

<b>Appendix #</b>	<b>Subject</b>	<b>Reference in proforma</b>
Appendix 1	University of Bath letter of engagement and support, and their data analysis methodology	Boxes 1, 18
Appendix 2	Memorandum of Understanding between WPD and npower	Box 25
Appendix 3	Customer communications pack	Box 2
Appendix 4	Installing monitoring in LV substations	Box 4
<b>Appendix 5</b>	<b>Support letters – University of Bristol / WAG</b>	<b>Boxes 18, 23</b>
Appendix 6	Sample extract of Arbed data (anonymised)	Box 23
Appendix 7	RFQ issued to meter installers re the installation of voltage sensors at end of feeders / Provisional design of end-of-feeder voltage monitors	Box 25
Appendix 8	An overview on the concept of network templates	Box 1

## Appendix 5: Support letters – University of Bristol / WAG



**Head of Department**  
*Prof J Lawry*

Philip West  
Weston Power Distribution  
Avonbank, Feeder Road, Bristol BS2 0TB  
pwest@westernpower.co.uk

**Alan R Champneys**  
**Professor of Applied Nonlinear  
Mathematics**  
Department of Engineering Mathe-  
matics  
Queen's Building  
University Walk  
Bristol BS8 1TR  
T: +44 (0)117 928 7510  
F: +44 (0)117 925 1154  
E: A.R.Champneys@bristol.ac.uk

June 17, 2010

Dear Philip

### Letter in Support of WPD bid to Low Carbon Network Funding

Thank you for sharing with me in confidence some of the details of your bid. In particular the data that you plan to collect will be most useful to our ongoing research programme at the University of Bristol in renewable energy and smart grids. I have been involved in setting up a research institute devoted to energy and sustainability at the University, called the BRITE Futures Institute [www.bris.ac.uk/brite](http://www.bris.ac.uk/brite) which will be launched this Autumn as part of a wider Bristol University initiative called the Cabot Institute. Within this space our Electrical Engineering Department has significant expertise in the communications aspects of smart grid technologies, in particular my colleague, Dr Dritan Kaleshi, provides the technical lead for a TSB-funded project CLEVER [www.cleveronline.org](http://www.cleveronline.org) (Closing the Loop for Everybody's Energy Resources) that is developing tools for large scale evaluation of closed-loop distributed domestic energy supply systems for the UK smart metering rollout.

Specifically, with other colleagues, I am in the process of putting a bid together to EPSRC for approximately £500K under their call for mathematics underpinning energy and the digital economy which has a deadline of 1st July this year. The aim of that bid is to produce mathematical models for the dynamic behaviour of possible future smart grid scenarios. For this work to be of value, we need data to correctly parametrise the models both in terms of existing load profiles and network capacities. Therefore your proposed research would be of direct value to our work. I can confirm that we would not be seeking any financial support from WPD for this fundamental, mathematical underpinning work.

Longer term, we hope that the interplay between our modelling, our expertise in communications and your data could form the beginning of a strategic collaborative relationship between

WPD and the University of Bristol. For example, as you know, we are already part of preliminary discussions with WPD about contributing to a future bid to a future Research Council UK call for Energy Grand Challenges, along with the Universities of Bath, Southampton and Surrey and other industrial partners.

Yours sincerely,



Alan Champneys

Head Designate of the Queen's School of Engineering at Bristol University.



Llywodraeth Cynulliad Cymru  
Welsh Assembly Government

I

Ms Rachel Fletcher  
Partner, Distribution  
Office of Gas and Electricity Markets  
9 Millbank  
London  
SW1P 3GE

23 June 2010

Dear Ms Fletcher

**Re: Western Power Distribution's proposed Low Carbon Network Fund "Tier 2" project in South Wales**

Following a meeting with Western Power Distribution (WPD) and npower on 17 June, I am writing to express my support for WPD's proposed "Tier 2" Low Carbon Networks Fund (LCNF) bid, which interacts well with the Welsh Assembly Government's low carbon initiatives.

The WPD project seeks to install communications and monitoring to 1200 distribution substations and to 10,000 low voltage feeders to determine the ability of the network to absorb new network stresses arising from the low carbon economy. Rather than applying monitoring to a single geographically bounded area of network, the WPD approach is to use a common platform that facilitates knowledge to be derived from disparate areas where low carbon installations are already being funded by other investment streams. Their bid particularly links to locations funded under –

- Welsh Assembly Government's £30m **arbed** initiative which will invest £30m in Welsh homes in phase 1, with discussions on funding a second phase of the programme underway
- CERT / CESP schemes promoted by energy suppliers such as npower with Local Authorities
- the "Plugged in Places" electric vehicles (EV) bid which includes Cardiff areas which are included within EU funded (€13m) feasibility study on small scale embedded generation.

The proposed project provides the opportunity to gain knowledge that facilitates the delivery of core Welsh Assembly Government low carbon policies, whilst at the same time delivering to some 1200

Parc Cathays / Cathays Park  
Caerdydd / Cardiff  
CF10 3NQ

Ffôn / Tel: 02920825172

Alun.james@wales.gsi.gov.uk

substations a monitoring and communication platform for future site specific trials and developments such as EV charging,

The Welsh Assembly Government would encourage the dissemination of the project's results and lessons learned to other parts of Wales.

Yours sincerely

Alun James  
Head of Low Carbon Future Policy  
Sustainable Energy and Industry Wales