

# Environmental and Social Report 2004



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 SUMITOMO FORESTRY CO.,LTD.

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### ■ Editorial policy

- Sumitomo Forestry has acquired corporate-wide general ISO 14001 certification, the international standard for environmental management systems, and pursues sound environmental practices across the entire company. Toward a wider understanding of our efforts, we have published an annual environmental report since September 2001.

- Our editorial policy, carried on from last year, is as follows:

- (1) Environmental activities described in relation to core business segments

For clearer understanding of the particular features of our environmental activities, each is described in relation to the relevant core business segment—timber and building materials distribution, building materials manufacturing business, and housing services - and specific data is provided whenever possible.

- (2) Reporting guidelines

This environmental report was prepared with reference to the Ministry of the Environment's Environmental Reporting Guidelines, 2003. However, as the nature of our business makes it difficult to follow the style prescribed by those Guidelines, this report focuses mainly on our current efforts, including our philosophical and practical approaches to environmental issues.

- With a view to enhanced clarity, this year's report has been revised as follows:

- (1) Our philosophy and activities surrounding sustainability are introduced at the beginning of the report.

- (2) We have made an effort to make the report more readable, based on feedback from readers obtained through questionnaires.

- We will work to continuously improve our environmental practices and environmental reporting, taking comments and feedback from our readers into consideration.

### ■ Reporting period and scope

- Reporting period: April 2003 to March 2004

(Includes some activities in or after April 2004 and future expectations.)

- Enterprise targeted: Sumitomo Forestry Co., Ltd.

- Parts of this report also cover the activities of the following Group companies:

Sumitomo Forestry Crest Co., Ltd.; Sumitomo Forestry Two-by-Four Homes Co., Ltd.; Sumitomo Forestry Component House Co., Ltd.; Sumitomo Forestry Home Tech Co., Ltd.; Sumitomo Forestry Home Service Co., Ltd.; Sumitomo Forestry Landscaping Co., Ltd.; Sumitomo Forest Service Co., Ltd.; Sumirin Agro-Products Co., Ltd.; Sumirin Enterprises, Ltd.; Nelson Pine Industries Ltd. (NPIL); P.T. Kutai Timber Indonesia (KTI); Alpine MDF Industries Pty Limited; P.T. Rimba Partikel Indonesia (RPI); P.T. AST Indonesia (ASTI)

- Understanding the environmental impact of Group companies and reporting in detail on their environmental activities are issues we are in the process of addressing.

### ■ Publication of next report

- Next year's environmental report is scheduled for publication in June 2005.

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The business of Sumitomo Forestry is based on forestry management. Our approach towards environmental preservation, which has been developed through our practices of sustainable forestry for many years, is best expressed through our Corporate Philosophy. This philosophy has been maintained up to the present as the foundation of all Sumitomo Forestry Group housing-related businesses, including timber building materials, building material manufacturing, housing construction, environmental businesses, and others.

Recently, it is pointed out that corporations in Japan and abroad attach too much importance to the economic aspects of their activities, and corporate responsibilities in regard to the environment and society are the subject of increased focus. Over the past three centuries since its foundation, Sumitomo Forestry has contributed to the natural environment of the earth. Today, as we continue to expand our corporate activities in a variety of fields, we are not only involved in maintaining and enhancing society and the environment, but also contribute to the formation of a sustainable society.

In the business of housing construction, Sumitomo Forestry promotes the use of domestic timber. The active use of domestic timber is important, not only in securing the sustainability and health of forests, but also in functioning as a sink for absorbing CO<sub>2</sub>. For our GODAI housing series, we have developed our own Super Cypress engineered wood and lattice wall panels. Super Cypress wood is a laminated building material of Japanese cypress, produced by effective use of thinned wood and previously unused timber materials. Lattice wall panels are produced from domestic cedar. Last year, we succeeded in developing a laminate building material of Japanese larch, which was previously very difficult to produce. This is used in structural timber products, which are released only in the Sapporo area of northern Japan.

While developing corporate activities that utilize wood, a renewable natural material, we are also engaged in new forms of regeneration in the R&D field, which use the latest biotechnologies.

The feudal warlord Hideyoshi Toyotomi favored the "Togyu cherry" (*Prunus pendula Maxim f. ascendens*) at the well-known Daigoji Temple in Kyoto, for cherry blossom viewing. Sumitomo Forestry has succeeded in the large-scale tissue culture propagation of clone seedlings of this tree. The seedlings have subsequently multiplied and thrived, and they finally began flowering in March 2004. This weeping cherry tree was thought to be over 150 years old and approaching the end of its life. People historically wished to preserve the tree for its high cultural value. In the future, we hope to adopt and utilize this technology in preserving precious weeping cherry trees in other regions and other trees in danger of extinction.

Sumitomo Forestry recognizes anew the role and responsibility, expected by society in all areas of business at home and abroad, with its Corporate Philosophy and Environmental Policy. We will remain actively engaged in business activities that contribute to the formation of a sustainable society in the days to come.

This is the fourth edition of our environmental report. I hope it will provide you with the opportunity to observe our efforts and results in protecting the environment. Your feedback and comments are most welcome.

*Ryu Yano*

Ryu Yano, President  
June 2004

# Principal Activities in FY2003

## Integration of environmental management

In the past, we have used a different management system for environmental activities than for our everyday business. To reinforce the foundation of our environmental management, we decided to integrate the system we use for managing everyday business with the system for environmental activities. Our new integrated system was devised in FY2003 and started operating from FY2004.



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## Three Group companies acquire ISO 14001 certification

We are extending the scope of ISO 14001 certification to more Group companies whose management systems meet ISO 14001 criteria. In FY2003, two new Sumitomo Forestry Group companies obtained ISO 14001 certification: Sumitomo Forestry Crest Co., Ltd. and Sumitomo Forestry Two-by-Four Homes Co., Ltd. Overseas, Nelson Pine Industries Ltd. (NPIL) of New Zealand became our second foreign subsidiary after P.T. Kutai Timber Indonesia (KTI) to meet the ISO 14001 environmental standards.

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## Our own larch used in framings and interior fittings

In May 2003, our Sapporo branch began selling homes using larch from Sumitomo Forestry forests in Hokkaido. The larch is processed as a laminate and used in poles, beams, and interior fittings. Larch makes up roughly one third of Hokkaido's forested area. The timber is strong and durable, but because it is frequently twisted and not easy to process, new applications needed to be developed. Sumitomo Forestry met this challenge, selecting mature larch with stable properties. By using improvements in our drying technology to control twisting, we succeeded in making larch a viable housing material.



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## Forestry Agency Director-General's award

The "twinned post" jointly developed by Sumitomo Forestry, Sumitomo Forest Service Co., Ltd., and Sankei Co., Ltd. of Hyuga City, Miyazaki Prefecture won the Forestry Agency Director-General's award. Our twinned post, whose commercialization began two years ago, is a two-piece laminated pillar created by longitudinally slicing the square cores produced from Japanese cedar logs, drying the two resulting halves, then gluing them together. This new method will enable bent logs, which could not previously be used as pillars, to be used effectively.



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## First weeping cherries flower in Kyoto

The "Togyu cherry" of the well-known Daigoji Temple in Kyoto, representing the Shingon sect of Buddhism, was favored by feudal warlord Hideyoshi Toyotomi for cherry blossom viewing. Sumitomo Forestry set itself the challenge of large-scale propagation of this venerable weeping cherry by tissue culture technology. Now we have produced over 1,000 thriving seedlings, the largest of which is now around five meters tall. The color and form of the first blossoms, which appeared in the spring of 2004, match those of the original Togyu cherry.



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## CO<sub>2</sub> absorbed by our forests in 2003

The amount of carbon dioxide (CO<sub>2</sub>) absorbed by the 40,497 hectares of Sumitomo Forestry Group-owned forests in Japan was 275,525 tons in FY2002 and 248,639 tons in FY2003. This is about 2.9 times the amount of carbon dioxide emitted by the entire Sumitomo Forestry Group in the course of its business activities. In the future, the Sumitomo Forestry Group will continue forestry management activities in Japan and promote activities to prevent global warming.



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## CO<sub>2</sub> emissions caused by housing construction confirmed

From fiscal 2002, Sumitomo Forestry has been monitoring the amount of CO<sub>2</sub> generated by its timber house construction activities.

To confirm the tentative results for FY2002, in FY2003 we carried out surveys at 23 construction sites from Hokkaido to Kyushu. These revealed an average emission for the 23 sites surveyed of 1.65 tons of CO<sub>2</sub> per house. The average floor area of the houses surveyed was 155.25m<sup>2</sup>. Converting this to the floor area used for the FY2002 calculations (147.39m<sup>2</sup>) returns a figure of 1.56 tons of CO<sub>2</sub> per house, thus confirming the validity of the results for the previous year.

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## CDM survey

On behalf of the Japanese Ministry of the Environment, since 1999 we have been carrying out a Clean Development Mechanism (CDM) feasibility study into the amount of CO<sub>2</sub> absorbed by an afforestation project in Indonesia and the project's commercial feasibility. In FY2003, the study focused on the quantity of CO<sub>2</sub> absorbed by the afforestation activities of P.T. Kutai Timber Indonesia (KTI) and P.T. Rimba Partikel Indonesia (RPI), and the amount of CO<sub>2</sub> emissions prevented by the use of biomass energy.



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## Mt. Fuji Manabi no Mori natural reforestation project

Every year we carry out volunteer afforestation and silviculture activities at the Mt. Fuji Manabi no Mori forest. To make sure our afforestation efforts preserve the types of native trees growing on Mt. Fuji, we use species that seed themselves naturally on the slopes of the mountain. These include beech, oak, dogwood, zelkova, stewartia, maple, magnolia, cork tree, *hinoki*, and Fuji cherry. Thousands of people have participated in the program and a total of 36,369 trees have been planted.



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## Sumitomo forest ecosystems

Aiming to develop new forms of forest management that reflect the total forest ecosystem, including flora and fauna, air, water, soil and scenery, we are developing forests with an Ecosystems theme. In 1993, we built Forester House in Besshiyama in central Ehime Prefecture, and opened 1,890 hectares of company-owned forest to the public to allow hands-on contact with forests and forestry to elementary school children and others. In 2003, we encouraged children to participate in charcoal-making and collaborated in general educational activities associated with Ehime's forests.



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## Tropical forest regeneration project completed

The tropical forest regeneration project begun by Sumitomo Forestry in 1991 in Sebulu, East Kalimantan, Indonesia, reached completion in March 2004. The main tree species is the lauan. To date, 277 hectares of forest have been restored (aggregate area planted: 503 hectares, total number of trees planted: 738,000). As the forest has recovered, wild animals such as orangutans, deer, and wild pigs have begun to return.



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## Report on KTI's educational foundation

To mark its 30th anniversary, P.T. Kutai Timber Indonesia (KTI) established an educational foundation to provide scholarships for elementary and junior high school students. As of the end of 2003, it had awarded scholarships to 21 children in the Probolinggo area, 10 in the Sebulu region, and 10 in Krucil. In FY2004, KTI plans to increase the number of recipients along with the start of the new July semester. A fixed proportion of KTI's profits will be set aside for the educational foundation every year from now on.



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# Toward Sustainable Development

For three centuries, Sumitomo Forestry has planted trees and cultivated forests as part of its ideal of sustainable forestry.

Even though times change and the needs of society alter, the Sumitomo Forestry Group voluntarily acts in accordance with its corporate social responsibilities based on its Corporate Philosophy of sustainable endeavors, which it has consistently maintained from its inception.



## Corporate Philosophy and Sustainability

Based on a philosophy nurtured and maintained over long decades, Sumitomo Forestry contributes to a sustainable society and carries out activities aimed at furthering sustainability.

### Sumitomo Forestry's origins

Founded in 1691, Sumitomo Forestry has consistently managed forests for more than three centuries. Over that time, it has built up forests covering one thousandth of Japan's total land area. These forests are eventually harvested, their timber used, and their revenues returned to re-invest in creating new forests. This cycle of sustainable forestry has been maintained up to the present day.

Sumitomo Forestry's Corporate Philosophy is manifested domestically and abroad in the fusion of economic sustainability with the environmental sustainability developed through its management of forests. Sumitomo Forestry maintains this fusion as the basis of all its activities.

### Sumitomo Forestry's business and sustainability

Sumitomo Forestry's areas of business have diversified to timber and building materials distribution, building materials manufacturing, and housing construction, while the scope of its activities has broadened to include overseas as well as domestic operations. Guided by the following themes, we are also seeking to apply our sustainability policy to all areas of business and re-examine the responsibilities required to fulfill our expected role.

- Conducting environmental protection activities
- Co-existing harmoniously with the regions in which we operate
- Providing quality products that enhance people's lives
- Returning profits to society
- Complying with laws and regulations
- Maintaining fair labor practices
- Other related themes

### Working toward sustainability

We are maintaining sincere efforts to satisfy the needs of the times and the communities in which we operate. As a result of these efforts, we are able to carry out sustainable business in relation to the environment, society, and the economy, and meet our social obligations.

### Some recent examples

#### Mt. Fuji volunteer reforestation project

As part of our social contribution activities, we took the lease of a typhoon-damaged state forest on the slopes of Mt. Fuji and organized ongoing volunteer activities to restore it to its original condition. (See page 32)

#### Call center established

In our housing business, we reviewed our after-sales service system to enable us to promptly respond to customer complaints and requests. As a result, we established the industry's first 24-hour-a-day, 365-day-a-year call center so we can reply directly to customer inquiries. We are continuing to work hard to realize the customer-first approach emphasized in our Action Guidelines. (See page 9)

### Reinforcing compliance

To strengthen self-regulatory functions, in December 2002 we established a Compliance Counter to offer advice on compliance infringements. The Counter is staffed by the general manager of our General Administrative Division and a consulting lawyer. (See page 8)

### Personnel system revamped

In April 2003, we revamped our personnel system to introduce a performance-oriented approach. This reflects a commitment to move away from a fixed seniority-based personnel system to one that is fairer and more inclusive.

### Educational foundation established in Indonesia

P.T. Kutai Timber Indonesia (KTI), which produces plywood and timber building materials in east Java, Indonesia, established an educational foundation to provide funding assistance to the region's poorer children so they can attend school. KTI also provides active recovery support when natural disasters strike, and works hard to live in harmony with the local community. (See page 33)

### Corporate Philosophy and Action Guidelines

#### Corporate philosophy

The Sumitomo Forestry Group utilizes timber as a renewable, healthy and environmentally friendly natural resource, and contributes to a prosperous society through all types of housing-related services.

#### Action Guidelines

<b>Sumitomo Spirit</b>	We conduct business based on principles of integrity and sound management.
<b>Respect for Humanity</b>	We create an open and inclusive corporate culture that instills a strong sense of pride and motivation in employees.
<b>Environmental Protection</b>	We contribute to the protection of the environment and our fellow beings through responsible business practices.
<b>Putting Customers First</b>	We act with customer satisfaction first and foremost in mind.

# Compliance and Risk Management

We have created a Sumitomo Forestry Ethical Charter and are reinforcing compliance practices while focusing on risk management.

## Our Ethical Charter and compliance

### What is compliance?

We view compliance as far more than just observing laws and regulations. True compliance means wholeheartedly and sincerely meeting the expectations of all our stakeholders, including customers, shareholders, employees, clients, and the local community. We believe that this is the basis for gaining the trust of society and is the true meaning of compliance.

### Sumitomo Forestry Ethical Charter

In 1998 we prepared the Sumitomo Forestry Ethical Charter to enable every employee to understand the concept of compliance and implement proper decisions and behavior as “good citizens” and “good employees,” guided by a strong commitment to compliance and ethical principles. We also prepared Ethical Action Guidelines as a concrete guide for the promotion of compliance. Along with our Corporate Philosophy and Environmental Philosophy, we also included the Sumitomo Forestry Ethical Charter in our Employee Handbook, which is distributed to all staff members.

### “Compliance Corner” in Group newsletter

Every month we publish a “Compliance Corner” in the monthly Sumitomo Forestry Group Newsletter. This clearly explains to employees the meaning of compliance, its importance, and its role in everyday business. The aim is to raise staff awareness of compliance. From April 2004, we began circulating the Group Newsletter on an Intranet and plan to place it on a special compliance website.

### Compliance Counter

To promptly identify and correct behavior difficult to rectify by ordinary business processes or actions that contravene corporate ethics, we established the advisory Compliance Counter staffed by the general manager of our General Administrative Division and a consulting lawyer. To ensure that all employees thoroughly understand compliance

## Sumitomo Forestry Ethical Charter

Acknowledging the necessity for a corporate ethical position from an international perspective, aware of our growing corporate responsibility, and resolved to achieve further development as a member of society and to contribute to society, we proclaim the Sumitomo Forestry Ethical Charter and will aim to create a new corporate culture.

