Forestry Commission England

# Woodfuel Implementation Plan 2011–2014

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# Executive summary

## Woodfuel markets are already contributing to the green economy by creating jobs, tackling climate change and providing local communities and businesses with secure, renewable, low carbon energy. These markets are encouraging more owners to manage their woodlands, thereby providing a range of economic and environmental benefits to society.

However, the woodfuel supply chain remains fragile and barriers preventing woodland owners and buildings managers from realising the full potential of the sector continue to exist. For example, the customer base for woodfuel remains small whilst harvesting costs in currently unmanaged woodland are high. Potential fuel producers and end users do not always know where to access good quality information on best practice and this hinders market development and adversely affects the quality of both fuel and boiler installations.

Work force issues equally need tackling, in particular the low number of new workers coming into the sector and the need for upskilling the current workforce. Forestry Commission England, together with key players from around the sector, has publicly committed to carrying out actions set out in the Forestry Skills Action Plan [1a], which will put in the right work force to:

- Increases sustainable woodland management
- Realises woodland creation aspirations
- Grows and creates green jobs and businesses.
- Adds value to UK timber

Although woodfuel markets have the potential to benefit woodlands, they may increase competitive pressure on traditional timber processors if timber supply does not keep pace with market growth. Ultimately, this could lead to an undesirable reduction in the use of wood for non-fuel products that store carbon over the longer term.

To tackle these issues, Forestry Commission England advocates consolidating the woodfuel supply chain with a strong focus on local heat markets (50kW – 5MW).

### This implementation plan will:

- Increase wood supply by bringing more privately owned woodlands into active management.
- Encourage the use of woodfuel in high-quality, efficient wood heat systems.
- Help rural-based businesses increase their capacity to develop a robust woodfuel industry.

### To achieve these aims, Forestry Commission England will:

- Facilitate the development of access within woodlands to allow fuel and other wood products to be harvested economically.
- Collaborate with the private sector to develop and test new approaches to woodland management and fuel production.
- Support local projects that meet national priorities aimed at developing woodfuel supply chains.
- Provide woodfuel end users with the expert and impartial information they need on how best to use wood to heat their buildings.

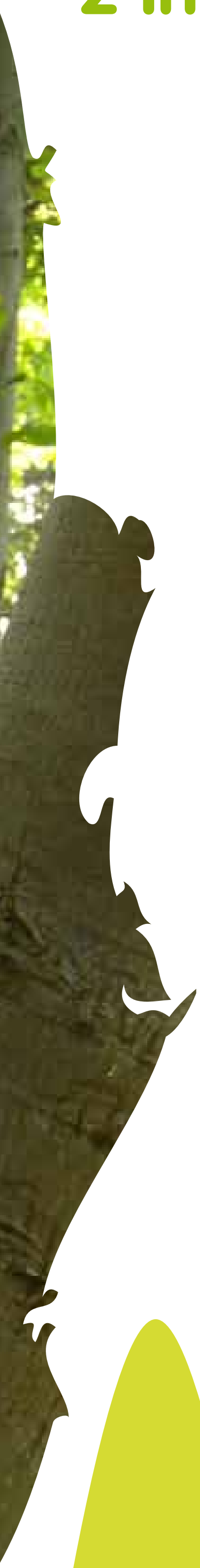
This implementation plan summarises the progress made towards achieving the objectives of the 2007 Woodfuel Strategy [1b] and describes the actions that Forestry Commission England will undertake over the next three years to further develop the woodfuel supply chain.

[1a] Link to Forestry Skills Action Plan: **http://www.forestry.gov.uk/forestry/INFD-8HSJV2**

[1b] Forestry Commission England 2007 **http://www.forestry.gov.uk/pdf/fce-woodfuel-strategy.pdf/$FILE/fce-woodfuel-strategy.pdf**

