

Farm Woodland Development & Biomass: An Action Plan

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Executive Summary

1. Decline in farm incomes and the need for farmers to expand their economic base is recognised in "Farming for the Future". "Woodlands for Wales" highlights the need to provide support for farm woodlands and the wider rural economy as well as fostering the development of renewable energy based on wood. The production of biomass for renewable energy production and better utilisation of farm timber and woodlands are opportunities available to farmers, highlighted by report on alternative sectors undertaken by the Scottish Agricultural Colleges on behalf of the Welsh Assembly Government.
2. Considerable barriers to the planting of biomass, new woodlands or management of woodlands include the

loss of agricultural subsidies on the land concerned and a need to develop existing or new markets for the resulting material.

3. For farm timber, this need for markets is being addressed in part through initiatives aimed at adding value to farm timber and on-farm timber use. However uses and markets for the resulting co-products need to be found. One potential use is the production of woodchips as livestock bedding, which could be developed further into horticultural compost in some situations. Although in need of in-depth research, this has cost-saving implications for many livestock farmers in Wales.
4. Woodchip for renewable energy production has been identified as another end use for co-products, introducing opportunities for farmers to grow short rotation coppice or energy crops for this market.
5. Development of the woodfuel industry in Wales has to date been limited, especially when compared with European countries such as Finland. The renewable energy obligations set for the UK under the Kyoto agreement and for Wales under the Economic Development Committee's Review of Energy Policy in Wales support the development of the biomass industry.
6. For wood fuel production from farm woodlands and propagation of energy crops to become a viable option, there needs to be an established energy market. This requires considerable capital investment, which in turn requires a guaranteed supply of material. As a result of plans for Shotton paper mill to use 100% recycled fibre, a considerable amount of small round wood and woodchip from Assembly woodlands is due to enter the market in 2004/5. The Forestry Commission could use a proportion of this to underwrite some of the required supply, which could overcome this "chicken and egg" scenario. Such an undertaking would be on the understanding that this may reduce over time, giving way to supply from the private sector, including farm woodlands and Biomass production.
7. The development of farm woodland and the biomass sector is therefore closely linked, and needs to be considered together to ensure that benefits to the farming community and rural economy are maximised.
8. This action plan has identified a range of actions, including research, demonstration projects, economic and market analysis, awareness raising, training, grant assistance and the examination of the current agricultural subsidy system. These are outlined at Section 4 of this Action Plan.

Section 1

Introduction

This strategic action plan has been produced by the Woodland Development and Biomass Strategy Group, comprising of representatives from over 30 organisations within the agricultural, forestry and energy sectors in Wales (Membership at Appendix 1).

The group has been formed to examine the potential of farm woodland development and the biomass sector in Wales. This built on previous work commissioned by the Agricultural and Rural Affairs Department (ARAD) of the Welsh Assembly Government and also the Welsh Development Agency (WDA). Of particular relevance was the commissioned Scottish Agriculture College (SAC) report produced in March 2000, examining the potential contribution of alternative sectors to a sustainable agricultural industry and Welsh Rural Economy. Two of the sectors examined in the report were 'Biomass' and 'Added Value Opportunities for Farm Woodlands'.

The work of this group is also linked into the delivery of the Wales Woodland Strategy "Woodland for Wales", launched in July 2001. The strategy explains the role that trees and woodland have in providing a wide range of public benefits, and identifies the need to "foster the development of renewable energy based on wood" and "provide support for farm woodlands and the wider rural economy".

1.1. Remit

The Woodland Development and Biomass Strategy Group (Strategy Group) has been asked by the Welsh Assembly Government to examine the potential of farm woodland and biomass crops to contribute to farm income and a sustainable rural economy. The group was asked to look particularly at the potential of biomass as one of the options available to farmers.

- The woodland development element of the report examines the role of private woodland in relation to improving farm incomes and benefiting the wider rural economy of Wales.
- The examination of policies and management of the Welsh Assembly Government woodlands and other public woodlands was considered to be outside the remit of this group, being principally a matter for the Wales Woodland Forum. However, in discussing some aspects of the action plan, it has been necessary to consider the effects of Assembly and public woodlands.
- Biomass is a general term which describes fuel based on organic matter. For the purpose of this study the energy resources covered by the definition of biomass are wood and co-products (broadleaf and coniferous) and energy crops (Short Rotation Coppice and Energy Grasses).

The group have met over a period of 6 months to discuss the various remit issues outlined above, and detailed at Appendix 2.

1.2. Objectives

The objectives of the group are:

- To provide a forum for examining the opportunities and barriers to the development of the woodland and biomass sectors as contributors to farm income and the wider rural economy.
- To produce an action plan that will take forward the group recommendations and highlight areas requiring support, development, research and integration into the work of other sectors.

1.3. Action Plan Structure

Section 1 Introduction – setting out the remit and background to this study.

Section 2 The Current Situation

This section outlines the context of the three sectors involved in woodland and biomass development – namely agriculture, forestry and biomass/renewable energy. It includes an analysis of the current situation and constraints facing farm woodland owners when considering utilising the farm woodland

resource.

Section 3 The Way Ahead

This section examines the opportunities that are available to farm woodland owners including the use of timber for wood fuel and energy crop production, adding value to farm timber, the use of timber within the farm business, and the timber woodland based opportunities. It highlights discussion behind the action points at section 4, identified as necessary to develop the woodland and biomass sectors.

Section 4 Summary of Action Points

The final section of this report summarised the action points discussed in section 3.

Section 2

The Current Situation

2.0.1 The agriculture, forestry and energy sectors of Wales are intrinsically linked and must be considered together if opportunities are to be maximised in order to contribute to the Welsh rural economy.

2.0.2 Increasing exposure to lower world market prices due to pressure from world trade negotiations, and CAP reform coupled to a weak Euro, has contributed to the sharp decline in farm incomes since the mid-1990's. Combined with crises such as BSE and Foot and Mouth Disease, agricultural incomes are under severe pressure, with the average net farm income prior to Foot and Mouth, estimated to be just £4,100 (Farming for the Future, 2001).

2.0.3 Increasing farm mechanisation and lower income from agriculture have resulted in younger generations of farming families leaving the industry. The combined effect of reduced available capital, and the increasing average age of farmers, has resulted in a lower tendency to risk diversification away from traditional agriculture.

2.0.4 In "Farming for the Future" (November 2001) the Welsh Assembly Government emphasised the need for farmers to expand their economic base in a number of ways, including developing alternative on-farm income. Farm woodland is recognised as a relatively untapped resource, with opportunities of income from on-farm timber processing, as well as income from non-timber related woodland activities.

2.1. Agriculture: Farm Woodland Development

2.1.1 Broadleaf woodland covers 117,505 ha in Wales (National Inventory of Woods and Trees 2001). Only 13% of this is managed by Forest Enterprise, the majority of the remainder is in private ownership (Garforth, 2001). Much of this consists of small farm woodlands, typically poor quality small diameter broadleaf timber, available in small quantities, which is difficult to access and is remote from existing markets. Coniferous timber constitutes a proportion of farm woodland, but does not generally pose the same access or marketing limitations.

2.1.2 Only 10-20% of the broadleaf woodland in Wales is currently covered by a Woodland Grant Scheme, and can

be assumed managed. Agricultural uses for woodland tend to be limited to livestock shelter or grazing, with a small proportion under agri-environment schemes. Only a small percentage of the potential of Welsh hardwood timber resource is realised each year. A proportion of this will be unavailable, due to conservation or access considerations, however woodland remains a largely untapped resource to the farming sector.

2.1.3 The current agricultural subsidy systems are also seen as a barrier to developing woodland on farms. Farmers have a high reliance on direct CAP subsidies, particularly for livestock farming, which reflects the extent of Less Favoured Areas (LFA's), which stands at around 80% of Wales. The current system for calculating agricultural subsidies is heavily based on farmland registered under the Integrated Administration and Control System (IACS). Under current rules, the planting of trees or livestock exclusion from woodland for management purposes excludes the land involved from counting towards subsidy calculations. This is seen by many as an additional barrier to woodland management and planting.

2.1.4 Although the Farm Woodland Premium Scheme (FWPS) offers annual payments for up to 15 years to compensate for loss of agricultural income from planted land, this may not fully compensate for the loss of income, which will vary with the farming system adopted.

2.1.5 With little incentive to manage woodland, there has been a loss of the woodland management skills and culture within the agricultural community. Consequently the mutual understanding of processors and growers needs has been lost. In particular, the quality of hardwood timber required by the processor is an issue little understood by the grower.

2.1.6 In order to stimulate management, there is a recognised need to develop sustainable uses and markets for low quality small diameter farm timber. This would encourage cost effective thinning and management in the short term, leading to better quality timber in the long term. "The best way to manage broad-leaved woodlands in Wales is to establish a viable downstream commercial industry that will enable an incentive to be paid to the grower" (Oxnard & Roberts, 2000). Such management brings with it environmental and landscape benefits, also contributing to tourism and the wider rural economy. The following initiatives have started to offer added-value opportunities towards encouraging farmers to bring woodland back into management:

- Coed Cymru officers work with most of the Local Authorities in Wales offering advice on the management of broadleaf woodlands, and in addition, on harvesting, marketing and processing hardwoods. Some of the work carried out by Coed Cymru includes saw milling advice, woodland management training and product development.
- Farming Connect, a pan-Wales partnership initiative led by the Welsh Assembly Government, the WDA, the Forestry Commission and other partners offers a package of free assistance to farmers to encourage change and improve farm efficiency. Woodland management and timber processing advice is available coupled to a capital grant for timber processing equipment under the initiative.
- The LEADER program has offered the opportunity to pilot innovation ideas at little or no risk to the participants. Various LEADER groups have undertaken wood added-value pilots and demonstrations in partnership with Coed Cymru, and it is likely that further ideas will be piloted under the new LEADER Plus program.
- TIMBER II is a WDA initiative which provides grants to support the harvesting and processing of timber. Within this suite of grants is the Collaborative Venture Fund supported by the Forestry Commission. This aims to encourage co-operation between

SME's, creating economic and marketing benefits.

2.1.7 It has been recognised that most on-farm processing of low quality timber results in a high proportion of residues or co-products e.g. off-cuts, sawdust and bark. Markets need to be found for this material in order to assist in the overall viability of on-farm processing.

