Foreword

'Re-Source: Market Alternatives to Ancient Forest Destruction is the second in a series of Greenpeace reports aimed at the corporate consumers of forest products to help them end their role in ancient forest destruction.The first report, *Buying Destruction: A Greenpeace report for corporate consumers of forest products,* released in August 1999, profiles major logging and wood trading companies active in the remaining ancient forests of Brazil, Cameroon, Canada, Chile, Gabon, Guyana, Indonesia, Papua New Guinea, Solomon Islands and Russia.

Greenpeace believes that individual and corporate consumers have the right and a responsibility to choose wood and wood-based products which do not contribute to environmental and social degradation.

Re-Source focuses further on how corporate consumers can find viable alternatives to ancient forest destruction. Alternative approaches include the development of good purchasing policies (to avoid a situation where ancient forest products are simply replaced by other ancient forest products), efficient ('clever') wood use, adoption of the precautionary principle (the development of measures which reduce wood use in the future), etc. Most of the products described in this report are readily available in the marketplace, though not yet in every country. Some alternatives discussed are not yet available on a significant scale; these are included where their potential seems particularly promising.

This report is divided into three main parts. Part 1 explains the background to the need to promote market acceptance of alternatives to ancient forest products, and describes the main approaches to developing these alternatives. Part 2 elaborates on timber and wood-based panels, with emphasis on wood use in the construction sector. Ancient forest free alternatives for office and printing paper and newsprint are described in Part 3.

Greenpeace International, November 1999

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Contents

Greenpeace has worked with many corporate consumers to end their role in Ancient forest destruction by committing to re-source their wood supplies from the non destructive sources, such as those presented in this report.

The following statement from the IKEA Group, the largest furniture retailer in the world, is a good example of the kind of corporate commitment that will help take the pressure off ancient forests, as well as encourage more responsible forestry and wood fibre supply.

IKEA's policy on the wood used in its products

IKEA's long-term goal is to ensure that all wood products in the IKEA range originate from verified well managed forests.

The first step in achieving this goal will be to require all suppliers to Ikea of solid wood products to fulfil the following minimum requirements:

- The timber used must be produced in compliance with current laws and forest practice codes in the country concerned.

- The timber used must not be taken from ancient forests or other high conservation values forests, unless the forest area is certified according to the Forest Stewardship Council's principles and criteria or equivalent system.

IKEA will notify all its suppliers of this purchasing requirement and will require implementation by 1st September 2000 at the latest.

The second step in achieving this goal will be to extend the above requirements to suppliers of other wood products. This process will start at the latest by 2001.

In order to verify achievement of the above steps, IKEA will establish a system that allows it to trace wood in its products back to specific forest management units.

IKEA will encourage its suppliers to source their wood from FSC certified forestry operations.

Notes

Maps of ancient forests exist in various levels of detail, depending on the ancient forest region. IKEA will provide its suppliers with forest maps developed by Global Forest Watch and Greenpeace. As more detailed maps of ancient forests become available, suppliers will be able to revise their supply areas accordingly.

Ancient forests are those forests that have been shaped largely by natural events and which are little impacted by human activities.

High conservation value forests are defined by the Forest Stewardship Council as those that possess one or more of the following attributes:

- forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.

- forest areas that are in or contain rare, threatened or endangered ecosystems. forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control)

- forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Abbreviations

Agri-fibres	Agricultural fibre residues (e.g. straw)
DETR	Department for the Environment, Transport and the Regions
DIY	Do It Yourself
FC	Film-Coated
FSC	Forest Stewardship Council
GLULAM	Glued Laminated Timber
ISO	International Standards Organisation
LVL	Laminated Veneer Timber
M^3	Cubic Metres
MDF	Medium Density Fibreboard
NRDC	Natural Resources Defense Council
OSB	Oriented Strand Board
PLATO	Providing Lasting Advanced Timber Options
PPPY	Per Person Per Year
PVC	Poly Vinyl Chloride
Purlin	A horizontal beam that provides intermediate support for the common rafters of a roof construction
PSL	Parallam Strand Timber
RCF	ReCycled Fibre
WRI	World Resources Institute
WWF	World Wide Fund for Nature

Summary

NEED TO PROTECT THE ANCIENT FORESTS

Ancient forests are one of the earth's most precious natural treasures. The world's last remaining ancient forests - in the Amazon, Canada and Russia among other countries - have developed over thousands, if not millions of years, and nurture ecological and climate processes upon which biodiversity and human life depend.

Around 80% of the world's original ancient forests have already been destroyed or degraded - and 39% of what remains is under threat, mostly from logging to satisfy global demand for paper and timber. The principal markets for these products are in North America, Europe and Japan, which together consume over half of the world's industrial timber and over two-thirds of its paper. Demand is growing: by 2010, the amount of industrial roundwood extracted from the world's forests is expected to increase by 26% compared to 1995 levels.

RE-SOURCING AWAY FROM ANCIENT FORESTS

A growing choice of alternatives

Replacements already exist for virtually every application of wood from ancient forests - from building construction to product packaging. Many alternative approaches or products are recent arrivals on the market, yet technological advances, environmental pressures and government intervention are ensuring that the sophistication and range of alternative products is likely to grow in coming years.

A long list of leading companies in Europe and the USA have already responded to consumer pressure or concerns about ancient forest destruction: Sweden's IKEA Group, UK's Meyer International (largest timber importer and trader) and B & Q; Germany's OBI and Praktiker, and the USA's Home Depot, Union Carbide Corporation, Kimberly-Clark, 3M, IBM and Hallmark Cards.

Mulu, Sarawak © Greenpeace/Barrington

Corporate commitments to reduce pressure on ancient forests

Companies such as B & Q and IKEA have developed integrated wood purchasing policies, which involve setting specific targets for phasing out harmful supplies, continuous monitoring of progress and establishing partnerships with environmental groups.

