

ENVIRONMENT AGENCY RESPONSE TO THE CABINET OFFICE PERFORMANCE AND INNOVATION UNIT ENERGY REVIEW

KEY RECOMMENDATIONS

- The Agency welcomes the energy review and the Performance and Innovation Unit's intention to undertake a detailed assessment of the UK's present energy policy portfolio and its success in delivering sustainable energy.
- We believe that the energy review process should aim to develop an aspirational goal for sustainable energy in the UK, and outline a comprehensive programme for delivering it.
- We encourage the energy review to focus on the delivery of a highly efficient energy system with a substantially increased renewable energy contribution as the means for achieving its social, environmental and energy security objectives. Current policy measures are not delivering Government policy objectives, and the UK is failing to realise the economic and industrial opportunities associated with a low carbon economy.
- Gas and electricity policy has focused too heavily on cutting prices, often at the expense of other priority policy objectives, such as reducing carbon dioxide emissions. This imbalance in policy focus must be addressed. The energy review should highlight that improving energy efficiency, as opposed to lowering prices, is invariably the best means of reducing energy service costs for consumers.

1 THE ENVIRONMENT AGENCY AND SUSTAINABLE ENERGY

- 1.1 The Agency welcomes the energy review, and supports its long-term focus in light of the long time scales associated with environmental issues such as climate change, and the need for significant change in our energy system over the course of the coming century. We feel that the time is right for a fundamental assessment of energy policy
- 1.2 The production and use of energy is a primary cause of many environmental problems facing the UK, and the rest of the world. In particular, the combustion of fossil fuels for energy production is the primary contributor to UK anthropogenic greenhouse gas emissions. Achieving a sustainable energy future will be one of the key challenges within the UK's overall objective of achieving sustainable development.
- 1.3 The regulatory work of the Environment Agency touches upon various aspects of energy production and use, and in fact within England and Wales the Agency is responsible for the regulation of processes which give rise to approximately 50% of man-made greenhouse gas emissions. The impacts of climate change will also have significant implications for the flood risk and water resources management duties of the Agency, and we are therefore acutely aware of the need to reduce greenhouse gas emissions and limit the extent of climate change impacts.
- 1.4 The Agency's Environmental Vision¹ highlights energy as a key sustainability issue, and outlines the Agency's desire to work with partners to contribute to the development of

¹ *An Environmental Vision – The Environment Agency's Contribution to Sustainable Development*, January 2001

sustainable energy in the UK. The Agency is keen to position its activities within the wider context of sustainable energy and the contribution that we may play.

2 THE APPROACH OF THE ENERGY REVIEW

- 2.1 The review should be holistic and visionary so that it covers the entire energy system, which includes energy sources, extraction, generation, transmission, distribution and end-use for heat, power and transport. We believe that the review process should aim to develop an aspirational goal for sustainable energy in the UK, and outline a comprehensive programme for delivering it.
- 2.2 The review should focus on how the UK can rise to the challenge of delivering a highly efficient energy system with substantially increased renewable energy exploitation. Vast technical and management opportunities exist for improving the efficiency of fuel and electricity use and increasing renewable energy use, and the energy review should focus on realising this potential.
- 2.3 We recommend that the review concentrates on the main solutions for sustainable energy - which we believe includes combined heat and power, renewable energy, better energy management, efficiency improvements in buildings, appliances, vehicles and industrial processes, and new technologies such as fuel cells. These sustainable energy solutions will help increase the diversity and security of energy provision, and present many business opportunities for UK industry.
- 2.4 The review must recognise that our energy system pervades almost all aspects of our economy and society. Energy policy needs to become embedded within a huge range of other policy areas including industry, housing, transport and agriculture. The review should be clear that sustainable energy can only be delivered through a coherent, well targeted, comprehensive programme of measures to effect changes across society at large.
- 2.5 The UK needs an energy system that contributes to sustainable development as a whole, and delivers a more resource efficient economy. The review must identify the synergies between energy policy and the other main components of sustainable development policy such as sustainable resource use and sustainable transport. This review should move away from the traditional focus on increasing energy supply to one where the priority is the efficient use of fuel and electricity.
- 2.6 We welcome the long-term nature of the review and urge that it is visionary in evaluating the opportunities available for transforming our energy system over the course of this century. In concentrating on the delivering of sustainable energy, the review should not treat the current energy system model as fixed and be restricted to small changes to the current way of doing things. We encourage the review to be bold in outlining ambitious policy programmes that could embrace and guide far-reaching change in the way we use energy.
- 2.7 We welcome the long time horizon of this review, and encourage it to consider approaches for delivering the Royal Commission on Environmental Pollution's recommended target of a 60% reduction in carbon dioxide emissions by 2050 (which is mentioned in the scoping note).

