbon networks and low carbon technology adoption.	Network performance dissemination across the life of the project: • Network performance data sets available through research portal – go-live 06/2012. Data with network performance metrics attached to classified network events • MK*Smart*2020 analysis of events, network performance impact and implications for future low carbon networks. Presented as a research paper at the end of the project and combined with a day-long industry seminar – 06/2014. Interim results 06/2013 Involvement of retailers, NGC and aggregators to understand cross industry interactions through involvement in the project (finalise I&C commercial arrangements – 07/2011). Results and implications presented through a research paper and a cross industry seminar – 03/2014.