

Initiatives for the Environment

Environmental Management—Under the Slogan of KKR+A



Fundamental Environmental Philosophy

Recently deterioration of global environment has rapidly progressing. It is a mission in common among human beings who live on earth to make efforts to preserve and improve global environment and hand the beautiful earth to our descendants. Suminoe Textile Co., Ltd. well recognized this fact, will make a comfortable and rich society with a cooperation of all the employees positively tackling with environmental preservation activities.

Suminoe Textile Group “SUMINOE Environmental Declaration”

The Suminoe Textile Group is promoting environmental measures based on the seven declarations released in 1998 and revised in 2009.

Declaration 1 **We shall contribute to the improvement of interior environments and realize comfortable spaces.**

Our TRIPLE FRESH deodorant treatment is applied to carpets, curtains, wallpaper and automobile interior fabrics to deodorize unpleasant smells, such as cigarettes, pets, household odors, and Formaldehyde, which is believed to be behind sick building syndrome, by absorbing and dissolving the elements causing bad smells. Other efforts being made by us to create a comfortable and care-free living space include an anti-allergen treatment called ALLER-BLOCK, aimed at suppressing allergen activity, and a skin-care beauty treatment.

Declaration 2 **We shall respond to the recycling society and positively adopt recycled materials.**

We are actively using recycled materials as part of our efforts to promote environmental conservation and the efficient use of natural resources. Specific products launched for that purpose include スミトロン® (SUMITRON) polyester yarn made from recycled PET bottles, a recycling system for carpet tiles in which used tiles are recollected and recycled into new products, SUMICUBE® seat cushion material for railway cars boasting high recycle efficiency, and SE Light simplified raised floor material made from PP resin which was recycled from beer cases.

Declaration 3 **We shall provide products that enable the reduction of CO₂ and decrease our impact on the environment.**

To play a part in curbing global warming and building a low-carbon society, we will develop and provide low-carbon products based on the Life Cycle Assessment (LCA) method. LCA is intended to comprehensively and quantitatively evaluate the impact of manufacturing activities on the environment while taking into consideration the entire cycle of products—materials, manufacturing, transportation, use, and disposal.

Declaration 4 **We shall use safe/secure materials and always consider health and the environment.**

We will provide products that have passed safety rules and regulations, while refraining from supplying products that contain volatile organic compounds (VOC), believed to cause sick building syndrome, or heavy metals, which require special attention in disposal. Instead, we will actively use natural fabric materials such as wool, hemp, and cotton. In addition, we will make consumer-friendly products, such as flooring mats using Olefin film, which is known to emit a minimal amount of toxic gas during burning.

Declaration 5 **We shall work on resource and energy conservation from manufacturing to the finished product.**

We will promote the effective use of resources by reducing losses of primary materials, auxiliary materials, water and energy occurring in the production process. We will also update energy-saving facilities constantly, improve product quality, reduce the weight of products, and simplify packaging. At the same time, we will strive to increase the efficiency of transportation, resources utilization, and waste disposal, thereby promoting resource and energy conservation.

Declaration 6 **We shall promote the appropriate management of environmentally hazardous substances based on the latest information.**

Tougher controls have been in place both in Japan and abroad on the use of specific chemical substances in products. In response to this, we will check all of our products using relevant materials and properly manage such materials based on the Supply Chain Management (SCM) concept. Furthermore, we will keep ourselves abreast of the latest information on product safety.

Declaration 7 **We shall present and provide products that are conscious of the environment.**

Our environmental consideration in manufacturing will be given not only to external product appearance and functions but also to other factors, such as minimizing resources and energy consumption in the process of production, making product recycling easier, manufacturing longer-life products and optimizing waste disposal. We will propose and deliver products based on such an “eco-design concept.”

