LCN Fund Full Submission

Supplementary Answer Form

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

Project code:	NPGT202/1	Question Number	NPG009
Question date	04/09/12	Answer date	07/09/12
Submission section question relates to	Section 4		
Topic	Evaluation Criteria		
Question	Please outline the future business benefits to Project Partners from being involved in the development of this model. Please outline how their contributions to the project are commensurate to these benefits.		
Notes on question			
Answer	We have designed the project with the aim of ensuring that the benefits of the project accrue to the sector as a whole, in particular, to all DNOs, rather than to any of the specific project partners. All knowledge and learning developed during the project will be disseminated to interested stakeholders. We intend to comply with the LCN fund default IPR requirements for all outputs of the project. Involvement in this project will entail both costs and benefits for project partners. Generally, partners will gain from staff learning and development through participation in the project, and there will be reputational gains from successful delivery of the project. However there are also risks to each partner, for example associated with cost overruns, and senior management time requirements. We believe that the external contributions from each partner reflect the balance of costs, risks and benefits associated with the project. The business benefits to each project partner are now discussed.		

British Gas and Centrica Energy

British Gas is committed to a smarter energy future so are happy to be involved in this next LCN fund bid with Northern Powergrid and partners. British Gas takes its role as the customer-facing branch of the energy industry very seriously and the potential benefits to its customers are the main driver and justification for its participation. British Gas has found that its customers are interested in engaging with new technologies to better manage and reduce their energy consumption and also in microgeneration and heat pump technologies. These low carbon technologies have the potential to destabilise local networks, but also the potential to support the network and extend the life of network assets.

British Gas's participation will enable it to explore more about customers' relationships with low carbon technologies. British Gas is specifically keen to learn more about customers in the "group housing" sector – local authorities and housing associations. These sectors are pioneering the adoption of some of these low carbon technologies, and providing arguably the highest customer benefits, but also the biggest potential impacts on the network through clustering.

In this project, the true benefits are really going to British Gas's customers and British Gas is hoping to benefit from having better relationships with them as a result. DSR provides an incentive to help British Gas encourage the energy behaviour change that is required to meet the challenges of a secure, low-carbon energy future. The incentive helps customers realise the value of their willingness to change behaviour, British Gas is just a conduit for that. Any benefit to British Gas would be indirect, e.g. customers using British Gas because it presents them with this opportunity.

In addition to the funds requested through the proposal and the stated discrete contributions, British Gas and Centrica will be contributing significant management time to the project to ensure all learning outputs are achieved. British Gas will also be looking to leverage the skillsets, procedures and processes that have been developed through the current CLNR project.

Customer engagement, especially with local authorities and social housing providers, will be handled by British Gas's internal teams as a Business Development cost. British Gas did not figure this into "external contributions" to the project. British Gas is willing to take on this cost as there is interest among these customer groups to trial new technologies and explore progressive approaches to reducing energy spend.

Elexon

ELEXON aims to help efficiently transform central market arrangements to support the move to a low carbon future. Over the past few years ELEXON has been proactively supporting policy makers with initiatives such as Smarter Markets, Smart Metering and Smart Grids sharing the unique expertise gained from a uniquely independent position in the industry. ELEXON realises that the Balancing and Settlement Code needs to continue to evolve to support industry developments and policy maker objectives. Not least this could mean supporting DNOs as they explore a potential move to Distribution System Operator type roles. Maybe DNOs might need a Distribution Balancing Mechanism in the future? GBFM would very much help