### 1. We will act as good citizens.

Sumitomo Forestry's employees and executives will, as good citizens first and members of the corporation second, comply with ethical principles by obeying the law and respecting the human rights of others.

### 2. We will act as good Sumitomo people.

Sumitomo Forestry's employees and executives will maintain the spirit of Sumitomo that values impartiality and trust and whose principle is positive and trustworthy management, and will act as good Sumitomo people who enhance this trust.

### 3. We will act as good employees.

Sumitomo Forestry's employees will act as good employees as they strive to increase the satisfaction of our customers, perform fair transactions, and create safe workplace environments while obeying company regulations and abstaining from unlawful and anti-company actions.

### 4. We will act as good executives.

Sumitomo Forestry's executives will, conscious of their responsibilities as managers, provide a good example to improve the ethical consciousness within the company, and act as good managers by improving company systems and preparing for unexpected circumstances.

### 5. Sumitomo Forestry will act as a good corporate citizen.

Sumitomo Forestry will act as a good corporate citizen by contributing to society as a member of that society through its business activities, responding to internationalization by deepening mutual understanding as a good neighbor to other countries, and contributing to the conservation of the global environment.

issues, details of the Compliance Counter are also made available through an in-house Intranet. Measures are taken to protect individual privacy so that no employee is penalized in his or her work as a result of information released through the Compliance Counter.

## Strengthening risk management

To address risk management issues throughout the Group, we established a Risk Management Committee headed by the general manager of our General Administrative Division. In FY2003, the Committee produced an Information

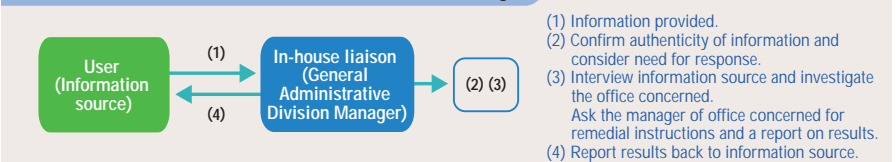
Security Handbook. This was distributed to all company employees to make them more aware of the demands of the information society.

### Emergency hotline established

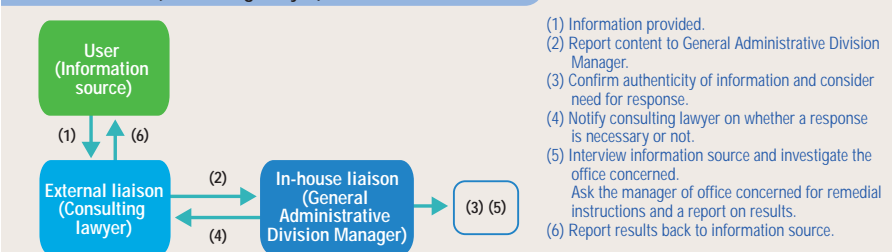
To provide a prompt and appropriate response in case of an emergency, a dedicated telephone hotline was established for staff throughout the entire Sumitomo Forestry Group. The hotline ensures that emergency information reaches the Risk Management Committee day or night, 365 days a year.

## Compliance Counter system

### In-house liaison (General Administrative Division Manager)



### External liaison (Consulting lawyer)



# Customer First

We were the first in the housing industry to offer a 24-hour-a-day, 365-day-a-year technician response service. Customer satisfaction is our main priority in all business areas.

## Putting customer satisfaction first

We recognize that all the businesses throughout the whole Group are society-based. To contribute to society through our businesses, it is vital that each individual staff member takes the needs of customers to heart and always puts the customer first. In our housing and other businesses, we are working on developing specific ways to keep the focus firmly on the customer.

## 24-hour, 365-day technician response system

In our housing business, in addition to product quality our customers rely on us for support after their homes are built. We provide specialized Customer Centers for after-sales support at all 50 offices nationwide. These Centers are staffed by full-time technicians who are always ready to respond promptly and reliably. In combination with our new Call Center, we can now offer a 24-hour-a-day, 365-day system able to respond to telephone requests for repair work and provide advice.



Call Center

## After-sales follow-up system

So that we can respond promptly to customer queries and complete repair work, we established an after-sales follow-up system based on the following detailed data:

- Overviews of completed buildings
- Chronology of project
- Computerized building plans
- Post-construction inspection data

Because the Customer Center and Call Center staff can refer to this and other data when responding to inquiries from customers, they can make preparations for repairs and provide on-the-spot emergency repair advice if necessary.

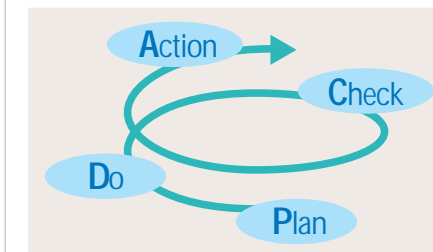
## Customer service management

“Putting the customer first” is more than just an abstract ideal. Sumitomo Forestry ensures all its staff take the “customer first” approach seriously in the performance of their daily duties. To realize this, we introduced customer service management companywide to ensure our Corporate Philosophy of customer first is reflected in day-to-day customer service.

We have set specific goals for every part of our organization to improve customer service. We use a PDCA (Plan, Do, Check, Action) cycle to carry out continuous customer service improvement in an effort to achieve still higher levels of customer satisfaction.

- Draw up plan (Plan)
- Execute plan (Do)
- Check and evaluate results (Check)
- Review (Action)

## Customer service management



## “Customer first” training

We are determined to maintain and intensify the customer-first corporate spirit throughout the Sumitomo Forestry Group. The tools used to build and entrench this spirit include pamphlets describing the basis of our customer first philosophy, newsletters, email, mobile phone cards, and other communication tools and media.



“Customer first” tools

## “Customer first” video

Featuring real Sumitomo Forestry employees, this in-house training video demonstrates how sales discussions can go wrong, gives tips, and shows examples of particularly successful customer relationships. The video is used to train new staff and is shown at in-house training sessions.



Scene from “customer first” video

## Long-term support system

The short lifecycle of Japan's housing is severely inhibiting the emergence of a recycling mentality in Japan. Lengthening the lifecycle of the nation's housing has become an urgent social priority, as highlighted in September 2002 by a Ministry of Land, Infrastructure and Transport report entitled “Establishment of Guidelines for the Development of Long-Life Housing.”

To address this social need, in April 2002 we launched our Long-Term Support System to provide a 60-year back-up for our homes. The main points of the system are:

- To ensure the principal structural parts of the house have a durability of 60 years.
- To determine a design life for each material, and design the home to facilitate inspections, repairs, and replacement.
- To implement regular inspections over the 60 years of the home.
- To implement proposals from the design stage that will accommodate changes in the life stages of the occupants.
- To propose maintenance programs that include maintenance management and renovation proposals over the 60 year life-cycle.
- Use materials with a low environmental impact and recycle.

# Environmental & Social Report 2004

Inspired by the ideal of sustainable forestry, Sumitomo Forestry Group established our Environmental Philosophy and Environmental Policy.

We promote an environmental management style that aims to harmonize the interests of the environment with the needs of business.

Taking seriously our commitment to be a good corporate citizen, we work to maintain the confidence of society, live in harmony with our local communities, and contribute to society wherever we can.



The weeping cherry tree at Kyoto's Daigoji Temple

## Environmental Vision

300 years of forestry management has taught us the importance of sustainable resources and maintaining the ecosystem. This realization is reflected and furthered in our Environmental Philosophy and Environmental Policy.

### Harmonizing the environment and the economy

During the high-growth period that marked Japan's postwar recovery, Japan chose a development path that prioritized economic prosperity. However, the sustainability of a socio-economic system based on mass production, mass consumption, and disposal of massive amounts of waste eventually began to be questioned and calls emerged for a switch to a sustainable development model. Environmentally friendly efficiencies were promoted, and society increasingly indicated a preference for a style of environmental management that protects the environment without sacrificing the economy.

This stance is closely mirrored in Sumitomo Forestry's own approach, learned from nature through sustainable forestry based on a continuously repeating cycle of planting seedlings, nurturing them, harvesting, and replanting again to maintain the functions of the forest and the ecosystem.



A company-owned forest in Shikoku

### Reducing environmental impacts

While lessening environmental impacts in our own businesses, we are seeking to contribute to the development of a sustainable society through the following initiatives that will help reduce environmental impact throughout society in general:

- Providing low-energy consumption housing.
- Operating a wood chip distribution business to recycle chips from lumber mills, joinery factories, and scrapping plants.
- Producing compost based on the effective use of sludge from water purification plants and bark.

Our responsibilities as good corporate citizens

### Our responsibilities as good corporate citizens

As consumers become increasingly environmentally aware and the spread of the Internet makes them better informed, they are tending to communicate with companies directly and select their own companies and products.

In this era, we believe companies have a responsibility to clearly show their philosophy and stance on the environment so that they can retain the trust of consumers and society.

### Environmental Philosophy and Policy

#### Environmental philosophy

With many years of practical experience in silviculture, Sumitomo Forestry has an appreciation of the wonderful renewable resource that forests represent and the benefits that nature provides. Environmental protection is imperative in the 21st century. As a company with a close affinity with nature, we are aware of potential impact of our activities on the environment, and we contribute to society through the vigorous pursuit of business operations in harmony with conservation principles.



#### Environmental policy

Founded on our corporate philosophy and environmental philosophy, Sumitomo Forestry Co., Ltd. seeks to make a positive contribution through all its business operations to maintaining and improving the natural environment and the communities in which we live and work. To help create a sustainable society, we will conduct our operations with the following principles in mind:

- 1 Engage constructively in business activities that are beneficial to creating a sustainable society.**
  - 1) Promote forest cultivation at home and abroad, maintain and enhance the multifunctional roles that forests play in conserving forest resources and in preventing global warming, and pursue business activities consistent with environmental conservation.
  - 2) Aim for product handling and procurement that takes account of the entire life cycle, from resource utilization through manufacture, consumption and disposal.
  - 3) Focus on recycling and reuse in the development, design and production of housing and products. Endeavor to use resources and materials that provide excellent conservation value, resource protection and renewability, while also employing resource utilization technology with excellent energy efficiency and conservation value.
- 2 Accurately assess the direct and indirect effects of our housing, products and business activities on the environment, and strive to prevent pollution and to minimize environmental impacts by implementing the necessary control measures.**
  - 1) Strive to minimize the environmental impacts of our housing, products and business activities at all stages.
  - 2) Strive to reduce waste, carry out appropriate waste treatment, and increase the ratio of product recycling and reuse.
  - 3) Recognize that reducing environmental impacts and promoting environmental responsibility also translates into greater productivity and reduced production costs, which in turn enhance competitiveness.
- 3 Be thoroughly familiar with the laws and regulations applicable to our products and business activities, and strictly comply with requirements. Where necessary, draft voluntary standards and ensure compliance.**
- 4 Establish objectives and targets to achieve continual improvement of environmental management systems, and review those targets at least once a year.**

This policy is publicly disclosed and communicated to all employees.

# Sumitomo Forestry Group and the Environment

We seek to identify environmental impact factors in every area of our business and work as a Group to minimize the impact.

## Sumitomo Forestry's business operations

Founded in 1691, Sumitomo Forestry traces its roots to the management of woodlands that supplied timber to the Besshi Copper Mine on the island of Shikoku. To remedy the degradation caused by the mine development, the mine manager, Teigo Iba, an entrepreneur of the Sumitomo merchant family, prepared a forestation plan in a spirit of repaying what had been reaped from the



Teigo Iba (1847 - 1926)

land. This initiative was the origin of Sumitomo Forestry's stewardship.

Today, with 40,497 hectares of forest land holdings in Hokkaido, Wakayama, Shikoku, and Kyushu, Sumitomo Forestry still practices sustainable forest management founded on ecological principles. In addition, we provide services across all aspects of the housing sector, including manufacturing and distribution of timber and building materials, construction and sales of custom-built wooden homes, and environmental projects such as overseas afforestation schemes.

## Sumitomo Forestry Group operations

### Domestic operations

With long experience in growing forests, Sumitomo Forestry is well aware of the amazing potential and value of wood as a natural product and building material. Our wealth of knowledge and experience, passed on to the Group companies working alongside us, has borne fruit in

the manufacture and sales of housing materials, furnishings and fittings, and the provision of eco-friendly housing.

### Principal domestic Group companies

- Sumitomo Forestry Crest Co., Ltd: Manufacture and sale of plywood and building materials
- Sumitomo Forestry Two-by-Four Homes Co., Ltd: Design, construction, and sale of two-by-four homes
- Sumitomo Forestry Component House Co., Ltd: Manufacture, construction, and sale of component homes
- Sumitomo Forestry Home Tech Co., Ltd: Renovation of stand-alone homes and apartments
- Sumitomo Forestry Home Service Co., Ltd: Brokering sale and purchase of housing and land
- Sumitomo Forestry Landscaping Co., Ltd: Urban greening, residential exterior work and landscaping
- Sumitomo Forest Service Co., Ltd: Sale of domestic timber, consigned forestry services
- Sumirin Agro-Products Co., Ltd: Production and sale of soils for seedling cultivation, soil conditioning materials, and compost
- Sumirin Enterprises, Ltd: Insurance agency and other general services

### Overseas operations

We established overseas affiliates in New Zealand, Australia, and Indonesia to manufacture and sell medium-density fiberboard (MDF), plywood, and particleboard.

The sustainable management practices promoted by these companies include a silviculture project in Indonesia using the fast-growing tropical timber *Paraserianthes falcataria*.

### Principal overseas Group companies

- Nelson Pine Industries Ltd. (NPIL): Manufacture and sale of MDF and other products (New Zealand)
- Alpine MDF Industries Pty Limited: Manufacture and sale of MDF and other products (Australia)
- P.T. Kutai Timber Indonesia (KTI): Manufacture and sale of plywood, etc.
- P.T. Rimba Partikel Indonesia (RPI): Manufacture and sale of particleboard
- P.T. AST Indonesia (ASTI): Manufacture of wooden audio speaker cabinets, etc.

## Environmental impacts of our business activities

### Direct impacts

#### Impact of forestry management

Through the process of photosynthesis, trees absorb and sequester CO<sub>2</sub>, a major cause of global warming, and release oxygen. The timberlands owned by Sumitomo Forestry cover approximately one-thousandth of Japan's landmass and help absorb CO<sub>2</sub> from the atmosphere.

#### Impact of timber and building materials

The production of timber and building materials results in environmental impacts in the form of wastes and effluents input into the atmosphere and water system. The distribution of timber and building materials also results in environmental impacts from the vehicles used in their transportation.

#### Impact of housing business

Energy consumption and construction wastes in housing construction have environmental impacts.

### Group companies

Each company implements its own policy-based environmental practices to identify and reduce direct environmental impacts.

### Impact of office activities

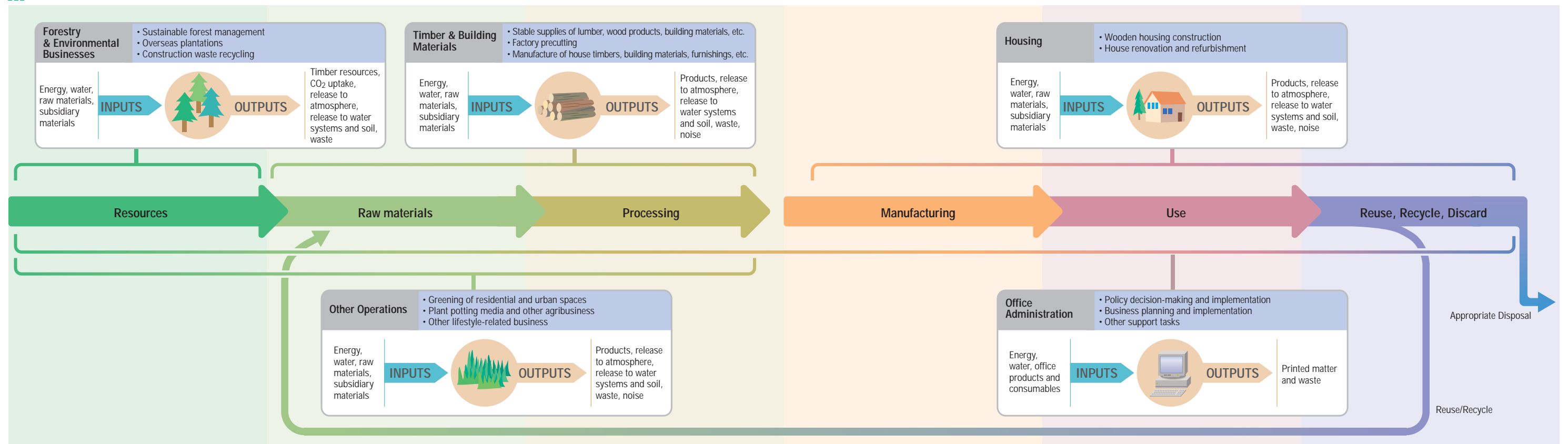
In maintaining and running our head office, branches, and other offices, we use energy and consumables, and these result in general wastes.