Other companies have joined forces to achieve similar goals - the Recycled Paper Coalition in the USA is one example. Worldwide, there are now 16 Forest Stewardship Council (FSC) Buyers' Groups established to promote the trade and consumption of forest products from independently certified forestry operations.

Corporate commitments can have a significant impact on demand for ancient forest products: in Germany, the UK and the Netherlands, tropical timber consumption dropped by 36% between 1992 and 1996.

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Alternatives to ancient forest products encompass not just other products, but a wide range of approaches, which can be categorised as the 5 Rs:

1 Replace ancient forest products
2 Recycle and use recycled products
3 Re-use wood
4 Reduce wood and paper consumption
5 Re-think wood use

ALTERNATIVES TO TIMBER FROM ANCIENT FORESTS

Family housing and office construction are the most important uses of ancient forest timber. Building without ancient forest timber involves:

- *Designing to extend the lifespan of a building*

- *Rethinking the way wood is used in construction;* for instance by adopting high posted timber frames, or by using alternative materials such as strawbales, adobe clay or rammed earth.

- *Re-using timber and using recycled timber*.
  A growing number of companies in the USA are selling salvaged timber, which has 'antique' decorative value. 'Harvesting' sunken logs is an option which several companies are pursuing.

- *Reducing the need for new timber in future.* Companies such as Proctor & Gamble, Kellogg's and Nestle in the UK are replacing wooden pallets with recycleable cardboard versions.

- *Use of engineered wood products* such as GLULAM, Laminated Veneer Timber (LVL), I-joists and Parallam. Engineered wood products increase the opportunities for using small diameter logs from second growth forests and plantations, and even recycled timber and plywood. In the USA, engineered wood products saved the use of 23 million m^3 of roundwood in 1993.

Timber panels

- The use of alternatives such as Medium Density Fibreboard (MDF), bamboo, non-wood fibres like wheat straw and soybean stalks, is already occurring. The Canadian company CanFibre, is producing MDF made entirely from 100% recycled waste wood fibre, without urea formaldehyde resins.

- In response to a number of Hollywood film companies, pledge to phase out the use of tropical hardwood plywood boards in film sets, Simplex Products designed an 85% recycled replacement called 'Studio Board'.

Wood processing

Techniques such as star-sawing and turning softwoods into hardwoods (e.g. PLATO and acetylation) are promising developments.

ALTERNATIVES TO PAPER FROM ANCIENT FORESTS

The bulk of ancient forest pulp and paper in the world is produced in Canada; most is consumed in the USA. Printing and writing paper (including office paper) and newsprint - which together account for 41% of world paper consumption - are the most important sector in terms of ancient forest use.

Office papers

Companies can reduce paper consumption by 20% by ‘good housekeeping’ - e.g. double-sided copying and lighter-weight papers - and by up to 50% by changing systems, e.g. introducing electronic communications.

Examples of companies which have cut paper consumption include Osaka Gas in Japan and the US communications giant AT&T, which has saved 21 million sheets of paper each year by introducing a range of paperless billing schemes.

Recycled office papers are meeting higher than ever performance criteria. Companies such as UK Paper are taking advantage of large waste paper resources in the ‘urban forests’ of large cities to produce high quality, recycled office papers.

Governments can set an example and speed the growth of markets by setting targets for their own recycled paper use. In 1998, virtually all paper used by the German government was recycled.

Printing paper

Use of paper for magazines, direct mail, junk mail and other corporate mailings is increasing much faster than the avergae growth for all other types of paper, and has a low recycled content. New technologies in paper manufacturing - such as processes used by Germany’s Haindl Papier - offer the potential to significantly improve recycled content.

Newsprint accounts for around 13% of global paper use. It is possible to recycle newsprint five times with little change in fibre quality. Yet the average recycled content of newspapers in Western Europe was 55.8% in 1997, and in the USA it was only 28%.

US states are setting targets to improve this percentage, and individual companies are already achieving far higher performances. The recycled content of Switzerland’s largest newspaper, Blick, was 85% in 1997.

Tree-free papers

Around 7% of all paper worldwide are derived from fibres other than trees. These include straw, sugar cane waste (‘bagasse’), bamboo, kenaf, hemp, flax, cloth and jute. While most of tree-free papers are produced in China, companies like Crane Co. in the USA has been printing on cotton rag pulp for 100 years, and even makes paper from old blue jeans.

Of all wood (pulp) consumed by paper industry worldwide, 17% comes from ancient forests

Tree-free paper production has not received the research and development focus of woodpulp, but clean production pulping technologies offers significant environmental benefits, and in some cases (such as straw) the potential is there to make paper cheaper.

PART 1

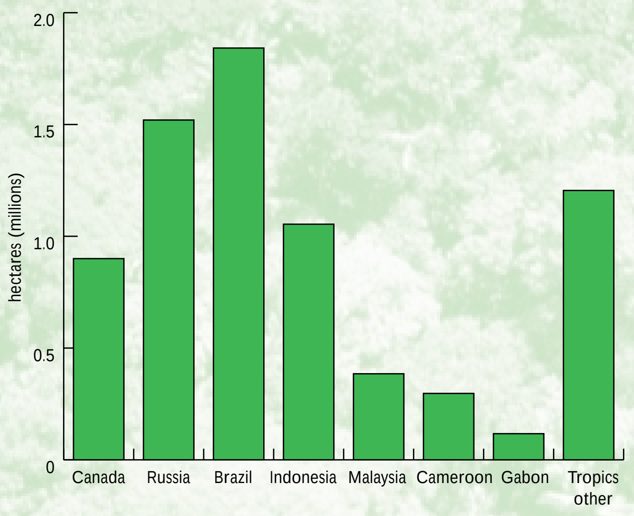
introducing alternatives

1.1 A CALL TO SAVE THE EARTH'S ANCIENT FORESTS

Russia, Canada, Alaska, the Amazon, Papua New Guinea and the Congo Basin hold the earth's last large tracts of unlogged natural ancient forests. The magnificent forests in these regions - ancient forests[1] - evolved during thousands, in some cases millions, of years.

