

# **Activity Report**



The "Green First" eco-friendly model contributes to reducing CO<sub>2</sub> emissions, and allows residents to save electricity while enjoying a comfortable lifestyle.

The electricity shortages that followed the Great East Japan Earthquake have drastically increased public awareness of energy issues. The Japanese government emphasizes the importance of promoting the use of renewable energy in its energy policy. Capable of both saving and producing energy, our "Green First" model allows residents to reduce electricity consumption without sacrificing comfort, and contributes to reducing CO2 emissions and thus the prevention of global warming.



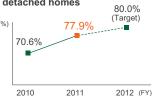
#### Reducing CO<sub>2</sub>emissions

Our "Green First" houses, which now account for nearly 80% of all the newly built Sekisui House detached homes, contribute to further reducing CO<sub>2</sub> emissions.

#### Newly built detached homes

Our "Green First" eco-friendly model is equipped with a highly efficient heat insulation system that meets the next-generation energy-saving standard, as well as the latest housing features such as a photovoltaic power generation system, fuel cells, and a high-efficiency water heater which are combined in a manner best suited to the respective lifestyles, family structures, and site conditions of customers. By bringing the highest level of comfort, cost performance and environmental friendliness in a

well-balanced fashion, the "Green First" model allows residents to enjoy a comfortable life while reducing CO2 emissions, thus contributing to the creation of a low-carbon society. The ratio of "Green First" homes equipped with either a photovoltaic power generation system or fuel cells to all the newly built Sekisui House homes increased from 70.6% to 77.9% in the previous year.



■Growth of the ratio of the "Green First" home to all the Sekisui House detached homes



The "Green First HYBRID" model was awarded the 2011 Minister of Economy, Trade and Industry Prize, the grand prize of the New Energy Award.

Our "Green First HYBRID" model was awarded the 2011 Minister of Economy, Trade and Industry Prize, which is the top prize of the New Energy Awards hosted annually by the New Energy Foundation. The model received high praise for meeting the demands of the times

with its ability to reduce consumption of commercial electricity on a daily basis by means of the three types of cells and to cater to residents' basic living needs even during a blackout or in an emergency.



\*Data is based on a five-person household (consisting of an adult man, an adult woman who stays at home all day, an elementary school pupil, a high school student and an elderly woman aged over 70) living in Tokyo in a house of 155.78 m² (of which the living, dining and kitchen space accounts for 35.5 m2). The amount of electricity consumed for each use is calculated based on the "Schedule" published by the Society of Heating, Air Conditioning and Sanitary Engineers of Japan. The amount of electricity generated by a photovoltaic power generation system is calculated based on the "National average solar radiation data map" issued by the New Energy and Industrial Technology Development Organization (NEDO). The CO₂ emission coefficient is taken from the Monitoring and Reporting Guidelines (ver.2.0) for Japan's Voluntary Emissions Trading Scheme issued by the Ministry of the Environment.

# "Green First"

Equipped with a highly efficient heat insulation system that meets the next-generation energy-saving standard, and either a photovoltaic power generation system or ENE FARM fuel cells.



power generation system



In comparison with ordinary homes, residential CO<sub>2</sub> emissions\* can be reduced by



Approx. 55% in total

# "Green First Premium"

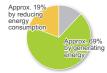
Equipped with both photovoltaic power generation system and ENE FARM fuel cells, which together bring greater comfort, economy and environmental friendliness.



power generation



In comparison with ordinary homes, residential CO<sub>2</sub> emissions can be reduced by:



Approx. 88% in total

#### "Green First HYBRID"

Developed as an upgraded version of the "Green First Premium" model by adding storage cells. With the world's first housing design that combines three different types of cells, this model meets basic living needs even in the event of an emergency, while ensuring the same level of environmental friendliness as brought by the "Green First Premium."



power generation system



In comparison with ordinary homes, residential CO<sub>2</sub> emissions can be reduced by



Approx. 88% in total



#### Sha-Maison low-rise apartment

Backed by a growing popularity among owners and tenants, photovoltaic power generation systems are installed in an increasing number of our low-rise apartments -the "Sha-Maison Green First" model

We have been promoting the sales of the "Sha-Maison Green First" model, a low-rise apartment for leasing, equipped with a photovoltaic power generation system. This model allows tenants to reduce their utility costs with its photovoltaic power generation system, and brings a competitive advantage to owners with its environmental friendliness that can appeal to people looking for houses for leasing. In fiscal year 2011, we installed photovoltaic power generation systems in 27% of our low-rise apartments for leasing (1.239 apartments).



#### Ratio of the "Sha-Maison Green First" model to all Sekisui House low-rise apartments for leasing



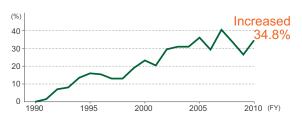


We will take positive measures to achieve reduction of CO<sub>2</sub> emissions from residential and industrial sources

#### Moving toward renewable energy against the backdrop of the increase of residential CO<sub>2</sub> emissions

In the wake of the Great East Japan Earthquake, there has been much debate on the resumption of operation of nuclear power plants in Japan. With electricity shortages expected during the summer and winter months, greater efforts are required for citizens to save electricity. However, electricity-saving efforts cannot be sustained if they compel us to abandon much of the comfort regarding our living environment. Against this backdrop, greater attention is now being paid to renewable energy sources, such as photovoltaic power generation, which can also contribute to reducing CO<sub>2</sub> emissions under the Post-Kyoto Protocol. Especially, the necessity becomes increasingly obvious to encourage a shift from fossil fuels to renewable energy to cope with the recent increase of residential CO<sub>2</sub> emissions, and now the main focus is on the use of natural energy in the planning of CO2 reduction strategies. CO<sub>2</sub> emissions from the ordinary housing environment are mostly attributable to air conditioning, water heating, lighting, and home electronic appliances. Residential CO<sub>2</sub> emissions during fiscal year 2010 increased 34.8% from the 1990 level.

# ■Increase of residential CO₂ emissions (from the 1990 level)

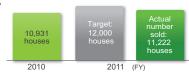


\*Data is taken from the amounts of  $CO_2$  emissions by category contained in the report published by the Greenhouse Gas Inventory Office.

