

FY2022 Environmental

Activities and Data

(April 1, 2022 – March 31, 2023)

Updated on Nov. 30, 2023

Introduction

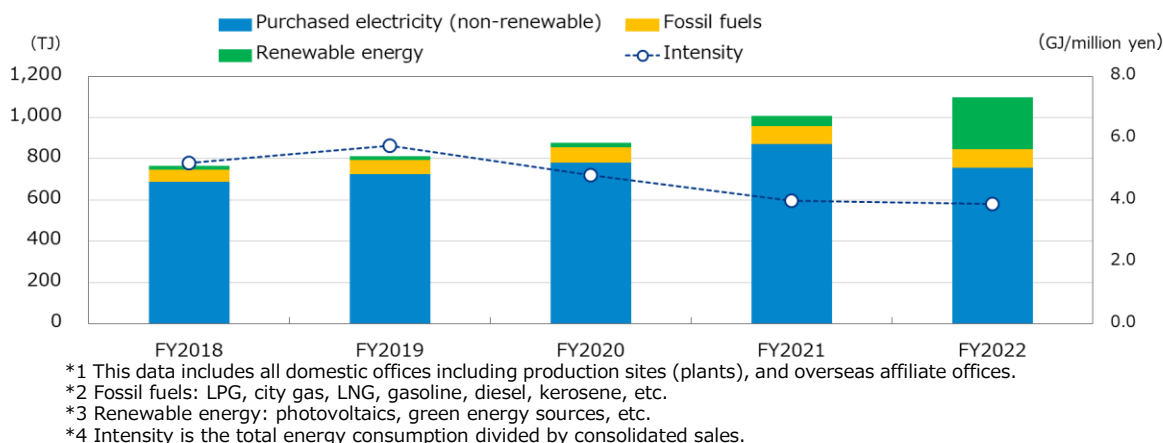
As part of our earth-conscious activities, DISCO is promoting resource saving (reduction of energy, water, etc.) and reduction of carbon dioxide and waste. Although some emissions as part of the total amount have increased due to the increase in production volume in recent years, improvement has been seen in some intensities due to increased facility efficiency and production activities with a focus on resource saving.

In addition to carrying out lawful business activities, we are continuing to improve our environmental performance by incorporating an environmental management system (ISO14001) as part of our initiatives.

Environmental Data

1. Energy Consumption

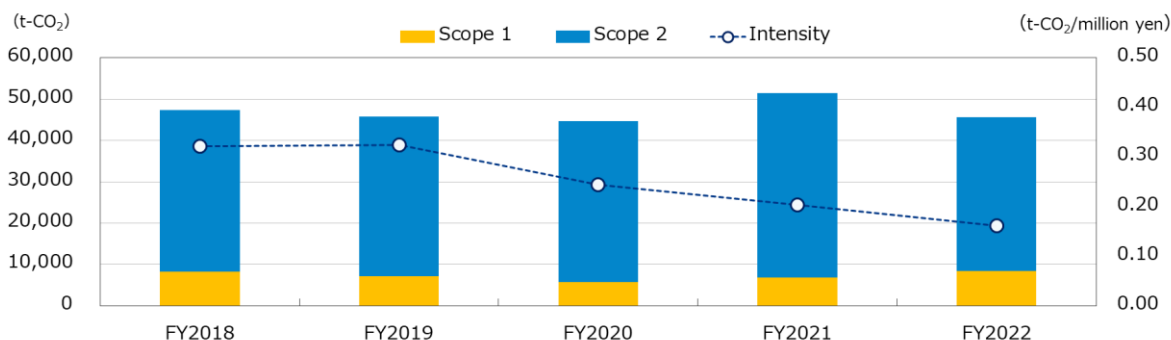
This graph indicates the energy consumption of the entire DISCO Group and the intensity with regard to sales. We are continuing to carry out energy-saving activities, and have been decreasing our intensity with regard to sales.



2. Greenhouse Gas Emissions

① Greenhouse Gas Emissions due to DISCO's Business Activities (Scopes 1, 2)

This graph indicates the amount of greenhouse gas emitted by the entire DISCO Group and the intensity with regard to sales. We have implemented energy-saving activities such as introducing green electricity and solar power generation facilities in the company, and have been decreasing our intensity with regard to sales.



