



# The Government's Response to the Biomass Task Force Report

**April 2006**

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# Foreword



‘Climate change is probably the greatest long-term challenge facing the human race. That is why I have made it a top priority for this government, at home and internationally’

**Prime Minister, Climate Change –  
the UK Programme 2006**

We are pleased to present on behalf of Government our detailed response to the Biomass Task Force report. We are grateful to the Task Force – Sir Ben Gill, John Roberts and Nick Hartley – for their recommendations and for the support and interest of the many stakeholders who engaged with the Task Force in this far-reaching agenda. The report is valuable, and timely in linking powerfully to critical issues we are facing especially on climate change.

The Task Force concluded that biomass – in its diverse forms – has potential for contributing strongly to our renewable energy and climate change objectives, and that much of this potential is currently unrealised. We agree that biomass cannot solve all of the issues facing us, for energy or for farming. But its contribution can be very significant and in this response we set out our plans for moving forward towards optimum use of this resource.

The increasingly stark conclusions on the prospects for climate change, together with developments on supply and price of fossil fuels, are key drivers for improved use of sustainable renewable energy. We have been struck by the wide support which has emerged, across political boundaries, for the contribution that bioenergy can make to this and other objectives. This support is also developing internationally, with publication of an EU Biomass

Action Plan, the agreement at the G8 meeting which we chaired in 2005 to develop a Global Bioenergy Partnership, and the favourable framework that the Common Agricultural Policy (CAP), following the reforms we negotiated in 2003, provides for bioenergy. Our vision for further reform places still further emphasis on achieving environmental objectives, through sustainable rural development.

Our response is written with an England focus, reflecting the scope of the Task Force's report. We strongly welcome, however, the help that the Devolved Administrations have provided in the development of this response. In responding to the specific recommendations we have sought to ensure that our proposed actions complement work elsewhere in the UK and we are looking to strengthen this collaboration in the future. In addition to the specific actions set out here, DTI and Defra in conjunction with others across government will work towards publishing a long-term UK-wide Biomass Strategy within the coming year. In developing this we will be pleased to engage fully with stakeholders, including industry, environmental interests, regional and local bodies and planners. While government can and will lead, we need the support and engagement and initiative from all these interests, and we look forward to working in partnership to achieve the outcomes we all seek.

Alan Johnson

Margaret Beckett

Credits for pictures on cover:

Main picture – Norway Spruce – courtesy of the Forestry Commission [www.forestry.gov.uk](http://www.forestry.gov.uk)

Top box – Mature short rotation coppice (SRC) willow, Defra library photograph

Second box – Part of 250kW biomass waste gasification plant on a farm site in Rainford, Merseyside, UK. Courtesy of Biomass Engineering Ltd. [www.biomass-uk.com](http://www.biomass-uk.com)

Third box – On-site chipping of forestry management arisings, courtesy of the Forestry Commission [www.forestry.gov.uk](http://www.forestry.gov.uk)

Fourth box – Balcas biomass combined heat and power (CHP) plant, Enniskillen, Northern Ireland (see Case Study, page 8). Courtesy Balcas Timber Ltd. [www.balcas.com](http://www.balcas.com)

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# Executive Summary

Biomass is recognised as an important contributor to renewable energy, with potential applications in heat, electricity, combined heat and power and transport. Sources of biomass are diverse, coming from forestry, energy crops and a variety of materials that may otherwise be treated as waste. The energy use of biomass can develop alongside other sustainable uses of plant materials in industry as set out in the Government's Non Food Crops Strategy.

Progress has been made, with significant bioenergy developments taking place or planned. But considerably more can be achieved. We agree in particular with the Task Force's conclusion that renewable heat provides important opportunities and is a particularly efficient way of cutting carbon emissions, provided that development is planned appropriately with a secure market for the heat generated. We seek to stimulate biomass heat through the measures set out in this response together with those already announced in the Climate Change Programme Review and the Microgeneration Strategy. At the same time we acknowledge the contribution that biomass can make to renewable electricity targets through co-firing or dedicated electricity generation.

We acknowledge the risks as well as the opportunities in biomass development and will ensure that biodiversity and other environmental factors are fully considered in biomass development.

We have structured the response into main themes, which we hope will be helpful in showing the approach we have taken to the wide range of issues identified by the Task Force. Key points in the response are:

- A new five year capital grant scheme for biomass boilers, with funding of £10 - £15 million over the first two years and a second round of the Bio-energy Infrastructure Scheme, with funding at or close to the level proposed by the Task Force (announced in the Climate Change Programme Review);
- Agreement in principle to support for energy crops under the new Rural Development Programme for England to be introduced in 2007, closely integrated with bioenergy market development;
- Announcement of the Forestry Commission's new Biomass Energy Centre as a major new hub for bioenergy advice and best practice for industry and the public;
- Further measures to integrate environmental assessment in the planning of energy crop development;
- Government leadership through public procurement, including the commitment to carry out a mapping exercise of the potential use of biomass across the main procuring departments on the Government estate;

- Working with Regional Development Agencies and other organisations to ensure effective, coordinated mechanisms for delivery of policy and advice;
- Action already taken, since publication of the Task Force report, to improve the Renewables Obligation and implementation of the associated procedures;
- Use of the planning system to stimulate renewables development, including our support for planning authorities applying a minimum percentage of renewable energy in new developments;
- Action to address regulatory barriers identified by the Task Force and to develop standards to improve efficacy and confidence in biomass;
- The introduction of new Building Regulations, from April 2006, with new procedures and tougher standards which will encourage the use of Low or Zero Carbon (LZC) systems, such as biomass.
- Our thinking on the use of energy from waste, which is subject to conclusions from the current review of Waste Strategy and the Energy Review; and
- Support for the EU Biomass Action Plan and agreement on UK membership of the Global Bioenergy Partnership from its launch in May 2006.

We will implement the action plan set out in this response and will work further with stakeholders on the long-term Biomass Strategy over the coming year.

## Section 1:

# Introduction

## Background

- 1.1 The 2003 Energy White Paper<sup>1</sup> gives high priority to development of renewable energy, and previous analyses<sup>2</sup> have shown that biomass has potential to contribute strongly alongside other renewables as we move towards the vision of a low carbon economy set out in the White Paper. The Government recognises that to move forward with biomass many issues and barriers need to be overcome and we looked to the Biomass Task Force to assist in further defining these and to suggest solutions.
- 1.2 The Task Force was established in October 2004 with the challenge ‘to assist Government and the biomass industry in optimising the contribution of biomass energy to renewable energy targets and to sustainable farming and forestry and rural economy objectives’. The Task Force was chaired by Sir Ben Gill, supported by John Roberts of United Utilities and Nick Hartley of Oxera Consulting. Details of their work programme and approach are described in the final Task Force report, published in October 2005<sup>3</sup>.
- 1.3 The Government welcomed the very open approach that was used to engage the wide range of stakeholders interested in this agenda, which included an intense programme of discussion and the publication of a series of interim reports leading to the final recommendations. Ministers welcomed the report and agreed to publish a full response within six months. The response, in this document, gives our conclusions on all of the forty-two recommendations. In some cases, because of the need for further analysis or because of other ongoing reviews, we cannot at present give a full reply, but we hope that our response will provide a clear vision of how we intend, in conjunction with industry and other stakeholders, to take forward this agenda and realise the benefits that biomass can provide for our wider objectives.
- 1.4 The Task Force noted in its report that, while the work was commissioned with an England focus, it had engaged with the devolved administrations to understand their perspectives on biomass energy. Our response likewise relates primarily to actions that will be taken forward in England, reflecting the devolved responsibilities for many of the policy areas discussed. We consider however that the actions are in line with the approaches of the administrations in Northern Ireland, Scotland and Wales, and we will continue to liaise closely with them in taking forward bioenergy policy (see Annex A for a summary of the Devolved Administrations’ bioenergy policies and activities).

<sup>1</sup> <http://www.dti.gov.uk/energy/whitepaper/index.shtml>

<sup>2</sup> Renewables Innovation Review, ([http://www.dti.gov.uk/renewables/renew\\_2.1.4.htm](http://www.dti.gov.uk/renewables/renew_2.1.4.htm)); DTI/Carbon Trust 2004 ([http://www.thecarbontrust.co.uk/carbontrust/about/publications/Biomass%20Sector\\_FINAL.pdf](http://www.thecarbontrust.co.uk/carbontrust/about/publications/Biomass%20Sector_FINAL.pdf)); Royal Commission on Environmental Pollution report on Biomass as a Renewable Energy Source, 2004 (<http://www.rcep.org.uk/energycrops.htm>)

<sup>3</sup> <http://www.defra.gov.uk/farm/acu/energy/biomass-taskforce/>.

## Links to other initiatives

- 1.5 We are publishing this response while a number of major reviews are in progress, including the Energy Review<sup>4</sup>, announced by the Prime Minister last year, and the Stern Review on the Economics of Climate Change<sup>5</sup>. The Energy Review is considering how the objectives of energy policy, set out in the Energy White Paper in 2003, can best be realised in the light of developments in the energy market and other factors. We have made clear our continued support for renewable energy as a key component in the future energy mix. The Stern Review will provide an assessment of the economics of moving to a low-carbon global economy and how this applies to the UK in the context of its existing climate change goals.
- 1.6 This response provides further detail on how we intend biomass to contribute to renewables development (Annex B lists the current Government reviews that directly impact on this response). It has been co-ordinated closely with the review of the UK's Climate Change Programme (CCPR)<sup>6</sup>, which was published last month, and complements the Microgeneration Strategy<sup>7</sup>, also published last month, which sets out a wide range of measures to promote small-scale energy generation from renewables or combined heat and power.
- 1.7 We asked the Task Force to concentrate on the use of biomass for heat and electricity generation, while taking account of biofuels for transport and other non food uses of crops in so far as cross-cutting issues arose. The Government's over-arching Non Food Crops Strategy<sup>8</sup> remains in place and we shall publish a report on progress with the strategy by the end of 2006. For the Task Force's work we defined biomass as material from energy crops (such as short rotation coppice and miscanthus), forestry and agricultural plant and animal wastes. During the course of its study the Task Force also examined the potential for developing energy from a wider range of wastes. In our response we comment on the conclusions in this area that relate to our overall Waste Strategy.
- 1.8 During the CCPR we used the Task Force analysis and continued to examine the evidence base for biomass policies, which was not fully developed in the Task Force report. This further work, while not yet complete, confirmed that the use of biomass as a renewable heat source can be a cost-effective means of cutting carbon emissions and we were pleased to include support measures for biomass heat in the CCPR announcement.

<sup>4</sup> <http://www.dti.gov.uk/energy/review/>

<sup>5</sup> [http://www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/sternreview\\_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm)

<sup>6</sup> <http://www.defra.gov.uk/environment/climatechange/uk/ukccp/index.htm>

<sup>7</sup> <http://www.dti.gov.uk/energy/environment/microgeneration/index.shtml>

<sup>8</sup> <http://www.defra.gov.uk/farm/acu/pdf/nfc-strategy.pdf>

## Biomass – current and future

- 1.9 Biomass energy currently provides about 2% of the UK's electricity generation<sup>9</sup> (the total for all renewables being around 4%). Based on a recent study<sup>10</sup>, biomass energy provided around 1% of the UK's heat generation in 2003. Progress is being made, with energy crop planting expanding quickly and many projects in place to develop forestry woodfuel supply. The Bioenergy Capital Grants Scheme has supported a number of projects that are now in operation, under construction or at an advanced planning stage.
- 1.10 We agree however that much remains to be done. While the UK figure for electricity from biomass is close to the EU average, the equivalent EU figure for biomass heat is around 10%. Although this reflects to some extent the particular conditions such as the greater availability of woodfuel from forestry, and the greater heat load in colder countries, in some other parts of Europe, it also reflects the relatively higher priority that has been accorded to biomass heat energy in some other countries compared with the UK. This is a major theme in the Task Force report and we endorse the conclusion that biomass heat is an area for particular development with much unrealised potential. We agree that biomass heating can be a particularly efficient technology for cutting carbon emissions.
- 1.11 At the same time we note that to achieve the theoretical level of carbon savings a practical approach is needed, in particular to target development to areas where there is a market demand for heat, such as off the gas grid, or where, with appropriate policies, a market for renewable heat can be created. In this respect heat differs significantly from electricity which can be transmitted over large distances with mechanisms for balancing supply and demand through the grid.
- 1.12 Although the Task Force report focused particularly on biomass heat and combined heat and power, we remain committed to biomass as one of the eligible technologies for renewable electricity generation supported through the Renewables Obligation<sup>11</sup>. There are a number of power only projects already operating, such as the Elean Power Station, or under construction, which can provide both renewable power and rural employment opportunities. We mention in this response the particular steps we have taken on co-firing with biomass in coal-fired power plants, and the further review we are undertaking on co-firing.
- 1.13 As well as contributing to climate change objectives, biomass can contribute to diversity of supply in line with our energy security objectives. Biomass also has particular challenges because it requires development of reliable technologies for generating energy, robust and economic fuel supply chains and a secure market for the heat or electricity generated. This means that to make progress developments need to be integrated between supply and demand. For optimum development we see particular scope for the local or regional clustering of projects. The Regional Development Agencies (RDAs), working with national and other regional and local bodies and partnerships, have a key role to play in

<sup>9</sup> <http://www.dti.gov.uk/energy/inform/dukes/index.shtml>

<sup>10</sup> [http://www.dti.gov.uk/renewables/policy\\_pdfs/heatreportfinal.pdf](http://www.dti.gov.uk/renewables/policy_pdfs/heatreportfinal.pdf)

<sup>11</sup> [http://www.dti.gov.uk/energy/inform/energy\\_stats/renewables/index.shtml](http://www.dti.gov.uk/energy/inform/energy_stats/renewables/index.shtml)

developing biomass energy and we set out in this response steps we are taking to develop regional and local delivery and support structures.

- 1.14 In seeking to optimise the contribution of biomass energy, we will continue to take measures to minimise and avoid any negative impacts. Such impacts can arise from biomass sourcing and the conversion technologies for generating energy. Our actions in response to the recommendations are therefore informed by the existing evidence on the environmental impacts of different biomass sources (on soils<sup>12</sup>, hydrology<sup>13</sup>, landscape<sup>14</sup> and biodiversity<sup>15</sup> - the references given are a selection of the current evidence). The impacts of conversion technologies are minimised by defining standards for emissions and safety as well as strict procedures for environmental assessment. As the uptake of biomass increases, we will continue to gather evidence of cumulative impacts of changes in land use and social and economic impacts on rural areas. We will develop further, with environmental bodies, a framework for strategic assessment of environmental impacts.
- 1.15 We take seriously the Task Force's conclusion that 'ignorance' is a factor impeding biomass's development. This comes in various forms, from a lack of understanding of the technology to the need to explain how bioenergy cuts carbon emissions (the emissions from the process being offset by the carbon storage effect from growing the biomass). In our response we seek to lay out new ways of promoting understanding, providing advice and information and supporting collaboration across the biomass supply chain.
- 1.16 We are encouraged by the strong support that is emerging internationally for bioenergy. The European Commission published a Biomass Action Plan<sup>16</sup> in December 2005, which Heads of State welcomed at their meeting in the European Council on 24 March 2006. The G8 countries, under the UK's chairmanship last year, agreed to develop a Global Bioenergy Partnership and the UK will be pleased to join this when it is launched at the meeting of the international Commission for Sustainable Development in May 2006. While many countries see bioenergy as providing particular benefits for sustainable rural development, there is also a wide understanding of its role in climate change policies and enhancing energy security by increasing diversity of supply.
- 1.17 We agree with the Task Force's comments on the need for a unified policy approach with Government Departments and agencies working together with shared objectives. A cross-Departmental team was established to assist in preparing this response and the cross-Government Sustainable Energy Policy Network<sup>17</sup> will continue to co-ordinate policy at the strategic level. We intend to move forward to the publication, over the coming year, of a fuller Biomass Strategy that will take account of other reviews taking place in 2006, and EU discussions on the Biomass Action Plan. We aim to set up a UK-wide biomass steering group, involving the devolved administrations, to carry this work forward.

<sup>12</sup> Projects NF0417, Bioenergy crops and bioremediation - a review, and NF0418, Bioenergy crops and carbon sequestration in soils - a review

<sup>13</sup> Project B/CR/00783/REP, The hydrological impacts of energy crop production in the UK

<sup>14</sup> Project B/W2/00575/REP, Assessment of the visual impacts of SRC plantations

<sup>15</sup> Projects B/U1/00627/REP, Arbre monitoring - ecology of short rotation coppice and B/CR/00782/00/00, The effects of energy grass plantations on biodiversity

<sup>16</sup> [http://europa.eu.int/comm/energy/res/biomass\\_action\\_plan/index\\_en.htm](http://europa.eu.int/comm/energy/res/biomass_action_plan/index_en.htm)

<sup>17</sup> <http://www.dti.gov.uk/energy/sepn/>

## Section 2:

# Biomass heat

## Short term support

### Recommendation 1

“The Task Force recommends that the Government urgently introduce a single capital grant scheme to grant aid all biomass heating boilers and the heat element of CHP biomass-fuelled plants. We propose that the grant be fixed at 40% of capital expenditure of the boiler or CHP equipment, including the associated infrastructure needed, for 5 years and that progress be reviewed after 4 years. CHP grants should support capital expenditure in proportion to the percentage of power exported as heat.”

