

II. Environmental

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise



- 26 II Environmental
- 27 Addressing Material Issue ①
Leading the Way to a Decarbonized Society
- 28 Contributing to the Emergence of a Decarbonized Society
- 36 Biodiversity Conservation
- 42 Resource Recycling (Circular Economy)
- 46 Environmental Management
- 50 Eco-First Promise

E Environmental

Sekisui House was the first housing supplier in the industry to incorporate global environmental considerations into its business operations. As a global leader in adherence to ESG principles, we remain focused on becoming a world leader in environmental technology. We are dedicated to carbon-neutrality, ecosystem conservation, and the emergence of a society committed to resource recycling.

Addressing Material Issue ① Leading the Way to a Decarbonized Society

Environmental

Addressing Material Issue **1** Leading the Way to a Decarbonized Society



Basic Concept

Since adopting the Sekisui House Group’s Environmental Future Plan in 1999, we have used the medium of housing development to implement many effective efforts to address environmental issues.

In particular, we now consider global warming, suspected to be the cause of frequent calamitous natural disasters that occur all over the world, as an imminent and significant risk to the survival of society. As a result, we are strengthening our efforts to reduce our carbon emissions. We are confident that the Sekisui House Group, the world’s largest supplier of housing, can address this issue throughout the value chain to make the transition to a carbon-free society even more effective.

We will continue to cooperate with our stakeholders to restore the health of the global environment, which is indispensable to “making home the happiest place in the world.”

Themes and Key Performance Indicators (KPI)

Themes	KPI	Unit	FY2020 Results		FY2021 Targets	FY2022 Targets
			Targets	Results		
Reducing carbon emissions at the residential stage	Ratio of detached ZEH homes*1	%	88%	91%	89%	90%
	Number of ZEH units for rent*2	Housing units	1200	2976	1800	2500
	Number of ZEH condominiums for sale (cumulative number of units)*3	Housing units	32	32	196	540
	Number of <i>Idocoro Dan-netsu</i> houses*4	Housing units	1000	1005	1200	1250
	Rate of CO ₂ emissions reduction from new housing*5	%	42%	54.7%	45% reduction by 2030*7	
Reducing carbon emissions from business operations	Rate of CO ₂ emissions reduction from business operations*6	%	29%	19.4%	50% reduction by 2030*7	
	RE100 achievement rate*8	%	6%	16.4%	25%	35%
Reducing carbon emissions from the supply chain	Supplier science-based target-setting rate*9	%	—	18.6%	80% by 2030	

*1: ZEH ratio of contracted and for-sale housing in areas other than Hokkaido

*2: Number of orders place for ZEH Ready or higher units

*3: Number of completed units ranked as ZEH Oriented or higher

*4: Number of units renovated to *Idocoro Dan-netsu* concept with partial thermal insulation and heating systems (p. 32)

*5: Scope 3 Category 11 emissions reduction rate relative to FY2013 levels. Calculation is based on the current science-based target boundary (excluding Konoike Construction Co., Ltd.)

*6: Scope 1 and 2 emissions reduction rate relative to FY2013 levels (FY2020 emission results include those of Konoike Construction.)

*7: Targets including those of Konoike Construction are under review.

*8: Ratio of the amount of post-FIT photovoltaic power and other power purchased by Sekisui House Owner Denki (p. 33) to the total amount of electricity consumed in our business operations

*9: Percentage of our major suppliers who have adopted science-based targets

For information disclosure under the TCFD, please refer to the Integrated Report.



Contributing to the Emergence of a Decarbonized Society

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Our Mission Is to Reduce CO₂ Emissions for the Benefit of All Stakeholders.

In keeping with our Global Vision of making home the happiest place in the world, the Sekisui House Group is dedicated to helping our customers enjoy lives of happiness. We are building homes in which people can live in an abundance of safety, security, comfort, and good health. In recent years, however, we have witnessed the frequent occurrence of widespread natural disasters suspected to be triggered by climate change. These events threaten our safety and well-being, while climate change is also becoming a major risk to the stable continuation of our corporate operations. If we are rendered unable to operate our business, we will be unable to maintain our customers' homes; moreover, the impact on our many contractors and suppliers would be substantial.

For these reasons, and for the happiness of all stakeholders, we believe it essential that we take on the mission of preventing the global warming that brings about climate change.

Overview of our initiatives to support a carbon-free society

In 2008, the Sekisui House Group introduced Vision 2050, which outlines a variety of effective initiatives to achieve zero CO₂ emissions from a house throughout its life cycle.

As milestones for achieving this objective, we will compare our 2030 emissions against our 2013 emissions, specifically in terms of emissions from corporate activities (Scope 1, Scope 2)^{*1} and emissions during the residential stage of supplied housing (Scope 3, Category 11). In 2019, we revised our SBT certification^{*2}

with the goal of reducing these amounts by 50% and 45%, respectively.

In addition, as an RE100^{*3} member company, we will convert to renewable sources of electricity for our business operations, adopting targets of 50% by 2030 and 100% by 2040. A number of efforts are now under way to achieve these goals.

- *1 Classification of CO₂ emissions according to the categories of the Greenhouse Gas Protocol.
- *2 Certification of greenhouse gas reduction plans based on scientific data
- *3 An initiative to obtain sufficient renewable energy to offset all the electricity consumed by a business

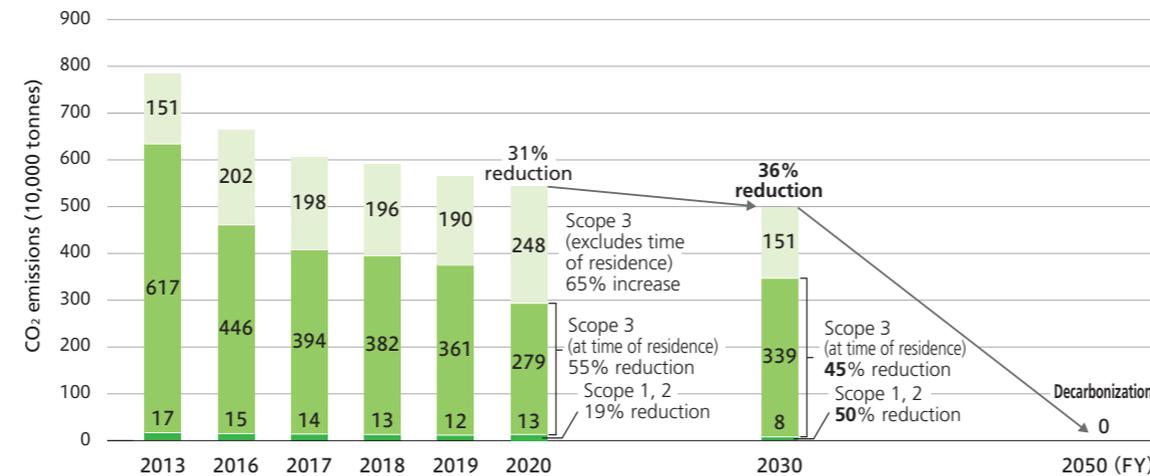
Today, 91% of our newly built custom detached houses are Green First ZERO ZEH, for a cumulative total of 60,000 units

Our Green First ZERO^{*1} homes demonstrate a high level of comfort, economy, and environment-friendly design. In fiscal 2020, 91%^{*2} of our detached houses were ZEH units, far exceeding the ZEH ratio of 13.9%^{*3} for Japan as a whole in fiscal 2019. The cumulative number of ZEH units we have constructed since the launch of this product in 2013 is 60,843, representing the largest number of such units in Japan (as of March 31, 2021).

In 2009, the year following our declaration to become carbon-neutral, we launched "Green First," considered the predecessor of ZEH, as a specific initiative incorporating solar cells and fuel cells as standard equipment in these residences. As of the end of fiscal 2012, when the government first published the quantitative results of the ZEH initiative, ZEH units had already accounted for 83.8% of the detached houses we sell, with the cumulative number of houses constructed exceeding 45,000. Taking advantage of our broad experience in the design and sale of such housing, we started promoting ZEH ahead of the industry and achieved a record of 49% for Green First ZERO—which has since evolved into ZEH—from the year of its launch.

In the aftermath of the Japanese government goal, as stipulated in the 5th Basic Energy Plan, of having more than half of all custom-built detached houses constructed by all house makers as ZEH by 2020, the actual result as of fiscal 2019 was 47.9% for all major house builders, which is close to the government target. We are confident that our industry-leading efforts in the area of ZEH have contributed greatly to the attainment of this target.

Sekisui House value chain CO₂ emission reduction plan and progress (All reduction rates are relative to FY2013 levels)



Contributing to the Emergence of a Decarbonized Society

Environmental

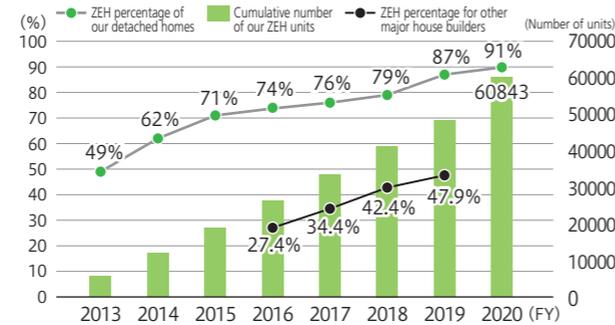
II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

- Biodiversity Conservation
- Resource Recycling (Circular Economy)
- Environmental Management
- Eco-First Promise

Growth in the number of detached ZEH homes



Notes:

- Sekisui House's ZEH percentage includes sales of contracted and new construction units. The ZEH percentage for major house builders is contracted units only.
 - The ZEH percentage for major house builders is the percentage of all house builders that maintain sales offices across the country and provide standard housing.
- Source: "Direction of future consideration for further promotion of ZEH," ZEH Roadmap Follow-up Committee, March 31, 2021



The Family Suite, a spacious living area with large openings looking the garden of the *Gohon no ki* Project



Sekisui House proprietary tile-based solar power generation system

The widespread adoption of the ZEH initiative is indispensable to the successful emergence of a carbon-free society. However, despite the advantages for society, any restrictions to consumers caused by the adoption of ZEH could undermine the potential success of this initiative. For this reason, we have undertaken a variety of measures to make ZEH appealing to many prospective purchasers. For example, a home designed with an atrium or large living room windows offers a bright, open, and comfortable space, but these features can be disadvantageous in terms of energy efficiency. However, we can provide housing that is both comfortable and energy efficient by improving the thermal insulation performance of the entire building, including the windows. We are promoting the *Gohon no ki* Project, which includes gardens for planting tree species that attract birds and

butterflies. We have designed a ZEH that features large openings offering occupants a superb view of the gardens from comfortable living rooms.

The solar panels that are indispensable to ZEH are generally rather large. When installed on roof tiles, they inevitably spoil the appearance. If the roof has a complex shape, it may not be able to accommodate a sufficient number of panels required for the ZEH standard, and a change to the plan may be necessary. However, since we have developed proprietary small tile-shaped solar panels as a standard feature on our buildings, we can install high-capacity panels even on structures with complex roof shapes. The inconspicuous appearance of these tiles harmonize well with the attractive appearance of ZEH that our customers prefer.

We also believe that Green First ZERO responds well to the transformed lifestyles that have resulted from the effects of the COVID-19 pandemic. The energy efficiency and energy-generating performance of ZEH also help to offset the increased power consumption that can be a concern when the occupants are working from home. In addition, the bright and spacious interior designs we recommend make it possible to live comfortably with less of the stress that can arise from spending more time at home. Going forward, we will continue to respond to the emerging needs of the post-pandemic era as we drive the further evolution of our ZEH initiative.

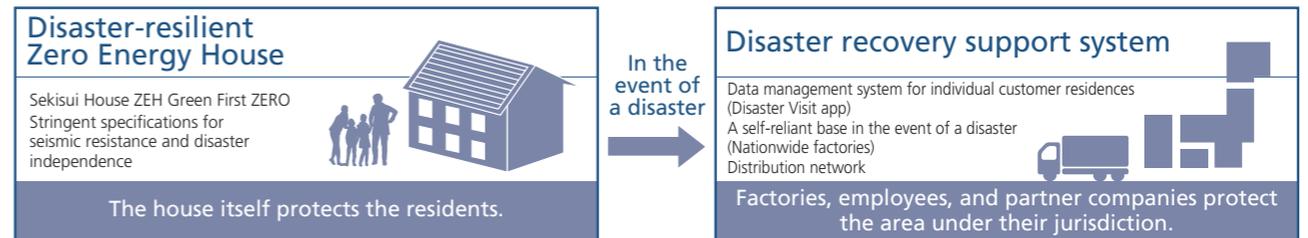
- *1: Abbreviation for "Net Zero Energy House," a house that aims for an annual primary energy balance of zero through energy efficiency and energy generation while providing a comfortable indoor environment.
- *2: The ratio of ZEH, Nearly ZEH, and ZEH Oriented (in areas with a minimum snowfall of 100 cm) dwellings constructed between April 2020 and March 2021 in all areas excluding Hokkaido. The ratio for Hokkaido was 75%.
- *3: Source: Net Zero Energy House Support Project Survey Results (2020 Edition); Agency for Natural Resources and Energy, Environmental Co-creation Initiative

Green First ZERO + R: Strengthening disaster resilience with group support

In light of recurrent earthquakes, typhoons, and various other natural disasters, a clear need exists for disaster-resilient Zero Energy Housing in which the buildings themselves are sufficiently robust to withstand these events. At the same time, this housing can provide secure living spaces that support ongoing survival with adequate food, water, and energy in the aftermath of a disaster. From the perspective of energy security, ZEH's components are quite useful, as they include a three-battery link system with solar cells that can supply electricity on sunny days; fuel cells that can generate electricity at night and in rainy weather when a gas and water supply are available; and storage batteries that can store surplus power generated by solar cells and fuel cells. These systems enable people to live without hardship even if power outages continue for several days.