- 2.8 We recommend the review consider the institutional arrangements that will be necessary to ensure the coherence of the comprehensive range of measures that are necessary for delivering sustainable energy. Specifically we recommend that the economic regulator should have a duty to take account of sustainable development within its regulatory decisions.
- 2.9 We encourage the review to consider a high profile energy productivity programme aimed at achieving medium and long term targets to increase UK energy productivity and reduce fuel and electricity consumption. A partnership approach to delivering this programme could be undertaken with business, academia and society at large.
- 2.10 We recommend that the review allocates high priority to improving the energy performance of the UK building stock, and to increasing the efficiency of electrical appliances, and the adoption of energy management techniques in commercial premises, and even homes.
- 2.11 We encourage the review to adopt a long-term 2050 target for renewable energy to supply 50% of the UK's energy needs (electricity, heat and transport, and micro-generation in urban areas), and to propose a strategy for achieving it.
- 2.12 The role of nuclear power is clearly one of the key issues that the review will have to address. Any assessment must take full account of the financial and environmental costs of radioactive waste management and storage and its associated regulatory framework. It will also be vital to take account of the need to secure the consensus of the general public if a longer-term role for nuclear power is envisaged.

3 CONCENTRATING ON ENERGY EFFICIENCY

- 3.1 Improving energy productivity should be highlighted as a central priority for government. The review could set sequential medium term targets for improving energy productivity and reducing primary energy consumption, so as to achieve a long-term target to reduce primary energy use by 50% by 2050.
- 3.2 The review should outline a high profile energy efficiency programme that prioritises efficient energy use in transport, heating and electricity consumption – and could begin to move the UK towards achieving this long-term target. Unlike much of current policy, energy efficiency improvements must be targeted in a coherent way with policy measures simultaneously addressing the market, legislative, institutional and informational barriers.
- 3.3 The review should highlight the opportunity for relatively simple but highly effective regulation. Building regulations should be tightened so that the energy efficiency of all new housing equals European best practice. Legislation should also ensure that the exploitation of passive solar energy is integrated into all new building design. Strict minimum efficiency standards should be established for domestic and office electrical appliances (set to increase over time).
- 3.4 The review should investigate the potential for the development of Energy Services Companies, and the corresponding efficiency improvements that this could bring. A high profile assessment should investigate the market, legislative and institutional measures that could encourage energy service delivery.

- 3.5 The review should investigate the greenhouse gas emission reductions that improved carbon pricing (such as through an extended and increased climate change levy/ carbon tax, or the carbon-trading scheme) could deliver in focusing the market place on sustainable energy solutions.
- 3.6 The review should be aware of the potential of new technologies and techniques, such as heat pumps and computer controlled energy management, for reducing energy consumption in commercial premises and in homes. The energy management industry has many skills to offer for significantly reducing fuel and electricity consumption.
- 3.7 Although transport is unlikely to be a key focus of this review, the original objectives of the government's integrated transport policy, such as the modal shift to public transport and increased walking and cycling, will need to play a central part in a wider sustainable energy strategy.
- 3.8 The review needs to address the scope for continued efficiency improvements in new petrol and diesel vehicles, and more importantly, the efficiency benefits of fuel cell vehicles and their progression to the mainstream market place.

4 COMBINED HEAT AND POWER, AND RENEWABLE ENERGY

- 4.1 Combined heat and power (CHP) has a huge role to play in increasing the efficiency of fuel use and the Agency is strongly supportive of the 10GWe target for 2010. We recommend that the review gives a high priority to supporting CHP and outlines a programme for removing the substantial market and institutional obstacles to its growth.
- 4.2 Market and institutional barriers to embedded generation obstruct both the achievement of the government's CHP and renewable energy short-term targets and also the longer-term growth in these vital technologies. Implementation of the Embedded Generation Working Group's recommendations will better enable the transition towards a more decentralised electricity system, and the benefits this can bring for increasing the efficiency of heat and power provision.
- 4.3 The New Electricity Trading Arrangements are an example of how policy measures for reducing electricity prices can have a negative effect upon other objectives, such as increasing CHP and renewable energy output. It also demonstrates how the current priority given to lowering prices can undermine environmental objectives. In future, market arrangements should be designed to aid the development of decentralised generation, not hinder it.
- 4.4 We encourage the review to consider the large potential of new and emerging sustainable energy technologies, such as wave and tidal stream power, fuel cells, the transport and storage of hydrogen and energy storage, in the long-term assessment of energy option
- 4.5 The expansion of renewable energy needs to be a high priority of energy policy. The institutional and market arrangements of the electricity industry should be re-assessed with this priority in mind.

4.6 The review could consider the benefit that a regional focus, say through Regional Renewable Energy Agencies, could bring in promoting and overseeing the development of renewable energy, and the involvement of local communities.