**The Government agrees the key recommendation for supporting biomass heat and CHP, with a different method of calculating the aid rate in order to comply with EU state aid rules.**

- 2.1 A key theme of the Biomass Task Force Report is the unexploited potential of biomass heat. Its analysis is based in part on the findings of the DTI/Defra-funded renewable heat study by Future Energy Solutions<sup>18</sup>. This study concluded that, while renewables currently account for only 1% of the heat market, there is scope to increase their contribution by 0.8% and 4.7% by 2010 and 2020 respectively. If realised, this would lead to potential annual carbon savings of around 2 million tonnes of carbon (MtC) by 2020<sup>19</sup>. The Task Force suggested that with further support, or by overcoming certain barriers, an even larger share of the heat market could be achieved (possibly up to 7%), resulting in greater carbon savings.
- 2.2 The Royal Commission on Environmental Pollution<sup>20</sup>, identified biomass heat as an efficient means of saving carbon and a practical substitute for fossil-fuelled systems. The Carbon Trust's<sup>21</sup> study concluded that biomass sourced within the UK has the potential to deliver carbon savings of up to 5.6MtC/a. It also identified that certain sizes of biomass heating systems are closer to being economic without subsidy at the present time than others. In particular, it concluded that industrial and commercial plants with a thermal capacity of 2MW, that displace the use of fuel oil, offer the most economic way of saving carbon of the scenarios they investigated.

<sup>18</sup> [http://www.dti.gov.uk/renewables/policy\\_pdfs/heatreportfinal.pdf](http://www.dti.gov.uk/renewables/policy_pdfs/heatreportfinal.pdf)

<sup>19</sup> The total annual UK emissions of carbon in 2004 was 52 million tonnes.

<sup>20</sup> <http://www.rcep.org.uk/biomass/Biomass%20Report.pdf>

<sup>21</sup> [http://www.carbontrust.org.uk/carbontrust/about/publications/Biomass%20Sector\\_FINAL.pdf](http://www.carbontrust.org.uk/carbontrust/about/publications/Biomass%20Sector_FINAL.pdf)

- 2.3 Although biomass<sup>22</sup> currently contributes 84% of the total UK renewable energy supply and 1.4% of the total UK energy supply<sup>23</sup>, we acknowledge that the uptake of renewable heat to-date, as the Task Force Report notes, has been slow, despite the carbon savings it offers. This is in contrast to the level of activity in other countries, notably Austria, Finland and Sweden.
- 2.4 While we recognise that geographic and cultural variations may explain these differences in large part, we realise that we can learn lessons from their experience. We have sought to do so in the approaches we are adopting in response to the Task Force recommendations. We will also be undertaking further investigations of ways in which other countries, and Member States in particular, successfully promote the use of biomass heat. The Global Bio-energy Partnership and IEA Bio-energy also provide the opportunity to monitor international bioenergy policies.
- 2.5 The Task Force proposed three main routes for stimulating uptake of biomass heat in England, namely:
1. a short-term capital grant for biomass boilers and CHP systems (Recommendation 1);
  2. a longer-term support mechanism that values the carbon savings of biomass heat (Recommendation 2); and
  3. a proactive investment in biomass heat by the public sector (Recommendations 17, 18 and 19).
- The first two of these approaches are addressed in this section, while the third is discussed in Section 6: Public estate & procurement. Other potential barriers to uptake, such as gaps in information provision and regulatory issues, are covered in other sections.
- 2.6 A large reservoir of biomass exists, or could be produced, within the UK, and biomass heating systems can offer significant potential for cost-effective reduction of carbon emissions. We agree with the Task Force's analysis that a major barrier to investment is the initial higher capital cost compared with fossil fuel systems, as ongoing running costs are likely to be competitive at current energy prices at a variety of scales. We also agree that the absence of widespread take-up in the UK, and the resulting lack of opportunity to observe biomass heat systems working reliably over time, can lead to a perception of greater risk than with a conventional system.
- 2.7 Capital grant support for biomass heat installations in England has been provided previously under the DTI/Big Lottery Fund Bio-energy Capital Grants Scheme, the Community Energy Programme and the Clear Skies initiative. The Bioenergy Capital Grants Scheme has offered grant funding since 2003 for bio-energy installations across the UK, including heat and CHP systems. To-date more than 100 biomass-fuelled boilers with a total capacity of 12MWth, and a biomass CHP system with 2.7MWe and 10MWth capacity,

<sup>22</sup> including landfill gas and waste combustion.

<sup>23</sup> DTI Energy Statistics: [http://www.dti.gov.uk/energy/inform/energy\\_stats](http://www.dti.gov.uk/energy/inform/energy_stats).

have been installed through the scheme. Further installation of systems is expected under the scheme, which should at least double the installed thermal capacity. A further round of the Bio-energy Capital Grants Scheme, focussed on biomass heat and CHP, was launched on 12 April 2006. It will have at least £2 million available for new projects.

## CASE STUDY

### BALCAS SAWMILL CHP PLANT

A biomass Combined Heat and Power (CHP) facility at Balcas Timber's site, near Enniskillen in Northern Ireland, was commissioned in 2005 and has benefited from £2 million of funding from DTI under the Bioenergy Capital Grants Scheme (BCGS). Energy Minister, Malcolm Wicks MP formally opened the plant during a visit to Northern Ireland in February 2006.

The CHP plant (2.7MWe/10MWth) makes Balcas' Enniskillen sawmill site self-sufficient in electricity, saving nearly £0.5 million a year, with surplus electricity sold to the Northern Ireland grid. The CHP plant also powers one of the largest biofuel pellet production facilities in the British Isles. This produces 50,000 tonnes of biofuel pellets annually, sufficient to meet the energy needs of 10,000 households.

Balcas see the potential for replication of the project elsewhere in the UK. As well as being carbon neutral and a direct replacement for fossil fuels, at today's prices biofuel pellets are reported to be 20% cheaper than oil.

- 2.8 The Low Carbon Buildings Programme (LCBP)<sup>24</sup>, which started in April 2006, has an £80 million budget over three years and supersedes the Clear Skies Initiative and Photovoltaic Major Demonstration Programme. The new programme aims to take a more holistic approach to reducing carbon emissions by innovatively combining energy efficiency and microgeneration technologies.
- 2.9 The LCBP includes support for small-scale biomass heating for homes, communities and schools. The Programme is one of a number of measures highlighted in the recently published Microgeneration Strategy, of which the objective is to create conditions under which small-scale production of heat and/or electricity from a low carbon source becomes a realistic alternative or supplementary energy generation source for the householder, for the community and for small businesses.
- 2.10 We agree that additional measures are needed to provide a stable framework for further support in the coming years. We therefore announced, as part of the Climate Change Programme Review (CCPR), the introduction of a five year grant scheme to support

<sup>24</sup> [www.lowcarbonbuildings.org.uk](http://www.lowcarbonbuildings.org.uk)

biomass boilers and CHP in the commercial, industrial and community sectors.

The scheme will offer £10-15 million in its first two years of operation and will build on the further round of the Bio-energy Capital Grants Scheme described above. We expect to open it for applications around the end of 2006, subject to receiving the necessary State Aid clearances. We will consult on the detailed design of the scheme to ensure that its aims and objectives complement those of the LCBP and to streamline administration.

- 2.11 The rate of aid under the scheme is subject to EU State Aid Rules<sup>25</sup> that broadly limit the level of funding available to the commercial and industrial sectors to a maximum of 40% of the additional costs of the biomass boiler infrastructure, over and above the cost of a comparable fossil-fuelled boiler. While the Task Force suggested that the aid should cover 40% of the entire cost, our analysis indicates that aid linked to the additional cost is sufficient to ensure take-up in these sectors.

## Longer term support

### Recommendation 2

“In order to recognise the carbon value of biomass heat the Government should consider and report on potential mechanisms for long-term support including the EU Emissions Trading Scheme, Climate Change Levy and the Energy Efficiency Commitment.”

**We will examine longer-term mechanisms for supporting renewable heat as recommended, taking account of conclusions from the Energy Review and EU developments, and will report on this work within twelve months.**

- 2.12 We agree with the Task Force that different options should be considered for supporting biomass heat in the longer term. The need for such support will be dependent on market developments, further experience of the wide range of technologies concerned and the cost-effectiveness of support for biomass compared with other carbon-saving measures.
- 2.13 During the Task Force's work there was significant interest in the possible introduction of a renewable heat obligation, as previously suggested in the report from the Royal Commission on Environmental Pollution. We note the Task Force's recommendation that the government should not pursue an obligation and will consider the evidence on this further. We will, as the Task Force has recommended, look closely at other support methods including emissions trading and promotion of renewables through the Energy Efficiency Commitment<sup>26</sup>. This work will take account of EU discussions, including new EU legislation on renewable heat as envisaged in the Commission's Biomass Action Plan,

<sup>25</sup> [http://www.europa.eu.int/eur-lex/pri/en/oj/dat/2001/c\\_037/c\\_03720010203en00030015.pdf](http://www.europa.eu.int/eur-lex/pri/en/oj/dat/2001/c_037/c_03720010203en00030015.pdf)

<sup>26</sup> <http://www.defra.gov.uk/environment/energy/review/index.htm>

the UK's Energy Review, the Microgeneration Strategy and the outcome of the Climate Change and Sustainable Energy Bill<sup>27</sup> currently before Parliament.

- 2.14 By zero-rating emissions from biomass, the European Emissions Trading Scheme<sup>28</sup> provides an incentive for operators of installations covered by the scheme (e.g. power stations, combined heat and power plants and industrial plants) to increase the proportion of biomass fuels used. The second phase of the EU Emissions Trading Scheme will run from 2008 to 2012, coinciding with the first Kyoto Protocol commitment period.
- 2.15 In developing their National Allocation Plans for the next phase, Member States will have to demonstrate how they intend to use the scheme and other policies and measures (including those relating to biomass) to achieve their targets under the burden sharing agreement. It is planned that the scheme will continue beyond 2012 and, as noted by the European Environment Council in October 2005, it will remain an essential instrument in the EU's medium to long term strategy to tackle climate change. The Commission will be reviewing the operation of the scheme later this year. In developing our policy on the review we will consider how the scheme might be refined in the future including whether it could be used to provide greater incentives for renewable heat sources.
- 2.16 The terms of reference for the Task Force study excluded making recommendations on tax issues. However, the Government has proactively taken steps to reduce the duty on biomass boilers to bring it into line with the VAT on equivalent gas boilers and encourage the take-up of biomass heat; details are provided in Section 8.

## ACTIONS

- **New round of the Bio-energy Capital Grants Scheme to be run in 2006, dedicated to biomass heat/CHP projects.**
- **Launch of Low Carbon Buildings Programme and publication of Microgeneration Strategy.**
- **New five-year capital grant scheme for biomass heat and biomass Combined Heat and Power projects, to be introduced around end 2006 subject to EU state aid clearance, following development of the scheme design with stakeholders.**
- **Examine longer-term mechanisms for supporting renewable heat as recommended, taking account of conclusions from the Energy Review and EU developments, and report on this work within twelve months.**

<sup>27</sup> <http://www.publications.parliament.uk/pa/cm200506/cmbills/017/2006017.htm>

<sup>28</sup> <http://europa.eu.int/comm/environment/climat/emission.htm>

### Section 3:

## Waste & Anaerobic Digestion

### Energy from waste

#### Recommendation 3

“The Task Force recommends that the Government initiates an awareness raising programme which promotes waste as a valuable asset and which actively encourages the efficient and safe recovery of energy from waste (post re-use and recycling). In parallel with this process, and working with the waste industry, the Government should develop a strategic plan for the use of energy from waste, focused on those plant types which optimise carbon savings and the off-take use of heat and electricity. Appropriate measures, which would actively encourage such developments, should be considered. This should be fully reflected in the Government's Waste Strategy.”

#### Recommendation 4

“The Government should set up a strategic group within the Waste Implementation Programme to take forward the development of wood waste as an energy source. This group should include representation from WRAP, given its knowledge of the recycling industry and expertise in industry development.”

#### Recommendation 5

“Government should continue to fund, at an appropriate level, the work of the Waste Technology Data Centre, at the Environment Agency. Their ongoing analysis of waste technology performance is key to ensuring that waste incineration plants can reliably meet performance, environmental impact and financial specifications, and so build confidence in the emerging industry.”

**The Government agrees that waste is a valuable asset with a significant potential as a source of renewable energy, once all options for re-use, recycling and composting have been explored. Subject to the outcomes of the ongoing Waste Strategy and Energy Reviews, we will seek to encourage appropriate energy from waste technologies and awareness of them. We will also encourage the appropriate use of waste wood for energy and provide continued support to the Waste Technology Data Centre.**

- 3.1 In 2000, the Government set out its twenty year strategy for waste management in England and Wales<sup>29</sup>. In it we identified the approaches available to us for managing the 29 million tonnes of municipal solid waste we produce annually in England. We also reaffirmed the principle of prioritising the re-use and recycling of wastes ahead of energy recovery and disposal of waste to landfill, in line with the European waste hierarchy<sup>30</sup>. Six years on, we are undertaking a review of this strategy<sup>31</sup>.
- 3.2 Our overall objective in producing a revised strategy is to reduce further the impacts of waste management on the environment, while developing the economic benefit of using waste as a resource and meeting European obligations. We will look to offer a clearer longer-term vision for waste and resource management as part of the Government's drive for Sustainable Development. We expect energy from waste (EfW) to play an increasingly important part, alongside higher recycling, as we continue to move away from landfilling waste.
- 3.3 We recognise, as did the Task Force, that recovery of energy from those wastes that cannot realistically be re-used or recycled also presents an opportunity for energy policy. Generating EfW has benefits for the security of our energy supply, by reducing our dependence on foreign fuel supplies, and for climate change mitigation – areas that are being looked at in the current Energy Review.
- 3.4 But we also recognise that EfW has not been, in every case, a popular option, particularly among local residents where new facilities are proposed. In our waste strategy consultation we outline the role and benefits of recovering energy from appropriate waste streams that would otherwise be disposed of to landfill, and seek views on our proposal to encourage this approach.
- 3.5 The Task Force strongly recommended that Government should develop a strategic plan for the use of EfW, focussed on those plant types that optimise carbon savings and the off-take use of heat and electricity. While we await the outcome of the current consultation to help direct future policy and strategy, our existing policy has been to promote those advanced technologies that offer a more efficient route for energy recovery from wastes. Electricity generated from pyrolysis, gasification and anaerobic digestion are currently supported under the Renewables Obligation<sup>32</sup>. We agree with the Task Force's emphasis on the need to use the heat element of EfW and have recently included support for the power element of 'good quality' CHP fuelled by waste within the Renewables Obligation. This should help EfW projects consider making use of the heat produced in the combustion process to deliver this aspiration, through the encouragement of CHP.
- 3.6 A key message of the progress report Defra published in February 2006 on the revision of its Waste Strategy, is that waste is a valuable asset. Much publicly funded activity – for

<sup>29</sup> Waste Strategy 2000 for England and Wales <http://www.defra.gov.uk/environment/waste/strategy/cm4693/index.htm>

<sup>30</sup> [http://europa.eu.int/eur-lex/en/consleg/pdf/1975/en\\_1975L0442\\_do\\_001.pdf](http://europa.eu.int/eur-lex/en/consleg/pdf/1975/en_1975L0442_do_001.pdf)

<sup>31</sup> <http://www.defra.gov.uk/corporate/consult/wastestratereview/index.htm>

<sup>32</sup> [http://www.dti.gov.uk/renewables/renew\\_2.2.htm](http://www.dti.gov.uk/renewables/renew_2.2.htm)

example, Waste and Resources Action Programme (WRAP)'s 'Recycle Now' campaign – is already being directed at raising awareness of the resource potential of waste.

- 3.7 Given that it is generally preferable to recycle or re-use waste rather than to recover energy from it, the Strategy reflects this by recommending that EfW is pursued with safeguards to ensure that it does not increase at the expense of recycling or waste minimisation. Decisions on waste infrastructure procurement are taken by local authorities for municipal waste, and by the market for other waste, in the light of the minimisation and recycling opportunities available to them. Government's role is to provide a framework within which these actors can maximise the environmental benefits – through carbon savings, reuse of heat and the generation of electricity – at an acceptable cost. We will return to these complex issues later in the year, when we publish the final revision of Waste Strategy 2000.
- 3.8 In the meanwhile, the Environment Agency is developing a Life Cycle tool (Waste and Resources Assessment Tool for the Environment, WRATE) to assist waste managers in appraising the environmental impacts of different strategies for waste management. This tool will include a range of recycling, composting, anaerobic digestion and EfW options for Municipal Solid Waste and will be released later in the year.
- 3.9 Following the recent review of the Renewables Obligation (RO), the Government has also amended the rule that required at least 98% of the calorific value of the biomass fuel to be derived from plant or animal matter. We have reduced the figure to 90% to encourage the use for energy generation of some potential fuels, such as waste woods that are presently sent to landfill, that are very largely biomass in content but do not meet the requirements of the 98% rule.
- 3.10 The Government has also taken two additional steps to support the market development for EfW, including for Refuse Derived Fuel (RDF), in a manner consistent with the waste hierarchy. Firstly, it has started work to identify possible end users of RDF and to quantify the likely demand for it, as potential users appear often poorly informed about its use. Secondly, the Chancellor's 2005 Pre-Budget Report announced the Government's intention to develop options for an enhanced capital allowance scheme to encourage investment in markets for the outputs of new waste treatment facilities, including for RDF. These should enable RDF to compete more fairly with solid fuels. The Government will also be considering the case for targeted financial and other support for the delivery of energy from waste facilities.
- 3.11 These actions, combined with our ongoing work in Europe to provide input and guidance to the discussion of the European Commission's Waste Thematic Strategy and to the revision of the Waste Framework Directive, plus the framework of targets and tax we have put in place to encourage reduced use of landfill, should all help to move this

<sup>33</sup> <http://europa.eu.int/comm/environment/waste/strategy.htm>

<sup>34</sup> <http://europa.eu.int/comm/environment/waste/legislation/a.htm>

sector forward. Our work, on the issue of ‘when a waste ceases to be a waste’ is progressing. We have funded the Environment Agency and the Waste & Resources Action Programme (WRAP) to develop national protocols on ‘when a waste ceases to be a waste’.

