

REPORT TO HAMBLE-LE-RICE PARISH COUNCIL

PUBLIC EXAMINATION REGARDING

**THE PROPOSED ALTERATIONS TO REGIONAL
PLANNING GUIDANCE, SOUTH EAST**

ENERGY EFFICIENCY AND RENEWABLE ENERGY

25 – 26th November 2003

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EXECUTIVE SUMMARY

This Report outlines the proceedings of the Public Examination regarding the proposed alterations to Regional Planning Guidance, South East – Energy Policies. The first day of the Examination was devoted to consideration of the overall strategies and policy, the second day considered the renewable energy technologies and the targets for implementation.

Some recommendations whereby Hamble-Le-Rice Parish Council may contribute to the national policy on renewable energy are presented, including:

1. Offering guidance and advice on the integration of renewable energy schemes into new housing development in the area
2. Integration of renewable energy technologies into the Council's public buildings and amenities
3. Support of a renewable energy demonstration project, in collaboration with other local community schemes.

INTRODUCTION

I attended the Public Examination (PE) of the Proposed Alterations to Regional Planning Guidance, South East on Energy Policies, as the representative of Hamble-Le-Rice Parish Council. The examination took place on 25 – 26th November 2003, at Reading Town Hall. Corinne Swain OBE, MA was the Chair of the Panel for the PE and Martin Shaw OBE, BA was the Inspector Member of the Panel. The PE was attended by approximately 20 invited participants representing various National Agencies and Councils from the SE Region of England.

DAY 1: RENEWABLE ENERGY STRATEGY AND ENERGY EFFICIENCY

Corinne Swain opened the proceedings by explaining the basis for the Examination and the questions to which the Panel sought an answer:

1. Are the policies regionally specific?
2. Do they add value to other strategies?
3. Are they pitched at the correct level?
4. Can they be delivered?

She said that no changes to the Supporting Statement to the Proposed Alterations would be recommended.

As part of the Panel's investigations, they had visited a number of Renewable Energy projects, including Slough Heat and Power, a sawmill in the New Forest and a wind turbine in Newbury.

The following comments were received from the participants:

- Abatement of climate change and prevention of fuel poverty are the key drivers for energy policy and should be highlighted in the Guidance document.
- The Kyoto target of a 60 – 70% cut in greenhouse gas emissions by 2050 (required to stabilise carbon dioxide levels in the atmosphere) should be maintained as the goal towards which we are working. Long term targets encourage innovation, whereas intermediate goals (e.g. 10% of energy generated from renewable sources by 2010) are constrained by the current understanding of what is achievable.
- Guidance should be included on:
 1. Monitoring energy usage
 2. Security of fuel supply
 3. Fuel povertyThese items are under consideration in the current government policy.
- Fuel poverty is important in the SE Region, where the population is ageing.
- Renewables are more cost-effective if embodied within the fabric of new buildings, rather than retro-fit. For example, photo-voltaic panels for solar energy cost little more than conventional cladding or roofing tiles.
- The effect of climate change on biodiversity should be emphasised in the Regional Planning Guidance.
- Creating a low carbon economy should not be at the expense of the countryside or areas of outstanding natural beauty.

DAY 2: RENEWABLE ENERGY TARGETS AND IMPLEMENTATION

The matters for discussion during this session were:

- 1 Is the assumed contribution of the various technologies practicable and realistically deliverable in this Region (para 1.38)? Are there any missing elements?
- 2 Are the proposed regional renewable energy targets for 2010, 2016 and 2026 realistic given the definition of renewable energy used, and the low base of installed renewable energy capacity in the South East? Are the proposed sub-regional targets for 2010 and 2016 realistic? (Policies EN4, EN5, Map 1, paras 1.49, 1.54)?
- 3 Is a strong enough steer given for the subsequent preparation of development plans and supplementary planning guidance in terms of:
 - i) spatial guidance for the different types of renewable energy facilities (Policy EN6)?
 - ii) criteria for development control (Policy EN7)?

Is it sufficiently clear how and by whom the strategy including targets are to be delivered and monitored, including the role of partnerships and community-based schemes?

The written statement submitted on behalf of Hamble-Le-Rice, which formed the basis for my comments during the PE, is presented in Appendix A to this document.

MORNING SESSION

The morning session was devoted to discussions of the current technologies for renewable energy – biomass (i.e. growing crops for energy or heat production), onshore wind turbines, small scale hydro-electric power and photo-voltaics (solar power). My request for the inclusion of offshore renewable energy – offshore wind turbines, tidal stream energy and wave power – was heard and received support from many participants.

