

The scope for **renewable** **energy** in Cumbria

Contents

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- 1.0 Executive summary
- 2.0 Introduction: the genesis of this document
- 3.0 Background: previous studies, policy guidance and constraints
- 4.0 General considerations
- 5.0 The approach of this study
- 6.0 Employment potential
- 7.0 Other factors
- 8.0 A note on units
- 9.0 Estimated potential for renewables in Cumbria
 - 9.1 Onshore wind
 - 9.2 Offshore wind
 - 9.3 Hydropower
 - 9.4 Tidal schemes
 - 9.5 Wave energy schemes
 - 9.6 Solar energy
 - 9.7 Geothermal energy and heat pumps
 - 9.8 Organic resources (biomass)
 - 9.8.1 Municipal, sewage and industrial wastes
 - 9.8.2 Anaerobic digestion of farm wastes
 - 9.8.3 Woodfuel in Cumbria
 - 9.8.4 Energy crops
- 10.0 Evaluation of renewable energy potential in Cumbria
- 11.0 The way ahead
- 12.0 Appendix: Members of the panel

Sir Martin Holdgate, Chairman of the Cumbria Renewables Panel
Approved for publication, August 2009

1.0 Executive summary

The Renewable Energy Panel of Cumbria Vision was established in 2008 with a mandate to advise the Board on all matters relating to the development and operation of Renewable Energy in Cumbria. In January 2009 the Panel decided to review the scope for the various kinds of renewable energy in the county. The aim was to define which were most appropriate in Cumbria and would bring greatest benefit to the economy, and so help Cumbria Vision to encourage the enterprises that would contribute most to local welfare and national need.

In 2001 Cumbria had a population of just under half a million people, living in just over 200,000 households. The domestic needs of those households for electricity could be met by only around 130 Megawatts (MW) of continuous generation, but the total energy requirements of the population (as a share of UK consumption) is estimated to be some 22 times greater, requiring 2.53 Gigawatts (GW) of generating plant. Some studies have suggested that demand will grow in the coming decade, but recent modelling predicts that improvements in efficiency may hold it more or less steady in the north-west region. At the same time, it is essential that the UK reduces its dependence on fossil fuels, thereby contributing to action against climate change and enhancing national fuel security. Consequently energy production from renewables and nuclear power must increase. The Scoping Study has confirmed that Cumbria's share of regional and national targets can be met using a wide mix of renewable sources.

The Panel's study is not the first. It takes account of Government White Papers and Planning Policy Statements, and although it was largely completed before the publication in July 2009 of the UK Renewable Energy Strategy and associated Low Carbon Plans it is fully compatible with those documents. Among local and regional studies, it draws on the Renewable Energy Development study by Axis Planning Consultants, undertaken as an input to the Joint Cumbria and Lake District National Park Structure Plan and the 4NW study by Ove Arup and Partners in 2008.

The Panel emphasises that while it is imperative to increase the share of energy that comes from renewable sources the merits of a renewable development have to be balanced against possible impacts on other sectors of the economy and on the welfare and quality of life of local communities. In Cumbria major hydro-power schemes, tidal barrages and large onshore wind farms could alter the look of areas of internationally-prized landscape and have impacts on the tourist industry that is one of the county's mainstays. The Scoping Study is designed to help strike a rational balance between the conservation of these unique assets and the development of vital new energy sources.

The Study looks at each type of renewable energy in turn. In each section the potential theoretical resource is considered first, and then the environmental, social and economic factors that may moderate actual installation. The potential contribution to the Cumbrian economy is then evaluated, followed by an estimate (which becomes increasingly conjectural as remoter time horizons are addressed) of how much might be contributed in 2010, 2020 and 2050 in terms both of energy and employment.

As part of its analysis of potential, the Study examines the likely geographical distribution of each kind of renewable resource. For example:

- offshore wind farms will obviously be located in the shallow seas off the Cumbrian west coast and in the outer reaches of the Solway and Morecambe Bay;
- the greatest onshore wind potential is to be found on the ridge crests of the higher Lakeland and Pennine fells and in the western coastal belt;
- the Solway, Morecambe Bay and the Duddon Estuary could be the site of major tidal energy schemes – the former having the potential to generate almost as much electricity as the projected Severn Barrage.

However, development in some of these areas is likely to be constrained by the need for a balance between energy provision, outdoor recreation and tourism, the conservation of nationally important landscapes and wildlife habitats and the social and economic welfare of local communities. Modest tidal power schemes with less environmental impact than the major barrages are likely to win favour. Onshore wind farms are likely, following Planning Policy Statement 22 and the County Council's Wind Energy Supplementary Planning Document, to be excluded from National Parks and Areas of Outstanding Natural Beauty, which may be extended following current evaluation of some adjoining areas. They will hence be concentrated in the western coastal zone north of Barrow and east and north of Whitehaven and Workington, and possibly the uplands west of Kielder Forest and in parts of the M6 corridor.