

BIOMASS TASK FORCE

INTERIM REPORT – June 2005

Context for the work of the Task Force

1. In undertaking this study for Government the Task Force (See Annex A for terms of reference and summaries of work so far) has defined biomass in its widest sense – literally, any biological mass derived from plant or animal matter. This includes material from forests, crop-derived biomass including timber crops, short rotation forestry, straw, chicken litter and waste material. Planning and Policy Statement 22 defines biomass as “the biodegradable fraction of products, wastes and residues from agricultural (including plant and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste.”

2. This assessment of biomass for energy is not a static study but is intended to look at the potential development of biomass energy against a vision of where we shall be in 2020 and beyond. The study is not about finding a use for redundant farmland but is about the strategic development of a viable biomass sector which, at the same time, delivers sustainable development for the rural and forestry sectors.

3. The 2003 Energy White Paper (CM 5761) sets out four goals for energy policy:

- to put the UK on a path to cut carbon dioxide emissions by 60% by about 2050, with real progress by 2020;
- to maintain the reliability of energy supplies (energy security);
- to promote competitive markets in the UK and beyond, helping to raise the rate of sustainable economic growth and to improve productivity; and
- to ensure that every home is adequately and affordably heated.

4. At the time the Energy White Paper was published the aim was that renewables should supply 10.4% of UK electricity by about 2010, subject to the cost to the customer being acceptable. The aspiration was to double renewables' share of electricity by 2020. The level of the Renewables Obligation was subsequently increased for the years 2010-2011 to 2015-2016 from 10.4% to 15.4%. This addressed concerns about the likely fall in the value of Renewable Obligation Certificates and there has been a positive response from industry.

5. Government support secures development of renewables technologies which are moving towards viability. Options available to Government include regulation, fiscal measures and subsidisation. Government policy has been to set a platform for the development through the Renewables Obligation without favouring any particular technology. Technologies furthest from the market

such as biomass have been given additional support through grants and research and development funding.

Vision for biomass

6. Any vision of the future is only as good as the accuracy of the base assumptions that have been made in the creation of that vision. However as long as the assumptions are clearly laid out and the logic is clear such a vision can help give important messages for actions that need to be taken today and in the coming years. As time passes the vision, and the consequences thereof, can be amended in light of greater certainty about the trends.

7. For 2020 then we have assumed the following:

- (i) Despite continued efforts to restrain energy demand, the UK's need for low carbon, secure, energy supplies will remain pressing. The UK will continue to need to deploy a full range of different technologies to meet its energy needs. It is assumed that a major effort is put into the use and development of energy efficient processes but in spite of this that energy demand will be at best static and at worst continue to grow, albeit at a reduced rate.
- (ii) The EU Emissions Trading Scheme will, by 2020, have developed to become the main means by which low carbon generation is encouraged (though there will be a full range of other mechanisms, including the Renewables Obligation and capital grants).
- (iii) The costs of the existing range of renewable technologies will fall, although not uniformly, in response to their greater deployment, but there are likely to be constraints on the use of any single technology.
- (iv) In the case of biomass, technical progress is likely to be more limited than is the case with some less developed renewable technologies. Even so, the development of gasification and pyrolysis processes will aid the efficient conversion of the biomass into energy.
- (v) Biomass has the potential to provide a growing, though probably still modest, proportion of the UK's energy needs for both heat and baseload electrical power. It will be particularly suited to rural and semi-rural locations, where the customer is closely located to the producer.
- (vi) It is assumed that "waste" as currently defined will have become acceptable as a secure and sustainable source of biomass energy
- (vii) There will be accelerating effects of climate change, but different regions of the world will fare differently. Parts of Europe and Asia will be adversely affected by sea level rise. Water will become a major limiting factor in agricultural production (although, of the EU countries, the UK and ROI may come out well).
- (viii) These adverse effects of climate change will serve to counter prospects for greater yields, multiple cropping, and the cultivation of

new land. The net result will be that there will be competition for land use between food and non-food production.

