

Date: 16 January 2002
Time: 14.00 - 7.30
Venue: Committee Room 3, National Assembly Building, Cardiff Bay
Title: RENEWABLE ENERGY IN WALES – VIEWS OF THE COUNTRYSIDE COUNCIL FOR WALES

Introduction

1. As the statutory adviser to the Government of Wales on sustaining natural beauty, wildlife and the opportunity for outdoor enjoyment throughout Wales and its inshore waters, we welcome the NAW's review of energy policy, and are represented on the EDC's Reference Group. We will be contributing positively to the NAW's review and are strongly supportive of the NAW's scheme for sustainable development.

A summary of our views is that:

demand-side management and energy efficiency in Wales must be promoted;

in the short term, onshore and offshore wind offers the greatest potential to meet Wales's 10% target. Strategic level planning is required to help identify suitable areas, requiring dialogue between all stakeholders. CCW is willing to enter positively into such a dialogue;

in the medium/long term a much larger suite of RE and other technologies will be required. R&D investment is needed now to stimulate the development of these alternatives.

Context

3. Global warming and acidification pose major threats to the environment of Wales. Research indicates the likely negative impacts for wildlife of global warming, through changing the distribution of flora and fauna, changes in sea temperatures and oceanic currents, as well as sea level rise and increased storminess. Whilst there will be gains and losses of habitats and species, overall effects on wildlife are likely to be negative. For example, a recent study of losses/gains of coastal habitats in sites protected under the Habitats Directive (assuming current sea level rise predictions and "best-guess" coastal defence scenarios) showed that in Wales there would be a net loss of intertidal habitats and sand dunes. A small gain in saltmarsh could be provided through managed retreat. In terms of marine species, since the UK is at the biogeographic boundary between warm and cold water systems, changes in sea temperatures may have particularly dramatic effects on species distribution, including commercial fish.

4. Acidification, and increasingly eutrophication, remains a major concern. Up to 60% of the acid deposition in Wales is attributable to UK emissions (with c.35% coming from Europe). In north Wales, deposition is dominated by long-range wet deposition from power stations such as Fiddler's Ferry, Ruggely and Ferrybridge. Aberthaw also has a significant effect. In mid-Wales, deposition is dominated by emissions from power stations in the north midlands and south Yorkshire. In south Wales, dry deposition is important, and Aberthaw plays a major role. Didcot is also important. The Pollution Prevention & Control (IPPC) Regulations 2000 will help the UK Government deliver its obligations under the Large Combustion Plants Directive and the National Emissions Ceilings Directive. Nevertheless, even when all currently proposed cuts in acidifying emissions are put in place, a large number of internationally important habitats will still be receiving harmful levels of pollution above their critical loads.

5. The Welsh environment needs to be protected from such harm, not only for its own sake, but as a major economic asset of Wales. The research report *Valuing our Environment* shows that:

- the management and use of the Welsh environment directly contributes £6bn pa to Welsh GDP;
- this work generates 169,000 direct and indirect jobs, representing 1 in 6 of all Welsh employment.

6. In order to maintain these economic benefits, the development of renewable energy (RE) in Wales must not be to the detriment of Wales's natural environment and its landscape qualities.

7. Sustainable development demands we adopt a precautionary principle approach to these issues, and take appropriate action to reduce global warming, and we therefore have a strong interest in supporting initiatives to reduce emissions of gasses that contribute to global warming and to acidification.

Within the context of the scheme for sustainable development and the emerging Wales Spatial Plan scope exists to develop a strategic and proactive approach to the development of RE in Wales.

Royal Commission on Environmental Pollution – CO₂ target

The RCEP has recommended that UK CO₂ emissions should be reduced by 60% from current levels by 2050. CCW supports this long-term aim which, by implication, should be the major driver of policy. DTI considers that this requires the carbon intensity of the UK economy to decline by 4.4% pa for the period 2010-50 (compared with the historical average of 3% expected to 2010). This is a massive challenge, and is far more profound than a target focused

on increasing the proportion of energy derived from non-CO₂ emitting sources, as in a renewable target. In our view, the NAW's National Economic Development Strategy does not recognise sufficiently the urgent need to decouple economic growth in Wales from energy use. In our view, the setting by the NAW of targets reflecting this would be helpful.

10. Evidence presented to the UK Government's review of energy policy suggests that achieving the RCEP's target demands a twin track approach:

- far greater emphasis on demand-side management and on energy efficiency;
- the development and utilisation of RE technologies.

