

Electricity Network Innovation Competition Full Submission

Supplementary Answer Form

Project: Charge: Refuelling Tomorrow's Electrified Transport

Tick if this answer has been provided verbally: ☐

Project code	SPMV1	Question Number	5
Question date	09/08/18	Answer date	13/08/18
Submission section question relates to	4		
Topic	Innovative		
Question	Beyond stating that this the methods have not been applied before please explain why innovation funding is required. In explaining this please make the associated risks as perceived by SPEN clear.		
Notes on question			
Answer	<ul style="list-style-type: none"> ○ All Methods of this project are speculative in nature, with uncertain commercial returns at this point in time. If the NIC bid is unsuccessful, this project will not be pursued. ○ We have numerous external stakeholders very interested in Charge, for example, the ability for the Methods to signpost opportunities for charging deployment based on transport and network needs. Given that there is no guarantee that this will work at this scale, the NIC funding allows us to better manage stakeholder expectations / messaging. The key risks for each Method are detailed below. ○ Method 1 <ul style="list-style-type: none"> • A specific piece of new (ie unproven in GB) equipment (software): the Transport Planning software, developed by PTV, has never been applied across an electricity distribution licence area, or amalgamated to show where electricity network capacity is available and/or is needed at a sub-transmission level. • The nature of transport planning is that it is typically done for a road network type, (e.g. motorway, trunk road, etc) or for a smaller geographic region, (e.g. city, borough, etc) - these do not map to electricity network areas (e.g. load fed from a given Grid or Primary substation). • This exercise introduces technical challenges to build up the multiple data sources needed for a single distribution licence (including overcoming data alignment, configuration and calibration issues) as well as visualisation challenges on how to present the data in a meaningful fashion. ○ Method 2 		

	<ul style="list-style-type: none"> • A specific piece of new (ie unproven in GB) equipment: the trials of Method 2 carry a degree of technical risk, specifically related to their integration with real time control signals, and their interaction with EV customers. • A range of technologies will be used, e.g. ANM, storage, etc, each at different levels of technical maturity, necessitating staged deployment to prove technical validity. ○ Method 3 <ul style="list-style-type: none"> • A specific piece of new (ie unproven in GB) equipment: the ConnectMore software is a tool to map the transport planning outputs with network capacity for customers from 11kV down to LV. To date, there is no ability for a customer to visualise capacity in a specific geographic area, beyond the Primary substation. This is essential for the connection of most public EV charging needs. • Whilst this is building upon tools developed prior to Charge (e.g. SPEN's ARC, PTV's Visum, or EA Technology's Network Assessment Tool [part of WPD's Electric Nation project]), the technical solution is uncertain, with possible higher cost of deployment the first time it's done, e.g. data alignment, configuration, calibration, visualisation. • A specific novel operational practice directly related to the operation of the electricity Distribution System: the ConnectMore tool will enable future connectees to understand where electricity network capacity exists, to better target their schemes. This will be a radical overhaul to the existing connections process for GB DNOs
Attachments	n/a