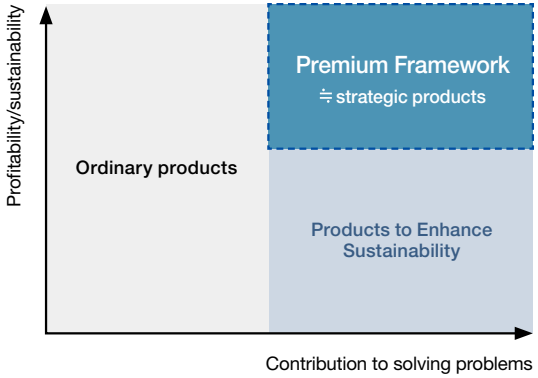
# Products to Enhance Sustainability

SEKISUI CHEMICAL Group aims to grow as a company by making a greater contribution to solving social issues, particularly SDGs, through its core products and by working to create and expand Products to Enhance Sustainability in order to increase the sustainability of the Earth, society, the Group, its products, and the customers who use them.

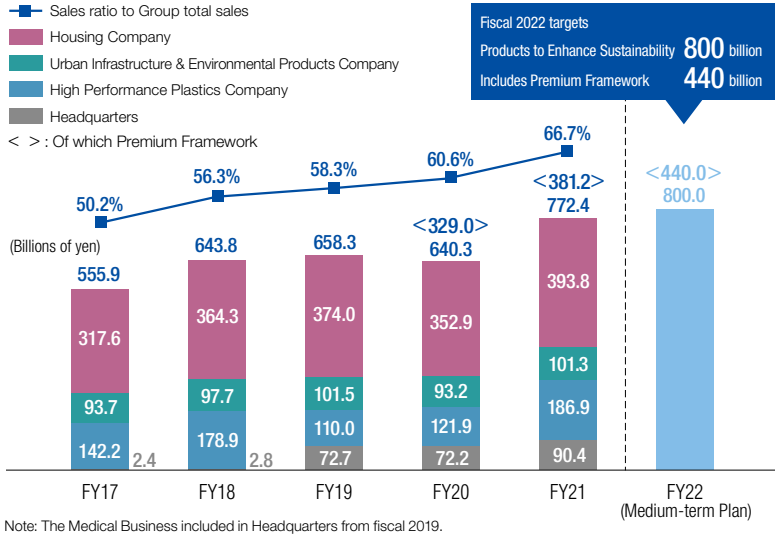
## Products to Enhance Sustainability Concept




**Typical Premium Framework products**
ZEH-specification housing (Housing), FFU (UIEP)
HUD+ insulation interlayer films (HPP), blood coagulation/POCT/pharmaceutical ingredients (Medical)

In fiscal 2020, we evolved the existing Environment-Contributing Products system into the Products to Enhance Sustainability system, since which we have verified and assessed sustainability across the supply chain from the perspectives of profitability, process evaluation, and internal control. In addition, we established a new Premium Framework to strategically expand products that balance greater profitability with contributions to solving issues.

## Products to Enhance Sustainability Net Sales/Sales Ratio




Note: The Medical Business included in Headquarters from fiscal 2019.

## Evolution of System for Evaluating Products to Enhance Sustainability

| 2006 | 2017 | 2020 |
|---|---|---|
| Launched independent SEKISUI evaluation/certification system for Environment-Contributing Products | Expanded problem-solving criteria for evaluation and certification | Launched a new system for evaluating Products to Enhance Sustainability |
| Among environmentally friendly products, we promote the creation and expansion of Environment-Contributing Products by internally certifying products that significantly and effectively help solve environmental issues when used by customers. | We expanded criteria to include products that help solve problems in both the natural and social environments. We reaffirm that our goals are equivalent to the SDGs proposed by the United Nations. | In addition to the existing certification process, we added evaluations for sustainable management and profitability, as well as established the Premium Framework. |

## Evaluations to Verify Sustainability

**Internal Control**
Is there a business plan or framework in place for handling accidents or disasters with serious business impacts that also considers issues such as safety, the environment, quality, compliance, and human rights?