- (ix) Food Security will join Energy Security as a key issue for the UK and Europe.
- (x) It is assumed that by 2020 the demand for land use for food production will be such that the amount of UK land (outside the forestry base) available for non-food production will only be around 1 million hectares (the assumed margin of error is plus or minus 0.5 million hectares). Although this amounts to a modest contribution it does represent three times the current land area used for sugar beet in the UK. Current EU biofuels objectives would indicate the need for a significant area of land dedicated to crops for that purpose, leading to competition for the circa 1 million hectares. Biomass and biofuels feedstocks are likely to be increasingly traded internationally.
- (xi) The conclusion is that we will have to be much cleverer about the use of plant products. Attention to “Chains of Utility” will ensure that maximum added value is achieved from each supply chain. Plant products will then have primary, secondary, and even tertiary and quaternary uses before becoming an energy source, with by-products at each production stage being used for their energy. It follows that the growing of specific crops direct for energy use will be limited. It will be better to grow crops to be used initially as a raw material source for industry, though the subsequent waste steam may have an energy use.

8. All of this serves to focus attention of the vital need to secure the use of all available biomass streams – including waste, forestry material, arboricultural arisings and purpose grown crops– for biomass heat and power.

Comments on this Vision for biomass are invited

Progress to date

9. Figures show¹ that by 2003-04 all biomass, including co-firing, accounted for 0.5% of national electricity supply. This was predicted to rise to around 0.9% by 2010-11. Of the current projects funded by the Bio-energy Capital Grant Scheme most progress is being made with the development of biomass heat applications. Of the seven larger electricity or combined heat and power projects significant progress has been made by two with the remainder encountering challenging barriers. The 2005 report by the NAO² noted that there is a risk that many of the projects will not go ahead.

¹ NAO report on renewable energy 2005

² NAO report on renewable energy 2005

Support for biomass renewables

10. The table attached at Annex B shows the support currently available for biomass.

Trends since October 2004

11. Since the Task Force began its work in October 2004 electricity prices have continued to rise. We have been told that one-year forward prices are currently over 50% higher than a year before, and over twice as large as in 2003. These rises in prices will help the competitiveness of renewables projects, in the context that, we understand, there is likely to be a shortfall against the 2010 target of 10%.

The case for biomass

12. Biomass is unique amongst renewable energy sources in that feedstocks have a cost associated with them. This has a significant impact on project viability, especially for electricity generation, and implications for the level of support needed for market development. Nevertheless, there are significant reasons why biomass energy should be harnessed to make its contribution to future energy supplies:

- Potential to deliver carbon savings at reasonable cost.
- Contribution to energy security.
- Some potential for a contribution to the UK economy as developers and manufacturers supply both the home market and gain exports.
- Delivery of biomass heat which is competitively priced on operating costs compared to fossil-based options.
- Flexible baseload generation without intermittency.
- Revitalisation of rural communities through sustainable farming and forestry.
- Contribution to future waste strategies and the achievement of reductions in landfill.

13. It has to be recognised that biomass has limitations. Given its bulky nature road transportation of biomass, with the exception of pellets, is expensive relative to the value of the product. Feedstocks will need to be sourced close to end uses. Road transportation adds environmental impacts and affects carbon and energy balances, all of which have to be taken into account. The 25 miles rule in the Energy Crops Scheme provides a sensible benchmark for transportation distances. We have not seen any data which assesses the environmental impact of importing biomass feedstocks, including pellets.

14. The biomass heat market is likely to grow slowly unless further action is taken and be localised in its nature. Storage of bulky biomass and the potential for the development of, for example, fungal spores is a challenge, although perhaps more perceived than real. And diseases of crops and trees have to be addressed through appropriate research and development.

Biomass potential

15. Available data for some of the potential biomass feedstocks is partial. We intend to bring together in our final report the information we believe to be currently available.

16. Other factors which make definitive predictions difficult include:

- The future potential of single stem forestry and the likelihood of EU support arrangements being adapted to support development.
- The need to differentiate between woodlands in need of management and those which have no real commercial potential
- Potential yields of energy crops, given that actual yields have fallen short of predictions.
- Availability of forestry material where we are told that after taking account of existing markets there are 1.3m oven dry tonnes of material available (0.4m tonnes of stemwood, 0.09m tonnes of sawmill arisings, 0.8m tonnes of branches and 0.01m tonnes of short rotation coppice).
- Availability of arboricultural arisings – currently said to be 450,000 tonnes per annum.
- Potential to map geographic areas to clarify biomass resource available.

17. In our final report we will more fully define the potential of biomass and calculate the carbon saving potential. **Stakeholders are invited to comment on the factors above and to provide further data.**

International comparisons

18. We do not propose to repeat here the information we have already published on international comparisons. We concluded our work on this aspect of the study with a short visit to Sweden and will return to this in our draft final report.