#### Growth in sales of newly built detached homes with photovoltaic power generation systems

During fiscal year 2011, a total of 11,222 houses equipped with photovoltaic power generation systems were sold, an increase of 3% from the previous

year. This increase is mainly attributable to the growing public interest in natural energy following the suspension of nuclear power plant operations.



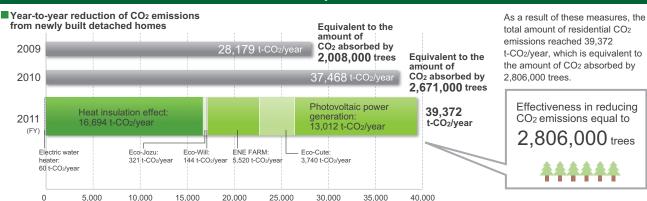
# Growth in sales of the ENE FARM fuel cell system

We have successfully increased the sales of our fuel cell system, which is receiving increasing attention as a new energy producing device. We

installed the ENE FARM system in 5,356 homes, an increase of 80% from the previous year.



#### Reduction of CO<sub>2</sub> emissions from newly built Sekisui House detached homes



#### Remodeling to incorporate energy producing and saving solutions

# **Ensuring greater comfort and reducing CO<sub>2</sub> emissions** at the same time by introducing the "Green First" features in remodeled homes and newly built condominiums

# Promoting eco-friendly remodeling for producing and saving energy

Our group company, Sekisui House Remodeling Co., Ltd. has completed remodeling projects on approximately 770,000 detached houses built by Sekisui House to improve comfort, economy and eco-friendly by providing energy-producing and energy-saving systems. The first half of fiscal year 2011 saw an increase in the number of our remodeling projects, backed by a growing interest in eco-friendly remodeling for producing and saving energy, triggered by the housing eco-point system launched by the national government, coupled with the W (double)-eco-point program offered independently by Sekisui House Remodeling. Especially, demand grew for photovoltaic power generation systems in fiscal year 2011, centering on our original roof tile photovoltaic power generation system. After the expiration of the housing eco-point program in July, Sekisui House Remodeling introduced its own eco-support program to cater to the remodeling needs of customers, until the government launched a new housing eco-point program to contribute to the process of reconstruction from the earthquake.

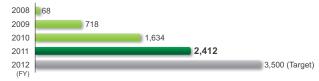
We will remain committed to promoting remodeling projects to install energy-saving and energy-production systems also in non-Sekisui House homes, with a focus placed on our photovoltaic power generation system that brings greater comfort, economy and environmental friendliness to customers

# Making positive use of the housing eco-point program

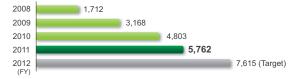
The housing eco-point program was introduced by the national government to promote measures to prevent global warming and revitalize the economy. We recognized the merits of this program for customers, and encouraged them to apply for the program. As a result, we implemented a wide range of remodeling projects under this program, including providing insulation on windows and exterior walls, installing higher insulation-efficient bathtubs and water-saving toilet systems, and improving accessibility necessary to accommodate these eco-friendly facilities. In total, Sekisui House Remodeling completed approximately 19,000 remodeling projects under the housing eco-point program, which was applied to remodeling projects started between January 2010 and July 2011.

Eco-friendly remodeling project	No. of projects implemented
Providing insulation on windows and doors	11,940
Providing insulation on walls, ceilings and floors	304
Installing energy-saving systems	2,132
Incorporating barrier-free designs	4,354
Total	18,730

#### ■ Remodeling to install a photovoltaic power generation system\* (unit: houses)



■ CO₂ reductions attributable to housing remodeling (unit: t-CO₂/year)







Photovoltaic power generation system for a colorbestos roof (SH Metal Roof PV)

Photovoltaic power generation system for a

\*The figures are from Sekisui House Remodeling's results and targets



We are satisfied with the comfort and economy brought by the photovoltaic power generation and ENE FARM systems.

Mr. and Mrs. Kinoshita (Nara Prefecture)

We were advised to install a photovoltaic power generation and a fuel cell system and adopt the universal design by a sales person of Sekisui House Remodeling when we began to consider remodeling our home in a manner better suited to our lives after the retirement. This advice turned out to be

highly beneficial for us, including my elderly mother who lives with us, as the remodeling has drastically reduced our utility costs and brought greater comfort and safety to our lives. With the repainted exterior walls, our home looks like a new build, and we are very glad that through this remodeling, we can make some contribution to environmental protection.



#### Case Study: Condominium for sale

"Green First" condominium "Grande Maison Komae"

A "Green First" condominium, "Grande Maison Komae," (located in Komae City in Tokyo, with 524 residential units), scheduled for sale in June 2012, is Japan's first condominium that employs both the SOLAMO gas-fired hot water system utilizing photovoltaic power and a gas cogeneration system offered by Tokyo Gas. Combined with Eco-Jozu, a latent heat recovery-type high-efficiency water heater, these systems together contribute to reducing CO2 emissions from the entire condominium by approximately 180 tons annually. This condominium requires less gas consumption than a conventional condominium and thus allows residents to reduce gas costs by approximately 17,000 yen\* per household annually. From this condominium, various activities will be carried out to deepen friendly ties among residents, promote harmony between people and nature, and connect residents with the neighborhood, thereby contributing to creating a pleasant community. The "Green First" design that aims to reduce CO2 emissions without sacrificing comfort continues to evolve in the area of condominiums as well.

\*This estimation is computed, assuming a three-person household living in a residential unit (80 m²) in a reinforced concrete condominium with a domestic hot water load of 13.7 GJ per year.



Artist's rendering

#### Electricity-saving measures taken by Sekisui House

# Strengthening internal electricity-saving efforts and implementing measures to reduce electricity consumption during peak hours to the fullest

Declaring to promote initiatives to reduce electricity consumption in response to the government's request for saving electricity following the Great East Japan Earthquake

In 2011, we reinforced our efforts to reduce electricity consumption in response to the request of the national government in the wake of the Great East Japan Earthquake. To be specific, we declared to the Minister of the Environment that we would take voluntary action as an Eco-First Company and announced our electricity saving measures and targets during the peak hours in summer. As a result, we succeeded in saving electricity at our offices and model homes around Japan to a level lower than requested. Our two main factories in the Tohoku and Kanto regions achieved reduction in electricity consumption by more than 15% during peak hours. In winter, we promoted intensive electricity saving measures mainly in the areas served by Kansai Electric Power Co., Inc. and Kyushu Electric Power Co., Inc.