Ancient forests are one of the earth's most precious natural assets. In these forests, natural ecological and evolutionary processes take place which maintain and generate the biodiversity upon which mankind relies. Ancient forests contribute a large portion of ecological services - such as watershed protection and climate stabilisation – which make the planet habitable. And they are home to many of the world's remaining indigenous peoples.

Figure 1.1 Estimated area logged in ancient forest, per year



Source: see footnote[3]

With around 80% of the earth's original ancient forests either destroyed or degraded, there is an urgent need to maintain the remaining large areas of ancient forests as intact as they are today. Yet the World Resources Institute (WRI) estimates that some 39% of what remains as ancient forest worldwide are already threatened. While outside of the boreal forest regions around 75% of these forests are under immediate threat. Over half a billion hectares of ancient forest worldwide are likely to be logged, mined, cleared for farms and/or opened up by roads in the foreseeable future if nothing is done to stop it. By far the biggest single threat, according to WRI, is from logging[2].

Each year, millions of hectares of ancient forest are logged by the forest industry (Figure 1.1). Much of this activity is driven by the demand for paper, timber and other wood products in the markets of North America, Europe and Japan. Whereas the population in these three markets represents only one-fifth of the world population, they consume over half of the world's industrial timber and more than two-thirds of its paper and paperboard[4].

Some forest product markets rely heavily on ancient forests. In 1996, approximately 23.5 million cubic metres (m^3) of coniferous softwood from Canada's ancient forests was used in residential construction, repair and remodelling in the USA: 20% of all softwood used in this sector[5]. The average American citizen consumes three times as much Canadian sawnwood as a Canadian citizen.

1 Ancient forest are defined here as the world's remaining forests which have been shaped largely by natural events and which are little impacted by human activities.

2 Bryant et al. 1997.

3 Sources: Figure for Canada is average logging rate in old growth forest in 1990s from May 1998 (based on Environment Canada); the figure for Russia probably represents a gross underestimate. According to the World Watch Institute (1998): 'It is estimated that as many as 12 million hectares are illegally logged each year, compared to only 2 million hectares of legal logging by official estimates'. The figure calculated here is based on the official estimates, divided by Wood Resources International 's (1996) estimate that 76% of Russia's pulp mills process pulpwood from original forest. The figures for the tropics (newly logged forests) are derived from FAO data (1981-1990). Due to illegal unmonitored logging activity, the estimated area logged is likely to be higher.

4 Abramovitz, 1998.

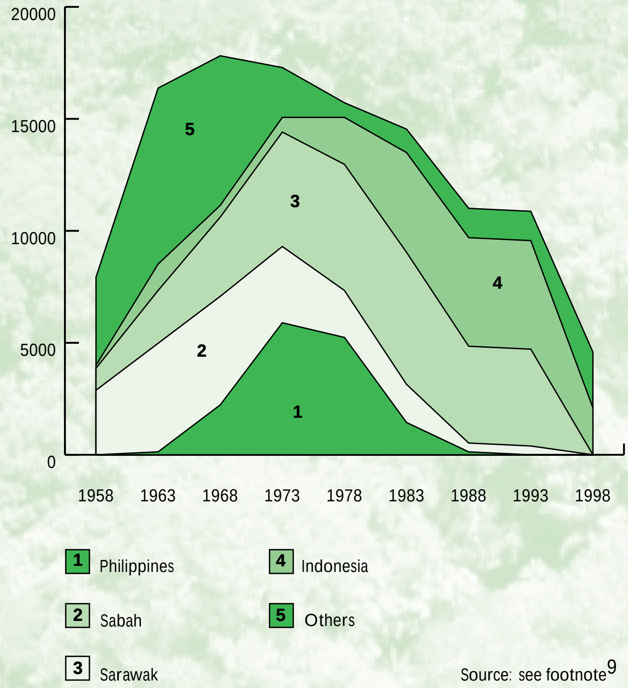
5 In 1996, the US residential sector consumed 118 million m^3 of coniferous softwood. Canada supplied 43 million m^3 of sawn softwood to the United States in the same year (FAO 1997). Assuming that 55% of this imported volume was used by the US construction sector and assuming that that 90% of this volume was from ancient forests, some 23.5 million m^3 (20% of total consumption) Canadian ancient forest softwood was used.

Although the international tropical timber trade represents only 15% of the global forest products trade, the Food and Agriculture Organisation (FAO) estimates that 83% of all logging in the tropics takes place in forests which have never before been exploited[6]. Tropical timbers traded internationally are especially likely to originate from ancient forests. Even paper is made from ancient forests. Of all wood (pulpwood) consumed by the paper industry worldwide, 17% comes from ancient forests, mostly the boreal forests and temperate rainforests of Canada[7].

Today, international trade and investments allow the forestry sector to move into the remotest parts of the world to harvest logs for ever more demanding markets in the developed world. This is a dangerous situation: markets do not experience the impacts of destructive logging which the forest areas exploited for these markets suffer. Instead, the major wood consuming markets - Japan, the USA and Europe - tend to source wood supplies from other unlogged ancient forests. Figure 1.2 illustrates how Japan's tropical log sources have gradually changed through time - from the Philippines, to Sabah and Indonesia, to Sarawak as region after region is first heavily exploited, and then depleted of harvestable areas[8]. Similarly, the closing down of logging on State Forest Land in the Pacific North West of the United States has led to a shift to other sources: Canada, South-East USA, Chile and in future possibly the Russian Far East.