2.1.8 Further encouragement for farmers to consider the benefits of farm woodland is available through the Shelterwoods Initiative. This is an initiative set up by the Forestry Commission to offer advice and grant aid to farmers wishing to plant woodland for shelter and the associated woodland benefits. A great deal of interest has been shown in the scheme to date. Within the first year around 160 farms have received on-site advice and a total of 40-50 ha of broadleaf woodland planted or planned.

2.2. Forestry in the Rural Economy

2.2.1 'Woodlands for Wales' emphasises the importance of the social and environmental benefits of forestry, as well the economic benefits of growing timber to support existing forest industries. The Woodland Grant Scheme is currently under review. It is envisaged that planting trees, with an emphasis on incentives for producing quality timber, will remain a diversification option for farmers.

2.2.2 The home-grown timber industry in Wales supports 4,200 jobs and provides £61 million of disposable income (Welsh Forestry Multiplier Study, 1999). This is particularly significant in a rural context. The study showed that in Neath Port Talbot the income supported by the forest industry sector was estimated to represent 7.4% of the primary production sector (agriculture, forestry and fishing), whilst in Powys the corresponding figure is estimated at 21.5%.

2.2.3 There is currently an established softwood supply chain in Wales based on a sustainable guaranteed supply of timber from National Assembly woodland. This has resulted in markets in Wales for private woodland owners of both commercial scale and farm scale softwood. The forecasted production of softwood timber from Welsh Forests is due to rise over the next decade, and a significant proportion of this increase will be from private woodlands.

2.2.4 There are a number of small timber processors based in rural Wales, with a low degree of mechanisation and production. The Welsh Development Agency has developed a suite of support for these businesses (TIMBER II), ranging from business expertise and advice, to training and grant support for collaborative or individual business development. These small businesses often take small quantities of timber and produce innovative products, hence are a developing market for farm timber producers.

2.2.5 There are also a small number of large processors, characterised by large production volumes, a high degree of mechanisation and proximity to major transport corridors. These processors are the main markets for the bulk of Welsh timber, consequently the forestry industry is sensitive to, and dependent on a small number of markets. Added to this, low world timber prices have placed the Welsh timber industry under severe economic pressure since the early 1990's.

2.2.6 Approximately 45% of softwood produced in Wales is small round wood. The markets for small round wood in Wales are starting to be affected by the implications of landfill taxes and pressure to recycle timber and fibre. UPM-Kymmene have announced that their Shotton pulp mill will change to 100% re-cycled paper by April 2004. This will have the effect of releasing approximately 140,000 tonnes of small round wood onto the market by 2004/05. Other markets for small round wood are likely to follow this trend. Forest Enterprise predict that only a proportion of this could be consumed by the expansion of existing markets. In addition, some 150,000 tonnes per annum of sawmill co-product (mostly chip) will be available for alternative use from the same date.

2.2.7 The loss of such a major market sector could not only affect the rural economy of Wales, but could also result in a reduction in thinning effort and the inability to meet continuous cover forestry targets which would affect the landscape and conservation of Welsh forests.

2.2.8 This Forestry Commission resource of small round wood could potentially unlock the price sensitive supply/demand issues which currently hamper the development of the biomass industry. The opportunity for farm woodland owners to enter these or similar woodfuel markets could then follow.

2.3 Renewable Energy: The Biomass Industry

2.3.1 In response to UK commitments under the Kyoto Agreement, the UK Government has set a target of 5% electricity supply from renewables by 2003 and 10% by 2010. The PIU/Cabinet Office reported in February 2002 suggesting an extension of this target to 20% by 2020. As a consequence of this report the UK Govt is seeking the views of others on the key issues and the interaction of issues raised in this report in the consultation document launched here. <http://www.dti.gov.uk/energy/developpep/energyconsreport.pdf>

2.3.2 Welsh Assembly Government has an obligation under devolution legislation to implement the UK's International greenhouse gas abatement commitments. Wales, therefore, must contribute towards the UK government's target.

2.3.3 Plan for Wales 2001 identified the need to put Wales on the path to becoming a global showcase for clean energy production and by 2010 to 10% electricity production in Wales from clean energy sources. This was endorsed in 'A Winning Wales' which recognises the potential for Wales to lead in growth sectors including clean and renewable energy and low carbon technologies. The Economic Development Committee (EDC) is currently reviewing Energy in Wales and will explore long term scenarios for energy production and use in Wales. The Committee launched the consultation on its report on Renewable Energy on Thursday 25th April 2002. This is the first report of the Committee's Review of Energy Policy in Wales. To access a copy of the report http://www.wales.gov.uk/keypubassemecodev/content/energy/renewables_con_report-e.pdf.

2.3.4 Biomass is one of the main sources of renewable energy identified as having the potential to contribute towards these targets (AEAT report, 2001). The potential of biomass in the generation of heat or CHP is far greater than that of the other renewable energy sources, however there are no targets for heat generation from renewable sources as yet. Biomass could also provide a significant source of electricity through the use of CHP and generation plant such as that at ARBRE in Yorkshire. The NA's review of renewable energy resources suggests that Wales could source 100 MW of electricity from biomass by 2010 (AEAT report, 2001).

2.3.5 The Rural Development Plan for Wales 2000-2006 (WRDP) highlights the pressure many family farms are under to diversify into new enterprises both inside and outside agriculture. SRC, farm woodlands and forestry are listed as potential alternative incomes for farmers. The WRDP states that 'the building of suitable power plants utilising biomass or forest residues to generate electricity would provide an incentive for farmers to plant SRC in addition to encouraging the management of existing woodlands'. In 2000, The Scottish Agricultural College undertook a comparative assessment of alternative sectors in Wales on behalf of Welsh Assembly Government and the WDA. One of the most promising sectors proved to be biomass including SRC.

2.3.6 The socio-economic opportunities in wood fuel supply are significant for rural Wales. An estimated 1.25 full time equivalent jobs will be created or safeguarded from existing woodland for every 1000 tonnes of wood fuel harvested. A study by Frazer of Allander Institute (based on 1984 statistics) indicated that for every job in the forest, another 3.7 jobs are created in the wider rural economy (WRDP, 2000). In addition to this there will be opportunities for job creation in the development and production of advanced CHP systems based on gasification, boiler conversion, installation, maintenance and the associated infrastructure.

2.3.7 There has been limited development of the biomass industry in Wales, especially when compared to that of many European countries. In Finland for example 19% of energy consumption was from Wood fuel in 1998. Relatively few examples of existing small scale heating plants exist in Wales to date. There a small number of Welsh companies currently investing in research and development in the biomass industry ranging from wood chip/pellet boilers and burners, pyrolysis (conversion of wood to oil) systems, gasification (conversion of wood to gas) systems and charcoal production equipment.

2.3.8 In addition, there are a number of heating entrepreneurs in Wales interested in developing the wood fuel industry. They have developed an awareness of the technology and infrastructure, which exists in more experienced countries, and looked at how it could be applied in Wales. Currently the main limiting factors in the development of the sector are planning issues, and the security of fuel supply.

2.3.9 The proposed power plant at Newbridge-on-Wye has illustrated some of the potential difficulties with obtaining planning permission for renewable energy developments. Planning Policy Wales (March 2002) states that Welsh Assembly Government seeks to "facilitate the development of all forms of renewable energy ... where they are environmentally and socially acceptable". The Technical Advice Note (Wales) 8 Renewable Energy (TAN 8) is to encourage the development of renewable energy and this policy and its consequential is being reviewed with the full involvement of a Technical Advisory Group (TAG) which has a mixture of representation, including Government Agencies, those involved in the renewables sector and non-governmental organisations. The revised TAN 8 document will include improved planning advice on biomass developments.

2.3.10 It is clear that the potential exists in Wales to support both the heating and electricity generating markets for biomass production and that plants could be anything from small scale up to larger generation units.

2.3.11 Potential sources of biomass include small round wood, co-products from timber processing industries, harvesting residues, and specifically grown energy crops such as grasses and short rotation coppice (SRC).

2.3.12 The capital cost of biomass combined Heat and Power (CHP) and wood fuel boilers is high when compared to gas or electricity. There are also costs associated with the development of the industry. In November 2001 the government announced £100m to be allocated to renewable energy development. A large proportion of this has been allocated to biomass and associated infrastructure The Bio-energy Capital Grants Scheme is a joint initiative funded by DTI and the New Opportunities Fund. It promotes the efficient use of biomass for energy, in particular energy crops: Under two of the three broad aims the significant fuel must be energy crops. The total funding for this scheme is at least £66 million. It is aimed at project developers and investors. The Infrastructure Grant Scheme (DEFRA) will help to develop the supply chain required to harvest, store and supply energy crops and forestry woodfuel to energy end users. £3.5 million is available for the UK as a whole. A list of key funding is included in the DEFRA publication "Bio-Energy: A Growing Energy Supply" <http://www.dti.gov.uk/renew/bioenergygrant.pdf>

2.3.13 The Bio-energy Capital and Infrastructure Grant Schemes, together with the associated Energy Crops Scheme (England only – see below), aims to facilitate the development of energy projects ranging in size from small scale heating to large CHP/electricity schemes. The Bio-energy Grant Scheme states the clear intention to develop a dual fuel supply (forest residues and wood together with specifically grown energy crops), with a view to long term continuity and price stability of biomass fuel.

2.3.14 In Sweden, 20,000 ha of short rotation willow coppice have been established to supply district heating and CHP schemes, whereas Austria has several thousand hectares of poplar SRC to supplement its large forestry reserves. In the UK, the extent of SRC planting has been limited to a few exemplar projects, for example the ARBRE project (10MW gross) in Yorkshire aims to meet 80% of the plants biomass requirements from 2000 ha of locally grown SRC willow.

2.3.15 In Wales, less than 20 ha of SRC has been planted to date. This area is made up of small experimental plots managed by Forest Research and Cardiff University Salix Project. The Salix project has been set up with EU and Welsh Assembly Government support to promote the on-farm growing of willow as a commercial crop for mid-Wales. Demonstration sites and "starter packs" of willow cuttings are available to encourage farmer interest.