**Customer Satisfaction**
In what ways do quality or service appeal to the customers who use Company products, how satisfied are they, and what kind of requests do they have?

**Supply Chain Management**
Are there structures or frameworks in place to prevent accidents or disasters that have serious business impacts on both this Company and the product-related supply chain?

**Profitability**
How much room is there to grow and what potential does the business have?

## Conduct Product Environmental Impact Assessments

SEKISUI CHEMICAL Group conducts environmental impact assessments during product planning, development, and all life-cycle stages. Based on this, the Group determines the degree of contribution to solving social issues based on internal standards when certifying Products to Enhance Sustainability after release.

**Compliance Evaluation**
- Laws and regulations
- Self-regulation
- Requirements of industries, etc.

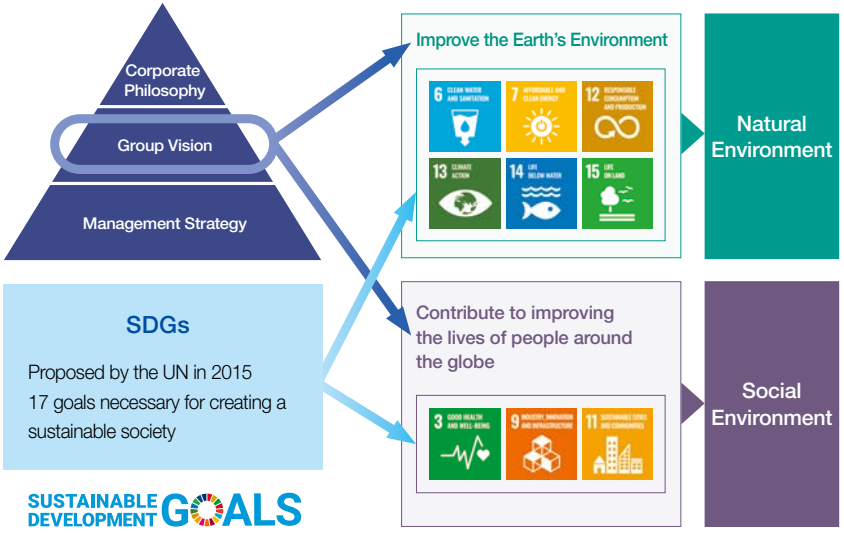
**Chemical Substance Assessment**
- Laws and regulations
- Prohibited substances
- Restricted substances

**Product Life-cycle Environmental Impact Assessment**

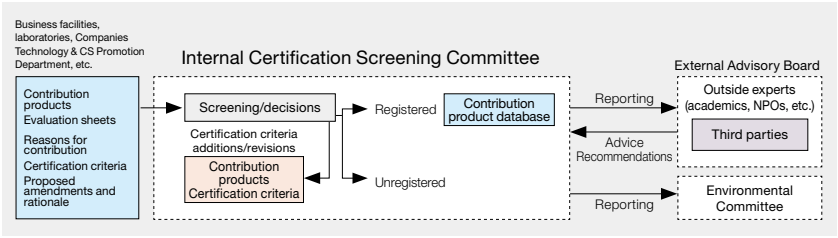
| Environment-friendly design | Raw material procurement | Manufacture | Transportation | Construction and assembly | Use | Disposal |
|---|---|---|---|---|---|---|
| • Invested resources<br>• Raw materials, composition, structure<br>• Information disclosure<br>• Environment-Contributing Product criteria<br>• $LCCO_2$ evaluations | • Environmental impact<br>Means of transportation<br>Packaging materials<br>• Green procurement<br>(suppliers, raw materials) | • Capital investments<br>• Invested resources, energy<br>• Secondary resources used<br>• Environmental impact<br>Atmosphere, water, waste, chemical substances, etc. | • Environmental impact<br>Means of transportation<br>Load-efficient design<br>• Information disclosure | • Invested resources, energy<br>• Secondary resources used<br>• Environmental impact<br>Atmosphere, water, waste, chemical substances, etc. | • Invested resources, energy<br>• Secondary resources used<br>• Environmental impact<br>Atmosphere, water, waste, chemical substances, etc. | • Composition and structure<br>• Recyclability<br>• Environmental impact<br>Transportation, disposal, soil/groundwater contamination |