Today, Malaysian logging companies are now active in every tropical continent today, controlling extensive ancient forest concessions. In 1998, the Malaysian logging company Rimbunan Hijau recently entered the temperate ancient forests of the Russian Far East. After having exploited West Africa's forest resources, Europe's interests in

Figure 1.2 Japan's tropical log imports from Southeast Asia 1958-1998



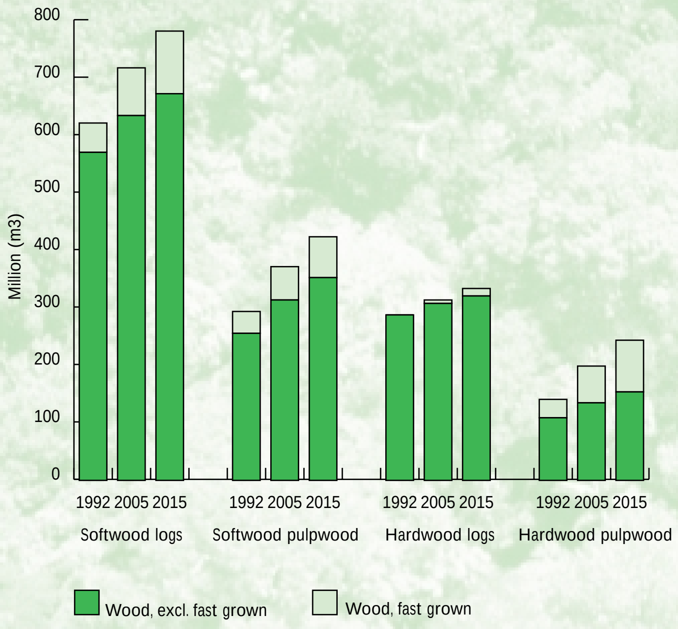
Source: see footnote[9]

Central Africa were enforced. European companies, such as Danzer, De Colvenaere, Alpicam and Isoroy, control millions of hectares of ancient forest in Congo Brazzaville, Cameroon and Gabon. Canadian, American and Japanese companies have secured logging rights for millions of hectares of Canada's boreal forests. American companies, Manhattan Mining and Sara Hallitex, entered the rainforest logging industry in Brazil as recently as 1998, thereby becoming - through their subsidiaries - the exploiters of well over half a million hectares of Brazilian rainforest.

Wood shortages and the loss of ancient forest may not be felt in the market; the impacts are felt where the forest resource has been depleted. As well as the loss of forest habitat or degradation, people are intimidated, jailed or worse for their

6 FAO 1993.
7 Data for the tropics: FAO 1993; Data on wood pulp. (1993 from): Wood Resources International 1996.
8 Contary to what the figure may suggest, Japan's overall tropical timber imports from the South Seas did not decrease as processed forest products (such as sawn timber, plywood and finished products) also replaced log imports. However, with depletion of forest resources, the transfer of imports from one country to another still takes place.
9 Sources: Dauvergne 1997, ITTO 1998, MTC 1998, Salleh 1999
10 Fuelwood and charcoal production grew even faster in this period, i.e. by 67% between 1965 and 1995. Although the production of fuelwood and charcoal does affect forest cover in various parts of the world, it is not generally believed to be a major factor in ancient forest loss.
11 Abramovitz 1998; Wood Resources International quoted in Crossley and Points 1998.
12 FAO 1999

Figure 1.3 Forecast for world industrial roundwood supply, 1992-2015



Source: Adapted from MacLaren 1999

efforts to save the last forests from the axe in many parts of the world. Former exporters, like the Philippines, Thailand, India and Nigeria, now need to import wood, thereby depressing national income.

In the meantime, global demand for forest products continues to grow. In the last 30 years, the forestry sector has kept up with demand by increasing industrial roundwood production by 32%[10]. In 1995, it had reached almost 1.6 billion cubic metres, a level unprecedented in history[11], and projections for the increase in demand from 1995 to 2010 is estimated at 26%[12].

Figure 1.3 provides closer insight in the expected growth in supply for industrial wood and its main sources. Logs and pulpwood supplies from fast growing plantations will become more important, but the bulk of supply will continue to be derived from slow growing natural forests (currently supplying 70% of pulpwood supplies).

A historic analysis by John Perlin shows that, through the ages, civilisations have repeatedly invented numerous timber-saving techniques. Unfortu-nately, these alternatives were introduced only after most regional forest resources had been depleted and destroyed[13]. Wood markets need to make a leap forward to a situation where it is accepted that the earth's ancient forests are completely off bounds for poor forestry practices, if these forests are to be kept as intact as they are today. A number of trends are already at work, stimulating the development and market introduction of alternatives to ancient forest products (Box 1.1).

This report demonstrates that many alternatives are already available on the market today, however there is a great need to speed up adoption of these alternatives in the marketplace. Indeed, many wood users in Europe, North America and Japan have already developed a sense of urgency and phased out their use of ancient forest products. Still, much more remains to be done.

1.2 GREENPEACE'S GOAL

Greenpeace believes that the earth's last ancient forests should remain as intact as they are now, allowing them to fulfil their essential biological, environmental, social and non-timber economic functions - upon which mankind depends - now and in the future. Ancient forests should not continue to be viewed as a resource reservoir for industrialised societies. Ending destructive logging practices in ancient forests throughout the world is a major priority for Greenpeace.

Forest products from well managed secondary forests and plantations, as well as a range of widely available recycled wood and non-wood products, can already replace most ancient forest products. To achieve this, Greenpeace's goal is to reduce pressure on ancient forests by:

13 See Perlin 1989.
14 Sources: RAN 1999; McLaren 1999; Crossley and Points 1998.

Box 1.1 Trends driving the forestry sector and wood user markets towards alternatives[14]

PUSH FACTORS

Withdrawal of, or reduction in, cutting rights: Excessive decline of ancient forests in forest regions will increasingly force governments to adopt logging bans or drastically reduce cutting rights. Such policies have already been adopted in the USA Pacific North West, the Philippines, China, Bolivia, New Zealand and Thailand.

Past over-cutting and alternative land use: At current rates of deforestation, over 200 million hectares of forest will be lost between 1995 and 2010. A similar area will probably be affected by logging activity. Excessive damage to the forest hampers regeneration and prompts governments to release 'permanent forest' for conservation, thereby effectively reducing the forest area available for roundwood production.

