

# GROWING ROLE FOR TREES OF LIFE

WOODLANDS OFFER A GREAT DAY OUT FOR RECREATION, ADVENTURE AND QUIET RELAXATION. AROUND 65,000 HECTARES OF WOODLAND COVER HELP SHAPE OUR LANDSCAPE AND PROVIDE TIMBER RESOURCE FOR A VARIETY OF LOCAL INDUSTRIES. AND NOW CUMBRIAN WOODLANDS ARE SET TO BE AT THE HEART OF THE FIGHT AGAINST CLIMATE CHANGE.

**JOHN BARWISE**, ENVIRONMENTAL MANAGEMENT CONSULTANT BASED AT AMBLESIDE, EXPLAINS WHY OUR WOODLANDS AND FORESTS ARE SO VALUABLE.



**TIMBER!** Managing the woodlands of Cumbria is vital to the future of the environment

**W**oodlands are amazing. They provide food and shelter for thousands of plants and animals. They protect soil from erosion, recycle nutrients, regulate rainfall and help stabilise watersheds. Trees create fertile soils to sustain a regular supply of renewable timber every year to support local industries and jobs. Woodlands are a living feature of landscape – we mark the seasons by their ever-changing colours. But it's what we don't see that's really amazing.

Trees produce oxygen and capture carbon dioxide, which regulates the earth's temperature and slows down the process of global warming. With mounting concern over climate change, the Government has embarked on a new initiative to cut carbon emissions by promoting more renewable energy from home-grown timber and Cumbria woodlands look set to play a key role.

The Renewable Heat Incentive (RHI), announced by the Government, aims to encourage more of us – by offering cash incentives – to heat our homes, offices and factories from wood and other renewable resources.

Biomass boilers use wood fuel and are a prime candidate for renewable heat. Alison Park runs Low Sizergh Barn farm shop, tea room and craft gallery south of Kendal. The barn dates back to the 17th century and, like most buildings of that period, lacked any form of heating. Alison decided the best heating solution was to install a biomass boiler using wood as a renewable resource.

"I looked at lots of options for renewable heat at Low Sizergh Barn," she said. "Cost, efficiency and suitability for the age, type and setting of the farm building made wood the most appropriate choice. The fact that we have the fuel source on our doorstep and would be working with a local company was appealing."

Low Sizergh is a popular attraction with more than 100,000 visitors a year and employing about 60 staff. The wood burning system uses about one cubic metre of wood chips every two weeks to fuel a 90 kW boiler, which feeds hot water to all the radiators around the gallery, tea rooms and shop. The timber is sourced from local woodlands which are managed in a sustainable way to protect local wildlife habitats and provide a renewable source of fuel for the future.

Alison added: "There was a huge carbon saving compared to using fossil fuels, and I was drawn by the wider implications of sustainability. Local woodland generates the fuel these boilers need, but it also keeps the

woodlands productive, and that has benefits for people, landscape and wildlife habitat."

The renewable heat incentive scheme will start this year for commercial premises and will be open to domestic users from 2012. These are exciting times for local forestry workers and the wood fuel industries, which have already seen an increase in demand for wood-burning stoves as an alternative to more expensive fossil-fuel heating systems.

Barden Biomass installed Low Sizergh's biomass boiler and supplies the wood chip fuel. Will Barden, who runs the company, says business has taken off in recent years with the surge of interest in wood fuel as a renewable resource. He has invested in a new wood chipper and other equipment to meet the growing demand.

"The business is going from strength to strength at the moment," said Will. "We are also bringing under-managed and neglected woodlands into useful wood fuel production, which is helping reduce carbon emissions and create jobs. With the Government's new renewable heat incentive scheme, which pays businesses to produce heat and even make a profit of heating their premises, we are expecting a busy year."