- 3.12 In addition, the proposals for a revised Waste Framework Directive include a provision that, if adopted, would allow for the exclusion from the Directive’s controls of waste faecal matter, waste straw and other natural non-hazardous wastes from agricultural production that are used for the production of energy from biomass through using processes or methods that do not harm the environment or endanger human health.
- 3.13 The Task Force’s recommendation on awareness raising highlights a number of complex issues around EfW. Uptake of EfW at a level commensurate with its environmental and economic benefits is hampered by an under-appreciation of its benefits for climate change and security of supply, as well as by misplaced fears of its impact on human health. The Government agrees that there is work to do to address both these problems, which it will develop in the course of revising its Waste Strategy.

## CASE STUDY

### Waste Technology Data Centre

The Waste Technology Data Centre, at the Environment Agency, collects and assesses waste treatment technology data from around the world. It also offers advice and provides impartial information on the regulation, authorisation, performance and costs of waste management technologies and their overall environmental value.

The Centre has developed a series of tools to allow the comparison of processes and assess their utility in the UK. The outcomes of their assessments are used and adapted by UK Local Authorities to compare treatment routes for the municipal wastes arising in their areas.

By fully exploiting the resource, including the energy potential of waste, the UK will be able to realise the significant climate change benefits that will accrue through the production of renewable energy and resulting carbon savings.

- 3.14 We agree that action is needed to prevent waste wood that could be used for energy generation instead being sent to landfill. The Task Force highlighted this issue, noting that up to 3 million tonnes of waste wood could potentially be redirected to energy recovery each year. We agree with their recommendation and, in addition to the changes in the RO (in paragraph 3.8), have established a team within the Waste Implementation

Programme (WIP)<sup>35</sup> to work with industry to develop markets for waste-derived biomass and identify companies with existing fuel chain management expertise. The remit of this team will extend to Solid Recovered Fuel (SRF) and Refuse Derived Fuel (RDF) – as outlined in paragraph 3.9 above - and to developing markets for wood waste as a primary fuel source. Our aim is to re-direct appropriately the landfilled waste wood resource to energy production while preventing other end uses of waste wood being compromised. To this end, we have agreed with the Waste & Resources Action Programme (WRAP)<sup>36</sup> that they will provide expert advice to the team to help avoid the diversion of other waste wood streams from recycling and re-use.

- 3.15 We also agree with the Task Force's assessment of the importance of the work undertaken by the Environment Agency's Waste Technology Data Centre<sup>37</sup> (see case study) and that it should continue to be supported. Funding of the Centre has previously been on an England-only basis. From April 2006, the Government, with the Devolved Administrations of Northern Ireland, of Scotland and of Wales, will fund the Centre jointly, subject to budget provision and to satisfactory outcomes within the current Memorandum of Understanding with Defra. We believe that the co-funding of the Waste Technology Data Centre will place it on an even firmer financial footing for the future.
- 3.16 In addition, in order to clarify the regulatory requirements of the use of biomass for energy recovery, the Environment Agency has published in April 2006 a document setting out the requirements of relevant waste management, environmental controls and other biomass legislation and initiatives.

<sup>35</sup> <http://www.defra.gov.uk/environment/waste/wip/index.htm>

<sup>36</sup> <http://www.wrap.org.uk/>

<sup>37</sup> <http://www.environment-agency.gov.uk/wtd/>

## ACTIONS

- Publish outcomes of the Energy Review and Waste Strategy Review on energy from waste.
- Identify possible end users of RDF and SRF, and quantify the likely demand for these fuels.
- Government to continue to consider the potential for an enhanced capital allowance scheme to encourage investment in markets.
- Continue to provide input to the discussions in Europe on the Waste Thematic Strategy and the revision of the Waste Framework Directive.
- Subject to the outcome of the Waste Strategy Review, liaise with industry and other stakeholders on plans to develop an awareness raising programme on energy from waste.
- Develop markets for wood waste as a primary fuel source, through the WIP team.
- Continue to fund the Environment Agency's Waste Technology Data Centre, subject to budget provision and to satisfactory outcomes within the existing Memorandum of Understanding with Defra.
- Clarification of the regulatory requirements of the use of biomass for energy recovery by the Environment Agency by April 2006.

## Anaerobic Digestion

### Recommendation 6

“ The Government should review its current strategy for the Anaerobic Digestion sector. In doing so, we recommend that it considers practical and financial mechanisms for encouraging the expansion of the UK's AD capacity, while ensuring that new AD systems deliver the optimal balance between production of biogas and prevention of uncontrolled methane emissions.”

### Recommendation 7

“ We support the industry's request for a PAS 100 Standard for digestate resulting from Anaerobic Digestion and recommend that the Government considers, seriously and urgently, options for progressing this.”

### Recommendation 8

“ We recommend that the Government carries out an economic and environmental assessment of the potential of AD biogas as an alternative (renewable) fuel to displace diesel.”

**The Government agrees with the need to review our approach to anaerobic digestion, including work to identify the optimum systems for biogas production and methane mitigation, the introduction of quality standards for digestate and the assessment of the feasibility of using AD biogas as an alternative to diesel.**

- 3.17 We recognise that anaerobic digestion can offer an effective means to manage certain waste streams, to generate energy and income, and as a means of helping to mitigate climate change. Our support of anaerobic digestion through the RO reflects this belief. We are committed to reviewing our current approach to anaerobic digestion within twelve months of this response. Alongside work as part of the international Methane to Markets Partnership<sup>38</sup>, the Waste Strategy and commitments in the UK Climate Change Programme, this review will build up a body of economic, environmental and practical knowledge that will underpin any future decisions on policy direction and support. The review will be able to draw upon a range of research on the best use of technology, to maximise gas production and minimise fugitive emissions, and on the economics of on-farm anaerobic digestion.
- 3.18 Our work on a standard for the digestate resulting from anaerobic digestion has gone beyond the Task Force's recommendation. The Task Force recommended that a PAS 100 Standard<sup>39</sup> be developed. The Environment Agency is currently working with partners to have the PAS 100 Standard upgraded so that, where there is also certainty of use and no or negligible risk of pollution of the environment or harm to human health, the outputs from processes such as anaerobic digestion may be considered as fully recovered for the purposes of the Waste Framework Directive and therefore no longer subject to the Directive's controls. This process is expected to take up to a year to complete and has been undertaken with the agreement of the industry.
- 3.19 We agree with the Task Force's recommendation that an economic and environmental assessment of the potential of biogas as an alternative fuel be undertaken. As outlined in paragraph 3.16, research has already been carried out into the economics of on-farm anaerobic digestion system. This will underpin any future assessments of the economic viability of using biogas produced on-farm as a diesel substitute.
- 3.20 The Government recognises the strong environmental performance of biogas over conventional sources of fuel. We have applied a reduced duty rate for natural gas (including biogas) of only 9 pence per kilo – the equivalent of a 41 pence or so fuel duty incentive compared to diesel – in recognition of its greater greenhouse gas and air quality savings.

<sup>38</sup> <http://www.methanetomarkets.org/>

<sup>39</sup> BSI PAS 100 is a publicly available specification for compost materials prepared and published by the British Standards Institute.

- 3.21 We are currently considering how best to integrate biogas into the Renewable Transport Fuel Obligation that is being introduced on 1 April 2008. Subject to clearance from the European Commission, the Government will also provide 100% first year enhanced capital allowances to encourage investment in biogas plants, which produce fuels that meet relevant fuel quality standards.
- 3.22 The Government is also supporting a demonstration project in Surrey to investigate the possible use of biogas from landfill sites in heavy vehicles. The biogas used as part of the trial has been exempted from fuel duty altogether and the results from the trial will inform future Government policy on the tax treatment of biogas. Finally, we are participating in a research project led by the National Society for Clean Air to review the options for biogas in transport in the UK. The project, which is due to conclude in summer 2006, is considering the potential for biogas to secure environmental improvements and the economical, technical and practical obstacles to biogas as a mainstream transport resource.

## ACTIONS

- **A review of the Government's approach to anaerobic digestion will be undertaken within twelve months of the publication of this response.**
- **A quality protocol for waste composting – such as AD digestate – will be published by the Environment Agency and Waste & Resources Action Programme (WRAP).**
- **Government will continue to consider how best to integrate biogas into the Renewable Transport Fuel Obligation that is being introduced on 1 April 2008.**

## Section 4:

# Dedicated biomass electricity

## Co-firing of biomass with coal

### Recommendation 9

“ The Government should act with urgency to remove the overly bureaucratic arrangements that are applied to co-firing. Specifically, OFGEM should:

- develop simple monitoring arrangements to facilitate off-site blending;
- introduce sampling arrangements which are appropriate, proportionate and fit good business practice; and,
- replace the end-of-month sampling and reconciliation procedures, taking account of relevant commercial practice with end-of-year reconciliations alone.

**The Government agrees that overly bureaucratic arrangements for biomass electricity should be removed and is implementing changes in line with the Task Force recommendations. We have also announced a review of co-firing of biomass with coal as part of the Energy Review, focusing on the role of co-firing in relation to wider strategic objectives.**

- 4.1 The Task Force drew attention to the relative inefficiency, in terms of energy use and carbon saving, of electricity-only generation from biomass compared with heat or CHP. We have noted earlier in this response that the Bio-energy Capital Grants Scheme is successfully stimulating project development and this includes a number of electricity generation projects. We recognise that while, from an efficiency perspective, there should be a preference for combined heat and power projects, we also understand the practical difficulties attached to finding available heat loads. We recognise that developers will need to consider the counter-party risks of the heat customer when financing biomass projects. We will take account of the Task Force's comments in developing our longer term Biomass Strategy, recognising that biomass electricity remains an important contributor to the targets for renewable electricity.
- 4.2 Co-firing of biomass with coal was originally established within the Renewables Obligation (RO) as a transitional measure to develop robust biomass supply chains and to help suppliers progress towards the UK's renewable energy target. Co-firing has been very popular with generators and the majority of coal-fired power stations in the UK have co-fired with low percentages of biomass. This development is providing strong stimulus to the expansion of energy crops. We have recently announced a specific review of co-firing as part of the Energy Review and have made clear that among other objectives we wish to ensure that we continue to incentivise the development of purpose-grown energy crops.

- 4.3 The RO requires licensed electricity suppliers to source a proportion of their supplies from renewable sources. The Gas and Electricity Markets Authority, whose day to day functions are performed by Ofgem<sup>40</sup>, is given powers and functions under the relevant Orders. Ofgem cannot act beyond the scope of the powers laid down in the Orders, but in conjunction with Ofgem the Government is always keen to consider any suggestions on how procedures or controls could be simplified or improved. The Task Force's analysis has been very helpful in focusing on some specific areas where there seemed to be scope for change.
- 4.4 As part of the Review of the RO<sup>41</sup> in 2005, we have reviewed the current requirements for the measurement, sampling, analysis and reporting of fuels used in generating stations burning biomass, and considered arguments that the rules were unnecessarily complex and burdensome. Given the high value attached to the award of Renewables Obligation Certificates (ROCs), we also took account of the need to maintain an acceptable level of rigour in relation to the administration of the scheme in this area and to ensure that ROCs issued accurately reflect the biomass content of fuels used to generate electricity. This is particularly the case for generating stations in which a wide range of different biomass fuels may be used over short periods of time.
- 4.5 The Review has concluded that the sampling and measurement requirements should be reduced for biomass fuels in cases where the generator in question has provided Ofgem in the past with consistent evidence about the calorific value and biomass content of that fuel. We believe that this change will be of benefit to a number of biomass generators and co-firers who have established long-term biomass fuel supply arrangements.
- 4.6 We have therefore now amended the RO Order to provide Ofgem with the flexibility to introduce reduced sampling requirements for biomass fuels where there is established and consistent evidence about the calorific value and biomass content of the fuel. We have worked with Ofgem and industry through the Biomass Fuels Working Group to develop the detailed implementation of this change. We have also made other changes to the Order to simplify the administration of the RO, which will benefit co-firing as well as other forms of generation, and to encourage energy generation from biomass waste (details of the latter are in Section 3 of this response).
- 4.7 Ofgem have carried out a survey of sampling and measurement of all generators and revised guidance is available on the Ofgem website<sup>42</sup>. They will continue to look at specific issues that arise in connection with energy crops and waste, and guidance on measurement of the biomass fraction of mixed wastes has also been developed through the Biomass Fuels Working Group.

<sup>40</sup> <http://www.ofgem.gov.uk/>

<sup>41</sup> [http://www.dti.gov.uk/renewables/renew\\_2.2.5.htm](http://www.dti.gov.uk/renewables/renew_2.2.5.htm)

<sup>42</sup> <http://www.ofgem.gov.uk/ofgem/work/index.jsp?section=/areasofwork/renewobligation>

- 4.8 We believe that the actions taken, and the further work in hand to develop detailed implementing measures, will meet the concerns expressed in the Task Force report while maintaining the necessary level of control. At a wider strategic level we will take forward the important review of co-firing as described, in consultation with all interested parties.

## Small scale generators

### Recommendation 35

“ The Task Force supports the Government's efforts, in the review of the RO, to find a simple and straightforward way to help facilitate the development of smaller-scale generation. The Task Force recommends that the Government take forward the RO review proposals that agents be allowed to act on behalf of small generators and to amalgamate the output of small generators and that the requirement for sale and buy-back agreements be removed.”

**The Government supports the Task Force's conclusions on the use of agents for small generators and is seeking legislation to bring these changes into force.**

- 4.9 The Biomass Task Force identified that small generators of electricity are not able to capture the full value of ROCs. They supported the proposals, set out in the 2005/06 Review of the RO, which were designed to enable small generators to benefit from the Obligation.
- 4.10 Two main amendments for smaller generators were proposed – removing the sale and buyback requirement, and allowing agents to act on their behalf and amalgamate output from a number of different generating stations.
- 4.11 Both of these changes require primary legislation and we aim to take them forward through amendments to the Climate Change and Sustainable Energy Private Member's Bill, which has been introduced by Mark Lazarowicz MP. We also plan to take broad primary legislative power to make further changes in these areas in the future, through further, more detailed amendments to the RO Order. Subject to the successful passage of this Bill through Parliament, we intend to remove the sale and buyback requirement for small generators from 1 April 2007, as well as making changes to the RO Order to implement the proposals in relation to agents. We will consult on the detail of these changes later in 2006.

4.12 These changes are in addition to the host of measures to encourage small-scale generation of heat and power set out in the Government's Microgeneration Strategy.

## **ACTIONS**

- **Undertake a Review of co-firing as part of the Energy Review.**
- **The Government is seeking legislative amendments to achieve these changes through the Climate Change and Sustainable Energy Bill. Subject to the successful passage of the Bill through Parliament, the Government will consult on the details of implementing the changes later in 2006.**
- **Amendments have been made to Renewables Obligation to address concerns on excessive bureaucracy for small scale generators.**

## Section 5:

# Delivering the policy & message

## Ownership in Government and the Regional Development Agencies

### Recommendation 10

“ The Secretaries of State for Trade and Industry and Environment, Food and Rural Affairs should take overall responsibility for the Government's commitment to act on the recommendations of the Biomass Task Force and should appoint Ministers in their Departments to lead jointly the detailed implementation. Within 6 months of publication of this report an implementation plan to take forward Task Force recommendations should be delivered to Government through the Sustainable Energy Policy Network and published.”

### Recommendation 13

“ To help the development of biomass energy, Regional Development Agencies should, with regional partners and by June 2006, set targets for delivery of carbon savings in their regions, for which biomass will form an important part. RDAs should consider delivery through a limited company based on the model developed by EEDA and SWRDA and must embrace all renewables groups in the regions and maximise use of public funding by minimising duplication.”

**This document meets our undertaking to publish a response within six months of the Task Force report and we will proceed with the agreed actions under the overall responsibility of the Secretaries of State as recommended.**

**We support the development of regional carbon targets and are working actively with RDAs on this. We expect to bring forward proposals jointly over the coming year. We also support the Task Force's comments on regional delivery arrangements, though we recognise that different regions will need a delivery structure suited to their individual needs and resources.**

- 5.1 The Secretaries of State are pleased to agree to the role envisaged by the Task Force, and are also making this response on behalf of the government as a whole.
- 5.2 The Energy White Paper emphasised the key role of regional bodies in developing and implementing a strategic approach to energy in each region, including the setting of targets for renewables and energy efficiency. Planning Policy Statement (PPS) 22

subsequently confirmed that each region should set targets for renewable energy capacity; the action we are taking to review the implementation of PPS22 is described in Section 7 of this response.

- 5.3 The Government is working with representatives of the Regional Development Agencies (RDAs) to respond to the recommendations that all RDAs should set targets for carbon reduction. Discussions so far have been positive, and the Government and RDAs expect to bring forward proposals jointly over the coming year, if possible by June 2006.
- 5.4 RDAs, working with regional partners, continue to work to develop the right structures to drive regional delivery of energy policy objectives. The Government will work with them and offer guidance as necessary.
- 5.5 We agree that engagement of all renewables groups in the regions is crucial. For biomass, initiatives are moving ahead in many areas such as partnerships integrating supply and demand for woodfuel energy (further information on these is in Section 9). The regional delivery structures need to ensure that existing and new activities of this kind are effectively co-ordinated, avoiding overlap, and assist in the delivery of the overall strategic approach to energy in each region.
- 5.6 At the same time we recognise that structures need to be tailored to the circumstances and priorities in each region. The key factor is that 'form should follow function', i.e. that clear objectives for delivery should be set and the best means of achieving them should follow. Regional renewables or energy companies/agencies have made a significant impact in the regions where they have been established, and other regions are encouraged to consider them where appropriate to the particular circumstances in their regions.

## Advice, dissemination and awareness raising

### Recommendation 11

" Government should establish the Carbon Trust as the national focus of knowledge and analysis on biomass energy for dissemination by the RDAs."