Increasing costs of infrastructure: As logging activities penetrate deeper into remote forest areas, the cost of infrastructure – roads, sawmills, transportation, labour, etc. – is likely to increase log prices.

Government regulations limiting landfill and incineration: environmental and economic costs will continue to stimulate governments to impose restrictions on the landfilling and incineration of paper and timber products.

Environmental campaigns and public opinion: Public pressure will continue to be a major incentive for wood users to stop buying or using ancient forest products. As David Crabtree from Express Newspapers plc, London, puts it: "Public relations experts all tell us that any company or industry associated with or considered to be associated with the destruction of the rainforests has a PR disaster on their hands." A recent poll conducted by Yankelovich Partners in the USA found that 62.2% of the American respondents felt that companies today should not use or sell products made from old growth wood.

PULL FACTORS

Plantation and secondary forest area increasing: A number of fast growing plantations in Brazil and Indonesia will provide a major chunk of the virgin fibre requirements of the paper industry in the future. Increasing areas of secondary forest will also replace ancient forest logs by providing the raw material for engineered wood products.

Availability of alternative fibres: Agri-residues, and the technologies required for their use, are becoming available for the production of tree-free paper and panels.

Improved quality of recycled products: the quality of recycled paper products has already been significantly improved by technological improvements, creating a higher demand for waste paper which will improve recycling rates.

Cheap fibres: in Europe and the USA, salvaged lumber, recycled paper and agri-residues currently provide a cheap alternative fibre source. However, as demand is increasing, price increases should be expected.

New technology: wood engineering technology already allows the forestry industry to use small diameter logs from plantations or second growth forests, while making products of a quality comparable to or better than those from ancient forests.

Public opinion: producers, retailers and wood users avoiding ancient forest products as an element of a wider environmental policy enjoy a better public image. Companies with good environmental management bring about gains in productivity and market share, better business relationships and lower cost of capital.

- *Creating awareness among wood users, governments, forestry companies and other key players of the urgent need to stop destructive activities in the earth's last ancient forests.*
- *Challenging companies to stop destructive practices and adopt ecologically forest management practices and seek independently certified according to Forest Stewardship Council standards.*
- *Promoting active protection strategies for ancient forests taken out of timber production, including recognition of forest areas as World Heritage Sites and development of non-timber forest products.*
- *Exploring and encouraging environmentally friendly alternatives for ancient forest products in the marketplace, especially in the USA, Japan and Europe.*
- *Promoting wood-use efficiency in consumer markets and by corporate consumers.*

1.3 MARKET COMMITMENTS TO REDUCE PRESSURE ON ANCIENT FORESTS

Project developers, retailers, architects, printers, publishers, private sector and government offices and, of course, individuals are all wood consumers. Alternatives for virtually all uses of ancient forest products exist in construction, decoration, writing, printing and packaging, in the USA, Europe and Japan. An increasing number of additional alternative products are expected to enter the marketplace in the near future.

But some alternatives are only now becoming available on the market, such as wood from certified forestry operations, salvaged lumber and high quality recycled office paper. This is partly the result of market and environmental incentives led by consumer demand and environmental pressures. These are some examples from Europe and the United States:

United Kingdom

- In 1997 B & Q, Britain's largest DIY (do-it-your self) chainstore, announced its decision to cease buying hemlock from British Columbia, as it was "*very uncomfortable with clearcutting and there had been no move towards Forest Stewardship Council (FSC) certification*". B & Q has switched its hemlock supplies to FSC-certified pine[15].
- The UK's fourth largest DIY chain, Magnet Stores, cancelled a future timber contract with Doman, a company that is logging in the Canadian Great Bear Rainforest[16].
- In early March 1998, DIY chain Do It All released a state-ment saying that it was "*very concerned about the issue of the Great Bear Rainforest*" in British Columbia, Canada and that it would be "*unable to source Forest Stewardship Council (FSC)-certified hemlock from Canada in the foreseeable future*". Do It All decided to replace the hemlock with FSC-certified pine[17].
- In January 1998, Sainsbury's Homebase announced its decision to source beech for one of its product range in order to "*avoid British Columbia hemlock*"[18].
- In a letter to one of its paper suppliers, BBC Worldwide Publishing wrote: "*BBC magazines has already made its decision: we are committed to producing our magazines in an environmentally responsible manner and we have decided that in future we shall not purchase paper that contains pulp from this area [the Great Bear Rainforest]*"[19]. The letter was sent to one of the major paper importers of chemical pulp from British Columbia, Haindl Papier, based in Germany. Haindl, which is a supplier to a number of major magazine publishers, including BBC magazines, Time International and Der Spiegel, had bought 5-10,000 tonnes of pulp from Doman, a company that is logging in the Great Bear Rainforest. It has since stopped buying from Doman and is supplying BBC magazines with paper made from Scandinavian pulp.

15 Greenpeace UK 1998.
16 Op cit.
17 Op cit.
18 Op cit.
19 Op cit.

Germany

- In the early 1990s, Germany's largest DIY chains - OBI and Praktiker - announced they would stop selling tropical timber, unless it came from FSC-certified forests[20]. Germany's largest DIY chains, construction companies and publishing houses are turning away from purchases of British Columbian forest products[21].
- All members of the German Publishers Association, which includes Der Spiegel and Springer Verlag, have decided that they will not buy pulp from tropical rainforests. They also refuse pulp from ancient forests in Mid- and Northern Europe[22] .
- Otto-Versand was the first mail order company in Germany to refrain from using tropical timber in its product range[23].

The Netherlands

- In 1993, the Netherlands's largest DIY chain, Intergamma (Gamma and Karwei) declared it was phasing out tropical timber purchases and introducing FSC-certified timber instead. Intergamma's suppliers supported this goal and proposed applying this policy to all timber products. The country's second largest DIY store, Praxis, soon followed suit.
- In 1997, six paper companies - representing two-thirds of paper imports from Finland - signed a declaration in which they requested that their suppliers refrain from logging ancient forests and purchasing products from such forests. The signatories included Bührman Ubbens, the largest paper wholesaler in the Netherlands, and Roto Smeets de Boer, the largest printing company[24].
- By 1996, approximately one-third of the Dutch timber market, including 72 project developers (including the largest in the country, Bouwfonds) and 140 building corporations, had signed letters of intent outlining their commitment to phase out tropical timber, unless it is sourced from FSC-certified forests. Furthermore, 250 municipalities and six provinces have adopted this policy.