#### Achieving the electricity saving targets by making visible the amount of electricity consumed

As part of our efforts to encourage electricity saving during summer months and peak hours, we published Housecology, a booklet containing tips to save electricity, and distributed it to customers at our model homes and other sites. At our offices and model homes, special electricity saving measures were in place between July 1 and September 30, 2011, a period longer than that requested by the national government and the electric power company, in accordance with our internal manual produced to achieve the goal of reducing electricity consumption by at least 15%. To be specific, we set the air-conditioned room temperature at 28°C, reduced lighting, turned off lights whenever not in use, encouraged the concentrated use of office automation equipment, and did not use devices that consume electricity during stand-by. We also provided data of our electricity consumption via the intranet to share the progress of our electricity saving measures and enable each employee to see how our efforts contributed to the reductions.

Through the process of shifting to LED lighting and measuring the amount of electricity consumed, employees became increasingly aware of the necessity of electricity saving, and as a result, we could reduce our electricity consumption by 25% on a company-wide average during the above period, far more than the originally set target. To involve customers in the electricity saving efforts, we distributed booklets containing electricity saving tips and provided green curtains of bitter gourd, which can block sunlight and thus contribute to electricity saving, at our branch offices and model homes in more than 200 locations throughout Japan. In this way, we shared our commitment to saving electricity with our customers. In the Umeda Sky Building in Osaka City where our head office is located, we checked the amount of electricity we used on a daily basis to reduce consumption.

Based on these experiences, we took electricity-saving measures also during the winter months, mainly in the areas served by Kansai Electric Power Co., Inc. and Kyushu Electric Power Co., Inc. from December 2011 to March 31, 2012, a period longer than that specified by the government, thus meeting the request for reducing the use of electricity.

# "Action for electricity saving" competition for homeowners

Last summer, we launched a program titled the "Action for electricity saving," a competition for Sekisui House owners, inviting participation via the "Net Owners' Club," our online magazine issued exclusively to Sekisui House owners (membership: 160,000 people). This competition was meant to commend the families that achieved a drastic reduction of electricity consumption or that took unique measures for this purpose during the period from July to September 2011, and award gifts to owners who succeeded in reducing electricity consumption by more than 15% from the previous year. By organizing this competition, we aimed to promote lifestyles using less energy and electricity and expand the scope of electricity-saving activities.

The first prize in the category of electricity-saving ratio (Eco-Family Grand Prize) was awarded to a Sekisui House homeowner in Chiba Prefecture, who remodeled the home by providing high-efficiency insulations on windows and doors and a photovoltaic power generation system and reduced electricity consumption by 79.9% from the previous year. High-ranking winners were owners of the "Green First" and "Green First Premium" eco-friendly houses, which indicates that these models contribute to a drastic reduction of electricity consumption without sacrificing comfort, and thus can motivate more people to take energy-saving measures. The average electricity-saving ratio of all the participating families was 25%. In the competition, many families submitted their experiences of saving electricity, such as how they enjoyed electricity-saving activities as a family event, and how the experience strengthen their family ties.



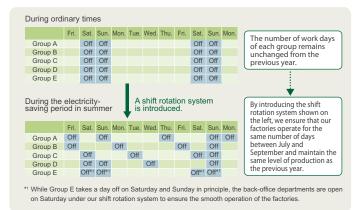
Declaration to promote initiatives to reduce electricity consumption during summer as an Eco-First Company (dated May 18, 2011)



Green curtain of bitter gourd at our exhibition house

#### Reducing electricity consumption during peak hours by introducing a shift rotation system at our factories

Our five main factories took measures to reduce electricity consumption during peak hours in summer during the period requested by the national government and the electric power companies. Our Tohoku factory and Kanto factory which are located in the areas served by Tohoku Electric Power Co., Inc. and Tokyo Electric Power Co., Inc. introduced a new shift rotation system, under which these factories temporarily operated on Saturdays, which had been non-working days prior to the earthquake. We also transferred the production of some components from these two factories to other factories in the areas not served by the above-mentioned two electric power companies. In addition, we took various electricity-saving measures, such as setting the air-conditioned room temperature at 28°C, reducing lighting, turning off lights whenever not in use, installing a demand control system, and replacing conventional equipment with energy-efficient inverter models. As a result, the Tohoku factory and the Kanto factory achieved significant electricity savings, 28% and 21% respectively, during the summer peak hours, far exceeding the target of at least 15% requested by the government and electric power companies.



Shift rotation system introduced to Sekisui House factories



Activity Report We have remained committed to further reducing the impacts of our corporate activities on ecosystems by enhancing our environmental conservation efforts through our homebuilding practices.

As a homebuilder that uses large quantities of wood and other biological raw materials, it is our responsibility to society to continue concerted efforts toward biodiversity preservation. Aware of this responsibility, we announced our Sustainable Vision in 2005 which places sustainability at the core of our management, and have since been working towards the preservation of ecosystems and biodiversity based on the vision. The measures we took during fiscal year 2011 include sharing the progress of our environmental efforts among employees in a visible manner; strengthening the supply chain management; and revising the point allocation system of the Wood Procurement Guidelines.



# Setting numerical targets to enhance our biodiversity preservation efforts

The tenth Conference of the Parties to the Convention on Biological Diversity (COP10) held in 2010 adopted a new strategic plan, the Aichi Target applicable from 2011, which requires private companies to take positive measures to conserve biodiversity. We, at Sekisui House, have introduced numerical targets in our environmental efforts as much as possible, so that we can better recognize the progress of our efforts. To be specific, we set numerical targets for the number of trees to be planted under our "Gohon no ki" landscaping concept, which was developed to restore local ecosystem networks; conduct sampling surveys to identify changes in the populations of fauna and flora species; and rank wood materials to be procured to determine their sustainability levels by supplier.

# Enhancing the visibility of our efforts and sharing targets with our supply chain partners

We place special emphasis on promoting biodiversity preservation through our homebuilding practices. As a manufacturer using large quantities of wood and other biological raw materials, we should be constantly sensitive to ecosystems and biodiversity. Aware of this reality, we have continued environmental efforts in accordance with our own guidelines, such as disclosing our targets and the current progress of our activities to enhance the visibility of our efforts and strengthening supply chain management to urge our business partners to give fuller consideration to ecosystems.





