Ramblers' Association

Energy Policy

1. This statement sets out the general policy of the Ramblers' Association (RA) toward energy generation at a GB-wide level, and also toward the impacts of renewable energy developments in England, Scotland and Wales. It is intended to assist in dealing with development casework and policy discussion regarding energy issues and countryside protection both within the RA and with external agencies and organisations.

2. It is important to note that while the issues are a concern for the Ramblers' Association throughout Great Britain, the political and legal situations differ between England, Scotland and Wales. The RA's methods to address these issues may therefore need to be undertaken in different ways in each country, in order to best address the GB situation.

Why an Energy Policy?

3. The charitable aims of the Ramblers' Association include the protection of the outdoor environment and helping all persons to a greater love, knowledge and care of the countryside. The Association campaigns on issues to further these aims and to influence policies and actions which would impact on the outdoor environment.

4. The UK Government has stated that global climate change caused by emissions of greenhouse gases, in particular carbon dioxide, is the most pressing environmental issue facing us today. In addressing the issue the UK Government is radically reforming energy policies, primarily for emissions reductions to mitigate climate change. In addition, within the UK there is an issue of security of supply with ageing electricity generating plant requiring replacement. This is evidenced by two major reviews of UK energy policy within the last 4 years (Department of Trade and Industry 2003, 2006)

5. Climate change will impact on the environment in unpredictable ways, and measures to protect the environment must address both mitigation, i.e. reduction of emissions, and adaptation, or making the natural environment more resilient to change.

6. Climate change may affect Ramblers' Association interests in a number of ways: through natural changes in habitats and species; through adaptations in agriculture; through sea level rise and erosion of coastal footpaths; or through wind turbine developments in our rural landscapes. We are also presented with opportunities to contribute to the mitigation of climate change through promoting walking as a sustainable mode of travel.

7. The UK also has many varied landscapes of worldwide renown. The landscape is a precious resource which needs protection from over-exploitation. The European Landscape Convention, which the UK Government has signed and ratified, states that landscape is an essential consideration when striking a balance between conserving the natural and cultural heritage, and using it as an economic resource (Council of Europe 2000).

8. The Ramblers' Association accepts there is a serious problem of global climate change, and of course would support actions that might address this. We also, however, have a duty to protect the countryside and the benefits that people can draw from it. In some cases these responsibilities can come into conflict. It is the effort to reconcile actions to address the grave threat of climate change with the protection of valued landscapes that presents such a paradox for us.

9. In terms of campaigning effort we must continue to focus on the impacts of UK Government policies on our key objectives; this is primarily the protection of landscapes and enjoyment of the outdoor environment. However, the RA has also recognised that full engagement in the energy debate has been necessary to develop a case to protect our landscapes. This paper therefore addresses issues related to the generation of electricity and the use of renewable energy technologies to mitigate carbon emissions. This does not address the wider issues associated with climate change, such as transport and personal actions.

Priorities for Energy Choices

10. Global climate change is an international issue, and within this dimension the UK contribution to greenhouse gas emissions is small, around 2% of all man-made emissions (DTI 2003). This proportion will reduce to 1.5% as developing countries grow their economic base (Prime Minister 2006).

11. Developing economies will be driven in the short term by the burning of fossil fuels, especially indigenous coal and gas reserves, for the generation of electricity. Assisting these economies to develop clean and efficient coal and gas burning technologies is therefore a priority in order to reduce global carbon emissions.

12. In the UK context the actions that we take in this country alone will have little impact on climate change globally, however that does not mean that we should do nothing. We need to take strong domestic action to combat climate change so that our position is taken seriously abroad, and that we can demonstrate that cutting emissions is compatible with economic development. Government can demonstrate leadership to encourage changes in behaviour, but "cutting greenhouse gas emissions will be a responsibility of everyone in their daily lives" (Prime Minister 2006).