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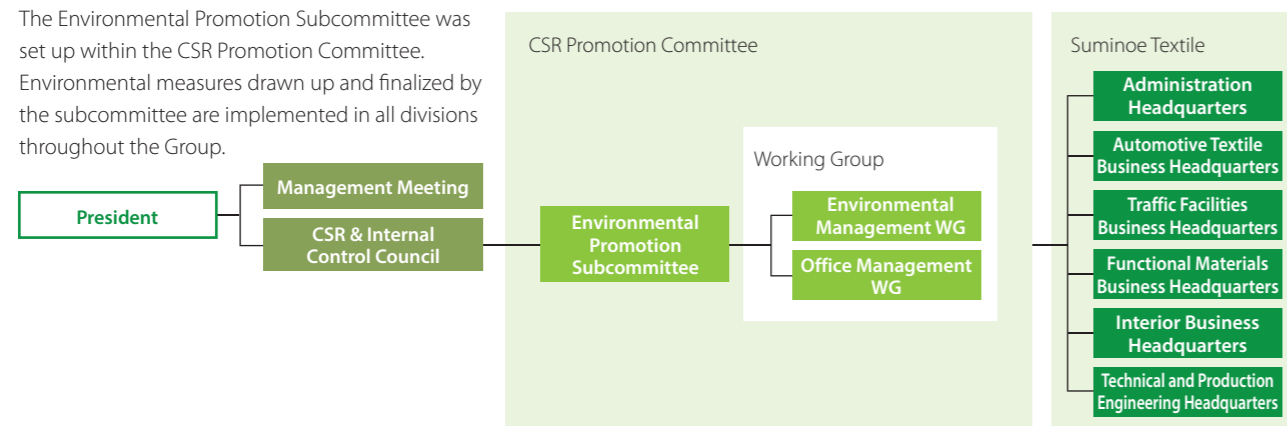
Guideline on Activity

In carrying out environmental conservation activities

- 1** We will positively promote energy-saving, resource-saving, and recycling with a consideration not to contaminate environment in all of our business activities.
- 2** We will try to preserve environment through products' life cycle from production, sales to disposal by developing environment-friendly technology and products.
 - ① Development of technology for energy-saving and resource-saving
 - ② Development of recycling technology and recycling system
 - ③ Development of products and technology to replace materials which would put less load on environment and have more safety
 - ④ Development of product which could improve environment and contribute to health and comfort
- 3** We will try to live together with community through close communication and all employees will start action from whatever one can do.
- 4** We will try to maintain internal system to promote environmental protection and enhance environmental consciousness of all employees.

Environmental Protection Promotion System

The Environmental Promotion Subcommittee was set up within the CSR Promotion Committee. Environmental measures drawn up and finalized by the subcommittee are implemented in all divisions throughout the Group.



Introduction of environmental management system

The Nara Factory obtained ISO 14001 certification in fiscal 2000, making it the first among the Group to be awarded certification on environmental management. To date, five factories in Japan have obtained ISO 14001 certification, and one factory Eco Action 21 certification.

	ISO14001: 2015			Eco Action 21: 2009
	Nara Factory, Shiga Factory	Teijin Teclath Ltd.	Owari Seisen Co., Ltd.: Head Office Factory, Ishikawa Factory	TANGO TEXTILE Co., Ltd.
Screening and registration agency	Japanese Standards Association	Japan Quality Assurance Organization	Japan Quality Assurance Organization	Institute for Promoting Sustainable Societies
Registration number	JSAE 235	JQA-EM1519	JQA-EM3114	0009522
Registration date	May 2000	April 2001	March 2003	July 2013
Registration renewal	6th renewal completed (May 2018)	6th renewal completed (April 2019)	5th renewal completed (July 2017)	3rd renewal completed (July 2019)