# **Wood Procurement Guidelines**

Working in close partnership with an environmental NGO to ensure greater transparency in our operations and extending proactive support to suppliers

# Promoting the FairWood initiative under our own Wood Procurement Guidelines

Every year, millions of hectares of land are deforested around the world due to illegal logging and overdevelopment, causing serious negative impacts on natural ecosystems and the environments of local communities. To ensure sustainable wood use, we encourage procurement of FairWood\*; namely, eco-friendly and socially-fair wood products.

In developing the Wood Procurement Guidelines, we partner with FoE Japan, an international environmental NGO. Through repeated exchanges of information with FoE on forests around the world and problems facing our suppliers, we ensure sufficient objectivity and transparency in the process of developing and implementing the guidelines.

In the Wood Procurement Guidelines, established in April 2007, ten principles are outlined, which we use to assign one of four ratings (S, A, B and C) to wood materials to be procured from respective suppliers and determine the levels of the materials based on the total points given to them. We also share our understanding of the current wood procurement situation and other relevant information with each of our suppliers, and in some cases, provide them with information given by the NGO and advice to help them meet the requirements of our quidelines. In this way, we implement the PDCA process jointly with suppliers to raise the wood procurement levels.

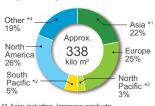
\*FairWood refers to woods and wood products sourced in a manner that takes into account the conditions of the forest environment and local communities where logging takes place. The FairWood program is implemented by the Global Environmental Forum and an international environmental NGO, FoE Japan



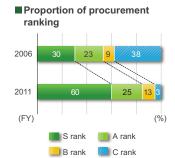
restoration of ecosystem networks.

#### **Wood Procurement Data**

#### ■ Logging area composition (FY 2011)



- Asia: including Japanese products
- South Pacific: Indonesia, Malaysia, etc. 3 North Pacific: Russia, etc.
- \*4 Other: South America, Africa including wood waste materia



# Updating the procurement guidelines by revising the point allocation criteria to better reflect changes in the social environment

Since the introduction of the Wood Procurement Guidelines in 2006, the ratings given to wood based on our conventional criteria have continued to rise. Because of this, and in order to better reflect changes in the social environment, we have started revising the point allocation criteria of the guidelines. For example, we revised the criteria for rating "certified wood" in consideration of the increase in the supply of wood certified by third party organizations and in the number of suppliers who have procured such wood from the time when our guidelines were established.

# Addressing societal demands to support the economic independence of rural communities by recognizing the benefits of agroforestry

We also embarked on the revision of the social aspects of our Wood Procurement Guidelines based on the ISO 26000 international guidance standard for social responsibility published in November 2010.

One of the objectives of the revision is to give greater consideration to small-scale wood producers who have difficulties obtaining certification for their wood products due to economic restraints, but contribute to the economic independence of their local communities by engaging in sustainable forestry (known as agroforestry) supported by NGOs. We revised our point allocation criteria in a manner that recognizes the contribution of such small-scale producers.

# **Wood Procurement Guidelines: Ten Principles**

- Wood products sourced from areas where there is low risk of illegal
- 2 Wood products sourced from areas that do not form part of ecosystems recognized as having outstanding value
- Wood products not sourced from ecosystems that are severely damaged or areas where large-scale logging of natural forests has
- Wood products not sourced from endangered species.
- Wood products sourced from areas close to where they will be used.
- 6 Wood products not sourced from areas subject to conflict or hostility with regard to wood production.
- Wood products sourced from areas where the amount of logging does not exceed the recovery rate of the forest.
- 8 Wood products sourced from domestic forests in Japan.
- Wood products sourced from plantation forests that are managed according to methods that encourage the preservation and generation of a natural ecosystem.
- 10 Wood products made from previously used wood.

# VOICE

# I expect Sekisui House to further strengthen their supply chain.

I think highly of the efforts of Sekisui House to implement their guidelines consistently and steadily to improve procurement levels. In fiscal year 2011, they revised the guidelines to reinforce their commitment to social aspects. Forest development projects, especially those carried out in developing countries, have often given rise to social problems such as conflicts between developers and local residents and lack of consideration for the safety and health of workers. I believe that the action taken by Sekisui House as an end user will be highly effective in preventing unfair practices in these countries. As a next step, I would like to urge Sekisui House to examine the information provided by their suppliers more closely, because it is often the case that information originating from logging areas becomes distorted as it is passed through the long global supply chain and reaches end users as entirely different information. Sekisui House should endeavor to see how and to what extent local primary suppliers are considerate of the situations of logging areas, as it is an insight that cannot be obtained by reading papers alone. The rapid depletion of natural forest resources in recent years has triggered a major shift to wood materials sourced from afforested areas in the wood building materials market. Because afforestation is generally regarded as an environmentally friendly practice in Japan, it seems that not much attention is given to the manner in which afforestation is carried out. In addition, I recommend Sekisui House to increase the use of wood materials from

domestic sources for products other than plywood products. Especially, I expect that Sekisui House will introduce a decentralized procurement process to increase the ratio of locally sourced wood materials and encourage development of products using such materials.

#### Mr. Kenichi Nakazawa

Director, Forest Program FoE Japan, an international environmental NGO

#### **Procurement Levels:** Determining procurement rankings

	Procurement Ranking	
34-43	S	
26-33	Α	
17-25	В	
0-16	С	

Using total procurement guideline points, products are classified as S, A, B, or C level, with S being the highest, while a separate borderline is established for guidelines 1 and 4, which are particularly important.

#### Increasing the use of wood materials from domestic sources

Taking positive measures to procure wood from Japanese sources can be an effective means to ensure sound management of domestic forests and reduce CO2 emissions from transportation. We adopted "promotion of the use of wood materials sourced from domestic forests" as one of the goals of our Wood Procurement Guidelines, and began using Japanese wood in a more diverse range of building materials, while developing laminated wood materials using trees of local species and making interior components from domestic broadleaf trees



A handrail made from a domestic

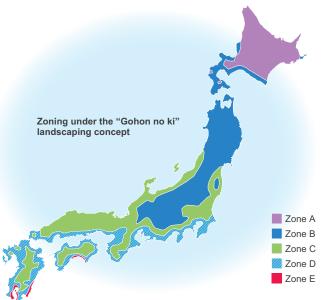
#### "Gohon no ki" (gohon no ki means "five trees") landscaping concept

# Promoting the eco-friendly gardening initiative in cooperation with tree growers and customers since 2001

# Adding value to our homes by creating gardens with native and indigenous tree species under the "Gohon no ki" landscaping concept

We have been promoting the creation of home gardens under the "Gohon no ki" landscaping concept since 2001. Drawing inspiration from the satoyama environment that has long been part of Japan's traditional landscape, our home gardens are designed to provide a home to a diverse range of creatures and allow residents to reap the seasonal benefits of nature by modestly intervening in local natural environments and managing them in a sustainable manner. Our tree doctors and gardening experts work with environmental NGOs to select tree species best suited to the local climate under the principle of "three trees for birds and two for butterflies," which is at the core of the "Gohon no ki" landscaping concept.