2.3.16 The potential to grant aid energy crops currently exists in the Wales Rural Development Plan. SRC establishment grants are currently set at £400 and £600 per ha for set-aside and non-set-aside land. Support for the development of energy grasses is provided under the Farm Enterprise Grant (FEG). There has been no uptake of the schemes in Wales due to the low grant rate in comparison to establishment costs (up to £2000 per ha.), the lack of potential markets and the potential loss of agricultural subsidies, particularly those linked with the IACS. In England, energy crop establishment grants (SRC and grass) are provided through DEFRA's Energy Crop Scheme (100-1600 per ha), administered in consultation with the Forestry Commission.

2.3.17 The SAC carried out an economic analysis of SRC as an energy crop in Wales in 2000. The model demonstrated how, amongst other things, gross margins for SRC changed with yield and chip price enabling comparisons to be made between upland sheep production and SRC. The analysis concluded that comparison of annual gross margins between SRC and upland sheep production showed SRC without subsidy to give considerably lower returns than sheep with subsidy.

2.3.18 Under current legislation, the SRC system is regarded as afforestation and removal of the crop as deforestation, and as such Environmental Impact Assessment (EIA) regulations apply. EIA Regulations place a statutory obligation on the Forestry Commission to examine proposals for new areas of SRC and to decide if a full EIA is necessary. Current UK policy states that woodland should not be cleared for agricultural use: this means that when SRC has been established, the land could not be returned to pasture unless an acceptable case had been made to the Forestry Commission.

2.3.19 The feeling of the strategy group is that SRC is more viable in the uplands, but that grasses may be suitable for lowland areas. The planting of energy grasses can involve the removal of grassland. When establishing the crop on former pasture, the EIA Regulations for uncultivated land and semi-natural areas should be taken in to account.

Section 3

The Way Ahead

3.0.1 This section discusses specific actions needed to take forward the woodland and biomass sectors. These actions are highlighted as bold text, followed by an action point number [AP] which relates directly to the summary at section 4.

3.0.2 Traditionally, farm woodlands have provided a source of material for a range of uses on farms, including fence posts and strainers, structural timbers for buildings, exterior cladding, internal fittings, gates, hurdles and firewood. Many of these skills have been lost over the years due to cheaper alternatives and reduced available labour, resulting in a loss of interest and management of farm woodlands.

3.0.3 However with increasing production costs and falling farm incomes, farmers need to reconsider past, present and future benefits from farm woodlands. Opportunities exist for cost savings through substitution for bought-in material, and lower feed costs due to shelter. Alternative income streams from adding-value to farm timber have also been highlighted over the years, and there is increasing interest in growing biomass if a market can be found. However, unless woodland or biomass crops can demonstrate that they are viable either in terms of direct income or costs saved, it is unlikely that farmers will spend money on management or take land out of agriculture for planting. This is the primary issue that needs to be addressed if the farm woodland or biomass sector is to develop.

3.1 Agricultural Subsidies: The Effects on Woodland and Biomass Development

3.1.1 The current system for claiming agricultural subsidies (IACS) emphasises the registration of land used for agriculture, for calculating subsidy allowance. Many direct livestock subsidies are dependent on stocking rate, which is directly affected by the area registered as forage area. Arable aid payments are also limited to registered arable land area. As taking land out of agricultural production for planting or woodland management purposes can mean a direct effect on subsidies and hence income, there is an understandable reluctance to do so.

3.1.2 The Farm Woodland Premium Scheme compensation payments are seen by many as not fully compensating farmers for agricultural income lost on newly planted areas. The shortfall is dependent on the type of farming system and stocking rate adopted, as well as market prices of agricultural commodities. The establishment grants available under the Woodland Grant Scheme for the planting of short rotation coppice do not account for the loss of agricultural income, nor do grants available for energy grasses from the Farm Enterprise Grant through Farming Connect.

3.1.3 At present, Tir Mynydd encourages woodland management through awarding extra points that count towards overall payments. Woodland can continue to count towards forage area provided it is available for grazing for 7 months of the year, although some area deduction is made for the actual trees.

3.1.4 This idea could be investigated further to allow woodland under management or new plantings to continue to count towards forage area even if ungrazed, provided the reason was based on sustainable woodland management, environmental or economic reasons, possibly for a finite time period. This continued inclusion as forage area would mean that overall farm stocking rate calculations would not be affected. However, this may result in a localised increase in stocking rate for remaining grazed land, and undesirable environmental impacts. This could be countered

by de-stocking or a temporary upper stocking limit set for the holding, while the woodland was under specific management or new planting achieved an age where grazing could be resumed. This resumption of grazing would not be applicable to biomass crops or continuous cover forestry (a system of particular relevance to the re-generation of broadleaf woodland) which require exclusion for the life of the crop. Such a policy would need to be considered in the context of agri-environment incentives such as Tir Gofal, to ensure that dual funding was not an issue.

3.1.5 Action two of Farming for the Future states that the Welsh Assembly Government will be undertaking work to establish a more equal balance between CAP production subsidies and rural development measures, which include woodland grants. **Investigation of the potential for allowing land to be taken out of agriculture for woodland management or new planting purposes, and still remain eligible for IACS calculations, should be considered as part of this work [AP5].**

3.1.6 Currently, areas entered into the Woodland Grant Scheme must be taken out of the IACS forage calculations. The agricultural industry has identified administrative error problems with this process, resulting from an incompatibility between the IT systems of the Forestry Commission and the Welsh Assembly Government's Agriculture and Rural Affairs Department (ARAD). **This incompatibility between ARAD and the Forestry Commission needs to be addressed in order to alleviate this problem [AP 7].**

3.2. Farm Timber Issues

3.2.1. On-farm use of farm timber

Trees for Shelter

3.2.1.1 Livestock shelter tends to be the main use of many farm woodlands today. Benefits can include improved animal welfare, increased flexibility of land use e.g. outdoor lambing due to increased shelter, and cost savings in terms of livestock feed (Palmer, 1999) and "living barn" woodlands where animals are overwintered, saving building costs. (SAC, 2000). Trees can also provide significant shelter benefits to growing fodder crops and arable farming.

3.2.1.2 The Forestry Commission's Shelterwoods Project is aimed at encouraging the planting of well-designed and appropriately located shelterwoods designed to give shelter for agriculture as well as enhance the biodiversity and landscape value of farms and provide opportunities for diversification. Advice is coupled to existing establishment grants under the Woodland Grant Scheme, combined with a fencing grant.

3.2.1.3 The project is available across Wales but in West Wales and the Valleys it is part financed by Objective 1 funding. The existing scheme will run until June 2004, but an application for Objective 1 and National Assembly funding will be made in Summer 2002 to extend the scheme till 2008. Support should be given to this application and the benefits of shelterwoods and the need for continuing management should be promoted through existing advisory and demonstration networks such as Farming Connect.

Agroforestry

3.2.1.4 Agroforestry may be defined as the planting of trees on agricultural land at a spacing to allow grazing or cultivation between the tree rows. It is the view of the strategy group that the potential advantages of agroforestry should not be overlooked, and that future grant schemes should be flexible enough to accommodate it.

Timber: a potential farm resource

3.2.1.5 Coed Cymru's work has done much to highlight the potential of on-farm processing for farm use. Demonstrations of processing machinery such as post peelers, pointers and sawbenches has shown that advice, equipment and training is available for those wishing to revive these skills. On-farm timber production can incur costs such as hire of extraction and processing equipment, and contract or own labour.

3.2.1.6 Advice and training is vital for farmers/private woodland owners if the opportunities from woodland development are to be realised. Training and advice is available through a number of existing sources including Farming Connect, Forestry Contractors Association, Coed Cymru and the Forestry Commission. **The existing provision of advice and training needs to be examined to ensure that a comprehensive package is available to farmers and private woodland owners which has strong links to the research and demonstration projects proposed elsewhere in this strategy [AP 9].**

3.2.1.7 **The economics of using home-produced timber need to be assessed in order to highlight the benefits and potential savings to farmers. This information should then be publicised through existing advisory networks such as Farming Connect, Forestry Commission et al [AP 11].**

3.2.1.8 **The potential savings or additional costs of on-farm processing need to be recognised in current and potential Welsh Assembly Government and public body grant schemes [AP 12].**

3.2.1.9 The characteristics of land in Wales lend itself to livestock production and only around 10% of farm land is used for arable production. Increasing animal welfare and demands from abattoirs for clean livestock have led to an increasing demand for straw that cannot be met from domestic sources. Prices for straw reached around £75/tonne in 2001, attributed to shortages brought on by usage on Foot and Mouth pyres. Although prices have since stabilised to around £40/tonne, the price trend is generally upwards due to the increasing transport costs associated with importing straw from England. The use of an on-farm alternative would bring benefits of cost savings as well as the environmental benefits of reduced transport fuel emissions.

3.2.1.10 Wood shavings and sawdust are currently used for horse bedding in many areas, and hardwood woodchips are under trial by a group of farmers in Mid Wales as sheep bedding. Early indications suggest that hardwood woodchip is a feasible option as a straw substitution with possibilities for horticultural compost as an end use. **However further research into the economics, composting and disposal of the resulting manure is needed, as well as whether conifer woodchip could also be used in a livestock situation [AP 11, AP2 & AP3].** Woodchip has successfully been trialed in Scotland in outdoor livestock corrals and can be used to protect tracks feeding and watering areas from ground poaching and waterlogging, with benefits to animal welfare and the environment. **Welsh research and demonstrations, building on existing experiments, would ensure that woodchip as livestock bedding and ground protection is suited to Welsh conditions and farming systems. This could be done through the Farming Connect network or LEADER group pilot projects [AP3].**

3.2.1.11 The use of woodchip in this way would complement on-farm timber processing as outlined above through finding an end-use for the resulting co-product, as well as potentially saving farm costs.

3.2.1.12 Such woodchips or co-products could also be used for farm heating systems. Small domestic heating plants are already in existence, at least one piloted through a Welsh LEADER group. The economics and practicalities of this use need to be examined as another cost efficiency opportunity for farms [AP2 & AP3].