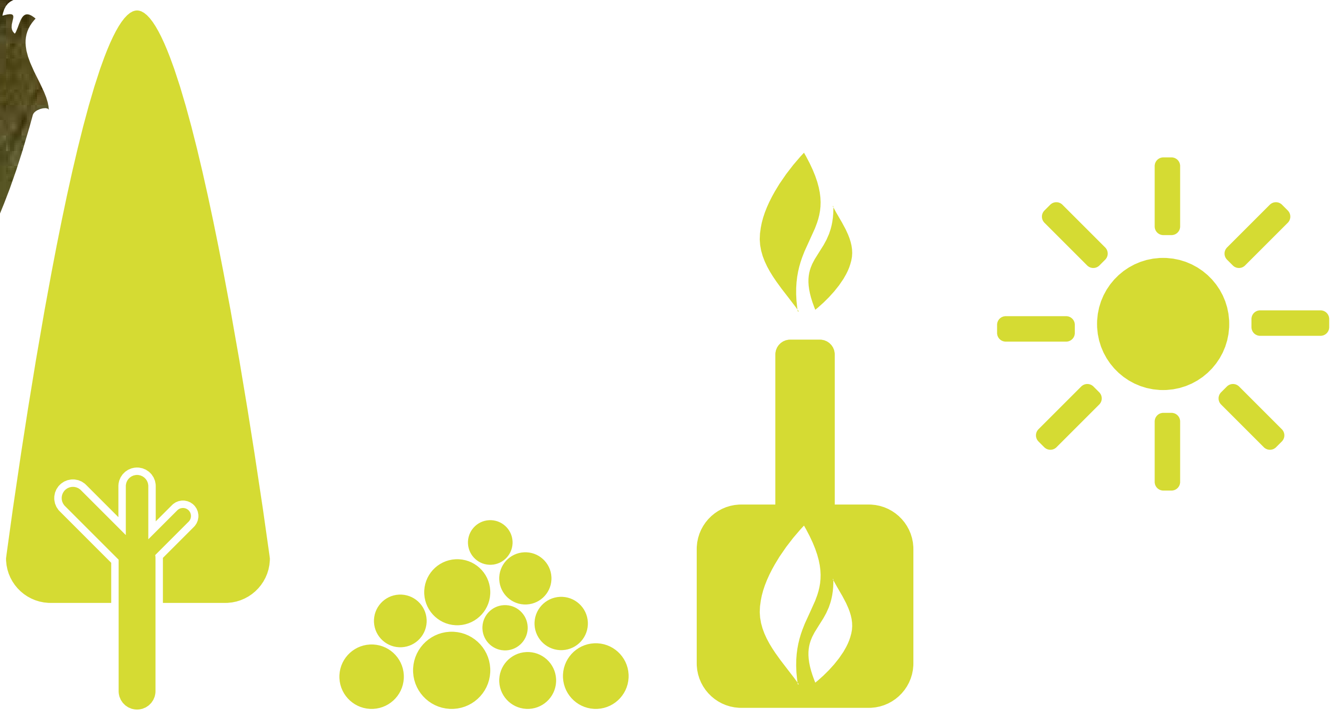
# 2 Introduction

**Forestry Commission England is responsible for protecting, improving and expanding England's forests and woodlands. Our ambition is to create the conditions required for woodland owners to significantly increase woodland in active management. Sustainable management of woodlands can provide valuable habitats for our wildlife and increase the contribution forestry makes to the green economy and civil society.**



All of England's woodlands have been actively managed in the past but today a large part of this resource is under utilised. To address this issue, this implementation plan focuses on firmly establishing a sustainable woodfuel supply chain, whilst recognising the importance of simultaneously supporting the development of markets for non-fuel wood products.

A growing number of businesses are producing various types of woodfuel suitable for a range of applications, ranging from logs for domestic stoves through to wood pellets for fully automated boiler systems. These businesses face a range of challenges at different points along the supply chain, including the ability to access and manage woodlands in an economically viable way, and developing a customer base large enough to support financially viable woodland management and fuel production in the longer term.



# 2.1 The role of forestry in government policy on renewable energy and climate change

**The publication of this implementation plan contributes to fulfilling government's obligations under the 2009 EU Renewable Energy Directive[2]. The Renewable Energy Directive commits the UK to sourcing at least 15% of its energy from renewable technologies by 2020.**

The Directive also requires development of a National Renewable Energy Action Plan (NREAP)[3]. This plan, published in 2010, estimates that the proportion of renewable heat used in homes and businesses in the UK needs to grow from 1% to 12% if these commitments are to be met. The NREAP includes a commitment to develop plans for bringing an additional 2 million tonnes of wood to energy markets in England, each year by 2020. This fuel could provide 4.4TWh of heat, sufficient to supply 800 hospitals, or 3,000 schools or 250,000 homes. Using this quantity of wood instead of fossil fuel could save 1.5 million tonnes (Mt) of $CO_2$ each year.

More recently, the 2011 Carbon Plan[4] set out a time table for actions required to meet carbon reduction targets. It commits government to developing support measures aimed at increasing woodfuel production from privately owned woodlands.

The Renewable Heat Incentive[5] (RHI), announced in 2011, is the world's first financial incentive of its kind. It is likely to significantly increase demand for woodfuel and revolutionise the renewable heat sector. The RHI acknowledges the role that fuel harvested from sustainably managed woodlands has in developing the green economy.

The distribution of small, privately owned woodlands in England, many of which are not in active management, fits well with the aims of the RHI and other initiatives. These are aimed at increasing the use of community-owned energy schemes which have the potential to provide local businesses with income and more control over how their energy is sourced. The RHI has the potential to stimulate demand for several million tonnes of biomass from a variety sources, including wood from existing, currently unmanaged, woodlands in England.

The 4th Carbon Budget, published by the Climate Change Committee in 2010[6], highlights the potential for emissions reduction offered by increasing woodland cover and increased use of woodfuel. This report suggests that new plantings could account for 3 $MtCO_2e$ annually by 2030, and 5 $MtCO_2e$ annually by 2050. Scenario analysis suggests that in the UK 36TWh of heat could be supplied by biomass by 2025. These findings echo those of the Read report[7], an independent assessment of the role forests can play in climate change mitigation published in 2009.