EU Biomass Plan

19. The Directorate General for Energy and Transport recently undertook a consultation on the development of an EU Biomass Action Plan. The summary of key proposals submitted³ included:

- Considering the external costs of fossil fuels – linking carbon to fiscal support.
- Harmonised quality standards.
- Promoting bioheat through a renewable heat directive.
- Information awareness and exchange.
- Amending the Common Agriculture Policy to promote bioenergy.
- Stability and long-term perspectives in support policies and schemes.

³ http://europa.eu.int/comm./energy/res/biomass_action_plan/index_en.htm

- Integration of EU waste and renewable energy policies.
- Define targets for biogas.

20. Encouragingly, UK stakeholders provided the largest number of responses from any of the EU Member States and key proposals included:

- Promotion of bioheat and small-scale CHP through a renewable heat obligation.
- Simplify and harmonise support arrangements and procedures.
- Bio-residues from forestry, agriculture and similar sectors not to be classed as waste.
- Consider external costs of fossil fuels and the advantages of bioenergy/energy saving, CO2 credits and trading.
- Promote energy crops close to end use.
- Raise awareness through public procurement.
- Support bioenergy development through capital grants.
- Establish, support and optimise supply chains.
- Promote biomass co-firing.

Barriers to development

21. During the first seven months of this study we have sought to engage with the industry by posting questions on our webpage, meetings, visits and the progress commentaries in February and March. Industry has risen to this challenge and provided a large volume of comment and input. We here record comments which have been made to us during the fact-finding phase of our work:

(a) Whitehall policy and delivery

- Lack of joining-up in Government/Regulator – Defra, DTI, Ofgem all have different agendas and policy objectives.
- Renewables targets led to an emphasis on electricity but excluded heat. Electricity is the sector which struggles most with viability.
- No clear vision or strategy to develop and deliver biomass. Lack of clarity about what Government wants for future – large-scale, small-scale, embedded generation, heat, CHP, micro generation, period of commitment to ROC system?
- History of stop/start initiatives, for example, Community Renewables Initiative and Clear Skies. Long-term strategy needed.
- Complex and fragmented grant aid and support structure, short application deadlines, academic appraisal panels, rates vary between schemes.
- Grant schemes can distort rather than develop markets – eg Bio-energy Capital Grant Scheme prevents use of heat for some large projects.
- No link between grants and value of carbon saved.

- Public procurement policy has potential to develop the use of renewables, including biomass, by establishing exemplars but this potential has not been exploited.
- Ofgem over-police and no access to an appeals mechanism.
- Challenge, within role of Ofgem, of balancing short-term consumer interests and environmental agenda.
- Cost of system connections for small, renewable generators.
- Conflict between Treasury Green Book, which requires local authorities to take account of environmental benefits and disbenefits over 20 years, and PFI which looks at up-front capital cost.

(b) Regulation

- Planning – the impact of public perception on planning applications.
- Planning policy - no specific drivers to develop district heating.
- Planning gain potential has not been maximised. PPS22 helpful but local authorities see a danger if they are too prescriptive with developers – could lose appeals and have to bear costs
- PPS22 helpful but still lack of support through planning system.
- Inappropriate application to biomass of Clean Air Act and building regulations relevant to coal-fired heating systems,
- VAT levied on gas (5%) compared to biomass boilers (17.5%).

(c) Renewables Obligation Certificates

- Complexity of Renewable Obligation system.
- Renewable Obligation 98% purity level for biomass set too high.
- Off-site blending rules for co-firing can hamper commercial options.
- Lack of access to ROCs for small generators.

(d) Heat market

- Heat is currently the most viable biomass option in market but has so far been ignored.
- Heat Obligation run as the current Renewables Obligation could be complex and bureaucratic – could use targets and an implementation plan as an alternative.
- Value of heat energy and linked carbon saving not recognised.
- Higher cost of capital equipment compared to gas and oil means that capital support is needed.

(e) Biomass CHP

- Requirement to predict electricity supply into Grid is a barrier for CHP projects which are designed to produce heat and spill surplus energy.
- Biomass CHP capital equipment currently expensive although costs likely to fall as the industry develops.

(f) Viability of biomass electricity in market

- Viability – biomass fuel has a price/cost which has been too high to make projects viable without support. Emphasis on energy crops distorts project economics. Not clear there will be an economic return to grower/forester.
- Absence of PPAs for adequate periods means revenue or other support is needed to achieve viability for biomass.

(g) Technology

- Emphasis on development of biomass based on new technology failed – but existing technology proven and bankable.
- Absence of type approval for some biomass energy capital equipment.