### Recommendation 12

" Government should ask the Energy Saving Trust, in addition to its existing work on small-scale renewables, to take a role in providing information to address the current lack of knowledge and awareness of biomass energy."

### Recommendation 14

" Carbon Trust and the Energy Saving Trust should provide annual reports on progress and work closely with the RDAs as the regional delivery partners. By April 2006 they should set out for stakeholders their respective roles and if gaps are identified explain how they will be filled."

### Recommendation 25

" The Task Force recommends that technical, economic and best practice information be brought together by June 2006 and made available and sent to key stakeholders. The Carbon Trust, Energy Saving Trust, RDAs and Regional Assemblies should include biomass energy awareness raising amongst current publicity and promotional work. The development of biomass heating in schools should be used as an opportunity. Awareness raising should include information in the potential of biomass from waste."

**The Government supports the Task Force's general approach to the roles of the Carbon Trust and Energy Saving Trust and through the Forestry Commission is providing resource for a new Biomass Energy Centre to complement their activities and those of the RDAs in the regions.**

**A need remains for further clarity and cohesiveness in structures for advice, information and awareness raising for biomass. We will work further with industry and the bodies concerned over the coming year to achieve this.**

- 5.7 We have reflected carefully on the Task Force's conclusions on the roles of the Carbon Trust and Energy Saving Trust and have taken account of further developments as described below. Most of the RDAs host a Carbon Trust Regional Manager and they work with the Energy Saving Trust on regional promotion and co-ordination of renewable energy. We believe that generally good co-ordination already takes place at regional level

between these bodies but as explained below we will take steps to review the structures further to ensure the best level of customer service to meet needs for effective development of biomass.

- 5.8 The Carbon Trust is already a national focus in the non domestic sector for advice and knowledge on energy efficiency, low carbon building design and a range of low-carbon technologies where it has existing programme activities (such as marine). The Carbon Trust published, in October 2005, its Biomass Sector Review and is now moving ahead with its Biomass Heat Accelerator Project. This is the largest Accelerator ever undertaken by the Carbon Trust, with a budget of up to £5 million over a period of up to five years. The Carbon Trust's programme aims to help make the UK biomass heat market self-sustaining through reducing costs and addressing supply chain risks. In line with the comments of the Task Force, the Carbon Trust is giving particular focus to proactive dissemination activities for biomass as it builds expertise in the non domestic biomass sector, and will use and build on approaches used successfully in other accelerator projects. This may include activities such as creation of online web content, distribution of newsletters, publishing case studies and holding seminars for various stakeholder groups.
- 5.9 The Carbon Trust's activities on biomass are aimed at the non domestic sector and are not yet developed to the point where it could take on the full role envisaged by the Task Force as the single national focus of knowledge and analysis for biomass. We are therefore pleased to announce that a new Biomass Energy Centre is being established within the Forestry Commission's Research Agency for both the general public and industry. The Forestry Commission is launching the Centre in conjunction with this response and has published initial information on the Centre on its website. They will be pleased to discuss the operation further with all with an interest in this area.

## BIOMASS ENERGY CENTRE

- Owned and managed by the Forestry Commission but with a remit covering the whole range of biomass – forestry, energy crops and waste.
- To provide technical and scientific advice, information and best practice guidance including information on technologies, environmental issues and funding.
- Dedicated website and helpline.
- Activities guided by a Steering Group consisting of other information providers and stakeholders.
- Staffed by expert advisers with clear focus on market development.
- Linking development to assessment of barriers and risks, including environmental aspects of land management.
- Helping land managers to optimise benefits, including the management of woodlands to improve biodiversity while providing revenue from biomass.
- A single point of contact on biomass – aiming to become a one-stop-shop – that can provide links as required to more specialised sources of information, including other renewables technologies.
- Actively engaging with regional and national information providers, supplying them with core information and responding to their specific information needs.

5.10 The Energy Saving Trust has as its primary focus the provision of advice and promotion of energy efficiency and renewable energy at the domestic, small business and community level. It is also very active in the public sector and in promoting sustainable transport. The Energy Saving Trust's activities thus already include important elements of the awareness raising role envisaged by the Task Force and this will be developed further. The Energy Saving Trust activity includes piloting three Sustainable Energy Centres that cover the full remit of sustainable energy. EST will also be acting as delivery agents, in conjunction with BRE, on the DTI's Low Carbon Buildings Programme (further information is provided on this in Section 2), and will be publishing best practice guidance to housing professionals in the construction industry under their Energy Efficiency Best Practice Programme.<sup>43</sup>

5.11 We agree that a degree of uncertainty may remain on the precise roles and relationships between the two Trusts where their roles converge. However, their activities are mainly

<sup>43</sup> <http://www.est.org.uk/housingbuildings/professionals/>

complementary. In the small and medium size business and local authorities the two Trusts work proactively to manage and co-ordinate activities. The Trusts and the Forestry Commission will work together to share views and address the gaps of the biomass sector and to continue to manage proactively any areas of potential overlap. They will, as recommended, publish annual updates of their activities including their work in relation to biomass.

- 5.12 The information above is a summary of the overall position on the roles of the Carbon Trust and Energy Saving Trust, and more detailed information is available on their websites and literature. These will be reviewed to ensure that the clearest information is available and where necessary updated material will be published by July 2006.
- 5.13 We accept the Task Force recommendation on collating technical, economic and best practice information and will aim to complete this by June 2006. This will be carried out by the Biomass Energy Centre and the results will be freely available and publicised to all key stakeholders.
- 5.14 We have in addition provided support for the Community Renewables Initiative (CRI)<sup>44</sup>, which gives advice and support to local communities on installing renewable energy systems such as biomass energy in schools. We have recently announced that further funding of over £400,000 will be provided to the CRI in 2006/07. This work will be co-ordinated with the other activities within the regions.
- 5.15 We agree that awareness raising in schools can deliver particular benefit and this will be included in all of the relevant publicly-funded programmes we have outlined. As part of the "It's Only Natural" Programme<sup>45</sup>, DTI has developed programmes for primary and secondary schools to provide information and teaching resources about eight key renewable energy sources. We have recently announced that the Low Carbon Buildings Programme (LCBP) will include funding for renewable energy installation in schools and that Government will work with industry on a Renewable Energy in Schools Scheme, which will gather additional funding and expertise. We see exceptional opportunities for biomass in the low carbon buildings area.
- 5.16 We discuss the need for targeted awareness raising of those involved in planning at a regional and local level, and developers, in Section 8.
- 5.17 Having set out this overall structure, we acknowledge that issues remain on the overall cohesiveness of provision of advice, information and promotion of biomass and indeed other energy technologies that are yet to be widely deployed. The Task Force recommendations have been helpful in clarifying the issues and we hope that the response above will be a positive step forward. We want to ensure that everyone interested in biomass, or with a specific need for information or support, knows where to go and can find the information easily. To move further towards this position we will:

<sup>44</sup> <http://www.countryside.gov.uk/LAR/Landscape/CRI/>

<sup>45</sup> <http://www.dti.gov.uk/renewables/index.htm>

- Develop a Government overview of the delivery structures across the English regions. The regional energy strategies are based on regional priorities and circumstances, within the national policy framework for renewables. There is scope however for sharing best practice and a need to ensure that the role of national bodies, such as the Trusts described above, is effectively integrated. We will commission a study examining the delivery of local and regional energy projects. In addition we have established a project, through the National Non-Food Crops Centre, to facilitate discussions in the regions, over the coming year, on delivery and promotional activities for non-food crops and biomass.
- Ensure that the Biomass Energy Centre develops comprehensive information on sources of further advice and the particular structures that the regions have in place to deliver their strategies. This will also include information on local partnerships active in developing biomass supply or market development. The Biomass Energy Centre will have a steering group of representatives from industry and other organisations involved in providing advice or promotion of biomass.
- In the light of the initial operation of the Biomass Energy Centre over the coming year, review the development of its relationship with other bodies and make changes as needed.
- Undertake a further review of the existing support, advice and dissemination services, to examine whether they fully meet the user's needs and, if not, how gaps can be filled. Input will be sought from across the industry and stakeholders, including from independent advice bodies and local authorities, on their needs and specifically on the further development of information services. This work will take account of the overview obtained from the work outlined above and it will be coordinated with the related review of information provision for small-scale technologies announced in the Microgeneration Strategy. We will aim to publish the conclusions in the context of the Biomass Strategy within the coming year.

## Signposting

### Recommendation 26

“ Trade associations and representative bodies should take opportunities to promote the work of the Carbon Trust and the Energy Saving Trust and signpost the information that is available from those organisations on biomass.”

### Recommendation 27

“ The Government should consider the development of a logo for biomass heating boilers to signify the link with the environmental benefit being delivered.”

**The Government agrees that action is needed to tackle the general low level of awareness of the possibilities for biomass energy and support the recommendations.**

- 5.18 In addition to the activities of organisations described above, we agree that trade associations and representative bodies should take the actions recommended on signposting of information.
- 5.19 Government, through its own communications activities, will seek to play its part in promoting the wider understanding of biomass. In the Microgeneration Strategy we have undertaken to review existing promotional activity, and will assess the scope for an information and awareness campaign to signpost reliable sources of information and raise the profile of microgeneration including biomass.
- 5.20 We are grateful to the Task Force for the suggestion of a specific logo for biomass heating boilers and will consider further the best way to implement this concept, which may be through the accreditation scheme under the LCBP. This scheme includes a code of conduct and covers products and installation. It aims to provide consumers with an independent indication of reliability and a route for complaints.

## **ACTIONS**

- **Work with RDAs to develop regional carbon saving targets.**
- **Government to work with RDAs on further development of delivery and promotional structures for non-feed crops and biomass.**
- **Government to review the further steps required to develop a clear customer-focused structure of advice and information on biomass, and to work with the renewables industry in taking this forward as part of the Biomass Strategy.**
- **Launch of Biomass Energy Centre in April 2006.**
- **Launch of Biomass Heat Accelerator Project during Summer 2006.**
- **Publication of best practice biomass guidance to builders within the next twelve months.**
- **Review of Trusts' website and literature and publication of updated material by end of July 2006.**
- **Aim to collate and publish technical, economic and best practice information by the Biomass Energy Centre by end of June 2006.**
- **Review of implementing a specific logo for biomass heating over the coming year.**

## Section 6:

# Public estate & procurement

### Recommendation 17

“ The Government should aim to deliver higher standards of sustainability through maximising environmental benefits with a programme of positive preference which requires all new build and refurbishment in the public estate to consider fully the use of biomass. This recommendation links to the use of biomass heating in schools and the potential to raise awareness.”

### Recommendation 18

“ The Government Office in each region, together with the RDA and Regional Assembly should, in partnership with other Government bodies, jointly commission a survey of all the government buildings within their region and their respective heating systems. The survey should provide details of the heating boiler type, fuel requirement, age and timing of replacement for each of the buildings. It should also identify those boilers which are eligible for replacement by renewables and, in the context of this study, by biomass in particular. A programme for these conversions should be produced and executed.”

### Recommendation 19

“ Each Department, RDA, GO and local authority should, within six months of this report, set and publish ambitious carbon targets for 2010 and 2020 for the use of renewable heat, electricity and CHP in its buildings with the direct use of renewable energy being preferred to the indirect use of renewable energy by way of contracts with electricity suppliers. Targets should include schools, hospitals and other buildings in public ownership.”

**The Government agrees that it should lead by example by using biomass for heat and electricity where appropriate across its Estate. We will strengthen existing systems and develop further measures to achieve this outcome, including potentially a challenging overarching carbon target for the Government estate.**

- 6.1 In the 2003 Energy White Paper<sup>46</sup>, the Government committed itself to showing leadership in the use of new energy technologies and energy efficiency measures on its Estate. To this end, all sectors of the Estate have carbon emissions reduction strategies. While these strategies contain a raft of energy efficiency measures that are currently being deployed to good effect across the Estate, we acknowledge that there has been less focus on renewable energy generation. We believe that substituting directly for fossil fuels in this way provides significant opportunities, and in the Climate Change

<sup>46</sup> <http://www.dti.gov.uk/energy/whitepaper/index.shtml>

Programme Review (CCPR) we have specifically cited the role that biomass-fuelled heating boilers could play in contributing to an overall reduction in carbon emissions on the Government Estate. All sectors of the Government Estate will review their carbon emissions reduction strategies to reflect these opportunities.<sup>47</sup>

- 6.2 We agree with the Task Force's expectation that Government should aim to deliver higher standards of sustainability and take positive action. Procedures are in place across the Government and wider public estate to ensure that alternative technologies, including locally generated renewable energy systems like biomass-fuelled heating, are considered fully when undertaking major refurbishment of properties and for new builds. For example, the Office of Government Commerce (OGC) sets common minimum standards for purchasing or renovating buildings within the public sector<sup>48</sup> that include the requirement that an appropriate environmental assessment process be carried out on all projects.
- 6.3 From April 2006, it became a legal requirement, under the Building Regulations, that the use of alternative sources of energy, such as renewables be considered for all new builds over 1000 m<sup>2</sup>. The Ministry of Defence (MOD), in March 2006, launched the latest version of the Defence-Related Environmental Assessment Methodology (DREAM), which is an environmental assessment tool for defence buildings. The methodology covers refurbishments and new builds and has a mandatory requirement that project managers fully consider the use of renewable energy technologies. To avoid the need for in-depth knowledge of all the available technologies, DREAM references the London Toolkit<sup>49</sup> and other documents as sources of detailed technical guidance.
- 6.4 The Government is currently responsible for around 30% of total new build spending. We have committed only to procure buildings in the Central Government estate that are in the top-quartile in terms of energy performance. With the schools capital build programmes accounting for much of this new build activity, all new school buildings must meet a minimum BREEAM (Building Research Establishment Environmental Assessment Method)<sup>50</sup> rating of 'very good', thus encouraging the use of renewable energy systems within schools projects.
- 6.5 Schools are an important part of our public procurement policies for biomass and other low carbon technologies. As we mention in Section 2, we have provided additional funding for our Low Carbon Buildings Programme (LCBP), bringing the overall budget to £80 million over three years. This support will help to fund the installation of microgeneration technologies in schools and a range of other public sector buildings. We will consider whether further support for biomass heating systems in schools could be made through our biomass heat grant scheme, which was announced in the CCPR and is described in Section 2.

<sup>47</sup> Climate Change Programme Review 2006, Public Sector, paragraph 41:  
<http://www.defra.gov.uk/environment/climatechange/uk/ukccp/pdf/ukccp06-pt4.pdf>

<sup>48</sup> [http://www.ogc.gov.uk/embedded\\_object.asp?docid=1004283](http://www.ogc.gov.uk/embedded_object.asp?docid=1004283)

<sup>49</sup> [http://www.london.gov.uk/mayor/planning/docs/Sustainable\\_Design\\_and\\_Construction.pdf](http://www.london.gov.uk/mayor/planning/docs/Sustainable_Design_and_Construction.pdf)

<sup>50</sup> <http://www.breeam.org/>

- 6.6 We recognise the potential that on-site renewable energy systems in schools offer for increasing awareness and understanding of climate change in all sectors of the community. Today's children will be tomorrow's decision-makers. In order to ensure that opportunities are not missed, the Department for Education and Skills (DfES) will develop a requirement for its delivery partners to evaluate the feasibility of use of biomass, for all projects within its capital programmes, including in future Private Finance Initiative (PFI) contracts, and will investigate the development of a methodology for carrying out this assessment. DfES has recently appointed a technical advisor for renewable energy who can provide support to schools when necessary. (Further details of the Government's activities to promote renewable energy technologies in schools are described in Section 5.)
- 6.7 We have also established the Sustainable Procurement Task Force<sup>51</sup>, under the chairmanship of Sir Neville Simms. The Sustainable Procurement Task Force is charged with drawing up an action plan to bring about a step-change in sustainable public procurement so that the UK is among the leaders in the EU by 2009. They have been asked to report back in the spring of this year.
- 6.8 However, we recognise that Government must go further if it is to lead by example on biomass. To this end, we will consider the use of incentives to encourage biomass boilers and biomass CHP on the Government estate. A cross-Government working group will be established to consider the practicalities and scope of possible approaches. We have two well-publicised examples of biomass systems being used or developed on the Central Government Estate currently – the biomass boiler at the Defra Worcester site and the planned installation of a biomass heating system at the Ministry of Defence's Castlemartin Army Training Estate in Pembrokeshire, Wales.
- 6.9 At the same time, the Department of Health recognises that the introduction of renewable energy sources, including biomass, will aid the NHS in England to meet the key objective of providing and sustaining low carbon healthcare buildings. The Department has taken action to meet this challenging agenda through setting mandatory energy/carbon efficiency targets from 2000 to 2010; and also by requiring environmental assessments of its buildings, operations and activities through the bespoke BREEAM tool NEAT (NHS Environmental Assessment Tool). This tool covers new builds/refurbishments and the existing operational estate. New builds require a NEAT score of excellent, with refurbishments requiring a score of very good.
- 6.10 These actions have served to raise the profile and the importance of renewable energy sources resulting in a number of NHS Trusts introducing, or seeking to introduce,

<sup>51</sup> <http://www.sustainable-development.gov.uk/government/task-forces/procurement/index.htm>

biomass to heat their sites. In developing NEAT, the inclusion of renewable/biomass energy sources will become a more stringent requirement for the NHS within new build or large refurbishment capital development schemes. Partnership working, such as with the Carbon Trust, which resulted in the recent guidance document, “EnCO<sub>2</sub>de – making energy work in healthcare”, promotes the use of renewable energy sources as a means of achieving best practice in energy/carbon management across the operational estate and capital development schemes, will continue to be explored.