The following items raised at the PE are particularly relevant to Hamble-Le-Rice and the surrounding area:

1. The National Grid was not designed for accepting the type of intermittent and low voltage power generated by renewable technologies. However, the grid between Hampshire and Sussex is different and encourages renewable generation.
2. The Isle of Wight council plans to achieve its 2010 target for renewable generation with a significant contribution from wind power. For the targets beyond 2010, there is doubt as to the availability of suitable sites for onshore wind turbines on the island.
3. There is a pressing need to better define “small scale”, as applied to wind turbine developments. Para 1.56 in the proposed change states that small scale construction should not be precluded in Areas of Outstanding National Beauty and national parks.
4. “Community ownership” of wind power schemes has proved successful in Sweden and a similar concept is proposed for the Isle of Wight.
5. Photo-voltaic tiles should be included in all new buildings, where they are cost-effective for use in place of conventional roof tiles or cladding material.

6. Wind energy is often “demonised” by local authorities, who refuse planning permission on spurious grounds. Clear definitions are needed to get demonstrations projects off the ground, which will improve the public perception of renewables. For example, people who visit wind turbines are generally surprised to discover that their perception of them as noisy machines is misconceived.

AFTERNOON SESSION

The afternoon session was devoted to discussion of renewable energy targets, how these should be included in the criteria for acceptance of new development plans and delivery of renewable energy targets.

The subject of where the targets should be set was a subject of long debate – should this be at regional, sub-regional, county or local authority level? Friends of the Earth recommended that they should be “owned” by the authority responsible for planning, to encourage the granting of planning permission for renewable schemes.

Views were equally diverse regarding the level at which the targets should be delivered and monitored. Some participants recommended local action, whereas the representative from National Wind Power and I agreed that the model set by northern regions of England, with a regional body responsible for monitoring and delivery, has already proven successful and should be followed in the south east region.

RECOMMENDATIONS FOR HAMBLE-LE-RICE

The need to address the causes of climate change is driving national policy to reduce emissions of greenhouse gases, including carbon dioxide. The greatest scope for cutting carbon dioxide emissions is through reducing consumption of fossil fuels, being more efficient and generating power from alternative, renewable sources. The success of future renewable energy schemes depends on overcoming opposition due to misconceptions and/or the “NIMBY” contingent. This will be achieved through changing public perception and community ownership of projects.

Hamble-Le-Rice Parish Council may contribute to this policy in several ways, including:

1. Offering guidance and advice on the integration of renewable energy schemes into new housing development in the area
2. Integration of renewable energy technologies into the Council’s public buildings and amenities
3. Support of a renewable energy demonstration project, in collaboration with other local community schemes (e.g. Hamble School or Hamble River Sailing Club community projects). A similar project is underway at the Calshot Activity Centre, details of which are contained in Appendix B.

B / Hamble-le-Rice Parish Council (E100)

APPENDIX A

**PROPOSED ALTERATIONS TO REGIONAL PLANNING GUIDANCE,
SOUTH EAST – ENERGY EFFICIENCY AND RENEWABLE ENERGY.**

WRITTEN STATEMENT CONCERNING MATTER B:

RENEWABLE ENERGY TARGETS AND IMPLEMENTATION

Submitted by:

Dr Stephanie L Merry

on behalf of

Hamble-Le-Rice Parish Council

Question 4: Is the assumed contribution of the various technologies practicable and realistically deliverable in this Region (para 1.38)? Are there any missing elements?

The potential contribution of marine renewable energy has not been included in the technologies considered for 2010, although marine resources are widely available in the South East Region, where three of the four sub-regions have extensive coastlines.

Policy EN3, para 1.38, states that wave and tidal stream energy will not present opportunities for the generation of electricity in the short to medium term. However, there are already a number of operational wave and tidal stream energy projects in the UK and in Europe.

Current operational tidal stream energy conversion systems include:

- a) The Seaflow Project: a 300kW prototype tidal stream turbine that was successfully deployed in the Bristol Channel in May 2003 and continues to generate electricity. This constitutes Phase 1 of an R&D programme by MCT Ltd of Basingstoke, whereby a full size prototype, generating ~1MW will be deployed in 2006. Commercial installations of turbine farms generating ~20MW will follow, with a target of 300MW installed capacity by 2010.
- b) The Stingray Project: a 150kW prototype generator consisting of an oscillating hydroplane, developed by The Engineering Business. The machine was deployed for trials in Yell Sound, Shetland Islands, in the summer of 2002. The longer-term vision is for 3MW farms, made up of six 500kW Stingray machines.
- c) The Cleddau tidal power generator: a pilot scheme in the Milford Haven waterway, which was developed by Tidal Hydraulic Generators. The turbine permanently powers a boatyard in the Pembrokeshire Coast National Park and the success of this scheme has persuaded the Government and the Welsh Development Agency to fund a full scale 1MW tidal stream generator, to be built in the Severn Estuary.