	ELEXON to develop an expert perspective on this type of question. Over 250 changes have been made to the Balancing and Settlement Code since it was established over 10 years ago. Participating in GBFM further supports ELEXON's aim to ensure that the BSC and central market arrangements will be fit for purpose in the developing low carbon network future. All BSC parties (including DNOs) are able to propose changes to the BSC. ELEXON is reactive to changes coming into the BSC change process from BSC parties. But ELEXON also wants to take a proactive approach. Participation in GBFM is a great opportunity to test new market arrangements that could enable synergies to be realised between Supplier and DNO balancing aspirations. It will also increase ELEXON's expertise in spotting potential issues before baking them in to the formal market arrangements. For ELEXON staff this is a great opportunity to work closely with a DNO and to focus on the specific challenges that DSR and Storage present to the current central market arrangements. It is anticipated that supporting projects such as GBFM will help attract and retain the highest quality staff. As ELEXON is a shared industry resource this can only be of benefit to the industry both in direct cost savings but also cost avoidance through increasing ELEXON's effectiveness. Increasing ELEXON's exposure to DNOs, DSR and storage questions will increase ELEXON's expertise to evolve the BSC. All market rules and arrangement options ELEXON investigates will be transparent and shared with any BSC party - system operator, to distribution network operator, to generator to large or small supplier. **National Grid** National Grid is possibly the largest current purchaser of services from parties delivering demand side response. National Grid has been successful over the years in delivering market based solutions for the procurement of its balancing services and these have allowed the demand side sector of the market to participate and compete effectively with transmission connected and large embedded power stations – the traditional sources of such balancing services. As National Grid looks to the future it believes the key characteristics of the market for balancing services will be: 1) At times a significantly increased balancing role for the System Operator as potentially increased volatility from shifting demand and variable renewable generation emerges in ever greater volumes 2) Greater interest in the use of demand side response from other parties in the Electricity Supply Industry – principally Distribution Network Operators and Suppliers 3) As large transmission connected thermal generators load factors drop, the potential for an increased proportion of balancing services to be required from demand side resources. National Grid was approached by Northern Powergrid to participate in this LCN fund Bid in January 2012, and National Grid has decided to actively participate in this programme as it has a number of synergies with the areas identified above.

	The Bid is structured into two discrete parts with the initial phase of the project proposed under the Bid focussed on the TSO – DNO use of demand side resources. The second part then examines whether the development of a market platform could stimulate greater participation in the provision of demand side resources and also to more effectively match these resources to buyers – incorporating potentially more complex sharing arrangement where appropriate. *Phase 1: DNO-TSO Trials* Principally National Grid see that this phase of the project will allow National Grid and Northern Powergrid to develop a much more complete understanding of each other's needs and requirements and to highlight where (if anywhere) strategies could be developed that would permit a more efficient use of the available resources. National Grid believes that under the proposed LCN fund project it will be able to jointly capture a set of scenarios where sharing of resources could be possible. Following this National Grid intend to explore how a contractual service could be established examining not just the commercial terms but also how the service might be used operationally by both parties. A crucial component of this work will be to establish the means of effectively communicating the needs of each party to the other in operational timescales such that the other party may be able to mitigate effectively any identified issues caused by the other party's use of a shared product. Ultimately this could lead to the development of new services shared by the DNO and National Grid procured for a set of specific needs of each party. National Grid would also hope that the learning achieved from working with Northern Powergrid would be directly or indirectly transferable to other DNOs recognising that the network topology of each DNO can be different. National Grid believes the benefits of the project to it are largely intangible at this stage. The project National Grid hope will offer a means for National Grid to establish significantly more effective communications with Northern Powergrid and to allow National Grid to work more closely together (where permitted under our respective licences) in any future development of demand side response products – even in the case where these aren't shareable but where they might have an impact on the other party. National Grid would also hope that a set of principles could be established which could form the basis of greater co-operation and co-ordination of demand side response by the TSO and DNOs both during this LCN fund project and also more widely. National Grid does not believe that this project will deliver direct cost savings in the form of reduced operational costs (i.e. those covered by any future Balancing Services Incentive Scheme - BSIS) for it during the life of the project. The project is planning to trial new shared services but at this stage National Grid cannot guarantee their success. National Grid does not therefore think it appropriate for these trial services to be part of a "live" operational balancing service – for example Short Term Operating Reserve. National Grid is very mindful of the existing balancing services markets and its licence obligations to not unduly discriminate against providers. If the project is successful there could be potential for future operational cost savings should the costs of services be able to be shared and for any