The challenging woodland creation rate scenarios described by the Read report are, in turn, echoed in the Natural Environment White Paper, recently published by government[8]. The White Paper states that in England this could mean increasing woodland creation rates from 2,300 hectares per year to 10,000 hectares per year over time, with woodland cover increasing from 9% to over 12% by 2060.

Planting new woodlands today will help increase production of fuel and other wood products in the future and complements actions aimed at increasing the area of existing woodland in active management. A well-established woodfuel market would help create the right incentives to drive such woodland management.

We recognise that other sources of biomass, including perennial energy crops and agricultural residues, are likely to play a significant role in helping society meet increased demand for bioenergy and renewable materials. We are working with DECC and other actors in the sector to ensure that the development of these supply chains is co-ordinated and complementary.

[2] 2009 European Renewable Energy Directive. **http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32009L0028:EN:NOT**

[3] UK National Renewable Energy Action Plan **http://www.decc.gov.uk/en/content/cms/meeting_energy/renewable_ener/uk_action_plan/uk_action_plan.aspx**

[4] DECC Carbon Plan 2011 **http://www.decc.gov.uk/assets/decc/What%20we%20do/A%20low%20carbon%20UK/1358-the-carbon-plan.pdf**

[5] DECC Renewable Heat Incentive 2011 **http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/policy/incentive/incentive.aspx**

[6] Climate Change Committee 4th Carbon Budget, December 2010, figures taken from table 3.5 'medium abatement' **http://www.theccc.org.uk/reports/fourth-carbon-budget**

[7] Combating Climate Change – a role for UK forests **http://www.forestry.gov.uk/readreport**

[8] The Natural Choice: securing the value of nature - The Natural Environment White Paper 2011 **http://www.defra.gov.uk/environment/natural/whitepaper/**

# 2.2 The impact of Forestry Commission England's support to the woodfuel sector

**Since the publication of the Woodfuel Strategy in 2007, Forestry Commission England has been working with many organisations in the public and private sectors to develop the supply chain. This section describes some of the key actions taken by Forestry Commission England in this period.**

## 2.2.1 National initiatives

### Technology transfer and expert, impartial advice - Biomass Energy Centre

In 2006, working with Defra, we supported the establishment of the Biomass Energy Centre (BEC). This initiative set out to create a single point of contact for information on the production and use of biomass fuels that was accessible to woodland owners, farmers, buildings managers and the general public. BEC have developed a comprehensive website and enquiries service. Demand for information has increased since 2006, several thousand enquiries have been answered and the website has received around 2.5 million hits. Feedback from users of this service has been very positive.

BEC exhibits and presents information and provides advice at numerous events each year. These have ranged from large national shows such as the Country and Land Business Association (CLA) Gamefair, Ecobuild and the European Bioenergy Exhibition and Conference to more local events in communities around the country. By contributing to these events, often in conjunction with local Forestry Commission England staff, a very wide range of individuals and businesses have been engaged and provided with information or contacts to further their interest in woodfuel.

BIOMASS Energy Centre

### Woodfuel Suppliers' Group

Forestry Commission England have been actively supporting the development of an umbrella organisation able to represent and build the capacity of woodfuel supply companies. The Woodfuel Suppliers' Group[9], formally established in January 2011, is helping to professionalise the sector, giving potential customers more confidence. This group is administered by ConFor, the trade association representing the forestry and timber industry in the UK, and supported by the Renewable Energy Association, representing renewable energy producers in the UK. Developing synergies with other timber markets and renewables technologies is likely to become more important as the use of woodfuel increases, for instance some hardwood processing by-products could profitably go to woodfuel.

### Championing woodfuel

Tree felling can be a sensitive subject and it may not be immediately apparent to the general public, including potential woodfuel users, that harvesting wood can benefit biodiversity within the woodland. To help convey the message that sustainably managed woodlands enhance biodiversity, we have been working with a number of wildlife conservation organisations. In July 2009, members of Wildlife and Countryside Link released a statement[10] signed by thirteen wildlife conservation and environmental groups, including RSPB, Friends of the Earth and Wildlife Trusts, supporting the aims of the Woodfuel Strategy.

[9] Confor Woodfuel Suppliers' Group **http://www.confor.org.uk/AboutUs/Default.aspx?pid=331**

[10] For more information see **http://www.wcl.org.uk/docs/2009/Link_position_statement_Woodfuel_Strategy_03Jul09.pdf**

## 2.2.2 Sub-national activity

**Forestry Commission England's Woodfuel Co-ordinators have been actively raising awareness of woodfuel market opportunities over the last four years at a sub-national level.**

They have provided expert and impartial advice to many hundreds of woodland owners and potential end users. In many cases Woodfuel Co-ordinators have been working closely with, or have been part funded by, regional organisations working to increase the use of woodfuel. Some are involved in EU-funded programmes and all have contributed to numerous seminars, workshops and other events aimed at engaging woodland owners and potential woodfuel users.