The advantage of tidal stream energy is its predictability, as opposed to wind and wave energy, which are sometimes intermittent and less predictable. A cursory glance at the relevant tidal stream atlases suggests potential sites in the SE region for tidal stream energy conversion are located around the coast of the Isle of Wight, in the Dover Straits and in the Thames Estuary.

Current operational wave energy projects include:

- a) Limpett 500: the world's largest wave energy converter operated by the UK company WAVEGEN on the island of Islay. The device uses an oscillating water column with a Wells Turbine power take-off and is capable of generating 500kW. The limitation of this scheme is the ability of the local electricity grid to accept power.
- b) Wave Dragon: a demonstrator for this device was launched in March 2003. It is supported financially by the Danish government and will be tested initially at the Danish Wave Energy Test Station at Nissum Bredning, but the UK company Armstrong Technology Associates has been closely involved in the design and

construction of the prototype. The prototype is capable of generating 20kW, which will feed into Denmark's grid by the end of 2003. By 2010, farms of 10 – 20 full scale machines are envisaged, generating more than 4MW. A site off the Welsh coast is favoured.

The tidal stream and wave energy conversion devices described above prove the current viability of marine renewable energy resources. It should be noted that offshore renewable energy schemes are generally more acceptable to the public than those onshore, being less visibly intrusive.

Offshore wind energy has also been excluded from the list of potential resources for renewable energy in Policy EN3. The success of numerous offshore wind farms in Denmark and Sweden and indeed the success of the Blyth offshore wind farm in the UK (where two turbines currently generate up to 4MW) demonstrate the current viability of this resource. The UK energy minister announced £20 million funding for two further offshore wind turbine projects in October 2002. These will be located at Scroby Sands near Great Yarmouth and North Hoyle, near Rhyl in North Wales.

Of particular relevance to the SE Region is the fact that the Kentish flats in the Thames Estuary has recently been selected as one of three locations for 3000 new offshore wind turbines.

Question 5: Are the proposed regional renewable energy targets for 2010, 2016 and 2026 realistic, given the definition of renewable energy used and the low base of installed renewable energy capacity in the South East? Are the proposed sub-regional targets for 2010 and 2016 realistic? (Policies EN4, EN5, Map 1, paras 1.49 and 1.54).

In view of the facts stated in the preceding section, marine renewable energy should be included in the list of potential resources for the Region. This will facilitate the achievement of the proposed Regional targets and of the sub-regional targets for East and West Sussex, for Hampshire and the Isle of Wight and for Kent.

Patricia Hewitt, trade and industry secretary, recently announced an expansion of offshore wind farms which will make Britain the world's largest generator of electricity from offshore wind and will help the nation to achieve its target of 10% of electricity from renewables by 2010. The government estimates the total capacity of these farms to be 1.4GW (1,400MW). Tenders from developers for more than 3,000 wind turbines in three selected shallow water locations must be submitted by 15th October 2003.

The Kentish flats in the Thames Estuary, bordering on the Kent sub-region, is one of these areas. Assuming an equal distribution of the generating capacity between the three locations, and that the government estimate is accurate, more than 450MW will be produced on this site by 2010. This constitutes a 400% increase over the current sub-regional target for Kent of 111MW by 2010 and a 300% increase over the target of 154 MW by 2016.

It may be helpful to compare the SE Regional target of 620 MW by 2010 set out in Policy EN4 with the NW Regional target of 366 MW by 2010, which was developed

in March 2001 and published in Ref 1, Table 3.1. This table breaks down the overall target into similar generation types and sizes as in Table 3.1 of Core Document RA2 (Harnessing the Elements, Supporting Statement) for the SE Region. The key difference lies in onshore and offshore wind energy generation, which are 60% and 94% higher respectively in the SE Region.

Question 6: Is a strong enough steer given for the subsequent preparation of development plans and supplementary planning guidance?