Fifth Medium-Term Activity Goals—Eco Challenge 2020—

Environmental commitment

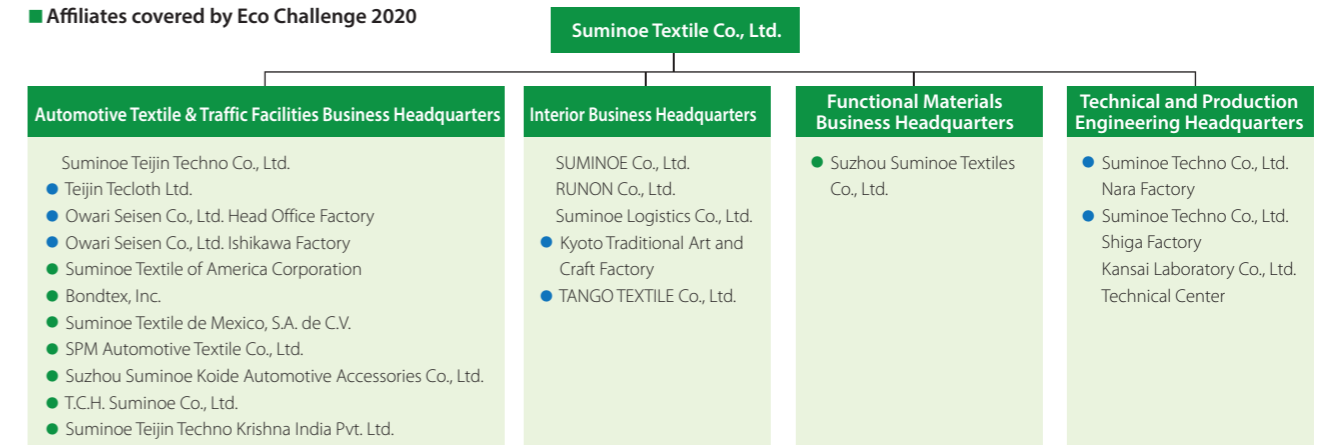
Business activities undertaken by the Suminoe Textile Group are deeply connected to the environment. This holds true to our daily operations, as well as to the entire lifecycle of our products—from product development and design, material procurement, production, sales, distribution, consumption, disposal and recycling.

The Suminoe Textile Group is working on assessing and reducing the impact on the environment from all of our business activities and our products throughout their lifecycle. We are committed to manufacturing environmentally friendly products. One example is active use of recycled materials, including polyvinyl chloride powder recycled from used carpet tiles and raw cotton and polyester pellets recycled from PET bottles. In conducting CSR activities, we also focus on environmental conservation, and Group-wide efforts are underway to achieve the goals set under Eco Challenge 2020.

Eco Challenge 2020 (Fifth Medium-Term Activity Goals)

Eco Challenge 2020 (Fifth Mid-Term Activity Goals) was formulated as a set of goals on environmental protection. Its duration was two years from fiscal 2018 to 2019, during which we promoted environmental activities.

Affiliates covered by Eco Challenge 2020



● Domestic factories: Subject to meeting numerical targets on the use of recycled materials, the amount of industrial waste generated (the recycling rate and the rate of industrial waste disposed of at final disposal sites) and the amount of PRTR-designated substances handled ● Overseas factories: Subject to meeting numerical targets only regarding energy consumption

Period: Fiscal

2018–2019 (two-year plan; data collection lasting between June 2018 and May 2020)

Activity Goals and Fiscal 2019 Results

○: Attained △: Not attained at some factories ×: Not attained

	Work areas	Base FY	Final numerical targets	Evaluation	
1	Prevention of global warming	Reduction of energy consumption	2017	2% reduction (Basic unit)	○
	Reduction of fuel consumed by company-owned vehicles	2017	2% reduction (Basic unit)	△	
2	Resources conservation	Increased utilization rate of recycled material	2017	2% improvement	△
		Reduction of industrial waste	2017	2% reduction (Basic unit)	△
		Increase of recycling rate	—	65% or more	△
3	3Rs regarding waste material	Reduction of waste disposal rate via land reclamation	—	10% or less	△
		Reduction of air pollution (reduction of NOx emissions)	2017	2% reduction (Basic unit)	○
4	Prevention of environmental pollution	Reduction of emissions reported under PRTR system	2017	2% reduction (Basic unit)	△
		Improvement of green stationery purchase rate	—	95% or more	△
5	Promotion of Green Activities	—	95% or more	△	
6	Promotion of LCA assessment for products	—	12 items under LCA	○	
7	Promotion of development of environment-friendly technologies	—	2 cases	○	
8	Promotion of development of environment-friendly products	—	6 cases	○	
9	Promotion of biodiversity preservation in business activities	—	—	—	
10	Consolidation of data on environmental impact of overseas factories and reduction of such impact	—	Compilation of data for all overseas factories	○	

Basic unit: Consolidated sales used as a denominator for calculation

Conversion coefficient: The amount of NOx emissions is calculated based on a conversion coefficient used in the 2002 edition of Eco Action 21.

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Eco Challenge 2020 (Fiscal 2018 Results)

Eco Challenge 2020 uses the fiscal 2017 data as the standard.

