

# LCN Fund Full Submission

## Supplementary Answer Form

Tick if this answer is Confidential: ☐

Tick if this answer has been provided verbally: ☐

Project code:	WPD-T2-04	Question Number	WPD026
Question date	11.09.2012	Answer date	13.09.2012
Submission section question relates to	4		
Topic	Evaluation Criteria		
Question	Please provide further information about the activities in which the University of Warwick will be engaged on the project and the specific experience that the University and Prof Li Ran bring to these areas of work.		
Notes on question			
Answer	<p>The University of Warwick will be engaged in three elements of the project:</p> <ol style="list-style-type: none"> <li>1. Provision of engineering services.</li> <li>2. Evaluating the socio-economic impact of the FLEXGRID project.</li> <li>3. Knowledge capture and dissemination.</li> </ol> <p>Key personnel biographies, publications and the University's track record are summarised in the attached document.</p> <p><u>Provision of engineering services</u></p> <p>Led by Prof. Li Ran, the University of Warwick will provide engineering support with component and network modelling, the on-line monitoring of electricity network fault levels and the development of fault level management strategies.</p> <p>The University of Warwick will provide strong academic support in the practical trial stage of the project. The University will develop and maintain network models and databases, producing simulation results of the Fault Level Mitigation Technologies during the commissioning and field trials. The University of Warwick will develop a simulation platform, using facilities available in West Midlands Science City Laboratories, to allow Distribution Network Operators to test the control and protection facilities before application in the real system, which is not currently available, gaining experience and minimizing the risks involved with implementation. The University will develop a method to automatically generate the most demanding Fault Level scenarios to verify the Fault</p>		

Level mitigation strategies being developed. The simulation platform will also be used later as a tool in the training stage for the purpose of dissemination.

#### Knowledge capture and learning dissemination

To help disseminate the project findings to other DNOs, the University of Warwick will carry out the following activities during the course of the project:


1. Hold interim sandpits / workshops, one at the end of each year of the project (the most appropriate timing for these events will be determined through discussion with other collaboration partners). The aims of these sandpits would be twofold, they would provide a platform to update interested parties on the progress of the project but also enable the collaboration partners to obtain feedback which in turn would help ensure that the project remains on track and relevant.
2. All appropriate learning will be published on the LowCarbonUK website, which will be managed and maintained by Bath University. This will ensure that all learning is disseminated to key stakeholders.
3. At the culmination of the project, to hold a 2-day dissemination and training event in one of the University of Warwick's award winning training and conference centres. In conjunction with the collaboration partners we would also aspire to produce appropriate literature, for example a best practice guide, which could be disseminated at the event and online.
4. Prepare joint papers for presentation at flagship conferences such as CIRED and IEEE PES Annual General Meetings. Papers will be submitted to IET and IEEE journal, upon the achievement of more substantial results and insights.

#### Evaluating the social and economic impact of the FLEXGRID project

It is important to understand the benefits of smart network solutions across the whole value chain and to consider the wider economic benefits, therefore FLEXGRID, on top of the main engineering focus of the project and the University of Warwick's activities, a key element is also the socio-economic impact of the project.

Focusing on the socio-economic aspects of the FLEXGRID project, the University of Warwick, led by Dr Monica Giulietti will explore the customer impact of reduced energy usage charges (brought about by CHP integration) coupled with a potential reduced rate of increase of Distribution Use of System (DUoS) charge (brought about by the avoidance or deferral of costly network reinforcement).

The University will carry out surveys and studies to quantify the effectiveness of CHP in terms of energy affordability, and investigate methods of effectively communicating to different customer groups the benefits and network conditions of CHP applications. The University of Warwick will assist to evaluate the welfare effects of changes in overall expenditure and tariff structures on different social and income groups, with a specific focus on low income households in the Birmingham area. Different funding mechanisms will also be investigated to best facilitate the Government strategy. We will then use our knowledge to extrapolate the results to other parts of the UK.

Attachments	 UoW Supplementary Info.pdf
Verbal Clarifications  (Consultants )	