Trees provide a continuous supply timber for construction and other industries, pulp for making paper, materials for woodcrafts and a renewable source of energy. About 40,000 >>>

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Alison Park



## TREE FACTS

- Trees are the longest-living and largest-living organisms on Earth
- The oldest tree known is a redwood in Prairie Creek Redwoods State Park in California - believed to be more than 7,000 years old.
- Rydal Hall Sweet chestnut - more than 500 years old and one of the oldest trees in the Lakes
- The tallest living tree is a 1,000-year-old redwood in Ukiah, California (right). It is more than 367 feet tall and still growing.
- The fastest-growing tree is an albasia in Sabah, Malaysia which grew 35 feet in 13 months - about one inch per day.
- The most isolated tree - a solitary spruce on Campbell Island in the Pacific. Its nearest companion is more than 120 nautical miles away in the Auckland Islands.



## MYTHS AND LEGENDS

There are hundreds of wonderful myths and legends associated with trees. Here are a few of them.

- **Lucky trees** - the owner of a cherry tree (below) could be sure of a rich crop of fruit if the first cherry to ripen was eaten by a woman who had recently given birth to her first child



- **Unlucky trees** - it is believed that branches of the elder should never be taken into a house, because of the negative forces at work when it is present
- **Predictive trees** - The flowering of the hawthorn tree has often been seen as a sign that winter is over and spring is under way
- **Religious trees** - the Jesse Tree portrays the ancestry of Christ found in manuscripts and stained glass, where Christ is seen above the branches of the tree.
- **Cultural trees** - the term 'druid' means 'one with tree knowledge'

## DID YOU KNOW...?

- Tree rings tell us what the weather was like hundreds of years ago.
- Scottish mathematician Laurence Edwards discovered that buds of trees pulsate to the movements of planets. The oak responds to the movements of Mars, beech responds to Saturn, birch to Venus, and elm to Mercury.
- Well-placed trees can cut air-conditioning costs by 10-50 per cent, and reduce heating costs by as much as 4 to 22 per cent
- Hospital patients heal faster, require shorter stays and less painkillers if room windows face trees
- By cooling the air and ground around them, the shade from trees helps keep the earth cool
- One ton of uncoated virgin printing and office paper uses 24 trees
- If the current rate of deforestation continues, the world's rain forests will vanish within 100 years
- Worldwide, the number of tree species exceed 50,000
- The tropical forests of Amazonia are often referred to as the lungs of the earth.

## WONDERFUL:

Facing page, The 'Larch Arch' sculpture at Grizedale; Wood chips used at Low Sizergh Barn; Alison Park in the wood chip store at Low Sizergh; Water pipes at Low Sizergh which are heated by a wood burning stove; Will Barden at his wood chipping business at Heversham; walkers in Grizedale Forest; and Dave Lowe, manager of the Grizedale Visitor Centre with the central biomass wood burner

This page, Leisure activities at Grizedale - a zip ride through the trees at Go Ape!; mountain biking; and the visitor centre and cafe



## A SUSTAINABLE SOLUTION

Woodlands have been part of our landscape for generations, able to absorb more people enjoying a wide range of recreational pursuits than any other recreational use of land and cheaper to maintain than mown grass.

- **Nature:** woodlands are home and shelter to a wide variety of plants, animals, birds and insects. The forest canopy protects soil from sunlight and rain while the roots bind the soil to prevent erosion. The forest floor is a source of food for smaller plants and animals: seeds, fruits and nuts.
- **Environment:** Trees release oxygen and capture carbon dioxide from the atmosphere and play a crucial role in regulating global warming. Through photosynthesis, trees also filter polluted air, shade out solar radiation and reduce smog
- **Social:** Woodlands provide an attractive setting for recreation: an escape from the bustle of daily life. For children, woodlands provide an adventure playground, an open-air classrooms to learn about nature, geography and history away from traffic and busy streets.
- **Economic** - woodlands provide jobs and make a significant contribution to the local economy by supporting a variety of woodcrafts, as well as wood chip mulch and charcoal and increasingly as a source of renewable fuel.



people are employed in forest management and related timber industries in Cumbria and across the UK.

The Forestry Commission is custodian of much of Cumbria's 64,581 hectares of woodland, nearly half of which is in the Lake District. Regional Director Keith Jones says the sustainable use of land across the north of England is a vital undertaking for the 21st Century.