To be specific, we divide Japan into five zones and plant tree species that are best suited to each local climate. We also produced a booklet containing information about more than 120 tree species and local creatures that these trees can nurture, so that customers can join the process of selecting tree species to be planted in their home gardens. By planting trees suitable for the local climate in home gardens, we aim to create a pleasant green environment that enables residents to enjoy seasonal changes and the sight of small wild creatures visiting their gardens, and thus contribute to creating a community that grows more attractive with the passing of time.



wild birds: Sargent cherry, Japanese yew, spindle tree, cranberry tree, etc. flies: Japanese white birch, Japanese weigela, wild azalea, etc.

# Zone B

For wild birds: Japanese rowan, Japanese yew, cranberry tree, Japanese flowering dogwood,

For butterflies: Konara oak, Japanese bushclover, Japanese oak, Japanese pepper, etc.

# Zone C

: Japanese cherry, longstalk holly, prickwood, nandina, etc.

erflies: Japanese silver tree, Japanese bushclover, sweetspire, indigofera, etc



For wild birds: Japanese cherry, Kobushi magnolia, Japanese eurya, cranberry tree, etc. For butterflies: Sawtooth oak Japanese maple, Japanese bushclover, Japanese silver tree,



For wild birds: Japanese bayberry, false daphne, Japanese cheesewood, Kobushi magnolia,

For butterflies: Japanese silver tree. Sawtooth oak, banana tree. Japanese bushclover, etc.

# An ecosystem network that connects urban areas and forests/satoyama areas and contributes to the creation of a more attractive living environment

An indigenous tree can, by itself, nurture hundreds of species of creatures including wild birds. Each home garden in an urban area may be small in size, but we can create an extensive ecosystem network that connects home gardens with forests and satoyama areas in the suburbs by promoting gardening and street landscaping projects to plant tree species that sustain the lives of many wild creatures.



Network of Satoyama Landscapes

#### Conducting a biodiversity survey in seven subdivisions in Japan to verify the effects of our "Gohon no ki" landscaping concept

We initiated an ongoing biodiversity survey in 2008 in seven subdivisions in various parts of Japan in partnership with Eco Planning Research Co., Ltd. in Higashimurayama City in Tokyo (President: Mr. Takao Ogawara) in order to track the benefits of our "Gohon no ki" landscaping concept. In some of these subdivisions, we held an enjoyable nature watching event, inviting local residents to observe wild creatures in the vicinity and deepen their understanding of the local biodiversity

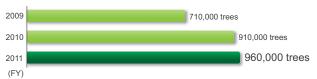




# Working with tree growers to promote Japanese native and indigenous tree species and planting 960,000 trees a year

Since COP10, more companies have embarked on development of home gardens which attract wild birds and other creatures. In reality, however, such development projects have a lot of problems. Many of the plants available in markets are either artificially modified garden species that are beautiful to look at but are of little use for wild creatures or foreign species that are not suited to the Japanese climate. We have built a network that encompasses approximately 80 landscaping companies and tree growers who share the vision of our "Gohon no ki" landscaping concept to grow trees suitable for home gardens in each region of Japan.

#### ■Trees planted by Sekisui House





The "Gohon no ki" landscaping concept is also employed in the exterior design of our low-rise apartments for leasing. Tree planting is especially important for the "Sha-Maison Gardens" low-rise apartment due to the extensive area of its site. In order to create a pleasant environment not only for the apartment building but also across the entire site, we have set five new premium environmental values for the sake of the local community.

natural environment and residents. These values are (1) harmony with the streetscape, (2) preservation and restoration of the natural environment, (3) reduction of environmental impacts, (4) a design that brings greater comfort, and (5) a design that brings greater safety and security.





An attractive entrance approach that makes effective use of the difference in elevation



#### Ensuring harmony with the surrounding environment to be a valuable part of the community

In every Sha-Maison construction project, the entire construction site is designed in manner that harmonizes with the surrounding environment so that it contributes to the attractiveness of the streetscape. We provide each Sha-Maison construction site with green public spaces that are designed to match the appearance of the buildings. By making the most of the attractive characteristics of each area of land, we aim to maximize the value of the Sha-Maison apartment and make it a natural and valuable part of the community.

#### **Enhancing environmental value** by increasing green space

A green environment is an important factor for tenants to live comfortable lives. We are committed to creating a green environment that grows more attractive with the passing of time by providing greenery in more than 10% of the site area. We also ensure that ample space is provided between residential buildings, and that windows and trees are arranged in a manner that naturally blocks visibility from the outside to protect privacy.

#### Fostering community ties by providing green public spaces

Each Sha-Maison site is provided with a common space for tenants to enjoy social interactions as well as an open space conducive to fostering friendly ties with residents in the neighborhood. These green public spaces are effective in building unity among community members.



A green common space that fosters community ties



**Activity Report** 

Contributing to the creation of a recycling-oriented society by bringing greater comfort and enhancing the value of homes as assets through our group-wide efforts

As a homebuilding company that uses large quantities of building materials and resources, our social responsibility is not limited to enhancing the safety, comfort and durability of our homes; we are also obligated to prolong the lives of our housing products by offering appropriate maintenance services and protect their value as assets. while ensuring more effective use of resources and reducing energy consumption in our construction projects, thereby mitigating negative impacts on the global environment. We remain committed to contributing to the creation of a recycling-oriented society by encouraging remodeling projects focusing on prolonging the lives of homes, enhancing our zero-emission\* initiatives and promoting our own program to repurchase and remodel homes for resale.

\*By zero emission, we mean no waste materials sent to landfills or processed at waste incineration plants without thermal recovery.