(h) Developing supply chains

- Needs market to pull through supply chain. Important to involve agriculture, forestry and waste (recycling) sectors. Funding needed to follow-on from Bio-energy Infrastructure Scheme – long-term investment and clear regional strategies needed.
- Energy crops – knowledge base poor, expensive to establish, costs not fully proven, long-term commitment needed but market insecure, legislation subject to frequent revision, possible SRC impacts on land value.
- Feedstocks – wrong to interfere, for example by supporting energy crops. Better to let the market decide on the feedstocks.
- Alternative energy crops – little government support for short rotation forestry as an alternative.
- Woodland resource could be sustainably managed to provide feedstocks but economics do not always evidence viability.
- Lack of accreditation system for biomass – quality standards and technical specification.
- Pellets could provide feedstock for domestic uses but is an energy cost for their production.
- Lack of mechanisms to develop co-operatives in the supply chain.

(i) Waste biomass

- Significant potential to reduce landfill which is not being tapped.
- Waste legislation, interpretation and waste hierarchy (emphasis on recycling) have inhibited the development of waste to energy.
- Conflict between composting targets and use of arboricultural material for energy.

(j) Education

- Information papers, exemplars, working examples are lacking.

- Lack of awareness and education - biomass projects can be seen as high risk, builders, architects, engineers and quantity surveyors less aware of options, codes of practice and training based on large gas systems.
- Lack of promotion and publicity through use of exemplars.
- Lack of public awareness of the facts about biomass energy

(k) Regional delivery

- No clear regional strategy for implementation.
- Too many players, including RDAs, LAs, GOs.
- Lack of carbon targets for RDAs means there is no driver.
- Regional effort fragmented – but need regional strategies to implement national targets and priorities. Who should lead? Local Authorities have expertise which is not being tapped.
- Switching of RDA priorities can lead to a loss of funding for developers.

(l) Sustainable development

- Can be impacts on biodiversity – best practice guidance needed.
- Sustainability must be demonstrated and maintained – especially for imported wood and wood products.
- Lack of life cycle assessment standards.
- Has been some degree of mismatch between scale of projects and location.
- Sustainability impacts not always clear – water uptake, run-off, nutrient uptake, soil erosion. Unclear how imported biomass scores against sustainability issue.

(m) Financial issues

- Small projects find it difficult to raise finance.
- Financing new technologies is difficult.
- Lack of type approval means that due diligence is expensive for lenders.
- Lenders can be risk averse.

(n) Other

- Ineffective trade associations.
- Lack of SRC varieties with adequate genetic base.
- Development of biomass energy could force prices to rise with an adverse impact on the wood panel industry.
- Research effort lacks cohesion.

Question 1 – Are there any barriers which have not yet been brought to the attention of the Task Force?

Question 2 – Which of these barriers are the most significant? How would you prioritise them?

Recommendations the Task Force is considering

22. Developing the potential of biomass energy will require that a number of related actions be taken forward simultaneously. To facilitate implementation these actions will need to be brought together into a strategic implementation plan handled by a specific project delivery team with a defined workstream. There will need to be ownership at Ministerial level which, given the current fragmentation in Government, is likely to mean the Secretaries of State for Environment, Food and Rural Affairs and Trade and Industry. Single ownership would be ideal. What is essential is that both of those Departments, at Ministerial and official level, take ownership of biomass energy and evidence that through delivery. Proposals for recommendations follow:

The role of Government

23. Our progress commentaries have identified positive actions by the Government which have sought to stimulate the development of biomass energy. But statements and action to date have not added together to build confidence amongst developers. To provide a sound foundation on which to build a biomass sector key elements are:

- Addressing the current lack of ownership caused by the fragmentation of responsibility for the various aspects of energy policy across several Departments.
- A clear statement about the Government's strategy, identifying long-term aims for the biomass sector, drawing on the final report of the Biomass Task Force, with milestones and expected progress.
- Underpinning such statements with the development of streamlined support schemes which, when brought together, represent a credible package aimed at strategic delivery of the sector.
- Commitment to support schemes for a period of time sufficient to underpin strategic development, build industry confidence, secure infrastructure development and begin to reduce costs.
- Implementation by all Government Departments including education, planning and procurement.

Question 3 – Would such actions provide the foundation needed for strategic development of biomass energy?

Question 4 – How important is it to have all government policy issues within one department?