Data for each office (Scopes 1 + 2)						(t-CO ₂)
	FY2018	FY2019	FY2020	FY2021	FY2022	
Head Office / R&D Center	8,519	8,894	9,140	9,996	12,791	
Kuwabata Plant, Kure Plant	33,315	32,164	30,340	36,988	27,542	
Other domestic	Sendai Branch Office	29	27	24	29	28
	Chino Plant	581	615	728	1,493	1,905
	Osaka Branch Office	57	64	67	57	75
	Kyushu Branch Office	102	97	117	174	234
	Total	769	802	937	1,753	2,242
Overseas	DISCO HI-TEC AMERICA, INC.	411	739	588	564	603
	DISCO HI-TEC EUROPE GmbH	2,781	1,689	1,888	255	252
	DISCO HI-TEC (SINGAPORE) PTE. LTD.	592	547	502	488	497
	DISCO HI-TEC CHINA CO., LTD.	381	322	406	671	702
	DISCO HI-TEC TAIWAN CO., LTD.	449	404	523	423	654
	DISCO HI-TEC KOREA Corporation	208	163	274	297	332
	DISCO HI-TEC (MALAYSIA) SDN. BHD.	–	–	–	6	29
	DISCO HI-TEC (THAILAND) CO., LTD.	–	–	–	1	2
	DISCO HI-TEC (VIETNAM) CO., LTD.	–	–	–	2	6
Total	4,823	3,864	4,182	2,707	3,078	
Total	47,427	45,724	44,599	51,444	45,654	

*1 This data includes all domestic offices including production sites (plants), and overseas affiliate offices.

*2 Shows the total amount for Scope 1 and Scope 2 emissions per office.

② Supply Chain Emissions (Scope 1 – 3)

With the increasing severity of the global climate change problem, corporations have been asked to be aware of not only the quantity of their own greenhouse gas emissions, but also the quantity of emissions along their entire supply chain. Since FY2014, in accordance with guidelines from the Ministry of the Environment, the amount of greenhouse gas emissions generated by the entire supply chain (Scope 1 – 3) has been calculated annually.

In FY2022, DISCO's entire supply chain generated roughly 1,446,000 tons of CO₂ (Scope 1 – 3).

From among this, CO₂ emissions related to business activities generated by other companies (Scope 3) made up roughly 1,400,000 tons. The majority of emissions came from the "Use of sold products," which made up for approximately 93% of the total emissions.

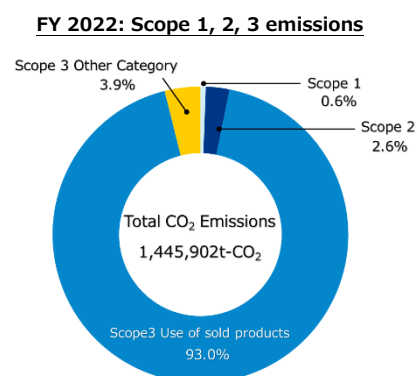
In the future, we will share information with related stakeholders and promote the planning and development of new energy-saving products in order to push towards a reduction in greenhouse gas emissions across our entire supply chain.

Scope 3 - Calculations by category

		(t-CO ₂)				
Category	FY2018	FY2019	FY2020	FY2021	FY2022	
1 Purchased goods & services	12,487	8,181	13,849	17,259	15,349	
2 Capital goods	25,473	55,426	50,364	120,533	10,425	
3 Fuel- and energy-related activities	3,160	5,668	6,178	7,171	7,983	
4 Upstream transportation & distribution	6,077	7,646	13,527	17,840	18,918	
5 Waste generated in operations	111	80	70	90	93	
6 Business travel	664	680	712	735	781	
7 Employee commuting	1,207	1,236	1,291	1,332	1,416	
8 Upstream leased assets	–	–	–	–	–	
9 Downstream transportation & distribution	1,359	838	1,125	1,260	1,232	
10 Processing of sold products	–	–	–	–	–	
11 Use of sold products	715,921	539,416	996,401	1,250,915	1,343,888	
12 End of life treatment of sold products	2,112	11	19	24	21	
13 Downstream leased assets	882	102	46	110	143	
14 Franchises	–	–	–	–	–	
15 Investments	–	–	–	–	–	
Total	769,453	619,283	1,083,583	1,417,269	1,400,249	

*1 This data includes all domestic offices including production sites (plants), and overseas affiliate offices.

*2 "–" refers to inapplicable data.