13. The burning of fossil fuels (coal, gas, oil) for electricity, heating and transport is the main contributor to UK carbon dioxide emissions. To address the issue the UK Government has set a target of reducing carbon dioxide emissions by 60% by 2050, from a 1990 baseline (DTI 2003). In the short term, the UK Climate Change Programme set a domestic target of 20% reduction on 1990 levels by 2010 (DEFRA 2006)

14. Since the UK Government's Energy White Paper was produced in 2003, the effort to reduce carbon dioxide emissions has been mainly focussed on electricity generation, as this sector contributed most to the UK carbon emissions. In addition, burning fossil fuels depletes finite non-renewable resources.

Energy Conservation

15. Inevitably, under existing technologies, most of the electricity produced comes from carbon-intensive sources, either from the fuel itself or in the construction of generating plant to produce power. Increasing power demand, year on year, will require more energy generators to produce power for that increased demand. This may make emissions reduction more difficult to achieve. Therefore, to tackle the global climate change issues as quickly as possible we need primarily a reduction in use of electricity overall by reducing demand on the national electricity grid network. Smart metering which also indicates to consumers how much power they are using at any one time may help in reducing the demand.

16. This is consistent with the conclusions of the Government's Sustainable Development Commission who said it was "essential to reduce demand on the grid" and that demand management was "perhaps the most cost-effective way of meeting our obligations to cut greenhouse gas emissions" (SDC, 2005). This was confirmed by the Government in their report on the Energy Review, which stated, "the starting point for reducing carbon emissions is to save energy", and "progress on energy efficiency requires all of us – companies, individuals and Government – to recognise that we have a role to play"(DTI 2006)

17. A large percentage of domestic energy use goes toward heating buildings. Around three quarters of the carbon dioxide emitted by homes comes from energy used for heating and hot water (DTI 2006). Adequate insulation is therefore essential. Revision of the standards within Building Regulations is urgently required in order to reduce the emissions from new-build and refurbished buildings for decades to come. The highest European standards in insulation and energy efficiency, including design for passive solar gain, are needed now in order to demonstrate the UK commitment to tackling carbon emissions.

Renewable Energy Technologies

18. The UK has abundant resources for renewable energy production, including the best wind resources in Europe and a large potential for wave energy (SDC 2005); it is important to use the opportunity within the UK to develop renewable energy generation systems that contribute to reducing emissions. In the 2003 Energy White Paper the UK Government set a target of 10% of electricity supply from renewable energy by 2010, subject to the costs being acceptable to the consumer, with a further aspiration to derive 20% of our electricity from renewable sources by 2020 (DTI 2003).

19. The Scottish Executive subsequently set a target of 18% of electricity generated for Scottish demand from renewable sources by 2010, with a further aspiration to generate 40% of its electricity from renewable

sources by 2020; this aspiration being subject to a caveat that it should be achieved by promoting a diverse mix of renewable technologies (Scottish Executive 2003). The Welsh Assembly Government has established specific renewable electricity production targets for Wales of 4 terawatt hours (TWh) per annum by 2010 and 7TWh per annum by 2020 (Welsh Assembly Government 2005).

20. A diverse range of technologies is required, including wind, marine, hydro, bio-mass, solar, as many renewable technologies are intermittent or variable in their output, depending as they do on natural climatic conditions. Technological and geographical diversity can help toward reducing irregularities in electrical output to the national grid.

21. Each low-carbon technology has its own range of potential impacts on biodiversity or landscape interests. When developing a diverse portfolio of renewable energy technologies consideration must be given to the environmental impacts of different technologies.

22. In addition, renewable energy technologies are at different states of technical development and market readiness. To achieve the desired diverse range of technologies, financial support for research and development needs to be carefully tailored to achieve the aim of bringing on the full range of technologies and not to inadvertently promote any one technology at the expense of others.