In the event of a disaster, we first ensure the safety of the residents through the resilience of the building itself. Then, we can quickly determine the safety status of the residents as well as the damage situation. By utilizing the organizational strength of the company, we can establish a system and provide support so that owners can regain their daily lives as soon as possible while making our nationwide factories available as a foundation to support regional restoration. Green First ZERO + R is our solution to problems that cannot be solved by the building alone and serves to happiness the resilience of the building itself.

Sekisui House will continue to lead the housing industry by developing and spreading the value of ZEH, which contributes to the happiness of residents and society at large.



Contributing to the Emergence of a Decarbonized Society

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

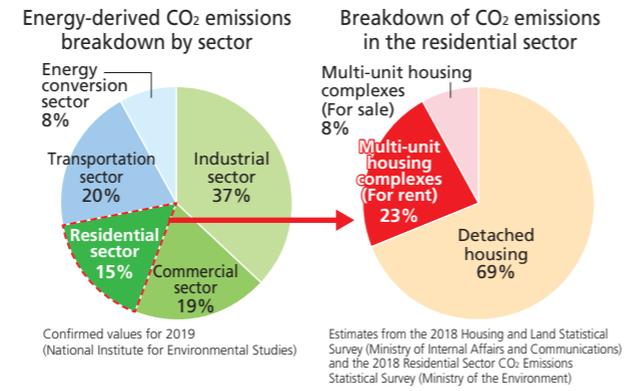
- Biodiversity Conservation
- Resource Recycling (Circular Economy)
- Environmental Management
- Eco-First Promise

Our promotion of Sha Maison ZEH has led to orders for 2,976 ZEH dwelling units

About 30% of the CO₂ emissions attributable to the residential sector are emitted from multi-unit housing complexes, and rental housing accounts for a large portion of this at 23%. Clearly, the conversion of rental housing to ZEH standards is an essential aspect of the drive toward a carbon-free society. We anticipate that this need will continue to grow in the future, so we have rebranded our Sha Maison rental house brand to “Sha Maison ZEH” and are focused on the construction of ZEH rental housing in various parts of Japan. In fiscal 2020, we received orders for a total of 2,976 ZEH dwelling units by holding internal information sessions, introducing sales support measures, and employing subsidies.

Two types of ZEH standards apply to multi-unit housing complexes: ZEH-M, which applies the net-zero energy standard to the entire residential building, including common areas; and ZEH, which applies the net-zero energy standard to the individual housing units. We are also working to popularize ZEH-M by promoting ZEH for all dwellings from a “residents’-first” perspective and increasing the number of ZEH dwelling units. In addition to receiving these orders, we are steadily increasing the cumulative number of completed units. In fiscal 2020, we supplied 97 ZEH-M buildings and 844 ZEH dwelling units, for a cumulative total of 200 buildings and 1,535 dwelling units, respectively.

Note: For a multi-unit housing complex, four types of ZEH standards are defined depending on the difference in energy efficiency. ZEH is the most effective standard, as it is capable of reducing primary energy consumption by more than 100% on balance. In contrast, Nearly ZEH represents a more than 75% reduction in CO₂ emissions, ZEH Ready represents a more than 50% reduction, and ZEH Oriented represents a more than 20% reduction. In addition, ZEH-M and ZEH differ in their definitions of evaluation targets, which are “residential building” for the former and “dwelling units” for the latter. (Based on the definition of ZEH for multi-unit housing revised in March 2019 by the Agency for Natural Resources and Energy.)



Promoting Sha Maison ZEH group-wide to create a ZEH market for rental housing

The comfort resulting from high levels of thermal insulation, the benefits of reduced utility costs, and the sense of security that comes from the availability of reliable electricity in the event of a disaster are all advantages that we highlight for residents of ZEH multi-unit dwellings. But we can offer other advantages to the building owners as well. The growing need for ZEH rental housing in the future is apparent from the fact that young people, who tend to depend on rental housing, place a high value on ethical consumption, exemplified by a preference for environment-friendly products. In an era when prospective tenants may choose their rental housing with concerns for its environmental benefits, the competitiveness of a ZEH property can be significantly higher. Clearly, a conversion to ZEH rental housing can lead to increased asset value for building owners.

The role of an intermediary is important to the popularization of the Sha Maison ZEH brand, as it is essential to communicate correctly not only to the owner but also to the prospective tenant. We thus ensure that Sekisui House conveys the significance and competitiveness of Sha Maison ZEH to the owner, and that Sekisui House Real Estate informs prospective tenants about the appeal of comfort, economy, and global warming prevention. We are thus engaged in popularization efforts that utilize our group strengths.

In November 2020, our group efforts to create a ZEH market for rental housing won recognition, earning us the highest award at the 2020 Minister of the Environment Award for Climate Change Action sponsored by the Japanese Ministry of the Environment.

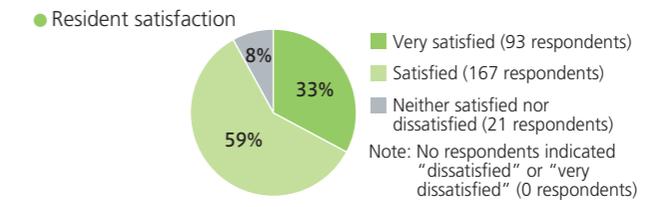
The evaluation of the actual tenants was also high, and a recent survey of residents showed high satisfaction with the comfort as well as the benefits of reduced utility costs. We believe



that, with ongoing high evaluations by residents, the number of people desiring to live in ZEH units will continue to grow, generating an increase in the number of ZEH dwelling units in the market and eventually to a mitigation of global warming. We will continue to popularize ZEH rental housing, which clearly demonstrates its value to residents, building owners, and the global environment.



Survey results of Sha Maison ZEH residents



Reason for satisfaction (multiple answers)

Ranking	Reason for satisfaction after moving in	No. of replies	Ranking	Reason for satisfaction after moving in	No. of replies
1	New construction appeals to me.	189	9	I like the appearance and the exterior.	63
2	I like the size and floor plan.	123	9	It has good thermal insulation.	63
3	Provides convenient access to transportation.	116	11	It has crime-prevention features.	58
4	Utility costs are lower.	114	12	The neighborhood is good (park, view, etc.)	46
5	Solar power is available.	99	13	It is energy-efficient and environment-friendly.	42
6	Located close to surrounding facilities (supermarkets, hospitals, schools, etc.).	98	14	The rent is reasonable.	39
7	I like the interior.	91	15	Electricity is available even during a power outage.	15
8	The appliances seem convenient.	88	—	Other	42

Note: From a survey of residents of a Sha Maison ZEH multi-unit building. The survey was conducted in November on those residing in the building between April and September. (Total no. of respondents: 290)

Contributing to the Emergence of a Decarbonized Society

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Construction of ZEH condominiums makes steady progress

We are also promoting the ZEH standard for the condominium market. In February 2019, we completed Grande Maison Kakuouzan Kikuzakacho in the city of Nagoya as Japan's first all-ZEH condominium complex. It had been considered difficult to build multi-unit housing complexes to ZEH standards because of the small rooftop area available for installation of solar panels relative to the large number of housing units in the structure. However, this project is a low-rise condominium with only 12 units, so sufficient rooftop area was available.

In high-rise condominiums where solar panels are difficult to install, we are working to popularize the ZEH Oriented standard, which provides for the greatest possible energy efficiency without the installation of solar panels. In fiscal 2020, we completed two buildings incorporating 20 ZEH dwelling units* in three buildings. In addition, we began construction of Grande Maison Uemachidai The Tower PJ in Osaka City, a 36-story high-rise condominium meeting the ZEH Oriented standard for all dwelling units. Construction is proceeding with completion scheduled for Spring of 2022.

In order to raise the energy efficiency of each unit to the ZEH

*ZEH Oriented dwelling units or higher



Grande Maison The Motoyama in Nagoya City



Grande Maison Ohori THE APARTMENT in Fukuoka City

level, fuel cells were installed in all units. One appeal of high-rise condominiums is the view offered by the large windows; however, increasing the area given over to windows is a disadvantage because of their inferior thermal insulation performance. In response, we installed high-performance vacuum double-glazed windows in order to achieve high energy efficiency despite the large window openings.

We believe that, in order to popularize the ZEH standard, any limits to the various condominium designs should be avoided. For example, in urban areas, in addition to designing for high energy efficiency, we place stairwells inside the building and adopt passive methods for air flow and lighting. In areas where the climate is good and views are available, the thermal insulation of openings is improved so that balconies and windows can be arranged all around the building. Thus, the ZEH standard can be accommodated according to the local characteristics and conditions. Going forward, we are confident the ZEH standard will continue to add unique value to condominiums.



Grande Maison Uemachidai The Tower PJ in Osaka City (All units are ZEH Oriented.)



High-performance vacuum double-glazed windows are used throughout (illustration).

Development of ZEB for non-residential construction

ZEB, like ZEH, is a net-zero energy building standard that the government is encouraging the construction industry to adopt. The non-residential sector covered by ZEB encompasses buildings of different scales with a wide variety of uses, and a unique ZEB design is required for each application. In addition to devising a rapid calculation system for non-residential areas that became the driving force behind the traction gained by ZEH, we are promoting the same stringent specifications for thermal insulation in this sector as adopted in Sha Maison rental housing and are using our expertise to highlight the benefits to the customer.

In fiscal 2020, we constructed 11 buildings, for a cumulative total of 32, mainly for use as offices as well as childcare facilities, accommodation facilities, and clinics.



Sekisui House Toyohashi Branch Commercial use 2 stories totaling 1,340.68 m². ZEB Ready (BEI: 0.44)



YANAKA SOW in Tokyo Hotel 3 stories totaling 680.55 m². 13 rooms in total ZEB Ready (BEI: 0.45)

Contributing to the Emergence of a Decarbonized Society

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

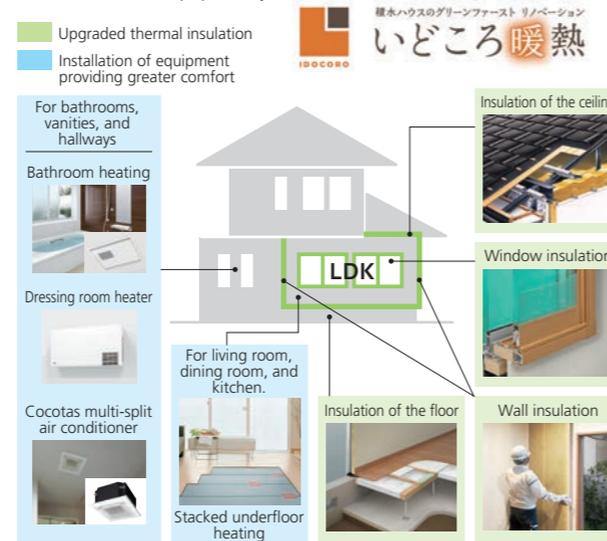
Eco-First Promise

Achieving a high level of comfort, energy efficiency, and environmental consideration with upgraded thermal insulation to meet existing standards

Under the slogan “Comfortable living—now and always,” our group operates remodeling and renovation businesses that contribute to the safety, security, and comfort of our customers. By renovating structures with upgraded thermal insulation, we are improving comfort while also contributing to a low-carbon society. Notably, highly insulated homes are considered more beneficial for our health, and Japan is now emphasizing the need to improve the thermal insulation of its housing stock.

The thermal insulation provided in our existing houses varies with the era of their construction. Consequently, we are focusing on *Idocoro Dan-netsu* renovation to address heating performance in houses that were built more than 20 years ago, while houses of more recent construction with increased thermal insulation are being renovated with an emphasis on energy efficiency and energy generation through the installation of equipment such as storage batteries and ENE-FARM units. We are also focusing on efforts to reduce the CO₂ emissions associated with existing houses.

Idocoro Dan-netsu Component List (Selected according to customer needs.)
(Photos are for illustrative purposes only.)



Thanks to enhanced thermal insulation and more comfortable equipment, the *Idocoro Dan-netsu* concept is an excellent way to enjoy roomy and more comfortable living spaces

Under the *Idocoro Dan-netsu* concept, we can provide greater comfort to residents by renovating with added thermal insulation for living spaces with a focus on the living room, dining room, and kitchen in keeping with the desired lifestyles. At the same time, we provide a heater for underfloor heating of bathrooms and vanities as well as amenities such as the Cocotas multi-split air conditioner for utility areas like hallways to reduce the temperature difference in each room and provide greater comfort.

When undertaking a remodeling project, the Sekisui House Group accurately determines in advance the current state of thermal insulation and other circumstances based on the history of each dwelling unit. By appropriately combining our proprietary thermal insulation and renovation materials, we undertake renovations in a short period of time to exacting specifications even in houses more than 20 years old while enhancing comfort, economy, and environmental considerations.

