

The earth's climate has changed very slowly over millions of years. Plants and animals have evolved to cope with these changes. However, the huge amounts of coal, oil and gas burnt over the past 200 years is leading to rapid change in climate ❶.

Carbon is nature's way of storing energy. Plants use sunlight to convert the carbon in carbon dioxide gas into solid materials including wood. Animals and plants use the carbon as an energy source and return carbon dioxide to the atmosphere. When these processes are balanced the earth's climate remains stable.

Existing woodlands Woods have been managed to provide building materials ②, tools ③ and fuel ④ for thousands of years. Well-managed woods enhance our landscapes and provide homes for wildlife. Operations such as coppicing ⑤, thinning ⑥ and clearfelling ⑦ produce wood.

Sawmills During the manufacture of beams ⁸ and boards ⁹, offcuts ¹⁰ and sawdust are produced.

Energy crops Fast growing tree species such as willows and poplars can be coppiced every few years [11](#), providing an alternative crop for farmers which grows particularly well on land prone to flooding.

Tree surgery Trees in gardens ¹², parks ¹³ and streets ¹⁴ all need to be managed. Using the cut branches as fuel is far better than sending them to a waste 'tip' or landfill.

Woody waste In England most of the wood we use is imported. Huge amounts of clean wood from processing, packaging and pallets are thrown away every year.

Prehistoric plants converted the C in CO₂ gas into biomass. Over millions of years the biomass was 'fossilised' into coal, oil and gas.

Log fires Modern log fires 15 are both efficient and stylish.

Central heating Wood is a sustainable alternative to coal, oil or gas. Woodfuel can be provided as pellets which work well in systems with a low or variable heat requirement ¹⁶, or as woodchips ¹⁷ which are better suited to systems with a high and continuous heat 'load' ¹⁸.

Power stations Wood can be burnt in traditional power stations ¹⁹ but may be better used in smaller local stations ²⁰ where the overall energy efficiency can be much greater.

District heating
Wood can be used
to heat water
communally to supply
homes with heating
and hot water 21.

**ISN'T CUTTING
DOWN TREES
BAD FOR THE
ENVIRONMENT?**

Wildlife Trees and woods need to be managed sensitively to provide the range of habitats needed by native wildlife. The Industrial Revolution brought coal, oil and gas as alternatives to wood and led to less woodland management. Many native species including the dormouse **22**, the pearl-bordered fritillary **23** and the nightingale **24** have suffered as a result. Using wood for energy will help these and many other species.

People Well-managed woods also enhance our local landscapes ²⁵ and provide places for people to work and play ²⁶.

For more information about
sensitive woodland management see
The UK Forestry Standard
www.forestry.gov.uk/publications

Wood has always provided people with tools, shelter and fuel. It is only in the past few hundred years that coal, oil and gas have been used in ever increasing amounts. The carbon dioxide released when these fuels are burnt is changing our climate. Wood can provide a renewable source of energy.

HOW CAN WE MAKE BETTER USE OF WHAT WE HAVE?

For further information visit: www.biomassenergycentre.org.uk

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