# Reference Products to Enhance Sustainability Certification

## Products to Enhance Sustainability Definition




## Products to Enhance Sustainability System Operation/Certification Method




Internal Certification Screening Committee: comprises Corporate HQ centered on ESG Management Department

## Social Environment Products to Enhance Sustainability Certification Criteria

Steps taken to consider scoring factors that contribute to the prominence of each item with certification based on the level of contribution.

| Category | Response Method (Example) |
|---|---|
| Longer healthy life spans | Prevent the spread of disease (illness detection/prevention) |
| | Support the independence of the elderly and those in need of care |
| | Support the independence of people with disabilities |
| | Minimize burdens on caregivers |
| | Improve comfort/hygiene |
| | Raise awareness of healthy habits |
| | Mitigate natural disaster risks |
| | Improve working conditions, including in supply chains |
| Resilience of social infrastructure | Develop and provide infrastructure |
| | Enhance responses to disasters and emergencies |
| | Enhance resilience to disasters and emergencies |
| | Support low-income countries |
| Strengthening the safety and disaster-preparedness of communities | Promote sustainable cities and residences |
| | Improve sustainability of residences and livelihoods |
| | Improve livelihood safety |
| | Make residences and livelihoods more comfortable |
| | Invigorate local communities |

Products to Enhance Sustainability are products that make a significant contribution to solving social issues in the natural and social environments and are certified based on internal criteria. We accept the opinions and advice of outside advisors with various backgrounds in industry, government, and academia regarding these criteria, approaches, and the validity of results to ensure high standards and transparency.

We received advice on the significance of contributions made to the natural and social environments by newly registered products and how best to convey that significance. Advice was also received on the evolution and direction of the product system based on various inputs including confirmation of the need for consideration of multiple issues, which is also required by the EU Taxonomy.

## Natural Environment Products to Enhance Sustainability Certification Criteria

Certification decisions are made based on certification criteria established for each issue category and response method that contributes to solutions.

| Category | Response Method (Example) |
|---|---|
| Reduce GHG emissions | Increase energy conservation performance |
| | Use unutilized energy |
| | Find alternatives to freon gas |
| | Reduce use in product life cycles |
| | Use of non-fossil resource-derived plastics |
| | Develop energy creation/storage functions |
| | Implement energy management in urban spaces |
| | Reduce customer production processes |
| Reduce waste | Increase durability (extend service life, etc.) |
| | Adopt low volume waste methods |
| | Reduce scrap, defects, and unnecessary materials |
| Reduce raw materials use | Conserve raw materials |
| | Use recycled resources (waste from other products) |
| | Horizontal recycling of materials collected internally |
| Conserve water/aquatic environments | Reduce clean water usage volume |
| | Reduce water usage volume |
| | Reduce water leakage |
| | Circulate water through rainwater filtration |
| Prevent pollution | Prevent pollution via purification |
| | Shift to low VOC |
| Preserve biodiversity | Use certified forest timber |
| | Use thinned timber |
| | Use biodegradable materials |
| | Prevent topsoil erosion |
| | Prevent desertification |
| | Conserve wetlands |
| | Promote tree planting |
| | Prevent marine/river pollution |
| | Conserve species/genes |
| Prevent/mitigate disasters | Use disaster-resistant materials |
| Intermediate materials, raw materials | Help lower environmental burdens via raw materials, components, materials |