11. We suggest that the NAW needs to consider both its short-term and its medium/long-term approach to the issues thrown up by the RCEP. In the short-term, the three key issues are:

demand-side management and energy efficiency;

development of onshore and offshore windfarms in the right place;

the development of small-scale community-led RE projects.

We address each issue in turn, before considering the medium/long-term agenda.

SHORT TERM ISSUES

The importance of demand-side management and energy efficiency

12. The development of renewable sources of energy in Wales must be developed alongside far greater emphasis on demand-side management and on improving the energy efficiency of the economy, especially within the domestic sector. The NAW's target for 2003/4 of improving energy efficiency in 38,000 homes in Wales will contribute to this. Nevertheless, DTI estimates that – in the absence of further measures - total UK electricity demand will increase by 1-1.25% pa in the period to 2020.

13. The Carbon Trust, the UK Sustainable Development Commission and the Energy Saving Trust have all presented evidence to the UK Government's energy policy review demonstrating the potential to massively enhance the end-use efficiency of energy across all sectors. We hope that this evidence will inspire the EDC and the NAW to greatly increase the emphasis and funding devoted to achieving greater energy efficiency in Wales.

14. We consider that the public sector in Wales should be seen to lead on implementing the

highest energy conservation and efficiency standards within its buildings. The public sector is a major part of the Welsh economy especially in the "rural towns" of Wales. Through our work on developing the environmental sustainability cross cutting theme within the West Wales and the Valleys Objective 1 Programme, we have ensured that all new industrial sites and premises part funded under Objective 1, will be build to the highest (BRECSU) energy efficiency standards. We published in 2001 "*Building in Green*", a guide to environmentally sustainable building techniques that promotes energy efficiency and energy conservation issues (as well as other issues such as the use of solar panels). Energy efficiency is an issue where consider that the NAW should demand change in the public sector under the auspices of its scheme for sustainable development. Energy efficiency targets for the public sector would be helpful.

15. The greater the reduction in demand for electricity 2002-2010 through demand-side management and energy efficiency, the more achievable will be Wales's renewable energy generation target.

The development of onshore and offshore windfarms in the right place

16. Greatly enhanced development of onshore and offshore windfarms in the right places, accompanied by appropriate business support to develop the indigenous wind turbine construction industry in Wales. We are willing to work at a strategic planning level, and engage in strategic dialogue with the windfarm industry, to help achieve this (we detail this later under "the importance of spatial planning"). At the level of individual schemes, we suggest that the revision to TAN 8 should promote a "sequential test" for onshore wind, in terms of location, by prioritising, for example, brownfield sites; then sites on the edge of conurbations; then sites within the wider countryside, preferably "lower down the hill" (although we recognise the strong relationship between wind speed and electricity output). We would still wish to avoid developments in designated sites or seas. In our view, the use of sustainability appraisal (within the context of the NAW's scheme for sustainable development) should promote such an approach;

The development of small-scale community-led RE projects

17. We strongly support the development of small-scale community-led RE initiatives. We are already investing £20k of our grant aid this financial year in two schemes in Wales:

- a scheme run by Powys Energy Authority to offer grants to communities in Powys to develop small-scale RE projects;
- a project run by Dulas Ltd to offer communities legal and technical advice

MEDIUM/LONG-TERM ISSUES

18. We consider that the following two issues are pertinent to the development of the NAW's medium/long-term agenda regarding the development of RE in Wales:

- investment now in research and development to enhance Wales's capacity to develop a broader suite of RE technologies, to avoid "putting all our eggs in one RE basket". We suggest the key RE technologies where Wales may develop a "cutting edge" (and where R&D are required) include small and micro hydro schemes; sub-sea turbines; and wave power. The 'Tidal Power Generation' scheme, granted £46,000 phased over two years, by Pembrokeshire Coast National Park under the NAW Environment Development Fund initiative, provides a good example of an appropriate innovative project within a statutory protected landscape sea;
- active support and encouragement for various changes required to promote the take-up of domestic CHP. Domestic CHP utilises 93% of gas's thermal energy as electricity and heat, compared with 45% for CCGT.

Welsh RE targets: 2010 and 2020

19. The NAW's 2010 target, set out in Plan for Wales 2001, is for *"10% of electricity production in Wales to come from clean energy sources"*. The Performance and Innovation Unit has suggested that *"a further target of 20% by 2020 is feasible, and a preliminary analysis of the implications of a more ambitious target of 30% is underway"*. Bearing in mind the long-term nature of the RCEP's CO₂ target, we suggest that the NAW should now consider its target for the proportion of RE generation in Wales by 2020, to drive forward the required research, development, infrastructure and funding mechanisms which will be required.