Policy drivers

23. There has been much talk of the need for a wide range of renewable technologies. Government financial instruments to support renewable energy projects currently exist in the shape of Renewables Obligation Certificates (ROCs) system. This is the single most important driver of renewable energy policy and has been the root cause of the over-emphasis on onshore wind turbine development, to the virtual exclusion of other renewable technologies. Onshore wind has been identified as the most cost-competitive of electricity generating technologies from renewable sources, although costs are site specific due to different average wind speeds across the country (DTI 2006). The low cost/quick return aspect of a market-ready technology supported by indirect consumer subsidy has resulted in the interest shown in wind power development.

24. This Government policy which encourages excessive development of large-scale onshore wind turbines has been criticised by parliamentary watchdog committees as being the most expensive way to tackle carbon emissions given the range of options available to Government (National Audit Office 2005, Public Accounts Committee 2005). The Royal Society of Edinburgh and the Welsh Affairs Committee have stated their profound doubts about the rationale and validity of the ROCs system (RSE 2006, WAC 2006).

25. In 2004 the Enterprise and Culture Committee of the Scottish Parliament held a major inquiry into renewable energy in Scotland and among its findings was a conclusion that there was a bias toward wind power, driven by the Renewables Obligation. They reported that “current renewables policy is unintentionally working against the development of renewable sources other than onshore.” (Enterprise and Culture Committee 2004).

26. In line with the findings of these expert bodies in regard to the effect of the Renewables Obligation mechanism on the development of renewable technologies, and the resulting landscape impacts, we believe that the Renewables Obligation needs to be radically changed as a matter of urgency, to encourage a more diverse range of technologies to be developed and to reduce over-dependence on any one technology and its associated impacts.

27. To address security of supply and electricity grid stability issues the Government needs to provide more incentive through awarding multiple ROCs for technologies which provide firm and predictable generating capacity and to stimulate support for a more diverse range of renewables technologies. We would favour reducing support for lower cost technologies by setting an output limit for ROC eligibility: this would continue to provide on-going support for community-based, small-scale onshore wind turbine developments, while limiting the excess support for large, economically viable onshore wind developments.

Wind power

28. Britain’s landscapes are more than just pretty scenery; the blend of topography, vegetation and cultural heritage plays a key role in regional and local identity, and they inspire and provide emotional refreshment and enjoyment to local people and visitors alike. The Ramblers’ Association is concerned that the way Government energy policy is currently being implemented is resulting in an increasing number of

large wind turbines in the landscape, having an adverse impact on our appreciation of the quality of the countryside.

Box 1: The scale of wind turbine developments

The size of commercial wind turbines has been increasing since the first commercial developments were constructed. Most existing land-based wind turbines are between 50m and 70m to the vertical blade tip. At the time of writing, land-based developments are around 100m tall, with applications for 125m and 135m currently being submitted, in addition to proposals for 150m high turbines offshore. To give a scale comparison, the Big Ben clock tower at Westminster is just over 96m high.

The British Wind Energy Association (2006) states that in the UK there are 134 operational wind turbine developments, 20 under construction, 85 consented, but not started and a further 191 still in the planning system. This amounts to 3016 turbines operational or consented with another 3520 turbines in planning. In addition, there are an unknown number under investigation, the information for which is commercially sensitive. Scottish Natural Heritage estimates that there is nearly 2000MW capacity at this investigative stage in Scotland alone. If the average size of the modern turbine is between 1.5 and 2.0MW, this amounts to potentially a further 1000 turbines.

29. The problem here in relation to the outdoor environment is the increasing height of turbines. This has created situations where developments are out of all proportion with the landscape, or located in countryside which is inappropriate for such large-scale development. The cumulative visual impact of very tall, highly visible towers, with rotating arms, will completely change the perceptions of the particular landscapes in which they are situated. Instead of fitting in with the landscape, they are intrusive and attract attention to themselves, away from the view.