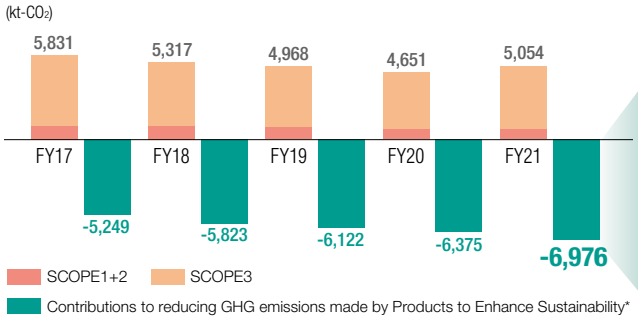
## Outside Expert Members * Honorifics omitted

| Name | Affiliated Institution and Position | Specialist Areas | Anticipated Role(s) |
|---|---|---|---|
| Masatsugu Taniguchi | Representative of the Resource and Environment Strategic Planning Office | • Experience as a company manager<br>• Well versed in resource-centered environmental strategies, a leading figure who advocated natural capital management from an early stage | The giving of opinions/advice on management including natural capital and the product portfolio |
| Juichi Shibusawa | President of the specified nonprofit corporation Network for Coexistence with Nature | • Experience in business as a Doctor of Agriculture<br>• As president of an NPO, implements activities for forest, community, and human resource development with environmental NPOs in Japan and other countries | The giving of opinions/advice on business related to the solving of social issues based on the spirit of three-way benefits (the buyer, seller, and society as a whole)<br>The giving of opinions from a nature-positive perspective |
| Takehisa Kabeya | Senior Managing Director Sustainable Management Promotion Organization (SuMPO) | • Experience as a government official at Japan's Ministry of Economy, Trade and Industry<br>• Promotes social change activities through environmental values, such as LCAs and support for regional revitalization | The giving of opinions from a life cycle perspective, the giving of opinions/advice based on regulations regarding environmental value and global trends |

| Name | Affiliated Institution and Position | Specialist Areas | Anticipated Role(s) |
|---|---|---|---|
| Minako Oishi | Representative Director, Deputy Chairperson Nippon Association of Consumer Specialists (public corporation) | • Knowledge and experience concerning consumers and their demands<br>• Promotes activities that connect consumers, businesses, and government | From the standpoint of using products, the giving of opinions/advice based on requests, expectations, and matters of concern |
| Shoichi Saito | Executive Director, ESG Management Forum Nikkei Business Publications, Inc. | • Media experience<br>• Ascertains and disseminates global trends in all areas of sustainability | From a comprehensive perspective, the giving of opinions on future trends with regard to risks and opportunities in ESG management |
| Mari Yoshitaka | Principal Sustainability Strategist, Research and Development Division, Mitsubishi UFJ Research and Consulting Co., Ltd.<br>Representative Director, Virtue Design | • Experience with regard to ESG investment in financial institutions<br>• Leading figure in SDGs, green business, and climate change finance | Seen from a financial standpoint, the giving of opinions/advice on risks and opportunities in terms of corporate value and ESG management/ green business |

# Products to Enhance Sustainability

## GHG Emissions from Corporate Activities and Contributions to Reducing GHG Emissions Made by Products to Enhance Sustainability




### Fiscal 2021 Contributions to GHG Emissions Reduction by Field

| Business Field | Contributions to $CO_2$ Reductions (kt-$CO_2$) |
|---|---|
| Housing | 1,077 |
| Infrastructure | 580 |
| **Mobility** | 3,785 |
| **Electronics** | 1,352 |
| Others | 181 |
| Total | 6,976 |

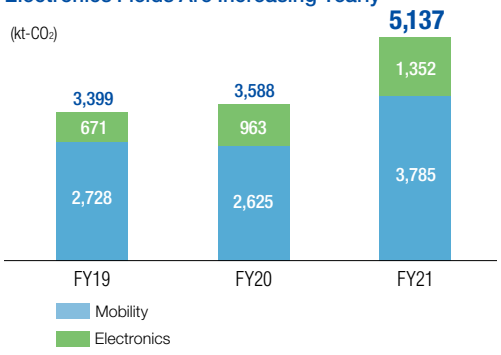
* Contributions to reducing GHG emissions made by Products to Enhance Sustainability are calculated using general-purpose products as a comparison, where the calculation indicates the contribution to reduction as the difference from comparison products given by MiLCA (Japan Environmental Management Association for Industry), a calculation system based on the concept of LIME2.