Belgium

- In 1998, all members of the Belgian Timber Trade Federation pledged to stop buying forest products from logging operations in the Great Bear Rainforest in British Columbia. In addition the Federation agreed it would only renew purchases when they had achieved independent certification, according to FSC standards.
- The European division of the Union Carbide Corporation, based in Belgium, informed Greenpeace in a letter dated 8 April 1998 that: "*Union Carbide shall be placing no further orders for pulp from the coastal temperate rainforest area of British Columbia.This action is due to our interest in preserving old growth rainforests*."

Austria

- In February 1998, Lenzing AG, a major Austrian pulp buyer, cancelled its contracts with Doman. Echoing the sentiments of many companies, Ludwig Prombergr, Head of the Board of Lenzing AG, stated: "*The environmental awareness of European consumers makes it impossible to market a new product containing fibres from British Columbia's ancient rainforests. Once we learned about the problems, we tried hard to substitute with fibres that get ecological approval*"[25]. Lenzing has since moved to a supplier which produces pulp from plantations.

Finland and Sweden

- Following the developments in the timber and paper markets in Western Europe, the Scandinavian logging companies ENSO (now Störa-Enso), Vapo Kuhmo, Polkky and Heikki Kokkoniemi from Finland, MoDo from Sweden and Systamator have joined a moratorium on logging ancient forests in the Karelian Republic and Murmansk Region in Russia[26].

20 Pers. comm. Robin Wood 1998.
21 Greenpeace USA 1998.
22 Pressmitteilung Verband Deutscher Zeitschriftenverlage (VDZ) 1996.
23 Pers. comm. Robin Wood 1998.
24 Pers. comm. Friends of the Earth Netherlands, as received 4 November 1998.
25 Greenpeace UK 1998.
26 Finnish Nature League 1998.

- Sweden's largest logging companies, Assi Doman, Störa (now Störa-Enso), SCA and others, have pledged not to log areas which contain ancient forests within their own forest lands nor to purchase products from such forests. This is part of the regional standard for the FSC in Sweden.

United States

- In August 1999, Arthur Blank, the Chief Executive of the world's largest timber retailer Home Depot, pledged to eliminate from its stores wood products from "environmentally sensitive areas." He said that Home Depot was taking "its responsibility as a global leader to help protect endangered forests" and that the company was big enough to "move the needle on this."[27]
- Kimberly-Clark scaled back its use of rainforest wood fibre from British Columbia after Rainforest Action Network published adverts depicting ancient forests with the headline "*Oldest living things on earth or tomorrow´s toilet paper*?"
- In December 1998, 27 US companies pledged in an advert placed in the New York Times not to buy ancient forest paper or wood. These were: 3M (a Fortune 500 company and producer of *Post-It* notes), Kinko's (a major copy centre with stores in the USA, Japan and Europe), Advanced Micro Devices, Bristol Myers Squibb, IBM, Dell Computers, Mitsubishi Motors America, Mitsubishi Electric of America, Mitsubishi Motor Sales of America, Mother Jones magazine, Mutual of Omaha Insurance Co., National Geographic, Pacific Gas and Electric Co., Patagonia, Seventh Generation, Quantun Corp., Starbucks Coffee Co., United Stationery Supply Co., Estee Lauder, Hallmark Cards, Johnson & Johnson, Liz Claiborne, Lockhead Martin Corp., Hewlett-Packrad Co., The McGraw-Hill Cos, Nike Inc., Levi Strauss, and Utne Reader[28].

1.4 FULFILLING COMMITMENTS TO REDUCE PRESSURE ON ANCIENT FORESTS

Purchasing policies

When timber supply contracts with logging companies in one area of ancient forest are merely replaced by contracts with other companies active in ancient forests, the overall benefit for the forests is zero. Companies like Britain's B&Q have achieved progress in reducing their pressure on ancient forests by developing integrated wood purchasing policies. These policies often contain the following elements[29]:

- Assessment of supply chain such that all forest products sold can be traced back to a particular forest, and an internal assessment is made about the quality of the forest management in that forest.
- Ambitious and specific targets are set (such as deadlines to phase in FSC wood products).
- A problem assessment is carried out, i.e. an inventory of wood product sources and environmental commitment of suppliers.
- The targets are valid for all (forest) products purchased and sold by the company.
- Incentives are put in place to motivate suppliers and others involved. They may include commitments to paying higher prices, but also bold choices to cancel contracts with unco-operative suppliers.
- Investments are made to attract expertise and to conduct research.
- Progress is continuously monitored.
- Experiments with new suppliers and products are carried out.
- Suppliers, clients and the general public are frequently informed about progress made.
- Partnerships with environmental groups are established.

27 Wall Street Journal 1999.
28 Pers. comm. Christopher Hatch, Director Rainforest Action Network, 15 October 1998.
29 B&Q 1995, provides detailed insight into the way B&Q developed the initial stages of its timber purchasing policy.
30 Recycled Paper Coalition, Annual reports 1996 and 1997.

Box 1.1 Recycled Paper Coalition (RPC)

The Recycled Paper Coalition (RPC) in the United States is a voluntary organisation of paper users whose objective is to conserve natural resources and to reduce waste by purchasing environmentally-preferred products, by maximising the efficient use of paper, and by recycling used paper. RPC members bring purchasing strength to the recycled paper market by demonstrating demand for recycled products, especially those made from post-consumer materials, with the aim of sending the signal that additional industry investment is warranted to increase the supply of recycled paper, increase the quality of recycled paper and increase recycling rates.

