



COPING WITH VARIABILITY

INTEGRATING RENEWABLES INTO THE ELECTRICITY SYSTEM

24 January 2006
The Open University

Organised by the Open University Energy and Environment Research Unit

*Can renewable energy provide reliable power? Will it need extensive back up?
The energy available from the winds, waves, tides and the sun varies in ways which may not match
variations in energy demand - sometimes there will be too much power, at other times not enough.
Is this a significant problem, or can these new sources be integrated into the grid system without
the need for extensive back up or energy storage capacity?
The conference will look at the technical options for reconciling the differing patterns of supply and demand.*

From 9.30 Registration and coffee

10.30 **Session 1: Variable Renewables and the Grid**

Chaired by **Godfrey Boyle**

10.35 **Michael Laughton** (Imperial College) *Overview*

10.55 **David Milborrow** (Consultant) *Wind Power on the Grid*

11.15 **Graham Sinden** (ECI, Oxford) *Putting it all Together*

11.35 **Goran Strbac** (Manchester) *Discussant*

11.45 *Brief Questions*

12.00 **Robert Gross and Dennis Anderson** (TPA Imperial College) *UKERC Review of Intermittency Issues*

12.20 **Mark Barrett** (Consultant) *Integrated Systems Modelling*

12.40 *Discussion*

1.00 *Lunch*

2.00 **Session 2: Flexible Hardware**

Chaired by **Dave Elliott**

2.00 **Fred Starr** (Institute of Energy, Netherlands) *Flexibility Issues in Advanced Generating Plant*

2.20 **David Andrews** (Wessex Water) *The Role of Gas and Diesel Engines as Flexible Generation*

2.40 **Dave Toke** (DESIRE project) *CHP and Wind in Denmark*

3.00 *Discussant: Bob Everett*

3.15 *Discussion*

3.30 *Tea*

3.45 **Session 3: Operational Innovations**

Chaired by **Godfrey Boyle**

3.45 **Dave Toke** (DESIRE project) *Interactive Load Management/Prediction*

4.05 **Bob Everett** (EERU) *Demand Flexibility, Micro CHP and the Informed Grid*

4.25 **Brian Hurley** (Airtricity) *Offshore Wind Grids*

4.45 *Discussant: Simon Watson* (CREST)

5.00 *Discussion*

Close of Conference