### Indirect impacts

As well as direct impacts, we are also conscious of the indirect, or potential downstream, effects of our activities. For example, the extent to which energy and resource efficiencies are incorporated into our housing development concepts affects the environmental impact when the housing is actually built and occupied.

To reduce such indirect effects, we formulate eco-friendly policies and circulate environmental information as part of our day-to-day operations.

## Business activities of the Sumitomo Forestry Group and their effects on the environment



# Environmental Management System

We have succeeded in constructing an environmental management system (EMS), designed to ISO 14001 standards, to cover the entire Sumitomo Forestry Group, including our landscaping, housing, and housing materials production businesses.

## Environmental management system

Sumitomo Forestry regards the environment as one of the most vital aspects of managing our business. To effectively promote environmental management within the company, from 1995 we began constructing an EMS based on ISO 14001 standards. In August 1997, we became the first company in Japan's housing industry to obtain ISO 14001 certification. Subsequently, we steadily expanded certification to our forestry and timber and building materials divisions. In August 2002, the divisional certifications were upgraded to a general certification for the whole company.

**Integrating environmental management with day-to-day business management**  
In FY2003, six years after we first obtained ISO 14001 certification, we implemented a wide-ranging review of our EMS, which had generally realized its initial goals.

Up until that time, we had employed different types of management systems for environmental management and for our day-to-day business management. However, to further assimilate our environmental preservation activities, we decided to integrate our business management and environmental management systems. In FY2003, environmental management was brought under our budget control systems and we will begin applying this approach from fiscal 2004.

## Group environmental management

We expanded the scope of our ISO 14001 certification for Group companies with management systems that meet certification criteria.

In FY2002, ISO 14001 certification was extended to Sumitomo Forestry Landscaping Co., Ltd., Sumitomo Forestry Home Service Co., Ltd., and Sumitomo Forestry Component House Co., Ltd., and in September 2003, Sumitomo Forestry Crest Co., Ltd. and Sumitomo Forestry Two-by-Four Homes Co., Ltd. were also recognized as being ISO 14001 compliant.

Overseas, Nelson Pine Industries Ltd. (NPIL) of New Zealand received ISO 14001 certification.

## Some examples of Group environmental management

### Sumitomo Forestry Crest Co., Ltd.

Sumitomo Forestry Crest had already obtained ISO 9001 quality certification for its five business premises. Now, however, with its ISO 14001 certification, it can claim reliable management systems in the environmental area as well. Currently, Sumitomo Forestry Crest uses coniferous forest products from plantation radiata pine and Russian larch forests. In the future, it will aim at plywood production using Japanese timber in an effort to promote sustainable forestry.



Products undergo inspection at a Sumitomo Forestry Crest plant.

From March 2003, Sumitomo Forestry Crest began shipping JAS standard F☆☆☆☆ products with low-formaldehyde emissions.

### Sumitomo Forestry Two-by-Four Homes Co., Ltd.

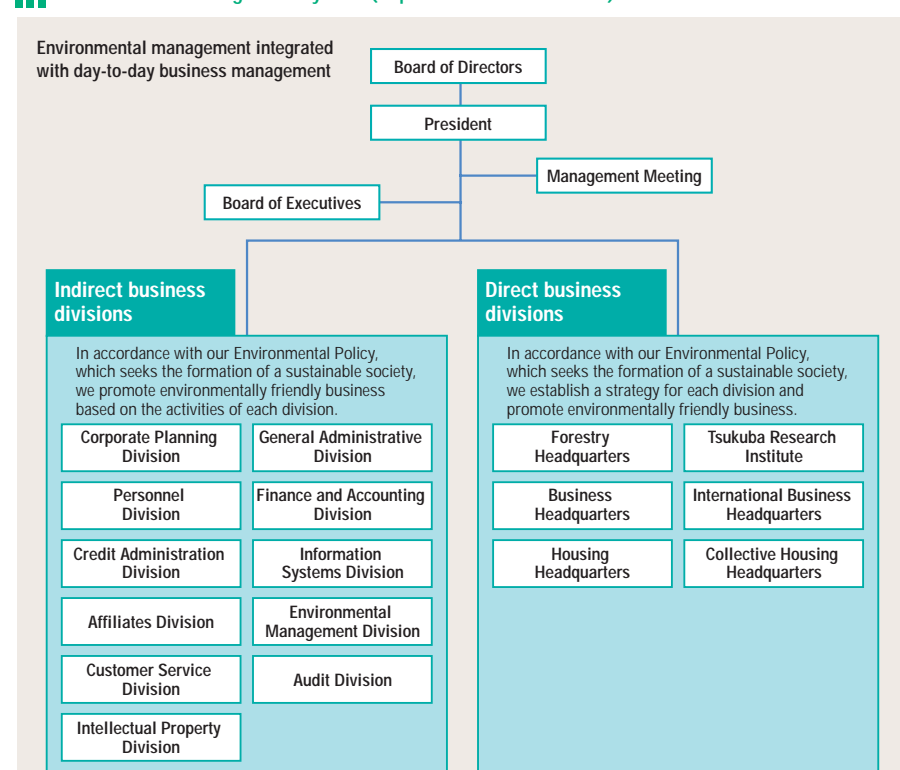
Sumitomo Forestry Two-by-Four Homes Co., Ltd., which designs, builds, and sells two-by-four houses, uses external thermal insulation, which enhances the heating and cooling effect, in all its products. This construction method helps lower the environmental impact at the use stage; Sumitomo Forestry Two-by-Four Homes use less energy and emit less CO<sub>2</sub>.

### NPIL

New Zealand's Nelson Pine Industries Ltd. (NPIL), which produces and sells MDF and other products, gained ISO 14001 certification in July 2003. This was our second overseas subsidiary to be ISO 14001 certified after P.T. Kutai Timber Indonesia (KTI).

NPIL has used only plantation timber in the manufacture of its products for a long time. Its ISO 14001 certification will spur an even stronger commitment to green activities.

## Environmental management system (implemented from FY2004)



## Environmental audits

The administration of environmental protection activities is verified by:

- Internal environmental audits
- Audits by an external certification body

### Internal environmental auditing

To make environmental activities still more efficient, Sumitomo Forestry conducts internal environmental audits. These internal audits, in which different parts of the company audit each other, focus on the following two key points:

- Implementation of the EMS and
- Progress toward achieving environmental aims and objectives.

These audits are carried out by internal environmental auditors.

### Collection of audit findings

The Green Environmental R&D Division\*, which oversees our environmental preservation activities, collects and reports all internal audit results to management. On the basis of the findings, management determines if improvements are required, and where necessary, issues improvement instructions to the section concerned. Information is shared with other sections wherever possible.

\*As a result of reforms implemented in April 2004, the Environmental Management Division has inherited the role of the Green Environmental R&D Division.

### Training of internal environmental auditors

Internal environmental auditor training courses are held twice a year. Employees who have completed the course are appointed as internal environmental auditors. As of the end of March 2004, a total of 544 staff had qualified.

### Auditing by external certification bodies

In addition to internal environmental audits, annual ISO 14001 interim audits (surveillance visits) and three-yearly re-assessment audits are conducted by



Audit by external certification body

external certification bodies. In FY2003, we received an interim external audit between August 6 and 8, and were also audited at that time in regard to an extension of ISO 14001 certification to Sumitomo Forestry Crest and Sumitomo Forestry Two-by-Four Homes.

The regular audit carried out assessed us as: "No major (A) or minor (B) indications; proper systems responding appropriately." The audit for the extension of certification found: "No major indications (A). While the extension is judged to be reasonable, one minor indication (B) was found." We took remedial measures to address that indication.

## Environmental education

To ensure that every employee is aware of environmental procedures and carries them out in their daily work, all employees must clearly understand their roles and be able to act responsibly. To this end, we conduct education programs aimed at all employees.

### Types of environmental education

#### General environmental education

To fully convey the company's environmental policy, we display posters and issue policy cards to employees. All offices nationwide prepare an annual timetable, with training provided through seminars conducted by Green Environmental R&D Division personnel. The aim is to raise environmental awareness among all company members.

#### Education of employees engaged in designated tasks

Company members engaged in designated tasks (with potentially significant environmental impacts) receive training in:

- Necessary procedures and
- Environment-related legislation.

#### Education system for new recruits

All new recruits attend induction training at Forester House, located at Besshiyama in Niihama City, Ehime Prefecture, Shikoku. The new recruits study the plantation's history and forestry skills, and learn conservation concepts through practical work. They also take part in the Manabi no Mori volunteer tree-planting program on Mt. Fuji.



New recruits at a training session.

## Preparedness and training for emergency situations

The types of emergencies anticipated at Sumitomo Forestry include fire outbreaks and major disasters. To prevent accidents and disasters, employees in all areas receive regular training to prepare them to respond to emergency situations.

### Fire training

Compounding the loss of valuable resources, fire releases CO<sub>2</sub> in the combustion process and causes damage to surrounding areas. Measures are devised to prevent fires occurring and reduce damage if a fire does break out. Regular drills are held on fire prevention and damage control procedures.

### Earthquake training

We prepared an Earthquake Manual, distributed to all company members, to protect their safety and that of their families in the event of a major earthquake. The manual also sets out a company system, including customer support, for responding to earthquakes. The manual includes:

- Standards for action in emergencies
- Methods of communication in emergencies
- Leadership systems, crisis management systems
- Emergency contact networks.



The Earthquake Manual



# Green Procurement

We have developed our own green procurement standards, which we follow in an effort to reduce environmental impacts in our housing construction activities.

## Our approach to green procurement

At Sumitomo Forestry, we recognize the impact of housing construction on the environment. To fulfill our social responsibility in trying to reduce that impact, we have prepared original Green Procurement Guidelines and from FY2003 began applying them to materials sourcing.

### Selection of suppliers

When selecting suppliers, we aim to assess them on the following criteria:

- Preventing environmental pollution
- Reducing environmental impacts
- Building a recycling-oriented economy and society

Essentially, our Green Procurement Guidelines assess potential suppliers from two angles: their activities and their products.

- Assessing corporate activities: The company's stance toward the environment
- Assessing products: The product's impact on the environment throughout its life-cycle.

In assessing a company's activities, we look at its stance on protecting the environment, regardless of whether it has ISO 14001 or other environmental management certification.

### Certifying green products

In product assessment, we classify products into 11 groups and evaluate them in regard to the following seven points. Products meeting our standards in this seven-point assessment are certified as green products, and we actively source these items. The seven points are:

- (1) Reduction of the use of substances or emissions that affect the environment or human health
- (2) Reduced consumption of energy resources
- (3) Sustainable use of recyclable natural resources
- (4) Usability over the long term
- (5) Suitability for recycling
- (6) Use of recyclable materials and reusable components
- (7) Ease of proper treatment or disposal at end of life cycle

## Results and issues in FY2003



Since April 2003, we have been basing procurement on the Green Procurement Guidelines, and with the support of suppliers, we achieved the following results as of March 2004.

- 82% of our suppliers meet corporate activity assessment standards.
- 93% of our products meet product assessment standards.

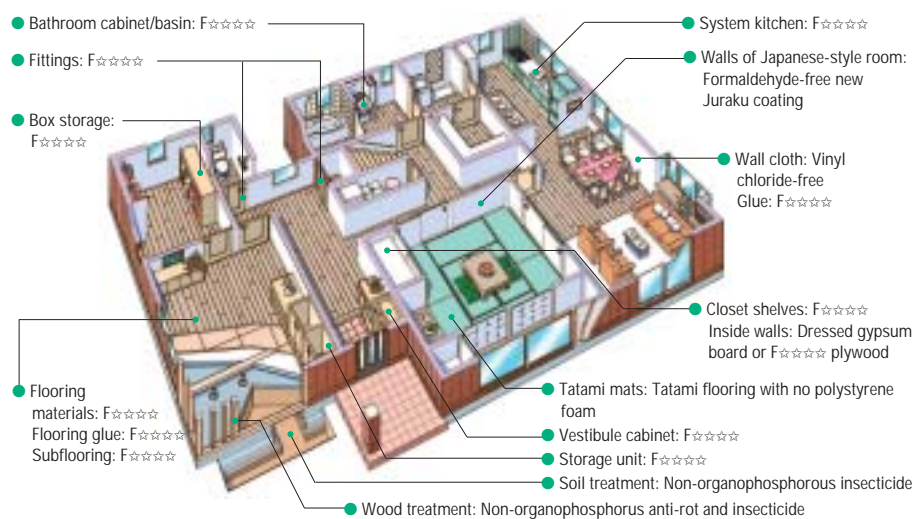
Because JIS standards and green purchasing procurement standards have been revised, we will review our own Green Procurement Guidelines during 2004.

## Creating safe housing environments

We are promoting the purchase of raw materials and components with lower environmental impacts in an effort to preserve the safety of the customers who buy our houses and the tradespeople who construct them.

**Measures to prevent "sick house" syndrome**  
 "Sick house" syndrome, caused by formaldehyde emitted from construction

### A "Healthy house," down to the last detail



materials and wallpaper glue, has become a social problem. As a way of tackling "sick house" syndrome, when purchasing such items as construction materials and wallpaper glues, we always use materials rated F☆☆☆☆ and F☆☆☆, ensuring low emissions of formaldehyde.

### Other preventive measures

#### Vinyl chloride

We no longer use vinyl chloride in interior decoration materials such as wallpaper and panels used to dress fittings because it can release harmful dioxins when incinerated and is suspected of containing endocrine disruptors.

#### Asbestos

We have also replaced all light-weight (slate) roofing materials with asbestos-free products. Roofing materials that contain asbestos are carcinogenic if the asbestos particulates are inhaled during construction. We have therefore stopped using asbestos to improve safety during construction.

## Educating suppliers

We actively educate our suppliers on environmental issues, and hold seminars and training sessions for them.

# Environmental Accounting

In the interests of promoting environmentally sound management, we monitor and publish our environmental conservation costs.

## Sumitomo Forestry's environmental accounting

Environmental costs were first published in our Environmental Report 2001. We recognized that to further promote environmental protection activities within our management framework, it was necessary to quantitatively assess the costs incurred and benefits derived from environmental protection, and to disclose this information to the numerous organizations and individuals involved with our company.

### Assessment of environmental costs

Environmental costs are assessed according to the following conceptual framework:

#### Business area costs (cost of environmental protection)

Expenditure on environmental management of company-owned forests for sustainable forestry development, expenditure in Japan and overseas relating to the Indonesian reforestation project.

#### Business area costs (cost of resource recycling)

Expenditure on the operation of our waste wood recycling distribution business, and sorting, recycling, appropriate treatment, transportation, and management of construction wastes.

#### Management activity costs

Office expenses and auditing costs relating to ISO 14001 certification and ongoing compliance; expenditure on publishing environmental information, including advertising and reporting.

#### Research and development costs

Expenditure on environmental-related research conducted at Tsukuba Research Institute.

#### Social contribution costs

Our social contribution expenditure was spread over the following four areas:

- Expenditure on running the Mt. Fuji Manabi no Mori natural forest regeneration project
- Expenditure on maintaining and managing Forester House
- Expenditure in Japan and overseas relating to the Sebulu Experimental Forest project in Indonesia
- Grant to Keidanren Nature Conservation Fund and other contributions

## FY2003 environmental accounting

Environmental costs (Unit: Yen millions)

Category	Main activities	Costs	
(1) Business area costs	Costs of environmental protection	Sustainable forestry	525
		ODA afforestation	45
	Costs of resource recycling	Construction waste reduction and recycling	3,768
		Waste wood recycling distribution operations	95
(2) Management activity costs	ISO 14001 compliance and operation	44	
	Disclosure and administration of environmental information	58	
(3) Research and development costs	R&D related to environmental protection	305	
(4) Social contribution costs	Mt. Fuji Manabi no Mori administration	27	
	Forester House administration	25	
	Sebulu Experimental Forest regeneration project administration	41	
	Grants to the Keidanren Nature Conservation Fund, etc.	2	
<b>Total</b>		<b>4,935</b>	

\* Compared to the previous fiscal year, costs relating to the treatment of industrial wastes increased by approximately ¥390,000,000. Costs in other areas decreased. Costs relating to our waste wood recycling distribution operations reflected an increase in staff dealing with wood chips and the inclusion of some costs not included last year. All chip-related Group costs will be monitored from the current period.