3.2.1.13 The successful use on-farm use of co-products from farm timber may encourage the planting of short rotation coppice or energy grasses as an additional supply of woody material. This in turn could encourage local renewable energy plants to develop, providing farmers with an alternative market or income stream for their crop. **For this reason, short rotation coppice or energy grasses should also be trialed for use as a livestock bedding or farm heating alternative [AP3].**

3.2.2. Adding Value to Farm Timber

3.2.2.1 The lack of information on the broad-leaved resource has been highlighted as an on-going problem in terms of the supply-side of developing Welsh hardwood markets (Oxnard et al, 2000; Garforth and Frost, 2001). The National Inventory of Woods and Trees (2001) is the most comprehensive source of information currently available, however it does not contain information about the private resource which the added value markets require.

3.2.2.2 Coed Cymru and the Forestry Commission research branch have piloted the collection of woodland data, but the specific benefits to the development of added value markets has yet to be examined. In addition, a woodland resource evaluation ('Pren Preseli) has recently been completed for the Pembrokeshire Coast National Park and Pembrokeshire County Council, covering 150 woodlands (1300 ha, mainly broadleaved) in part of North Pembrokeshire. The study is very detailed and includes species breakdown, product breakdown (sawlogs, firewood etc), access, owner willingness etc. Whilst this study only relates to one area it is nonetheless extremely useful to the proposed development of local timber businesses. The collection and maintenance of such detailed data of hardwood timber quality on a pan- Wales basis would however involve a considerable national resource of trained assessors.

3.2.2.3 An alternative **option for data collection would be to build on the reviewed Woodland Grant Scheme proposals, which include the introduction of a woodland management plan where timber production is a significant objective [AP1].** This would give the opportunity for details on quality, age and species to be included in such plans, which could then be built into a pan-Wales database of the private woodland resource over time. Consideration should be given to making this database accessible to the wider industry to enable business and sector development. This option is seen as the most cost-effective and practical for the gathering of detailed woodland information. The FCA are currently undertaking a UK wide study which will enable the developing wood fuel sector access to examine the resource available.

3.2.2.4 Coed Cymru have done much over the years to develop products and markets from low grade hardwoods as commonly found on farms. Work on product development, methods of processing and markets has proven the potential of adding value to low grade timber, however closer examination of the economics highlighted the need to market the co-products from such processing (Oxnard et al, 2000). At a recovery around only 35%, co-products such as off-cuts, bark and sawdust have an important part to play in the overall economic viability of on-farm processing. On this basis, the development of opportunities for co-products as livestock bedding, on-farm heating or as renewable energy (as outlined above) are important to the continued development of adding value to farm timber for off-farm sales.

3.2.2.5 Agencies need to have an understanding of the economics and structure of these emerging markets in order to direct support. **Quantification and economic assessment of the existing and potential added value and co-product markets are needed, along with an accurate assessment of the potential for job creation [AP13].** This information can then be used to promote adding value to farmers and woodland owners in conjunction with **practical demonstrations of best practice in terms of adding value e.g. charcoal, flooring, turnery, as well as use of co-products [AP3].**

3.2.2.6 Inadequate marketing has been highlighted as a barrier to the development of Welsh timber products (Garforth and Frost, 2001). The development of high quality, added value, branded products has already been identified as the way forward for Welsh agriculture (Farming for the Future, 2001). This idea has been highlighted for the timber industry (Oxnard et al, 2000) as well as the need for a generic marketing strategy (Garforth and Frost, 2001). **This strategy should consider links to existing certification and forest standards to maximise marketing potential [AP15].**

3.2.2.7 A widely recognised system for visual grading of sawn oak for structural uses is available and accepted in the UK. A similar system to facilitate visual grading of hardwood boards, sawn from home grown broadleaved trees, for appearance related to end use, does not exist in the UK. As a consequence, many of the small mills have developed their own, often very subjective, assessment methods and terminology to describe the material that they have for sale, few of which are compatible. The Welsh Timber forum are working with the Scottish Hardwood Timber Market Development Group in the development of a hardwood plank grading system which will result in the provision of **a set of simple, agreed and commonly understood hardwood timber visual grading standards, with appropriate tolerances specified [AP6].**

3.2.2.8 The merits of working collaboratively to overcome the problems associated with the small scale of both processors and growers in the farm/private woodland sector has been well documented. Stockpiling of timber, shared labour, collaborative hiring or purchasing of extraction or processing equipment, use of machinery rings, joint marketing of products and the pooling of expertise and knowledge are just some of the noted benefits. The aforementioned Forestry Commission and Welsh Development Agency's Collaborative fund is designed to encourage co-operative ventures between SME's. LEADER groups have also worked at group or community level to assist in the development of local projects.

3.2.2.9 The work of Coed Cymru and the WDA in their efforts to develop products and support the end users of ,low quality timber is considered important if the woodland sector is to develop. **Support for this work needs to continue [AP14].**

3.2.2.10 There is a need for a network of Community development associations, across Wales who act as catalysts for development by stimulating local enthusiasm and promoting/developing new ideas including marginal activities such as the use of timber and potential energy projects. Such structures currently operate successfully in Ireland. **The expansion of energy agencies or "local catalysts" throughout Wales should be investigated [AP4].**

3.3. Non Timber Benefits and Income from Woodlands

3.3.1 The Wales Woodland Strategy recognises the value of forestry to landscape, recreation, tourism and the environment, as well as to the economy. The WGS review will consider ways in which non-timber benefits from woodland can be supported in the private sector by encouraging ancient woodland restoration, continuous cover conversion and landscape design. Tir Gofal has also been a means of supporting the provision of environmental benefits of farm woodland. There are also some environmental benefits specifically associated with SRC.

3.3.2 There are numerous non-timber income opportunities available to the woodland owner, ranging from paintballing to wildlife trails. In addition, there is growing interest from some communities in local woodlands for social and environmental benefits. The amount of income varies considerably from site to site, depending on the woodland character, scale, location, marketing, labour and capital inputs. On this basis, the economic quantification

of such opportunities is difficult. **However, there is a need to highlight these non-timber woodland opportunities to the woodland owner as possible alternative sources of woodland income [AP16].** This could be done in connection with bodies such as the Small Woodland Association, Wales Timber Forum, Forestry and Timber Association.

3.4. Wood Fuel and Energy Crop Production

3.4.1 For wood fuel production from farm woodlands and propagation of energy crops to become a viable option, there needs to be an established energy market, and to establish markets there needs to be a guaranteed supply. The only guaranteed supply currently available is small round wood from Welsh Assembly Government Woodlands. **This situation could be overcome by the FC underwriting a proportion of the supply to energy markets on the understanding that this may reduce over time, giving way to supply from the private sector [AP 17].**

3.4.2 There is currently a lack of information on the potential sources of low-grade woody material available from the private sector for wood chip production; available quantities, costs of production, potential markets and end uses over the next 10 years. **A detailed analysis of the resource, costs of production, and also the potential woodfuel market (small, medium and large scale) is required [AP2].**

3.4.3 This analysis would indicate whether there is a shortfall between the market price and the costs of production. If this was the case, consideration could be given to how best to address this shortfall in order to stimulate the market, particularly given that farm woodlands tend to have a higher cost of extraction due to their fragmented, inaccessible character. The group considered that a payment to the end user (energy producer) may be an option as this would enable a higher price to be paid to growers without directly affecting the forest economy, as has been the case in the past. **The decision to pursue this would depend on whether the Welsh Assembly Government decide to pledge FC resources to supporting the development of a wood fuel market [AP 17].**

3.4.4 There is also a need to develop mechanisms, which enable information about the potential supply from private woodland to be made available. **The aforementioned inclusion of management plans in the revised WGS would increase knowledge of the quality and quantity of timber within farm woodlands in Wales [AP1].**

3.4.5 The wood fuel market would be a suitable market for the low grade material predominantly found in farm woodlands and could stimulate the management of the neglected broadleaf resource and eventually offer the grower the opportunity to realise new markets for larger diameter produce. In addition to a market, **grant aid for woodland management would have to be made available to kick-start interest [AP10].**

3.4.6 Wood fuel production also offers an opportunity to the grower to market woodland products, which were previously considered unmarketable such as branch wood.

3.4.7 Medium rotation coppice (MRC) is an option available to some farmers with existing broadleaf woodland. Bringing coppice stools back in to management is an expensive operation, but the resultant benefits would serve multi-purpose forestry objectives.

3.4.8 Wood, either from the management of existing woodlands or the establishment of energy crops can provide the farmer with a relatively cheap on-farm fuel resource. There is also the potential for Welsh farmers and woodland owners to enter the heat market. Austrian and Bavarian farmer/growers have diversified to become heating

entrepreneurs, not only marketing their wood fuel resource, but their services to the consumer in heating supply. This has also created employment opportunities. (OPET Austria and Bavaria Study Tour, 2000).

3.4.9 Countries with experience of energy production from renewable sources attribute their success to appropriate Government funding and substantial campaigns to raise awareness. Cultural barriers amongst the farming and forestry communities exist which need to be overcome. **In addition there is a need to train heating engineers, and raise awareness of renewable energy sources amongst the general public, planners and local authorities [AP23 & AP21].**

3.4.10 ALTENER is a European fund, which has been established to overcome the non-technical barriers associated with renewable energy. Powys Energy Agency has accessed this funding to establish "Green Heat" which is a public advisory service, which has, been set up to promote renewable energy, and particularly biomass. **Initiatives such as this should be made available to other areas in Wales [AP 4].**

3.4.11 In countries such as Finland, Sweden and Austria, biomass constitutes a significant source of energy generation, contributing as much as 20% of national energy supply. In addition to this, these countries have each established a world leading manufacturing base in biomass technology from scratch. **Projects involving technology transfer between Welsh enterprises and those in experienced countries should be supported [AP 24].**

3.4.12 The infrastructure required to establish the sector needs to be developed and adequately funded. It is important that future UK Government biomass initiatives and policies take account of Welsh interests, particularly geography, climate, farm composition and existing biomass resource (predominately wood). This will maximise the development of biomass projects in Wales and therefore maximise the contribution to UK targets and reduce carbon emissions. **Wales needs to seek as much support as possible from the existing DTI Bioenergy Capital Grants Scheme and the DEFRA Infrastructure Grant Scheme available across the UK [AP20].** However take-up could be limited to some extent because of the focus on the production of energy crops. One of the barriers experienced by DEFRA affecting uptake of the Energy Crops Scheme in England has been a lack of specialist machinery. It is important that whenever possible farm scale harvesting and handling operations can be carried out by the adaptation of basic agricultural machinery. **However, there is also a need to develop equipment suited to the steep but more importantly wet terrain characteristic of upland Wales [AP22].** This can provide opportunities for job creation in the conversion and/or manufacture of planting, harvesting and processing equipment.