A number of guides and case studies highlighting good practice in the woodfuel supply chain have been published and disseminated widely, see for example the 'Activating Forest Owners' website **www.afo.eu.com** and Cumbria Woodlands **www.cumbriawoodlands.co.uk**

Often support is direct and involves linking fuel producers with new customers, encouraging woodland owners to increase their management activity to help supply local markets, assisting businesses with grant applications and even helping out during boiler installations.

## Case Studies

### Wood Heat Solutions

**This EU-funded project has been an important catalyst for developing the woodfuel sector in South East England.**

Existing and potential fuel producers and end users studied business practices in established supply chains in Austria and Finland and have begun applying lessons learnt to their own operations. Beneficiaries include representatives from County Councils, supermarket chains, owners/managers of private schools, land-owners, fuel producers, tree surgeons and boiler installers. The legacy of the project study tours, training events, site visits and business introductions will ensure more boilers being installed and woodlands managed well beyond the project lifetime.

### South West Bioheat Programme

**Working with the South West Regional Development agency and The South West Renewable Energy Agency (RegenSW), Forestry Commission England have encouraged around 40 private and public organisations to identify opportunities for using woodfuel.**

The programme has supported many of these organisations through initial feasibility studies to final commissioning. Projects range from a 40kW log boiler on a country estate to 200kW pellet boilers heating accommodation at the Olympic sailing village at Weymouth. Industrial applications have been supported too, examples include a 500kW woodchip boiler heating greenhouses and a 13MW installation, fuelled by pellets made from recycled wood, in a Cornish cheese factory. By providing best practice advice, grant support and training, the programme has been able to help build experience and confidence in the sector, preparing businesses for the opportunities the RHI will bring.

## 2.3 The woodfuel sector today – trends and barriers

**The woodfuel sector is made up of several markets that function at different scales requiring different levels of support and intervention. This section gives a brief overview of these markets and the barriers that prevent the market from becoming well-established and sustainable over the long term.**

### 2.3.1 Firewood

**General trend:**

The firewood market is growing rapidly due to strong demand for modern log stoves. According to the Stove Industry Alliance, more than 160,000 home owners installed wood-burning stoves between July 2008 and June 2009. In 2010 Woodfuel Co-ordinators throughout England reported a buoyant firewood market and a number of larger scale firewood suppliers have set up to capitalise on increased demand.

**Barriers:**

Little intervention is required in this sector but access to improved information on good practice fuel production techniques would better enable forest owners and managers to establish or develop a successful firewood supply business. At the same time, end users must understand the need to use good quality, dry firewood to maximise the performance of their stove and minimise emissions. Finally, woodland owners need to be able to manage woodlands with a view to increasing supply and help ensure domestically grown wood meets demand.

## 2.3.2 Small/ medium heat

[11] Commissioned by Forestry Commission England and carried out by Renewable Energy Association, 2010. A summary of results is available from the Biomass Energy Centre **http://www.biomassenergycentre.org.uk/portal/page?_pageid=75,15194&_dad=portal&_schema=PORTAL**

[12] BEC 'pellets and briquettes' information sheet **http://www.biomassenergycentre.org.uk/pls/portal/docs/PAGE/RESOURCES/REF_LIB_RES/PUBLICATIONS/1%20%20PELLETS%20AND%20BRIQUETTES%20V5A%209-2009.PDF**

[13] Biomass Energy Centre Woodfuel Suppliers Directory **http://www.biomassenergycentre.org.uk/portal/page?_pageid=77,225275&_dad=portal&_schema=PORTAL**

### General trend:

The number of woodchip and pellet fired boilers installed across the country has grown considerably over the last few years. A recent survey[11] suggests that nearly 2,400 woodfired boilers have been installed in England, with a capacity of 608MW, an increase of 17% between 2009 and 2010. This capacity is enough to heat the equivalent of around 40,000 homes.

Different boiler types are available to suit a range of end users. Log batch boilers may be installed at modest cost and are well suited to farms and workshops with access to labour and on site fuel supply. Woodchip boilers are best suited to larger applications and in community heating schemes where a single boiler may supply heat to a number of buildings or units. Wood pellet stoves and boilers are popular, especially where space is at a premium. Around 25 pellet mills are now operating in the UK[12] and a number of pellet suppliers offer nationwide delivery.

Improved fuel availability is increasing consumer confidence in the supply chain. Around 350 fuel suppliers are currently listed on the BEC website and this number is steadily increasing.[13]

Fossil fuel price volatility is often cited as a driver by individuals and organisations looking to switch to wood-fired heating, especially if they own woodland. At the time of publication the price of woodchip was around 2.6p per kWh and wood pellets around 3.9 per kWh while domestic heating oil was around 5.6p per kWh.

### Barriers:

Despite recent growth, anecdotal evidence suggests that a significant proportion of the systems installed do not function correctly or have required remedial work to get them working as intended. Typical problems include poor quality fuel, poorly designed fuel store and fuel feed infrastructure, over-sized boilers, and poor integration with building infrastructure and controls. In addition many fuel suppliers rely on access to softwood and its processing co-products rather than hardwood thinnings from currently unmanaged woodlands. In the medium term this may limit fuel production levels and could impede market development.