Question 5 – Are there other elements that should be included in a strategic statement by Government?

Delivering the policy

24. Successful national policy will require focussed regional delivery. At the local level there is an urgent need to bring together, amongst other things:

- Advice.
- Access to grant funding.
- Access to capital.
- Information.
- Technical data.
- Promotion activities.

25. Active in this area are the Rural Development Agencies (responsible for Regional Energy Strategies), Government Offices, local government and activities such as the Community Renewables Initiative. Project development will inevitably need to link to Natural England and the delivery of land-based support. We have been impressed by the Energy Saving Trust's plans for a Sustainable Energy Network at the local level and the aim to create a one stop shop network where developers and their clients can access good quality information.

Question 6 – Would a one-stop shop network which included advice, information and access to capital be the best way help the development of biomass energy?

Question 7 – Should the one-stop shops be responsible for administering grant funding?

Question 8 – Who should lead the development of such a network?

Question 9 – Are these the key activities (para. 24) and are there other activities which need to be brought together in a one-stop shop network?

Biomass electricity

26. The development of the biomass electricity sector has faced a range of hurdles but economic viability is inevitably the central consideration. Failures have occurred where the incentives have been focussed on trying to bridge too big a gap between what is currently practically feasible and what is commercially realistic and possible. As energy prices increase the economic viability of different transformation technologies will improve, particularly where both electricity and heat are released and utilised from the energy source.

Question 10 – What would be the benefits of re-running a capital grant scheme for biomass electricity in the near future, either along the lines of the Bio-energy Capital Grants Scheme or in an amended form?

Question 11 – Should support be focussed on projects close to commercialisation?

Biomass heat

27. In our first progress report we noted that biomass heat has been an underdeveloped aspect of policy. It can deliver efficient use of feedstocks and a significant contribution to the reduction of carbon emissions. Biomass heat adds to diversity in energy supply and, through the use of indigenous feedstocks, to fuel security. There is widespread agreement that the biomass heat sector should be developed. We have seen good examples where biomass heat can compete with oil, gas and coal systems and where feedstock suppliers have developed their business into the supply of heat, returning the added value down the supply chain.

28. The Government is considering the Royal Commission on Environmental Pollution's recommendation⁴ for a renewable heat obligation. There would seem to be three issues:

- who should/could the obligation be placed on;
- can such an obligation avoid excessive bureaucracy; and,
- if an obligation could be imposed, what scale would be appropriate?

29. Discussion to date seems to have concentrated on the imposition of an obligation on energy suppliers (i.e. electricity, gas, coal and oil companies). The effect would be to force such companies to become heat suppliers (or to finance heat investments by third parties) or traders of certificates. At this point, we are not persuaded that an obligation of this kind can be justified, either in terms of equity or effectiveness.

30. We believe that the starting point should be consideration of who can best be expected to respond to a new incentive by increasing the amount of investment in new local heat networks using biomass. It seems to us that there are two obvious institutions that can reasonably be expected to increase such investment: the public sector, notably schools, local government and hospital facilities (with rural investments likely to be favoured) and local housebuilders (again, particularly those in rural areas). In both cases, the case studies we have seen suggest that, far from being an imposition, such investments can, in many cases, be more, rather than less, effective, and so can save costs. The barrier that stands in the way of such investment is, therefore, ignorance and uncertainty rather than any absolute disadvantage relative to other heat sources.

⁴ RCEP – Biomass as a Renewable Energy Source, published 2004.

31. Given such possible advantages, our hope is that, following a period of discussion and consideration, the Government might be able to achieve the desired shift by way of a voluntary agreement that a percentage of heat installations will be biomass-based – thereby avoiding the need for a formally - imposed obligation. (One advantage of a voluntary agreement would be that the fair allocation of an obligation on the national housebuilding industry could be complicated.) We suggest that, to aid agreement, the initial scale of the commitment should be progressive, as a way of building confidence that such investments can indeed be achieved cost-effectively. If initial success can be demonstrated then the scale of the agreement could be increased over time. It may also be possible to use the planning system to secure additional planning gain benefits when developments take place (see para. 45 below).

32. But would such an agreement be sufficient? Our own analysis suggests that, so long as the present uncertainties remain, the main barrier in the stand-alone heat sector is the high initial capital cost, not the subsequent running costs. This suggests that, were funds available, the most direct means of support would be by way of a subsidy through capital grant, building on the achievements of the Bio-energy Capital Grant Scheme and Clear Skies. Our present conclusion is, therefore, that, whatever other instruments are used, faster progress could be achieved if long-term grants were also available, with such grants linked to targets and delivery plans focussed regionally through the one stop shops (possibly as part of a programme to deliver carbon targets agreed for each RDA). We comment further on financial support in paras. 37 and 38.