Calculations by scope (past 5 years)

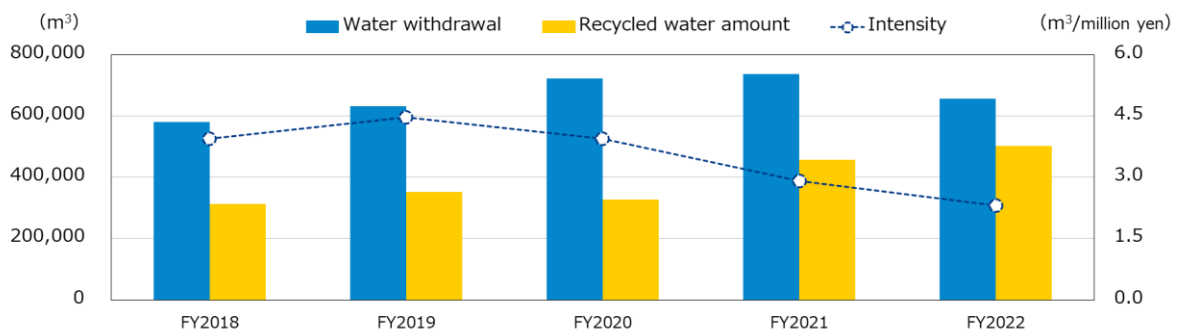
	(t-CO ₂)				
	FY2018	FY2019	FY2020	FY2021	FY2022
Scope 1	8,226	7,154	5,739	6,738	8,434
Scope 2	39,201	38,570	38,860	44,706	37,220
Scope 3	769,453	619,283	1,083,583	1,417,269	1,400,249
Total (Scope 1 + 2 + 3)	816,881	665,008	1,128,182	1,468,713	1,445,902
Scopes 1 + 2 intensity with regard to sales (t-CO ₂ /million yen)	0.322	0.324	0.244	0.203	0.161

*1 This data includes all domestic offices including production sites (plants), and overseas affiliate offices.

*2 Scopes 1 + 2 intensity with regard to sales: total for Scopes 1, 2 divided by consolidated sales

3. Water Consumption and Drainage Amount

This graph indicates the amount of water withdrawal and recycled water of the entire DISCO Group and the intensity of the water withdrawal amount with regard to sales. We are carrying out water recycling and water conservation activities, and have been decreasing our intensity with regard to sales.



*1 This data includes all domestic offices including production sites (plants), and overseas affiliate offices.

*2 Recycled water is the water regenerated by wastewater treatment equipment.

*3 Intensity is the intensity with regard to sales (water withdrawal amount (clean water, industrial water) divided by consolidated sales).

Data for each office (clean water + industrial water)

	(m ³)				
	FY2018	FY2019	FY2020	FY2021	FY2022
Head Office / R&D Center	207,625	224,568	200,193	188,595	199,769
Kuwabata Plant, Kure Plant	273,039	303,804	421,625	437,067	315,108
Other domestic					
Sendai Branch Office	40	25	29	49	48
Chino Plant	3,720	5,607	9,410	9,685	13,726
Osaka Branch Office	690	821	612	898	951
Kyushu Branch Office	1,568	919	781	927	1,200
Total	6,018	7,372	10,832	11,559	15,925
Overseas					
DISCO HI-TEC AMERICA, INC.	14,651	4,862	2,355	238	505
DISCO HI-TEC EUROPE GmbH	68,218	78,922	79,203	89,094	103,189
DISCO HI-TEC (SINGAPORE) PTE. LTD.	3,874	3,464	2,101	1,655	3,887
DISCO HI-TEC CHINA CO., LTD.	6,000	6,000	4,029	5,159	6,080
DISCO HI-TEC TAIWAN CO., LTD.	2,285	3,075	3,776	2,685	4,249
DISCO HI-TEC KOREA Corporation	217	151	267	245	117
DISCO HI-TEC (MALAYSIA) SDN. BHD.	—	—	—	7	235
DISCO HI-TEC (THAILAND) CO., LTD.	—	—	—	1,062	5,525
DISCO HI-TEC (VIETNAM) CO., LTD.	—	—	—	397	1,881
Total	95,245	96,474	91,731	100,543	125,668
Total	581,927	632,218	724,381	737,764	656,470

*1 This data includes all domestic offices including production sites (plants), and overseas affiliate offices.

*2 Shows the total amount of clean water and industrial water per office.