3.4.13 A UK Forest Standard is in place against which woodlands in the private and public sector can be assessed. Independent certification by UKWAS is the recognised mechanism by which a forest product can be deemed to be from a sustainable source. In order that wood fuel production encourages sustainable forest management, **it would be necessary to support best practice guidelines with a view to the eventual certification of the supplying woodlands and to support the significance of this to the market [AP 10 & AP18]**

3.4.14 In addition to wood from existing woodland, energy crops have the potential to provide an additional source of wood fuel. A strategic study carried out by Welsh Assembly Government GI Services as part of the SAC Report gave a broad-based overview of areas in Wales that had the potential to support energy crops. CCW, the EA and FC have GIS data which, when combined, could broadly indicate areas potentially suitable for SRC planting. The availability of this information in addition to adequate information regarding afforestation application will assist in assessing the potential for energy crops in Wales and aid in the planning process when considering markets.

3.4.15 Grants for growing SRC in Wales are currently available through the Forestry Commission Woodland Grant Scheme. The current low grant rate for SRC, high establishment costs and four year lead-time to full production has discouraged farmers and landowners from establishing SRC. Moreover, land planted with SRC would, under the

current IACS, have to be removed from the total forage area leading to a loss in livestock subsidies for that area. **It is important that the review of grant aid for new planting, due to commence in Autumn 2002, re-assesses grant levels for the planting of SRC in the light of this action plan and considers the implications of loss of forage area [AP5 & AP18].**

3.4.16 The Energy Crops Scheme in England (DEFRA) provides one-off establishment grants for both SRC and Miscanthus. Initially the scheme criteria insisted that a contract from an end-user was required in order to qualify for the grant. This proved too much of a barrier to potential growers and the requirement has been relaxed to a "letter of intent". It may be appropriate in Wales to allow some speculative planting of SRC on the grounds that it can be used in other non energy ways such as animal bedding. Comments from DEFRA have also suggested that providing tiered payments for the first four years following planting, replacing income foregone on the land, until harvest revenues begin. This may be even more relevant in Wales as land is likely to be pasture and included in forage area calculations.

3.4.17 The SAC economic model should be used as a starting point to carry out an up to date economic analysis of the potential of SRC in comparison with core agricultural practices in Wales. This would provide the basic knowledge required to assess the viability of SRC, highlighting any requirement for a biomass crop scheme [AP2 & AP 18].

3.4.18 There is undoubtedly a need to encourage pioneering farmers prepared to invest in energy crops and woodland management through the enhanced provision of establishment and management grants. In addition, the experience of other European countries points to the need for significant assistance at the utilisation end by capital grant funding heat and electricity generation plant. Reference is made above to the DTI capital grants for biomass installations, but the group felt that these are of limited applicability in Wales due to their strong inclination towards energy crops. **There are many other schemes that may assist potential projects, but there is a vital need to raise awareness of existing and relevant grants and analyse coverage and level of support in order to identify and address funding gaps [AP19].**

3.4.19 The EIA Regulations when applied to afforestation were intended to avoid planting on sensitive areas such as unimproved grasslands or areas with ecological or archaeological importance. It is important that the Forestry Commission or another competent body examine proposals to establish SRC and assess the need for a full EIA to ensure that important habitat is not lost and that landscape issues are taken into consideration. In the case of deforestation, EIA was intended to avoid the loss of mature woodland and the resulting detriment to the environment. In the context of SRC, long term commitment to the crop should be encouraged for economic reasons and to add to the credibility of SRC as a sustainable source of energy. However, the issue of deforestation from SRC needs to be addressed in a flexible way in order to avoid creating a barrier for the farming community.

3.4.20 Less than 20ha of SRC exists in Wales to date. Production rates at these sites have been in the region of 8 dry tonnes (odt) per ha (range 6-15 odt). This is slightly below average in UK terms. Welsh based willow and breeding programmes would aid the identification of varieties best adapted to Welsh conditions in terms of yield, pests and diseases and assess management applications. **A series of demonstration farms need to be set-up across Wales at various altitudes and site conditions providing examples of best practice from production to end-use. These farms would also provide opportunity for research and development [AP3].**

3.4.21 Current knowledge of energy grasses is that in the uplands at least SRC is a more viable option. Elsewhere in Wales however, energy grasses have great potential. Significant areas of Miscanthus are now being grown successfully within 2-10km of the Powys, Herefordshire/Shropshire border at altitudes of up to 250m. Planting costs are falling dramatically with locally sourced rhizomes to below £2000 per ha by 2003/4. In the same area there are

significant plantings of Reed Canary Grass and Switch grass. IGER have carried out some trials in Aberystwyth and again report that breeding could overcome some of the problems, which were encountered. **More research is required into the costs, yields and environmental impacts of growing grasses in Wales, particularly in upland areas [AP3].**

3.4.22 Some non-energy markets for short rotation coppice exist. These include; cuttings and rods for planting, living river bank support, basketry, hurdles and willow sculpture and also in the bio-filtration of farm effluent and chemicals derived from willow (e.g. salicin). These markets are currently limited but have the potential to increase with further market research and appropriate promotion. Additional markets would reduce the commercial risk to growers, as they are no longer dependent on a single market. There is also the option for on-farm use as SRC wood and energy grass chip for animal bedding.

3.4.23 Coupled with a guaranteed supply is the need for exemplar energy markets to be established. Ideal situations for biomass CHP and boilers include institutional buildings with a consistent heat demand such as hospitals and office buildings. On farm heat is an obvious initial market for wood fuel from farm woodlands and / or energy crops.

3.4.24 The Welsh Assembly Government should extend its support for renewable energy by demonstrating the potential for its use throughout public premises across Wales [AP8]. The recent consultation paper produced by the EDC recommends that the National Assembly switch to green electricity for their own use. In addition, WAG should actively consider and encourage the use of biomass heating in its own and other public sector buildings in order to reduce the carbon emissions from their significant heating loads and stimulate the local supply chain.

Section 4

Summary of Action Points

This section summarises the action points that arise from the emboldened text in Section 3. These are the action points that the Group feels are necessary to the future development of woodland and Biomass in Wales. Ten of these action points have been emboldened in this section as being of critical importance to development.

The Group also recommends that the Welsh Assembly Government appoint a steering group comprised of industry-wide representatives, including delivery agents, Assembly Government Officials and other interested parties to monitor and co-ordinate the delivery of this action plan.

A number of the action points listed below have been incorporated into the Welsh Development Agency's budget under the Rural Recovery Plan for Wales, and are due to be implemented over the next few years. However it is likely that these projects will require additional funding and resources to reach their full potential. Details of WDA planned expenditure can be found in appendix 4.

4.1 GENERIC ISSUES

AP 1. RESOURCE DATA COLLECTION

Utilise the information from WGS management plans into a national database. The proposal to make management plans a part of the revised WGS, where timber production is a significant objective, give the opportunity to built up a more accurate picture of the quality and quantity of managed private farm woodlands. This information should be made available to assist future market development.

Support should be given to the FCA study which will establish a GIS of the private resource available for the development of wood fuel industries.

Timescale: Medium – long term

AP 2. A STUDY: THE ECONOMIC POTENTIAL OF WOODCHIP

Carry out a study is to examine the economic potential of energy crops and low-grade woody material as woodchip. This study will inform future support calculations. The study should consider the following key areas:

- 1. *Resource – potential supply of woodchip material.***
 - Small roundwood and processed co-products displaced by the loss of markets: current small roundwood produced from farms / private woodlands and associated co-products from small scale processing - Forestry Commission currently examining this.**
 - Potential production from energy crops (SRC and energy grass) – Welsh Assembly Government (GI Services).**

- 1. *Cost of Production***

An examination of costs of producing woodchip from farm woodlands energy crops and other sources. The SAC economic model can be used as a basis for SRC calculations. Forestry Commission TDB information can be built on to provide farm woodland information.

- 2. *Market Price***

Examination of the value to different markets including straw substitution for livestock bedding / horticulture, and scenarios based on differing scale energy systems (heat, electricity and CHP) including on-farm use. There must be links to AP3 here.

Timescale: Short Term

AP 3. RESEARCH AND DEMONSTRATION PROJECTS

These will provide best practice from production to end use and give opportunities for research. Links to Energy Agencies and LEADER Plus local action groups who pilot a range of innovative ideas should also be forged. Local Authorities should be encouraged to participate on a community basis, providing exemplars at general public level. In addition these should have strong links to Farming Connect, working with the facilitator and demonstration farm networks.

A range of locations and farm types should be selected to research and demonstrate the following:

- **Wood Chip production for energy generation;**
- **Other elements of SRC and energy grass research, such as varieties, resistance to pests and disease, adaptation to Welsh Conditions;**
- **On-farm utilisation of timber for fencing, building;**
- **On-farm utilisation of woodchip (from timber co-products and energy crops) for livestock bedding, horticulture, ground protection and heating;**
- **Speculative planting of SRC and energy grasses and the appropriate planting and harvesting techniques;**
- **SRC and grasses as multi functional crops.**
- **Demonstration of the benefits that can be derived from farm woodland, e.g.: livestock shelter, game shooting, paintballing etc.**
- **Best Practice in adding value to farm timber, e.g.: flooring, charcoal, turnery etc.**

Timescale: Short Term

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AP 4 CATALYSTS FOR WOODLAND AND ENERGY INITIATIVES

Support the development of energy agencies or "local catalysts" throughout Wales. Community development association's, similar to those operating in Ireland, who could work with local entrepreneurs to ease entry into marginal activities.