Question 12 – Do you see merit in a renewable heat obligation/agreement involving housebuilders and the public sector?

Question 13 – If a general capital grant scheme continued alongside an obligation/agreement, how long would it need to be in place for and who should deliver it?

Question 14 – What role could planning regulations have in the delivery of increased biomass heat and what regulations would be appropriate?

Public procurement

33. Public sector ownership of large buildings such as schools and hospitals provides an opportunity to progress the use of renewables, including biomass, in new build and retrofits. There is a significant opportunity to lead by example. The Task Force is particularly pleased that Defra decided to install biomass heating in its Worcester office during our study. We are aware of the significant programme to build new schools being run by the Department for education and Skills and the on-going programmes in defence and health.

34. We are aware of work on the Code for Sustainable Buildings which we understand is intended to be mandatory in all new buildings in the government

estate. We also understand that it had been intended that the Code be piloted in the £6bn Thames Gateway project which will emphasise the development of sustainable communities. But we are also aware that the Code will focus on building fabric and it is as yet unclear how wider issues such as renewables and district heating will be addressed.

35. Given that the Government is the biggest property owner in the country and that it has made commitments to develop the renewable energy sector by example we propose that the Government should:

- Review its current building portfolio and where heating refurbishments are being considered (particularly in rural and semi-rural areas) actively consider renewable energy sources and biomass in particular.
- For all new buildings (particularly in rural and semi-rural areas), consider and wherever possible install renewable energy facilities based on biomass. The current new build programme in schools and hospitals are particularly well suited to this, the former on heat alone and the latter on CHP.

36. As the Code for Sustainable Buildings will not be issued until early 2006 there is still an opportunity to be taken, not missed. The Task Force considers that:

- The remit of the Code must incorporate assessment of renewable energy sources.
- In public procurement there should be a presumption, which must be monitored and enforced, that renewables will be used to provide energy, with the requirement to consider the direct use of renewable energy as well as the indirect use of renewable energy by way of contracts with electricity suppliers.
- An awareness campaign should be developed for decision-makers in the public procurement process.
- Any conflict between the requirements of PFI finance in limiting initial capital costs and the potential for running cost savings from the use of environmentally more benign fuels must be addressed.
- Regional public procurement exemplars should be developed.
- Government departments, agencies and others should report annually on progress with the installation of renewable energy sources, including biomass, in their buildings.

Question 15 – Are there other ways in which public procurement could be used to drive the renewables/biomass agenda?

Future financial support

37. In para. 32 we commented on grant support for heat projects. In addition to those points we consider it is essential that there are no gaps between grant schemes, therefore new arrangements must be in place to follow the extension of Clear Skies, delivery of Community Renewables

Initiative activities and the Bio-energy Capital Grant schemes. Future support for project development needs to be streamlined:

- Fewer schemes.
- Long-term.
- Common application rules.
- Adequate time for applications.
- Schemes should not distort markets (for example, by not allowing the use from heat from electricity projects) but should facilitate their development.

38. And looking across the range of renewables and the key aim to deliver the climate change programme, consideration needs to be given to basing support on the value of the carbon saved – the carbon potential. This would:

- Put the focus on the key objective – climate change.
- Differentiate support in relation to this important objective.
- Link support to the efficiency of transformation of the feedstock.
- Raise awareness about climate change mitigation.

Question 16 – Do you agree that grant support should recognise and be based on the value of the carbon saved?

Developing the supply chain

39. Market development is key to pulling through the supply chain and the Government has the option to drive this with public procurement (see paras. 33-36). To facilitate the growth of the supply chain we are considering recommendations on:

- Support to develop infrastructure.
- Quality standards and certification for feedstocks (see para. 46).
- Research into new feedstock options such as short rotation forestry.
- New variety development for crops used for energy and, possibly, some form of national list arrangement to help growers identify quality material.
- Dissemination of best practice.
- Development of producer groups or co-operatives.
- Clear understanding of the potential of energy from waste.
- Information for project developers on supply chain economics.
- Sustainable development of the forestry resource.

Question 17 – Are there other elements which could be addressed to underpin supply chain development?

Question 18 – As there is an existing forestry supply chain, would an urgent review of how to build on that and the development of a strategic plan be helpful?