## Environmental benefits

Category	Description	Benefit
(1) Business area benefits	CO <sub>2</sub> sequestered by company-owned forests	248,639 (t-CO <sub>2</sub> /yr.)
	Seedlings planted in Way Kambas (Indonesia)	130,000
	Waste wood recycled (volume of chips)	644,487 (t)
(2) Management activity benefits	Reduced copy paper usage (Tokyo Head Office only)	Reduced 5.1 % from FY2002 (annual reduction of 900 sheets/person)
(3) Social contribution benefits	Mt. Fuji (Manabi no Mori) tree-pruning volunteers	Held 4 times
	Number of visitors to Forester House	6,131

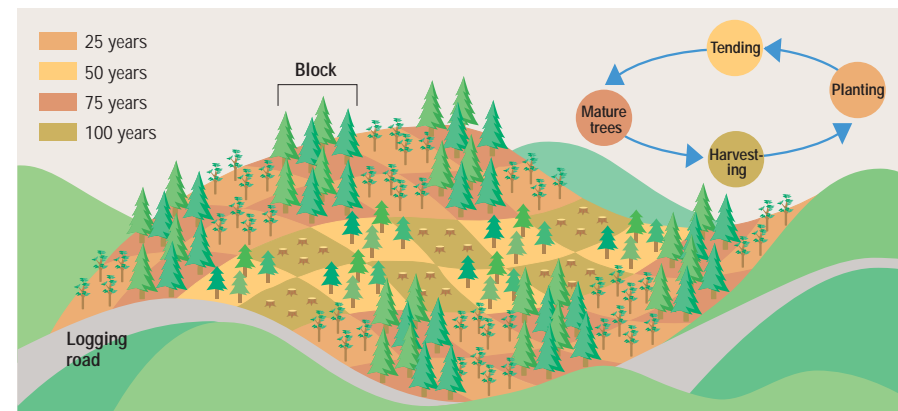
# Domestic Forestry

Based on an ideal of sustainable forestry developed over the years, we work to maintain and develop sound forests, and practice sustainable forestry management.

## Environmental strategies for forestry management

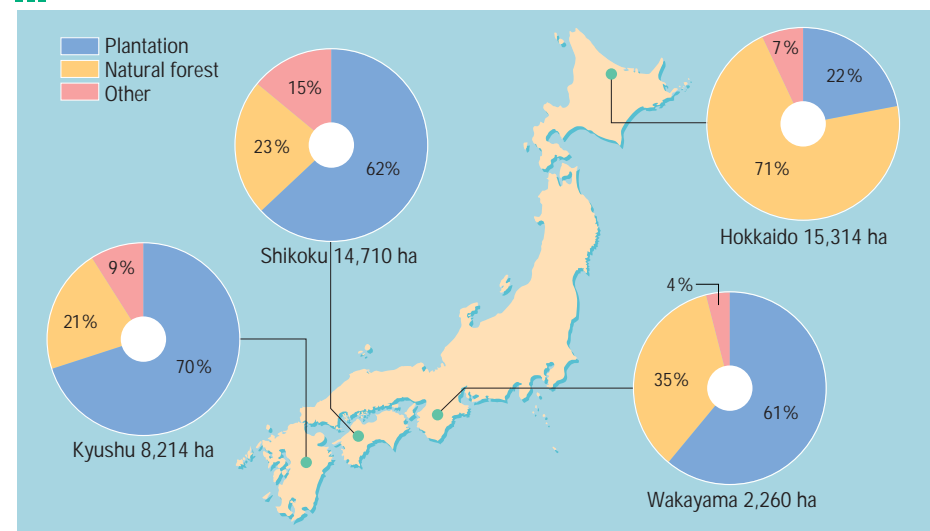
Sumitomo Forestry began cultivating cedar and cypress seedlings and planting forests in Shikoku in the mid 19th century, and in 1894 devised and implemented a large-scale afforestation plan. In 1904 we drew up the first private-sector forestation management plan in Japan. This plan established our sustainable forestry philosophy: successive planting and wood production, repeated in perpetuity. Today, we ensure the amounts of timber we harvest stay within the annual incremental volume of timber our forests produce. Our forestry management activities reflect the needs of the environment and are designed to prevent flooding and erosion.

### Conceptual diagram of eco-friendly forestry (block-based selective logging)



In block-based selective logging, the forest is divided into small areas (blocks) of 0.05 to 0.1 hectares each, and planting, tending, and felling operations are based on these discrete areas. This allows timber production to be staggered in successive generations while maintaining the public benefits of a healthy forest. This also increases the amounts of CO<sub>2</sub> absorbed and helps prevent global warming.

### Distribution of Sumitomo Forestry timberlands



## Sumitomo Forestry-owned forests

Sumitomo Forestry-owned forests are located in Hokkaido, Shikoku, Kyushu, and Wakayama. They cover 40,497 hectares in total, representing about one thousandth of Japan's land area. Our timberlands comprise 49% plantations and 42% natural forest.

Out of consideration for regional ecosystems, we allow no clear felling in any company-owned forests. Instead, we practice block-based selective logging, taking only the volume needed within replacement growth capability. We remain thoroughly committed to preserving the entire forest ecosystem.



Company-owned forest in Kyushu

## The public benefits of our forests

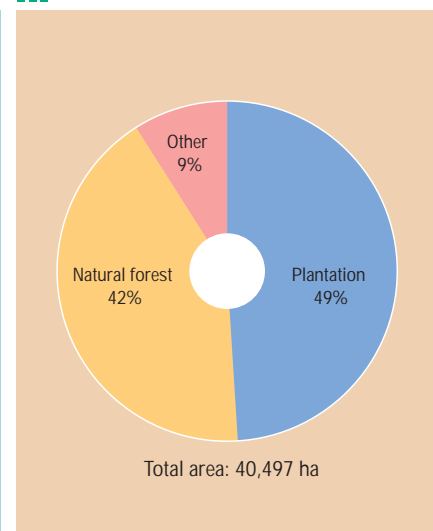
Forests are not just sources of timber, but provide vital functions that benefit us all. These include:

- Sequestering of CO<sub>2</sub>
- Prevention of soil erosion
- Conditioning of water resources (mitigating floods, purifying water)
- Provision of recreational spaces

If our forests were assigned a monetary value for these public functions, that figure would be around ¥110 billion\*. Of this, the total amount of CO<sub>2</sub>, a cause of global warming, absorbed by our forests was estimated at around 250,000 tons. Our forests make a significant contribution to protecting the environment.

\*From the Forestry Agency's FY2001 White Paper on Forests and Forestry

### Percentages of plantations and natural forests



## Computerized forestry management

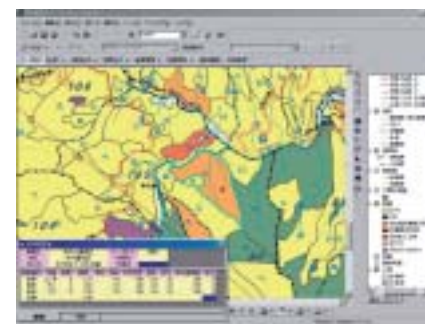
To streamline the management of our forests in different parts of the country, we have established an IT-based management system using a Geographic Information System (GIS) and a Global Positioning System (GPS).



Identifying location using GPS

GIS supports sophisticated analysis and speedy decision-making by comprehensively managing and processing data reflecting information related to position and space (spatial data), and visually displaying the result. Using spatial analysis based on topographic maps and forestry survey records, GIS can be a useful tool for preparing forestry management plans.

By building a database using GPS data added to the GIS data, we can now manage such information as location, area, tree species, and density of standing trees, and control our huge area of company-owned woodlands in units of "stands."



Tree species distribution map based on GIS

## Forestry management based on ISO standards

We have constructed an ISO 14001-based EMS for the environmental management of our forests and were the first in the forestry industry in Japan to obtain ISO 14001 environmental certification. Every year, we evaluate the impact of our forests on the environment, produce goals for the reduction of environmental impacts, and implement these as we continuously manage our forests in an environmentally sensitive way.

For example, when building forestry roads, which have a significant impact on surrounding ecosystems, we evaluate the potential environment impacts from the planning stage and carry out regular site checks during construction to minimize the effect of each road on the water system and environment.

When harvesting timber, we check for legal restrictions concerning, for example, conservation forests, and make any necessary submissions.

## Using thinnings effectively

Timber is one of the few renewable resources. Based on the ideal of sustainable forestry, we ensure that felling and planting remain in balance. We also use the thinnings that are an unavoidable part of forestry management as construction materials, such as lattice wall panels and Super Cypress engineered wood. We make every effort to use valuable timber resources carefully and practice environmentally friendly forest management.

Thinnings used for environmental report paper

As part of our policy of promoting the use of thinnings, we have developed printing paper based on a mixture of 10% thinnings pulp and 90% pulp made from recycled paper. This "thinnings paper" has received both Eco-mark certification and the

Thinnings mark. We began using this thinnings paper for our environmental reports from 2004 (this report).



**Q:** How do you calculate the amount of CO<sub>2</sub> absorbed by forests?

When we surveyed readers of last year's environmental report, this was one of the things they most wanted to know. Well, here is the answer.



**A:** How we calculate the amount of CO<sub>2</sub> forests absorb.

The CO<sub>2</sub> absorbed by forests is calculated from the volume of trunk, branches, roots, and leaves produced by forests (trees) from sunlight, CO<sub>2</sub>, and water.

After a specified number of years (set by us) have elapsed from planting, we calculate the volume of the trunks of the planted trees. Specifically, we measure the diameter at breast height (dbh) and height of the trunks and the number of trees, then apply a specified formula to calculate the total trunk volume (= volume of standing trees).

First we carry out a survey, then we apply a growth algorithm to the volume of standing trees calculated from the results of the survey to work out the volume of growth in a year. The growth algorithm varies according to such factors as the tree species, the number of years of growth, the region, and whether the forest is natural or a plantation.

The published volume of CO<sub>2</sub> absorbed in a year is derived by multiplying a coefficient by the volume of trunk growth in a year to seek the amount of growth of the forest (trees), including trunks, branches, roots, and leaves. The amount of CO<sub>2</sub> absorbed is calculated from this volume of growth.

## Overseas Afforestation Projects

We carry out afforestation activities in Indonesia and New Zealand. The Overseas Development Aid (ODA) afforestation program, which started in November 2000 in Indonesia, was completed successfully in March 2004.

### KTI afforestation project

Total number of trees planted by KTI: **2,552,000**

P.T. Kutai Timber Indonesia (KTI) recognizes the benefits of forests and takes the following steps to utilize afforestation and plantation timber effectively:

- Develop housing materials based on species considered to have little value in the past.
- Expand the scale of joint afforestation projects with local people, corporations, universities, and administrative bodies.
- Consider types of timber that will be needed in the future and conduct afforestation experiments into new fast-growing species.

By FY2003, KTI has planted around 2,550,000 trees. KTI has also conducted conservation planting experiments with long-lived species in an effort to protect the environment by planting in such places as the banks of rivers, mountain ridges, and steep slopes, which were previously rejected as unsuitable for tree planting.

#### KTI's planting activities

Year	Number of trees
To 2000	253,000
FY2001	833,000
FY2002	535,000
FY2003	931,000
Total	2,552,000

### RPI afforestation project

Total number of trees planted by RPI: **429,000**

P.T. Rimba Partikel Indonesia (RPI), a producer of particleboard, began a joint afforestation project with local farmers in 2002 in an effort to further the economic development of the region and to secure a stable supply of materials. RPI supplies free seedlings of fast-growing species and guarantees to buy back the

#### RPI's planting activities

Year	Number of trees
FY2002	188,300
FY2003	241,100
Total	429,400

grown trees when they are ready to harvest. The aggregate number of trees planted up to FY2003 was around 430,000; RPI plans to eventually expand the planted area to 1,000 hectares.

Because particleboard is made by reducing materials to small particles and solidifying them with adhesive, branches pruned on city streets and scrap timber from other mills can be used. Trees can be harvested for particleboard at any age and as the bark and branches can be used as well, there is no waste.

### NPIL sustainable forestry

Total area planted by NPIL: **3,500 hectares**

Nelson Pine Industries Ltd. (NPIL) of New Zealand carries out sustainable forestry aimed at protecting the environment and securing stable supplies of timber. NPIL maintains around 3,500 hectares of forest (around 0.2% of New Zealand's planted forest area) within a radius of 60km from the mill. By systematically planting the same area of forest as it fells, NPIL achieves sustainable forestry.

Around 130 hectares are harvested and planted every year, and NPIL plants 800 to 1,000 radiata pine seedlings per



Radiata pine seedlings

#### Afforestation bases in Indonesia and New Zealand



hectare. NPIL's forests currently supply just over 10% of its raw timber and the company plans to increase this ratio in the future.

### Completion of ODA afforestation support project

ODA area planted: **360 hectares**

ODA trees planted: **613,000 trees**

An Overseas Development Aid (ODA) grant aid project, started in November 2000 to rehabilitate land devastated by forest fires in Indonesia's Way Kambas National Park in Lampung Province, Sumatra, has been completed. An area of 360 hectares were planted with 613,000 native trees, and in March 2003, the forest was handed back to Indonesia's Ministry of Forestry.

This national park is well known for its elephants, rhinoceros, Sumatran tigers, and other wild animals. During the period of the project, tiger tracks were spotted and wild elephants were frequently seen. We therefore carried out the afforestation in a way that would not disturb this valuable wildlife.

Our know-how in such areas as seedling cultivation technology, afforestation methods, and post-planting maintenance was passed onto the more than 150 park employees and other local people who worked on the project, and is being used in major greening projects starting from this year. This ODA project also included forest fire prevention facilities, fire-fighting equipment and materials, and fire-fighting drills for park employees and local people.

## Using Timber Resources Effectively

We have been involved in scrap wood chip distribution since the second half of the 1950's. We have also pioneered and developed methods of effectively utilizing thinnings, small logs, and unused materials.

### Promoting use of domestic timber

Rate of use of Hokkaido timber: **78%**

In May 2003, our Sapporo office began processing larch from our Hokkaido forests into laminated wood and selling homes using larch poles, beams, and interior fittings. Larch, which makes up roughly 30% of Hokkaido's plantation forest area, is a strong and durable wood. However, its modulus of elasticity, which indicates the difficulty of flexing in relation to the load, is higher than for cedar and cypress.

Larch was once widely used for the props needed in coal mines, but with the decline of the coal mining industry, demand rapidly fell away. The development of uses for the younger plantation trees, which were prone to twisting, was particularly slow, but government subsidies raised hopes that new uses would be discovered.

Sumitomo Forestry focused on the fact that the properties of this strong but difficult-to-process wood stabilize as the tree matures. From among our forests, we chose trees that had been planted after World War II and were approaching maturity. Taking advantage of improvements in drying technology to control twisting, we succeeded in making larch a viable housing material.

Among the houses using this larch, the use rate of Hokkaido-grown trees in the main framing is now 78%. The proactive use of Hokkaido timber has raised the hopes of the local people of Hokkaido for its timber industry.



Larch forests of Monbetsu, Hokkaido

### MIZDAS drying system for structural timbers

Drying time: **Reduced by 75%**

Energy required for drying: **Reduced by 50%**

Japanese cedar and cypress heartwood frequently cracks during the drying process, resulting in around 20% of

framing timbers failing to meet quality standards. Cedar, in particular, takes considerable energy to dry because it is wetter than other tree species, and its moisture content varies greatly by production area and cultivar.