Water withdrawal and drainage amount by water source

	(m ³)				
	FY2018	FY2019	FY2020	FY2021	FY2022
Clean water (water withdrawal)	485,396	534,323	603,731	606,902	579,238
Industrial water (water withdrawal)	96,531	97,895	118,935	130,862	77,232
Recycled water amount	312,956	351,590	327,718	457,054	501,958
Sewage water (drainage amount)	581,927	632,205	722,633	737,708	629,992
Recycling rate (%)	35	36	31	38	43

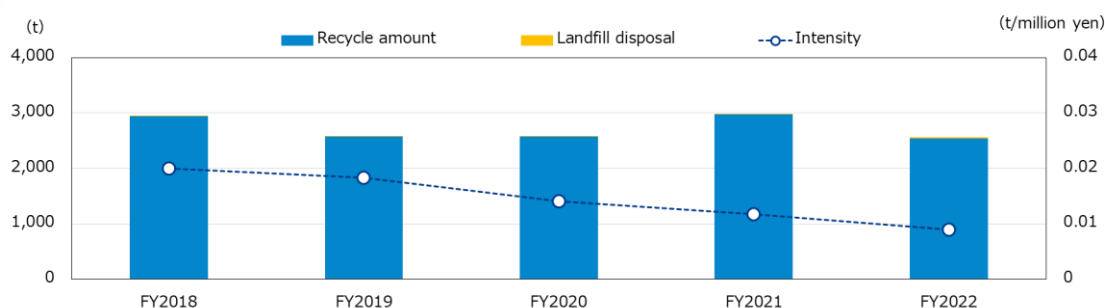
*1 This data includes all domestic offices including production sites (plants), and overseas affiliate offices.

*2 All water is drained to the sewers. Sewage water (drainage amount) is defined as the water withdrawal amount minus the water included in products and water that has evaporated from air conditioning facilities, etc.

*3 Recycling rate is the ratio of the amount of recycled water to the total amount of water (water withdrawal amount + recycled water amount).

4. Waste Generation Amount

This graph indicates the waste generated by all domestic offices including production sites (plants) and the intensity with regard to sales. We are striving to reduce our waste and are carrying out recycling activities, and have been decreasing our intensity with regard to sales. In addition, our current recycling rate of generated waste is over 99%.



*1 This data includes all domestic offices including production sites (plants).

*2 Recycled amount is the amount of reused waste with the exemption of disposal through landfills.

*3 Intensity is the intensity with regard to sales (total amount of waste divided by consolidated sales).

Data for each office (waste amount)

	(t)				
	FY2018	FY2019	FY2020	FY2021	FY2022
Head Office / R&D Center	552	635	351	402	332
Kuwabata Plant, Kure Plant	2,366	1,859	2,080	2,407	2,037
Chino Plant	-	-	-	-	174
Other Domestic Offices	31	91	154	181	9
Total	2,949	2,585	2,585	2,990	2,552

*1 This data includes all domestic offices including production sites (plants).

*2 Shows the waste amount (total) per office.

*3 From FY2022 onward, Chino Plant will be specified separate from other domestic offices.

Waste amount and recycling rate

	(t)				
	FY2018	FY2019	FY2020	FY2021	FY2022
Hazardous waste	352	345	173	242	162
Landfill disposal	7	15	9	12	7
Recycled amount	2,942	2,570	2,576	2,978	2,545
Recycling rate (%)	99.8	99.4	99.7	99.6	99.7

*1 This data includes all domestic offices including production sites (plants).

*2 Hazardous waste: controlled industrial waste based on Japanese disposal regulations.

*3 Recycling rate: ratio of amount recycled to amount of total waste

5. Chemical Substance Management

This table indicates the amount of chemical substances subject to the PRTR Act that are released by all domestic offices including production sites (plants). In FY2022, four chemicals out of those used in the production sites, etc. were required to be reported under the PRTR Act.

Chemical substances subject to the PRTR Act (FY2022)

		(kg)			
Name of Specified Chemical Substance		Nickel Compounds	Phenol	Boron Compounds	Methylene Chloride
Amount released	A. Released into atmosphere	–	200	–	1400
	B. Released into public waters	–	–	–	–
	C. Released into facility soil (Other than D)	–	–	–	–
	D. Disposed at facility landfill	–	–	–	–
Amount transferred	A. Transferred to sewage system	450	–	1400	–
	B. Transferred to outside facility (Other than A)	550	–	1	75

*1 This data includes all domestic offices including production sites (plants).