More emphasis should be placed on the availability of a suitable electricity distribution network. Major changes in the transmission system will be necessitated to accommodate renewable generators, as highlighted in an article in *Professional Engineering* (the journal of the Institution of Mechanical Engineers), 7th May 2003, pages 29-30. Distributed or embedded generation, whereby generators connect to a distribution network rather than the present high-voltage transmission network, will need to be established.

Mention should be made of measures to integrate near-shore marine schemes (wind and wave) with existing and new marine structures, e.g. harbour walls.

Question 7: Is it sufficiently clear how and by whom the strategy including targets are to be delivered and monitored, including the role of partnerships and community-based schemes?

In order to achieve the targets for 2010, financial support from the government must be provided for the commercial development of technologies currently at the prototype stage. Public awareness of the commercial and economic benefits offered, through the necessary provision of the infrastructure for renewable energy generation schemes, will drive investment from the private sector. The concept that enhancing renewable energy deployment in the region is as much an economic activity as it is environmental should be emphasised.

Co-operation with other Regional Agencies in England will be beneficial. The North East and North West Regions are ahead of the game in developing renewable energy and shared “best practise” measures may accelerate processes in the South East.

Ref 1 (Renewable Energy in North West England: Investigating the Potential and Developing the Targets) sets out a number of recommendations for accelerating the regional deployment of renewable energy. Action 6 involves the development of a regional renewable energy “champion”, as an agency which would take ownership of the renewable energy targets. Funding for this agency would be through a mix of UK and European funds. The role of the Agency would include:

- “signposting” to information and advice
- promotion of renewable energy
- providing assistance to developers on potential locations for schemes
- assistance with the planning process
- providing regional coordination of renewable energy companies and activities
- responsibility for reporting on regional renewable energy progress
- future review of renewable energy strategies for the region

- conducting and commissioning research work
- facilitating demonstration projects
- stakeholder engagement / management

This agency now exists as “Renewables Northwest”. A similar scheme for the SE Region may provide the solution to Question 7.

Dr Stephanie Merry
Technical Consultant, Marine Renewable Energy.

Ref 1: ‘Renewable Energy in North West England: Investigating the Potential and Developing the Targets’. March 2001. Environmental Resources Management on behalf of Government Office North West.

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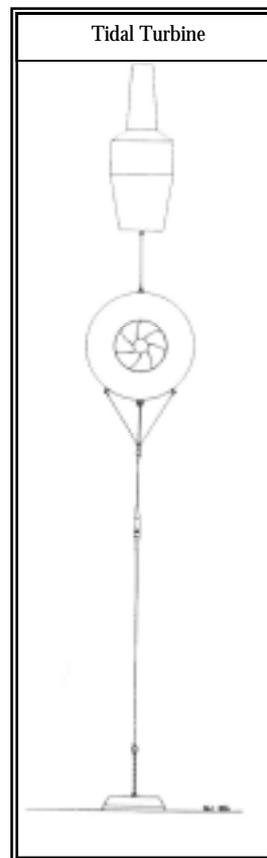
APPENDIX B

RENEWABLE ENERGY – CALSHOT PROJECT



The Environment Strategy Group, in co-operation with the staff at Calshot Activity Centre, Property, Business & Regulatory Services and Recreation & Heritage, have been investigating the possibility of generating energy from renewable sources which would provide for the energy needs of the Activity Centre.

A feasibility study funded by the Energy Savings Trust (EST) was undertaken and a two stage proposal has been put forward.



Demonstration Project

This proposal is for the provision of a three turbine combination (wind, tide, biomass) which would generate renewable energy in a demonstration project for the activities centre. As part of this stage, there would be educational opportunities for the Activities Centre, to compliment the other work offered at this widely respected environmental and field studies unit.

The demonstration project would generate electricity to be utilised by the activity centre. Generation is proposed to be in a small quantity (up to 9KW, 3KW from each of the three turbines), and would demonstrate how electricity generated from three different renewable sources could be balanced in practice.

The demonstration project will provide real data on how the three sources of energy generation will work in combination. Additionally, through the Environmental Education facilities at Calshot, the project will be linked to learning within the National Curriculum.

This phase would run for the duration of one year and cost in the region of £20,000. £10,000 of this is already allocated from Environment Department budgets and the remaining £10,000 would be sourced from a further grant from the EST. Additional funding “in-kind” would be provided by the technology partners and this would give added value to the project in terms of their knowledge and experience.

Prototype project

It is envisaged in the feasibility study that the demonstration project would roll out to a prototype project, when the demonstration project had proved itself. This would use larger turbines to generate the base-load of power consumed by the Activities Centre (up to 90KW (3 x 30KW)).

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