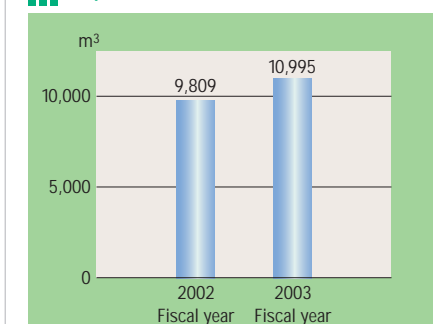
Japanese cedar dried to 15% or less moisture content in the timber drying system

To address these problems, Sumitomo Forestry's Tsukuba Research Institute has developed a proprietary drying technique with sensors attached to the wood, reducing the incidence of surface cracking even with shorter drying times. This efficient new system has achieved excellent productivity and energy-saving characteristics: approximately 1/4 the drying time and 1/2 the energy requirements of conventional kilns, no discoloration or internal cracking, and lower moisture content (15% or less) after drying. Tests indicate that the rate of non-standard square timber can be cut from 20% to 5%. Under the Housing Quality Assurance Law, strict control of wood quality is a key issue. With our state-of-the-art drying system, we are able to supply dried wood with excellent dimensional stability. Calculated in terms of 3-meter, 105-mm square posts, in FY2003 we shipped 10,995 cubic meters of MIZDAS-dried wood, equivalent to 332,000 posts.

#### Next-generation eco-material Woody Fit®

Seeking to contribute to the emergence

#### Shipments of MIZDAS-dried timber



of a sustainable recycling society, we developed a molded composite wood material known as "Woody Fit." This new environmentally friendly material is based on wood scraps from construction sites and timber processing plants to which resin is added. In February 2004, Woody Fit qualified in Ehime Prefecture as an "Excellent Resource Recycling Model," an accolade awarded to superior recycling-based products. With a wood content of 80%, Woody Fit feels just like real wood, is highly durable, and has consistent quality. Because of these attributes, Woody Fit is being developed for use in garden decks, balconies, and other exterior products.



Woody Fit

#### "Twinned post" wins Forestry Agency Director-General's award

The "twinned post" jointly developed by Sumitomo Forestry, Sumitomo Forest Service Co., Ltd., and Sankei Co., Ltd. of Hyuga City, Miyazaki Prefecture recently won the Forestry Agency Director-General's award.

Our twinned post, whose commercialization began two years ago, is a two-piece laminated cedar post created by longitudinally slicing the square cores produced from Japanese cedar logs, drying the two resulting halves, then gluing them together by machine. This new process will enable bent logs, which could not previously be used as posts, to be used effectively.



Twinned Post

## Using Timber Resources Effectively

### Effective use of thinnings and unused timber materials

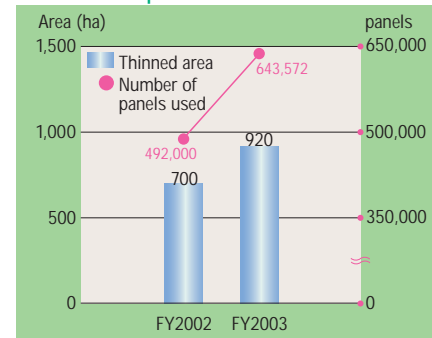
Lattice panels as wall linings  
 Number of lattice panels fitted 643,572  
 Thinned area 920 ha approx.

Sumitomo Forestry has developed lattice panels, made primarily from domestic cedar, for use as wall linings. Offering exceptional strength and ventilation, the panels are made from 55-mm wide strips of wood glued diagonally at a 45° angle in a latticework pattern. These airy, load-bearing panels offer some outstanding features compared with plywood:

- Exceptional strength (1.3 times more rigid than 7.5 mm plywood in load-bearing wall tests)
- Moisture resistance
- Good airflow and less condensation within the wall
- Very manageable - lightweight, easy to work with, and easy to run pipes through.

Derived from milling offcuts, thinned lumber, and other small wood not previ-

### Thinned area corresponding to lattice panels, number of panels used



Lattice panels

ously utilized to any significant extent, these lattice panels are helping to boost rates of domestic timber usage.

In FY2003, we used 643,572 lattice panels. Calculating the total area thinned, based on the amount of cedar used in the lattice panels and past results from company-owned forests, yields an area of approximately 920 hectares, roughly equivalent to 196 Tokyo Domes.

Super Cypress Laminate  
 Amount of Super Cypress used 28,457 m³  
 Thinned area (estimate) 1,820 ha approx.

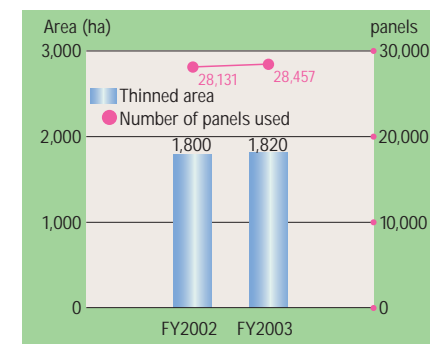
In FY2002 we led the industry in production of Super Cypress, an engineered wood (glued laminated timber) made from Japanese cypress (*hinoki*), the standard material used nationwide in the posts and ground sills of our mainstay “GODAI One’s Story” house series. In FY2003, we retained Super Cypress as a standard material in our “GODAI One’s Story II” series.

The 1,300-year-old Horyuji temple was built from *hinoki*, traditionally considered a top-quality structural material with superior durability, strength, and resistance to decay and termites. In solid form, however, *hinoki* has a number of drawbacks: it varies in strength and quality, tends to bend and warp, and is difficult to dry uniformly. Super Cypress capitalizes on *hinoki*’s excellent qualities by using it as the base laminate material, while using lamination technology to achieve greater strength and dimensional accuracy than solid *hinoki*. To produce Super Cypress, we have developed a highly innovative manufacturing process that



Super Cypress

### Thinned area corresponding to Super Cypress, volume used



draws on the technical strengths of the Sumitomo Forestry Group and enables us to utilize even relatively narrow or short logs effectively. Thinned logs and other previously unusable lumber can now become useful raw materials.

In FY2003, we used 28,457 cubic meters of Super Cypress. In terms of 105-mm, 3-meter square posts, this comes to about 860,000 posts. Calculating the total area thinned, based on the cypress used in the Super Cypress engineered wood and past results from company-owned forests, yields an area of approximately 1,820 hectares, roughly equivalent to 389 Tokyo Domes.

### Rubber tree wood solid flooring

Solid flooring of rubber wood is now in standard use in our mainstay “GODAI One’s Story II” house series, which went on sale from February 2004.

This flooring timber is from the rubber tree, which is widely cultivated in tropical Asia and other regions. Because rubber trees are grown in plantations to yield natural rubber, the use of this timber is regarded as environmentally friendly. The material used for the flooring is an effective use of the scrap wood that remains after the latex has been removed.

After the rubber tree has been felled, its wood tends to discolor and lose its shape. For this reason, it has simply been used as fuel in the past, but technological innovations now allow it to be used as a laminate in furniture, plywood cores, and building.



“GODAI One’s Story II”

### Promoting use of plantation timber

Virtually 100% of raw lumber utilized  
 MDF production in FY2003 306,086 m³

Nelson Pine Industries Limited (NPIL) of New Zealand produces medium-density fiberboard (MDF), an industrial wood material that utilizes the characteristics of timber but offers greatly improved processability, strength, and stability.

Normally when timber is produced from raw lumber, only 65 to 70% of the raw lumber is suitable for making into timber product. But with MDF, slender trees and crooked segments not fit for timber can also be used so that virtually 100% of the raw material can be made into product. In FY2003, NPIL produced 306,086 cubic meters of MDF.

### NPIL’s eco-friendly approach

NPIL makes effective use of timber and conserves resources. It uses radiata pine from planned plantation forests as its raw material and does not throw away bark and defective wood arising from the production process but uses them as fuel. And, through its active commitment to



Wood chips to be used for MDF (NPIL)

producing MDF with low formaldehyde and other volatile organic compounds (VOCs) that can cause hypersensitivity to chemical substances, NPIL contributes to post-construction indoor environmental safety.

Because of this approach, NPIL’s medium-density fiberboard was awarded Japan’s Eco-mark certification and qualifies as a green purchasing special procurement item.

LVL: All the advantages of natural timber plus ease of use

In addition to medium-density fiberboard, NPIL produces laminated veneer lumber (LVL), also from radiata pine. The comparatively thick and straight parts of plantation radiata pine logs are selected as the raw material for LVL, while crooked, slender, and shorter parts are used for MDF. This means that the most effective use of timber resources is made. To produce LVL, the log is first sliced into sheets, 2 - 4mm thick. These are then dried, any flawed parts are removed, and the slices are glued together in boards that maintain the same grain direction. These boards are used in trims, posts, and beams.

While providing all the advantages of a natural timber material, LVL provides stable strength and is not susceptible to splitting or warping. We also began using LVL in the rafters of our mainstay “GODAI One’s Story II” house series launched in February 2004. We plan to rationalize the supply system for LVL in the future and expand its use to other products.

### Wood chip distribution

We have been involved in the waste wood chip distribution business since the late 1950’s. In producing timber, the milling process results in offcuts that represent 20 to 25% of the raw timber, while very bent logs cannot be used at all. The demolition of houses also produces large volumes of waste timber. In this form, the waste can only be incinerated, but converting it into chips allows it to be efficiently used in paper-making, timber fiberboard production, or as a fuel.

Scrap wood recycling  
 Chips for raw materials 545,219 tons

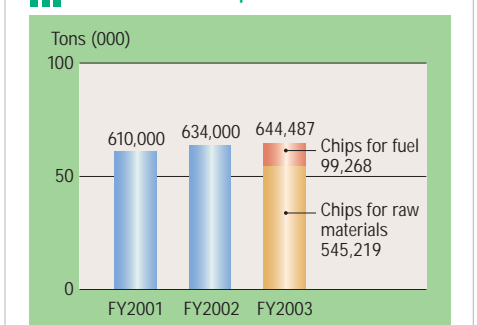
Chips for fuel 99,268 tons

Sumitomo Forestry uses the network it has created in its timber distribution business to promote a scrap wood recycling circle that links the timber industry with other industries.

With the enactment of the Construction Materials Recycling Law, in recent years the volume of waste wood chips created from construction-related industry waste timber has been increasing, and the importance of the waste wood chip distribution business is growing.

We contribute to the efficient use of timber resources through our chip distribution business. In FY2003, we handled 545,219 tons of chips for use as raw materials, and 99,268 tons for fuel. If the heat produced by this volume of fuel chips was to be generated by gasoline, around 53,000 kiloliters would be required.

### Volume of wood chips handled



Figures based on data from the Biomass Handbook of the Japan Energy Association

# Developing Environmental Technologies

Seedlings raised by culturing tissue from the famous weeping cherry tree of Kyoto's Daigoji Temple began to flower in spring 2004. Among the many other environmental technologies we have developed is a mortar wash water treatment system.

## Regenerating the famous weeping cherry trees of Kyoto

The "Togyu cherry" of Daigoji Temple in Kyoto was favored by feudal warlord Hideyoshi Toyotomi for cherry blossom viewing. Sumitomo Forestry has now succeeded in the large-scale propagation of these venerable trees by tissue culture.

The weeping cherry of Daigoji Temple (*Prunus pendula Maxim f. ascendens* (Makino) Ohw) is a particularly long-lived type, with many examples more than one hundred years old. These grand old trees have the same cultural significance as historic buildings, and their preservation is highly desirable. However, the older a tree becomes, the harder it is to propagate by conventional techniques such as taking cuttings or grafting, and the development of a propagation method using biotechnology was sorely needed.



The "Togyu cherry" of Daigoji Temple in Kyoto

### Seedling clones

Sumitomo Forestry Tsukuba Research Institute, and Sumitomo Forestry Landscaping applied seedling nursery technology developed through Sumitomo Forestry's tropical rain forest regeneration project in Indonesia to directly propagate shoots and produce cloned seedlings.



Weeping cherry tree seedlings



Weeping cherry trees, cloned with biotechnology, flowered for the first time in spring 2004.

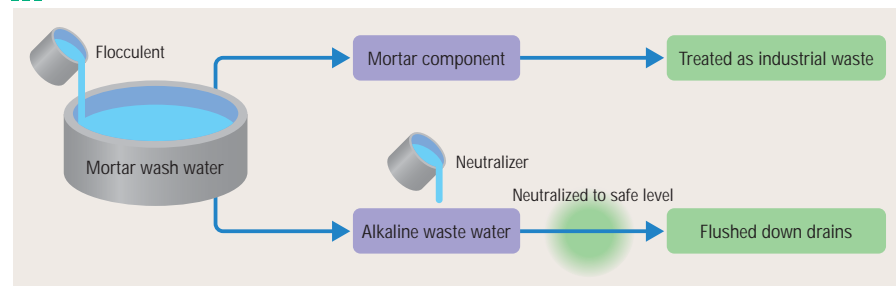
In cloned seedlings, because the parent genes are passed on directly, the characteristics of the more than 150-year-old Togyu parent are preserved intact, and its cloned tissues are rejuvenated. The development of this efficient weeping cherry propagation technology was a world first.

### First blossoms appear spring 2004

Today, four years after the first cloned seedling was planted in the ground, more than 1,000 clones of the Togyu cherry are developing healthily, with the largest now around 5 meters high. And this spring, the young trees flowered for the first time. All the blossoms of the clones matched the original Togyu cherry in color and shape.

In the future, this technology will be applied to help preserve valuable weeping cherry trees and other tree species that are in danger of extinction everywhere. We are also analyzing the genes of the weeping cherries in the grounds of Daigoji Temple in the hope of discovering more about its lineage and origins.

### Mortar wash water treatment system



### Morblock mortar wash water treatment system

In the past, there was no effective method for treating water used for washing up after concrete and mortar had been poured on construction sites and in civil engineering projects, and disposing of this waste water caused considerable problems.

Sumitomo Forestry Landscaping Co., Ltd. developed Morblock, a simple wash water treatment system suitable for small-scale sites where mortar or concrete is used, and began selling it from December 2002. Morblock consists of a flocculent, a neutralizer, treatment container, and analysis kit. The mortar in the waste water is coagulated by the flocculent, precipitated out, separated from the water, and properly treated as an industrial waste. A neutralizer is added to the strongly alkaline waste water that remains, neutralizing it to a safe level. When the analysis kit indicates that a safe level is reached, the water can be flushed into a sewer or drain.

## Environmentally friendly termite control system

Sumitomo Forestry is the first housing manufacturer to install an environmentally friendly termite control system in its new homes. Compared to conventional termite control, the Sentricon system is safe for humans and pets, and has a minimal impact on the environment.

### Features of Sentricon system

Conventional termite control systems have generally relied on treating soil, foundations, or poles with insecticide. The Sentricon system, however, protects homes from termites by regular monitoring and cleverly exploiting the biology of the termite colony.

- Bait stations (wood) are placed around the circumference of the house to reveal any termite activity. A Sentricon specialist regularly checks the bait stations and confirms whether termites are present.
- If present, the bait stations are removed and replaced with very small amounts of pesticide (hexaflumuron). The termites that have eaten this transmit it to other members of the colony, and several months later the entire colony is extinguished.
- The active ingredient, hexaflumuron, an insect growth regulator, works only on insects and other creatures that shed their exoskeletons, disrupting the shed-

ding that is essential to their growth (via a chitinous substance inhibiting effect) and eventually wiping out the entire termite colony.

- Even if no termites are found, or after the colony has been extinguished, regular checks are maintained to guard against re-infestation.

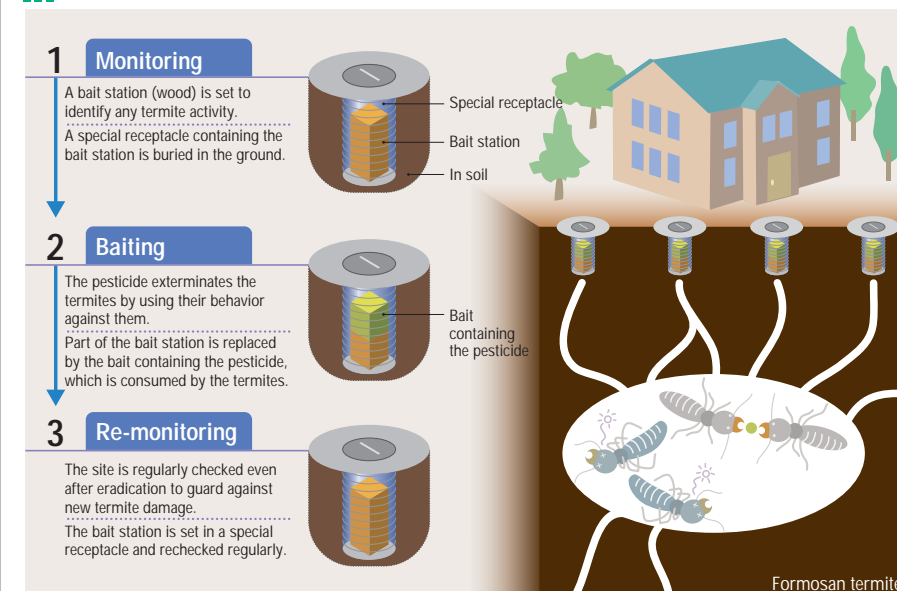
### For safe and healthy living

Sumitomo Forestry and the Tsukuba Research Institute carried out performance verification experiments in nine completed Sumitomo Forestry homes in Kyushu and at the Institute to confirm the efficacy of the Sentricon termite control system. These experiments confirmed that the Sentricon system is effective for eliminating and preventing the common Yamato and Formosan termite species.

