



**Renewable Raw Material**  
Papermakers have always made use of the raw material readily available to them to obtain cellulose, the basic and essential constituent of paper. Straw, hemp, cotton lintner, grasses and rags all contain cellulose but from the late 19th century woodpulp, from trees, gradually replaced these other sources.

However, since the 1950s, UK papermakers have steadily increased their use of recovered paper so that it now accounts for 69% of the raw material used to make paper. This makes good economic and environmental sense in the densely populated, but underforested, UK.

Everytime cellulose fibres are used they weaken and eventually lose their papermaking qualities. They are replenished by the continuous introduction of woodpulp into certain paper grades and the collection and recycling of these papers. In 2008, 1.56 million tonnes of woodpulp were used in the UK, of which 1.28 million tonnes were imported. There are now only 2 domestic integrated paper mills (mills that make paper directly and exclusively from wood) in the UK and between them they produce and use 5% (0.28 million tonnes) of the UK paper industry's fibre requirements.

Papermaking is one of a number of manufacturing processes that rely on forests for raw materials and each uses the parts of the tree that meets its requirements. For example, large dimension timber from fully grown trees is used for construction, whereas the papermaker uses small dimension timber, forest thinnings (immature trees extracted from the forest to enable those remaining to grow to healthy maturity), and saw-mill waste. A multitude of paper and board grades are made from a variety of woodpulp that all contribute different qualities such as strength, opacity and whiteness to the end product.

Trees that grow in cold climates grow slowly and as a result are very strong. Coniferous softwoods such as spruce, pine, fir and cedar provide long (average 3mm), strong fibres. These are used to make papers such as newsprint and packaging. Birch, aspen and other hardwoods produce short (average

1mm) fibres that add bulk. These are used to make fluting (the middle layer in cardboard boxes) and printing and writing papers. Fast growing species such as eucalyptus and acacia are grown in Southern Europe and South America. They can have an 8-year life cycle and they provide high quality fibres that are ideal for papermaking but, because of the short growing cycle, they do not have the strength that other industrial applications require.

### **The Role of Forests**

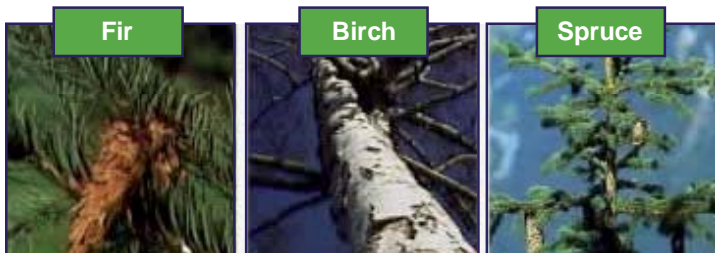
Historically, forests were planted, maintained and harvested to provide firewood and building materials, as well as tools and timber for industrial processes. In Europe, deforestation occurred at an alarming rate to meet agricultural and industrial demands, and by the 19th century, forests that once covered 80% of the land area had been reduced to less than 25%.

Britain too saw a serious decline in its forested land. This trend has now been arrested but, even though the UK has favourable growing conditions, only 12% (2.8 million hectares) of its land is forested, compared with 74% in Finland, 28% in France and 32% in Germany. This is well below the EU average of 37% and the European of 44%.

World War II did much to focus minds on the need to find ways to rebuild industries and an economy that had been ravaged by war. As a result forests were intensively managed primarily for timber production. It had been acknowledged as far back as the 1500s that if trees were used without being

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replaced, forest resources would diminish. The post-war conception of sustainability was one of constant and continuous timber supply, and it was thought that as long as more trees were planted than were used, forests would last forever.