In fiscal 2019, we achieved targets in work areas related to reduction of energy consumption, prevention of environmental pollution, development of environment-friendly technologies and products, and compilation of environmental data for overseas factories. Also attaining the targets for promotion of LCA assessments for products, we accomplished these targets for the entire period of the Eco Challenge 2020.

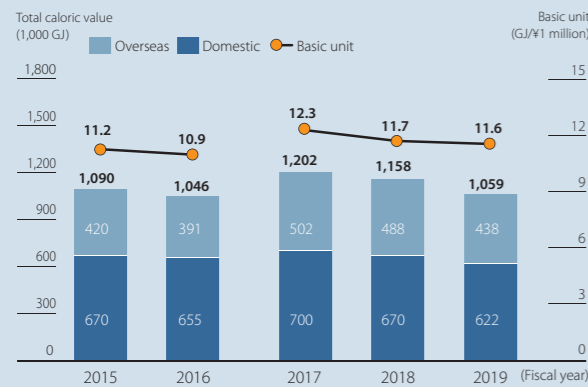
Prevention of global warming

Reduction of Energy Consumption

We assess the results of our energy-saving activities based on the calorie equivalent of our energy consumption*. Eight companies have been included in the "overseas" category since the base year fiscal 2017 (five for 2016 or before).

* Unit of calorie equivalent of energy consumption: GJ (gigajoule)

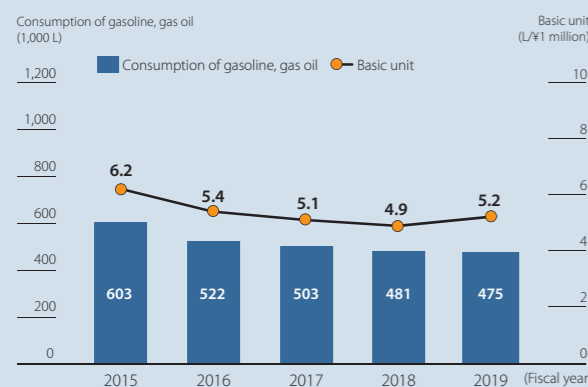
Change in calorie equivalent of energy consumption [including overseas consumption]



Reduction of Fuel Consumed by Company-Owned Vehicles

We are striving to reduce fuel consumption by company-owned vehicles by promoting eco-driving and adopting a policy of actively switching to fuel-effective vehicles. In fiscal 2019, we reduced the consumption but failed to achieve the reduction target in terms of basic unit.

Change in fuel consumed by company-owned vehicles

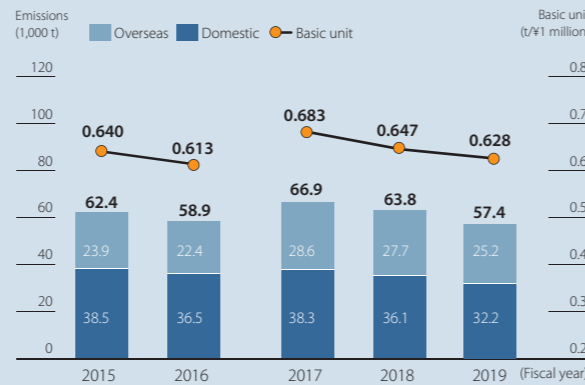


[Reference data] Reduction of CO₂ Emissions

We assess the impact of our corporate activities on global warming based on CO₂ emissions*. Both CO₂ emissions and basic unit have decreased compared to 2017 (overseas: 8 companies for 2017 onwards, 5 companies for 2016 or before).

* For domestic factories, the amount of CO₂ emissions is calculated based on a conversion coefficient set in accordance with the law to promote measures against global warming. For overseas factories, the calculation is based on a conversion coefficient set for each country in the 2007 GHG protocol.

Change in CO₂ emissions [including overseas consumption]

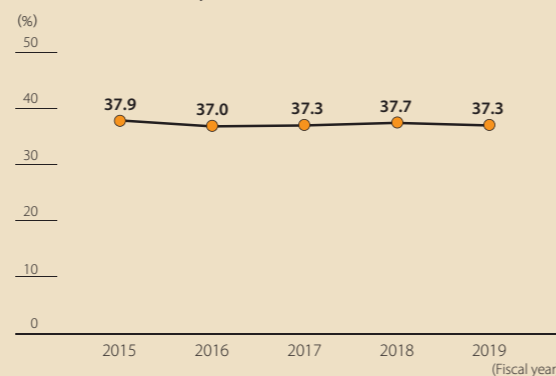


Resources conservation

Increased Utilization Rate of Recycled Materials

We are actively using recycled materials for product manufacturing to promote savings in resources.