In order to confirm the effectiveness of the *Idocoro Dan-netsu* renovation, we conducted a survey of the clothing typically worn when the residents are relaxing in the living room during the day relative to the level of insulation provided in the house. We were able to confirm that the greater the thermal insulation in a house, the lower the proportion of heavy clothing worn in winter. This clearly demonstrates the enhanced comfort and habitability of this renovation approach.

Survey on clothing worn in the living room

What do you wear when you are relaxing in the living room during the day?



Offering the Family Suite Renovation concept for our existing housing

In September 2019, Sekisui House Remodeling, Ltd. launched the Family Suite Renovation concept, which proposed a new mode of living in which families can spend more time together in revitalized surroundings. Our RF Support Beam System, when used in an existing lightweight steel-framed house, allows a partitioned space to be expanded into a large open concept living room. When combined with upgraded thermal insulation in the living room, dining room, and kitchen areas from *Idocoro Dan-netsu* renovation and the installation of comfortable facilities, a large, warm, and comfortable living space can be achieved along with a reduction in CO₂ emissions.



Illustration of RF Support Beam structure



Renovated 35-year-old dwelling

Contributing to the Emergence of a Decarbonized Society

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Sekisui House Owner Denki system enables homeowners to participate in a carbon-free future

In October 2017, Sekisui House became the first member of Japan's construction industry to join the "RE100" initiative, which aims to source 100% of the electricity used in our business operations from renewable energy suppliers.

In an effort to achieve this target, we established Sekisui House Owner Denki in November 2019 as a system for purchasing surplus solar power for use in our group's business operations at the industry's highest level* of 11 yen/kWh. We purchase this "post-FIT" power from homeowners whose purchase period for the feed-in tariff (FIT) system for renewable energy has expired.

This mechanism helps to address the problems of both the homeowner, who may be losing the income from electricity sales, and our company, which is incurring the cost of purchasing

renewable energy to achieve the goals of the RE100 initiative. By setting the purchase price of post-FIT electricity above the market price, this approach improves the satisfaction of owners while adding a sense of security for those who are considering the purchase of solar power generation equipment. Consequently, this mechanism is likely to help drive the adoption of solar power generation in the future. At the same time, we will be able to reduce the cost of introducing renewable energy even as we continue to use it.

Sekisui House Owner Denki has been recognized as an advanced model that solves the two issues above while also contributing to a carbon-free future. As a result, we received the Commissioner's Prize from Japan's Agency for Natural Resources and Energy at the 2020 New Energy Award.

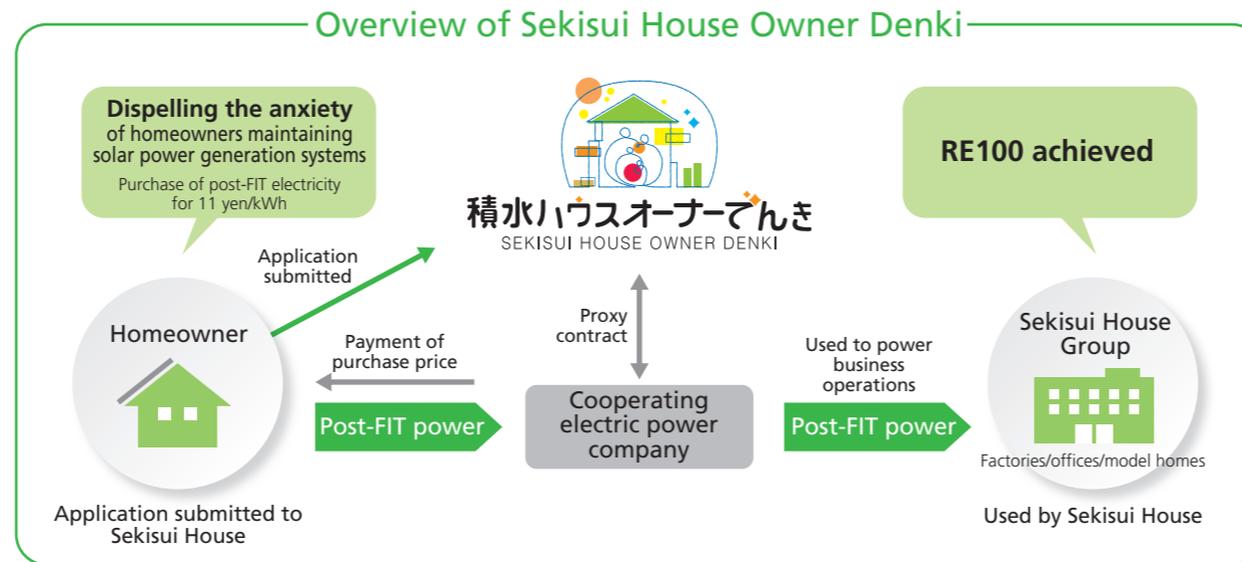
*When no incidental conditions apply, such as purchasing from a designated power company or installing storage batteries

As purchases of renewable energy increase steadily, achieving the RE100 objective before 2040 is within reach

Our group joined the RE100 initiative with the goal of sourcing 50% of the electricity used in our business operations from renewable energy suppliers by 2030 and 100% by 2040. Since the launch of Sekisui House Owner Denki, about 50% of homeowners under the post-FIT mechanism have joined in this initiative, bringing the progress rate to 16% for 2020. The potential for us to achieve our goals earlier than 2040 is growing.

Once the goals of the RE100 initiative have been achieved, we will look to further promote a carbon-free future by supplying the renewable energy we have purchased to condominium towers, where it is difficult to install solar power generation facilities, and by utilizing it in the supply chain.

With the aim of reducing our actual energy consumption, all our group companies continue to adopt energy-efficiency and power-saving efforts. Now that a decade has passed since the Great East Japan Earthquake erupted, we have managed to decrease the power consumption of our office division by about 46% due to initiatives such as turning off unnecessary lighting, converting our office lighting to LED fixtures, monitoring the temperature settings of our air conditioning equipment, and adopting other improvements to increase our operational efficiency.



Fiscal 2020 New Energy Award

Commissioner's Prize, Agency for Natural Resources and Energy



Utilizing post-FIT power to balance RE100 and customer service

Advanced model category for decentralized renewable energy

Awarded the Commissioner's Prize from Japan's Agency for Natural Resources and Energy at the 2020 New Energy Award sponsored by the New Energy Foundation

Contributing to the Emergence of a Decarbonized Society

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Collaborating with suppliers to reduce CO₂ emissions at the component and raw material procurement stages

CO₂ emissions from procurement of components and raw materials in our supply chain accounted for 37.7% of our total emissions in fiscal 2020. This represented the second largest percentage after CO₂ emissions during the residential stage of supplied housing (51.6%). We have provided a large number of ZEH dwellings, which has significantly reduced our CO₂ emissions at the residential stage. In the interests of reducing CO₂ emissions across the entire housing life cycle, however, we must seek to further reduce CO₂ emissions in collaboration with our suppliers, who are the sources of the components and raw materials we procure. Having recognized this need, we have actively begun to address it.

In October 2020, we conducted a fact-finding survey of our suppliers to determine their awareness of the need for a carbon-free future and the status of their efforts toward this goal. As part of this initiative, we held briefing sessions in February and April 2021 with the participation of 135 companies and 61 companies, respectively. The goal of this outreach was to share information with suppliers and raise awareness of our initiatives. We introduced leading suppliers and examples of our efforts to reduce carbon emissions as well as specific procedures such as obtaining SBT certification and how to join the RE100 initiative. It was also a meaningful opportunity to raise awareness about our CO₂ emissions reduction efforts.

As of 2020, our major suppliers had an SBT target-setting rate of 18.6%. We intend to contribute to the emergence of a carbon-free future by setting a goal of raising this target to 80% in 2030 and promoting effective CO₂ reduction efforts across the supply chain in cooperation with our suppliers.

A 3% reduction in CO₂ emissions from commercial vehicles and 9.7% reduction in accidents: Using telematics to reduce CO₂ emissions while promoting safer driving

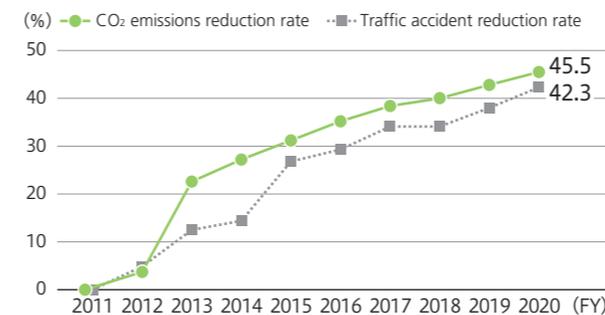
The Sekisui House Group incorporates telematics* in its commercial vehicles to educate employees about safe driving practices and raise awareness of eco-friendly driving methods.

The 11,000 commercial vehicles in the group's fleet are all linked to telematics systems. Through daily improvement initiatives implemented at worksites as well as company-wide long-term improvement initiatives, we are taking steps to reduce CO₂ emissions while promoting safer driving. This effort includes the use of driving data to monitor practices such as rapid acceleration and rapid braking.

Every year, we hold more than 400 safe driving classes across the entire group, resulting in an annual decrease in CO₂ emissions of about 860 tonnes, or 3.0%, from the previous year. This is promoted through the ongoing use of safe driving notebooks, video teaching materials, and stickers. The number of traffic accidents decreased in tandem with the CO₂ emissions reduction due to the safer driving practices that accompanied the improved fuel efficiency (down 9.7% from the preceding fiscal year on a non-consolidated basis). In recognition of our efforts since the introduction of telematics in 2011, we received the 2018 Minister of the Environment Award for Global Warming Prevention under the category of Advanced Technology Introduction.

*Telematics is a system that provides information on vehicle operation, such as usage, fuel consumption and dangerous operation, using devices fitted in the vehicles and communication terminals.

Trend in the CO₂ emissions reduction rate and traffic accident reduction rate since the introduction of telematics by Sekisui House (non-consolidated basis)



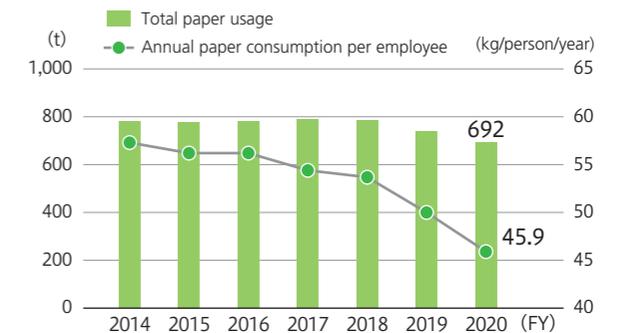
The environmental benefits of promoting green procurement: Reducing paper consumption by going paperless

We are actively implementing green procurement, which prioritizes the purchase of environment-friendly products. Our Green Procurement Guidelines apply to items such as the stationery used by our business offices across Japan. In fiscal 2020, our green purchasing rate was 89.5%, and our recycled paper usage rate was 99.7%.

By gathering, compiling, and visualizing data on the amount of paper used in the office, we are raising awareness of the need to reduce the amount of paper we consume. In collaboration with Sekisui House Umeda Operation Co., Ltd., we supplied an eco-friendly 100% recycled paper with high whiteness for our operations in Japan (the standard for the Green Purchasing Law is 70% recycled paper content). We supply this paper group-wide as our own original recycled paper product.

In fiscal 2020, the company's total paper consumption was 692 tonnes, representing a 6% decrease year-on-year, due in part to the increased number of employees telecommuting from home in an effort to minimize the spread of the COVID-19 infections. In addition, our paperless initiative progressed, with annual paper consumption per employee totaling 45.9 kg, down 8% from the preceding year.

Annual paper consumption per employee



Contributing to the Emergence of a Decarbonized Society

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

- Biodiversity Conservation
- Resource Recycling (Circular Economy)
- Environmental Management
- Eco-First Promise

Collaborating with international organizations toward a carbon-free building and construction sector

In 2008, Sekisui House declared that it would aim for carbon-free operations by 2050; since then, we have been focused on promoting the adoption of net-zero energy houses. The United Nations Framework Convention on Climate Change (UNFCCC) has proposed that urgent action is needed to reduce carbon emissions from the building and construction sector, which accounts for about one-third of global energy consumption. An urgent need exists to achieve this objective with innovative buildings and construction methods.

Against this background, we joined the Global Alliance for Buildings and Construction (GlobalABC), which was established at the UN's COP21 conference held in Paris. We later participated in and submitted reports to the UN's COP22 conference held in Marrakech, Morocco, and at COP23 held in Bonn, Germany, we presented a paper at a ministerial meeting on SDG 11 advocating the development of sustainable cities. There, we introduced the rationale and background for the mass introduction of our net-zero energy housing.

Business Models for Green Buildings, published in 2019 by the Programme for Energy Efficiency in Buildings (PEEB), introduced our initiatives as good examples of efforts to reduce carbon emissions in a manner compatible with business. These include the supplying of large numbers of ZEH dwellings through innovative methods utilizing factories as well as achieving significant reductions in CO₂ emissions from business operations by purchasing surplus power from constructed buildings with solar power generation facilities.

We will continue to work with experts from around the world to minimize CO₂ emissions from the building and construction sector.

Initiatives for housing in harmony with the environment

In addition to adopting the concept of "housing in harmony with the environment" in our product development, we remain focused on providing good housing and attractive cityscapes through the "Common's" cityscape evaluation system, reflecting these qualities in our development of custom detached houses, condominiums, and gardens.