Energy from waste

40. Our progress commentaries have commented on the use of waste for energy. It remains our view that there is a significant resource which has the potential to be used for energy and that the waste sector could contribute to the biomass supply chain. In Brussels the Directorate General for Environment is developing a thematic strategy on the prevention and recycling of waste which is likely to lead to amendments to the Waste Framework Directive in 2008. Energy recovery is recognised as one element in a broad waste management strategy. The current work clarifying when waste ceases to be waste is urgently needed and should be based on practical interpretation which encourages use of all products.

41. The purpose of the Renewable Obligation system is to encourage the development and use of renewable energy sources. As such we believe this principle should be adhered to in the current review of the RO. We recognise the point made by Ilex in their analysis, referred to in the RO consultation, that there will be some development of waste to energy without RO support. But the UK is well behind in its development and we have been told, for example, that out of a total of 18m tonnes only 1.4m tonnes of wood waste is currently recycled with the remainder going to landfill. This points to the importance of including waste in the RO.

42. There is a concern that if the eligibility criteria for ROCs are extended that this will lead to a reduction in the value of ROCs and hence defeat the purpose of the exercise. It seems that a number of specific issues need to be addressed:

(i). If products classified as waste are to be utilised as a renewable energy source through extended eligibility for ROCs then it should follow, logically, that the Obligation level should be increased in parallel.

(ii). If such an increase is not possible, then it would not be sensible to widen the definition of eligible feedstocks.

(iii). As for the criteria for handling feedstocks and determining ROC eligibility and the negotiations controlling them we would be very clear of the need for significant simplification of the monitoring processes while still retaining an appropriate level of accountability within the process.

Question 19 – Do you agree that the use of waste for energy should be developed and how best might that be achieved?

Raising awareness

43. There is a crucial need to raise awareness about climate change, its likely impacts and how those impacts might be avoided. Developing biomass systems in schools will help, as will the installation of such systems in venues like the Eden Project. Raising awareness involves the general public especially the younger generation, policy makers, energy managers, developers, planners, architects, quantity surveyors and engineers. Our discussions with the Royal Institute of British Architects showed a need for hard evidence on costs and benefits, a central source of expertise and information, which could be the one stop shops discussed earlier, and the development of exemplars.

Question 20 - If awareness raising will underpin future development, do you agree that this should be addressed as a key element of the delivery plan and integrated into the one-stop shops?

Planning system

44. Planning Policy Statement 22 on Renewable Energy sets out national policy for different aspects of land use. Renewable technologies are encouraged and Regional Spatial Strategies and local planning documents are intended to promote rather than restrict. There is scope to assess wider environmental and economic benefit. Small-scale projects and community involvement are encouraged.

45. The implementation of national policy at regional and sub-regional level will always be challenging. We are told that local authorities face the risk of legal challenge (and associated costs) if they are too prescriptive with developers. But we are also told by some that greater engagement at the local level would focus thinking and help the development of local solutions. And there is potential to use planning gain, for example a housing development using biomass-based district heating would be viewed more favourably than a proposal based on individual gas central heating boilers. Whilst PPS22 will be supplemented with an annex on technologies and good practice guidance, the challenge is to know how best to supplement the document with action to engage communities, perhaps at the borough level.

Question 21 – What action would build on PPS22 to help the delivery of local projects with community involvement?

Quality standards

46. Developing quality standards is essential to creating and underpinning consumer confidence. International comparisons in particular have emphasised the need to ensure that feedstocks of appropriate quality are used in conversion technology. And a key to development of supply chains is the supply of woodchip or pellets which meet consistent quality standards.

Clear technical specifications are needed which can be incorporated into supply contracts. We are aware of work in place to develop standards – CEN TC335 for solid biofuels and CEN TC343 for solid recovered fuels and the British Standards Institute committee engaged on this. We are also aware that BRE and the British Pellet Club are seeking to develop a Wood Pellet Accreditation Scheme based on CEN technical specifications.

Question 22 – Is there industry consensus on the best way to take forward the development of quality standards for feedstocks?

Project finance

47. We are aware that many renewables projects are not sufficiently large to interest mainstream banks in the UK. Such investments are generally small and the balance of risks and rewards is widely perceived as unfavourable. Further, the lack of type approval of systems has an impact on risk and due diligence work.