	new services to reduce the requirements for other more expensive non-shared services. At this stage however such cost savings are highly uncertain. With this uncertainty in mind National Grid is therefore proposing that it supports the project through the contribution of staff resources free of charge to support this phase of the project and these resource estimates are as detailed in the Bid document. *Phase 2: Multi-Party Trials* This stage of the project would represent a very significant shift in how demand side resources are potentially procured by industry parties. There are a significant number of issues that National Grid would need to work through in terms of this particular element of the project before it would be able to establish whether it would be a useful element to fully participate in. National Grid intends to actively participate in the early development of the model through the contribution of resources free of charge to the project. If National Grid decides not to proceed to participation in the roll out of this model then its contributions to it will cease. If however it does participate then the enduring shape of the proposal will dictate its potential future contribution to it and this contribution to it will be proportionate to the benefits National Grid believe it offers the TSO. To deal with this uncertainty, Northern Powergrid has included in its contingency funds some costs for another party to simulate the role of the TSO in the trial. **Durham University** The benefits to Durham University of involvement from this project are as follows: • research impact, being able to demonstrate that its research is making an impact in business and the general public leads to financial rewards from HEFCE through the REF (research excellence framework) mechanism; • access to world class data sets; • learning from expert practitioners; • the ability to write high quality, high impact publications; • opportunity to validate/evaluate academic models and approaches; • to work with organisations with different skill sets and perspectives to DEI but tackling shared challenges; and • the ability to employ, train and develop early career researchers and academics. Durham University does not charge commercial rates. Its costs are derived based on costs. It is a registered charity so does not make any profits from these activities. It affiliates students to projects of this nature who use the project as a vehicle for research and study and the supervision and outputs of this research are given to the project at no cost. Durham University works on a fixed price, deliverables basis so it is taking a risk in terms of the work taking longer than anticipated, often the case. It works on the development of the bid with no payment. It runs the risk of

not being able to publish the research due to commercial confidentiality.

EA Technology

EA Technology's potential business benefits from the GBFM project are balanced against the cost and risk of its involvement.

The main benefit to EA Technology from the GBFM project is in brand and reputation, this is an area of business EA Technology wish to be associated with, but doesn't believe its involvement would provide it with significant commercially exploitable IP nor significant business advantage relative to others.

The main risk from the project is that the EA Technology brand could be damaged through association with any perceived technical, commercial or political problems which arise from the project. This could result in costs in the form of senior management time, considering how to deal with and mitigate any potential brand damage, together with the costs of any marketing activities which are required to address negative market perceptions if this risk materialises.

In the GBFM project EA Technology will develop and deliver a techno-economic market model:

- This model will be a development of the Smart Grid Forum Workstream 3 Model, for which EA Technology owns the IP. The project will further develop this model according to the specific needs of the project. All GB Distribution Licence holders will receive a royalty-free licence in line with the LCN fund default IPR conditions (they already hold a royalty-free licence for the Workstream 3 model). All GB Licence holders will be free to use the model without recourse to EA Technology.

- There might potentially be some business benefit from global application of the model, but it does not believe that this will be significant, as its functionality will be inextricably linked to the project objectives and the GB situation.

EA Technology will develop, manage and run the two trial Methods:

- EA Technology is already regarded as a quality manager of trials, as shown by inclusion in the CERT technical manual, as a BRE-approved test-lab and by the running of certain other high-profile trials, as well as involvement with several LCN fund projects.

- Delivering this trial successfully will enhance its reputation for trial-design, but should the project not be successful then it risks damage to its reputation.

EA Technology will have advance knowledge of transfer into business-as-usual processes for DNOs:

- EA Technology is already highly regarded and has much experience in this area. It thinks of this task more as applying its existing expertise rather than developing new. Where it does develop new expertise which could be applied by DNOs, this will be foreground IP and therefore shared

	with other GB licence holders. **Frontier Economics** The business benefits to Frontier Economics of being involved in the development of the market platform, and in the wider GBFM project, are equivalent to the majority of work that Frontier undertakes. As with every project, there will be benefits to Frontier in terms of revenue, reputation, learning and staff development. However, these go along with the costs associated with allocating resources to the work and the contractual liabilities that are associated with it. This project is of a longer duration than many of Frontier's projects. Long, multi-partner projects such as this one entail risks, in particular around cost overruns driven by the need to ensure a quality output from the project as a whole. But they also may involve economies of scale. To take account of any economies of scale associated with being involved in a four-year project such as this one, Frontier Economics is providing fees at a significant discount. Any further discount would mean that Frontier could not cover its opportunity costs of involvement in the project.
Attachments	
Verbal Clarifications (Consultants)	