Housing that combines global environmental conservation (low impact); affinity with the surrounding environment (high contact); and amenities and a healthy living environment, can be certified as "in harmony with the environment" by the Institute for Building Environment and Energy Conservation. "Housing in harmony with the environment" is an initiative aimed at creating better housing through compliance with certification standards under CASBEE for New Detached Houses, part of the Comprehensive Assessment System for Built Environment Efficiency promoted by the Ministry of Land, Infrastructure, Transport and Tourism.

The housing provided by Sekisui House, including Green First ZERO, has the characteristics of "housing in harmony with the environment" that reduce the burden on the global environment and allow homeowners to live comfortable lives in harmony with the planet. Through this housing, we aim to contribute to the emergence of a society committed to sustainability in housing and community development.

CASBEE, the Comprehensive Assessment System for Built Environment Efficiency, has been adopted mainly in Japan's ordinance-designated large cities. Our CASBEE-certified personnel play a central role in promoting this initiative.

Green First Club, a CO₂ emissions reduction project

The "Green First Club"^{*1} is an organization operated and managed by our company and Sekisui House Remodeling, Ltd. Customers who have introduced a solar power generation system and fuel cell cogeneration system are welcome to join the club. It

monitors the reductions in CO₂ emissions attributable to member households, subjects them to a national review, and donates the proceeds from the sale of certified credits to organizations engaged in social contribution activities.

The club was launched on July 27, 2011, after receiving approval as a Program-based Emissions Reduction Project under the Domestic Credit Scheme^{*2}. Furthermore, with the transition from the Domestic Credit Scheme to the J-Credit Scheme^{*3}, this initiative received approval as a Program-based Emissions Reduction Project under the J-Credit Scheme and continues to operate as such.

The profits on sale of these emissions trading credits were twice donated to Japan for Sustainability, a non-profit organization located in Kawasaki City, Kanagawa Prefecture, under Chief Executive Junko Edahiro.

The club had a membership of 17,788 following the transition to the J-Credit Scheme as of March 31, 2021.

*1: Sekisui House is the operator and manager of the Green First Club, and the members entrust the company with all procedures related to application to the Green First Club and credit authentication and transfer related to the J-Credit Scheme.
 *2: The Domestic Credit Scheme (a certification system for reduction CO₂ emissions in Japan) is a system that certifies the amount of greenhouse gas emission reductions achieved by small- and medium-sized enterprises through the provision of technologies and funds by large companies and others as stipulated in the Kyoto Protocol Target Achievement Plan. This system can be utilized to achieve the goals of voluntary action plans and trial emissions trading schemes. It ended in fiscal 2013 with a transition to the J-Credit Scheme.
 *3: The J-Credit Scheme (an emissions reduction/absorption certification system for global warming countermeasures in Japan) evaluates the emissions reduction/absorption of CO₂ and other greenhouse gases through forest management and the introduction of energy-efficient devices. Through this system, the government certifies the amount of emissions reduction as a "credit." Operated by the government, this system is a developmentally integrated system of the Domestic Credit Scheme and Offset Credit (J-VER) Scheme. The credits issued through this system can be used for various purposes such as achieving the goals of the Low Carbon Society Action Plan and carbon offsetting.

Biodiversity Conservation

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

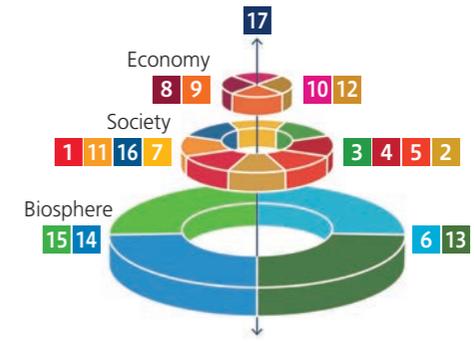
Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Utilizing Sustainable Natural Capital to Protect the Ecosystem Network through Our Business Operations

As an “ecosystem service,” biodiversity helps to support our society. We have a strong focus on preserving biodiversity in relation to raw material procurement as part of our business operations. This is also clearly shown in the SDGs Wedding Cake Diagram*¹, which has been attracting attention as an indication of the relationship among the 17 sustainable development goals, or SDGs. The Earth’s biosphere is represented by four of the SDGs: Life Below Water (Goal 14), Life on Land (Goal 15), Clean Water and Sanitation (Goal 6) and Climate Action (Goal 13). We can see that these support the Earth’s biosphere, which in turn supports our society, which in turn supports our daily economic life. At Sekisui House, we have adopted a challenge for 2050 of not only maintaining the value of the ecosystem (“no net loss”), but also achieving our goal of having a net positive impact by maximizing the value of the ecosystem through our business operations. We remain focused on greening and ensuring proper and sustainable wood procurement in consideration of local ecosystems.



*1: Source: SDG Wedding Cake Illustration by Johan Rockström and Pavan Sukhdev

Leading Japan as the first enterprise to pursue economic activity incorporating biodiversity conservation and global initiatives

We have been an early participant in the global movement for biodiversity conservation. At the 9th Conference of the Parties to the Convention on Biological Diversity (COP9) held in Bonn, Germany in May 2008, we were one of the nine major Japanese companies to sign the Leadership Declaration of the Business and Biodiversity Initiative. This initiative marked the first global effort to incorporate biodiversity considerations into business goals and reflect them in corporate operations.

As a founding member of this initiative, we agreed to the three objectives of the Convention on Biological Diversity*², and we continue to promote biodiversity conservation under this policy as a priority of our business focus. Major pillars of the initiative are our *Gohon no ki* indigenous landscaping project, which promotes the planting of native species, and our promotion of the use of FairWood.

Our efforts have received high praise, including multiple recognitions in major awards related to biodiversity and being introduced as an example of advances in ESG management principles. In 2020, our efforts were highlighted in two publications from Japan’s Ministry of the Environment: “Casebook on Biodiversity Engagements by the Private Sector,”

which summarizes the results during the 10 years since the adoption of the Aichi Targets*³, and “Good Practices for Corporate Information Disclosure,” which addresses biodiversity and natural capital.

*2: The three objectives of the Convention were conservation of biodiversity, sustainable use of biodiversity components, and fair and equitable distribution of the benefits of genetic resources.

*3: Alternative name for the New Strategic Plan 2011–2020 adopted at the 10th Conference of the Parties to the Convention on Biological Diversity (COP10) held in Nagoya in 2010

The increasing importance of urban greening and the *Gohon no ki* Project: Providing supporting data through a survey of flora and fauna

About 40% of Japan’s land area is known as *satoyama*, which translates roughly as “village forest,” an ecosystem that plays an important role in the conservation of biodiversity, as it not only sustains a wide variety of creatures that include endangered species, but also forms an ecosystem network that serves as a corridor for the movement of wild animals. In recent years, however, Japan’s *satoyama* has decreased in area and biodiversity has thus been impaired.

As Japan’s largest landscaping company, planting one million trees nationwide annually, we are responsible as a house

builder supplying many houses to conserve biodiversity through our housing products. Since 2001, we have been implementing the *Gohon no ki* Project, a landscaping and greening project that takes the ecosystem into consideration.

The *Gohon no ki* (“5 trees”) Project is based on the approach that “three trees are for birds, two trees are for butterflies, and all are local native tree species.” As defined under the *Gohon no ki* Project, a total of 288 local tree species that are beneficial to birds, butterflies, and other creatures can be used as garden trees. In addition to biodiversity conservation, the *Gohon no ki* Project encourages the use of garden trees that provide benefits to living creatures visiting the garden and offer the advantages of garden trees. One of the goals is to maintain and revive the ecosystem network by connecting residential gardens, admittedly small areas, in residential areas and cities in order to link them with local natural areas such as *satoyama*, thus supporting the habitats and activities of living things. Ecosystem networks enrich the biodiversity of local regions in all countries, creating places where residents can enjoy wildlife and the richness of nature at the same time.

Since 2008, we have been conducting flora and fauna surveys under the *Gohon no ki* Project in collaboration with experts to verify the effectiveness of the project. This survey, conducted on residential for-sale land that was greened and planted under the *Gohon no ki* Project, evaluates the

Biodiversity Conservation

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

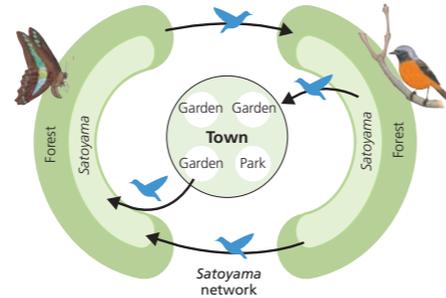
Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

effectiveness of the project on biodiversity conservation by actually observing the habitats of birds, insects, and other living things, comparing them with others in the surrounding area, and recording and analyzing changes in the ecosystem over time as the plantings grow.



Planting one million plants annually: Evaluating the effectiveness of biodiversity conservation under the Gohon no ki Project

When working with customers to implement the *Gohon no ki* Project to jointly promote biodiversity conservation, it is important to create a system that the homeowners can understand. Toward that end, we published the “Garden Tree Selection Book” (2001), a catalog that summarizes the relationship among trees, birds, and butterflies in an easy-to-understand manner and takes the ecosystem into consideration. We also prepared the Planting Maintenance Sheet (2017), which summarizes the characteristics and care of garden trees by residence, and developed the Tree Plate (2018), a tree identification panel with a two-dimensional barcode that is linked to planting materials. As a result of these efforts, the number of plantings per year, including those part of the *Gohon no ki* Project, was 980,000 in fiscal 2020, and the cumulative number of plantings since the start of the project in 2001 was 17.09 million.

On this, the 20th anniversary of the *Gohon no ki* Project started in 2001, we are currently focusing on quantitatively measuring the effectiveness of conservation effects and sharing

them with the public. Previous surveys of local flora and fauna have been limited in scope, merely measuring efficacy from data records of microscopic species observed at individual condominium buildings and regions. This is because no system has yet been made available to evaluate the full impact on Japan’s ecosystem network of the 17.09 million trees that have been planted over the preceding 20 years.

However, in 2019, thanks to the cooperation of the Yasuhiro Kubota Laboratory in the Faculty of Science of Ryukyu University, it has been possible to undertake quantitative effectiveness evaluations on biodiversity conservation from a macro perspective by utilizing big data on trees and living things possessed by the university in addition to accumulated data on the number of trees, tree species, and location information planted by our company since 2001. During 2021, we will be preparing to publicize an evaluation of the effectiveness of the *Gohon no ki* Project as an example of analysis on a scale unprecedented globally.

Shin-Satoyama, where people, greenery, and other living things exist in harmony next to the “Wall of Hope,” a green monument

On the north side of the Umeda Sky Building in Kita-ku, Osaka, where our company is headquartered, we prepared a *Shin-Satoyama* garden covering 8,000 m². This garden was renovated in 2006 with more than 500 trees based on the principles of the *Gohon no ki* Project. We planted native Japanese tree species and more than 200 species of shrubs and flowers to create thickets. In the belief that a variety of spatial shapes supports the richness of an ecosystem, we provided terraced rice paddies and fields to reproduce a *satoyama*, the disappearing native landscape of Japan, in the city center.

The growth of a wide variety of plants has increased the amount of greenery, and many creatures such as more than 40 species of wild birds and more than 20 species of butterflies have settled and grown in the garden. The arrival of birds of prey, which is rarely seen in the city, has also been confirmed. Instead of employing the conventional consumption-type management approach of removing weeds and fallen leaves immediately,

natural low-load circulation-type management has been adopted for the *satoyama* to enrich the soil organisms and broaden the food chain. So, we have essentially created a green space where many creatures can now thrive.

In 2013, we completed the “Wall of Hope,” a huge greening monument on the east side measuring 9 meters high and 78 meters long that was completed at the initiative of the renowned architect Tadao Ando. In order to function as a model for vertical spatial greening that is expanding in the city, we covered the green wall with more than 20,000 colorful plants of about 100 species, focusing mainly on the tree species selected for the *Gohon no ki* Project. By systematically arranging plants with different flowering times and colored leaves, we arranged it so that visitors could enjoy the varied appearance of the garden as it changes with the four seasons. This *Shin-Satoyama* project has become familiar to office workers as a place where one can experience the true value of this ecosystem.



Shin-Satoyama and the Wall of Hope viewed from the west side

Biodiversity Conservation

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a
Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Improving the quality and asset value of rental housing by utilizing the concept of the *Gohon no ki* Project

For rental housing properties where profitability is emphasized, tree planting is commonly disregarded as just another additional cost.

However, at Sekisui House, we are actively developing properties that showcase landscape design. We have branded these properties Sha Maison Gardens in the belief that beautification over time resulting from proper landscaping improves the asset value as well as the attractiveness and appeal of a property through the years.

As a result, we have developed what we call the Five Environmental Premiums to enhance these landscapes from various perspectives: ① Harmony with the city's appearance, ② Preservation and restoration of the natural environment, ③ Consideration of environmental impact, ④ Design for comfort and ⑤ Design that contributes to safety and security. Each of these items has its own rigorous evaluation criteria, including quantification and visualization to contribute to a pleasant living environment. These items encompass the site, the surrounding environment, and the building itself.

In fiscal 2020, we supplied 1,338 Sha Maison Gardens properties containing 13,026 dwelling units, which represents about 45% of the number of rental properties ordered. We intend to raise the ratio of Sha Maison Gardens complexes to 70% by 2022.

A property in an excellent environment supports the local ecosystem and improves the living environment of the residents. What's more, it has a positive effect on the occupancy rate and rent for the building owner, thus improving the asset value. Such rental housing will continue to be the preferred choice in the future.