Because the Sentricon system uses only trace amounts of the active ingredient hexaflumuron, it is guaranteed highly safe for humans, pets, and the surrounding environment. And because there is no longer any need to get under the house and spray pesticide, there is very little danger to the pest control operator.

We hope to spread the use of the effective Sentricon system nationwide. We will continue to develop a range of environmental technologies that are benign to humans and compatible with the environment so that our customers can enjoy peace of mind and a safer lifestyle.

### Sentricon system



## Environmentally friendly Group products

The Sumitomo Forestry Group develops various environmentally friendly products and contributes to the environmental activities of its customers.

### Weedy Mats

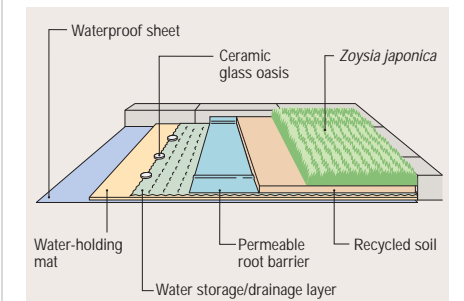
Designed to preserve Japan's disappearing countryside, this is a wild grass mat with mainly native field grasses already growing on it.



Example of Weedy Mats along a waterway in Tsurumi, Osaka

### Rooftop greening system

We have developed and market a rooftop greening system to effectively grow rooftop lawns (*Zoysia japonica* grass) on the tops of city buildings.



### Flameproof board based on recycled materials

As part of our recycling business, we produce a flameproof board using wastes from other industries and use it in such applications as home exteriors.

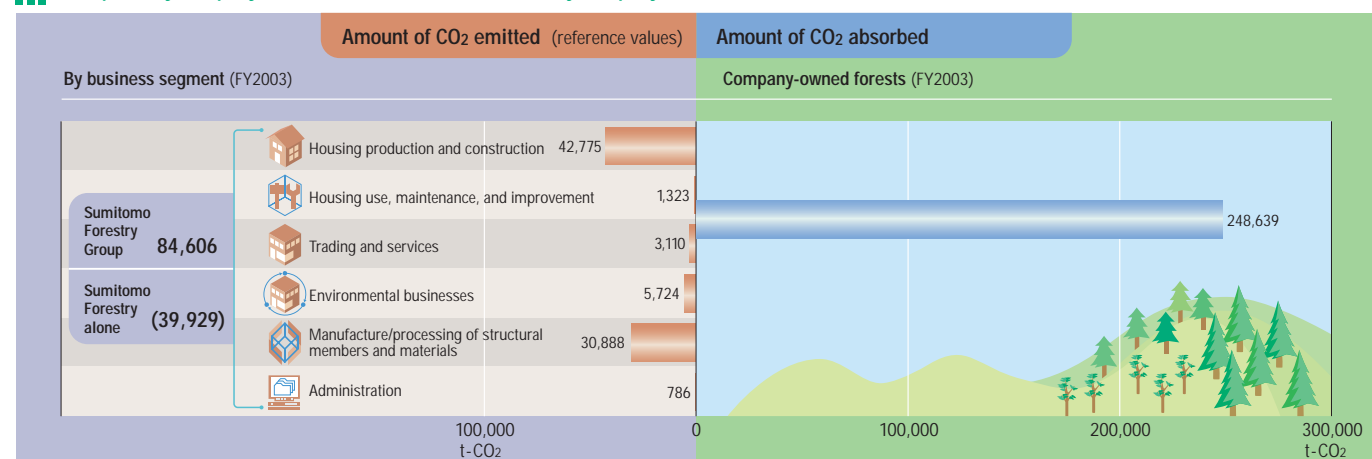
### Tsuchi Taro potting mix

Sumirin Agro-Products Co., Ltd. produces Tsuchi Taro potting mix from sawmilling bark and sediment from water purification plants. Developed jointly with Chiba, Aichi, and other local authorities, this venture plays a significant role in recycling sediment generated at water purifying plants.

# Mitigating Global Warming

The amount of carbon dioxide (CO<sub>2</sub>) absorbed by Sumitomo Forestry Group-owned forests is about 2.9 times the amount of carbon dioxide emitted by the Group's business activities. As part of our efforts to mitigate global warming, we implement life-cycle assessments (LCA) and work to reduce CO<sub>2</sub> emissions.

CO<sub>2</sub> uptake by company-owned forests vs. CO<sub>2</sub> emissions by company businesses



## CO<sub>2</sub> absorption by Sumitomo Forestry Group forests

CO<sub>2</sub> absorbed by Sumitomo Forestry-owned forests **248,639 tons**

The amount of carbon dioxide (CO<sub>2</sub>) absorbed by the 40,497 hectares of Sumitomo Forestry Group-owned forests in Japan was 275,525 tons in FY2002 and 248,639 tons in FY2003. This is about 2.9 times the amount of CO<sub>2</sub> emitted by the entire Sumitomo Forestry Group in the course of its business activities. In the future, the Sumitomo Forestry Group will continue sustainable forestry management activities in Japan and promote measures to prevent global warming.

## CO<sub>2</sub> emissions from business activities

CO<sub>2</sub> emitted by our business activities **84,606 tons**

To control emissions of CO<sub>2</sub>, which contribute to global warming, and lessen its impact on the environment, the Sumitomo Forestry Group began monitoring CO<sub>2</sub> emissions from business activities since FY2002. While we assume the housing segment is the Group's biggest emitter of CO<sub>2</sub>, we have not yet established an authorized calculation method for identifying CO<sub>2</sub> emissions relating to housing construction.

To calculate emissions relating to our housing construction activities, we therefore referred to methods published by government and industry bodies. To calculate emissions relating to other activities, such as distribution and administra-

tion, we applied Ministry of the Environment guidelines. These efforts revealed that Sumitomo Forestry itself was responsible for 39,929 tons of CO<sub>2</sub> emissions in FY2003, while the activities of the entire Group within Japan generated 84,606 tons.

## CO<sub>2</sub> emissions in the housing segment

CO<sub>2</sub> emitted by housing construction **1.5 tons per house**

We began monitoring CO<sub>2</sub> emission at construction sites for wooden frame houses in FY2002. Referring to methods published by government and industry bodies, we estimated emissions at an average 1.5 tons per house.

In FY2003, we carried out surveys at 23 construction sites from Hokkaido to Kyushu in an effort to verify the results of our FY2002 trial calculations. This revealed an average emission for the 23 sites surveyed of 1.65 tons of CO<sub>2</sub> per house. The average floor area of the houses surveyed was 155.25m<sup>2</sup>. Converting this to the floor area used for the FY2002 calculations (147.39m<sup>2</sup>) returns a figure of 1.56 tons of CO<sub>2</sub> per house, thus confirming the validity of the tentative results for the previous year.

The input data for our estimates were limited to power used on the construction site, the fuel for operating construction machinery, and the transportation costs incurred by workers in traveling to the site<sup>\*1</sup>. The CO<sub>2</sub> expended in the production and transportation of the materials used is part of the CO<sub>2</sub> emission calculations of other industries and was not included in our estimate.

## CO<sub>2</sub> emissions in sales and administration

Referring to the FY2002 Ministry of the Environment Guidelines<sup>\*2</sup>, these calculations cover CO<sub>2</sub> emissions relating to city water and sewage for offices, use of power, and fuel expended in sales activities. To increase accuracy, we repeated the calculations in FY2003.

\*1: Our own estimates based on Eco-Action 21 (Japan Prefabricated Construction Suppliers and Manufacturers Association, 2002)

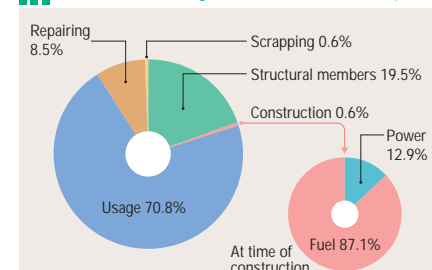
\*2: Our own estimates based on Guidelines for Calculating Total Emissions of Greenhouse Gases Relating to the Affairs and Business of Local Government Bodies Based on Laws Concerning the Promotion of Measures to Prevent Global Warming (Environment Agency, 1999)

## Measuring total CO<sub>2</sub> emissions in the housing life-cycle

To measure housing-related CO<sub>2</sub> emissions, we have been conducting life-cycle assessments (LCA) on our houses since FY2002. In FY2003, we carried out a life-cycle assessment of CO<sub>2</sub> emissions on our "GODAI One's Story II" (standard new energy-saving specifications) house launched in February 2004. Our LCA revealed that most of the volume of CO<sub>2</sub> emitted by a standard household over a period of 30 years was emitted in the use of the house (70.8%), as against 0.6% in its construction<sup>\*3</sup>. This confirmed the results of the previous year's LCA.

Most of the CO<sub>2</sub> emitted during construction related to power used on the construction site and fuel needed to transport construction workers and run

CO<sub>2</sub> emissions by LCA (life of house = 30 years)



heavy machinery. Our assessment revealed that the amount of CO<sub>2</sub> expended in actual production and building was relatively small.

Based on this result, we are working to reduce the CO<sub>2</sub> emitted at the construction stage, as well as the amount expended in the process of living in the house.

\*3: Estimation method was based on the Construction Life-Cycle Energy Calculation Program (Building Research Institute, Ministry of Construction, 1997)

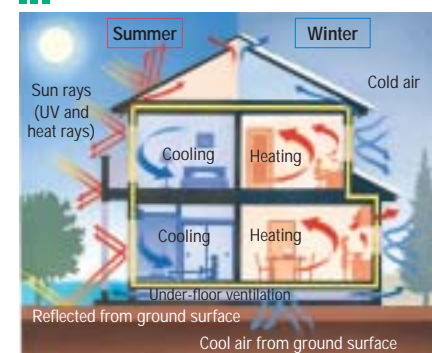
## Reducing CO<sub>2</sub> emissions

### Reducing CO<sub>2</sub> emissions in house use

#### Next-generation energy-saving specifications

We are vigorously promoting the improvement of thermal insulation performance, not only to reduce CO<sub>2</sub> emissions but because it also leads to lower energy consumption and a more comfortable living environment.

#### Home with improved energy performance



#### Promoting sales of solar power systems

The sun is capable of providing unlimited energy to support our daily lives. We are working to promote the use of solar power generating systems so that this energy can be utilized as electricity.

#### Improving the thermal insulation performance of windows and doors

Approximately 65% of the heat lost from a room escapes through the walls, and of

that, more than 50% disappears through windows and doors. Thus, the most effective way of improving energy efficiency is to upgrade the insulation performance of the windows and doors. Accordingly, we are working to expand use of high-insulation-type Low-E double-paned glass<sup>\*4</sup> and sashes that provide excellent heat insulation and prevent condensation, and have begun making these a standard part of our mainstay housing product, the "GODAI One's Story II" series launched in FY2003. In the future, we will gradually make Low-E double-paned glass a standard feature of all our housing products.

\*4: Double-paned glass which uses a special metal coating to achieve heat-blocking and thermal insulation. During the day, this glass lets the heat and light of the direct sunlight through, but at night reflects the infrared that tries to escape from the warm room, preventing the house from cooling. In summer, this glass reflects back the sunlight so that the infrared rays cannot enter the room.

## Reducing CO<sub>2</sub> emissions in housing construction

While amounts of CO<sub>2</sub> emitted at the construction stage are relatively minor compared to the emissions over the entire life cycle of the house, this is the only part of the life cycle where housing manufacturers like us can be directly involved. Working with our suppliers, we are trying to reform systems and develop construction methods designed to reduce the volume of CO<sub>2</sub> emissions.

### Promoting use of precut structural members and unit technology

As a way of reducing CO<sub>2</sub> emissions on construction sites, we precut all structural members. Precutting the members in batches at highly mechanized factories helps cut down work on the construction site and reduces onsite CO<sub>2</sub> emissions.

We have already successfully implemented precutting of main structural members and are currently working to extend this approach to materials such as eaves, external wall sheathing and other members.

### Streamlining distribution

In many cases, the various kinds of building materials used on the construction site arrive by truck in separate deliveries. To reduce the CO<sub>2</sub> emissions that accompany these deliveries, we are working with suppliers to streamline distribution.

## CDM surveys

On behalf of the Japanese Ministry of the Environment, since 1999 we have been carrying out a Clean Development Mechanism (CDM) feasibility study into the amount of CO<sub>2</sub> absorbed by afforestation projects in Indonesia and the projects' commercial feasibility.

In FY2003, the study focused on the quantity of CO<sub>2</sub> absorbed by the afforestation activities of P.T. Kutai Timber Indonesia (KTI) and P.T. Rimba Partikel Indonesia (RPI), and the amount of CO<sub>2</sub> emissions prevented by the use of biomass energy. We also studied the regional socio-economic impact of CDM projects and confirmed that the participation of large numbers of people in joint afforestation projects is very positive.

### Survey of RPI

We calculated the effects of P.T. Rimba Partikel Indonesia's (RPI) activities in the following two areas:

- The increase in the amount of scrap wood purchased for the production of particleboard and the saving in fuel oil used for power generation (reduction in CO<sub>2</sub> emissions) as a result of using biomass energy
- The CO<sub>2</sub> absorbed by afforestation

Our calculations revealed that RPI is curbing its CO<sub>2</sub> emissions by around 21,000 tons a year; in the first ten years, the forests it planted should absorb around 9 tons per hectare.

### Survey of KTI

We calculated the effects of P.T. Kutai Timber Indonesia's (KTI) activities in the following two areas:

- Conversion to boilers for biomass power generation and the saving in purchased electricity (reduction in CO<sub>2</sub> emissions) as a result of using scrap timber from own factory
- The CO<sub>2</sub> absorbed by afforestation

Our calculations revealed that KTI is curbing its CO<sub>2</sub> emissions by around 43,000 tons a year; in the first ten years, the forests it planted should absorb around 10 tons per hectare.

# Waste Reduction

In an attempt to reduce, re-use, and recycle construction wastes, we have built a waste timber recycling system and are promoting other waste reduction strategies such as using precut materials.

## Appropriate treatment of construction wastes

**Waste wood recycling rate** 82%

As a means of preventing waste, we are committed to reducing, re-using, and recycling construction wastes.

- Reducing: To reduce wastes, we have adopted the practice of factory pre-cutting to avoid bringing potential waste onto building sites.
- Re-using: We are reviewing the types of materials that can be recovered and re-used.
- Recycling: We established a Construction By-Products Recycling Project and initiated a timber waste recycling system.

As a result of these efforts, we achieved a wood scrap recycling rate of 78% in FY2003. In the future, by establishing a recycling route for our construction- and demolition-related wastes, we hope to achieve a recycling rate of 95% by 2005, five years earlier than the 2010 time frame mandated by the government.

## Building a wood-waste recycling system

Wood waste is a designated material under the Construction Materials Recycling Law, but as the law applies only to new construction projects with a floor area of at least 500m<sup>2</sup>, the majority of Sumitomo Forestry building projects are not subject to legal recycling controls.

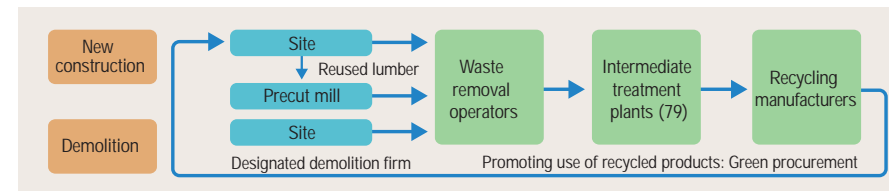
Though there may be no legal obligation to do so, we have voluntarily established recycling routes because we recognize the importance of wood waste recycling.

## Recycling route for construction waste

**Construction waste recycling rate** 91%

For new construction projects, we have established a highly transparent recycling route to ensure that offcuts are recycled appropriately. A waste removal contractor collects the wood waste and transports it to an intermediate treatment plant to be chip-milled. We will also recycle offcuts from pre-cut mills in the same manner. In FY2003, we recycled 91% of our construction waste through a designated recycling route.