# Promoting recycling efforts over the entire business process through group-wide cooperation

As a homebuilder that uses a great many resources in the construction process and generates large quantities of waste in the rebuilding process, it is our core mission to prolong the lives of our housing products and therefore reduce negative impacts on environment. To ensure our homes are used for a prolonged period of time without reducing their value as assets, we should be able to offer extensive support in a wide range of aspects, such as maintaining the level of safety, comfort and durability of our homes and providing appropriate maintenance services, as well as utilizing our high-quality workmanship to meet the remodeling needs of customers arising from changes in lifestyle and family structure. We should also maintain the value of homes as social stock until owners decide to sell them.

The Sekisui House group encompasses new build construction. after-sales maintenance services, and remodeling companies as well as a real estate company in charge of physical distribution, all of which enable us to offer consistent support services tailored closely to respective customer needs.

In our construction process, we became the first company in the Japanese homebuilding industry to achieve the zero emission goal at the stages of production, new build construction, after-sales maintenance and remodeling. In this way, we have been promoting recycling efforts in our entire business activities throughout the lifecycle of our housing products.

# **Prolonging housing lives** By reinforcing housing structure (Earthquake-resistant, seismic-dampening and seismically isolated structures) By offering improved service ections and guarante **Achieving zero emission** No waste materials sent to andfills or processed at was incineration plants without

Remodeling Homes built by Sekisui HouseOther homes

**Everloop program** Repurchasing and remodeling homes built by Sekisui House

**Encouraging distribution** of housing stock

bution

Resulting customers (residents)

# Steps taken by Sekisui House toward a recycling-oriented society

- 2002: Zero emission goal achieved at all our factories.
- 2004: Sekisui House becomes the first in the construction industry to be authorized to dispose of construction site waste across multiple prefectures.
- 2004: Sekisui House Remodeling Co., Ltd. established.
- 2005: Zero emission goal achieved at all new build construction sites
- 2006: Zero emission goal achieved at all after-sales service sites.
- 2007: Zero emission goal achieved at all remodeling sites of Sekisui House-built homes.
- 2007: Everloop program to repurchase and remodel homes built by Sekisui House for
- 2009: Sekiwa Construction begins remodeling of non-Sekisui House built homes









We will promote resource recycling to the fullest extent.

#### Ensuring the longevity of homes by reinforcing housing structure and offering improved services

We take various measures to prolong the lives of our homes to ensure a safe, secure and comfortable living environment to homeowners over generations, while increasing the value of homes as social stock.



#### Increasing housing durability and earthquake resistance with our proprietary technologies

Our steel-frame homes employ structural components that are provided with three rust-proof layers and air-circulation walls that prevent dew condensation within walls by air flows, which together with other innovations, ensure outstanding housing durability. In addition, our earthquake-resistant, seismic-dampening and seismically

isolated structures contribute to unparalleled seismic performance Especially, "SHEQAS," our innovative seismic vibration absorption system that incorporates special viscoplastic rubber in steel frames, converts seismic wave energy into heat energy to absorb building movement and reduces the effect of shaking on a building by approximately 50% to minimize damage.





#### Enhancing our house history report system and introducing smart house features

We keep and update a detailed house history report "le-log," which allows us to share housing information concerning the Long-term Quality Housing Certification in an electronic format. Currently, we are in the process of building a network for sharing registered information via PCs etc. We are doing this as a step toward a smart house environment. Working in partnership with many business partners, we are going to launch a service to inform homeowners of the time to replace



#### Allocating approximately 10% of our employees to after-sales service at Customer Centers in 99 locations throughout Japan

We are ready to offer extensive after-sales service promptly and efficiently to homeowners even after they have moved into their homes. We have Customer Centers in 99 locations (30 business offices) throughout Japan, where about 10% of all our employees are working as dedicated service personnel. Our wholly owned subsidiary, Sekisui House Remodeling meets the remodeling needs of customers to create a more comfortable living environment with state-of-the-art housing technologies. In this way, we offer after-sales support to maximize customer satisfaction



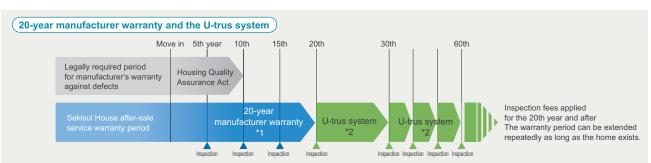
#### Offering long-term manufacturer warranty programs to better cater to customer needs

We implement long-term manufacturer warranty programs to ensure full functionality of our housing components during the warranty period, including a 20-year warranty which is applied to structural and frame components. After the expiration of the initial after-sales service period, our own U-trus system provides an extended warranty at 10-year intervals. By launching this system in October 1999, we embarked on long-term quality assurance of our housing products on our own about ten years before the enactment of the Act on the Promotion of Dissemination of Long-term Quality Housing (Long-term Quality Housing Act) as part of the national policy to prolong the lives of homes.

# Contributing to the creation of a recycling-oriented society by offering high-quality homes with prolonged life spans and promoting the remodeling of existing homes

Homes hugely impact the environment at each stage of their life span, starting from development, design, production at factory, transportation, construction and occupation by residents to demolition and disposal. In light of the sheer volume of inputs (building materials and energy) required for a homebuilding project and that of outputs (waste and CO<sub>2</sub>) stemming from the project, it is evident that the best solution lies in prolonging the lives of homes to allow residents to live in comfort and at ease for a longer period of time

In 2010, we reached a two-million milestone in the number of houses built since our inception, and as of the end of January 2012, we have offered 2,090,000 homes in a cumulative total. Aware of the impacts of our corporate activities on society and our social responsibility as a housing manufacturer with such a high profile, we have continued dedicated efforts to improve basic housing features and promote high-quality homes with prolonged life spans that are long-beloved by residents. Also, we have been striving to maintain the value of homes as assets by implementing remodeling to exacting Sekisui House standards using cutting-edge technologies, combined with appropriate maintenance services, while strengthening the resource recycling process on a continuous basis. We will remain committed to meeting ever-growing remodeling needs to accelerate the shift toward a recycling-oriented society.



- \*1: At Sekisui House, a 20-year manufacturer warranty is applied to structural, frame and water-proofing components (water-proofing components are covered by an initial 10-year warranty plus another 10-year warranty) on condition that free inspection be conducted and maintenance/repairs be made at the homeowner's expense upon expiration of the first ten years.