Rate of use of recycled materials



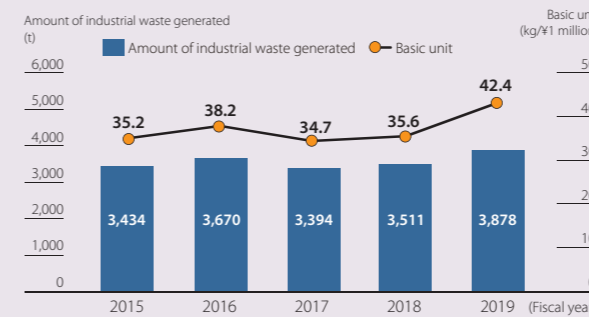
3Rs regarding waste material

Reduction of industrial waste generated

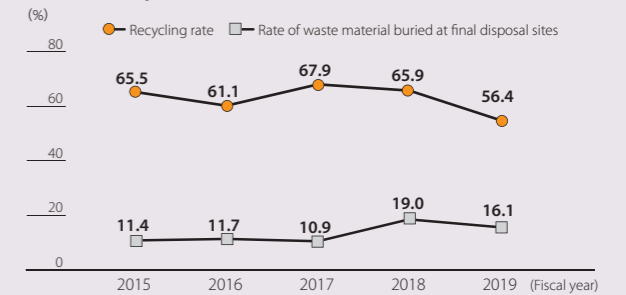
Increasing the Recycling Rate and Reducing the Waste Disposal Rate via Land Reclamation

We are striving to reduce industrial waste generation by minimizing unused materials for our products, by not manufacturing products that do not pass quality standards, and by using resources effectively. In fiscal 2019, due to test runs of the newly installed manufacturing equipment, the amount of industrial waste increased, which affected the results of each target item.

Changes in amount of industrial waste generated



Changes in recycling rate and rate of waste material buried at final disposal sites

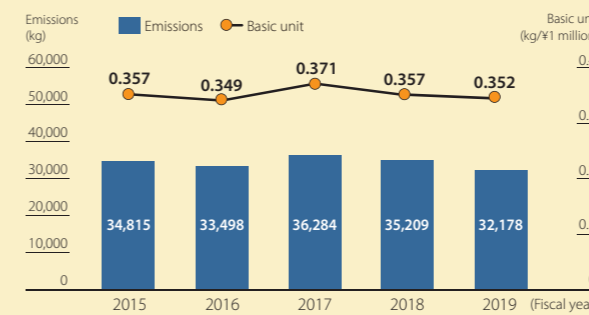


Prevention of environmental pollution

Reduction of air pollution (NO_x emissions)

Substances that may pollute air include NO_x, SO_x, and other fine particles. NO_x is used here as an example to explain the situation of air pollution. The amount of NO_x emissions is calculated based on the emission coefficient used in the 2002 edition of Eco Action 21 for facilities where no emission-cutting measures were taken.

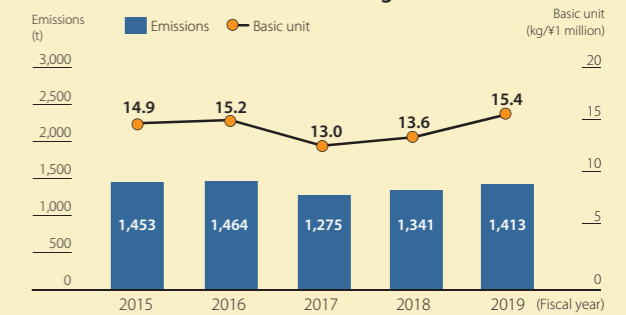
Reduction of NO_x emissions



Reduction in the Amount of PRTR Designated Substances Handled

We are in the process of replacing chemical substances whose use will be restricted by regulations with safer alternatives.