RPC's membership increased five-fold between 1992 and 1997. There are now over 250 members, mostly end users of paper products from the private and public sectors. RPC's membership includes Bank of America, Chevron Corporation and Hewlett-Packard Company.

In 1997, the RPC achieved the following goals:

- At least 50% of paper purchases by members were to contain a post-consumer content (PCC) of 20% or higher. Members surpassed that goal, with 72% of all reported paper purchases containing at least 20% PCC.
- Of recycled paper product purchases, end users reported an average PCC of 30% compared to the Board's goal of 25%[30].

In comparison with the commitments made by the German Government, these are very modest goals.

Group commitments

Not all companies are in a position to overhaul their timber and paper purchasing practices completely by themselves. A number of companies in the USA, Europe and Japan have therefore set up voluntary groups to join forces in their commitments to reduce wood consumption and promote recycling, and/or to source certified forest products. Box 1.1 provides one example, the Recycled Paper Coalition in the United States. Ad hoc and long-term alliances are also built with environmental organisations, such as WWF, Friends of the Earth, NRDC and Greenpeace. These organisations have often been involved right from the conception of these groups. The alliances bring about obvious benefits: efficient use of resources (staff, funds and expertise), more consistency in targets and methods and a greater clout.

There are now 16 FSC-Buyers Groups established worldwide to promote the trade and consumption of forest products from well managed forestry operations, independently certified by auditors accredited by the Forest Stewardship Council (FSC). Buyers Groups are active in Australia, Austria, Belgium, Brazil, Denmark, France, Germany, Ireland, Japan, the Netherlands, Norway, Spain, the United Kingdom, the United States, Sweden and Switzerland. These groups have played a major role in the rapid development of forest certification. The corporate members of the British 1995+ group represent over 20% of total UK roundwood consumption, worth over US$4.5 billion per year on product turnover.

1.5 THE IMPACTS OF CORPORATE COMMITMENTS

How do corporate commitments help save or reduce the pressure on ancient forests? A schematic summary of how new wood use policies can lead to changes in the forest is presented in Figure 1.4.

Wood users may choose to reduce wood consumption, for instance through purchasing recycled products or by reducing their overall use of timber or paper (other general approaches will be discussed later). Some wood users will choose to work with their suppliers to find alternatives, such as forest products from well managed certified operations. In all cases, the commitment reduces demand for ancient forest products and this, in turn, causes loss of revenue for ancient forest logging companies. Tropical timber consumption in Germany, the United Kingdom, and the Netherlands, for example, dropped by 36% between 1992 and 1996[31]. Malaysian forestry

30 Recycled Paper Coalition, Annual reports 1996 and 1997.

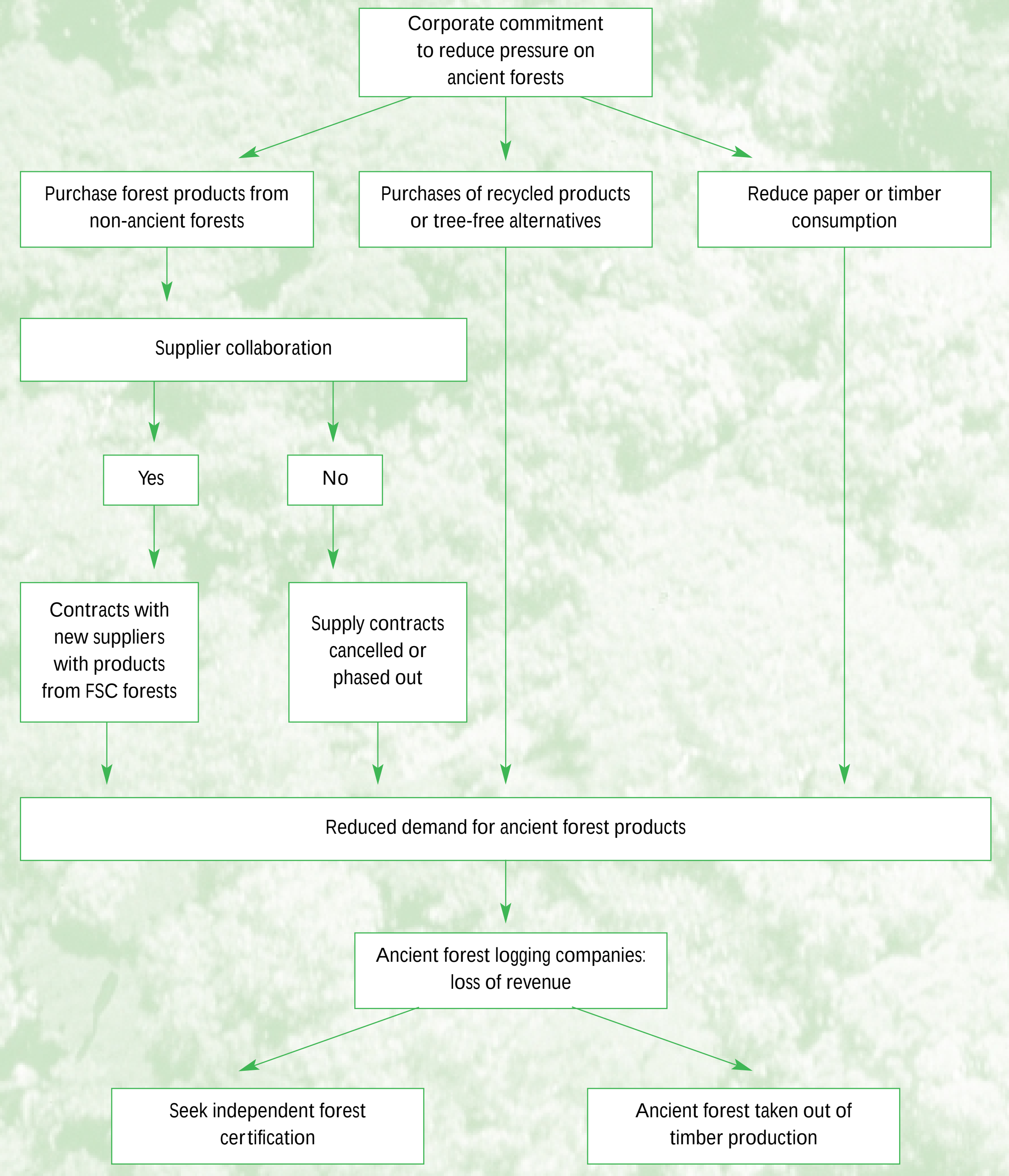
31 ITTO 1998. Annual review and assessment of the world tropical timber situation 1996, table 1-1, http://www.itto.or.jp/timber_situation/timber 1996. Viewed on 20 October 1998.

companies, in particular, were hard hit by losing this high-value export market share.