Timescale: Short –long term

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AP 5. AGRICULTURAL SUBSIDY ISSUES

Investigate the potential for allowing land that is taken out of agriculture for woodland management or new planting including biomass crops to remain as forage area for IACS

calculations. The identification of barriers to farmer involvement in woodland should be included in this process

Timescale: Begins 2002

AP 6 DEVELOPMENT OF A HARDWOOD TIMBER VISUAL GRADING STANDARD

Support the WTF in their development and promotion of this with the Scottish Hardwood Timber Market development group.

Timescale: Long Term

AP7 COMPATIBLE TECHNOLOGY

Ensure IT compatibility between ARAD and the Forestry Commission to alleviate potential for administrative errors in land transfers from IACS to WGS.

Future GIS applications regarding woodland resources should also be developed to enable compatibility with end users.

Timescale: By 2005

AP8 ACTIVELY PURSUE THE USE OF RENEWABLE ENERGY IN ALL PUBLIC BUILDINGS

Examine the existing Welsh Assembly Government policy regarding the promotion and support of renewable energy systems in public buildings. The existing policy should be expanded to the use of heat and electricity from renewable sources, where it offers best value. This should apply to both Welsh Assembly property and other public buildings.

Timescale: Medium- long term.

AP 9 ADVICE AND TRAINING FOR FARMERS

Expand existing advice and training for farmers in husbandry, management, processing, marketing and finance in relation to farm timber, energy production and non-timber woodland uses. This should be made available through existing channels such as farming Connect, the Forestry Contracting Association and Coed Cymru. This provision must have strong links to relevant research and demonstration projects to ensure technology transfer of up to date ideas.

Timescale: Short-Medium Term

AP10 WOODLAND MANAGEMENT GRANTS

The Woodland Grant Scheme needs to address the need for management grants for woodland management with a view to woodfuel production. The scheme should be based on sustainable management with possible links to certification in the longer term.

4.2 ON-FARM USE OF TIMBER

AP11. ECONOMIC ASSESSMENT OF ON-FARM USE OF TIMBER

The economics of using home-produced timber need to be assessed in order to highlight benefits, costs and potential savings to farmers.

Timescale: Short-medium term

AP 12. ENSURE FLEXIBILITY IN EXISTING GRANT SCHEMES FOR USE OF HOME PRODUCED TIMBER

The potential savings and additional costs of on-farm processing need to be recognised in current and potential Welsh Assembly Government and public body grant schemes to encourage on-farm use of home produced timber.

Timescale: Short-medium term

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4.3 ADDING VALUE TO FARM TIMBER

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AP13 MARKET ANALYSIS

Undertake a study of the economic potential of added value markets from low-grade farm timber, including:

- **Current and potential size of each market;**
- **Likely economic return to the grower for each market;**
- **Barriers to the development of each market;**
- **Current and potential employment provided by each market.**

Market analysis should be supported by case studies, actual costs and incomes.

Timescale: Short – medium term

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AP14 PRODUCT, MARKET AND END USER SUPPORT

Ensure continued support for the development of added-value products, markets, timber SME's and machinery rings.

Timescale: Medium to long term

AP15 MARKETING AND PROMOTION OF WELSH TIMBER

Marketing and promotion of Welsh Timber should be co-ordinated through a generic marketing strategy including the creation of a Welsh brand for timber products.. Links to existing certification schemes and forest standards should also be investigated.

Timescale: Long Term

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4.4 NON TIMBER BENEFITS AND INCOME FROM WOODLAND

AP 16 PROMOTION OF THE BENEFITS WHICH CAN BE RECEIVED FROM WOODLANDS

Promotion of potential non-timber income from farm woodlands through existing bodies e.g.: Small Woods Association, Forestry and Timber Association, Welsh Timber Forum and Farming Connect.

Timescale: Short Term

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4.5. WOODFUEL AND ENERGY CROP PRODUCTION

AP17 THE FORESTRY COMMISSION TO UNDERWRITE SUPPLY FOR ENERGY MARKETS

The Forestry Commission to underwrite a proportion of existing small round wood supply to developing wood fuel markets. This will create markets for the private woodland owner in the longer term, and supply from Forestry Commission woodland should enable this.

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AP 18 BIOMASS CROP GRANTS

Develop a grant scheme for biomass crops to contribute to establishment costs and loss of agricultural income up to full production (four years). This scheme should enable speculative planting in suitable areas, and to replace current provision under the WGS and FEG. The scheme should be based on sustainable management with possible links to certification in the longer term.

Timescale: Short / medium term

AP19 GRANT AID AWARENESS

Potential Welsh biomass developers should be in an informed position to access UK, European and other grants. A website and regular bulletins should be established to publicise available funding assistance.

Timescale: Short term

AP 20 ACCESS UK BIO-ENERGY INFRASTRUCTURE FUND AND DTI CAPITAL GRANTS SCHEME

Relevant government bodies should provide assistance and information for prospective applicants. Existing grants should be analysed for level and breadth of coverage in order to identify and address funding gaps. Welsh Assembly Government should ensure that Welsh interests and Assembly policies are taken into account when UK renewable energy funding schemes are developed.

Timescale: Ongoing

AP21 GENERAL PUBLIC AWARENESS RAISING

Increased general public awareness of the need opportunities and contacts for renewable energy. This has links to the demonstration projects proposed across Wales which should provide opportunities for the public as well as farmers to benefit from first hand experience of such technology, thus stimulating demand and support.

Timescale: Medium Term

AP 22 DEVELOPMENT AND DEMONSTRATION OF WELSH TECHNOLOGY

Provide support for Welsh companies to develop and demonstrate equipment for all stages of biomass supply chain from harvesting and processing to heat and power production. This will be a long term project aimed at alleviating dependence on imported technology and developing a potential export sector.

Timescale: Long Term

AP 23 PROMOTION AND TRAINING FOR HEATING ENGINEERS

There needs to be promotion and training for heating engineers to encourage the wider community to contribute to the development of the wood fuel industry.

Timescale: Short-Medium Term

AP 24 CONTINUED LEARNING FROM EXPERIENCED COUNTRIES

Provide support for projects which involve the transfer of technical knowledge, awareness raising, education policies, and financial support mechanisms from experienced countries.

Timescale: Continual

Appendix 1

Membership of the WDBSG

David Roderick	ADAS
Peter Billings	British Biogen
Hilary Miller	CCW
Russell Elliot	CCW
Prof. Ken Overshott	Chairman
Jack Hanbury-Tenison	CLA
John Homfray	CLBA
David Jenkins	Coed Cymru
Hayley Miles	DULAS
Janet Saunders	DULAS / OPET
Robert Rippengal	Eco Energy Ltd.
Edward Jones	Egni Biomass
Bob Merriman	Environment Agency
Ian Sheffner	FCA

Chris Edwards	Forest Enterprise
Richard Davies	Forest Enterprise
Chris Jones	Forest Research
Huw Davies	Forestry Commission
Jon Westlake	Forestry Commission
Keith Jones	Forestry Commission
Sally Tansey	Forestry Commission
Aled Bebb	FUW
Hywel Thomas	Hyder
John Valentine	IGER
Martin Williams	NAW
Fiona McFarlane	NAWAD
Rachel Samuel	NAWAD
Celia Thomas	NFU
Dafydd Jarrett	NFU
Dilwyn Jenkins	PEA
Roger Jukes	Pont Brennin Project
Dr. F.M. Slater	Salix Project
Peter Anderson	Salix Project
David Thomas	Sustainable Energies Ltd.
Judith Webb	TGA
Peter Dickson	United Utilities Green Energy
Roger Cooper	UWB
Duncan Kerridge	WDA
Karen Latham	WDA
Simon Thompson	WDA
Eddie Young	WLGA
John Purchase	WLGA
Phil Potter	WTF

Appendix 2

Group Remit

1. Introduction

The National Assembly for Wales Agriculture Department (NAWAD) in partnership with the Welsh Development Agency (WDA) commissioned the Scottish Agricultural College (SAC) to undertake a study to assess the extent to which alternative sectors could help to develop sustainable, business opportunities in rural Wales. It also required:

- An assessment at a strategic level of the overall market demand and supply potential in Wales;
- An assessment of the steps required to develop sustainable economic activity;
- An assessment of the commercial opportunities and broader economic benefits such as jobs created and additional economic activity within the rural economy; and
- An indication of the environmental impact.

SAC undertook a comparative assessment prioritising the potential commercial viability and economic returns. The report made recommendations and identified best strategies for each sector.

Detailed discussion of the potential for biomass development in Wales made it clear that the most viable options in the short to medium term are based on woodlands (woodland waste, timber by-products and small diameter timber etc) augmented, where appropriate, with short to medium term rotation coppice. For this reason, the development of the two sectors has been combined under the remit of one Strategy Group.

2. Definitions

Farm Woodlands

This will include existing farm woodlands, both coniferous and broadleaf, and planting of new woodland on farm. Shelterwoods and agroforestry will also be covered.

Biomass

This will focus primarily on short to medium term rotation coppice and the use of forest / woodland residues and small diameter timber as a fuel product, but will also examine other energy crops such as Miscanthus and other options such as bio-ethanol. In addition, it is envisaged that appropriate waste wood and biomass products from industry will play a significant role.

3. Remit

To draw up an Action Plan for woodland development and biomass, highlighting areas of development, need for support, areas of research, new uses for timber/wood products, training and marketing opportunities. The Group will need to address the following key areas:

- The composition of the resource, including numbers and size of individual woods, composition of those woods, proportion currently managed, accessibility etc., and areas suitable for growing coppice products;
- The economic potential of woodland based diversified enterprises, e.g. agro- forestry, sporting, charcoal production, fencing and other farm woodland benefits.
- The potential energy generation market for short and medium term rotation coppice and woodland waste / forestry residues in Wales, identifying opportunities for heat production, electricity generation and combined heat and power technology:
- The issues that pose a barrier to the development of farm woodland and planting of short and medium term rotation coppice;
- Planting alternatives to give an indication of the more promising options available to farmers in Wales;
- Opportunities presented by other biomass crops, links between crops and waste biomass products, including growth and utilisation of farm slurry, industrial bio- wastes from abattoirs and food wastes.
- Identifying the market supply and demand factors, including the need for marketing and management support, and encouraging the development of local energy schemes and local timber processing;
- Current level of communication and networking between the small-scale enterprises involved in the forestry, woodland, timber and biomass industries in Wales.
- Provision of advice and training to farmers on planting, management, harvesting, processing, marketing, and business and IT skills to support ventures.
- The need for grants and other funding mechanisms to support areas such as establishment, harvesting, processing, and marketing;
- The implication of IACS and CAP schemes when planting upon farmland;
- Support (financial and advice) for organisations, groups of individuals and community based power generation projects that intend using biomass as a fuel source;
- The need for research into management and production techniques, cultivars for coppicing, etc. and data collection necessary to encourage the development of the strategy. The Group will also need to undertake a review of research papers available from relevant Government departments and agencies.
- Development of branding, marketing and promotional strategies.

