16th September 2011

Evidence to the Welsh Government's Environment & Sustainability Committee on energy policy and planning

Context

The Wildlife Trusts believe that climate change is almost certainly the most significant challenge facing nature conservation today, with the potential to have significant impacts on the future of UK and global biodiversity. We believe there should be a more strategic and long term approach to meeting the UK's energy needs.

Planning policy

The most cost effective and sustainable approach to meeting our energy needs is to reduce demand for energy through effective energy efficiency measures. This should be central to all energy policy and cover all sectors.

The Technical Advice Note (TAN) 8: Planning for Renewable Energy was published by the Welsh Assembly Government in 2005 to provide technical advice on renewable energy to supplement the policy set out in Planning Policy Wales. The Trusts question the wisdom of:

- concentrating wind farms into defined areas that are remote from sources of demand
- locating large-scale wind farms in areas not served by, or in proximity to, existing infrastructure
- so great an emphasis being placed on wind power as the primary form of renewable energy

TAN 8 also considered wind farm technology of the time and this was at a much smaller scale than that available today. With these points in mind, the Trusts believe that TAN 8 should be reviewed as soon as possible, including greater emphasis on other forms of renewable energies.

Renewable energy generation

When considering renewable energy generation, the Trusts believe that the focus should be on micro-generation. Not only do these small-scale projects have a minimal ecological impact themselves, but they also do not require the massive infrastructure needed for large-scale developments.

Large-scale wind farms

We consider that wind power can help to meet the energy requirements of the UK in a sustainable manner, but these benefits cannot mitigate or compensate for any impacts on wildlife or on wildlife sites that are associated with wind farm developments.

The Trusts have long been concerned about the cumulative effect of large-scale wind farm development and with many upland areas of Mid-Wales already covered with wind farms, the impact of hundreds more turbines is likely to be significant. To date, there has also been widespread failure of the mitigation measures connected with large-scale wind farms to compensate for the loss of key species and habitats.

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Of greatest concern is the huge scale of the new generation of wind farms currently proposed for large parts of the Mid-Wales uplands. These wind farms require major alterations to the rural road network, as well as a new electrical substation and extensive new electrical grid connections. When these new large-scale wind farm developments are considered together with their associated infrastructure, the impact on the area's wildlife could be devastating.

Bio-energy

Great care is needed when considering bio-energy, as it can be in direct competition with biodiversity, as well as food production. We would like to see more emphasis on using by-products/bio-waste for bio-energy generation as this is not typically in competition, indeed it has the potential to increase biodiversity.

A good example of this is the widespread collection of road verge cuttings for use in biogas. A practical trial investigating the feasibility of this in Powys was carried out by the Powys Living Highways Project in 2005 and it was estimated that $73m^3$ of methane would be produced per kilometre, per year.[1] For more information on this, we suggest contacting Michelle Delafield at the Mid Wales Trunk Roads Agency.

Green House Gas emission reduction

Meeting our target for the reduction of Carbon emissions is not just a question of switching energy production to low emission options. The Carbon emission target can also be met through carbon sequestration and carbon safeguard.

UKPOPNET estimate that the UK's 1.5 to 3.0 million ha of blanket bog holds 3 to 7 billion tons of carbon. In Wales alone it is estimated that our peatlands hold 120 million tons of carbon. In addition to this Carbon safeguard, high quality areas of peatland habitat are estimated to sequester an additional 60 tons of carbon/km^2/year.

This carbon safeguard and sequestration is however dependent upon the maintenance of peatland habitat in good ecological condition. Unfortunately much of our peatlands are degrading with some areas losing up to 2.5cm depth of peat per year. This peat loss represents a significant source of green house gasses, a source that can be converted into a sink through sympathetic land management.

An example of such sympathetic land management for Carbon safeguard and sequestration is being demonstrated by the Montgomeryshire Wildlife Trust working with the Centre for Ecology & Hydrology (CEH) within the Pumlumon Project. We are working with 13 farmers to restore 272ha of peatland habitat. We estimate that the restoration and rewetting of peatland habitat will safeguard 4 million tons of peat. Once established we expect this area to sequester a further 136 tons of carbon/ha/year.

The Project shows that costs of restoring degraded peatland habitat are low: in the order of £2-3,000/ha (assuming a typical hectare includes 2km of ditch and needs 20 dams). The ongoing management costs thereafter (including some income foregone as a result of less intensive grazing) would be much less and easily covered by a payment of £15/ha/year.

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If extended across the whole of Wales such an approach would make a significant contribution to meeting our Carbon Emission Target. This approach would also address additional issues associated with biodiversity decline, water quality and flood water management. Clearly this is a highly cost effective multifunctional approach of significant value.

Transport issues

The major alterations to the rural road network required for the transportation of new large-scale wind turbines could have a potentially disastrous impact on roadside hedgerows and verges. Not only would this disrupt ecological connectivity, but many of these hedges & verges are important habitats in their own right, often supporting important species.

Further information

1 – Delafield, M. (2006). *A practical trial to investigate the feasibility of wide-scale collection of cuttings from roadside verges in Powys, for use in biogas and compost production.* Montgomeryshire Wildlife Trust, Welshpool.
http://www.montwt.co.uk/images/user/Living_Highways_Report_2006.pdf

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