If woodfuel is to become a credible heat source used by a wider range of businesses and communities, the quality of both boiler installations and fuel must be improved. In addition, more woodlands must be brought back into management to produce sufficient quantities of fuel to keep pace with the increased demand that the RHI is likely to stimulate. To facilitate this, the focus of Forestry Commission England's support to the sector will focus on supply chains based around currently unmanaged broadleaved woodland. This support must create an environment where individuals and businesses are equipped with sufficient expert, impartial information and confidence to make informed decisions about investing in woodfuel technologies.

## 2.3.3 Power generation

[14] BEC 'UK Biomass Power Stations' list **http://www.ofgem.gov.uk/Sustainability/Environment/NFFOSRO/Pages/NFFOSRO.aspx**

[15] Digest of UK energy statistics, 2010 Chapter 1, Long Term Trends **http://www.biomassenergycentre.org.uk/pls/portal/docs/PAGE/BEC_TECHNICAL/REF_LIB_TECH/EXISTING%20INSTALLATIONS/UK%20BIOMASS%20POWER%20STATIONS%20JAN%202011.PDF**

[16] 'Coalition announces transformation of the power market' **http://www.decc.gov.uk/assets/decc/Statistics/publications/dukes/324-dukes-2010-longterm.pdf**

[17] 'Coalition announces transformation of the power market' **http://www.decc.gov.uk/en/content/cms/news/pn10_130/pn10_130.aspx**

### General trend:

At the time of writing, large scale power generation using biomass is supported by the Renewables Obligation although many of the existing biomass-fired plants were established under previous initiatives such as the Non Fossil Fuel Obligation of the 1990s[14]. The fuel market associated with biomass power generation is international and includes several types of biomass, one of which is wood. If all currently proposed powerplants are built, the potential market size for biomass feedstocks for large scale power generation in the UK is in the region of 30 million tonnes per year[15]. Cofiring biomass with coal is also a significant market although the volume of biomass used in this way has been in decline since 2006[16]. Other countries are also developing biomass power stations which will influence feedstock prices and availability.

### Barriers:

Decarbonising power generation in the next 20 years is required if climate change goals are to be met. At the same time, demand for electricity could increase significantly. Work carried out by DECC suggests that demand could double by 2050 if heating and transport energy needs are shifted onto the electricity grid and away from gas and fossil fuels[17]. To meet this demand stable conditions for investment are required and well developed international supply chains based on sustainable feed stock productions are needed. These issues are largely beyond the remit of Forestry Commission England and this action plan although we will continue to support DECC in the development and implementation of renewable energy policy.

# 3. Actions on woodfuel

**A recent study suggests the woodfuel supply chain could generate £1billion gross value added to the green economy by 2020 and create and support more than 15,000 jobs[18] in the UK. This section describes our 11 point plan aimed at helping the sector meet this potential.**

## 3.1 Scope and priorities

**Aligned with the 2011 Carbon Plan and the 2011 Natural Environment White Paper[19], this implementation plan focuses on bringing a much larger proportion of woodland into productive management thereby supporting jobs in the green economy, improving habitat for wildlife and contributing to increased deployment of renewable energy. In particular the plan focuses on establishing supply chains based on local markets for heat and combined heat and power.**

Through its actions on woodfuel Forestry Commission England aims to:

- Increase wood supply by bringing more privately owned woodlands into active management.
- Encourage the use of woodfuel in high-quality, efficient wood heat systems.
- Help rural based businesses increase their capacity to develop a robust woodfuel industry.

**The following sections describe in more detail the actions we will take to help achieve this.**

[18] The economic value of the woodfuel sector' **http://www.biomassenergycentre.org.uk/pls/portal/docs/PAGE/BEC_TECHNICAL/RESEARCH%20AND%20STUDIES/ECONOMIC%20STUDIES/2010-06-30%20ECONOMIC%20VALUE%20OF%20WOODFUEL_REVISED%20REPORT.PDF**

[19] See footnote 8

# 3.2 Setting standards for a competitive, sustainable supply chain

Woodfuel production must be based on sustainable forest management if the environmental benefits of this technology are to be realised.

## 3.2.1 Managing woodlands sustainably

**A robust and adaptive approach to woodland management is especially important at a time when plant diseases and climate change may influence the productivity of trees and woodlands and their ongoing ability to provide a range of ecosystems services.**

An increased demand for heat will provide local markets for thinnings and other products that would otherwise be uneconomic to harvest. Local markets have the potential to help woodland owners meet the cost of undertaking silvicultural thinnings or operations aimed at improving woodland habitats. A long term increase in timber quality, facilitated by a market for thinnings, could provide woodland owners with the opportunity to increase production of higher value, non fuel, wood products. Care must be taken to ensure that developing markets for bioenergy do not simply divert material from existing wood processing businesses which could achieve higher carbon saving benefits.