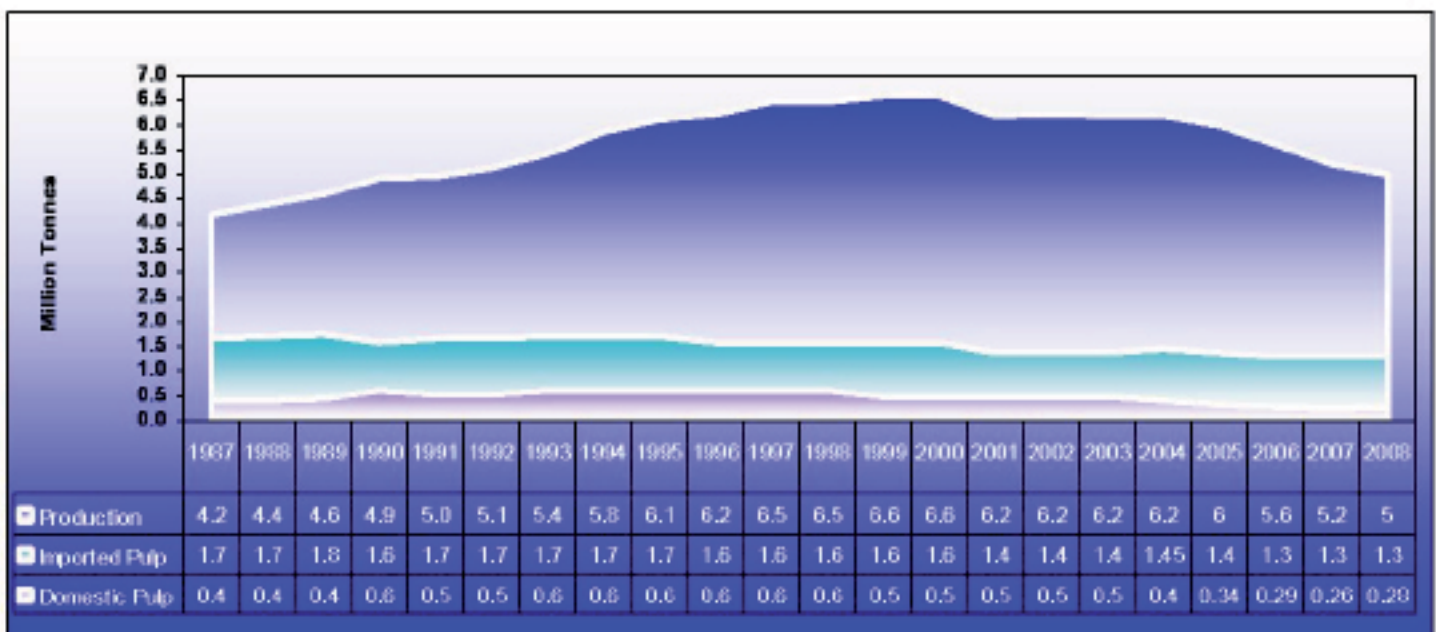
Throughout the 1970s, society's values and perceptions changed dramatically due largely to the activities of environmental pressure groups who successfully targeted the media, politicians and the general public to draw attention to, and raise concern about, the growing exploitation of the Earth's diminishing natural resources, in particular the destruction of tropical rainforests.

At the first World Summit in Rio in 1992 - UNCED (United Nations Conference on Environment & Development Conference) it was agreed that if sustainability was to be achieved social and environmental values had to be given the same level of consideration as economic criteria. The summit was followed by the Pan European process on the protection of forests which developed the widely accepted Helsinki criteria for sustainable forest management and, at the 1998 follow-up Ministerial Conference in Lisbon, socio-economic criteria were added. At the second World Summit in Johannesburg

in 2002, the dilemma of combining economic development with environmental protection was explored, and the concept of corporate responsibility and accountability for environmental and social impacts was incorporated into the conference text.

The role forests play in balancing carbon dioxide levels was acknowledged in article 3.3 of the Kyoto Protocol to the International Framework Convention on Climate Change which was adopted in December 1997, and which came into force in February 2005. It was agreed that forests should be used to help meet the commitment industrialised nations had made to reduce their greenhouse gas emissions by 2012 to their 1990 levels. Recognising that young growing trees are particularly adept at absorbing carbon dioxide, the potential crediting of carbon dioxide take up was restricted to forests planted after 1990.