- 6.11 We are pleased to report that Wilton Park Conference Centre, an Executive Agency of the Foreign and Commonwealth Office, is actively considering installing a biomass boiler at its West Sussex site, subject to Planning Permission being granted (see case study). Furthermore, those Departments and agencies with larger estates will carry out a mapping of the potential for renewables, including biomass, on their estates. Defra will lead the way with the initial mapping exercise. We will develop a toolkit to guide the process and will carry out a short ‘lessons learnt’ assessment before the approach is used by other Departments and agencies. We will also take account of the methodology used by the Centre for Sustainable Energy when identifying exemplar sites for biomass across the counties in the South West of England in its Bioscope project.<sup>52</sup>

<sup>52</sup> The Bioscope project was funded by the South West of England Regional Development Agency, and the Countryside Agency. The Projects partners were the Devon Association for Renewable Energy, Dorset County Council, Severn Wye Energy Agency, Cornwall Sustainable Energy Partnership, Econenergy and Wood Energy Ltd. For more information, see <http://www.cse.org.uk/cgi-bin/projects.cgi?local&&1064>

## CASE STUDY

### WILTON PARK CONFERENCE CENTRE

Wilton Park Conference Centre, an Executive Agency of the Foreign and Commonwealth Office (FCO), is actively considering installing a biomass boiler, to be fuelled by wood from the surrounding estate. Wilton Park has been working closely with the Estate Manager and the Forestry Commission's Research Agency to develop an integrated and sustainable project.

The expected benefits resulting from the installation would include:

- carbon savings of 120 – 160 tonnes per annum;
- the management of 300 hectares of currently unmanaged woodland leading to increased conservation of wildlife (biodiversity);
- cost savings, as a result of switching from gas/oil to wood chip fuel;
- stimulation of the local markets and economy from establishing an integrated infrastructure of local fuel supply and heating system;
- demonstration potential for raising awareness about the benefits of bioenergy with both overseas and UK visitors to the Centre.

To-date, a detailed technical assessment of wood supply has been undertaken and the boiler specification has been defined. Planning permission is currently being sought and, if successful, it is hoped that the boiler will be installed and commissioned by November 2006.

- 6.12 While our approach diverges from the Task Force's specific recommendation of a regional survey of buildings leading to an implementation plan, we believe it will achieve the outcome sought – increased uptake and appropriate use of biomass energy across the Government Estate.
- 6.13 We recognise the part that targets can play in encouraging the use of renewable energy. Central Government, through its Framework for Sustainable Development on the Government Estate<sup>53</sup>, has specific targets for the use of renewable electricity (10% by 2008) and good quality CHP (15% by 2010). The framework also identifies an absolute carbon reduction target, from fuel and electricity used in buildings in operation on its estate, of 12.5% by 2010-11 relative to 1999-2000.
- 6.14 While use of green electricity is on average 19% across the departments and their agencies, key targets on reducing absolute carbon emissions and electricity use per unit floor area are not currently being met. The Government is therefore reviewing the existing Framework to deliver strengthened strategic targets, by summer 2006, to ensure that a step change in the way that Government departments manage their own energy and emissions is achieved.

<sup>53</sup> <http://www.sustainable-development.gov.uk/government/estates/procurement/index.htm>

- 6.15 For local authorities, while we are aware that some have set their own targets, such as Leicester with its 50% reduction target for carbon dioxide emissions by 2025, the local government performance framework does not currently include strong, outcome-focussed content on climate change and emissions reduction. We recognise the critical role that local government will need to play in helping to reduce emissions and tackle climate change. But the Government also has a commitment to avoid placing unfunded new burdens on local government and to move existing responsibilities to a more flexible, outcome-focussed basis. This will need to be taken into account in the development of any new requirement in the local government performance framework.
- 6.16 The Government has committed<sup>54</sup> to ensuring that the post-2008 local government performance framework includes action on climate change in order to encourage all authorities to aim to reach the levels of the best.

## ACTIONS

- **The Department for Education & Skills (DfES) will develop a requirement for its delivery partners to evaluate the feasibility of the use of biomass for all capital projects, including PFI contracts. The DfES will investigate the development of a methodology for evaluating the feasibility of use of biomass in capital projects.**
- **Government will publish its response to the report of the Sustainable Procurement Task Force.**
- **The Department for Environment, Food & Rural Affairs (Defra) will map the suitability of its estate for conversion to biomass heating and will develop a methodology and toolkit to support the mapping process.**
- **Following the mapping of its estate, Defra will undertake a lessons learned exercise and implement the conclusions.**
- **Subject to the outcomes of the Defra estate mapping, the major procuring Departments will undertake a mapping exercise, taking account of the conclusions of the lessons learned exercise.**
- **Government will set new sustainable operations targets for its land and buildings by summer 2006.**

<sup>54</sup> <http://www.defra.gov.uk/environment/climatechange/uk/ukccp/pdf/ukccp06-pt4.pdf>

## Section 7:

# Planning

### Recommendation 20

“ Local authorities should review local development plans, regional strategies and policies and incorporate positive sustainable measures. In particular, they should comply with paragraph 8 of Planning Policy Statement 22 (PPS22) and set a target for a percentage of on-site renewable energy development to be used in new residential, commercial or industrial development. Government scrutiny of emerging development plans will provide an opportunity to ensure that the guidance in PPS22 is being followed.”

### Recommendation 21

“ The Government should encourage local authorities to use planning obligations to implement local planning policies on establishing district heating systems, based on biomass and other renewables, which are underdeveloped in the UK and have potential particularly in new build.”

**The Government agrees that the planning system should be used to stimulate development of renewable energy including biomass. We support the use of targets for renewable energy in new developments, and the use of planning obligations to deliver policies on renewables.**

- 7.1 The planning policy framework in England is set out in Planning Policy Statements (PPSs). (Separate guidance is set out by the devolved administrations.) These documents establish a policy framework within which local and regional targets can be set, by enabling Local Authorities and Regions to develop local policies.
- 7.2 We fully agree with the Task Force that regional strategic planning should be founded on sustainability. In PPS1 'Delivering Sustainable Development'<sup>55</sup>, we set out the steps that must be followed to ensure that the principles of sustainable development are promoted through the planning system. PPS22 on Renewable Energy<sup>56</sup> specifically states that local authorities and developers should consider the opportunity for incorporating renewable energy in all new developments, and that planning authorities should specifically encourage such schemes through positively expressed policies in Local Development Plans.
- 7.3 The Task Force rightly highlights the role of Regional Spatial Strategies and Local Development Plans in achieving this aim, and the role of biomass as one of the main technologies that can contribute, for example in the development of community heating systems. PPS22 requires regional targets for renewable energy to be defined in the

<sup>55</sup> <http://www.odpm.gov.uk/index.asp?id=1143805>

<sup>56</sup> <http://www.odpm.gov.uk/index.asp?id=1143909>

Regional Spatial Strategies, to contribute to national targets. Local Authorities and Regional Assemblies need to take the initiative by scoping the renewable energy sources available and appraising the potential benefits of their use for their particular local and regional conditions. Government Offices will continue to contribute to, and appraise, Regional Spatial Strategies and Local Authorities' Local Development Frameworks (LDFs) to ensure they comply with Government policy.

- 7.4 We also agree with the Task Force that Planning Obligations are an important means of promoting the use of renewable energy in new developments. PPS22 provides a positive framework to enable Local Authorities to use Planning Obligations in this way, where appropriate in the context of their LDFs. We have commented further on these issues in our Microgeneration Strategy.
- 7.5 The Task Force has drawn particular attention to the opportunities for local development documents, in accordance with PPS22, to include policies requiring a percentage of energy in new developments to come from on-site renewable energy. There is already clear evidence that such policies can make a dramatic impact on the scale of renewables development, and that this can be achieved with wide support of the communities concerned. We have given examples of these in the Microgeneration Strategy. We warmly welcome the success that these initiatives are achieving and we encourage all planning authorities to draw on this experience.
- 7.6 At the same time we have noted concerns as to whether all authorities have sufficiently included such policies on renewable energy in accordance with PPS22. The ODPM has now carried out a review of local plans and is considering the evidence on this issue. Depending on the nature and extent of any problem identified, it will undertake swift and appropriate action to deal effectively with that problem.
- 7.7 We have announced in the Microgeneration Strategy that Government intends to prepare and consult on a new PPS setting out how it expects participants in the planning process to work towards the reduction of carbon emissions in the location, siting and design of new developments. We will ensure that this work takes full account of the potential for biomass and other renewable energy technologies.
- 7.8 The potential benefits of each renewable energy source will vary between regions. Also there may be scope to improve the information available and the level of awareness to assist the planning process. We are supporting, in collaboration with WWF, the development of Regional Sustainability Checklists for Developments<sup>57</sup>, which will provide a region-specific resource of particular interest to private developers, researchers and Government Offices. These checklists include biomass as an option for renewable energy.

<sup>57</sup> <http://www.sustainability-checklist.co.uk/>

- 7.9 We will also carry out further targeted awareness raising programmes both with Government Offices planners and more widely within the planning community, to ensure that the opportunities for employing renewable energy, including biomass, in developments are fully considered. In particular, we will explore the training provided to new planners and as continuing professional development and seek to satisfy any unmet needs. We are also, through the "It's Only Natural" Programme, providing information for councillors and planners dealing with applications for renewable energy<sup>58</sup>. The programme held its first workshop on biomass in Newcastle on 11 April 2006.

## ACTIONS

- **Government will continue to monitor compliance with national planning guidance and provide guidance to regional Government Offices to assist in appraisal of planning documents.**
- **Following the review of local plan compliance with PPS22, ODPM will act on any problems identified.**
- **Government will prepare and consult on a new PPS on use of the planning system to reduce carbon emissions in new development.**
- **Regional Sustainability Checklists for Developments are being produced to improve information and awareness of renewables, to ensure that benefits are fully considered in planning.**
- **Government will explore further training options for planners on renewable energy by December 2006.**

<sup>58</sup> <http://www.planningrenewables.org.uk/index.cgi>

## Section 8:

# Regulatory controls

## Regulations and Code for Sustainable Buildings

### Recommendation 16

“ The government must include the use of biomass and other renewables in policies on sustainable buildings and in the remit of the Code for Sustainable Buildings.”

### Recommendation 22

“ Building Regulations, Part J does not recognise that biomass systems are not radiant heat devices. The regulations require unnecessary measures – extending flues, fitting heat pads for heaters on stand on. Building regulations should be updated to take full account of the specifications of biomass systems.”

### Recommendation 23

“ The Clean Air Act requires approval for heat boilers used in smoke free zones. Each model has to be tested, which is expensive and can take several months, for exemption under the Act even though the European standards which appliances have passed are said to be more stringent than the Act. Government should review this requirement and develop a simplified approvals system for boilers and the fuels they burn which removes the need for individual testing of boilers.”

### Recommendation 24

“ Part L of the Building Regulations on conservation of fuel and power deals with boiler technologies. Biomass systems are included with solid fuels installations but it is essential that the guide to heating systems, which is being produced by Heating Equipment Testing And Approvals Scheme (HETAS), must deal with Biomass heating systems in detail. We recommend the Government ensure that the biomass industry is represented on the working party producing the guide.”

**The Government agrees that the Building Regulations and other legislation on the use of heating devices should take full account of biomass at appropriate points within the legislation and associated documentation, and we will take action to ensure that biomass systems are not inappropriately disadvantaged.**

- 8.1 The Government's response to the Barker Review<sup>59</sup> signalled our commitment to build more homes for future generations by bringing forward an ambitious package of measures to deliver increased investment in infrastructure to support sustainable housing growth. This expansion in new build homes provides wider opportunities for the use of renewable energy technologies, such as biomass, district heating and energy efficiency measures. Government is taking forward a number of initiatives that should help to make this a

<sup>59</sup> Review: [http://www.hm-treasury.gov.uk/consultations\\_and\\_legislation/barker/consult\\_barker\\_index.cfm](http://www.hm-treasury.gov.uk/consultations_and_legislation/barker/consult_barker_index.cfm)  
Government response is available at  
[http://www.hm-treasury.gov.uk/pre\\_budget\\_report/prebud\\_pbr05/assoc\\_docs/prebud\\_pbr05\\_adbarker.cfm](http://www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr05/assoc_docs/prebud_pbr05_adbarker.cfm)

reality. But in doing so we have chosen not to prescribe the use of particular technologies. Different solutions will suit different situations. Rather, we have provided a framework for encouraging reduced carbon emissions through the use of appropriate technologies. Biomass is one of the options.

- 8.2 One of the initiatives we have announced is the draft Code for Sustainable Homes, which is a new voluntary approach to improving the sustainability of new homes. While the Sustainable Buildings Task Group (SBTG)<sup>60</sup> recommended the development of a Code for Sustainable Buildings, the Government has decided to concentrate initially on developing a Code for Sustainable Homes, with the possibility of extending the Code to cover existing homes and other new and existing buildings at a later date. The Government will be carrying out further analysis of these and other issues raised by the recent consultation exercise, such as making assessments to the Code mandatory, over the coming months.
- 8.3 The Code will present standards above those required by Building Regulations, that would if taken up, further contribute to decreasing the environmental impact of housing growth. It will assess energy efficiency in terms of carbon dioxide emission rates, in line with amended building regulations. Its associated documents will provide guidance on technologies and options to reduce carbon dioxide emissions either by greater energy efficiency or the local generation of renewable energy, including energy from biomass. At the highest Code level, the use of renewable energy sources, such as biomass, will almost certainly be necessary to achieve "carbon-neutral" status, and will be particularly advantageous for scoring points in areas outside the National gas grid.
- 8.4 The Code is performance based, which means it does not prescribe how a particular standard should be achieved or the use of a specific technology. Rather, it sets a standard and allows the house builder to deliver the required level of sustainability. Additionally, in order to further promote on-site energy generation, new homes that use Low and Zero Carbon technology will also gain extra points in the Code. The publication of the Code for Sustainable Homes is timed to address the anticipated increase in house building arising from the Government's response to the Barker Review. As already mentioned, biomass and other renewables will be included within the Code, in line with the Task Force's recommendation.
- 8.5 In addition to our ongoing work on the Code for Sustainable Homes, we are also implementing elements of the EU Energy Performance of Buildings Directive.<sup>61</sup> The Directive lays down requirements on the application of minimum standards for the energy performance of new buildings and on the performance of large existing buildings undergoing major renovation. One of the key provisions of the Directive is the regular inspection of boilers (or an equivalent national information system) and the inspection of air conditioning systems in buildings<sup>62</sup>. We have committed to ensure the provision of advice to stimulate the early replacement of inefficient boilers. It has been estimated that this could deliver additional carbon savings of up to 0.2 MtC in 2010, and may create opportunities for the use of biomass systems.

<sup>60</sup> <http://www.dti.gov.uk/construction/sustain/sbtg.htm>

<sup>61</sup> [www.europa.eu.int/eur-lex/pri/en/oj/dat/2003/l\\_001/l\\_00120030104en00650071.pdf](http://www.europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_001/l_00120030104en00650071.pdf)

<sup>62</sup> In accordance with article 8(b) of the Energy Performance Buildings Directive.

- 8.6 In September 2005, the Government announced further changes to the Building Regulations to make buildings more energy efficient<sup>63</sup>. From April 2006 these new measures will deliver increased energy standards for new buildings of up to 27% in non-domestic buildings, 22% in houses and 18% in flats. The revised Part L of the Building Regulations introduces national methods for the energy calculation of buildings and sets overall energy performance standards. This new approach, and associated calculation tools, take into account the benefits of Low or Zero Carbon (LZC) Systems and the tougher standards will encourage greater take up of LZC Systems, including biomass.
- 8.7 While we discuss a number of these changes to the Regulations later in this section, it should be noted that the Building Regulations do not currently address the fabric of a significant proportion of the existing building stock where building work is not contemplated. There is potential to reduce carbon emissions further through an improvement in the energy efficiency performance of these buildings. The Government has therefore announced a wide-ranging review of the sustainability of existing buildings. The review will include addressing the use of renewable energy technologies, such as biomass, during its second phase, scheduled for late summer 2006.
- 8.8 The Task Force made a number of recommendations concerning the recent changes to the Building Regulations. One of the issues they raised was the way in which the Building Regulations Part J apply to biomass systems. The underlying concern was that the Regulations fail to recognise that biomass systems are not necessarily radiant heat devices and instead require them to have additional safeguards that are felt to be unnecessary (and add costs). We take very seriously the suggestion that the Regulations might be acting as a barrier to appropriate biomass usage. We are therefore investigating this issue with representatives of the British Standards Committee and the Heating Equipment Testing and Approvals Scheme (HETAS) in order to clarify the position. Should it be found that the Regulations discriminate against biomass systems, we will take steps to rectify the situation by amending legislation and/or technical guidance, where appropriate.
- 8.9 We have published, in conjunction with the coming into force of the amended Part L of the Building Regulations<sup>64</sup>, a number of associated guides. The guides – the Heating Compliance Guides (for both domestic and non-domestic premises)<sup>65</sup> and the Zero and Low Carbon Guide<sup>66</sup> – have been developed over the past eighteen months by a working group, led by HETAS. The purpose of the guides is to provide technical information to aid decisions by planners and developers, and to encourage the use, in the case of the Zero and Low Carbon Guide in particular, of alternative, low carbon technologies, such as biomass.
- 8.10 The Task Force recommended that the guide(s) deal with biomass heating systems in detail and that the biomass industry be represented on the working party producing the

<sup>63</sup> <http://www.odpm.gov.uk/index.asp?id=1002882&PressNoticeID=1954>

<sup>64</sup> <http://www.odpm.gov.uk/index.asp?id=1164177>

<sup>65</sup> Domestic Heating Compliance Guide, 2006 ISBN 1 85946 224 3  
Non-Domestic Heating, Cooling and Ventilation Compliance Guide, 2006 ISBN 1 85946 226 X.