Rental housing in Osaka offering a diverse array of greenery

Promoting greening and environmental conservation in condominiums for sale and urban development projects

In the condominium for sale segment, we are utilizing the principles of the *Gohon no ki* Project for the exterior. Our Grande Maison condominium brand is focused on greening; its business highlights the goal of increasing the target green coverage ratio, which represents the ratio of the planted area to the site area, to a minimum of 20%. The average green coverage of 14 condominiums completed in fiscal 2020 was 16.8%, representing green coverage of 4,680.5 m².

The exterior space of multi-unit buildings such as condominiums for sale also functions as a place for residents to interact with each other. The abundance of greenery soothes the spirits of residents and enhances the value of the condominium.

In 2019, the *Egota-no-mori* Project (Nakano-ku, Tokyo) received the MLIT Minister's Prize in the Category of Green Business Activities of the Green City Awards sponsored by the Organization for Landscape and Urban Infrastructure. The *Egota-no-mori* Project has received numerous awards, as efforts to enhance the environment using greenery, improve the landscape, and revitalize local communities have received high praise.

Implementing the concept of *keinen bika*, or urban development designed to grow more attractive over time

Since 1977, we have been working on community developments under the names "Common Life" and "Common City." Designed with an awareness of the connections between neighbors and communities, and with lavish shared plazas and streets as symbols, they offer a richer life and a townscape that will grow more attractive over the years under the concept of *keinen bika*. This approach also leads to beautification and is highly appreciated by the local residents.

Since launching the *Gohon no ki* Project in 2001, we have been promoting urban development that emphasizes the quality of greenery, keeping in mind the planting of native species in consideration of a healthy ecosystem. In 2005, we established the

Urban Development Charter, which outlines our varied expertise such as the *Gohon no ki* Project, which was cultivated as part of our urban development efforts with adherence to the concept of sustainability.

Since 2014, we have been promoting sustainable urban development in harmony with the natural environment by operating the "Common's" cityscape evaluation system centered on the *Gohon no ki* Project. In fiscal 2020, 87% of the land for sale met the achievement standard ★3.

Urban development under the concept of *keinen bika*—or cityscapes that grow more attractive over time—consists of a balance between choosing materials that do not deteriorate and adopting highly durable construction methods (from a hardware perspective) with the aim of creating a landscape that makes use of the natural environment and original scenery. This is linked with a recycling-centered lifestyle (from a software perspective) that aims to harmonize management of the completed town with the environment, considering the environment in which rich communities are born.

To nurture local culture and community, and to promote a sustainable city in which the residents and all forms of life can live comfortably in the future based on the original balance of the local ecosystem, are the goals of *keinen bika* cityscapes that grow more attractive over time.

At Skyrail Town Midorizaka, a large-scale housing complex in Hiroshima City, a new urban neighborhood is being created as greenery grows in areas of land for custom detached houses and becomes ever more beautiful over the years. Even in blocks lined with rental housing by owners who obtained large tracts of land under land substitution initiatives, the urban developments in these areas are supporting towns that are aging in beauty by managing the greenery in compliance with the housing complex agreement.

Skyrail Town Midorizaka, Hiroshima City



Photo from 2003

Photo from 2016

Biodiversity Conservation

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

FairWood procurement and Zero Deforestation: Emphasizing biodiversity and sustainability

Another pillar of Sekisui House's biodiversity conservation initiative is promoting the use of FairWood*, a legal and sustainable source of wood. Wood is an essential renewable resource, and we consume about 300,000 m³ of wood annually for house construction.

Wood procurement involves risks such as deterioration of forest ecosystem conservation functions and destruction of the livelihoods of local residents due to illegal logging. It can also interfere with sustainable forest management. Moreover, because of the complexity of distribution channels, the need to ensure the traceability of wood has become an extremely important issue.

The purpose of adopting FairWood procurement is not limited to the securing of stable and sustainable renewable resources for the company. Under our biodiversity conservation challenge goal of "maximizing ecosystem networks through our business," we will focus on imparting a positive impact on the supply chain to achieve sustainable forestry management that goes beyond avoidance of illegal logging. Keeping these benefits in mind, we are actively working toward Zero Deforestation.

* Advocated by the Global Environmental Forum and Friends of the Earth Japan, an international environmental NGO

Practicing due diligence in procurement through close collaboration with our suppliers

We practice strict due diligence in our pursuit of sustainable timber use. Due diligence is the duty of care and effort that companies and others must apply as a matter of course, and we refer to it as the "process of securing sustainable timber that supports the future of our business."

This is represented by the process of ① collecting information, ② assessing risk, and ③ practicing risk mitigation by identifying risks of illegality. A growing number of companies are currently practicing due diligence in wood procurement while also addressing ESG-related risks. We place a high value

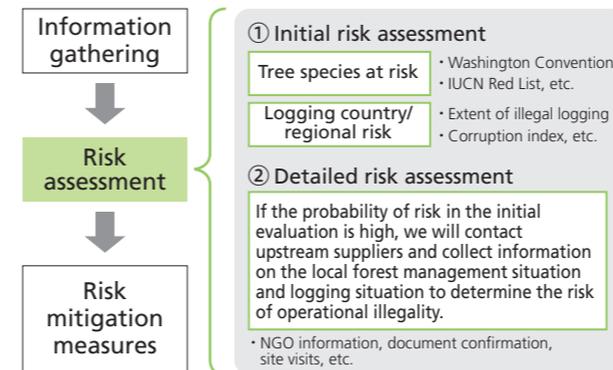
on due diligence and encourage our suppliers to check carefully and investigate the traceability of wood.

With regard to due diligence, many companies limit the scope of their surveys and exclude medium-density fiberboard (MDF), which is not subject to legality confirmation under the Clean Wood Act. However, we recognize that open and detailed communication with suppliers is important to achieving Zero Deforestation, an international requirement.

We believe manufacturers have an important role to play in providing advice on improving sustainability to wood building materials suppliers through the tracking process. We therefore conduct thorough due diligence including substrates, interior finishes, and equipment, and disclose our progress.

From the perspective of traditional QCD (quality, cost, delivery) issues, manufacturers and suppliers tend to be in conflict or in competitive relationships. However, by encouraging suppliers to provide sustainable timber, manufacturers will be able to work in concert with suppliers to address social issues, thus establishing a collaborative relationship instead of a competitive one.

Due diligence practices



Ensuring sustainable timber use through our unique Wood Procurement Guidelines

Working in consultation with Friends of the Earth Japan and other international environmental NGOs, we have formulated and implemented our own guidelines on sustainable timber use.

While illegal logging and overcutting have not been eradicated around the world, the timber self-sufficiency rate in Japan has been on the uptrend in recent years, but the wood supply is still only 36.6% (Forestry Agency survey in 2019) and the remaining forest is left unlogged. Potential problems have been identified, such as the devastation of mountainous areas.

In order to address these problems as a housing builder who consumes timber, we formulated our own Wood Procurement Guidelines in April 2007 with a focus on legality and biodiversity as well as the lives of the residents of logging areas.

Since 2006, we have been conducting detailed annual fact-finding surveys in cooperation with about 50 major wood building material suppliers. We are working to improve the level of procurement by promoting FairWood procurement in line with our guidelines, while also providing guidance and advice as necessary. In 2012, we undertook revisions to our guidelines to include the perspectives of human rights and occupational safety. Moreover, at the time of our new survey in fiscal 2019, we included coverage of tropical peat forests. Where traceability cannot be sufficiently determined, we carry out stringent due diligence by visiting production sites to undertake our own confirmations and investigate secondary suppliers and those further upstream.

Biodiversity Conservation

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Achieving Rank S and Rank A wood procurement ratios of 97%

Our Wood Procurement Guidelines comprise 10 procurement guidelines that enable us to evaluate procured wood from multiple perspectives. In addition to addressing biodiversity considerations, they include the perspective of consideration for social issues in each country as required by the ISO 26000 international standard for social responsibility. We numerically evaluate procured wood against each of the 10 guidelines and rank it on a four-point scale, encouraging suppliers to reduce the supply ratio of low-ranked wood and increase the supply of high-ranked wood.

The ratio of Rank S and Rank A wood, which represent our management targets, has been gradually increasing from 47% before the guidelines were implemented in fiscal 2006. In fiscal

2020, it reached 97%, exceeding the target of 95.5%.

One of the characteristics of our guidelines is that we do not make the adoption of forest-certified materials an absolute or sole procurement standard. This is because we must consider producers who are working on sustainable community forestry, such as agroforestry under the guidance of experts, even if they cannot obtain certification due to the onerous cost of doing so.

The utilization rate of certified materials is managed as a reference value, and 65% of all our wooden building materials, including interior equipment, and 94% of our structural materials alone are certified materials such as FSC/PEFC (including certified processed materials). The ratio of certification itself has been on a downward trend due to an increase in the adoption of domestic structural materials, which have few certifications despite being the products of sustainable forest management.

10 Wood Procurement Guidelines (2012 edition)

We are committed to procuring timber having the following classifications.

- ① Source wood products from areas with relatively low risk of illegal logging.
- ② Source wood products from areas without sensitive ecosystems.
- ③ Do not source wood products from areas where local ecosystems are seriously damaged due to large-scale logging of natural forests.
- ④ Do not use endangered species for wood products.
- ⑤ ★ Minimize CO₂ emissions when producing, processing, and transporting wood products.
- ⑥ ★ When logging wood products, avoid conflict with local communities and refrain from unfair labor practices.
- ⑦ Source wood products from areas of controlled logging, so as not to exceed the rate of forest regeneration.
- ⑧ ★ Source wood products from domestic forests where well-planned forest management is in place to conserve ecosystems.
- ⑨ Source wood products from plantation forests that are managed so as to promote conservation and ecosystem development.
- ⑩ ★ Use recyclable wood building materials.

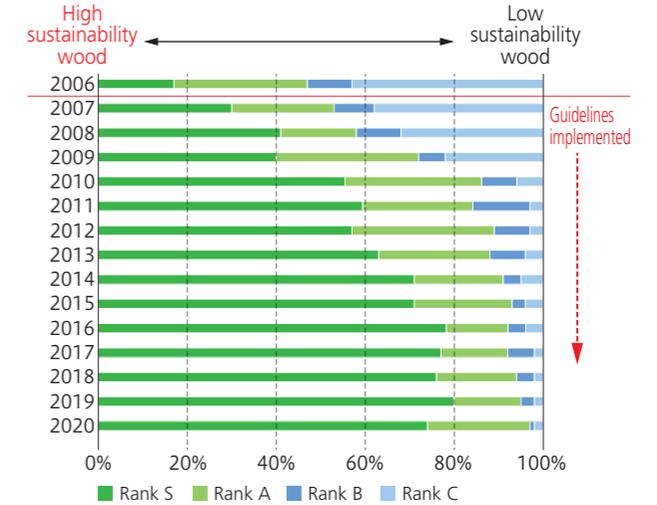
★ Revised in 2012

Wood product procurement ranking

Depending on their total score, procured wood products are classified into four ranks, from high to low: S, A, B, and C. Minimally acceptable scores are set for Guidelines ① and ④, as we place a high priority on these two items.

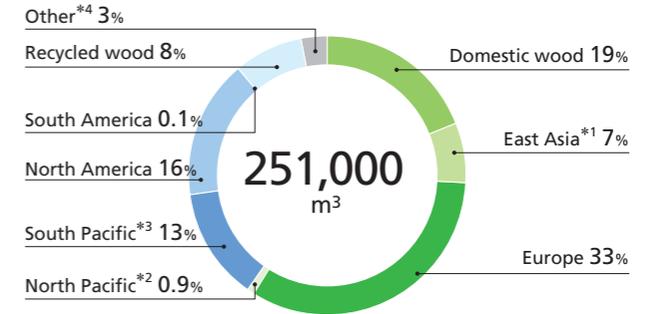
Total score (maximum 43 points)	Rank
34 and above	S
26 to below 34	A
17 to below 26	B
Below 17	C

FairWood procurement volume and rank breakdown (%)



Note: Legality is assured even in the case of Rank C wood.

Percentage of wood products by region



*1: Excluding Japan
*2: Russia, etc.
*3: Indonesia, Malaysia, etc.
*4: Africa and others

Biodiversity Conservation

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Developing the renowned SHAWOOD wood brand utilizing domestic wood as a national model

The Sekisui House Wood Procurement Guidelines have expanded the range of use of domestic timber by enabling the use of domestic hardwoods for interior parts and the active introduction of plywood made from domestic timber. We have done so in consideration of the soundness of forest management in Japan and the conservation of local forest ecosystems. Additionally, we avoid the use of wood from endangered tree species and from forests that form valuable ecosystems.

In 2013, we launched the SHAWOOD Pure Domestic Wood Premium Model, which uses carefully selected domestic brand materials for the posts and beams that form the framework of the building. We have developed cedar, cypress, and larch products under 18 brands in 17 regions nationwide to achieve "local production for local consumption." In addition, we have introduced a premium product that cannot be obtained or made elsewhere by using not only domestic timber but also genuine-oriented renowned wood brand materials and by using domestic timber to produce beams, despite the difficulty of doing so.

This model also conforms to the Wood Utilization Point System introduced by Japan's Forestry Agency. In 2015, at the 1st Japan Wood Design Award sponsored by the Wood Design Award Management Secretariat (sponsored by the Forestry Agency), this model was awarded the Forestry Agency Director-General's Prize, the highest ranking in the Social Design Division, for revitalizing local communities through wood.