Because of these, and many other initiatives, forest management objectives have broadened beyond the narrow focus of timber production. Now when a new forest is planned, or a harvested forest is replaced, a detailed programme will be developed and numerous variables will be considered for example, climate, soil, vegetation, tree type, harvesting and road and path access. The challenge is to strike a balance between economic, social and environmental requirements. Some forests will be protected for their unique eco-systems whereas multi-purpose forests will accommodate a number of activities such as commercial logging, recreational pursuits and the provision of wildlife habitats. Single specie plantations are often grown on land that would be unable to sustain any other type of crop. They will be managed to



provide raw material for industry and will often feature fast-growing species such as eucalyptus and acacia. Plantations do not sustain the same variety of wildlife as natural forests, but they can contribute greatly to the demand for fibre and relieve the pressure on natural forests.

The maintenance of biological diversity is a complicated process, and the same level of bio-diversity cannot be maintained on every hectare of forest. Priorities will vary and will be dictated by location, forest type and age patterns, government policy, social, economic and environmental requirements, and ownership structures. There are many different types of forest, and they each make a valuable contribution to economies, the environment and to society.

### Putting Words into Action

Unfortunately despite the undoubted improvements and increased awareness, illegal logging and deforestation is still a major problem in some countries. In response to the call for action made at the 2002 World Summit the EU has adopted the Forest Law Enforcement Governance and Trade (FLEGT) Action Plan which has introduced a licensing scheme to ensure that only legally logged timber enters the EU. It involves the development of Voluntary Partnership Agreements (VPAs) with timber producing countries. To date VPA's have been concluded with Ghana, Congo and Cameroon and negotiations are ongoing with Malaysia, Indonesia and Liberia. The EU is also considering new legislation that would cover the trade in illegal timber not covered by VPAs. Co-ordinated by the World Bank, three regional Forest Law Enforcement and Governance (FLEG) processes have also been established in South East Asia, Africa and Europe and North Asia. Each of these regions has a commitment to identify and implement action to combat illegal logging. In May 2008 the US Congress passed an amendment to the Lacey Act which was originally established to combat wildlife crime. The new law bans trade in illegally sourced plants and their products including timber and wood products.

### We Need More Trees

Forests act as the earth's lungs, by absorbing carbon dioxide and emitting oxygen. The increasingly important role they will have in helping to control the climate and counteract global warming is more widely understood and recognised. But demand for timber continues to grow and ironically measures, such as the EU Biofuels Directive and the Renewables Directive, that were intended to combat global warming have been

blamed for rainforest destruction, rising food prices and the loss of homes for indigenous people as land is cleared for conversion to fuel crops. These policies also impacted on the availability and cost of woodpulp. The EU has acknowledged these unintended impacts and there is to be a rethink of the biofuels programme. The sustainability challenge therefore continues.

### Independent Assurance

The papermaking chain is complex and even though the UK is a relatively small user of woodpulp it still imports material from 32 different countries. Recognising the growing consumer interest in forests, the paper industry is increasingly making use of forest certification as a way of providing assurance of sound forest management practices. Forest certification involves an independent third party audit against a forest management standard (please see CPI's fact sheet on Forest Certification at [www.paper.org.uk](http://www.paper.org.uk)).

To obtain a certification logo a product will have to have Chain of Custody certification which means it will have been traced back to the forest of origin. This concept has been embraced by the paper industry, and forest owners and woodpulp suppliers are being encouraged by the Confederation of Paper Industries (CPI) to have their particular elements of the papermaking chain certified.

There are a number of certification schemes in operation, and the Confederation of European Paper Industries (CEPI) has published a Comparative Matrix of Forest Certification Schemes. The Matrix is a tool that enables customers to compare fully operational and emerging schemes against a list of credibility criteria. It is available from CEPI, 250 Avenue Louise, B1050 Brussels. Tel ++ 32 2 627 4911, Fax ++ 32 2 646 8137 Website [www.cepi.org](http://www.cepi.org)