## Recycling flow for wood scraps



## Recycling route for demolition waste

**Demolition waste recycling rate** 78%

For waste from demolition sites, the demolition contractor transports the scrap lumber to an intermediate treatment plant we have nominated. Here, the waste is chipped, then delivered to the proper recycling manufacturer. By taking an active part in the flow of waste materials, we are able to control how they are handled and maintain transparency. In FY2003, we recycled 78% of our demolition waste through designated recycling routes.

## Building sites: Promoting factory pre-cutting and materials reuse

**Rate of factory pre-cutting** Almost 100%

Sumitomo Forestry regards waste reduction at building sites and appropriate treatment of wood waste as important concerns. In particular, to limit the amount of waste, we have introduced factory pre-cutting of a variety of timbers. Framing, posts, trusses, and interior wall trims are now virtually 100% pre-cut.

Precut timber (PC) is normally transported with bolsters and packaging materials to raise the timber off the ground, keeping it from getting soiled and the stack from collapsing. These

bolsters and packaging are now regularly recovered and re-used.

In FY2002, it was noticed that wastes from construction sites had increased over the previous year. When we investigated the reason, we discovered that up until then, subcontractors had been removing a portion of the wastes generated at construction sites, but from FY2002 we began managing and disposing of those wastes ourselves.

## Demolition sites: Recycling roofing tiles, gypsum board, and mixed waste

Even before the enactment of the Construction Materials Recycling Law, we have been promoting dismantling and recycling to effectively reuse resources and reduce waste generated at demolition sites.

- We have generally finished putting in place methods of recycling materials such as concrete rubble, scrap timber, and scrap metal.
- However, no effective method has yet been found to recycle roofing tiles (glass, ceramics, and pottery), gypsum board, or other mixed waste.

We regard the recycling of these types of materials as an important future challenge in reducing the amount of waste going to landfills.

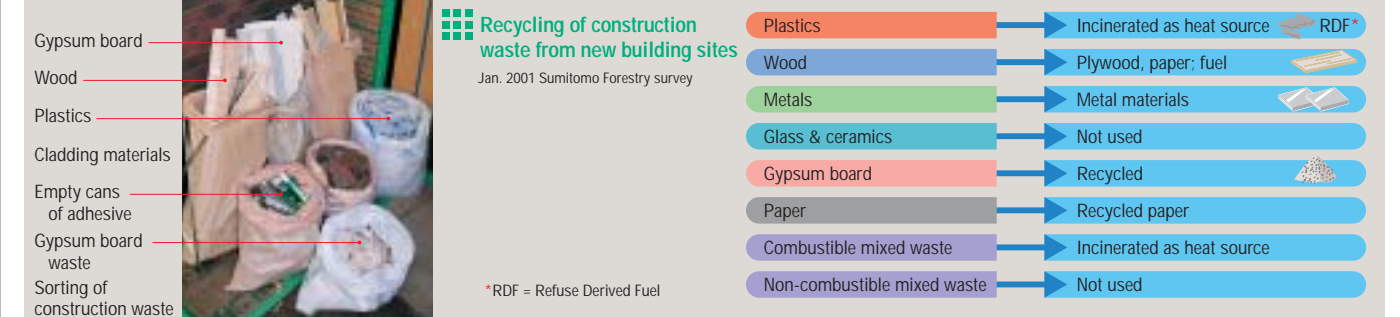
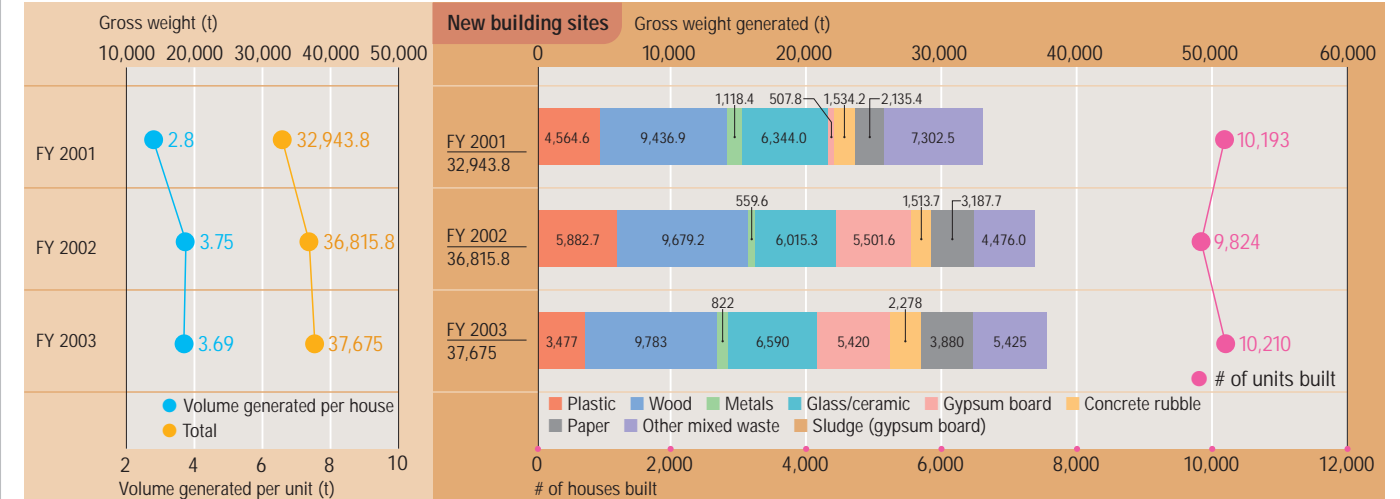
## RPI Attuned to the Environment

P.T. Rimba Partikel Indonesia (RPI), a manufacturer of particleboard, has a factory near the coast on the outskirts of Semarang City on the central Indonesian island of Java.

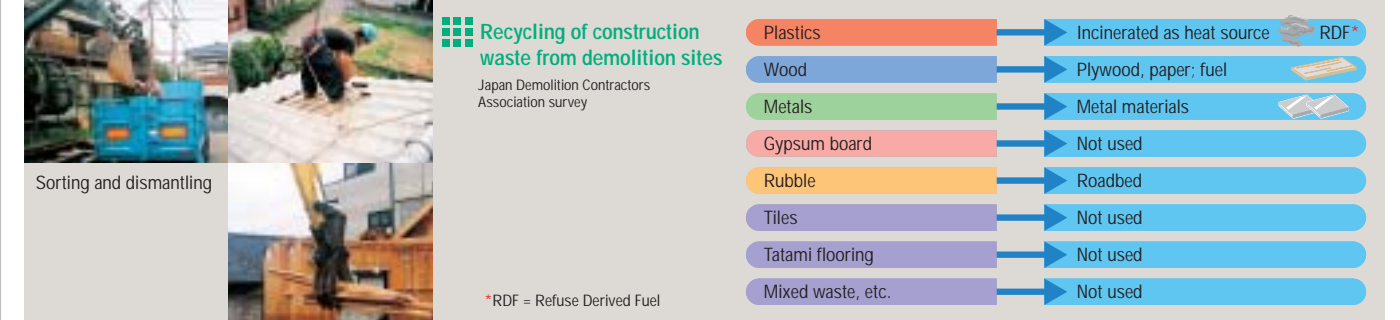
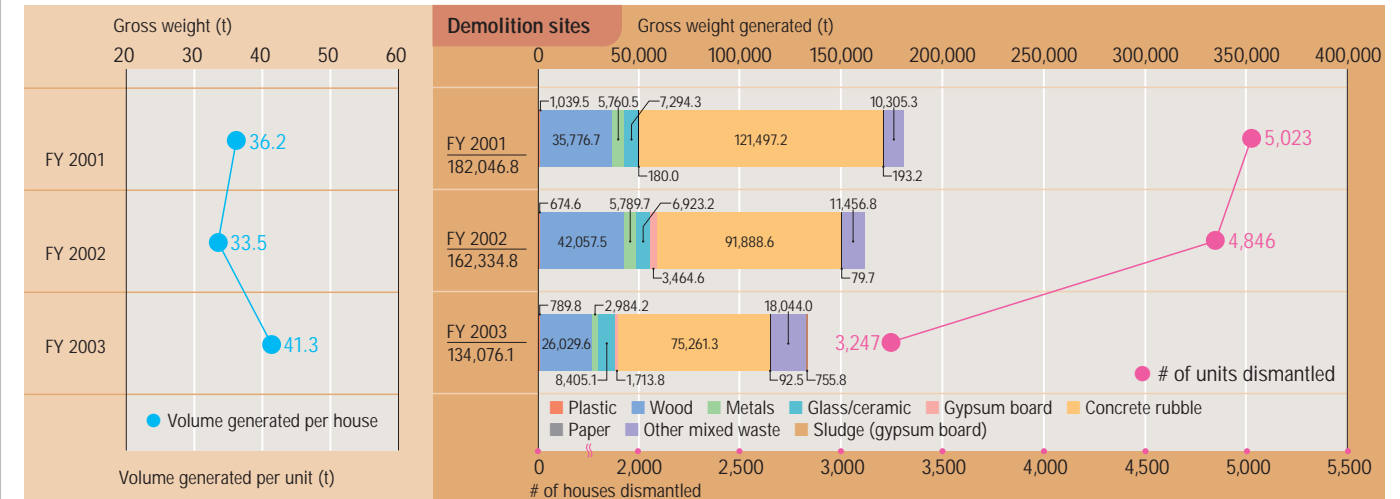
Waste discharged from this factory consists mainly of a urea-based adhesive cleaning liquid mixed with wood powder. The factory is surrounded by prawn-raising ponds, and of course none of this effluent is allowed to escape and pollute these ponds. As part of measures to prevent pollution, from FY2001 RPI has been working with the national Diponegoro University

in Semarang City to combine aerobic with anaerobic microorganisms in an effort to create a decomposition tank where microorganisms could efficiently break down the urea and wood powder. As a result of these efforts, RPI has built a sedimentation tank for the pretreatment of the effluent before it enters the decomposition tank. By keeping the concentration of the effluent to enter the decomposition tank constant, RPI succeeded in improving the efficiency of the breakdown of the organic matter in the effluent

## Volume of construction waste generated at new building sites



## Volume of construction waste generated at demolition sites



## Green Office Management

Identifying areas of priority, Sumitomo Forestry promotes resource reduction and energy saving in its offices. We also practice green purchasing for stationery and re-use and recycle our computers.

### Environmental conservation in the office

Office work produces paper and other wastes and uses energy, particularly for lighting and air-conditioning. We have identified the following priorities to encourage resource recycling and conservation of energy. Our goals are to:

- Reduce paper usage
- Promote green purchasing
- Reduce electricity usage
- Reduce water usage

At our Tokyo Head Office, waste paper is sorted and the office has a centrally managed air-conditioning system.

### Reducing paper usage

#### Paperless documentation

In February 2002, the Production & Building Materials Procurement Division of Housing Headquarters switched to an online system for communications to its branches and affiliated construction offices. These communications are mainly essential messages relating to matters such as lumber to be used in Housing Headquarters products, changes in specifications, and price revisions. Putting these communications online has sped up the transmission of information, made information easier to disseminate, and considerably reduced the amount of paper used.

#### Electronic ordering system introduced

Because numerous construction offices are involved in the construction of our houses, there is a huge amount of communications to be processed, generating a vast amount of paper. To streamline



A screen shot of our new electronic ordering system

this, we created an electronic system for orders-related documentation, invoicing, and other information.

This new system was introduced in October 2003 and already nearly 1,000 affiliated construction offices are using it. From April 2004, around 200 interior contractors also switched to the new ordering system.

#### In-house information goes online

To reduce the volume of printed material, we set up an in-house intranet website called *Inforest*. This promotes sharing of information within the company, speeds up the communication of information, and reduces the use of paper resources. The site also enabled us to cut back on our in-house publications; we now publish our company newsletter *Jukai* every three months instead of monthly.

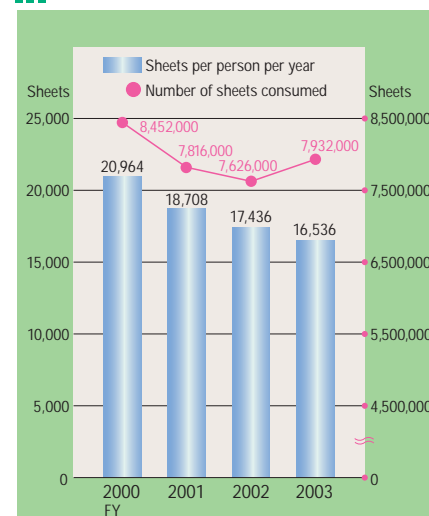


Home page of Inforest intranet website

#### Using both sides of copy paper

Our Tokyo Head Office is actively promoting the use of both sides of copy paper and the sorting and recycling of used paper in an effort to reduce the volume of paper used and conserve resources. These efforts have successfully

#### Tokyo Head Office paper usage per person



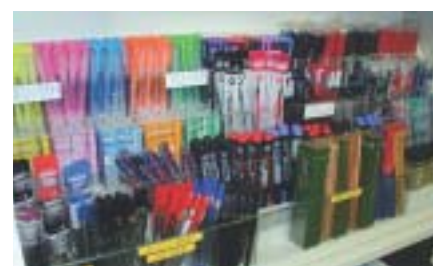
reduced copy paper usage to 16,536 sheets per person (94.8% of the figure for the previous year).

### Green purchasing

#### Green purchasing of stationery

Rate of green purchasing for stationery **84.1%**

In purchasing office equipment and supplies, Sumitomo Forestry practices "green purchasing," prioritizing items that are less environmentally harmful. For copy paper, from 2002 our domestic offices throughout Japan began purchasing only products that meet our green purchasing criteria. For other office supplies, we give priority to items that meet the green purchasing criteria; this produced a green purchasing rate of 84.1%. In the future, we will continue to promote green purchasing at all Group companies.



Green purchasing (stationery)

### Reuse and recycling of personal computers

PC re-use **30%**  
PC materials recycling **70%**

Sumitomo Forestry leases the PCs it uses from Sumirin Enterprises, Ltd. Every year, 800 to 1,000 of these are returned to Sumirin Enterprises when their leases expire. Many of these machines, however, are re-usable if serviced. Instead of simply scrapping these returned machines, Sumirin Enterprises seeks to effectively utilize them. In FY2003, Sumirin Enterprises managed to give 30% of its returned computers a new lease on life as second-hand machines (in FY2002 the figure was 15%). Used PCs also contain useful metals, and PC's that cannot be re-used can still be recycled for their materials. In FY2003 Sumirin Enterprises recycled 70% of returned computers (82% in FY2002).

## Environmental Communication

In FY2003 we focused on environmental communication aimed at sharing knowledge on how to protect forests and the environment with still larger numbers of people.

### Mention in Ministry-approved high school textbook

One important part of preserving the environment is educating the younger generation, who hold the future in their hands. As part of this environmental education, Sumitomo Forestry's tropical forest regeneration project was mentioned in a high-school textbook approved by Japan's Ministry of Education, Culture, Sports, Science and Technology.



The high school textbook describing our tropical forest regeneration project

### Supporting Forest Culture Association seminars

Every year, the Forest Culture Association holds outdoor seminars for the general public. In FY2003, the Association held a series of five seminars entitled "Visiting the Forest" based on the theme of "walking in a typical beau-



Seminar held from November 7 through 9 in the mountains of Shikoku

tiful Japanese forest and exploring the basic layers of culture created by the forest." Sumitomo Forestry assisted with these seminars.

The last of the five seminars, entitled "Besshi: Sumitomo's Forest," was held from November 7 through 9 in one of our forests in the mountains of Shikoku. The seminar was attended by 13 people, mainly from the capital, Tokyo. The instructors were Sumitomo Forestry staff, and the seminar covered such topics as the beautiful old cypress forests of Besshi left by earlier employees of Sumitomo, the multi-level forests that came after those, and the natural regeneration experimental cypress forest.

The responses to the questionnaire distributed after the seminar showed that the participants understood what Sumitomo Forestry and the Sumitomo Group was achieving with its forestry

efforts. Among the responses were: "I was very moved by the traditions of Sumitomo Forestry" and "it was great to experience afforestation."

### Environmental advertising campaign

Based on the message: "We go for sustainability," we are conducting a corporate advertising campaign to inform the public about our efforts to protect the environment. This series of "green" advertisements is aimed at raising environmental consciousness and gaining widespread public support. In FY2003, the ads ran three times in the *Nihon Keizai Shinbun* newspaper.