For details on the calculation methods used for Scopes 1, 2, and 3, see the Sustainability Report.

## Mobility Field, Electronics Field

In these fields, we contribute to reducing GHG emissions at the production and usage stages of our customers' products. We are further expanding the degree to which we contribute by working to convert the electricity consumed at our production plants to renewable energy and by switching to alternative resources for our raw materials.

### Contributions to GHG Emissions Reduction in the Mobility and Electronics Fields Are Increasing Yearly




### Mobility Field

Reduce fuel consumption and $CO_2$ by decreasing vehicle weights and through heat insulation

- Sound and heat insulation interlayer films
- Alveosoft vehicle floor material, etc.

### Electronics Field

Contribute to the performance of energy-efficient products and reduce $CO_2$

- Micropearl
- Conductive fine particles
- White solder resist
- UV sealants
- Heat-release materials

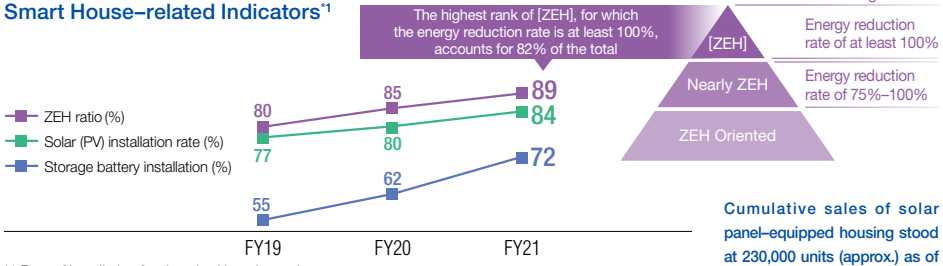
Improve product durability and reduce $CO_2$ over the life cycle

- Foam tape
- Double-faced adhesive tape for fixing of LCD components

## Housing

As one of the first companies to tackle environmental issues, we began selling houses equipped with solar panels in 1997. In 2012, we began contributing to energy creation, conservation, and storage through solar panels, HEMS (Home energy management system), and storage battery–equipped housing. By utilizing high-capacity storage batteries and large-capacity solar panels, we propose advanced lifestyles that eliminate electricity purchases wherever possible.

### Smart House–related Indicators*1




*1 Rate of installation for detached housing orders

| Reference: Company data* | 2019 | 2020 | 2021 |
|---|---|---|---|
| Installed solar panel area | 374,000 $m^2$ | 360,000 $m^2$ | 400,000 $m^2$ |
| Total installed solar panel capacity*2 | 50 MW | 50 MW | 60 MW |

*2 Cumulative installed solar panel capacity now exceeds 1,250 MW. As a result, total annual electricity generation is equivalent to the electricity consumed by a city with a population of 500,000 people.

**Cumulative sales of solar panel–equipped housing stood at 230,000 units (approx.) as of March 31, 2022**

We also promote the effective use of renewable energy through the SMART HEIM DENKI Power Trading Service business and manage the BeHeim brand, through which we purchase and resell homes in a way that circulates upcycled housing, in order to contribute to building a sustainable, recycling-oriented society.

## Infrastructure

In this field, we contribute to mitigating environmental impact by reducing $CO_2$ throughout life cycles, from raw materials to production, by replacing conventional materials with plastic and by reducing waste, for example, through the SPR pipeline renewal method that eliminates the need to excavate roads during construction.

Reference Image

### $CO_2$ Emissions throughout the ESLO Hyper High-performance Polyethylene Pipe Life Cycle


Notes: 1 Figures for metal pipes are inferred from publicly available information. These figures are for reference purposes only, and are not collected as data from the production process.
2 $CO_2$ emissions by material and product are calculated using impact assessment coefficients (GHG emissions per unit production) cited from IDEAv2 of the National Institute of Advanced Industrial Science and Technology and the Sustainable Management Promotion Organization

# Products to Enhance Sustainability

## Promoting Resilient Infrastructure, Cities as well as Living and Communications Environments

### Spreading and Promoting Resilient Social Infrastructure and Safe, Secure Lifelines

We provide products and construction methods that contribute to solutions for social issues, including aging structures, disaster prevention and mitigation, and labor shortage countermeasures, as part of water supply and sewage lines, agriculture, electric power, and other aspects of social infrastructure. We also provide lightweight, highly durable, high-strength materials in the aircraft, railway, and other transportation infrastructure fields in order to contribute to building safe, secure lifelines.