One of the points of evaluation was the communication strategy to enhance the premium associated with sustainable wood, such as by marking the wood with a brand indicating the renowned wood type and its production areas, such as "Akita cedar," and by arranging it so that it can be seen that this wood is being used during construction by setting up panels and displaying banners to promote customer attachment to the region.

Even after the end of the Wood Utilization Point System, the supply of housing using domestically produced renowned wood types has continued. Monthly sales have grown to a pace

of 60 to 70 buildings, and the cumulative number of buildings constructed exceeded 5,000. This product has grown to a point where SHAWOOD has become a topic of conversation.



SHAWOOD posts bearing the brand of the producing area

The first housing provided under SGEC Forest Certification Japan

With the recent increase in environmental awareness among consumers, growing numbers of homebuyers are showing interest in certified housing.

Japan has a centuries-long history of forestry and lumber use. SGEC Forest Certification Japan is a domestic forest certification system that determines whether wood is sustainably and properly managed. Reciprocal recognition has been granted with the PEFC Council, global alliance of national forest certification systems.

In 2019, we built Japan's first private home recognized under SGEC/PEFC Project CoC Whole House Certification. We collaborated in the construction of the house with Mori for Forest Certification Company (a company under Director Masako Mori and located in Suita, Japan), a joint venture company that promotes the spread and adoption of SGEC/PEFC certification. At the time of certification, we performed all work necessary to verify that at least 70% of the wood used in construction was certified in Japan, and that other wood-derived materials were obtained from appropriately managed forests, including paper products such as wallpaper and *fusuma* paper. A confirmation effort was undertaken to ensure that this material was derived from appropriately managed forests.

We were able to gain knowledge and expertise regarding forest certified houses through our efforts to obtain detailed information from all suppliers; this included tree species, production areas, and whether local NGOs had indicated any issues. This property won the 2020 Japan Wood Design Award (Social Design Division). The commentary noted: "As the first SGEC/PEFC Project CoC Whole House Certification, this is an initiative with high societal recognition and influence. The fusion of housebuilding expertise with the use of certified materials and a mass-produced housing model gives us new options for home building and home selection from the consumer perspective in the era of the SDGs."



Internal structure of SGEC certified housing

Resource Recycling (Circular Economy)

Environmental

Circulating Available Resources Throughout the Housing Life Cycle: Optimizing Use of Resources and All Waste Products

With the economic growth associated with the increase in the global population, the amount of resources used per capita is expected to rise even further. Some believe that, without a response to this situation, it may not be possible to leave sufficient resources for future generations. The United Nations' sustainable development goal 12 (Responsible Consumption and Production) aims to minimize waste emissions throughout the production and consumption processes. The Sekisui House Group believes that recycling of resources is necessary to support a stable life for all, and we have been among the first in the construction industry to take action in this regard. The group's resource recycling efforts are not limited to controlling waste generation and recycling; we also focus on after-sales service and operating a renovation business that maintains the quality of society's housing stock so that the service life of the materials used to construct those houses is maximized.

Resource recycling guidelines

Optimizing use of resources

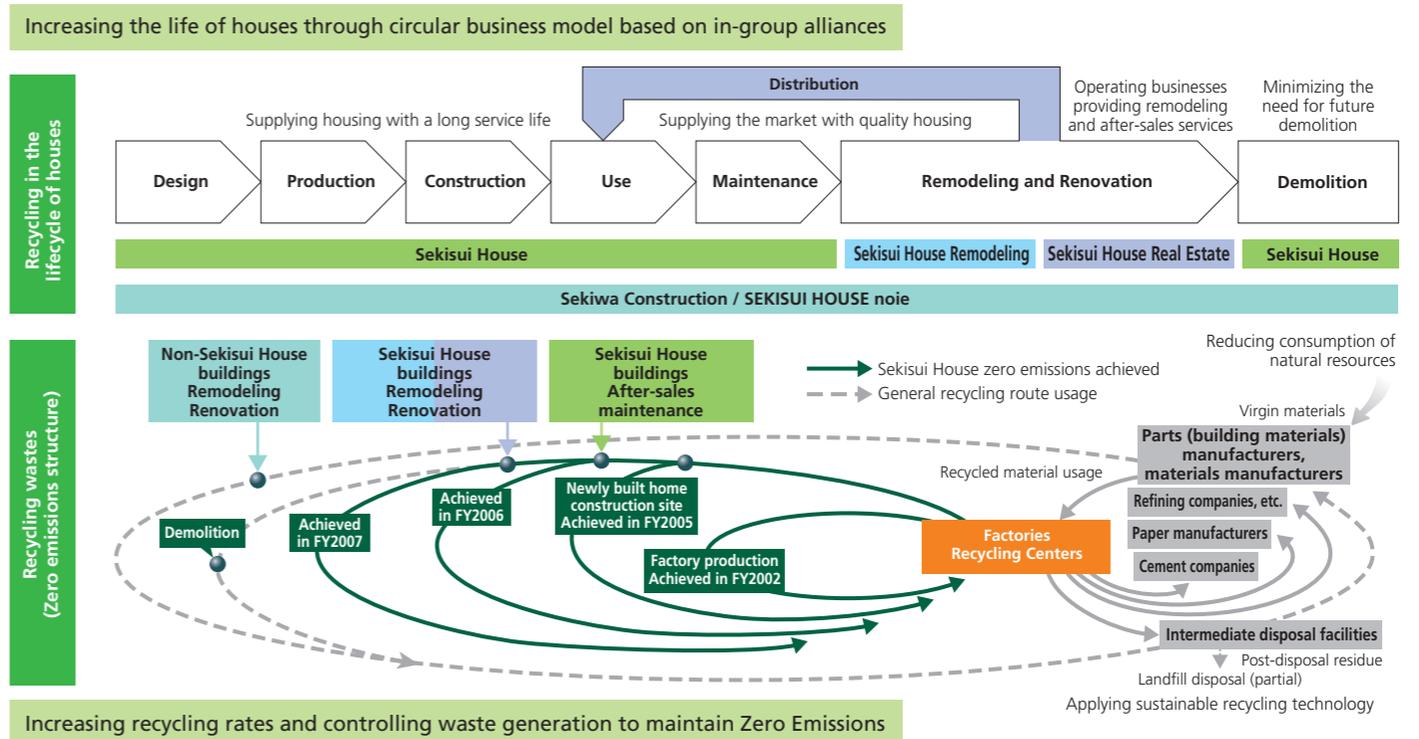
Our group aims to optimize its use of resources by continuing to use the housing stock, which represents a societal asset, for the longest possible period of time. By providing after-sales service and renovation businesses, we seek to extend the life cycle of housing.

Controlling waste generation

We have focused on the development of systems intended to control waste generation. We analyze the amount of resources invested in product supply as well as the status and nature of waste generated during the manufacturing and construction processes. We also continuously improve the system that provides information useful in reducing waste in the processes of design, production, and construction.

Utilizing waste

We will establish recycling standards for the waste we generate and ensure proper recycling in accordance with these standards. Moreover, we will continue to pursue recycling technologies that are economically feasible while further contributing to the emergence of a society committed to resource recycling. We will pursue these goals in collaboration with our partner companies including material manufacturers, production and construction companies, intermediate processing companies, and demolition companies.



Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Resource Recycling (Circular Economy)

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Achieving Zero Emissions on a timely basis across four business divisions: Expanding efforts through the industry's first Wide Area Certification System

House construction requires a significant input of resources. We are involved in the entire life cycle of a house from producing parts in our factories to demolition work, and from 2002 to 2007 we succeeded in achieving Zero Emissions* in four of our divisions (parts production, new construction sites, maintenance, and construction sites for remodeling our own properties). Since then, we have maintained this achievement as we continue to operate with consideration for the quality of our recycling efforts.

One reason we were able to lead the industry by achieving Zero Emissions over successive years was our use of the Wide Area Certification System, which is a special feature of Japan's Wastes Disposal and Public Cleansing Act. In 2004, we were the first in the Japanese construction industry to gain this certification, and we have since managed to expand our Zero Emissions efforts through this system.

In 2019, a joint application including all 17 Sekiwa Construction companies was approved, and we are currently

preparing a joint application with Sekisui House noie Limited. Through these efforts, we intend to further expand and strengthen the resource recycling system of the entire group, envisioning the completion of our recycling-focused business.

In addition to targeting Zero Emissions backed by our long product service life, we are also working toward Zero Emissions in the real estate leasing business, with the Broking and Leasing Business Headquarters playing a central role. Its current policy is to promote Zero Emissions of waste (from interior materials such as fabrics and cushion floors) generated during repair work when tenants vacate dwellings of Sekisui House Real Estate companies, which are the management intermediaries for Sha Maison rental housing constructed by our company.

* Related to simple incineration of industrial waste and zero landfill disposal

Our Recycling Centers and in-house facilities: The heart of our Zero Emissions initiative at new construction sites

One of the unique characteristics of our group collection system under the Wide Area Certification System is the use of our

Recycling Centers. These facilities, which have been in operation at our production plants across Japan since 2003, serve as the heart of our Zero Emissions efforts at new construction sites. These centers manage a number of processes, from allocating waste collection vehicles to supervising outsourced recycling companies.

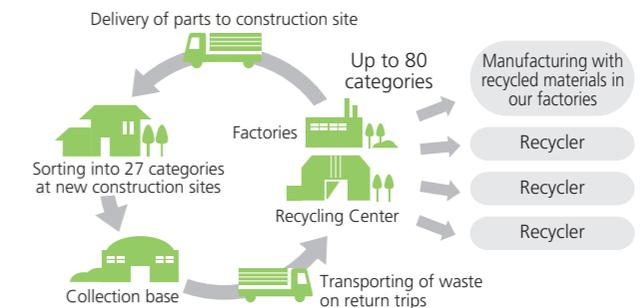
Waste generated during new construction is first sorted into 27 categories at the site, then re-sorted into 60 to 80 categories at our 21 Recycling Centers nationwide. All this waste is eventually recycled by our own hand. By disassembling components into materials of a single type and reducing their volume through compression and heating, we can put these materials into a recycling stream handled partly by external contractors.

Regarding plastic, which has become a particular problem in recent years, this material is already collected and recycled at a 100% rate (of which about 95% involves material recycling) since the introduction of Zero Emissions at our new construction sites in 2005. In addition to sorting plastics by type, we subdivide sorting categories according to the requirements of recycling facilities, such as the degree of soiling, in an effort to maintain a high standard of recycling.

History of our Zero Emissions initiatives

May 2002	Factory Zero Emissions certification
September 2004	Wide Area Certification (an industry first)
July 2005	Zero Emissions certification of new construction sites (an industry first)
March 2006	Zero Emissions certification of after-sales maintenance construction sites (an industry first)
October 2007	Zero Emissions certification of renovation construction sites (an industry first)
November 2010	The national launch of next-generation Zero Emissions system incorporating IC tags at new construction sites
January 2017	We updated our unique Electronic Management System, developed simultaneously with Wide Area Certification, with systems incorporating cloud computing. The new system replaced IC tags with QR labels, achieving a full transition in May.
February 2019	A joint application for Wide Area Certification encompassing all 17 Sekiwa Construction companies was accepted.

Waste disposal flow through our recycling centers



Resource Recycling (Circular Economy)

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

The benefits of an in-house facility are not limited to enhancing the quality of our waste reduction and recycling efforts. By undertaking collection, sorting, and recycling through our own Recycling Centers, we can feed back problems at the processing stage to the development and planning divisions as needed. Improvements can then be incorporated into planning, design, and product development. This allows us to develop designs that generate minimal waste right from the first stage.



At our Recycling Centers, plastics alone are sorted into as many as 60 categories, and about 95% of this material is recycled.

Improving the quality of recycling while reducing the volume of waste generated

Sekisui House remains focused on efforts to reduce the amount of waste generated at our production and construction sites. In fiscal 2020, we succeeded in reducing the amount of waste generated from factory production by 4.6% compared to the previous fiscal year.

Although the amount of waste generated per newly built house decreased by nearly 60% compared with fiscal 1999 levels as a result of our Zero Emissions initiative, in recent years the proportion of houses with high environmental performance and high input of materials has increased. This trend continues to show a slight increase.

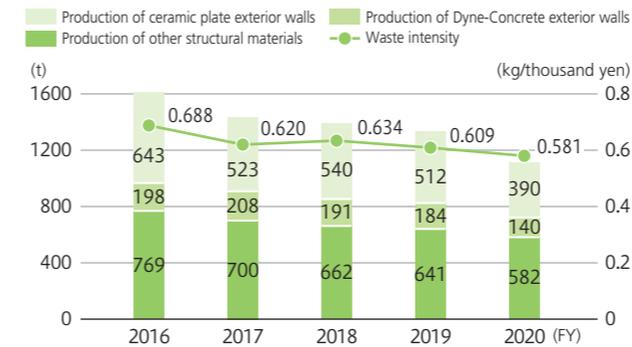
However, with the recent global trend emphasizing a “circular economy,” greater importance is being placed not only on reducing the amounts of waste generated, but also on designing the entire business around an effort to improve the quality of recycling. In light of this trend, we have been improving our construction

methods by incorporating feedback from reviews of our structural building and construction techniques. We are doing so by utilizing the strengths of our in-house production facilities and by adopting direct construction, which is not based on the agency method.