30. There is a clear difference between developments which go toward meeting local need and those which are large commercial developments intended primarily to supply the electricity transmission grid. Small-scale domestic or community schemes will generally be less visually intrusive. While accepting that wind turbines can be part of the electricity solution, we believe that the negative impacts of large turbines on landscape can outweigh their benefits in relation to climate change.

31. Many large wind turbine developments are sited in the uplands and upland fringes. These upland habitats are often sensitive to change and slow to recover, displaying a legacy of visual scarring, as can be seen from existing bulldozed estate roads. Peatlands act as a carbon sink therefore the carbon benefits of the renewable resource may be negated by carbon emissions from oxidising peat damaged by development. Active blanket bog is a priority habitat under the EC Habitats Directive, and is defined as “still supporting a significant area of vegetation that is normally peat forming.” (UK Biodiversity Group 1999). This habitat type is not restricted to deep peat and can be found on areas of more shallow peat. We advocate the protection of all deep or active peatlands from development.

32. To reduce the negative landscape impact, land based wind turbine systems would best be primarily designed for meeting local energy needs and be small in scale, in keeping with the character of the landscape setting. The RA would endorse *meaningful* community participation in the planning consultation process to take local needs and aspirations into account.

33. New incentives are needed to provide an entirely different basis for encouraging wind turbine development, with preference given to small scale developments on land, and in general, large scale developments only favoured in offshore locations. Local grid connections and new metering arrangements may be required in such circumstances to utilise any electricity that is surplus to local requirements.

34. Planning permission for wind turbine developments should provide for their removal at the end of their working life, and for appropriate site restoration. Restoration of landscape and habitats after developments are completed is now regarded as standard practice in the planning system. Financial bonds to achieve this aim are an integral part of the lifespan of any development, and need to be in place before the start of any approved project, before development commences, to ensure that full landscape and habitat restoration can be undertaken at the end of the project’s lifespan. Restoration costs will need to be reviewed at periods throughout the lifetime of the project to ensure sufficient funds will be available to cover reinstatement.

35. There are alternative means of achieving carbon emissions reductions without the intrusion of industrial-scale wind turbine developments into our landscapes. Arguments about energy gaps and climate change have the potential to justify just about any generating method. Policy direction needs to be applied in the most sustainable way, with the financial incentives in place to assist development.

Microgeneration

36. Microgeneration is small-scale production of heat and/or electricity from low carbon sources. This includes solar photovoltaics for electricity and solar thermal for hot water, small wind turbines, micro-hydro, heat pumps, biomass, micro combined heat and power (CHP) and small-scale fuel cells (DTI 2006). It has been estimated by the Energy Savings Trust that microgeneration could provide for between 30% and 40% of the UK electricity needs by 2050 (EST 2004).

37. There is an opportunity to incorporate renewable microgeneration technologies in new build housing. Removal of barriers for microgenerators selling surplus electricity to the national grid must be a priority in order to help stimulate uptake.

Biomass

38. Biomass also has a role to play in rural areas in reducing electricity use, especially in conjunction with Combined Heat and Power systems. Biomass consumption for energy can involve forest materials, energy crops and arable residues such as straw. Biomass resources can be regarded as being carbon neutral, but the greenhouse gas balance of biomass technologies is complex and is dependant on particular production methods, eg fertiliser application or travel distances to processing plants. In addition, the biomass market is small and widely dispersed at present. However, biomass technologies can make savings relative to energy produced by fossil fuels.

39. It would be beneficial if biomass planting schemes, where they involve the growing of woody material, come under Forestry Commission guidelines to limit any potential adverse environmental impacts.

Marine technologies

40. Wave energy and tidal power have the potential to harness large amounts of energy from wave action and tidal flows. The Carbon Trust have predicted that capacity to provide 15-20 % of UK electricity demand could be met by wave and tidal stream energy (Carbon Trust 2006).