"Woodland management and woodland creation provide economic, environmental and social benefits to local communities and a key component of the sustainability agenda," said Keith. "The Forestry Commission will work with landowners, the National Park and others to develop woodlands and forests as renewable sustainable assets."

One of the Forestry Commission's most popular assets is Grizedale Forest, south of Hawkshead, which attracts more than 200,000 visitors a year. There's plenty to see and do - woodland walks, mountain biking, a children's adventure playground and a thrilling aerial assault course high up in the forest canopy.

It's all part of the Commission's programme to open up woodlands for amenity and recreation. The multi-purpose Grizedale Visitor

Centre includes shops, a café, educational facilities, offices and toilets - and all are heated from a central biomass wood burner. The 270 kW German boiler generates an impressive 850C of hot water and runs through half a kilometre of pipework before returning to the boiler for re-heating.

Dave Lowe, who manages the facility, says the boiler uses about 300 m3 of local timber grown within a one mile radius of the centre.

"As producers of a fantastic sustainable resource in timber we felt that the installation of a boiler at Grizedale was an excellent opportunity to be an exemplar in this type of technology," he said. "Will Barden's wood chipping demonstrations have proved to be very popular with visitors to the site and shows visitors just how resource-rich our local woodlands are."

But are we making the most out of our woodlands have to offer? Recent research from the Forestry Commission has startling evidence to show that around 46,000 hectares of woodland across the North West are currently undermanaged. If managed properly, these woodlands could provide upwards of 120 MWh of heat - enough to provide thousands of homes with a renewable source of energy.



Cumbria Woodland runs the 'Greenways to work' programme, which actively promotes wood as a renewable heating fuel. The programme works right across the supply chain, linking foresters with heating engineers, plumbers and consumers.

Low Sizergh Barn is just one of the projects they have supported. Neville Elstone, who helps run the programme, says many local woodlands are sadly neglected and these could easily become a sustainable resource for the future with proper management:

"This is missed opportunity," he said. "Climate Change has reinforced the need to manage our woodlands to ensure we have options in the future. There has never been a greater need for our woodlands to provide low carbon fuel and building materials, robust employment whilst still providing a great landscape and home to a huge range of animals and plants."

A major campaign is now under way to improve woodland management and encourage more tree planting. The English Woodland Grant Scheme (EWGS) provides grant support for landowners wanting to plant new trees and carry out sustainable woodland management.

In the last three years the scheme has helped create more than 90 hectares of new woodlands and more than 300 hectares of existing woodlands have been restocked. This is on top of the additional 96 hectares of planting carried out on public forest estates this year alone.

Throughout history woodlands have provided local communities with a sustainable source of fuel, food and shelter and a haven for wildlife. During the industrial revolution and throughout the 19th century trees were used extensively for fuel and construction and were an essential resource during both world wars.

In the 21st century our woodlands continue to attract thousands of visitors every year and provide rich habitats for wildlife. It's a sustainable industry helping to support local jobs and help the economy.

Now, with the growing threat of global warming and the push for renewable energy, woodlands will play an increasingly important role in the big drive to reduce carbon emissions for sustainability.

Every change in nature is mirrored inside trees. Our woodlands are at the centre of nature's eco systems that sustain life on earth. A tree for life, a woodland for ever.

**6** Woodland management and woodland creation provide economic, environmental and social benefits  
**Keith Jones**

### MY GREEN VISION By Jonathan Denby

Jonathan Denby is owner of The Damson Dene Hotel, Crosthwaite, which is featuring in Channel 4's fly-on-the-wall documentary, *The Hotel*

Cumbria is probably one of the greenest counties in England. Most of our power is generated from nuclear power stations or from windfarms so we have really good green credentials.



"I'm strongly in favour of nuclear power stations being built, but I'm not in favour of windfarms on the mainland and I'd call for a complete halt to them.

"As far as possible, we grow all our own fruit, vegetables and herbs and rear our own meat, so our food miles are probably as low as anyone in Cumbria. In my hotels we have a 'Do one thing' campaign and every member of staff pledges to do one thing to help the environment, whether that is walking to work two days a week rather than use the car, or recycling paper in the hotels."