*2 Subject to the Japanese PRTR (Pollutant Release and Transfer Register) Act.

6. Water Quality of Drainage Water

All water used in DISCO's business activities is drained to the sewers, and the water quality of the drainage is periodically monitored.

Water quality measurement results

Item	Regulatory Standards of the Japanese Sewerage Act	Analysis Result										
		Head Office / R&D Center			Kure Plant					Chino Plant		
		FY2020	FY2021	FY2022	FY2020	FY2021	FY2022	FY2021	FY2022	FY2020	FY2021	FY2022
pH	5~9	7.8	7.7	7.8	6.9	7.2	7.7	7	6.7	8.6	8.2	8.5
BOD	600	8	37	65	20	25	16	12	42	82	230	86
Suspended particles	600	ND	47	121	83	120	165	87	71	93	83	128
n-Hexane extracts(mineral oil)	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Hexane extracts(animals and plants oil)	30	ND	ND	ND	0.7	2	0.8	2.5	2.4	4	6	9
Cadmium	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyan	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	0.1	ND	ND	ND	0.01	ND	ND	ND	ND	ND	ND	ND
Chromium	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent chromium	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	0.1	ND	0.01	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	3	ND	ND	ND	0.01	0.01	0.02	0.01	0.02	ND	ND	ND
Zinc	2	ND	ND	ND	0.2	0.2	0.2	0.3	0.5	ND	ND	ND
Dissolved iron	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dissolved manganese	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorine compounds	15	ND	ND	ND	1.3	9.2	0.4	0.6	2.1	ND	ND	ND
Boron	230	ND	ND	ND	14	16	6	7	11	ND	ND	ND
Total nitrogen	150	2	19	13	ND	ND	ND	ND	ND	73	70	38
Iodine consumption	220	ND	6	6	ND	ND	ND	ND	ND	ND	ND	ND

*1 This data includes all production sites (plants), and the Head Office / R&D Center.

*2 The units are mg/L (excluding pH).

*3 ND ("not detected") indicates less than the detectable lower limit or none contained.

*4 If the water quality was measured multiple times in a year, the average of those values is indicated.

7. Compliance with Environmental Laws (FY2022)

Compliance with Environmental Laws	
No. of violations	0
Amount fined (millions of yen)	0

*1 This data includes all domestic offices including production sites (plants).

*2 Applicable items: water pollution, air pollution, soil contamination, sound, vibration, smells, etc. related to the environment.

8. Environmental Management System Certification Status (ISO14001)

Affiliate office	No. of certified offices	Ratio of certification
Production site	3	75%
Non-production site	3	38%

*1 This data includes 4 production sites and 8 other non-production sites excluding small-scale sales affiliate offices.

*2 Out of the production sites, the Kure, Kuwabata, and Chino Plants have acquired certification.

*3 Out of the non-production sites, DISCO HI-TEC (SINGAPORE) PTE. LTD., DISCO HI-TEC EUROPE GmbH, and DISCO HI-TEC CHINA CO., LTD. have acquired certification.

Environmental Activities

1. Solar power system

Starting with the Head Office / R&D Center, each office has introduced a solar power system to reduce the environmental load caused by business operations. In 2021, we introduced solar power systems at the Kure Plant, Kuwabata Plant, and Chino Plant as well. Currently, the maximum power generation capacity has reached 3,323 kW, and the generated electricity is being used as electricity for business operations.