The UK Forestry Standard (UKFS) is government's framework for ensuring sustainable woodland management in England. Compliance with the standard is mandatory and applies to all forest operations. The UKFS was developed following commitments made at international conferences in the early 1990's and a revised edition of the UKFS is due for publication in 2011[20]. The UKFS is implemented by mechanisms including the felling licence and the woodland management plan.

We have been working together with DECC and other actors in the bioenergy sector to develop sustainability criteria for power generation and larger scale heat applications. The outcome of this work will enable the fuel supply chain to operate and develop within a regulatory framework designed to minimise the level of administration required to ensure sustainable biomass production in the UK and overseas.

### Forestry Commission England actions:

**1.** Contribute development of biomass sustainability criteria that protect woodlands and forests whilst keeping regulation and administrative burden on forest-based businesses and woodland owners to a minimum.

**2.** Continue to monitor the impacts of developing energy markets on existing wood processing businesses and, working with Defra and DECC, develop the evidence base to improve our understanding on how best to maximise carbon savings via material and fossil fuel substitution.

[20] The UK Forestry Standard **http://www.forestry.gov.uk/ukfs**

## 3.2.2 Producing and using appropriate fuel grades

**The success of existing woodfuel supply businesses often comes down to their ability to produce fuel of a quality compatible with the demands of local end users.**

Just as crude oil can be refined to produce a range of fuels for different applications, wood can be processed to meet the needs of different end users. Using unsuitable fuel can result in unnecessarily poor efficiency and can shorten the life of equipment. Poor results experienced by boiler owners using incompatible fuel damages confidence in the technology as well as the economic performance of the supply chain. Poorly maintained boilers will be a factor in appliances emitting more pollutants, especially oxides of nitrogen ($NO_x$) and particulates, which damage local air quality and have international implications as they can be transported long distances.

To reduce the occurrence of such problems, it is essential that both the end user and fuel supplier have an understanding of the properties that affect fuel quality and compatibility with different boiler types. To enable consumers and businesses to achieve this understanding, a range of standards are currently being developed and disseminated across Europe. These standards, known as CEN TS335[21], will introduce common descriptions for various types and grades of woodfuel and will include protocols for measuring the physical and chemical attributes (e.g. size and moisture content) used in these descriptions. Furthermore, the RHI will only be available to boiler owners using appliances that can demonstrate compliance with regulations designed to protect air quality. We are working with Defra and others to ensure that adequate provision is made to communicate this to the wider sector.

### Forestry Commission England actions:

**3.** Forestry Commission England will work with BEC, the Woodfuel Suppliers Group, HETAS and Defra to provide fuel producers and end users with evolving best practice and technical guidance on fuel quality standards (CEN TS335), sustainability criteria and minimising impacts on air quality.

[21] CEN TC335 fuel standards **http://www.biomassenergycentre.org.uk/portal/page?_pageid=77,15108&_dad=portal&_schema=PORTAL**

## 3.3 Capacity building

The area of woodland managed to produce woodfuel will ultimately depend on demand, strongly determined by the number of good quality boiler installations and consumer confidence in the technology.

## 3.3.1 Developing the market

**Encouraging the installation of well thought out heating systems in a range of building types will act as a catalyst for increased activity in the rest of the woodfuel supply chain.**

Although there are a growing number of competent boiler installers and consultants from which to choose, boiler type and sizing, fuel reception, storage and handling and systems integration tend to be areas that are poorly understood or neglected during the planning and specification process. This market failure is undermining confidence in the woodfuel supply chain.

A large body of information exists on best practice and successful case studies but building owners and managers are not always aware that this is available to them. We will continue to work with the Carbon Trust and other organisations to ensure that people in a position to make decisions about how to heat buildings in both the public and private sectors have access to the information they require to ensure those decisions are fully informed.

### Forestry Commission England actions:

**4**. Assist managers in both the public and private sector to access information that will inform the viability of woodfuel heating in their buildings and local fuel availability.

**5.** Work with the Carbon Trust and others to ensure existing decision support tools and other outputs (e.g. boiler sizing tools, system economics, case studies) from the Biomass Heat Accelerator and other programmes are made widely available to relevant sectors including architects, buildings service engineers, woodfuel suppliers and environmental consultants.

## 3.3.2 Removing barriers to woodland management

**One of the barriers faced by woodland owners bringing their woodlands back into management is the lack of access routes and hard standing required to harvest and extract wood products economically.**

As part of the English Woodland Grant Scheme (EWGS), we have developed a product that will help meet the cost of building this infrastructure and preparing for harvesting operations. This support will provide a legacy that benefits the sector in the longer term as, once in place, properly maintained access routes can last for many years, facilitating woodland operations and increased wood supply to both fuel and non fuel markets into the future.

To capitalise on these longer term benefits, it is essential that good preparation is carried out and wider woodland management objectives are considered before the first thinning is made in perhaps 40 or 50 years. To ensure these issues have been addressed, support will only be granted to applicants able to demonstrate that an approved woodland management plan is in place.