The Group will also need to be aware of the Economic Development Committee's work on the review of energy

policy in Wales, which will include biomass, and the development of a Welsh energy framework. Any proposed initiatives from the Group will need to be fed into this process. It will also need to take account of the current and future initiatives at an UK level on renewables policy and how they relate to biomass. The Group will also consider linkages with initiatives such as Farming Connect and the Welsh Future of Agriculture strategy in relation to research and development, training, technology transfer, Centres of Excellence, demonstration farms etc and to the Agri-Food Strategy in terms of support for added value processing.

4. Sustainability and Environmental Implications

The Group will need to examine the economic and environmental benefits of the proposals being considered, determine ways of integrating UK BAP targets into the Action Plan and develop monitoring protocols to assess the contributions made to these targets. It will also need to examine any GM implications within the Action Plan as well as other inter-related issues including landscape, wildlife habitat, and public access and the interface with the requirements of NETA, the new Utilities Bill and the Climate Change Levy.

5. Outputs and Milestones

Initially these will be targeted at producing an Action Plan with subsequent outputs linked to the recommendations in the Plan. It is envisaged that the Strategy Group will be established by the end of July 2001 and that the final draft of the Action Plan should be made available to the National Assembly to consider by March 2002.

6. Administrative Support, Secretariat and Membership

Administrative support for the Strategy Group will be provided by the Forestry Commission and a member of staff will be appointed to service the group.

Appendix 3

Papers Considered by the Strategy Group

Assessing the Need for Shelter on Farms. A.M. Hislop and H. Palmer. Forestry and British Timber, 1999.

Bio-Energy: A Growing Energy Supply. DEFRA, 2002.

Biomass Energy in Wales: Wood Fuel. Countryside Council for Wales / Environment Agency / Forestry Commission. May 2002.

Digital Woodland Map for Wales (Metadata). (Reference details.) Forest Research, March 2000.

Diversification in the Uplands of Wales – the role of Short Rotation Coppice. R.J. Heaton, F.M. Slater and P.F. Randerson.

Draft Regional Strategy Infrastructure Partnership Strategic Infrastructure Development.

Economic Development Committee: A Vision for Bioenergy in Wales. January 2002, Welsh Assembly Government.

Economic Development Committee: EDC Energy Review: "Renewable Energy Policy in Wales". Summary Renewables Workshop Report – Paper by Officials. Welsh Assembly Government.

Economic Development Committee: Renewable Energy in Wales – Views of the Countryside Council for Wales. CCW /Welsh Assembly Government, January 2002.

Economic Development Committee: Report for Consultation. Review of Energy Policy in Wales. Part One: Renewable Energy. Welsh Assembly Government, April 2002.

Economic Prospects for Short Rotation Coppice in Wales: the Need for Subsidy in a new Agricultural Industry. P.F. Randerson, R.J. Heaton and F.M. Slater, December 2000.

Effects of Digested Sewage Sludge on Short Rotation Coppice in the UK.

F.M. Slater, R.W. Hodson and P.F. Randerson.

Energy Policy – Key Issues for Consultation. Department of Trade and Industry, May 2002.

Farming for the Future. Government for the National Assembly for Wales, 2001.

Forest Energy Project of Central Finland. (Finnish strategy for biomass development.) Martti Ahokas, Pekka-Juhani Kuitto and Markkau Paananen. February 1997.

Forestry Commission Woodfuel Strategy Document (Draft). Helen McKay. Forestry Commission, October 2001.

Fuel Supply for the Proposed Biomass System at South Caernarfon Creameries near Y For in Gwynedd. Egni Biomass, October 2000.

Genetic Variation and Breeding of Energy Crops. John Valentine, IGER, February 2002.

Growing SRC for Biomass in the Uplands – the Task of Convincing Farmers. M.Slater, P.F. Randerson and R.J. Heaton.

Gwynedd Biomass Feasibility Study. Dulas Ltd., January 1998.

Market Investigation on Welsh Angle Products – UK Hardwood Flooring. John A Leaver. Creative Engineering Service, March 2001.

National Inventory of Woods and Trees. Forestry Commission, 2001.

Nutrient Enhanced Short Rotation Coppice for Biomass in Central Wales. F.M. Slater, R.W. Hodson, P.F. Randerson and SF Lynn.

Nutrient Responses in Short Rotation Willow Coppice – the Potential for Biofuel Production in the Uplands of Wales. P.F. Randerson, R.W. Samuel and F.M. Slater.

Opportunities for the Development of Biomass Energy Systems using Woodfuel in Wales. John Westlake. Forestry Commission, May 2001.

Plan for Wales, 2001.

Planning Policy Wales. March 2001.

Preliminary Results of the Study of the Public Perception on Biomass Energy. Bishnu Raj Upreti. Kings College, London, May 2002. (Early draft version).

Processing Small Diameter Hardwood Logs – An Economic Appraisal. Mike Oxnard and David Roberts, April 2000.

Proposal to quantify the woodfuel resource in Britain. Barrie Hudson and Helen McKay.

Prospects for Energy Grasses in mid-Wales. F.M. Slater, P.F. Randerson and R.J. Heaton.

Reed Canary Grass (technical report), IGER, 1999.

Rural recover Plan

Some Environmental Impacts of Short Rotation Willow Coppice. F.M. Slater, R.W. Hodson, P.F. Randerson and S.F. Lynn, August 1997.

Technology Status Report – Biofuels (Energy from Forestry and Agriculture). Nick Barker, ETSU (for DTI). August 2001.

The Economics of Growing Short Rotation Coppice in the Uplands of mid-Wales and an Economic Comparison with Sheep Production. R.J. Heaton, F.M. Slater and P.F. Randerson, 1999.

The Economics of Small Roundwood Conversion. Jack Hanbury-Tenison, September 2001.

The Future for Biomass Crops in Upland Wales. P.F. Randerson, F.M. Slater and R.J. Heaton.

The Influence of Cattle Slurry on Establishment and First Year Growth of Short Rotation Willow Coppice on an Upland Site. R.J. Heaton, F.M. Slater and P.F. Randerson.

The Influence of Fertilisation on the Yield of Short Rotation Willow Coppice in the Uplands of mid-Wales. R.J.

Heaton and F.M. Slater.

The Integration of Combined Heat and Power Installations into Small Scale Sawmill Operations. Dulas Ltd. / ESD. August 2000.

The Potential Contribution of Alternative Sectors to a Sustainable Agricultural Industry and Rural Economy in Wales – A Comparative Assessment. (Added Value Opportunities for Farm Woodlands.) SAC Agro Industrial Research Services, March 2000.

The Potential Contribution of Alternative Sectors to a Sustainable Agricultural Industry and Rural Economy in Wales – A Comparative Assessment. (Biomass, including Short Rotation Coppice.) SAC Agro Industrial Research Services, March 2000.

The Potential in Wales for Biomass – A Scoping Study. FRCA / WOAD.

The Potential in Wales for Farm Woodlands – A Scoping Study. FRCA / WOAD.

The Root Growth of *Salix viminalis* and *Eucalyptus nitens* in response to dairy farm pond effluent irrigation. R. J. Heaton, R.E.H. Sims and R.O. Tungcul.

The Silviculture, Nutrition and Economics of Short Rotation Willow Coppice in the Uplands of mid-Wales. P. F. Randerson, R.J. Heaton and F.M. Slater.

The Technical Advice Note (Wales) 8 Renewable Energy.

Wales' Broadleaved Woodlands – A Review of their Economic Potential. Mike Garforth / Robert Frost. Forestry Commission, September 2001.

Welsh Forestry Multiplier Study. Forestry Commission, 1999

Wood Energy Technology Transfer in Wales. Markku Paananen and Antti Korpilahti. Jyväskylä Science Park Ltd / BENET (Finland), May 2002.

Woodchips as Livestock Bedding . Carol Thomas. NAWAD, November 2001.

Woodland Development and Biomass Strategy Group Paper. Martin Williams. Welsh Assembly Government. Agriculture Dept. and Economic Development Dept.

Woodlands for Wales – the National Assembly for Wales Strategy for Woods and Trees. Forestry Commission / Welsh Assembly Government.

Appendix 4

WDA Rural Recovery Plan Proposed Expenditure

A Welsh Version of this document can be made available on request.

Rural Recovery Plan

Measure- Renewable Energy- Farm Woodland and Biomass

Specified Lead Body- WDA, Mid Division

Partners- Forestry Commission, WAG.

Area

Pan Wales

Funding

1st year April 2002/2003 £200,000

*2nd year 2003/2004 **£300,000***

Introduction

As part of the Rural Recovery Plan £500,000 is available over the next two years to support Farm Woodlands and Biomass. This fund is to be administered by the WDA mid Wales Division in consultation with the Forestry Commission and with reference to the Farm Woodland and Biomass Strategy group

Biomass is an important renewable energy and all proposals will also take due regard to the WAG Strategy and WDA Energy Policy.

Rural Recovery Rationale

The proposed project is focused on the development and implementation of sustainable local biomass projects, which will be initially strongly reliant on wood fuel from local sources. A major potential source of residues will be farm woodlands. A report commissioned from the Welsh Economic Research Unit. ("Estimating the Economic Outputs of the Implementation of a Targeted WDA Timber Industry Support Programme," March 2000) indicated that some of the highest density of farm woodlands in Wales, are in Powys and Monmouthshire, two of the areas most severely affected by Foot and Mouth Disease.

For the Welsh biomass industry to be viable in the long term it needs to strengthen the rural economy by providing a sustainable link between the forestry and energy sectors. This means that the value of residues must on the one hand lead to cost effective heat and or energy production, and on the other provide sufficient revenue to growers and producers to make wood fuel and new potential energy crops available and viable in the short and longer term.

