Making networks fit for renewables …

A conference organised by the Supergen FlexNet consortium

Thursday, 23 October 2008

Institution of Engineering and Technology

Savoy Place, London

Synopsis – an update on the achievements of the consortium so far and our future plans

The SUPERGEN **Flexnet** Consortium is investigating how electricity networks need to change so as to support and encourage the successful transition to low carbon energy sources. The programme is funded by the UK research councils and industry.

At this event - jointly sponsored by the IET and the IEEE - we would like to share insights from our research on integrating large shares of renewables into the UK power grid and discuss with you the implementation of EU renewables targets. We are focusing on the key question - How can flexible network operation, suitable market design and smart technologies ensure reliable technical operation, financial viability and social acceptance?

Registration details

To register interest in attending, please email Bruce McLelland at bmclelland@theiet.org. The event has been sponsored by the IET and is **FREE** to attend.

Conference programme **Savoy Place, London, 23rd October 2008**

9:30 Coffee and Registration

10:00 Opening **Introduction;** ***Professor Tim Green, Imperial College London***
The Challenge - An Overview: ***Tera Allas, BERR***

10:15 The Nature of a Flexible Network: ***Chair: Tim Green, Imperial College London***

Scenarios for Future Power Networks: Dr. Graham Ault, University of Strathclyde
- Review of the outcomes of the recently completed OFGEM (Long-term Electricity Networks Scenarios) project
- Potential architectures of future networks

Managing intermittency: Professor Goran Strbac, Imperial College London
- Maintaining supply security in future UK system with significant contribution of wind generation
- Managing variability and unpredictability of wind generation in real time and role of demand response
- Transmission investment and access in system with wind generation

Technology solution to support integration of wind energy: Professor Nick Jenkins, Cardiff University
- AC and DC network solutions for connection of onshore and offshore wind farms
- Capability of large turbines to support system operation
- Future Grid Codes

11:30 Coffee Break

12:00 Policies to Enable Intermittent Generation: ***Chair, Professor Matthew Leach, University of Surrey***

Market Design for Flexible Operation: Dr Karsten Neuhoff, University of Cambridge
- Congestion management
- Balancing markets
- System services

Market Design to Facilitate Investment: Professor Richard Green, University of Birmingham
- Investment incentives
- Innovation policy

Network Charging Methodologies: Dr Furong Li, University of Bath
- Current approaches in transmission and distribution network pricing
- Quantification of relative merits
- Options for improvement

13:15 Buffet lunch

14:15 Benefits and Challenges for Flexible Network Operation: ***Chair, Professor Goran Strbac, Imperial College London***

Transmission: Dr Keith Bell, University of Strathclyde
- Opportunities and challenges for application of flexible controls
- Techniques to quantify benefits and risks
- Case study: benefits of demand management and phase shifting transformers
- Impact on incentive regulation framework

Distribution: Dr Graeme Burt, University of Strathclyde
- Challenges for active distribution management
- Opportunity for better network utilisation
- Challenges for protection and control
- Flexibility to facilitate increased connection of distributed generation

15:15 Coffee

15:45 Public Engagement: ***Chair, To be confirmed***

Public understanding of network technologies: Dr Patrick Devine Wright, University of Manchester
- Critique of the 'information deficit' assumption of public understanding
- Social representations of the 'national grid' and specific grid technologies

Everyday thinking about electricity supply failure: Ms Fionnguala Sherry Brennan, , University of Manchester
- 'Keeping the lights on' - the political and cultural significance of maintaining power supply
- Social representations of power failure, including likely prevalence and perceived causes
- Public beliefs about the impacts of increasing renewable energy for maintaining power supply

16:30 Summing up and Conclusions: ***Professor Tim Green, Imperial College London***

16:35 End