<sup>66</sup> Zero and Low Carbon Guide [interim version published in January 2006]  
[http://www.odpm.gov.uk/pub/881/LoworZeroCarbonEnergySourcesReport3StrategicGuidePDF410Kb\\_id1130881.pdf](http://www.odpm.gov.uk/pub/881/LoworZeroCarbonEnergySourcesReport3StrategicGuidePDF410Kb_id1130881.pdf)

guide(s). We recognise the need to ensure that the information provided on biomass is both detailed and correct. We have included a section on biomass within the Zero and Low Carbon Guide, which deals with biomass facilities in detail. Over the next twelve months we will be providing even more biomass-specific information for developers and planners via the Biomass Energy Centre's website.

- 8.11 On the Heating Compliance Guides, it has not been possible to include the level of detail on biomass, in the first edition of the guides, that we would have wished. We recognise the need for additional validated biomass data to be included and we will take active steps to convene a biomass industry-focussed group to take forward the production of the biomass sections of the Guides – for both the non-domestic and the domestic guides. We commit to publishing this information as addenda to the first editions of the guides, with the aim of doing so by the end of 2006.
- 8.12 The Task Force also expressed concern about the existing procedure for approving heating appliances in smoke control areas, indicating that it appeared to be both costly and unnecessarily lengthy. We have considered the Task Force's comments carefully and investigated the extent to which the information provided to the Task Force is the norm or otherwise. It should be stressed that the approval system for exempting heating appliances for use in smoke control areas is important to protect the public from harmful emissions of smoke particles and to ensure that the appliance can operate without emitting smoke, as required by the Clean Air Act 1993.<sup>67</sup>
- 8.13 In the absence of a recognised European-wide or international standard for particle emissions from biomass boilers, the UK employs guidance (BS PD 6434), issued by the British Standards Institute. Testing of boilers against this standard is, in the majority of cases, not required as data presented by the manufacturers are sufficient to grant exemption. Since 2002, out of seventeen applications for exemption of biomass boilers/appliances only one has required additional testing. Where this is needed to test for levels of particle emissions, we do not require individual testing of each boiler. Tests would only be conducted on a particular model or for a sub set, where there is a range or several sizes of boiler.
- 8.14 We will keep the system for exempting appliances under review to ensure that it is fit for purpose and to take account of technical developments in solid fuel boilers and heating appliances. To this end, and in line with the Task Force's recommendation, we will ask the British Standards Institute to review their guidelines with a view to simplifying the testing approval procedure and to report back with a new, simplified procedure before the end of the year. We will also introduce a more immediate procedure for applications to the website<sup>68</sup>, which will allow manufacturers to provide details of existing standards and test data for their products when they first apply, in order to reduce the assessment time.
- 8.15 Since 2000, reduced VAT rates have been extended to microrenewable energy sources, such as air source and ground source heat pumps and micro-combined heat and power

<sup>67</sup> [http://www.opsi.gov.uk/ACTS/acts1993/Ukpga\\_19930011\\_en\\_1.htm](http://www.opsi.gov.uk/ACTS/acts1993/Ukpga_19930011_en_1.htm)

<sup>68</sup> [www.uksmokecontrolareas.co.uk](http://www.uksmokecontrolareas.co.uk)

(micro-CHP). The Government announced the further extension of reduced VAT rates to a range of biomass-fuelled boilers in the 2005 Pre-Budget Report. This measure will extend the reduced rate of 5%<sup>69</sup> to the installation of boilers fuelled solely by wood, straw or similar vegetal matter in homes and certain residential and charity buildings.

## ACTIONS

- Report on the outcome of discussions with BSI and HETAS and take appropriate actions in relation to the Buildings Regulations Part J and/or the associated technical guidance.
- Rapidly establish a biomass industry-focussed group to produce a biomass section as an addendum for each of the Heating Compliance Guides.
- Validate the biomass data and aim to publish addenda by December 2006.
- Publish the biomass addenda with the Heating Compliance Guides on the ODPM website.
- Additional information on biomass to be published on the Biomass Energy Centre's website over the course of the next twelve months.
- Liaison with the British Standards Institute about the review of guidelines to simplify the testing approval procedure, with report back before the end of 2006.
- Introduction of amended applications system on the website – [www.uksmokecontrolareas.co.uk](http://www.uksmokecontrolareas.co.uk)

## Standards for solid biofuels and solid recovered fuels

### Recommendation 36

“ The Task Force recommends that the European Standards which are being developed – CEN TC 335 and 343 – are adopted as the basis for the UK standard for these fuels.”

### Recommendation 37

“ It is important that the detail of these standards are disseminated as fully as possible and this needs to be incorporated into the activities we identify in paragraphs 6.1-6.2 dealing with awareness raising.”

**The Government agrees that the European Standards for solid biofuels and solid recovered fuels should form the basis of a UK standard.**

<sup>69</sup> The VAT has been reduced from 17.5%

- 8.16 We recognise that standards provide quality assurance to the users of biomass fuels, enabling them to purchase the right specification of fuel for their appliances. This is particularly important given the range of biomass fuels and appliances currently available on the market. The UK is actively involved in the work of the European Committee for Standardisation (CEN) to develop European Standards for biomass<sup>70</sup>, with the British Standards Institute (BSI) as our representative.
- 8.17 It is our intention to adopt the European Standards for Solid Biofuels (CEN TC 335) and Solid Recovered Fuels (CEN TC 343) as a precursor to developing our own British Standards. In line with the Task Force's recommendation, we expect the British Standards to be closely based on the European ones.
- 8.18 The BSI is currently in the process of adopting and publishing the European Standards as Development Documents. We have requested that the BSI undertakes an Environmental Impact Assessment of the European Standards, to ensure that they provide sufficient information in order to assess the environmental impacts of using specific biomass fuels. These Standards would also be subject to a Regulatory Impact Assessment.
- 8.19 We will ensure that details of the standards are widely disseminated before they are finalised. We agree with the approach proposed by the Task Force, that we should use the information and awareness raising mechanisms identified in Section 5 – the Biomass Energy Centre, the regionally-based Energy Saving Trust's Sustainable Energy Centres, the Trade Associations, industry and the RDAs – to guarantee good coverage.

## ACTIONS

- **European Standards to be adopted as interim British Standards.**
- **An Environmental Impact Assessment of the European Standards will be undertaken.**
- **British Standards for solid biofuels and solid recovered fuels to be established.**

<sup>71</sup> <http://www.cenorm.be/cenorm/>

## Section 9:

# Fuel supply chain development

## Forestry and other biomass feedstocks

### Recommendation 28

“ To facilitate rapid initial development of supply chains we recommend a second round of the Bio-energy Infrastructure Scheme be run with grant funding of £3.5 million.”

### Recommendation 29

“ Each RDA should analyse the infrastructure needs in its region and seek to facilitate supply chain development. Each RDA should submit, to the Ministers given responsibility for biomass energy, a plan on how they intend to do this by October 2006.”

### Recommendation 30

“ As a first step the Forestry Commission should urgently undertake and publish a full assessment of, and set out a strategic plan for, the development and use of short rotation forestry, forestry waste, farm and other woodlands, local authority trees and commercial forestry. This should be delivered by September 2006.”

### Recommendation 31

“ The Government should then consider the development of an integrated plan to optimise the use of the full range of biomass feed stocks including wastes.”

**The Government supports these recommendations for development of biomass supply, integrated with action to develop the bioenergy market.**

- 9.1 The Task Force, together with many other commentators, highlighted the need for bioenergy development to be integrated with supply chain development. We agree and will seek to apply this integrated approach in all measures for bioenergy promotion and support.
- 9.2 The Bio-energy Infrastructure Scheme, which ran in 2005, is successfully helping to bring projects to market and providing aid to secure their ongoing delivery of renewable energy. As announced last month in the Climate Change Programme Review (CCPR) and subject to EU State Aids clearance, a further round of the scheme will be run in 2006/07. We expect funding from Defra to be at or close to the level suggested by the Task Force.

- 9.3 We agree that the RDAs have a key role in building the partnerships that are needed for development of supply chains, integrated with the regional strategies for renewable energy development. This will involve close working with stakeholders at regional and sub-regional level to match supply chains to end users at a scale that is appropriate to local conditions and technologies. An important benefit of this approach is the encouragement of 'clusters' of bioenergy activity that will reduce fragmentation and keep haulage and transport distances to a minimum. We will ask the RDAs to submit a report on regional activities, as recommended, by October 2006.

### WOODLAND INITIATIVES

Woodland Initiatives can have a variety of structures, operating either within local authorities or independently run as not-for-profit companies. Their areas of work vary throughout the country but in a number of regions woodfuel – its supply, use and market value – is a major part of their remit.

The **South West** has a number of initiatives working on markets for forest residues, district heating systems using woodchip as well as developing the feasibility of community carbon trusts to support wood fuel projects.

**South East Wood Fuels** is working to establish a co-operative to improve markets for woodfuel in the region.

In the **West Midlands**, **Heartwoods** provided business and financial support plus help with development for woodfuel businesses.

**Northwoods** based in **Northumberland** run the Ignite project, a woodfuel training course which provides a grounding in the economics, technology and systems for producing and using woodfuel. Their sister company, **Yorwoods**, which operates in **Yorkshire and The Humber region** is working with **Yorkshire Woodfuels Ltd**, a producer group for woodland owners, managers, agents, contractors and timber merchants in the region.

**South Yorkshire Forest Partnership** has a dedicated woodfuel energy co-ordinator, working on the supply and operation of woodchip boilers. They have also been running a successful "wood pellet for coal" substitution trial, using pellets in underfed coal burners belonging to schools and a police station. The region has support from local authorities and the South Yorkshire Biomass Group who are advancing the wood-energy agenda in the area.

- 9.4 We support the Task Force's views on the importance of forestry in providing a sustainable biomass supply. There is large potential to increase the supply of biomass from existing woodland and we see very important potential for achieving biodiversity benefits from the consequential improvement in woodland management. We are inviting comments on these concepts in the consultation that is now taking place in the review of the England Forestry Strategy.<sup>71</sup>
- 9.5 We agree with the specific recommendation for action by the Forestry Commission. We have asked the Forestry Commission, in preparing the strategy and implementation plan, to work closely with the private sector and the RDAs and to identify the measures needed to deliver progressively an additional 2 million tonnes per annum (0.4Mt carbon saved) from existing woodlands, with a focus on currently under-managed woodland. This will include a full cost benefit appraisal and:
- assessment of the resource available at regional level (including arboricultural arisings and sawmill co-products);
  - costed proposals for further analysis of resource availability where needed;
  - assessment of the barriers to increased woodfuel use;
  - a costed plan for the development of the woodfuel resource including resources required for research and development, outreach (including demonstration, advice and communications), market development, and skills and training. The plan would be regionally based, summarised at national level;
  - an assessment of the environmental impact of the plan;
  - recommendations on how a strategic plan for woodland creation options can be developed to fit alongside the strategic plan for woodfuel from existing sources.
- 9.6 This work will take account of the existing Regional Forestry Frameworks and the contribution of the Regional Biomass Implementation Groups that are in place in all regions, and the Woodland Initiatives.
- 9.7 We will, as recommended, consider a more general plan for the use of all biomass feedstocks following the preparation of the forestry strategic plan. In practice this planning will need to be largely in the context of regional circumstances and energy strategies as identified elsewhere in this response.
- 9.8 We recognise that while the fuel supply chains are an essential part of the development of bioenergy, they are not the only element that needs to be addressed. Other supply chain issues – such as the energy conversion technology and the manufacturing capability to supply a growing demand – will also need to be considered, both for heat and power and as part of the longer term strategy work. The related issues of skills and accreditation are considered in the next section.

<sup>71</sup> <http://www.forestry.gov.uk/consultations>

## ACTIONS

- A second round of the Government-funded Bio-energy Infrastructure scheme will be run in 2006/07.
- Regional Development Agencies (RDAs) will report on regional activity on the biomass fuel supply chain by October 2006.
- The Forestry Commission will prepare a strategy and implementation plan, in conjunction with the private sector and the RDAs, by 30 September 2006, in order to increase the amount of biomass made available through the supply chain.

## CASE STUDY

### MIDLANDS WOOD FUEL LIMITED

Midlands Wood Fuel Ltd (MWF) was set up in 2004 in response to the need to establish a wood fuel supply infrastructure throughout the West Midlands; it also supplies and installs wood fuelled boilers.

MWF currently operates from three depots. A depot is a redundant or surplus barn on an existing working farm that is used for the outside storage of timber to allow for drying. The timber is then chipped into the barns at regular intervals. Farmers are paid to host the depots thus increasing their incomes. As market demand grows, it is hoped that more farmers will come on board. Two further depots are to be established in 2006.

In 2005/06, MWF supplied around 1,500 tonnes of wood chip fuel to various additional wood boiler schemes around the region. At present, it installs one new boiler system about every five weeks, but aims to reach a target of one boiler in every three weeks by the end of 2006.

MWF has been awarded a capital grant under the Bio-Energy Infrastructure Scheme to help finance the installation of an industrial wood chipper in May 2006, and to purchase a wood chip tanker. This seed corn funding has enabled the business to become established as a commercial entity.

## Energy crops

### Recommendation 32

“ The Energy Crops Scheme should continue in the next Rural Development Programme for England and should include planting grants and producer group support in order to build on the investment that has already taken place and to ensure the widest possible access to a range of feedstocks.”

### Recommendation 33

“ The Entry Level Scheme should be amended to recognise the biodiversity and other environmental benefits of energy crops.”

### Recommendation 41

“ In the energy crops sector the performance of new varieties is crucial to delivering economic viability. Defra should make proposals for the development of arrangements which will ensure such performance data are readily available and published and that the government funded variety development work is taken forward by industry.”

**We agree in principle to continuing support for energy crops in the next Rural Development Programme for England and will consider energy crops issues as part of the review of progress of Environmental Stewardship in 2007/08. We will take action on the performance of energy crop varieties as recommended.**

- 9.9 The Energy Crops Scheme was introduced in 2000 as part of the England Rural Development Programme (ERDP), providing establishment grants for energy crops (short rotation coppice and miscanthus) and support for short rotation coppice producer groups. Because of the slow development of bioenergy markets the Scheme has not met its original targets for new planting of energy crops within the timeframe of the current ERDP programme, but uptake has increased markedly in the last two years in response to development of co-firing and other biomass heat and power projects, especially those stimulated by the Bio-energy Capital Grants Scheme.
- 9.10 The current ERDP runs to the end of 2006 and will be superseded by a new Programme under the terms of the revised EU Rural Development Regulation<sup>72</sup>. Defra is currently consulting on priorities for the future programme strategy<sup>73</sup> and invited comments specifically on biomass by the end of March 2006 so that they could be taken into account in this response. The feedback from the consultation so far, including comments on behalf of the renewable energy industry as a whole, has mainly shown strong support

<sup>72</sup> Council Regulation (EC) No 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development.

<sup>73</sup> Consultation on next Rural Development Programme for England, dated 27 February 2006.

for continuation of assistance for biomass through rural development measures, though it should be emphasised that the consultation on the programme as a whole does not end until 22 May.

- 9.11 It has been pointed out, and this is confirmed by our economic analysis, that energy crops are an 'infant industry' whose economics are currently marginal or unviable without support for establishment costs, and that withdrawal of support would be likely to deal a serious blow to significant further development. Our analysis has also confirmed that development of energy crops, including the cost of public support, provide a cost effective means of cutting carbon emissions, and would provide a useful element of a mixed biomass supply including woodfuel from woodland management or waste recovery.
- 9.12 The overall funding available for rural development from 2007 remains subject to EU and government decisions on rural development funding. The full definition of measures in the new programme is also subject to decisions following the overall consultation on the ERDP, and on EU approval of the proposals. We are pleased to state however that in principle the Government agrees to continuation of support for establishment of energy crops. Support will be administered as part of the Environmental Land Management Fund, the single fund that incorporates Environmental Stewardship and other sources of environmental funding.
- 9.13 Subject to further consideration of the details of scope of the measures, it is likely that support for energy crops establishment would be targeted to regions or areas where energy crops can provide optimum benefit, for example where the availability of woodfuel was limited and where regional clustering of projects can be promoted. It would also be necessary for applications for support to be consistent with regional energy strategies and for planting plans to be integrated with plans for renewable energy generation. We also expect bioenergy development to be eligible for elements of rural development support through funding which will be controlled by Regional Development Agencies (RDAs) under the new ERDP.
- 9.14 We recognise concerns over biodiversity, landscape and water use issues if there was large-scale take-up of the scheme and will ensure that strong environmental safeguards are included to ensure that planting contributes positively to environmental objectives.
- 9.15 The existing Energy Crops Scheme will close to new applications in summer of 2006. We confirm that applications which are agreed during 2006 may include establishment grants for planting in 2007 and 2008 and these agreements will be honoured under the terms, including payment rates, of the existing ECS.
- 9.16 We recognise the issues over the eligibility rules for the Entry Level Stewardship Scheme<sup>74</sup> in relation to energy crops and other non-food crops. We have announced in the Climate Change Programme Review that, building on the first phase of

<sup>74</sup> <http://www.defra.gov.uk/erdp/schemes/els/default.htm>

Environmental Stewardship, we will review progress in 2007/08 to ensure that expenditure is directed effectively to policy priorities, including climate change objectives. This will include consideration of whether scheme changes, including those relating to energy crops, would be an effective way of delivering additional public benefits.

- 9.17 We are currently funding major research programmes on the development of energy crop varieties and agree that introducing varieties with improved performance is crucial to the future economic viability of the sector. We support the recommendations on the dissemination of varietal data and industry take-up. We will discuss with industry the measures needed and identify the means for generating and disseminating data on varietal performance.
- 9.18 Other supply chain issues – such as technology developments and markets for heat and electricity – will be considered as part of the longer term strategy work.