20. To help plan for the 2010 target, we recommend that the NAW:

- states this target as an actual increase in electricity output from renewable sources in Wales (figures in paper EDC 12-01(p4) show that current Welsh electricity production is estimated at 30TWh, so 10% of this would be 3TWh, compared with existing RE output in Wales of 0.53TWh);
- states the increase in RE capacity needed to achieve this. We note that EDC paper EDC 01-02(p5) recommends a target of 1000MW of RE electricity by 2010, compared with current RE capacity in Wales of 327MW (*Review of Strategic Study of RE Resources in Wales*, AEA Technology, 2001);
- confirms its view of what technologies constitute "clean energy sources".

Working to meet the 10% target

21. CCW's welcomes the utilisation of renewable energy sources as an element in a complete and environmentally sensitive energy policy, subject to Environmental Assessment of individual schemes and monitoring of the long-term impacts of the various technologies. We will advise decision-makers on all RE developments. Where these are in designated landscapes and in areas designated because of their conservation importance and could harm the features that led to designation, we will point this out to those charged with the decision. As in all developments, environmental impact is largely dependent on location and scale. We are pleased that AEA Technology, in estimating the wind potential in Wales, excluded National Parks, AONB, NNRs and SSSI. This approach has our strong support.

22. Within the Town and Country Planning system, CCW is a statutory adviser to local authorities, to the NAW and UK Government. It is for these bodies, and not CCW, to weigh up the various economic, social and environmental issues associated with individual RE developments to determine if planning permission should be granted. Our preference is to work positively with developers, offering guidance and advice to ensure that RE developments are undertaken in ways which are in keeping with Wales's landscapes and biodiversity. Early consultation is always preferred.

23. Nevertheless, we recognise that the successful achievement of Wales's 10% target requires a more pro-active and strategic approach by all stakeholders. We are fully prepared to enter into dialogue at a strategic level to achieve this. The experience of offshore RE development - where, unlike the NFFO system, environmental sensitivity has been taken into account in site selection - offers the way forward. Location is the key issue - we wish to avoid the development of the right RE technologies in the wrong locations.

24. To inform our own thinking about the need to achieve Wales's 10% target, we have commissioned Dulas Ltd to produce for us independent private-sector analysis concerning the issues surrounding the past and future development of RE in Wales. This research is currently ongoing. We will use this analysis to review and develop our own policies in support of RE development.

The importance of spatial planning

25. We are strongly supportive of the NAW's commitment to prepare the Wales Spatial Plan (WSP) viewing it as an opportunity to give spatial expression to the NAW scheme for sustainable development. We are a member of the Spatial Planning Management Board. We see the WSP as a key tool to help identify and inform, at an early and strategic stage, policy options and broad geographic areas where the development of RE technologies can be achieved to help meet Wales's 10% target. Planning Policy Wales and TAN 8 being the most appropriate mechanisms for providing detailed locational siting and design guidance.

[1] following competitive tender, and independently of the decision to offer Dulas Ltd the grant

aid referred to in paragraph 17.

We consider that the WSP should include planning issues within Wales's terrestrial waters (to 12 nautical miles from baselines) to facilitate the development of offshore RE technologies and to allow balance between onshore and offshore generation to be considered. Integrating policy and decision making affecting terrestrial, coastal and maritime Wales would help provide a rational framework for analysing the contribution of Wales's land and sea beds to help achieve the Government's targets for RE.

As part of their work for us, we have asked Dulas Ltd to prepare for us a map showing Wales's wind resource overlaid on top of the National Grid and local distribution network in Wales (indicating where spare capacity exists), overlaid then on top of the various landscape and conservation designations referred to above. We hope that this will help give an initial view concerning the development of strategic locational guidance for RE development in Wales. The work is currently ongoing. We would be happy to work with a range of stakeholders in Wales to take forward this work which we believe can help inform WSP and the Review of Energy Policy.

28. We offer brief comments below on individual technologies.

Onshore wind

29. Key issues are location, scale and design. We would like to see the development of onshore wind farms that fit the landscape in terms of scale and layout - a good example is the development at Rhyd y Groes, Cemaes Bay, Ynys Mon.

