MAKING SURE RENEWABLES POLICY DELIVERS: THE KEY ISSUES

A Presentation to the Ofgem Discussion Day on Renewables

by

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Objective of Day

• How to improve the effectiveness of Government policy

NOT

• Put forward an alternative to Government policy
The Energy White Paper
Our energy future - creating a low carbon economy

Objectives (in context of need to update UK energy infrastructure)
• To put UK on path to cut CO2 emissions by 60% by 2050
• To maintain reliability of energy supplies
• To promote competitive markets and improve productivity
• To ensure that every home is adequately heated
Renewables have a Role

- Renewables are low or no carbon
- Renewables are an indigenous energy source
- Renewables are a potential source of new and exportable industrial activity
- Renewables may be able to bring economic activity and income to rural areas

Renewables Obligation
What Can Renewables Deliver?

• What can renewables deliver in terms of carbon reduction?
• What can renewables deliver in terms of security of supply?
• What technologies might the UK exploit and how can this be encouraged?
• What economic activity and income might renewables bring to rural areas?
• How much will different levels of renewables penetration cost?
• What now needs to be done to deliver on the potential of renewables?
Challenges of Renewables

• Approach of the day: challenges are problems to be solved, not opportunities for point-scoring or the presentation of pet alternatives. Challenges include:
  – Intermittency
  – Transmission
  – Distribution
  – Environmental impacts
  – Cost and market-creation
Intermittency

- Mix of renewables
- Geographical distribution of renewables
- Correlation with peak demand
- Demand management (interruptible supplies)
- Capacity credit
- Need for back-up capacity
- Environmental implications of back-up capacity (reduction in carbon savings)
- Technical implications of intermittency
Transmission

- Location of renewables in relation to demand
- Technical issues of transmission
- Environmental impacts of transmission
- Institutional issues in respect of transmission (incentives for investment, distribution of costs)
- Put issues in context, e.g. location of renewables in terms of rural economy issues
Distribution

- Technical issues in relation to distribution (system strengthening, stability etc.)
- Institutional issues in relation to distribution (incentivising DNOs, distribution of costs)
Environmental Impacts

- Carbon reduction (fuel substituted, life-cycle impacts, back-up capacity assumptions)
- Wind: visual impacts, noise, bird issues, marine and terrestrial habitats
- Biomass: visual impacts, land take, water take, air pollution (combustion), biodiversity
- Importance of rigorous assessment (ex ante and ex post)
Costs of Renewables (1)

- At one level all the ‘challenges’ can be expressed as costs
- Conviction-driven cost analysis
  - Cite favourable studies without question (the phenomenon of circular citation)
  - Ignore or critically scrutinise unfavourable studies
  - Present worst-case assessments of unfavourable scenarios to be compared with favourable scenarios
  - Find ‘personal communication’ or newspaper articles to make worst-case scenarios seem plausible
Cost of Renewables (2)

• Inquiry-driven cost analysis
  – Source of data (e.g. primary or secondary, industrial or independent)
  – Indication of levels of uncertainty (e.g. installed technology against pre-prototype)
  – Transparent assumptions (e.g. baseline)
  – Ranges of costs
  – Consistent comparisons
Regulatory Issues

How to create a dynamic, efficient market and vibrant technological innovation in a regulated industry with aspects of natural monopoly?

• Balance the need for private sector profit (in some cases the chances for abnormal profit) with protection and value for the consumer.

• Generation
• Transmission
• Distribution
Outputs from the day

Implications of renewables for

- Carbon reduction (fuel substituted, life-cycle impacts, back-up capacity assumptions)
- Reliability, security of supply (intermittency – availability, system stability, gas imports, vulnerability)
- Environmental impacts
- Cost (and components of cost) of renewables, especially wind
- Regulation (incentives for transmission, distribution; institutional issues e.g. NETA; cost-distribution)
- Feed into review of Renewables Obligation in due course