The proposed activities will support the development of a sustainable industry in Wales which provides revenue

directly into farming businesses as an integral part of the supply chain.

The proposals will provide immediate impact to the farming sector through short term residue sales, but also provide a long term impact by development of the sector in a sustainable way.

Aims

To support the development of a sustainable biomass industry with in Wales, which will add value to the economy of Wales.

Develop the first wood fuel supply sources, networks and biomass clusters

Establish working examples, preferably throughout Wales, of technologies, applications, organisational and financial structures.

Promote development of technology transfer and application

To ensure the industry has the highest possible economic multiplier effect by retaining supply chain components where ever possible in Wales in accordance with NAFW targets to stimulate a strong indigenous supply chain.

To ensure interaction with; DTI, DEFRA, NAFW, FC, Local Authorities and other government sponsored agencies, to support the development of strategic Welsh biomass energy projects.

And to ensure project parameters are aligned as closely as possible to local needs and aspirations.

Seek maximum leverage from other funding sources

Context

It is widely acknowledged in public and private sector that biomass energy has a potentially significant role to play in supply of Renewable Energy and Rural regeneration. The oft cited ‘chicken and egg’ conundrum of supply and demand is a major barrier. To stimulate the biomass sector we need to consider the entire system:

- existing wood fuel resource and the growing of new potential fuel crops
- processing and supplying fuel
- converting fuel to energy (heat, electricity, refined fuel)
- matching energy to the infra structure / loads

Biomass sectors have developed rapidly (10-20 years) in Scandinavia and middle Europe

Demonstration projects and sophisticated technology is already available in these countries.

There are a few examples in UK from the 1MW Arbre plant in Yorkshire to a range of smaller installations (<1MW) for example, Weobley, National Botanical Gardens, Centre for Alternative Technology, etc. There is a need for more examples of reliable applications in Wales and the UK in order to raise awareness and confidence in biomass. Most examples, especially the more reliable ones, rely on imported equipment. It is likely that initially installations will be of proven imported technology. Some initial contacts between Welsh and overseas companies have been established

but as yet no licensing or JV agreements have been made. Every effort will be made to encourage and support the necessary machinery and equipment development and manufacture in Wales

Proposed Activities

Resource mapping

Mapping available residue sources in Wales, appropriate for small and large scale bio mass, with an emphasis on farm woodland sources.

Collate and update existing data on wood fuel availability and map, accessibility and logistics issues of other co-products. This will include all options from standing timber to industrial wood fuel and co products

A proposal has been received from the Forest Contracting Association (FCAss) requesting WDA support for a UK-wide biomass resource survey to be presented via national GIS model which would be widely available and provide baseline data which would be updateable

Co-funders for the UK study include Forestry Commission, Scottish Enterprise and DTI.

Following discussion at the Wales Woodlands and Biomass Strategy Group support for this project in 2002/03 has been agreed in principle, a subsequent meeting was held with FCAss, NAFW (GIS technical) FC Research, and the WDA. The technical and informational value of the study was established

It is proposed that WDA fund £15k and £20k be used from Rural Recovery Biomass Fund. The study to be completed during the financial year 2002-03

SRC and Woodland Crop Development. Technology transfer and demonstration

Working with FRA and FC

Research and demonstrate the opportunities for integrating medium term coppice planting into farm woodland management, developing novel uses for low value wood including bedding for farm animals, and potential Energy crops, which could be grown in Wales, for economic benefit.

Evaluate tree species and provenances for these uses.

To evaluate SRC types, adaptation to Welsh conditions, disease and pest resistance.

Explore practical management issues and actions.

Working with the FC to take existing research to field trials with in the requirements of agri-environmental schemes via exemplar and farm demonstration projects.

Universities and research establishments may well look for funding in this area.

(IGER, Cardiff- Salax Project, Glamorgan- Grass-Hydrogen. Banger) it is suggested that pure research as a principle should not be funded but the technology transfer and demonstration projects should be considered. Ensuring careful

monitoring and the dissemination of field trial findings.

Grants to farmers for wood fuel and energy producing crops are currently under consideration

Developing Fuel supply chain

Assisting in the development of reliable and diverse biomass supplies

Networks of fuel producers linked to processing and supply depots – producer co-ops, processing machine rings, Energy supply companies

Showcase projects may share supply chains

Where appropriate promote new developments which minimise the need to transport

Support at least 3 networks (possible use of collaborative funding via WDA Timber 2 programme to support additional projects which meet the criteria of the scheme)

Showcase installations

Mid Wales Division is already aware of existing demand for installation of small scale biomass systems across Wales from previous development work through its Renewable Energy Network and TIMBER 2 programme.

To date most potential projects have not proceeded due to high capital costs. (The model in Austria and Bavaria was for 24% regional government funding matched by the same from EU. Upper Austria has apparently installed 600 small – med biomass plants in the last 8-10 years)

There is considerable potential for more –community, public sector and commercial projects, many have already been identified and signposted from other organisations, Divisions of WDA, OPET and Local Authorities.

It is suggested that all potential projects be evaluated for eligibility to existing support mechanisms, (DTI Funds, Farming Connect, National Assemblies Enterprise Grant, ARENA Network, WDA Environmental Goods and Services Programme

These referrals to other sources of funding will be monitored and if gaps in provision or major discrepancies in the level of assistance are identified (other than state aids)

The issue of a gap funding grant will be revisited with WAG

Encouraging the uptake of small scale biomass systems by the provision of direct grant aid to business, organisations and communities were possible through existing support mechanisms

Beneficiaries of grant support would be required to act as demonstrator projects to raise awareness and increase up take of biomass systems. A number would also be selected as key demonstrator centres providing workshops for awareness raising and training.

Machinery / plant supply chain

Study of potential for Welsh biomass technology

- Fuel harvesting and processing
- Handling – hoppers, feed mechanisms
- Conversion – boilers, gasification, pyrolysis
- Control systems – heating / conversion

In the first year it is suggested that;

* work is under taken to develop the existing machinery rings to handle and make available to members, timber equipment , machinery and trained operators

*a mapping exercise be under taken of machine importers, providers and potential manufacturers (possibly with Source Wales)

Support would be made available for product development, licensing, JVs.

Support for the development of low cost boilers and feed systems to ensure an exit strategy for grant aid.

Other potential funding streams

Various sources of UK and Euro funds may be available for co-funding:

- Objective 1 and 2,
- Community Renewable Energy Initiative (DTI / NAFW / WDA - details still being discussed)
- New Opportunities Fund for small biomass (£50/kW, or linked to cluster development))
- Possible crop establishment grant (biomass strategy group has recommended that NAFW introduces energy crop scheme similar to that in England))
- Possible heating plant assistance through Energy Agencies, Local Authorities (community/domestic) Carbon Trust (commercial, municipal)
- SMART and RIN programmes for equipment R&D
- OPET – technology transfer and promotion
- Finance Wales – renewable energy loan fund

Bio-energy promotion and marketing

There is work currently being under taken via OPET, and the WDA for example the Renewables Directory, Biomass information on line.

Specific Biomass promotion, PR and marketing will need to be under taken as the project develops to ensure maximum take up and recognition of support received via Rural Recovery Plan

Assist agri teams to promote energy crops and timber use

Skills Development

Other areas to be considered include skills development of heating engineers and plumbers through ELWa

Funding, particularly for technology development and project implementation, will probably need to extend over a longer period – 4/5 years

WDA, FC, WAG, LA,s may wish to put additional funds in to Biomass to enable more to be under taken or to greatly accelerate the process.

Way forward.

Having been discussed by the WDA Energy Working and Rural Recovery Groups

A discussion paper was taken to the Forestry Commission on 10/4/2002 and subsequently amended

The paper will be posted to members of the Woodlands and Biomass Strategy Group.

The final paper will be sent to the WDA Executive Management Committee and Board and to the WGA

K L LATHAM D KERRIDGE

29/4/2002

Resource Study				Common easily accessible GIS map of Biomass resource		15k WDA			
SRC, Woodland Crop Dev Tech. Trans. Demonstrations		5 technology transfers/ demonstration farm plots			New diversification opportunities. Addressing Environmental sustainability	50k Poss. EU			
Fuel Supply Chains	Total number enquires 200			3 Networks established min 10 participants New business starts 5	Increased market for lower grade timber		200k		
Showcase Installations		5 new jobs Indirect support 15 jobs		3	Guaranteed market for production	250k	500k		
Machinery/ plant supply chain	Mapping	3 development projects/ JV's			Business introducing new Tech 20		50k		
Bio-energy Promotion and Marketing	3 events 12 press PR articles				Encouragement for woodland management				

All outputs for Rural Recovery monies will be separately monitored and recorded.

Appendix 5

List of Acronyms

<i>Acronym</i>	Definition
AP	Action Point
ARAD	Agriculture and Rural Affairs Department
BSE	Bovine spongiform encephalopathy
CAP	Common Agricultural Policy
CCW	Countryside Council for Wales
CHP	Combined Heat and Power
DEFRA	Department for Environment, Food and Rural Affairs
DTI	Department of Trade and Industry
EA	Environment Agency
EDC	Economic Development Committee
EIA	Environmental Impact Assessment
FC	Forestry Commission
FCA	Forestry Contractors Association
FEG	Farm Enterprise Grant
FWPS	Farm Woodland Premium Scheme
GI	Geographical Information
IACS	Integrated Administration and Control System
ISG	Innovation and Sustainable Growth
IT	Information Technology
MRC	Medium Rotation Coppice
ODT	Oven Dry Tonnes
OPET	Organisation for the Promotion of Energy Technologies
PIU	Performance and Innovation Unit
SAC	Scottish Agriculture College
SME	Small and Medium Enterprises
SRC	Short Rotation Coppice
SRW	Small Round Wood
TAG	Technical Advisory Group
TAN	Technical Advice Note
TDB	Technical Development Branch
UKWAS	UK Woodland Assurance Scheme
WAG	Welsh Assembly Government
WDA	Welsh Development Agency
WDBSG	Woodland Development and Biomass Strategy Group
WGS	Woodland Grant Scheme
WRDP	Wales Rural Development Plan
WTF	Welsh Timber Forum