30. These issues need to be reflected in Planning Policy Wales and in TAN 8. CCW is part of a working group, together with members of the RE industry and other stakeholders, with the purpose of revising the existing TAN8 on renewable energy. The present TAN 8 is almost identical to PPG22 providing guidance in England, and it is hoped to produce guidance with direct relevance to Wales.

Offshore wind

31. We see great potential for the development of offshore wind power in ways which are sensitive to the biodiversity of Wales's offshore waters and its seascapes.

32. Three offshore windfarms are proposed in Wales. We have no fundamental problems with these sites (environmental sensitivity has been taken into account in site selection). There is a need to assess impacts at a site level, and we have been advising the developers and their

consultants on their Environmental Impact Assessments. We have invested considerable time and effort in this. For example, we have produced "*A guide to best practice on seascape assessment*", part-funded under the Wales-Ireland INTERREG programme, to provide advice to developers on how they should carry out seascape assessments.

33. The main issue for the 2 of the 3 proposed windfarms in Welsh waters is the cumulative impact of individual projects in Liverpool Bay (there are a further 3 proposals in Liverpool Bay in England) especially on seaducks and shorebirds. We have worked with developers (National Wind Power and BHP) to fund and co-ordinate land and sea-based counts - data from these counts will inform individual EIAs. Further research (funded also by the Crown Estate and West Coast Energy) is continuing.

34. It is worth noting that the problem of cumulative effects is at least partly a consequence of there having been no strategic planning for the development of offshore wind. This emphasises the importance for the WSP to include sea-based development. We recommend that Strategic Environmental Assessment informs the development of the next generation of offshore windfarms. This needs to be informed by environmental monitoring of first generation offshore windfarms. NAW guidance on monitoring is needed. We also think it would be advantageous if monitoring and research could be co-ordinated and undertaken jointly between all stakeholders.

Tidal Barrages

35. We recommend that all previous work on the possible barrage sites for the Severn and the Conwy should be reviewed, identifying new issues that have arisen since the original studies. We await the outcome of the "definition study" by Severn Tidal Power Group, commissioned by DTI, which is addressing whether a full review is needed. CCW will wish to comment on this study and be involved in future work on the feasibility of the project.

36. Should further work be undertaken on the Severn Tidal Barrage, the status of the Severn Estuary as an SAC will be an important issue, as the features for which it has been selected reflect the high tidal range. The site has been submitted to the UK Government by CCW and English Nature as an SAC, but has not been submitted to the European Commission due to an outstanding objection from the Bristol Port and concerns over inconsistency in the treatment of boundaries in estuaries across the EU.

37. Overall, however, we would adopt a precautionary approach to the development of tidal barrages, given their likely large-scale environmental impacts on sites of European nature conservation importance. For example, construction of the Severn Barrage would result in the loss of the distinctive tidal regime of the estuary and the habitats which reflect this, but it is likely that the post-barrage estuary would support more birds. The need to move major port facilities downstream of the barrage would also be a major issue of concern to CCW. We

would also consider that any public investment in tidal barrage construction should be subject to cost-effectiveness analysis, and compared to benefits that could be generated if the same resources were invested in demand-side management and energy efficiency technologies.

Biomass

38. We are members of the NAW's Farm Woodlands and Biomass Strategy Group. In general, we are supportive of the development of biomass in Wales, again subject to ensuring that location, scale and production is environmentally sensitive. Generation close to the source of the biomass would be preferable, due to the environmental issues associated with transporting bulky low value material long distances.

Small-scale hydro

39. In general, we are supportive of the development of small-scale hydro in Wales. However, we acknowledge there are environmental issues associated with the abstraction of water (and the possible impacts of this on biodiversity) and with the impact of a changed spray regimes on bryophyte communities. Further research may be required on these issues.

Conclusions

40. To meet the RCEP's CO₂ target, a twin track approach is needed, focusing equally on demand-side management and energy efficiency, and on the development of RE technologies in Wales.

41. In the short term, onshore and offshore wind offers the greatest potential to meet Wales's 10% target. We must avoid the "right technology in the wrong location", and seek "win-win" solutions wherever possible. Planning at a strategic level is required to help identify suitable onshore and offshore areas. This requires dialogue at a strategic level between all stakeholders. CCW is willing to enter positively into such a dialogue to help the NAW achieve its 10% target.

42. In the medium/long term a much larger suite of RE and other (such as dCHP) technologies will be required. R&D investment is needed now to stimulate the development of alternative RE technologies.