## ACTIONS

- Defra will work with delivery partners and RDAs to develop a proposal for energy crop support which will be considered as part of the Rural Development Programme for England 2007-13.
- Defra will review progress on Entry Level Stewardship in 2007/8 to ensure that expenditure is directed effectively to policy priorities, including climate change objectives.
- Defra will commission a study to collate existing data on performance of new varieties, and recommend options for generating and disseminating data on variety performance, identified in discussion with stakeholders.

## Section 10:

# Skills & accreditation

### Recommendation 42

“ The Task Force recommends that DTI asks the Skills for Business Network to arrange for the relevant Sector Skills Councils to identify the skills and training needed for the entire biomass sector from production to the final delivery of the energy. This should lead to the preparation of a sector skills agreement which will fully define the need and set out how training and skills development will be delivered.”

**The Government agrees with the recommendation for identifying the skills and training requirements for the biomass sector and with the proposed role for the relevant Sector Skills Councils. A range of actions is underway for both clean biomass and waste biomass sectors that will underpin future training provision.**

- 10.1 The Government recognises that a well trained and highly skilled workforce is essential for the future success of the biomass industry. The industry is, as the Task Force identified, still youthful and as it expands the demand for skilled operatives will increase. We welcome the central role of the Sector Skills Councils (SSCs) in developing frameworks for skills and accreditation of operatives at all levels and in all parts of the biomass supply chains.
- 10.2 In addition to the lack of skilled engineers highlighted by the Task Force, we have also found that training is needed for facilities managers and procurement officers in the skills necessary to specify, buy and operate biomass systems. This is particularly relevant to Section 6 in which we state our intention to encourage greater uptake of biomass heating across the public estate.
- 10.3 We recognise that other regional bodies, such as the RDAs, also play a role in the provision of skills in the renewable energy sector. Their activities will be focussed on those parts of the sector that are most important, or are seen as strategic, in their regions, and in particular within Scotland. We are working closely with the English Regions to ensure that provision is consistent.
- 10.4 The Energy and Utility Sector Skills Council (EUSkills)<sup>75</sup> is leading work on an Occupational and Functional Map for the whole renewable energy sector, working closely with the Building Services SSC (SummitSkills) and other SSCs, such as the Land and Agriculture SSC, Lantra, where appropriate. The Occupational Map is a major step

<sup>75</sup> <http://www.euskills.co.uk/>

towards producing a training and accreditation framework and was published in March 2006. It includes to some extent biomass heat and power. We will explore with the Sector Skills Council what more can be done to ensure that the skills base develops to support the levels of demand that will hopefully be created for microgeneration technologies. This is an action that has resulted from the Microgeneration Strategy.

- 10.5 During 2006, Energy and Utility Sector Skills will undertake a follow-up study that will address the whole supply chain, where the sector is not fully mature and where progress has been made within the market. Included in this will be the matching of National Occupational Standards against occupations. Energy and Utility Sector Skills has recently completed an Occupational and Functional map for the waste management sector, which includes energy from waste that will add considerable value in the area of skills for 'waste to energy'.
- 10.6 A Labour Market Investigation is required to be undertaken by the Skills for Business Network to measure the current and future size of the market and to anticipate the effects of how changes to legislation driving the use of renewable energy technologies could affect the demand for appropriately skilled labour.
- 10.7 We will also work closely with the Regions and training providers to ensure that lack of skills is not a barrier to the deployment of biomass energy, looking to all parts of the supply chain, from estimating and procurement, manufacture and installation, proper management and functioning in operation and provision of cost-effective, quality assured, fuel.

## ACTIONS

- **To continue to work with the SSCs and RDAs. Studies of the sector will be complete by the end of 2006 and a Workforce Development Plan for the sector will be in draft within the same time span.**
- **To explore with the Sector Skills Council development of the skills base to support increased demand for microgeneration technologies.**

## Section 11:

# Overarching issues

## Contribution of biomass energy to energy supply

### Recommendation 15

“ The Ministers given responsibility for biomass energy should, in the response to this report, detail the percentage of energy supply the Government expects will be developed from biomass by 2010 and 2020 and detail the proportion that should come from the public and from the private sectors.”

**In advance of conclusions from the Energy Review the Government is not currently in a position to provide new information on the contribution of renewables including biomass to energy supply in 2015 and 2020. We will consider this issue further, in the light of conclusions from the Energy Review, as we develop the proposed Biomass Strategy.**

- 11.1 The DTI/Carbon Trust Renewables Innovation Review in 2004 assessed the potential contribution of biomass at 6% of energy demand (expressed as electricity) by 2020. Further assessments have been made in the reports from the Royal Commission on Environmental Pollution, Future Energy Solutions, Carbon Trust, the Energy Saving Trust and the Biomass Task Force.
- 11.2 We see value in assessing biomass potential, in terms of its contribution to the wider renewables targets and climate change policy. Assessment of potential is also important in considering the value of support measures and the effects of interventions to address market failure in order to deliver public goods. And it is important in judging the practicality of policies, to ensure for example that measures to expand biomass supply are matched by the development of markets for renewable energy.
- 11.3 For renewable electricity, data are published regularly on the DTI and Ofgem websites on the contribution of the different technologies to the aggregate targets and progress towards the objectives set for the Renewables Obligation (RO). The policy is not based on individual targets for biomass or other technologies. We will nevertheless consider further, in the context of the proposed Biomass Strategy, the scope for collating or extending the existing assessments of biomass energy. This will take account of conclusions from the Energy Review and any relevant EU developments, including the discussions that are expected on new EU legislation for renewable heat.

## EU Biomass Action Plan

### Recommendation 34

“ The Task Force recommends that in taking forward the EU Biomass Action Plan the UK engages in a review of current regulations and discusses with the European Commission the range of feed stocks – crops, waste, forestry – and the changes needed to existing legislation to facilitate the use of those feed stocks as energy sources, as well as the need for the proper co-ordination between the various Directorates of the EU with a nominated Directorate to assume lead role.”

**Government will engage fully with the EU, across all feedstock types, on the development of the Biomass Action Plan and will take account of the findings of our current reviews on energy, waste and the new Rural Development Programme.**

- 11.4 The UK welcomes the Biomass Action Plan (BAP), which was published on 7 December 2005. The Plan, together with Presidency Conclusions, has been discussed at several EU Council and Working Group meetings, including the EU Summit on 24 March. The UK has taken an active role in all these discussions, which have also involved a number of EU Directorates, recognising the cross-cutting nature of many of the proposals. We share the Commission's view that biomass for fuel and energy has major unrealised potential and can make an important contribution to reducing total carbon dioxide emissions in both the energy and transport sectors, whilst benefiting many other areas of sustainable development.
- 11.5 Although the BAP does not contain legislative proposals, it lists a series of actions that the Commission will take, including reviewing the impact of existing measures, encouraging Member States to give more emphasis to biomass in national policies including preparing national biomass action plans, bringing forward a forestry action plan, and encouraging research (especially on biofuels). Clearly, the BAP is at a strategic rather than a detailed stage at present and we will continue to participate constructively in ensuing negotiations on specifics, whilst seeking to ensure maximum cost-effectiveness of any agreed actions.
- 11.6 We will ensure that the conclusions reached from the ongoing Energy Review, Waste Strategy Review and the consultation on the new Rural Development Programme will be fed into the negotiations in Europe.

## ACTIONS

- **The UK will continue to participate fully in discussions on implementation of the EU Biomass Action Plan.**

## Life Cycle Assessment

### Recommendation 38

“ LCA work is taking place, following the Strategy for Non-Food Crops and Uses, to develop a central life cycle inventory database to support the sustainable development of the sector. The Task Force recommends this be expanded to incorporate biomass energy issues. In implementing the Recommendation thought should be given to the development of wider international partnerships, for example, with Canada, and other work in bodies, such as the International Energy Agency, to establish the base assumptions in any evaluation process.”

**The Government agrees that the central life cycle inventory should be expanded to cover biomass energy issues and will pursue further international collaboration on life cycle assessment.**

- 11.7 A number of studies in the UK and overseas have assessed the inputs, outputs and environmental impacts when biomass is utilised as an energy source. Studies have also compared technologies and biomass sources for fuel end energy. Data are available for building life cycle inventories (LCI) and performing life cycle assessment (LCA) as sought by the Task Force, but we agree that more work is needed to ensure that the assumptions and methodologies followed internationally are transparent and compatible.
- 11.8 The EU, through the Institute for Environment and Sustainability (IES) (part of the Joint Research Centre), is developing a Scientific Technical Reference System (STRS) for data on renewable energy<sup>76</sup>, which aims to provide a web enabled information resource and an open forum to identify and resolve discrepancies between data sources. This project can provide a key core resource in promoting better comparability between bioenergy LCAs, and we will bring this issue to their attention. We are supporting the development of a range of datasets, and will ensure these follow internationally recognised procedures, compatible with STRS data.
- 11.9 We will continue to monitor and engage with international players, to ensure a consistent approach in the research funded and to enable us to exploit the synergies. This will include input to ongoing work on bioenergy by the International Energy Agency and to discussions on, and implementation of, the EU Biomass Action Plan which recognises the need to take an overall systems approach.
- 11.10 We agree that bioenergy should be included in the development of a LCI database which is proceeding under the Non-Food Crops Strategy. Defra is commissioning work to collate energy and greenhouse gas data on a life-cycle basis for a range on biomass technologies. This will expand an existing primer on environmental assessment of

<sup>76</sup> Under Action 2312 - Scientific-Technical Reference System on Renewable energy and Efficient Use of Electricity : <http://ies.jrc.cec.eu.int/refree.html>

biomaterials in order to address key energy issues including allocation procedures for by-products and the joint production of different energy outputs, and comparison with non-renewable energy sources. The work will also produce a software tool to allow planners and others to assess the potential benefits and impacts of biomass across a range of biomass sources and appliance types. It is expected that this tool will be completed by the end of 2006/07.

11.11 In the meantime, an LCI-based system is already in use within the UK. The Environment Agency developed a Biomass Environmental Assessment Tool (BEAT), which is being used by the Agency when carrying out the preliminary assessment of the environmental impacts of proposed developments that use biomass for energy generation. This tool is supported by an LCI database for the range of biomass sources and conversion technologies covered.

## ACTIONS

- We will pursue in the EU and other international bodies the development of agreed methodologies for comparing life cycle effects of fuel and energy technologies including biomass.
- We will extend the data on life cycle effects of bioenergy and publish it in an easily accessible form, including a software tool for developers, planners, end users and decision makers that will facilitate comparisons between biomass sources and technologies on impacts on resources and the environment.

## Energy crops environmental impact assessments

### Recommendation 39

“ The Government should continue to make a priority of work to develop the information needed, together with appropriate guidelines, to undertake strategic environmental impact assessments for biomass and should consult fully with environmental and other groups with an interest.”

**We fully agree that environmental issues need to be addressed in the development of energy crops and will take the actions recommended on environmental assessment.**

11.12 Individual applications to grow energy crops are subject to environmental assessment. This ensures that any factors that might have a significant effect on the environment are considered before approval is given for planting.

- 11.13 In addition we are working with environmental and other bodies to develop a framework for strategic environmental assessment as the Task Force has recommended. This work will take account of the Environment Agency's biomass assessment tool BEAT and aims to provide guidance on impacts at a wider scale than the immediate locality of the planting. We intend to publish guidance later in 2006.
- 11.14 The environmental evidence base for energy crops is currently being supplemented by two major research projects that will consider landscape character, water use and biodiversity and the sustainability of alternative scenarios for large scale renewable energy from biomass. We will continue to monitor the need for further evidence work.
- 11.15 The Government recognises that the impacts of energy crops can vary at a local level. A working group, set up by Defra in 2005 and comprised of representatives from Forestry Commission, Rural Development Service, English Nature, Environment Agency, Countryside Agency, English Heritage, Government Offices and Regional Development Agencies, is developing maps incorporating information on environmental impacts and yield that is relevant to the siting of energy crops. The maps are expected to be available in 2006.

## ACTIONS

- **Individual planting applications under the Energy Crops Scheme continue to be subject to environmental assessment.**
- **Government will continue to develop the evidence base on environmental impacts and intends to publish guidance later in 2006 on strategic environmental assessment of energy crops.**
- **Mapping work to provide further guidance on opportunities and optimum siting for energy crops is expected to be completed in 2006.**

## Research and development

### Recommendation 40

" Drawing on the work of UK ERC and their advice, the Government should review the range of research and development linked to biomass energy and develop a strategic plan from basic through strategic to applied research, and including technology development. The work should assess whether current activity is well focused and well co-ordinated, ensure that procedures to avoid duplication are in place and ensure the programme delivers value for money."

**We agree and will develop the strategic plan as recommended.**

- 11.16 Significant funding is available for the various strands of bioenergy research – encompassing the continuum from "blue sky" research, primarily supported by the Biotechnology and Biological Sciences Research Council (BBSRC) and the Engineering

and Physical Sciences Research Council (EPSRC), to deployment programmes, primarily supported through Defra, DTI and the Big Lottery Fund. We agree that they need to be effectively co-ordinated. The Bioenergy R&D Funders' Forum (BFF) was established to ensure this would take place. Each member of the Forum procures or funds research to meet its policy requirements, and the Forum provides a means for discussion, in order to exploit synergies and avoid duplication between research programmes. The BFF's work will take account of the international dimension, namely through involvement of its members in the ERA NET Bioenergy<sup>77</sup> and the International Energy Agency.

11.17 The BFF's activities will be informed by the wider Energy Research Partnership (ERP)<sup>78</sup>, launched in January 2006 and currently assessing research needs for the whole range of energy technologies, energy efficiency and alternative fuels. The ERP's work will be supported by the research roadmap being developed by the UK Energy Research Centre (UKERC)<sup>79</sup>. The map will identify gaps and priorities in the research required to underpin the development of renewable energy sources, including biomass. The BFF will provide the forum for discussion of the research requirements identified in the roadmap and identify how these should be addressed. The publication by May 2006 of BBSRC's Bioenergy Review will also feed into this work. The National Institute for Energy Technologies, announced in the Budget in March 2006, will build on the Energy Research Partnership. NIET will draw together public and private sector funds to make the UK a leader in research into low carbon solutions. The priority areas for its work are currently under consideration.

11.18 We are confident that the various research partnerships in place are properly co-ordinated through the BFF, that research needs are prioritised appropriately and that action is being taken to prevent duplication of effort and resources.

## ACTIONS

- **The Bioenergy Funders' Forum will publish strategic priorities for biomass Research and Development in summer 2006.**
- **National Institute for Energy Technologies to be established.**

<sup>77</sup> <http://www.eranetbioenergy.net>

<sup>78</sup> <http://www.gnn.gov.uk/Content/Detail.asp?ReleaseID=185285&NewsAreaID=2>

<sup>79</sup> <http://www.ukerc.ac.uk/>

## Annex A:

# Devolved Administrations

## The Welsh Assembly Government

1. The Welsh Assembly Government has concentrated on assessing and developing the demand for biomass through various schemes that are highlighted below.
2. Interest in the use of biomass as fuel in electricity generating stations has increased significantly as a result of the Renewables Obligation mechanism. But it is still uncertain how much Welsh biomass will be needed for co-firing at coal power plants, such as at Aberthaw, and for new biomass-only power plants.
3. The Welsh Assembly Government is committed to make progress on the reduction of carbon emissions and to encourage the development of an indigenous microgeneration renewables industry in Wales. It has also identified the need, in the strategy document Energy Saving Wales, to improve energy efficiency measures, and to engage the young on issues relating to sustainable development.
4. The Welsh Assembly Government has met with the Welsh Local Government Association, Carbon Trust and Energy Saving Trust to discuss how best to introduce additional energy efficiency measures and renewable energy technology into Welsh schools. Links with the Eco-schools initiative, which considers additional economic and social aspects of sustainable schools, are also being explored.
5. A biomass boiler has been installed in the new Welsh Assembly Government building in Cardiff to supply heat. This building houses the debating chamber and committee rooms and has received the Building Research Establishment's (BRE) highest award for sustainable building construction. It was opened in March 2006.
6. A district heating system is planned to supply new public buildings in Aberystwyth which will include the Welsh Assembly Government building. The building is due to be opened in the Autumn of 2008.
7. A Woodland Development and Biomass Strategy Group was set up in 2001 to examine the potential of farm woodland development and the biomass sector in Wales. Over thirty organisations were invited to sit on the Group covering the agricultural forestry, research and energy sectors. The Group produced the Woodland and Biomass Action Plan, which identifies a range of actions in research and development, demonstration projects, economic and market analysis, awareness raising, training, grant assistance and the examination of the agricultural subsidy system. The Woodland Development and Biomass Steering Group has been established to carry forward the Action Points from this report. The group comprises of representatives from the industry who are tasked with assessing progress against and updating the action points.

8. To increase the demand for biomass, the Wood Energy Business Scheme was launched in October 2004 and allocated £13.3 million. This is administered by Forestry Commission Wales and covers Objective 1 and Objective 2 (Powys) areas in Wales. This scheme provides £7 million capital grant support for installation of woodfuel-powered heating and power generation plant and processing equipment for initial processing of round wood into chip and pellet form. The Forestry Commission has also committed to underwriting a proportion of existing small round wood to supply the wood fuel sector as a precursor to the development of fuel supply from energy crops and farm woodland. The introduction of direct financial support for the planting of biomass crops is being considered as part of the Rural Development Plan 2007 to 2013.
9. To provide information and demonstrations to the farming industry, the Centre for Alternative Land Use (CALU) was established in November 2004, based at University of Wales, Bangor. The aim of the Centre is to provide a signposting service; market information and co-ordination of demonstrations in relation to biomass and farm woodland; alternative crops/livestock and horticulture. CALU is the fifth Development Centre funded by the Farming Connect initiative, an initiative that brings together key organisations in Wales to provide agricultural advice and guidance to farmers.
10. The Welsh Assembly Government also sits on the Bio-energy R&D Funders Forum, which provides a forum for consultation on energy crops in research and development across the UK and identify gaps in government funded research. There is extensive research and development being carried out in Wales on the potential of growing energy crops and their end uses in Wales.
11. The Welsh Assembly Government launched the National Waste Strategy for Wales 'Wise about Waste' in 2002. This document advises that the energy from waste should only be considered when all other options e.g. recycling/composting have been undertaken and energy production is the best practical environmental option. Anaerobic digestion and energy from waste are the preferred options for dealing with residual waste.
12. The Welsh Assembly Government intends to produce a biomass energy strategy by early 2007.

