



Renewables policy for the longer term:

**Knowledge gaps and
concerns**

Paul Jefferiss

for birds • for people • for ever

Sources of uncertainty and concern

- Questions from inside the mainstream policy debate
- Practical experience of:
 - Designing and marketing an embedded PV product
 - Designing and marketing a green energy product
 - Building renewables on nature reserves
 - Reviewing planning applications for renewables development
- Questions from outside the mainstream policy debate
 - Members
 - others



Key needs

- **Unbiased analysis of key issues and information gaps**
- **Clear, authoritative communication of conclusions**
- **Reduce uncertainty to reduce obstacles and opposition**



What are the net carbon reductions from wind?

- For any given level of penetration:
 - How much fossil capacity is actually displaced?
 - How much fossil energy is actually displaced?
 - How much of what kind of fossil fuel is displaced?
 - Net effect on carbon reduction at different levels of penetration



Is current planning for distributed systems

rational?

- Does the current reconfiguration of the grid for wind adequately consider future needs for other resources and technologies?
 - The marine renewables atlas
- Is it possible to incentivise collaboration among developers to minimise grid-connection infrastructure for neighbouring remote sites?
- Does the planning system adequately consider transmission implications when considering generator development applications?
- What are the planning and consenting arrangements and responsibilities for offshore connections to land?
- How clear is planning guidance to local authorities on



What are the rules for metering embedded

generation?

- **What is or will be (and by when) the permissible or required meter configuration in different parts of the country?**
 - Standard import?
 - And Export?
 - Or Net?
- **What is or will be (and by when) the permissible or required measurement parameters?**
 - two way or net flows?
 - Real time (half hourly) or profiling?



How are embedded exports valued and rewarded?

- **How are benefits and rewards for exported power determined, and by whom?**
 - DO?
 - Supplier?
 - Negotiation?
 - Ofgem oversight?
- **How are costs of exporting power determined and by whom? How are they recovered from customers?**
- **What is the potential/mechanism for creating ROCs from aggregated embedded generators, and who owns them?**



What are key health and safety issues for embedded generators?

- What are the health and safety regulations, and cost implications, for embedded installations?
 - Isolating circuits
 - Managing input to grid
 - Power management/overloading
 - Workers' safety
 - Who is responsible?
 - How are costs recovered?



Does ROC-retirement promote additional renewable generation?

- Prima facie, yes
- Increases size of obligation
- But does this promote additional renewables generation?
- Or additional buy-out, fully recycled to suppliers?
- Definition, verification and certification of green unresolved



Wildlife issues...

- **Locations, movements, behaviour of important birds largely unknown, especially offshore**
- **Marine protected areas remain unidentified or designated**
- **Site and species--specific and cumulative impacts on wildlife largely unknown**
- **Need for baseline surveys and mandatory monitoring**
- **Need for wider use of remote sensing techniques**
- **Extend strategic environmental assessment (SEA) to onshore wind?**



An authoritative wind/renewables primer?

- levels of intermittent (wind) penetration that the grid can handle
- the costs of covering intermittency at these levels
- Net GHG reductions from wind
- Carbon embedded in wind infrastructure
- Employment from wind vs. alternatives
- Actual, potential and expected contribution from wind, UK and globally
- Number of turbines implied
- Land/sea take implied
- The current and predicted costs of wind relative to alternatives
- Quantified public opinion about wind
- Various other statistics: applications; developments; turbines; kWhs, produced, etc, by country/region



Paul Jefferiss

RSPB The Lodge Sandy Beds SG19 2DL U

paul.jefferiss@rspb.org.uk

(+44) 0 1767 680551