Polyethylene pipes for earthquake resistant water supply

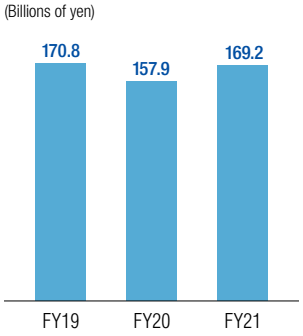
SPR Method contributes to aging infrastructure, including sewage pipes

Reinforced plastic composite pipes are also used as rainwater storage pipes

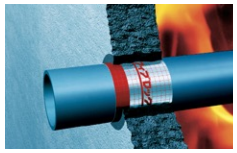
Rainwater storage systems contribute to torrential rain countermeasures

Synthetic sleepers for railroads have exceptional water resistance and durability

### Water-related Business Net Sales Trends




High flowrate drainage systems contribute to torrential rain countermeasures, etc.



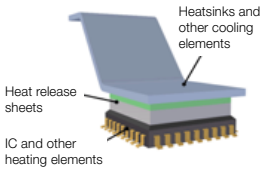
Fire-resistant VP Rigid PVC pipes for buildings

Drinking water storage system

Non-combustible certified material, thermal insulating urethane foam material for onsite use

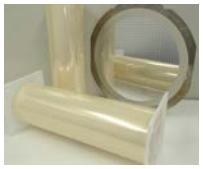
### Resilient Communications Infrastructure

Products that contribute to improving the durability and performance of related parts, which are becoming increasingly important with the development of 5G connectivity, also contribute to more sophisticated ICT.




**MANION high thermal conductivity heat release sheet**

Contributes to exercising the performance of high-speed communications and high-density semiconductors



**Selfa semiconductor processing material**

Contributes to realizing high-density, ultra-thin wafers

### Providing Smart, Resilient Living Environments, and Town and Community Development

SEKISUI HEIM are made from high-durability structures that are resistant to natural disasters as the result of a highly industrialized unit construction method


**New e-PocketGREEN high-capacity storage battery**

A high-capacity, compact storage battery that can be installed indoors

In addition to communities where all residences are equipped with storage batteries and built to zero energy house (ZEH) specifications, we are deploying smart, resilient town and community development throughout Japan by bringing to bear the infrastructure materials of the Group that stand strong against disasters, including rainwater storage systems that provide countermeasures to torrential downpours and drinking water systems capable of securing days of potable water, even when water services are suspended.

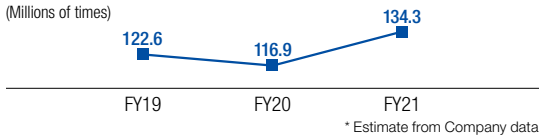

## Support for Health and Longevity

### Contributing to the Early Detection of Diseases

We support healthy lifestyles by detecting illness and infectious diseases early on through our product lineups of clinical reagents for diabetes and infectious diseases, analysis equipment, and plastic blood collection tubes.


Reference Image

**Number of tests made using SEKISUI CHEMICAL Group diagnostic reagents in the clinical chemistry (HDL, LDL), diabetes, and POCT fields***



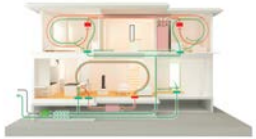

* Estimate from Company data

### Lightens the Burden on Those Receiving and Providing Elderly Care

Large-scale prefabricated bath for independence support and nursing care

Nursing care motion sensor for patients

### Proposing Lifestyles with Little Temperature Difference Risk



Comfortable air ventilation and air-conditioning systems

### Addressing the New Normal

Virus removal spray with a virus removal effect that lasts approximately one month