

Electricity Network Innovation Competition Full Submission

Supplementary Answer Form

Project: REVISE

Tick if this answer has been provided verbally: ☒

Project code	WPD/EN/NIC/05	Question Number	41
Question date	02 October 2018	Answer date	04 October 2018
Submission section question relates to			
Topic			
Question	We understand the innovative nature of the INR: the ACS and the DPS appear, predominantly, to be facilitators for the INR. However; the balance of project costs to the other two methods make up 57% of the project budget (relative to INR which is 35%, the remainder being research and dissemination). Please justify the proportion of costs allocated to the development of each method; there appears to be an enduring benefit of the ACS to generators and the network operator. Therefore, please explain why DUoS customers should fund its development.		
Notes on question	None		
Answer	<p>This response builds upon the answers to the 'Big Questions' which were presented to the Expert Panel as part of the Second Bilateral Meeting on 2nd October 2018.</p> <p>Whilst the DPS is predominately a facilitator to both ACS and INR, ACS is a standalone Method that delivers significant financial (£1.759m) and carbon (11,909tCO₂e) benefits [these numbers are based on a post-trial project case Solution at 2050]. The benefits of a project or individual Method can be characterised using the equation below, where the financial, carbon and capacity benefits are to be considered.</p> <div style="text-align: center;"> <p> $\text{BENEFITS}_{\text{PROJECT}} = \left\{ \text{BENEFITS}_{\text{FINANCIAL}} + \text{BENEFITS}_{\text{CARBON}} + \text{BENEFITS}_{\text{CAPACITY}} \right\} - \text{COSTS}_{\text{PROJECT}}$ </p> </div> <p>Appreciating that DPS is a facilitator to enable the full benefits of ACS and INR the table below, Table 1, provides an illustration of the benefits [post-trial project case Solution at 2050] to ACS and INR with the DPS Method costs and benefits split across ACS and INR equally (50/50%):</p>		

Table 1 – ACS and INR Benefits

Method	Project Cost (£k)	% Split	Post-Trial Cost (£k)	% Split	Benefits					
					Financial (£k)	% Split	CO2 (tCO2e)	% Split	Capacity (MW)	% Split
ACS*	5,080	44%	2,328	54%	1,121	41%	11,909	77%	0	0%
INR*	6,539	56%	2,017	46%	1,606	59%	3,542	23%	83.5	100%

It can be seen that with the DPS split 50/50% that whilst the financial benefits of the of INR make up 59% of that of the total, the carbon benefits of the project are 77% provided from the ACS. This shows that all three Methods are required to enable the complete benefits of the project to be realised.

In relation to DUoS customers funding the development of the ACS; the ACS Method meets the following NIC Governance criteria:

- “(a) Accelerates the development of a low carbon energy sector and/or delivers environmental benefits whilst having the potential to deliver net financial benefits to future and/or existing Customers***
- (b) Provides value for money to electricity customers***
- (c) Generates knowledge that can be shared amongst all relevant Network Licensees***
- (d) Is innovative (i.e. not business as usual) and has an unproven business case where the innovation risk warrants a limited Development or Demonstration Project to demonstrate its effectiveness”***

Moreover, there are a number of socialised benefits to the development and implementation of the ACS Method centring on the additional low carbon generation output facilitated, increasing network flexibility, the increase in security of supply and the deferment or removal of the need for asset reinforcement. All of these will positively affect customers’ DUoS charges moving forwards.

Attachments