Recycling old posts and beams while protecting the forest's growth



From a single seedling, the forest makes a comeback

### From our 2003 Questionnaire

The questionnaire distributed with the *Environmental Performance Report 2003* elicited a range of ideas and opinions, and we aim to modify our environmental activities to reflect this feedback. Here is a sample of some of the views expressed by respondents.

#### Feedback on the content of the 2003 Environmental Report

- "There were many interesting environmentally friendly products. I'm hoping for future growth in the use of thinnings, Super Natural Oak, MIZDAS, flameproof board, Weedy Mat and others." (50s, male)
- "The way you described promoting the use of domestic Japanese timbers and developing lattice panels was very clear and easy to understand. But I wish you would explain the prevention of global warming in a way that is clearer to ordinary people." (70s, male)
- "It would be good if you took the lead in the area of afforestation, using the specialized knowledge you have accumulated to work with companies in other industries to tackle environmental problems." (20s, male)
- "I would have liked to have seen more detailed explanation of recycling methods other than waste wood recycling." (50s, male)

#### Feedback on our environmental activities

- "The 21st century is surely the age of the environment. I would like you to provide leadership and encouragement to raise awareness so that everyone concerned, including suppliers, participates in the environmental projects of the Sumitomo Forestry Group." (60s, male)
- "While other companies just reduce their CO<sub>2</sub> output, you use the absorption of CO<sub>2</sub> to help prevent global warming as well. You stand out among many companies in taking a leading role in environmental activities." (40s, male)
- "I think it's important for mankind and the recovery of the natural environment of the planet that everyone on this Earth is aware of the environmental changes caused by the degradation of nature, and that we work harder to protect the environment. It would be good if you could strengthen your PR so that your ideals could be developed on a worldwide scale." (20s, male)



## Community and Social Contributions

Using our knowledge and experience as forestry professionals, we carry out activities that contribute to the regional community. Aiming to be a good corporate citizen, we implement projects at home and abroad.

### Activities on Mt. Fuji

In September 1996, a typhoon swept across central Japan, devastating a swathe of 50- to 60-year-old Japanese cypress (*hinoki*) trees in a planted national forest on the southern slopes of Mt. Fuji. As part of our commitment to contribute to the local community, Sumitomo Forestry initiated the Mt. Fuji Manabi no Mori natural forest restoration project. To help govern the restoration activities, we set up a steering committee composed of representatives from local government (Shizuoka Prefecture and Fujinomiya City), environmental volunteer groups, universities, media representatives and others, and sought their input for the project. We also utilized the network we gained through this project to carry out a range of other environmental activities as well.

**Mt. Fuji natural forest restoration activities**  
Every year, volunteers plant seedlings and nurture the young trees as part of the Mt. Fuji Manabi no Mori project. To make sure our afforestation efforts preserve the types of native trees growing on Mt. Fuji, we use species that seed themselves naturally on the slopes of the mountain. These include beech, oak, dogwood, zelkova, stewartia, maple, magnolia, cork tree, hinoki, and Fuji cherry. Thousands of people have participated in the program and a total of 36,369 trees have been planted.

### Vegetation monitoring program

To watch over the Manabi no Mori project, we requested the Tokyo University of Agriculture and Technology to run a vegetation-monitoring program. One objective was to monitor the growth of trees planted in groups and study changes in rates in which trees formed stands. A second was to survey the process of recovery by natural replacement (recovery by the forces of nature without human intervention). The project is helping manage the swift natural recovery of the forest and is collecting data on how the eco-system is recovering.

### Wildlife habitat survey

We requested the Wild Bird Society of Japan to monitor the fauna in the area by conducting ongoing surveys of bird

species and populations, territories of individual species, and types of mammals.

### Forest Ark

In October 1999, we set up Forest Ark, a volunteer activities support center within Manabi no Mori based on the ideal of co-existence with nature. In building the center, we recycled some demolition materials from old houses, established a bio-toilet (using microorganisms to break down excrement), a solar power generator, and a rainwater tank system.

We also created a biotope\* in the vicinity, and use Forest Ark as an educational center to raise awareness of the importance of environmental conservation among large numbers of people. As part of their induction training, new



Afforestation activities under the Manabi no Mori project

Sumitomo Forestry staff members take part in afforestation and silviculture activities here and learn much about the natural flora and fauna of Mt. Fuji.

\* Biotope: A habitat in which all life forms in an area live in inter-relationship.

### Environmental education at elementary schools

New education curriculum guidelines, introduced in stages from FY2000 to FY2003, established "integrated learning time" with the aim of instilling a robust reverence for life in children. Under the new guidelines, schools have adopted new and creative approaches to education.

As part of this program, a researcher from our Tsukuba Research Institute was sent to Ozato-Higashi Elementary School in Shizuoka City to offer integrated education instruction in response to a request received in November 2003 from the school. Using slides and videos, the researcher gave a general talk about environmental problems and described

the relationship between plants and the soil and how potting mix is made. At the end of the class, the children were presented with a reminder of what they had learned in the form of packs of Tsuchi Taro potting mix, made by Sumirin Agro-Products Co., Ltd. for use in schools as educational materials.



An instructor teaches the children about the environment

### Neighborhood cleanup campaigns

The head office factory of Sumitomo Forestry Component House Co., Ltd. is situated in an industrial park on the south side of the Watarase River. This industrial park is now an attractive environment as a result of greening and pollution prevention arrangements with Tatebayashi City.

In 2002, the factory shut down and dismantled its incinerator, which had been fueled by waste wood, and is now working toward achieving zero emissions.

Every year since 1998, we have carried out social activities within this industrial park and held clean-up campaigns with staff volunteers. In FY2003, we organized clean-up days in June, October, and March. Honoring our commitment to maintain close ties to the region, we also organize family factory tours and tours for the elderly people of the region. These are sponsored by Tatebayashi City.



Clean-up campaign around factory by staff volunteers

### Sumitomo forest ecosystems

To develop new forms of forest management that reflect the entire ecosystem, including flora and fauna, air, water, soil and scenery, we are approaching our forestry with an Ecosystem theme. In 1993, we built Forester House in Besshiyama in central Ehime Prefecture, opening 1,890 hectares of company-owned forest to the public and providing a place for elementary school children and others to learn about forests and forestry activities.

### Charcoal-making

In October 2003, we invited elementary school children from schools on Ohshima Island in the Seto Inland Sea to learn about charcoal-making. The children placed wood in a coal-burning kiln, prepared mud to seal up the kiln's entrance, and experienced the whole process up to the emergence of the charcoal. For the children, the experience was an enjoyable opportunity to learn many new things. The charcoal they helped make was later sent to the schools.



Children learning charcoal-making

### Integrated learning promotion activities

In November 2003, we organized integrated learning activities with a forestry theme in Forester House under the sponsorship of the Forestry Section of the Trade and Industry Department of



Learning how forests grow

the Imabari Local Affairs Bureau of Ehime Prefecture. Twenty-five fifth- and sixth-year pupils of Kitaura Elementary School in Hakata-cho visited Forester House to learn about the history of forestry and how forests develop.

### Tropical forest regeneration project completed in Sebulu, Indonesia

We have now completed a 13-year rain forest regeneration project begun in 1991 at Sebulu in East Kalimantan, Indonesia. The project is located in a huge 3,000-hectare experimental forest and has been led by the Silviculture Laboratory of the University of Tokyo's Faculty of Agriculture. With full support from P.T.



The Sebulu forest, devastated by fire in 1992

Kutai Timber Indonesia (KTI) and the Forest Research and Development Agency of the Indonesian Ministry of Forestry, we took advantage of the project to carry out joint R&D into rain forest regeneration techniques.

The main tree species planted was *Dipterocarp* (Lauan). To date, we have managed to restore 277 hectares of forest (aggregate area planted: 503 hectares, total number of trees planted: 738,000). As the forest has recovered, wild animals such as orangutans, deer, and wild pigs have begun to return.



The Sebulu forest after restoration (2002)

### Social forestry contributes to area

A further goal of the Sebulu project is to contribute to the region by establishing "social forestry" in the area. By establishing a harmonious mix of farming and forestry, we aim to create a system that



Sebulu "social forestry" (cultivating durians)

allows the local people to earn a livelihood without excessive slash-and-burn farming.

### Sebulu project's research results

The results of the Sebulu project, which reached completion in FY2003, were utilized in the Daigoji Temple weeping cherry tree regeneration project in Japan and in a grant aid ODA project. In the future, Sumitomo Forestry will continue to fully support tropical forest restoration projects.

### Report on KTI Educational Foundation

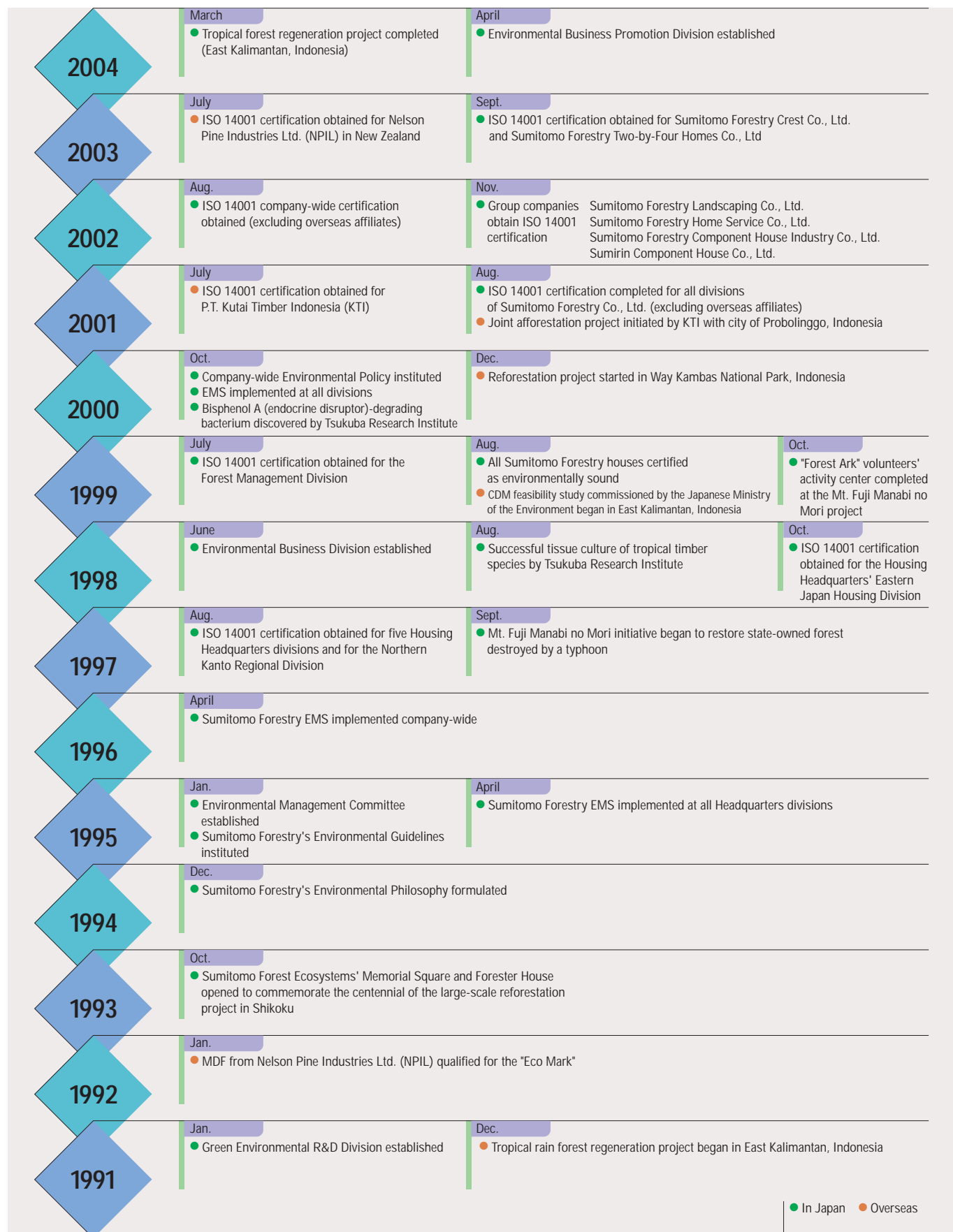
To mark its 30th anniversary, P.T. Kutai Timber Indonesia (KTI) established the KTI Educational Foundation to provide scholarships for elementary and middle school students. In 2000, the first year of the foundation, scholarships were awarded to children in the Sebulu area of East Kalimantan where KTI originated, and the Probolinggo area of East Java where KTI's factory is located. From 2002, elementary and middle school students of the Krucil area of East Java were also included.

As at the end of 2003, KTI had awarded scholarships to 21 children in the Probolinggo area, 10 in the Sebulu region, and 10 in Krucil. In FY2004, KTI plans to increase the number of recipients. A fixed proportion of KTI's profits will be earmarked for the educational foundation every year.



A school supported by the KTI Educational Foundation

# Highlights of Our Environmental and Social Activities



● In Japan ● Overseas

# Activities Planned for FY2004

## Business activities

Priority	Methodology
Prevention of global warming	<ul style="list-style-type: none"> <li>Promote sustainable management of forests</li> <li>Expand sale and use of products using sustainable forest resources as raw materials</li> <li>Expand handling of fuel chips as a biomass energy source</li> <li>Contribute to the reduction of CO2 emissions of occupied houses by developing energy saving products</li> <li>Try to reduce number of delivery vehicle trips</li> <li>Promote planting of trees for exterior work (Sumitomo Forestry Landscaping Co., Ltd.)</li> <li>Reduce factory production-related CO2 emissions (Sumitomo Forestry Crest Co., Ltd.)</li> </ul>
Reduction of wastes	<ul style="list-style-type: none"> <li>Reduction of waste emissions</li> <li>Minimize by-products from new building sites (Housing Construction, Maintenance &amp; Management Group)</li> <li>Minimize by-products from demolition sites (Housing Construction, Maintenance &amp; Management Group)</li> <li>Recycling of wastes</li> <li>Recycling of water purification plant sediments (Sumirin Agro-Products Co., Ltd.)</li> <li>Improve rate of wood scrap recycling</li> <li>Extend life-cycle of houses</li> </ul>
Reduction of harmful substances	<ul style="list-style-type: none"> <li>Prevent pollution of inside air</li> <li>Prevent air pollution, soil contamination, and water pollution</li> <li>Prevent contamination by agro-chemicals (Sumitomo Forestry Landscaping Co., Ltd.)</li> <li>Prevent mixing of harmful substances with products (Sumirin Agro-Products Co., Ltd.)</li> <li>Reduce usage of designated chemical substances (Sumitomo Forestry Crest Co., Ltd.)</li> </ul>
Green procurement	<ul style="list-style-type: none"> <li>Promote green practices among our product manufacturers</li> <li>Promote green procurement</li> </ul>

## Sumitomo Forestry Group activities

Priority	Methodology
Better communication	<ul style="list-style-type: none"> <li>Promote Group-wide and external environmental information activities (Manabi no Mori activities, use of Forester House, environmental advertising, environmental activities based on Sumitomo Forestry's Housing Fair)</li> <li>Utilize Risk Management Committee and emergency hotline and manage information through emergency situation reports</li> <li>Improve communication with suppliers</li> </ul>
Reduction of environmental impact caused by office activities	<ul style="list-style-type: none"> <li>Alleviate environmental impacts by reducing lighting and heating costs, etc.</li> <li>Promote green purchasing</li> </ul>
Education activities	<ul style="list-style-type: none"> <li>Raise environmental awareness</li> </ul>

## Corporate Data

**Sumitomo Forestry Co., Ltd.**

**Head Office (Tokyo)**  
Shinjuku Green Tower Bldg., 6-14-1, Nishi-Shinjuku, Shinjuku-ku, Tokyo 160-8360, Japan

**Head Office (Osaka)**  
Sumitomo Building No.2, 4-7-28 Kitahama, Chuo-ku, Osaka 541-0041, Japan

**Paid-in capital:** 27,672 million

**Incorporated:** February 20, 1948

**Founded:** 1691

**Employees:** 4,762 (as of March 31, 2004)

**Operations:** Forest management; purchase and sale of products including logs, timber, wood chips, plywood for general use, post-processed plywood, fiberboard, metal building materials, housing systems and fixtures, and concrete and ceramic building materials; construction and sale of custom-built housing; purchase and sale of developed housing and housing lots; purchase and sale of interior products; construction, purchase, sale, and rental of multi-unit residential and office buildings

Net sales (Sumitomo Forestry Co., Ltd: non-consolidated)