48. One solution may be to encourage the growth of intermediate companies aiming to build up a portfolio of investments in small companies. We understand that there are already examples of such companies investing in wind energy. The advantage is that such companies are able to agree long-term power purchase agreements for the sale of electricity that would be unavailable to their constituent parts. It is to be hoped that such vehicles could be developed to include investment in biomass-fired plants.

Question 23 – Is finance for small-scale heat and CHP a major problem?

Question 24 – Is the availability of venture capital for development work a major problem?

Question 25 – If so, how could arrangements be put in place to provide the necessary funds in a realistic and cost effective manner?

Co-firing

49. Co-firing of biomass with coal has the potential to significantly expand the use of biomass for energy and is designed to help develop supply chains and the production of energy crops. The Energy White Paper foresaw a need to fully establish a wide range of renewable options and co-firing has evolved in line with that thinking. We are concerned that a recommendation to amend the co-firing rules would, unhelpfully, add to the numbers of changes which have been a feature of biomass policy. But we have yet to see evidence that generators are serious about the long-term use of energy crops. Government will need to monitor this closely as the deadlines for the introduction of energy crops approach. There is, however, an urgent need to resolve a number of issues concerning the practical implementation of co-firing ensuring that the

rules on the use of biomass simultaneously facilitate sensible commercial practice and allow full accountability.

50. Specifically the Task Force would recommend:

- A more flexible and positive approach to off-site blending.
- An appropriate and proportionate level of testing of fuel is introduced, commensurate with good business sampling practice. This would mean changes to the current end-of-month re-sampling of material and sampling of each biomass load.
- That month-end reconciliation procedures, which currently are unjustifiably onerous, be reviewed and simplified.

Question 26 – Do you agree that, apart from resolving the administrative issues identified, the co-firing arrangements should proceed without change?

Question 27 – What other issues need to be included in an urgent review of co-firing arrangements?

Other Renewables Obligation review issues

51. We have addressed issues concerning waste and co-firing in paras. 40-42 and 49/50 respectively. In addition, for small generators we consider there needs to be substantial simplification of procedures in order to facilitate this type of development. Depending on the circumstances of individual businesses we believe all of the three proposed options should be available to business:

- Agents acting on behalf of small generators.
- Agents being allowed to handle the output of small generators and handle sales.
- Removal of the sale and buy-back agreement with a supplier for generators under a certain threshold who consume some or all of the electricity they generate on-site.

52. It is also our view that small generators should not be allowed to change options after an initial selection of their preferred methodology.

53. If we follow the logic of allowing fully the use of waste as an energy feedstock within an extended RO then there would seem to be no need to maintain the 98% rule and ROCs would be claimed in relation to the proportion of biomass used. However, we recognise this could point to a fundamental shift in policy and we intend to discuss the potential impacts in detail with the DTI and comment further in our draft final report.

54. Finally, there are a number of other areas where the Task Force will consider recommendations including the development of district heating systems, the protection and enhancement of biodiversity, the organisation of

research and development and support under the Common Agriculture Policy. Stakeholders are invited to suggest other areas which need to be considered.

Future reporting arrangements

55. The future reporting timetable for 2005 is:

- End July – draft final report
- October – Final report

56. Recipients are invited to send views on this progress commentary by 27 June 2005 to:

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Central Science Laboratory (12G68)
Sand Hutton
York
YO41 1LZ

Or email to n.macleod@csl.gov.uk

Biomass Task Force
14 June 2005

Background to the Task Force

1. The Biomass Task Force was launched on 15 October to assist the Government and the biomass industry in optimising the contribution of biomass energy to renewable energy targets and to sustainable farming and forestry and rural objectives. The terms of reference can be accessed at:

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

2. The Task Force for this one year study is led by Sir Ben Gill, working with John Roberts from United Utilities and Nick Hartley from Oxera Consulting. David Clayton, Rebecca Cowburn and Nikki MacLeod provide support for the study.

Task Force work programme

3. The Task Force has so far undertaken around 100 meetings and visits. In the first progress commentary the Task Force highlighted:

- The lack of and need for an effective supply chain.
- The conversion efficiency and potential of biomass heat.
- A lack of long-term, clear messages about what needs to be delivered.
- Complexity and bureaucracy in delivery arrangements.

4. The second commentary focussed on:

- The potential to use waste as an energy source
- International comparisons, in particular Austria, Denmark, Finland, and Canada.
- The need for quality, standards and certification.
- The role of co-firing.
- Issues about the financing of projects.
- Feedstock availability and carbon saving potential.
- Research and development.

June 2005