## **The Scottish Executive**

13. The Scottish Executive is committed to developing a vibrant renewables industry in Scotland and has targets that 18% of electricity generated in Scotland should come from renewable sources by 2010 rising to 40% by 2020. We have also made a commitment to develop a National Biomass Action Plan by the end of 2006 and a Renewable Heat Strategy by the end of 2007. Our actions are driven by our commitment to mitigate climate change and by the potential for new economic development. Biomass energy will be a key factor in the delivery of these commitments; this annex outlines some of the action being taken by the Scottish Executive to develop and support the biomass industry in Scotland.

14. Forests currently cover around 17% of land area in Scotland and the industry supports 10,000 jobs and is worth £560 million. As forests mature, timber production is set to increase significantly over the next 20 years. Wood fuel is especially appropriate for – usually rural – areas that are off the natural gas network and provides large carbon savings where it displaces the use of fossil fuels.
15. Given the existing potential of Scotland's forest, the biomass industry in Scotland does not require substantial planting of energy crops for initial development, although energy crops would provide a further option to support its expansion. The bioenergy sector also offers new market opportunities for the forestry industry.
16. At the close of 2005 the Executive published *Choosing Our Future: Scotland's Sustainable Development Strategy*, in which the Scottish Executive set out the action it will take to turn the shared priorities set out in the UK Framework for sustainable development into action in Scotland. In the *Scottish Climate Change Programme*, published in 2006 – the Scottish Executive committed to making an equitable contribution to the UK's commitments on climate change.
17. The Executive has devolved responsibility for, among other things, the promotion of renewable energy generation and energy efficiency. Therefore, although overall energy policy is reserved to the UK government, the promotion of renewables including biomass, rests with the Executive, which has set ambitious targets for generating electricity by renewable means within Scotland.
18. As in England, the Renewables Obligation (Scotland) Order (2005) supports biomass electricity generation from dedicated biomass power plants and through co-firing biomass with coal.
19. The Executive's Enterprise, Transport & Lifelong Learning Department sponsor the Forum for Renewable Energy Development in Scotland (FREDS) whose report *Promoting & Accelerating the Market Penetration of Biomass Technology in Scotland* (2005) made a number of recommendations for developing the biomass sector in Scotland. Many of its key recommendations have already been implemented.
20. Our *Going for Green Growth: a green jobs strategy for Scotland* (2005) also highlighted the potential importance of biomass and biofuels to the rural economy.
21. The draft revised *Forests for Scotland: The Scottish Forestry Strategy*, which is about to be issued for consultation, will reflect our need to continue to encourage the production and use of biomass for bioenergy. In addition, the recently published *The Forward Strategy for Scottish Agriculture: Next Steps*, sets out the contribution agriculture can make to the mitigation of climate change. The strategy highlights the farm business opportunities that will develop within the growing biomass sector.

22. A list of key Scottish support mechanisms include:

Support	Description
Scottish Forestry Grants Scheme	Promoting restructuring and increasing the quality of management of existing woodlands.
DEFRA Bioenergy Infrastructure Scheme	DEFRA UK wide scheme administered in Scotland by FCS to develop the bioenergy supply infrastructure.
Scottish Strategic Timber Transport Fund	Helping to solve timber transport problems.
Scottish Community & Householder Renewables Initiatives	Offers grant support to communities and households for renewable energy projects.
Highlands & Islands Wood Fuel Development Programme	Developing local clusters of wood fuel suppliers and end users across the region.
Aid for Energy Crops	Aid available to farmers for areas planted with energy crops.

23. As part of the Scottish Executive's commitment to developing and supporting the biomass industry, future work will include:

- Producing a Biomass Action Plan by the end of 2006.
- Developing a Renewable Heat Strategy for Scotland by the end of 2007.
- Developing a Scottish support scheme for heat and CHP biomass projects, with the aim of stimulating a number of robust local supply chains.
- Continuing to run a network of wood fuel information officers across Scotland and the one stop shop website for wood fuel information. ([www.usewoodfuel.co.uk](http://www.usewoodfuel.co.uk))
- Promoting and supporting biomass conversion to large-scale energy users.
- Publishing a Scottish guide to growing short rotation coppice and undertake further research into short rotation forestry.
- Working with UK Government Departments to ensure a joined up approach to developing the biomass sector across the UK.
- Promoting research into the commercial viability of bioenergy from crops.

## Department of Agriculture and Rural Development, Northern Ireland

24. Over the past two years the Department of Agriculture and Rural Development (DARD) has led an inter-departmental group in a comprehensive study of the potential market for, and sustainability of, small-scale embedded heat and power and heat-only systems in the rural economy. Whilst this study deals primarily with the use of renewable energy sources for the generation of electricity and heat, it also extends to the use of biofuels for transportation.
25. Drawing on this work, the inter-departmental group produced a set of recommendations for DARD action to take forward a Renewable Energy Strategy. The recommendations included proposals to:
  - increase awareness of renewable energy through education and training;
  - offer the rural community technical support;
  - further the development of renewable energy technology and processes through research and development; and
  - pilot and assist projects.
26. Towards the end of 2005, the Department launched a formal consultation on the recommendations. Responses to the consultation were generally supportive, indicating action should be taken sooner rather than later to advance the field of renewable energy. It was thought important to have a vision, and action plan, for sustainable communities, prioritising technologies that have the greatest benefit to them and the rural economy.
27. Both the recommendations and the responses will shape DARD's forthcoming Renewable Energy Strategy, which is likely to focus on:
  - (i) the opportunities for alternative land uses (biomass and biofuels) to broaden the economic base of agriculture;
  - (ii) the integration of sustainable waste management with renewable energy production; and
  - (iii) the opportunities to deploy renewable energy technologies within the rural economy, particularly small-scale, embedded heat and power systems.
28. The development of this strategy will build on existing DARD work in the field of renewable energy. For example, the Forest Service, an Agency of DARD, has operated a Challenge Fund for Short Rotation Coppice Energy Crops since August 2004 to encourage the establishment of short rotation willow coppice for renewable energy generation.
29. The Forest Service has also been working with wood processors to create stability in the wood supply chain and promote long term business planning. In response to this initiative, a major sawmill has invested in facilities to produce 2MW of electrical energy

and 10MW of heat using wood chips and sawdust produced on site, as well as producing wood pellets for combustion off site. The economic contribution from this wood based energy operation is serving to both strengthen the financial performance of the sawmill operator and to underpin the demand for home-grown timber.

30. Over the coming months, thirty successful projects will receive funding to erect a wind turbine for the purpose of providing wind energy for rural businesses. This scheme is funded by DARD under the EU Programme for Building Sustainable Prosperity, and provides up to £15,000 funding per business, resulting in the installation of 30 x 20kW wind turbines at rural businesses across Northern Ireland. The scheme will enhance the viability of rural businesses and promote a sustainable renewable energy source. Renewable energy produced locally offers the potential to increase business competitiveness and stimulate diversification in rural communities.
31. DARD also has a significant research base in renewable energy technologies extending back over many years and will shortly be developing a new five-year research and development strategy in which it is anticipated that work on renewables will be an important element.
32. On 27 February 2006 the Secretary of State for Northern Ireland announced the Environment and Renewable Energy Fund cross-cutting funding package of £59 million. This will accelerate actions to make greater use of cleaner and sustainable sources of energy, reduce energy consumption and, by enhancing skills, innovation and job creation prospects, build sustainable communities in Northern Ireland. It will also enhance energy efficiency and help to alleviate fuel poverty.
33. DARD has been successful in a number of bids to the Fund, totalling £3.7 million over a two year period, namely: –
  - Funding the creation of a renewable energy centre of scientific excellence within the DARD estate at the Hillsborough site of the new Agri–Food and Biosciences Institute (AFBI). Capital costs are £0.8 million in 2006/07 and £1.35 million in 2007/08.
  - Funding research and development in renewable energy technologies within AFBI. This will provide revenue of £0.5 million in 2006/07 and £0.75 million 2007/08.
  - Funding the College of Agriculture and Rural Enterprise (CAFRE) to take forward a technology transfer programme on renewable energy programmes to increase awareness of sustainable issues among the rural community and enhance its knowledge to exploit the opportunities that currently exist. Revenue of £0.1 million will be made available in 2006/07.
  - Establishment of biomass fuel heating demonstration projects within CAFRE at a capital cost of £0.2 million in 2006/07.

34. Apart from the DARD proposals, there are other measures within the Fund that will offer considerable opportunity to the agri-food sector in Northern Ireland. Of particular interest is the proposal to install a flagship, biomass-fuelled, combined heat and power plant in the Stormont Estate and to leverage private sector investment to develop the energy services company (ESCO) market by providing long-term contracts to supply up to 10MW of renewable heat to the public sector. Both proposals offer the prospect of achieving a demand-led expansion of biomass production in Northern Ireland provided the proper lead times are built into the process to allow for the establishment of production capacity and a fully functioning supply chain. Development of the latter could be facilitated by a proposed bio-energy infrastructure support measure.
35. A proposal to establish two flagship energy-from-waste facilities (municipal, industrial or agricultural) also offers opportunities for the agri-food sector, as does the proposal to purchase up to 10MW of renewable electricity generation (preferably from waste), with the electrical output being used to alleviate fuel poverty.
36. There will also be a series of actions to increase public and stakeholder awareness, disseminate information and knowledge and encourage deployment of renewable technologies.

## Annex B:

# Government reviews

**Barker Review**<sup>80</sup> – In Budget 2003 the Chancellor and Deputy Prime Minister asked Kate Barker, member of the Monetary Policy Committee, to undertake a review of issues affecting housing supply in the UK. The final report – “Delivering Stability: Securing our Future Housing Needs” was published on 17 March 2004. Government’s response was issued on the 5 December 2005.

**Climate Change Programme Review**<sup>81</sup> – a new UK Climate Change Programme was published on 28 March 2006. This followed an extensive review, launched in September 2004, of the existing Programme. The new Climate Change Programme sets out our policies and priorities for action in the UK and internationally.

**Energy Review**<sup>82</sup> – will assess progress against the goals set out in the 2003 Energy White Paper and the options for further steps to achieve them. A consultation document published on 23 January 2006 sought views on the medium and long term energy policy issues to be considered in the Energy Review. The consultation closed on 14 April 2006.

**Microgeneration Strategy**<sup>83</sup> – the Microgeneration Strategy ‘Our Energy Challenge, Power from the people’ was published on 28 March 2006. Its aim is to create conditions under which microgeneration becomes a realistic alternative or supplementary energy generation source for the householder, for the community and for small businesses.

**Renewables Obligation Review**<sup>84</sup> – The 2005/06 Review of the Renewables Obligation (RO) closed on 9 December 2005, following a statutory consultation and the Government has made its decisions that have been implemented in the 2006 England & Wales RO Order. The proposed changes have also been introduced in Scotland and Northern Ireland and came into force from 1 April 2006.

**Stern Review**<sup>85</sup> – The Chancellor announced on 19 July 2005 that he had asked Sir Nick Stern to lead a major review of the economics of climate change in the UK and globally. On the 12 October 2005 the Stern Review asked interested stakeholders to submit evidence to the Terms of Reference. The deadline for evidence to be submitted was 9 December 2005.

**Waste Strategy Review**<sup>86</sup> – a consultation document ‘Review of England’s Waste Strategy’ published on 14 February 2005 reflects on existing policies and delivery mechanisms and seeks views on proposals for a revised waste strategy for England. The consultation will close on 9 May 2006.

<sup>80</sup> [http://www.hm-treasury.gov.uk/consultations\\_and\\_legislation/barker/consult\\_barker\\_index.cfm](http://www.hm-treasury.gov.uk/consultations_and_legislation/barker/consult_barker_index.cfm)

<sup>81</sup> <http://www.defra.gov.uk/environment/climatechange/uk/ukccp/index.htm>

<sup>82</sup> [http://www.dti.gov.uk/energy/review/energy\\_review\\_consultation.pdf](http://www.dti.gov.uk/energy/review/energy_review_consultation.pdf)

<sup>83</sup> <http://www.dti.gov.uk/energy/environment/microgeneration/index.shtml>

<sup>84</sup> [http://www.dti.gov.uk/renewables/renew\\_2.2.5c.htm](http://www.dti.gov.uk/renewables/renew_2.2.5c.htm)

<sup>85</sup> [http://www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/sternreview\\_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm)

<sup>86</sup> <http://www.defra.gov.uk/corporate/wastestratereview/review-consult.pdf>

# Glossary

**Anaerobic digestion** – is the breakdown of waste in the absence of oxygen. A waste treatment process where *biodegradable waste* is placed in an enclosed vessel and breaks down under controlled conditions.

**Bioenergy** – Biomass is derived from energy crops (such as short rotation coppice and miscanthus), forestry and agricultural plant and animal wastes. It can be used to generate electricity and or heat and to produce transport fuel. Such energy is known as bioenergy.

**Building Regulations** – exist principally to ensure the health and safety of people in and around buildings. The regulations apply to most new buildings and many alterations of existing buildings in England and Wales.

**Carbon Trust** – is a not-for-profit organisation set up by government with support from business to encourage and promote the development of low carbon technologies. Key to this aim is its support for UK businesses in reducing carbon emissions through funding, supporting technological innovation and by encouraging more efficient working practices.

**Clean Air Act 1993** – prohibits the emission of dark smoke from chimneys including domestic premises. It dates from 1956 when it was enacted in response to incidents such as the great London smog of 1952. The 1993 Act consolidates previous changes and amendments.

**Combined Heat and Power (CHP)** – CHP is the simultaneous generation of useable heat and power in a single process, thereby discarding less waste than conventional generation.

**Energy Efficiency Commitment** – requires electricity and gas suppliers to achieve targets for the promotion of improvements in domestic energy efficiency.

**Energy Saving Trust** – is a not-for-profit organisation set up and largely funded by government to cut carbon emissions by promoting the sustainable and efficient use of energy in households, small businesses, the public sector and the transport sector.

**Energy White Paper** – defines a long-term strategic vision for energy policy combining our environmental, security of supply, competitiveness and social goals.

**Forestry Commission Research Agency** – provide research services relevant to UK and international forestry. Their core work for the Forestry Commission supports the forestry strategies for England, Scotland and Wales.

**Framework for Sustainable Development on the Government Estate** – published in September 2002, provides a structured approach for Government departments to identify and report the key sustainable development impacts of the management of their estates, employment of staff and relations with the communities in which they operate.

**Government Offices** – are the primary means by which a wide range of Government policies are delivered in the English regions.

**Life Cycle Analysis** – provides a methodology for considering each stage of the product's life from extraction of the raw materials, through manufacture and construction, use and disposal.

**Local Development Frameworks** – will be comprised of local development documents, which include development plan documents, that are part of the statutory development plan and supplementary planning documents that expand policies set out in a development plan document or provide additional detail.

**Local Development Plans** – in which district authorities and National Park authorities set out more detailed policies to guide development in their areas, including proposals for specific sites.

**Non Food Crops Strategy** – for creating value from renewable materials; aimed at increasing commercial opportunities, stimulating innovation, cutting waste and environmental damage, and protecting precious natural resources.

**OFGEM** – (Office of Gas and Electricity Markets) is the UK energy regulator, charged with: making gas and electricity markets work effectively, regulating monopoly businesses, intelligently securing Britain's gas and electricity supplies, meeting its increased social and environmental responsibilities.

**Planning Policy Statements (PPSs)** – are prepared by the government after public consultation to explain statutory provisions and provide guidance to local authorities and others on planning policy and the operation of the planning system.

**Refuse Derived Fuel (RDF)** – municipal waste, compressed into pellets and used as a solid fuel supplement in power stations.

**Regional Assemblies** – the assemblies are made up of voluntary representatives from among elected councillors from local authorities in the region and non-local authority representatives from other interest groups. They work closely with Government Offices and other government-funded bodies in the region.

**Regional Development Agencies (RDAs)** – aim to co-ordinate regional economic development and regeneration, enable the English regions to improve their relative competitiveness and reduce the imbalances that exist within and between regions.

**Regional Spatial Strategies** – contribute to the achievement of sustainable development and provide a broad development strategy for the region for a fifteen to twenty year period.

**Renewables Obligation (RO)** – the obligation placed on electricity suppliers to deliver a stated proportion of their electricity from eligible renewable energy sources.

**Renewables Obligation Certificates (ROCs)** – eligible renewable generators receive ROCs for each MWh of electricity generated. These certificates can be sold to suppliers. In order to fulfil their RO suppliers can present enough certificates to cover the required percentage of their output, or pay a 'buyout price' per MWh for any shortfall. All proceeds from buyout payments are recycled to suppliers in proportion to the number of ROCs they present.

**Sector Skills Councils (SSCs)** – independent, UK-wide organisations developed by groups of influential employers in industry or business sectors of economic or strategic significance, to tackle skills and productivity needs of their sector throughout the UK.

**Solid Recovered Fuel (SRF)** – means municipal solid waste that has been processed before being used.

**Sustainable Energy Policy Network (SEPN)** – is a network of policy units from across government departments, the devolved administrations, regulators and key delivery organisations that are jointly responsible for delivering the Energy White Paper. The Secretary of State for Trade and Industry formally launched SEPN on 4 June 2003.

**Waste Strategy** – sets out the Government's strategy on waste and was published in May 2000. The Government is currently carrying out a consultation on the Strategy.