41. These technologies are at an early stage of development and are not yet commercially viable, with significant engineering challenges facing them. In addition, there are potential environmental impacts that will need to be taken into consideration, e.g. impacts on fish movements, subsonic impacts on cetaceans, and the range of direct and indirect impacts of barrages and causeways on not only inter-tidal habitats, but also their associated terrestrial developments. Marine technologies are currently very expensive and require significant investment in research and development, and increased support through the Renewables Obligation.

Large scale Electricity Generation

42. It is inevitable that some large commercial renewable energy developments will be required to contribute low-carbon electricity generation to meet Government targets. These should be based increasingly on offshore renewable energy development, through wind, wave or tidal provisions. Offshore wind turbines are more efficient at generating electricity than onshore turbine developments and potentially have less visual impact. Such offshore developments must be subject to an Environmental Impact Assessment (EIA).

43. One problem of many renewable technologies is their inability to deliver reliable and predictable quantities of power on demand due to their dependence on the vagaries of the weather. Back up generation is required to maintain supply. Modern coal fired generating sets can be vastly more efficient in producing power than older plant nearing the end of its life, and any new coal fired electricity power stations would benefit from fitting equipment that reduces carbon emission to a minimum.

44. In addition, conventional fossil fuel generators fitted with carbon capture and storage technology for removing the carbon dioxide generated by the burning of fossil fuels such as coal and gas must therefore be an essential part of the electricity generating mix. This, combined with the future expansion of biomass,

hydrogen and tidal generation systems, should provide for the base load generation required in addition to the intermittent energy sources based on wind, solar and wave. However, caution must be exercised in any development of coalfields to avoid leaving a legacy of damaged landscapes through spoil heaps from mining operations.

45. Nuclear generation accounts for 20% of electricity generation in the United Kingdom and a future government will, in due course, have to consider the replacement of existing nuclear power stations as they become obsolete. We recognise that nuclear power is one of a range of possible energy supply options and concur with the findings of the Sustainable Development Commission that development of new nuclear plant is a choice rather than an absolute necessity (SDC 2006). We recognise that there are significant concerns about cost, safety, security and the potential long term consequences for future generations. In addition, investment in nuclear power could indirectly diminish political and financial commitment to reducing energy consumption and developing the wide suite of alternative energy generation options.

Transmission and Distribution

46. There must be a radical reappraisal of what is needed in terms of future national grid development. In particular we feel that there should be more emphasis given to the generation of renewable energy close to the areas of greatest use, reducing the need for the development of inefficient, long distance, land based transmission infrastructure. Decentralised energy systems have a role to play in future energy infrastructure. Generating power close to where it is used has benefits of reducing emissions, increasing the diversity of energy supply and possibly lowering costs (DTI 2006). It can also help reduce wastage of energy; partly from the wires that transmit the electricity around the country, but mostly in the form of waste heat from large power stations – almost two thirds of the energy inputs are lost in this way (Greenpeace 2006).

47. There is also evidence that a more community-based energy system might lead to a greater awareness of energy issues, engaging people in the supply of energy and, in turn, prompting them to consider how to use it more efficiently (DTI 2006). This technology is readily available and can be used in new developments.

48. We believe that most new long distance transmission in the future should be based on sub-sea cables, not through the construction of new overland routes or by increasing the height of existing pylons. Where new long distance transmission has to be provided it should be primarily for energy sources that are supplying substantial amounts of power in as reliable and continuous a way as possible and not for intermittent supply, as results from land based turbines. This will also facilitate the development of offshore wind turbine developments and wave and tidal systems. Where new connections are required on land to integrate sub-sea cables with the national grid, these overland connections should be placed underground wherever possible.

The Board of Trustees has agreed this policy on 20th January 2007. It is based on the work of staff, board members, and the experience of members and volunteers. It develops the motion agreed by General Council in 2002: "This General Council calls upon government to invest immediately and substantially in industrial and domestic energy conservation, and environmentally sensitive sources of renewable energy. When wind power is developed alternatives should be found to the siting of wind turbines in national parks, areas of outstanding natural beauty and other scenic areas."

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