  \*2: U-trus system provides extended warranty at 10-year intervals, subject to required inspection and maintenance/repairs to be completed at the homeowner's expense.

#### Building a recycling-oriented industrial systemhomebuilding through more efficient use of resources

# Advancing toward a recycling-oriented society by promoting efficient use of limited resources

As a homebuilder continuously engaged in many different housing construction projects, the Sekisui House Group is responsible to ensure careful management and proper disposal of waste in construction sites

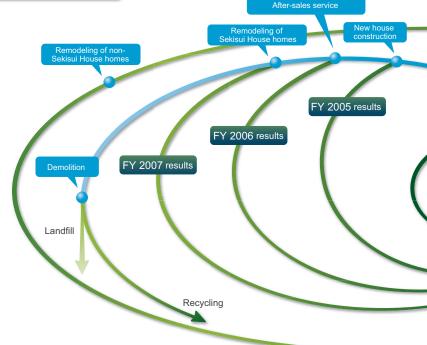
To minimize consumption of limited resources in our homebuilding projects, we have been implementing various initiatives to prolong the lives of our homes, promote remodeling of homes to address changes in the lifestyles of homeowners, and renovate existing homes. We are also committed to our core mission to achieve zero emissions and develop a resource recycling mechanism in our efforts to fulfill our social responsibility to use resources (housing components) that constitute social stock for as long a period as possible, and promote recycling of waste for efficient use while minimizing waste generation.

# Continuing to enhance the level of our own resource recycling initiatives

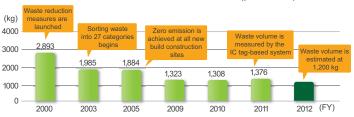
The Sekisui House Group was among the first in the industry to embark on new resource recycling initiatives.

To be specific, we have been striving to play a leading role in building a recycling-oriented industrial system, which requires all industries to make a major shift in their production processes. We are doing this through our efforts toward continuous innovations, such as collecting waste on a nationwide basis upon authorization by the national government; developing products using recycled raw materials; introducing an IC tag-based system that enables accurate measurement and proper management of waste volume; and attaining a higher level of waste risk management by means of an electronic manifest system.

We will continue our efforts while exploring opportunities to partner with other companies in the industry through research on zero emission at demolition sites and other initiatives.



■Year-on-year change in the volume of waste from Sekisui House new build construction sites (per 145 m²)

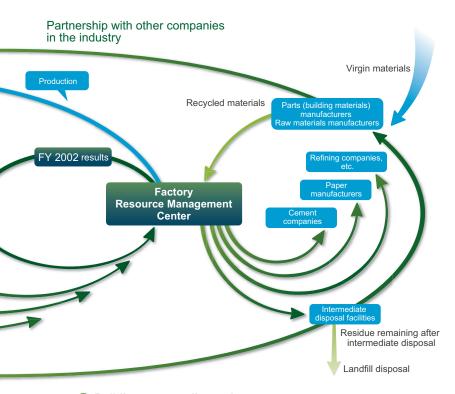


Waste volume is reduced by approximately 1.5 tons (50%) per house from the year 2000. In December 2011, we introduced a precut method as a standard for our low-rise apartment construction projects, which largely contributes to our waste reducing efforts.









Developing new materials by recycling waste from construction sites

# Platama Powder, field chalk made entirely from waste materials

We make field chalk by mixing waste plasterboard collected at our construction sites with egg shells that have been washed and dried, then the mixture is crushed into fine particles.

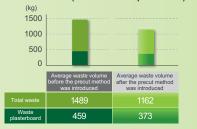


# Building a waste disposal management framework by means of an electronic manifest system

Against the backdrop of repeated illegal dumping of waste in Japan, we are required to properly manage the waste disposal process and trace the movement of waste to our disposal contractors, thus preventing improper disposal. We have replaced the conventional paper manifest (industrial waste control manifest) with an electronic manifest on a group-wide basis, which allows us to exchange data via the Internet and expedite and streamline the waste management process. As of the end of January 2012, 85% of our facilities have introduced an electronic manifest system. We will strive to increase the rate to 100% during fiscal vear 2012.

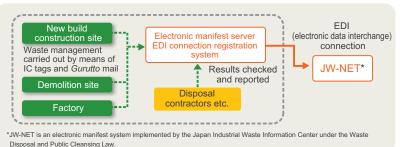
Proving the effectiveness of the precut method in reducing waste in low-rise apartment for leasing construction projects using actual measurements

# Volume of waste from construction projects in which the precut method was applied on a trial basis (waste volume per 145 m²)



We implemented eight pilot construction projects with the precut method through close partnership between head office, factories and construction personnel. Even after the introduction of the precut method as a standard for low-rise apartment construction, we are continuing to work to improve the efficiency of the method in cooperation with the departments responsible for providing instructions to construction personnel, while mass-production precut lostserboards. mass-producing precut plasterboards.

# ■Electronic manifest system of Sekisui House



# Introducing the plasterboard precut method for low-rise apartment construction projects

In December 2011, we adopted the plasterboard precut method as a standard for our low-rise apartment construction projects. Using this method, we aim to reduce resource consumption and shorten construction periods by 20%, while maintaining the quality of our housing products. This method will also help us smooth the fluctuations in work volume, contribute to alleviating the shortage of construction workers, and stabilize the management of our partner building contractors.







Working in partnership with universities and other manufacturers to develop ways to achieve zero emissions at demolition sites and during remodeling of non-Sekisui House homes

The Sekisui House Group has implemented internal rules for the selection of waste disposal companies to ensure that waste from our demolition sites will be disposed of in a responsible manner. According to the rules, we assess the performance of candidates for our waste disposal partners in terms of compliance with law, information disclosure, and environmental preservation efforts to secure waste disposal channels that meet our criteria. If we are to further advance our efforts toward achieving our zero emission goals, a social mechanism to boost waste disposal as a new industrial sector should be in place, which cannot be achieved through our efforts alone.

Therefore we have emplayed on joint research with universities and materials manufacturers to build an ideal Therefore, we have embarked on joint research with universities and materials manufacturers to build an ideal recycling-oriented industrial system.