The total value of the Woodfuel Woodland Improvement Grant package and associated support is £10million and the grant will be available from Summer 2011 until 31 December 2013. In the longer term, improved access and roading could help supply higher grade timber to local non fuel markets as well as benefiting the energy sector.

### Forestry Commission England actions:

**6.** Develop and administer a Woodfuel Woodland Improvement Grant facilitating woodland management operations in currently unmanaged woodlands.

**7.** Provide woodland owners and managers with access to information on building and maintaining forest roading and infrastructure.

## 3.3.3 Establishing pathfinders – developing a woodfuel culture

**Although this plan supports the woodfuel supply chain throughout England, to maximise impact, we are paying particular attention to areas with high woodland cover, low levels of active management and poorly developed markets for wood.**

The North Kent Downs Area of Outstanding Natural Beauty (AONB) is an example of such an area following the closure of the local paper pulp mill in the late 1980s. The Kent Downs AONB contains 15,000 ha of woodland. If just half of this area was managed, enough fuel to heat around 5,000 homes and save 29,000 tonnes of $CO_2$ per year could be produced. Once processed into good quality fuel, this wood could be worth around £2.6million to the fuel supply chain annually.

To bring local woodlands back into management we are establishing a pathfinder project with local authorities, communities and businesses to identify working practices and business models best suited to local supply chain development. We will work with these organisations to ensure that woodland owners have access to organisations able to provide appropriate, cost effective, thinning and harvesting operations. The project focuses on establishing and developing local supply chains based primarily on the small scale heat market as this is likely to provide the most favourable opportunities for the estimated 600 woodland owners, local businesses and communities in the area.

This pathfinder will inform the way in which citizens perceive the relationship between woodland management, energy production and rural enterprises. It forms part of an international project focusing on the multifunctional management of woodlands [22] and will draw on good practice and share experience with partners operating in a similar landscape in the Nord Pas de Calais, France.

Other initiatives aimed at increasing the area of woodland in active management, the use of woodfuel and the improvement of woodland habitat include the Ward Forester Project in the South West [23], Woodfuel East [24] in East Anglia and the Woodland Birds Project [25] in the East Midlands.

### Forestry Commission England actions:

**8.** Working through local partners, enable the development of pathfinder projects to develop and promote new ways of working and managing woodlands to supply woodfuel.

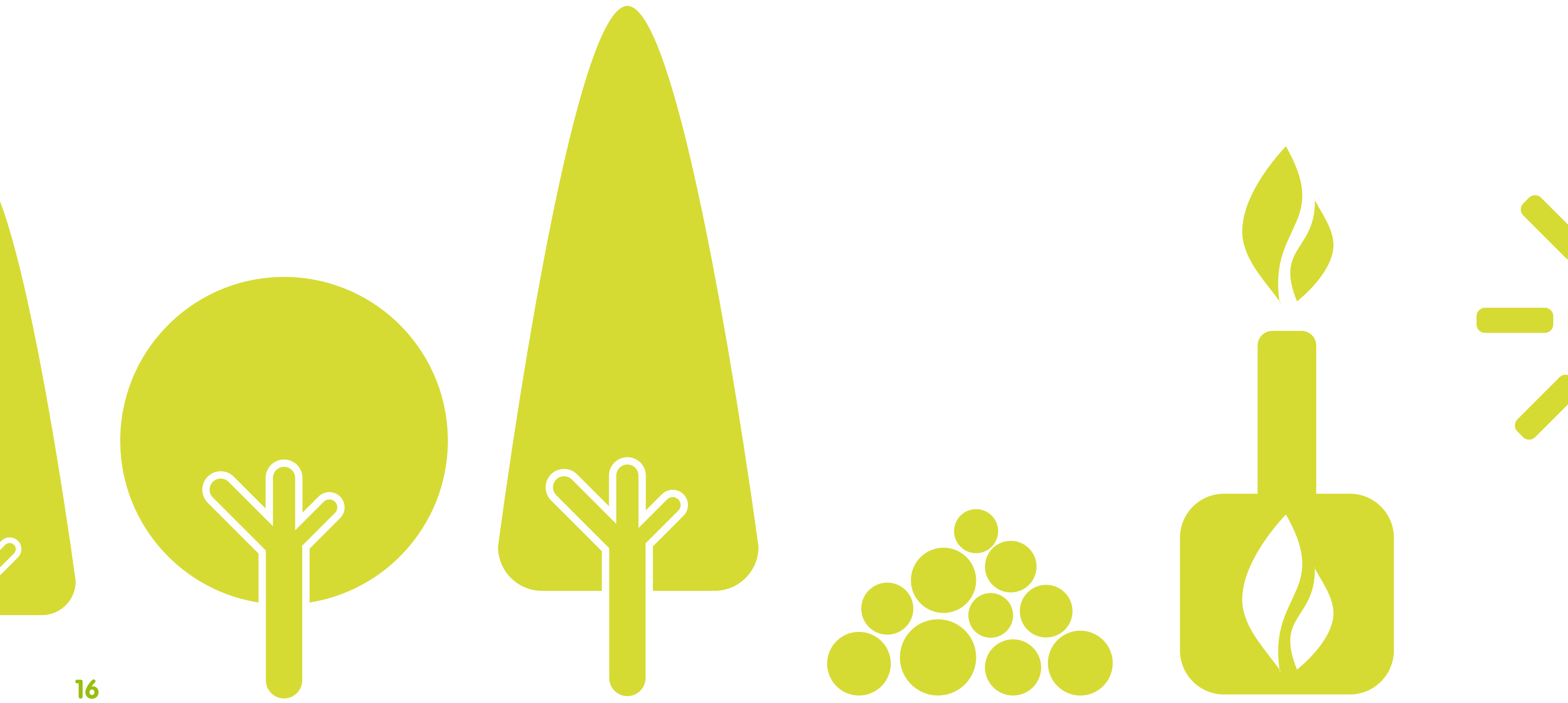
**9.** Communicate and disseminate emerging good practice and successful business models to the wider forestry sector.