Moreover, by practicing thorough sorting in order to sort, categorize, and process waste to meet the exact needs of recyclers, we are contributing to a higher quality of recycling.

At the same time, we are conducting research on our attainment of an 81.7% recycling rate in fiscal 2020 with the aim of reaching 90% of our Zero Emissions goal during the production, construction, and maintenance phases.

Trend in the amount of waste generated from factory production



Trend in waste generation per newly built house



Utilizing information and communications technology to achieve circular traceability through full-scale introduction of our waste measurement system

Securing traceability related to the proper disposal of construction waste is of the utmost importance not only to demonstrate responsibility for proper treatment and recycling of waste, but also for promoting recycling business models such as streamlined construction. Recognizing this, we have been proactive in introducing information and communications technology, starting with the trial of a waste measurement system using IC tags in 2007.

In 2017, we updated our proprietary Electronic Processing System for waste collection into a cloud-based system in order to respond flexibly to requests for enhancement of electronic system functions for waste management. We now operate a waste measurement system that utilizes current QR codes. This is an innovative system that accurately monitors the situation at the time of disposal, aggregates and analyzes data from each building, and monitors the total disposal amount and the disposal amount by type of waste in real time.

By feeding back the detailed data analyzed in this way for product development, material design, production processes, and construction processes and the like, it is possible to promote the more effective use of resources. Since 2019, the utilization rate of this system has been 100% on a business site basis.

Waste measurement system incorporating QR codes

- ① Timely processing is assured because the waste measurement system is accessed through the cloud in conjunction with the residence information database, which arranges and reduces parts and specifications and centralizes residence information and member information.
- ② A QR code label is printed according to the scale required for construction.
- ③ Requests for appropriate collection are issued from a smartphone or the like according to the waste conditions at the new construction site.
- ④ Collection trucks are dispatched as needed while linked to a map application on the cloud. They are also closely linked to the property information database.

Resource Recycling (Circular Economy)

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a
Decarbonized Society

Biodiversity Conservation

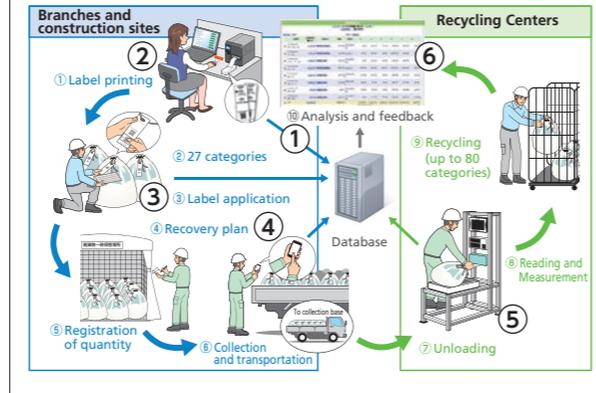
Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

- ⑤ Label information is read and the weight is registered.
- ⑥ Various analytical data such as an analysis of the amount of waste from each model is fed back to the business sites, development divisions, factories, etc. Close cooperation among divisions contributes to effective environmental initiatives.

Illustration of our waste measurement system



Applying economically feasible and sustainable recycling technologies: A resource recycling system encompassing partner companies and others

We are proceeding with efforts to commercialize waste generated in-house as a raw material through our partner companies for reuse in our products. For example, we use house construction components made from plastics recovered from packaging materials. We also use crushed scrap roof tiles as an acoustic insulation material to attenuate floor impact sounds.

In our renovation work, which includes demolition, we are partnering with disposal companies to properly dispose of and recycle waste resulting from demolition work.

Examples of products resulting from our in-house processing of recycled materials

We collect scrap plasterboard from new house construction sites and mix it with crushed eggshells collected from food processing plants. This produces Platama Powder, an athletic field marking chalk made from recycled products.



Eco Mark



Platama Powder, an athletic field marking chalk that poses no risk to human health

Researching recycling methods for difficult-to-process composite materials

In the future, we will enter the phase of promoting the recycling of composite materials, which present a challenge for recyclers, and the development of building materials that can later be recycled. In order to promote research into this difficult problem and address the recycling of these composite materials, we have been undertaking research and development since 2019 in collaboration with academia and in conjunction with recyclers.

Highlights

My Bottle Campaign

We have been recycling 100% waste plastic at new construction sites since 2005. In fiscal 2020, we were able to recycle 17,687 tonnes of plastic. As part of this effort, we have been participating in the "Plastics Smart" campaign promoted by Japan's Ministry of the Environment since November 2018 and have implemented an associated in-house PET bottle reduction campaign. This initiative will enable us to reduce the use of one-way plastics by not distributing or even permitting PET bottles at in-house meetings, by encouraging the use of personalized bottles and eco-friendly paper cups, and by reducing the number of beverages sold in PET bottles from our office vending machines. This is an example of how we are taking a smarter approach in our use of plastics.



Environmental Management

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a
Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Promoting environmental management efforts through the Environmental Subcommittee, one of our three ESG subcommittees

The ESG Promotion Committee oversee the implementation of ESG initiatives, including environmental management, throughout the company. Chaired by the Representative Director of Sekisui House, it has internal committee members as well as outside members who serve as external experts (p. 19). We have established three specialized subcommittees as subordinate organizations: the Environmental Subcommittee, Social Improvement Subcommittee, and Governance Subcommittee. These subcommittees plan and promote their respective ESG-focused activities from a company-wide perspective, establishing faster and more effective decision-making systems.

This arrangement not only addresses the various themes associated with ESG management principles individually through the departments in charge, but also has a greater ripple effect through an integrated approach that includes the impact on the entire business upstream and downstream in line with the company-wide comprehensive measures.

Regarding environmental issues under the auspices of the Environmental Subcommittee, we are working toward the three goals of ① Decarbonized society;

② Society in which humans and nature coexist; and ③ Circular economy. After reviewing the policy and receiving approval from the ESG Promotion Committee, we are developing it as a concrete initiative for all groups. The Environmental Subcommittee formulates management targets that encompass the business processes of the entire group; examines various effective problem-solving methods; establishes a mechanism to provide feedback on the progress and effectiveness of various initiatives; and identifies and analyzes problems in order to devise effective solutions.

Regarding issue ① Decarbonized society, in addition to expanding our offering of eco-friendly products such as ZEH, we are growing our supply chain to achieve goals such as SBT certification and RE100, which represent milestones toward achieving our carbon-free targets in 2050. We are also working to reduce the environmental burden of our production processes, construction and demolition processes, and business operations in our offices. Moreover, with regard to issue ② Society in which humans and nature coexist, we are promoting conservation of biodiversity in implementing Japan's largest landscaping and greening project. As for issue ③ Circular economy, we are engaged in recycling-based projects related to waste reduction and Zero Emissions activities.

Responding to waste disposal risks

The group has established and operates a waste management system that includes employee training, a proper waste treatment system, and guidelines that set out the criteria for selecting a waste management service. In addition, we have instituted appropriate asbestos countermeasures for demolition and repair work. In order to avoid the risk of becoming involved in illegal dumping and violations of the Waste Management Law*¹, we have prepared a disposal consignment agreement for use with waste disposal service providers and employ it for each such contract. We have created a unique system for centrally managing the proper use of Waste Management Manifests*². This makes it possible to formulate an appropriate waste treatment plan and verify the waste treatment status at each site in a timely manner.

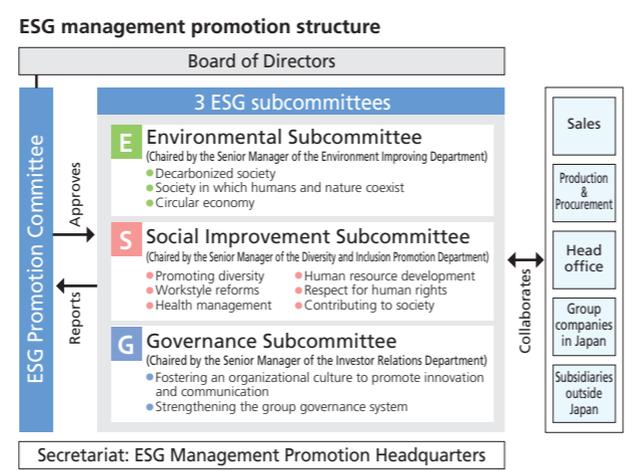
Furthermore, we work with excellent waste disposal service providers to avoid the risk of illegal dumping by formulating and implementing guidelines that objectively determine whether to outsource treatment.

We also emphasize education for the entire group such as a basic knowledge of waste and the preparation of treatment consignment contracts, and we have prepared manuals on all environmental laws and regulations related to construction work. These include the Air Pollution Control Act and the Fluorocarbon Emission Reduction Act, as well as the Construction Material Recycling Law which requires the recycling of specific construction materials. We continue to ensure these are thoroughly understood through training and other means.

*1: A law aimed at controlling waste emissions and optimizing treatment
*2: A form verifying all necessary processes, from waste discharge to final disposal, have been performed

Acquiring certification of ISO 14001 registration

As of fiscal 2001, our production plants in Japan—the Tohoku Factory, Kanto Factory, Shizuoka Factory, Hyogo Factory, and Yamaguchi Factory—that manufacture and ship industrialized housing materials had already acquired certification of registration with ISO 14001, the international standard for environmental management systems as part of their production process management. In 2009, we switched to integrated certification for all domestic production and procurement divisions and continue to operate our environmental management system accordingly, with 100% of our factories in Japan now certified.



Environmental Management

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Using our own Chemical Substance Guidelines to prevent contamination by hazardous chemicals

Sekisui House aims to minimize the risk of using hazardous chemicals by applying EVABAT (economically viable application of the best available technology) throughout the life cycle of a house.

In 2007, we created our own Chemical Substance Guidelines, which employ a risk management perspective. We also reviewed and revised the guidelines in accordance with laws and regulations and new information regarding the use of chemical substances. At the same time, we comply with laws and regulations and promote appropriate responses to chemical substances based on guidelines established by the national government, local governments, industry associations, and others.

Chemical Substance Guidelines (adopted in 2007; excerpt)

Sekisui House seeks to minimize the risk of using hazardous chemical substances by applying EVABAT (economically viable application of the best available technology) in the order shown below.

Level 1. Prohibited substances

Asbestos and ozone-depleting substances are prohibited (Prohibition of Use) as Class 1 Specified Chemical Substances under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (Chemical Substances Control Law).

Level 2. Substances subject to priority action

These are substances for which the housing industry needs to take the initiative, such as substances presumed to be the cause of sick building syndrome. Chemical substances are identified from the perspective of risk management and the amounts used are determined. Active measures are then taken, such as reducing the amount used, substituting alternative substances, and establishing a management system.

- Chemical substances that the human body is highly likely to be exposed to in daily life

- Chemical substances that are subject to active management because workers are at risk of health damage if protective measures are not applied during construction
- Chemical substances that are highly likely to contaminate the natural environment if the products (buildings) are improperly dealt with during disposal (such as during demolition)

Level 3. Monitored substances

These are chemical substances other than those indicated in Levels 1 and 2 that are subject to comprehensive examination under laws and guidelines and that may cause problems in the future. A determination is made as to whether these are being used intentionally as appropriate.

Prevention of contamination by hazardous chemicals

Specific targets for exposure risk of chemical substances harmful to human health	Employees (including subcontractors)	Residents	Local environment	Global environment	Segment	Basic methods of management
Exposure during production	◎		○	○	Factory production	Optimal chemical management (daily management, emergency response)
Exposure during construction	◎		○	○	Supplier	Recommendation of reduction efforts to determine the quantity of hazardous substances transferred and amount consumed
Exposure in the natural environment (soil)		◎	○		Construction	Optimal chemical management (prevention of worker exposure)
Residential exposure		◎			Land development	Risk avoidance (assessment of contaminated land and purchase of uncontaminated land) or reduction (exposure prevention)
Exposure from construction waste	○		◎	○	Products and services	Reduced customer exposure
Exposure during product disposal			◎	○		Waste management
						Maintaining manufacturer responsibility

Goals, programs, and achievements to control hazardous chemical pollution

[At time of production]

Substances subject to the PRTR Law*1

Targets	
	<ul style="list-style-type: none"> • Continuation of appropriate protective measures • Zero accidents caused by chemical substances
Fiscal 2020 results	<ul style="list-style-type: none"> • No accidents caused by chemicals used in factory production have occurred.

*1: Law requiring monitoring of environmental emissions of specified chemical substances and promotion of improved management. Businesses meeting certain conditions specified by Cabinet Order are obliged to report the amount of specified chemical substances released and disposed of annually. (Abbreviation of Pollutant Release and Transfer Register)

Atmospheric emissions of VOCs

Targets	
	• 60% decrease from fiscal 2010 levels
Fiscal 2020 results*2	• 71% decrease

Regarding volatile organic compounds (VOCs), in 2017, we monitored and evaluated the emissions of a total of 80 such substances*3, including 63 substances to be monitored and 17 substances subject to the PRTR.

*2: Aggregated figures for fiscal 2019 as shown differ from the period covered by this report (starting February 1) because these figures apply to an administrative fiscal year (starting April 1).

*3: According to the Eco Action 2020 Target Management Survey of the Japan Prefabricated Construction Suppliers and Manufacturers Association, a total of 80 VOC target substances whose atmospheric emissions require monitoring are to be monitored as of 2017 (previously, 54 such substances required monitoring).