What happens when logging companies lose their markets or fear they may do so? In some instances, companies have pledged to refrain from logging in ancient forests in their concessions. This was the path chosen by the largest Scandinavian logging companies, such as Störa and Enso (now Störa-Enso). In cases where the management of these areas is handed back to the government, the ancient forest may receive an official protected area status.

Other companies, especially those heavily relying on ancient forest resources, have sought independent certification. This path has been chosen by tropical timber importer A. van den Berg BV in

Figure 1.4 Potential impacts of corporate commitments



the Netherlands, which was deeply involved in the development of the FSC-certified forestry operation, MIL (Madeireira Itacoatiara Ltd), in the Brazilian Amazon.

After years of pressure from its customers, the Canadian logging company MacMillan Bloedel announced in June 1998 that it would stop clearcutting ancient forests. However, it remains to be seen how this commitment will be implemented and if it is sufficient. Further complicating matters, MB was recently acquired by the US forestry company, Weyerhaeuser.

There is one other option logging companies may resort to: they may seek to open up markets which do not demand green products and they may try to supplement losses made by increasing logging rates. This also happens. It is the point where the influence of wood users reaches its limits, and the responsibility of international government bodies and trade federations is most pressing.

Box 1.2 Forest certification: The Forest Stewardship Council (FSC)

The Forest Stewardship Council (FSC) is an international, non-profit, non-governmental organisation, which was founded in 1993. Its trademark was launched in 1996 to label timber, paper and other forest products. The label guarantees that the forest of origin has been independently evaluated to comply with an internationally agreed set of high environmental, social and economic standards.

Member organisations of the FSC include representatives of companies throughout the paper and wood chain, environmental groups such as WWF, Greenpeace and Friends of the Earth as well as trades unions and indigenous peoples' groups. By mid-1999, over 17 million hectares of forest were certified according to FSC standards.

FSC certification involves two main components relevant to wood users:

1 Evaluation and approval of forest management and
2 Evaluation and approval of chain-of-custody systems for each step in the trade link from the forest to end user.

1.6 ALTERNATIVES TO ANCIENT FOREST PRODUCTS: THE MAIN APPROACHES

Alternatives to ancient forest products do not just mean other forest products. These are only part of a set of wider approaches which can be grouped under the 5 Rs:

1. Replace ancient forest products
2. Recycle and use recycled products
3. Re-use wood (cascading)
4. Reduce wood and paper consumption
5. Re-think wood use

Replacing ancient forest products is clearly the most direct approach to reducing pressure on ancient forests. The other four approaches are indirect, as they reduce overall demand for (virgin fibre) forest products and thereby pressure on the forest resource, including ancient forests.

Approach 1
Replacing ancient forest products

Ancient forest products can be replaced by other forest products, such as those from second growth forests or plantations. In most instances it is advisable to seek FSC-certified sources or to start an FSC certification process for uncertified operations (see Box 1.2). Ancient forest products can furthermore be replaced with non-wood products, such as tree-free papers and environmentally friendly building materials, such as straw bales.

Approach 2
Recycle and use recycled products

Much paper is already being recycled in Europe, Japan and the USA. Purchasing recycled products keeps the system going, as the need for virgin fibre input is thereby gradually reduced. Although wood-based paper cannot be recycled indefinitely, new fibres need not come from trees; tree-free fibres made of straw or hemp may just as well be added (approach 1). Timber recycling is less common, although re-using salvaged lumber (approach 3) is increasing business in the USA. In order to keep the system going, much more could be done to make sure that timber can be re-used and collected for recycling.

Figure 1.5 Cascading applied to wood use (e.g. pine)

Source: Adapted Fraanje 1998

Approach 3
Re-using wood

Ancient forest (and other forest) products can often be re-used, if not for the same purpose (like copying on both sides of office paper), then often for another, lower value use. Concrete moulding plywood panels or wooden pallets need not be thrown away after a single use. Re-using resources time after time while maintaining maximum use value until the product must be disposed of is known as 'cascading'. Figure 1.5 shows an example of the cascade approach applied to wood.

Cascading can also be applied to paper use. In fact, it is more common than timber re-use. Making newspapers from recycled newspapers and magazines assists the overall the paper quality, then the recycled newspaper can be recycled a few times again before it is disposed of.

Approach 4
Reduce wood and paper consumption

Reducing overall wood consumption may involve anything from small steps to reduce office paper use to a complete overhaul of logistics, e.g. by introducing electronic communication. Whereas the need for paper consumption reduction is quite widely accepted, reduced consumption of lumber and wood-based panels is an anything but common approach. Nonetheless, significant opportunities exist.

Approach 5
Re-think wood use

Wood can be the most appropriate material for building houses or storing information. In such cases, much can be gained by an optimal application of the distinctive properties of the species of wood being used. Durable hardwoods are best used outdoors, while softwoods can be used under drier conditions.

One point which is often forgotten is that wood use should start with the question with which every project should really start is the project necessary in the first place? This is the first question raised by the Ministry of Public Works in the Netherlands before it starts a project or responds to regional departments requesting advice on what timber species should be used for bridges, canal linings, etc.