[22] MULTIFOR **http://www.forestry.gov.uk/fr/INFD-82SBC4**

[23] Ward Forester Project **http://wardforester.co.uk/?p=41**

[24] Woodfuel East **http://www.woodfueleast.org.uk/**

[25] East Midlands Woodland Birds Project **http://www.forestry.gov.uk/forestry/INFD-7Q3EA9**



# 3.4 Providing access to expert information – developing an informed market place

**To capitalise on the opportunities offered by the RHI and the Woodfuel Woodland Improvement Grant it is essential that woodland owners and potential woodfuel users are engaged effectively and provided with the information they need to make informed decisions about their involvement in the supply chain.**

We will maintain a network of Woodfuel Co-ordinators but will mainstream their expert knowledge of woodfuel production and local fuel markets with more Forestry Commission England staff.

This will be part of a wider initiative to increase awareness of local markets for both fuel and non fuel products harvested from woodlands. It will equip Woodland Officers with the knowledge needed to inform and advise local community groups, woodland owners, local authorities and others on the economic potential of actively managed woodlands.

Our woodfuel team will work closely with BEC which will continue to act as a national hub providing technical and practical guidance on the deployment of woodfuel systems and links to local organisations and businesses active within the sector. We will help BEC establish new ways of providing this service throughout the current spending period.

### Forestry Commission England actions:

**10.** Maintain and target Forestry Commission England expertise to advise woodland owners, managers and communities on the business opportunities presented by developing local markets for wood.

**11.** Work with BEC to provide expert and impartial advice and information to players in the forestry and bioenergy sectors.

# 4. Legacy and longer term involvement in the bioenergy sector

**The actions described here, in conjunction with the RHI, have the potential to provide long lasting economic benefits to the forestry and bioenergy sectors, communities, local authorities and businesses. These include:**

- A significant increase in the demand for woodfuel as a result of new, high quality renewable heat installations.
- An increased area of woodland in active management, and therefore increased supply.
- Improved access and infrastructure for harvesting in privately owned woodlands.
- An increase in the economic contribution forestry makes to the green economy.
- A well established technology transfer platform able to meet the information and advice needs of the sector.
- An increase in the awareness of the role forestry can play in the production of low carbon fuel and materials.
- Increased capacity of Forestry Commission England staff to provide guidance on woodfuel production and use, and better integration of woodfuel with forestry practice.

The effectiveness of our actions in achieving these benefits will be monitored through:

- Analysis of data on the uptake of RHI and the number of new woodfuel installations installed.
- Monitoring changes in the area of woodland in active management.
- Analysis of data from the Woodfuel Woodland Improvement Grant.
- Collection of data on woodfuel production and use from woodfuel suppliers.
- Monitoring and evaluation of technology transfer and communications initiatives.

**Using these information sources, we will evaluate progress made and the extent to which any market failures remain. This evaluation will be used to inform the scale and type of any future intervention and support.**

# Glossary

**AONB**
Area of Outstanding Natural Beauty
**BEC**
Biomass Energy Centre
**CEN**
European Committee for Standardization
**DECC**
Department of Energy and Climate Change
**EWGS**
English Woodland Grant Scheme
**HETAS**
The official body recognised by Government to approve biomass and solid fuel domestic heating appliances, fuels and services including the registration of competent installers and servicing businesses
**kW**
Kilowatt (1,000 Watts)
**MW**
Megawatt (1,000 kW)
**$MtCO_2e$**
Millions of tonnes Carbon Dioxide Equivalent
**NREAP**
National Renewable Energy Action Plan
**RHI**
Renewable Heat Incentive
**TW**
Terawatt (1,000,000 MW)
**UKFS**
United Kingdom Forestry Standard

# Useful links

for information on woodfuel:
**www.forestry.gov.uk/ewgs-wigwoodfuel**
**www.biomassenergycentre.org.uk**
**www.woodheatsolutions.eu**


Forestry Skills Action Plan:
**www.forestry.gov.uk/forestry/INFD-8HSJV2**

If you need this publication in an alternative format, for example in large print or in another language, please contact:

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