[During construction]

Targets	
	<ul style="list-style-type: none"> • Continuation of appropriate protective measures • Zero accidents caused by chemical substances
Fiscal 2020 results*2	<ul style="list-style-type: none"> • No accidents caused by use of chemical substances have occurred.

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Environmental Management

[Natural environment (soil)]

Targets	<ul style="list-style-type: none"> • Zero serious risk when purchasing land
Fiscal 2020 results	<ul style="list-style-type: none"> • No purchases (sales) occurred involving contaminated land exceeding legal standards or unremediated land.

[During residential use]

Targets	<ul style="list-style-type: none"> • Minimum 80% installation rate of <i>Airkis</i> high-quality indoor air systems
Fiscal 2020 results	<ul style="list-style-type: none"> • 85% installation rate of <i>Airkis</i> systems in steel-framed custom detached houses

In 2011, we introduced the *Airkis* system, an eco-friendly indoor air system that reduces the emission rate of chemical substances. This system is installed in our steel-framed custom detached houses, Sha Maison rental housing units, and Grande Maison condominium units for sale.

[Construction waste]

Targets	<ul style="list-style-type: none"> • System maintained • Zero release of hazardous waste to the environment during new construction
Fiscal 2020 results	<ul style="list-style-type: none"> • No release accidents have occurred.

In 2004, we acquired the first Wide Area Certification in the construction industry. We have achieved and maintained zero emissions by collecting 27 categories of waste sorted at our construction sites, re-sorting them into up to 80 categories at our Recycling Centers, and recycling the waste at a 100% rate.

[During product disposal]

Targets	<ul style="list-style-type: none"> • System maintained • Zero emissions of hazardous waste into the natural environment during demolition work we have undertaken
Fiscal 2020 results	<ul style="list-style-type: none"> • No environmental release accidents have occurred.

Release of hazardous wastes

Targets	<ul style="list-style-type: none"> • Zero release of hazardous waste to the natural environment
Fiscal 2020 results	<ul style="list-style-type: none"> • No improper processing or scattering accidents • Zero release to the natural environment

With regard to the release of hazardous wastes, we monitor the amount of “specially controlled industrial waste” we release under the Waste Management Law. In addition to the hazardous waste regulated by the Basel Convention, such as waste PCBs and products containing PCB pollutants, which we are disposing of sequentially toward the statutory disposal deadline, we properly handle and dispose of all other specially controlled industrial wastes (including flammable waste oil, waste acids, and scatterable asbestos) that we generate.

Responding to risks related to soil and groundwater pollution: Pre-screening with a checklist even for land transactions

We will continue to focus on minimizing risks, including prevention of secondary pollution, by conducting surveys and implementing countermeasures not only for our own lands but also for land for which we are engaged in transactions.

Prior to engaging in land purchase or sales contracts, we implement risk management related to soil and groundwater contamination by employing a pre-screening system using our own soil contamination checklist (including a survey on history of land use transition; surveys of topography, geology and

groundwater; a data survey on surrounding environmental measurements by local governments; a site inspection survey; legal compliance; and other investigations).

In the case of land that may contain contaminated soil, such as factory sites, sellers are increasingly conducting their own voluntary surveys. When purchasing land, a specialized department of our company scrutinizes all survey reports. If a problem arises regarding the completeness of the information, we ask the seller to conduct additional surveys.

Properties that are determined to be at risk of contamination are analyzed by designated research institutions to evaluate the validity of the transaction. In addition, where soil contamination has been discovered as a result of the investigation, land with minor concentrations and distributions of contamination (land contaminated mainly with heavy metals that can be guaranteed as amenable to complete remediation) undergoes remediation by soil replacement before the sale. When this occurs, we explain the measures that have been taken as a material matter.

In the event of any violations of environmental laws and regulations at a factory, a report is submitted to the head office.

In fiscal 2020, no reports of significant violations (subject to punishments, administrative penalties, or administrative guidance) of greenhouse gas laws and regulations or serious leaks of fluorocarbons were submitted.

Environmental Management

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Water resource conservation initiatives

Utilization of water resources

The many offices, factories, and construction sites of our group consume water resources. At these worksites, we are striving to use our water resources efficiently through water conservation measures.

The total water intake in 2020 was 1,086,000 m³ (a reduction of 2.3% from the previous year). The amount of wastewater discharged was 788,000 m³ (a reduction of 1.1% from the previous year).

Water consumption by water source

(Millions of m³)

	FY2018	FY2019	FY2020
Water supply	0.645	0.634	0.597
Groundwater	0.529	0.446	0.462
Industrial-use water	0.032	0.032	0.027
Total	1.206	1.112	1.086

(m³/million yen)

	FY2018	FY2019	FY2020
Water use per sales	0.493	0.454	0.444

Emissions by discharge destination

(Millions of m³)

	FY2018	FY2019	FY2020
Sewers	0.459	0.455	0.443
Rivers	0.362	0.342	0.345
Total	0.821	0.797	0.788

Initiatives at domestic production plants

Our domestic production plants (Tohoku Factory, Kanto Factory, Shizuoka Factory, Hyogo Factory, Yamaguchi Factory) use groundwater in addition to the municipal water supply and industrial water in the painting process of steel frame members and the manufacturing and painting process for exterior walls used in residential construction. We continue to work on water quality management of wastewater and efficient use of water resources in these processes. We are taking steps to reduce water consumption by reusing wastewater used to wash pallets for transportation, reusing treated water for cleaning water, and continuing these improvement activities.

Water consumption by water source (Factories in Japan)

(Millions of m³)

	FY2018	FY2019	FY2020
Water supply	0.149	0.140	0.130
Groundwater	0.529	0.446	0.462
Industrial-use water	0.032	0.032	0.027
Total	0.710	0.618	0.619

Emissions by discharge destination (Factories in Japan)

(Millions of m³)

	FY2018	FY2019	FY2020
Sewers	0.009	0.009	0.008
Rivers	0.362	0.342	0.345
Total	0.371	0.351	0.353

In fiscal 2020, the total amount of industrial water, groundwater, and clean water (intake water) used in the manufacturing processes at our production plants in Japan was 619,000 m³ (up 0.2% year-on-year). The amount of wastewater was 353,000 m³ (up 0.6% year-on-year). Factory effluent is purified at the effluent treatment facility in the factory and then discharged into public sewers and rivers. Regarding the quality of discharged wastewater, we are focused on preventing water pollution by setting and managing voluntary standard values that are stricter than the regulated values of the Water Pollution Control Law and ordinances.

Biochemical oxygen demand (BOD)

(t)

	FY2018	FY2019	FY2020
Tohoku Factory	0.069	0.071	0.053
Kanto Factory	0.340	0.653	0.755
Shizuoka Factory	0.077	0.057	0.088
Hyogo Factory	0.380	0.170	0.043
Yamaguchi Factory	0.364	0.303	0.238
Total	1.230	1.255	1.178

Chemical oxygen demand (COD)

(t)

	FY2018	FY2019	FY2020
Kanto Factory	1.717	2.482	2.187
Hyogo Factory	0.311	0.174	0.061
Yamaguchi Factory	0.897	0.920	0.753
Total	2.925	3.577	3.001

Voluntary water quality standard values at domestic production plants and actual measured values in FY2020 (Typical)

Emissions	Regulatory value under Water Pollution Control Law	Tohoku Factory			Kanto Factory			Shizuoka Factory			Hyogo Factory			Yamaguchi Factory		
		Ordinances & agreements	Voluntary standard value	Measured value	Ordinances & agreements	Voluntary standard value	Measured value	Ordinances & agreements	Voluntary standard value	Measured value	Ordinances & agreements	Voluntary standard value	Measured value	Ordinances & agreements	Voluntary standard value	Measured value
pH	5.8-8.6	5.8-8.6	5.9-8.5	7.4	5.8-8.6	6.0-8.4	7.7	5.8-8.6	6-8	7.68	-	6.2-8.2	7.7	5.8-8.6	6.0-8.0	7.1
Total chromium (mg/L)	2	-	1	Less than 0.1	1	0.5	0.01	2	-	Less than 0.1	-	-	-	2	Undetected	0
Copper (mg/L)	3	-	1.5	Less than 0.1	3	1.5	0.01	1	-	Less than 0.05	-	-	-	3	0.1	0
Phenol (mg/L)	5	-	2.5	Less than 0.1	1	0.5	0.05	5	-	Less than 0.05	-	-	-	5	2.5	0
n-Hex (mg/L)	5	5	3	Less than 0.5	5	2.5	1	3	2	Less than 0.5	-	2	1 max.	5	2.5	0
Manganese (mg/L)	10	-	5	Less than 0.1	1	1	0.08	10	-	Less than 0.1	-	-	-	10	5	1
Iron (mg/L)	10	-	5	Less than 0.1	10	5	0.24	10	3	0.1	-	-	-	10	5	0

Note: Regulatory value under the Water Pollution Control Law (However, our Hyogo Factory is exempt from the law.)

Eco-First Promise

Environmental

II. Environmental

Addressing Material Issue ①
Leading the Way to a Decarbonized Society

Contributing to the Emergence of a Decarbonized Society

Biodiversity Conservation

Resource Recycling (Circular Economy)

Environmental Management

Eco-First Promise

Eco-First Promise

Sekisui House was certified as an Eco-First Company by the Japanese Minister of the Environment in June 2008 for making three promises (Eco-First Promise)—global warming prevention, ecosystem preservation, and resource recycling. We have been conducting environmental activities with a view to fulfilling these promises. In 2012 and 2016, we updated our Eco-First Promise within the broad frameworks of the three promises while incorporating changes in social environment and the progress in our initiatives. In 2020, we updated our commitments and are continuing to expand our efforts.

Sekisui House, Ltd. and the Sekisui House group companies have adopted the following initiatives to ensure thorough legal compliance and are actively contributing to society through environmental considerations, based on our social responsibility as the largest supplier of housing units.

1 Proactive reduction of CO₂ emissions in the residential sector and business activities

In order to achieve a 39.3% reduction in CO₂ emissions in the residential sector by 2030, which is Japan's target under the Paris Agreement, we will work to reduce CO₂ emissions from Sekisui House's custom detached houses and rental housing by at least 45% by 2030 relative to 2013 levels.

- In our custom detached housing business, we aim to achieve a ZEH (Net-Zero Energy House) ratio of at least 85%, which would enable us to significantly reduce CO₂ emissions while enabling residents to live healthy and comfortable lives.
- In our rental housing business, we aim to create a market by promoting ZEH-standard rental housing that balances improved residential comfort with consideration for the environment.
- In our remodeling business, we will promote energy-efficient remodeling of custom detached houses through the partial ZEH standard through installation of *Idocoro Dan-netsu* facilities while aiming to reduce CO₂ emissions from existing houses.
- In the housing for sale business, we will promote development of disaster-resilient urban areas with low energy consumption throughout by using advanced technologies such as solar power generation, storage batteries, and private line networks.
- In our condominium business, by 2025 we will build more than 540 ZEH-standard condominiums incorporating high levels of thermal insulation and energy-efficient and energy-generating equipment while working to reduce the energy consumption of our newly built condominiums.
- Even in our non-residential business, we will promote energy efficiency and disaster resilience by adopting the ZEB (Net-Zero Energy Building) standard.
- In our overseas business, we will take into account the situations in the various countries in which we operate as we promote buildings with high environmental value incorporating Japan's excellent environmental technologies.

By fiscal 2030, we will reduce CO₂ emissions from the business operations (design, sales, etc.) of the entire group by at least 50% compared to fiscal 2013 levels.

- Sekisui House Owner Denki, which purchases post-FIT electricity from homeowners, will undertake the conversion from commercial electricity to renewable energy.
- We are promoting the introduction of hybrid cars and LED lighting fixtures in our offices.

2 Proactive revival of ecosystem network

We seek to contribute to a society in which people can live affluent and comfortable lives by sustainably using natural capital while protecting the natural circulation and ecosystems.

- In an effort to conserve biodiversity, we will actively promote the *Gohon no ki* Project to create residential gardens and urban development. This initiative focuses on tree-planting centered on native species rooted in the region, which are preferred by birds and butterflies. By 2025, we aim to achieve a cumulative total of 20 million plantings since the start of the project in 2001.
- We will promote the introduction of FairWood sustainable wood, including certified timber, in collaboration with suppliers and NGOs while preventing illegal logging and loss of natural ecosystems according to the 10 Wood Procurement Guidelines. We will also consider the independence of the local economies in which it is produced.

3 Proactive promotion of resource recycling activities

- We will strive to increase the value of social assets by suggesting renovations that improve quality of life and enhancing the value of housing while revitalizing towns and communities.

- In order to accelerate the achievement of Zero Emissions group-wide, we will promote the development of a new collection system that utilizes our Recycling Centers.
- We will continue to maintain Zero Emissions during production, construction, and after-sales maintenance (zero landfilling and zero incineration without heat recovery) and aim for a material recycling rate of 90%. We will also aim for a material recycling rate of 70% for waste associated with the renovation of existing houses, which is a trend likely to increase in the future.
- We will utilize IT to predict the amount of waste generated by a Zero Emissions system and will promote efforts for proper and smooth waste disposal and reduction.

4 Working to popularize environmental education

- We will continue to operate Eco First Park, where visitors can experience the three Eco-First initiatives, and will popularize environmental education in the home.
- We will strive to spread environmental literacy through *Sumufumulab* and other initiatives.
- We will actively promote environmental awareness and surveys through initiatives such as our environmental education programs, "A Letter from Dr. Forest," "Survey of flora and fauna," and "Ecology."