### **Encouraging recycling of resources through** our remodeling projects

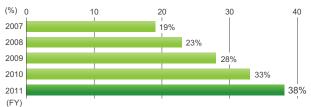
As a homebuilder striving to prolong the lives of our homes, we are on an important mission to implement remodeling of homes to ensure homeowners "comfortable living—now and always" regardless of the passing of time. Our track record of building vast quantities of homes makes us all the more responsible. We are working closely with our group companies to promote remodeling projects.

# Remodeling of homes built by Sekisui House

Needs of residents are apt to change as their lifestyles and family structures change. At Sekisui House, we make it a principle to develop design plans based on our understanding of the lifestyle of the individual customer in every new build construction project, and this principle enables us to propose attractive remodeling solutions to each homeowner to create a more comfortable living environment.

Remodeling projects to bring "comfortable living—now and always" to homeowners are undertaken by Sekisui House Remodeling, our wholly owned subsidiary established in September 2004. Homeowners benefit from our innovative U-trus after-sales warranty program, as well as a variety of remodeling options that ensure greater safety, security and comfort, such as the installation of a photovoltaic power generation system and high efficiency window and door insulation to add energy producing and saving capabilities. We take pride in contributing to the creation of a recycling-oriented society by enhancing the value of homes as social stock and prolonging the lives of homes through our remodeling projects. Using our proprietary technologies, we implement remodeling projects making the best use of the durable structure of our housing products that age with almost no loss of quality. In doing so, we contribute to building high-quality housing stock and creating a pleasant and healthy living environment. During 2011, the share of owners of remodeled Sekisui House homes increased to 38%.

#### ■Increase in the share of owners of remodeled homes\*



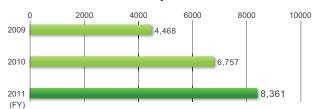
remodeled to all the Sekisui House homes owned by individual owners. (The number of Sekisui House homes owned by individual owners as of February 2005 is used as a base level.)

# Remodeling of homes not built by Sekisui House

With the expansion of the remodeling market, the varying construction quality among homebuilders has emerged as a social problem. Against this backdrop, owners of homes not built by Sekisui House have begun to turn to Sekisui House for our technical excellence and high construction quality. In response to the growing needs of these owners, Sekiwa Construction (our wholly owned subsidiary which serves as our construction arm responsible for general quality control), started remodeling homes not built by Sekisui House-built, condominiums and shops in 2009. We have since assigned more employees to remodeling projects and strived to enhance their ability to offer attractive remodeling solutions to homeowners.

As a result, the number of remodeling orders from owners of homes not built by Sekisui House received during fiscal year 2011 increased by about 24% from the previous year.

#### ■Increase in the number of remodeling orders from owners of homes not built by Sekisui House



#### Remodeling of homes built by Sekisui House





After a complete exterior renovation, the home looks like a new build home

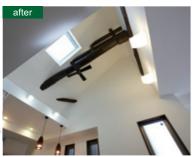




The Japanese-style room is renovated into a stylish

# Remodeling of homes not built by Sekisui House





The large ceiling beam is effectively used in the





The old kitchen space is renovated by introducing an island kitchen counter.





# Promoting the Everloop home repurchase program

Under the Everloop program, we repurchase existing Sekisui House homes from the homeowners; completely renovate them using our proprietary technologies; add a state-of-the-art earthquake-proof system, high efficiency insulation and other advanced housing features; and then offer them for resale with a warranty. Through this program, we launched a new housing distribution system, offering homes which are not new builds, but are not included in the used-home category either. By promoting recycling of homes and lengthening the lifecycles of homes, we can reduce construction waste by more than 70% compared with rebuilding a home. In this way, our Everloop program is proven highly effective in saving resources and preserving the environment. (A total of 123 Everloop homes have been sold.)



#### Sekisui House Revitalized Homes

Everloop homes are eligible for a housing loan with up to 35 years' repayment period, fire insurance, and preferential taxation.



#### **Everloop Club**

Everloop Club is Sekisui House's membership association established in 2011. Privileges given to members include access to members-only information on Everloop homes as well as publicly available real estate and other up-to-date information, and invitation to events organized by Sekisui House.



Currently, membership is limited to home owners in the Tokyo metropolitan area, Chubu region and Kansai region.

# Renovation by Sekisui House

#### **Everloop** quality

Ensuring much greater safety and comfort with state-of-the-art technologies

- Enhanced durability, earthquake resistance and insulation efficiency
- Universal Design
- Greater reliability with home history record

Sophisticated design

# Everloop home seller

#### The reliability of the manufacturer and the fair price assessment made us decide to sell our home

We began considering selling our home after our child entered university, and because we wanted to move to a location that would better meet our needs in later life. We first went into negotiations with a real estate agent but failed to reach an agreement on the terms of sale. The information of the Everloop program was given to us by an acquaintance who works for Sekisui House. We soon contacted the Sekisui House sales person in charge, and were offered a more favorable selling price than we had expected. We were also satisfied that no brokerage fee was required, and convinced that Sekisui House, with their considerate after-sales support, would take good care of our home and would allow us to maintain the ongoing good relationships with our neighbors even

after selling our home. For these reasons, we decided to sell our home to Sekisui House. We are very happy to think that the home where we have raised our child was renovated into an Everloop home after we moved out and will last for generations.



# Everloop home buyer

#### We could find an ideal home in an area full of old happy memories

The M family (Hyogo Prefecture)

We were offered and bought an Everloop home located in the area where we spent happy school days. The home is sturdily built and has a beautiful appearance and exterior space that are equal to a new build home. We are impressed and fascinated by the outstanding sound proof performance of the home, which minimizes noise to neighboring rooms and blocks the sound of footsteps on the stairs, and also by the pleasantness we feel when opening and shutting the doors, the sophisticated design of the interior space and windows, and the atmosphere created by the lighting. All of our friends who live in Sekisui House homes have a high opinion of the living environment, while the sales person of Sekisui House gave in-depth explanations to us in an easy-to-understand manner and completely alleviated our concerns. These are factors that made us decide to buy the Everloop home. The home benefits us

financially as well, because thanks to the fuel cell system for residential use, all we have to pay for electricity per month is only

about 1,000 yen. Due to these advantages, as well as the meticulous after-sales service and periodical inspections, all family members are satisfied with their new home



Each room is beautifully renovated with our proprietary components.



The fuel cell system allows residents to store hot water by using the heat recovered from power generation