Reduction in amount of PRTR-designated substances

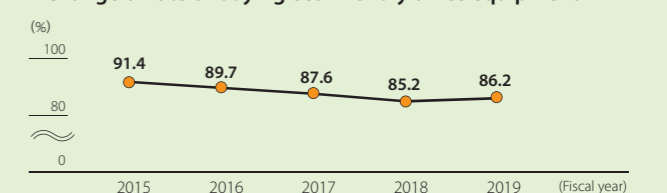


Promotion of Green Activities

Improvement of Green Stationery Procurement Rate

We are actively promoting purchases of environmentally friendly office equipment and supplies to reduce their impact on the environment throughout their entire life cycle, from collection of materials to disposal.

Change of rate of buying eco-friendly office equipment



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Eco Challenge 2020 (Fiscal 2019 Results)

Promotion of LCA* Assessment for Products

Promotion of LCA Assessment for Products

We have established an LCA system for products and have conducted in-house assessments since fiscal 2015. In fiscal 2019, we carried out LCA assessments for 49 items, attaining the target set under Eco Challenge 2020.

* LCA: Stands for lifecycle assessment. LCA is a method to quantitatively evaluate the resources used to produce a product at each stage of its lifecycle—from raw material procurement, manufacturing, distribution and use to disposal— as well as its load on the environment, and also the potential environmental impact that the product and resources may have on the Earth and ecosystems.

Promotion of Development of Environment-Friendly Technologies and Products

Promotion of Development of Environment-Friendly Technologies

クインテック® (QUINTECH) multi-functional processing technology featuring five functions that improve indoor environments
トリプルフレッシュ®デオ (TRIPLE FRESH DEO) (having deodorant, antibacterial, anti-virus and antiallergen functions) plus anti-mite function

Promotion of Development of Environment-Friendly Products

- 1 New series of ECOS® Carpet Tiles—LP-2000N, LP-3100 and iD-7100— which use solution-dyed nylon yarn that has less environmental impact
- 2 Revamp of the olefin flooring material “Hokkarari Floor” for TOTO’s bathroom units
- 3 “空気を洗う壁紙® (Air Cleaning Wallcoverings) Stretch” featuring deodorant, antibacterial and anti-cracking properties and a weight reduction of 20% as compared with conventional products

Consolidation of Data on Environmental Impact of Overseas Factories and Reduction of Such Impact

Compilation of Data for Overseas Factories

In fiscal 2019, environment-related data of two overseas factories* were newly added to the compilation.

* PT. Suminoe Surya Techno (Indonesia)
Suminoe Koide (Thailand) Co., Ltd. (Thailand)

Environmental Activities for Preserving Biodiversity in Business Operations

Factories run by the Suminoe Textile Group have been undertaking various unique activities since fiscal 2013 to protect biodiversity based on the environment protection guidelines the Group formulated in fiscal 2011.

Activity Policy

1 Reduction of impact on biodiversity from business activities

- Monitoring the situation on biodiversity around factories and their vicinity
- Using locally-grown native species, not nonnative species, for tree planting
- Periodically cleaning areas near factories and improving environmental conditions there by weeding out grass
- Checking sustainability when biological resources are used as product material
- Promoting development of products with recycled material and building a recycling system to manufacture such products
- Incorporating activities for biodiversity preservation into an environmental management system
- Promoting new measures that are possible at each factory for preservation of biodiversity

2 Promoting new measures that are possible at each factory for preservation of biodiversity Activities to seek suppliers’ cooperation in reducing impact on biodiversity across the entire supply chain

- Seeking cooperation from suppliers in observing green purchase guidelines to promote our efforts to preserve biodiversity

3 Social contribution activities

- Supporting groups engaging in forestry preservation activities
- Supporting green charity activities

Activity Results

[Nara Factory of Suminoe Textile Co., Ltd.]

The factory has participated in activities of the Ando Ouyu-Kai, an association aimed at developing a cherry tree-lined promenade in the area along the Okazaki River flowing south of the factory, and has taken care of the trees.

[Shiga Factory of Suminoe Techno Co., Ltd.]

The factory has been working on propagating the Sasayuri lily, known as the flower of Koka City and a symbol of the harmonious coexistence of people and nature, on the factory premises.

[Factory at the head office of Owari Seisen Co., Ltd.]

The factory has been supporting the project to revive fireflies along the Kiso River and in other wetland areas, as a member of the Ichinomiya Heisei Firefly Association.