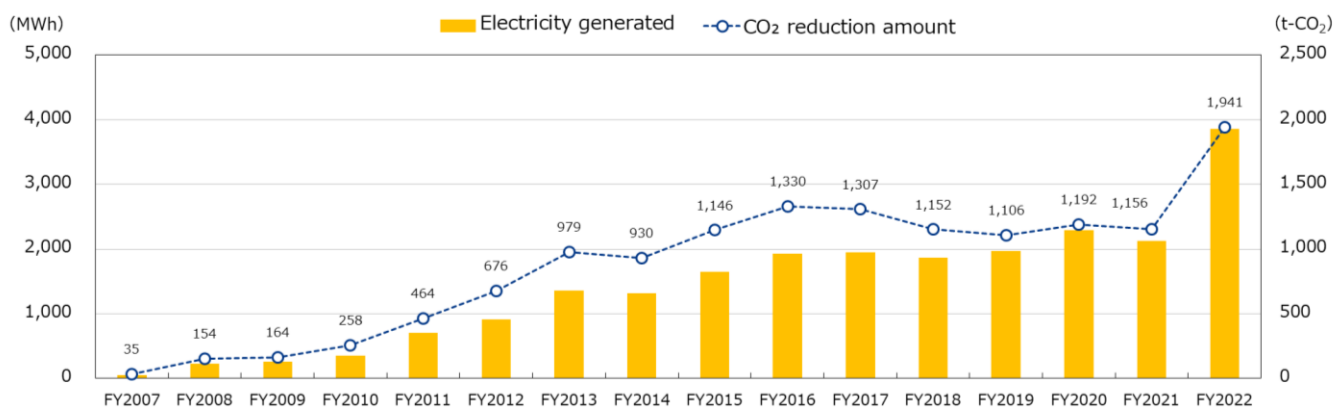


Solar power system at Kuwabata Plant

Solar power system capacity at each site

Site	Maximum power generation capacity
Head Office/R&D Center	40 kW
Kuwabata Plant	1,470 kW
Kure Plant	505 kW
Chino Plant	1,194 kW
DISCO HI-TEC Singapore PTE. LTD.	75 kW
DISCO HI-TEC EUROPE GmbH	39 kW

Performance of the solar power systems



*1 Electricity generated shows the total value of the annual electricity generated by the solar power systems at all sites.

*2 CO₂ reduction amount is the electricity generated indicated as CO₂ equivalents (using the emission factor of an electricity company).

2. Waste Reduction Measures

DISCO has been actively carrying out waste reduction measures, with the aim of creating a sustainable society. We introduced a system to measure the volume of waste at Hiroshima Works in December 1997 and currently conduct waste measurement and management at all our domestic sites. By implementing management through measurement, each department has become aware of the waste that they produce, and by thoroughly implementing measures to reduce and categorize waste, we have managed to achieve an effective use of resources.

One of our activities to reduce waste was to introduce a drainage processing equipment for waste liquid generated by plating, which made up for 50% of our effluent, at our Hiroshima Works in October 2001. The system includes a coagulation sedimentation process and a sludge dehydration process for heavy metals, and allows us to recycle around 120 tons of heavy metal sludge per year. This greatly contributes to our ability to effectively make use of scarce resources.

3. Effective Use of Water Resources

To effectively utilize water, a limited resource, DISCO has installed water recycling equipment to process drainage at the Head Office / R&D Center, as well as at the Kure and Kuwabata Plants to process drainage water from manufacturing processes, and limits the amount of supplied clean water. As a large amount of clean water is used in the manufacturing processes for precision processing equipment and tools, limiting the supply of clean water not only has cost benefits, but also contributes to drought management in the region.

4. Environmental Preservation Activities and Green Certification

As part of our environmental policy, DISCO promotes making all of our manufacturing sites green. With the aim of achieving further harmony with the local natural environment, the Green Club (with over 100 members) carries out activities to promote the protection of forests that preserve diverse plants and animals.

In recognition of these activities, the DISCO Kuwabata and Chino Plants have been certified by SEGES (Social and Environmental Green Evaluation System) as being "Excellent Stage 3" and "Excellent Stage 2," respectively.

In 2020, the Kuwabata Plant received the Green Social Contribution Award in recognition of their continuous green-oriented activities and contribution to the local community.



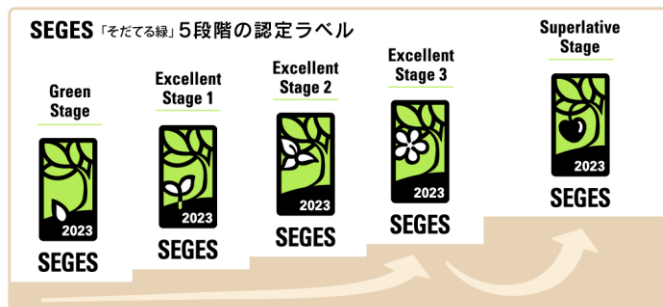
Kuwabata Plant surrounded by nature



Forest conservation activities

•SEGES (Social and Environmental Green Evaluation System)

SEGES is a system that evaluates green spaces, and daily activities, and initiatives created by companies and organizations, and recognizes well-maintained green spaces that contribute to the society and environment. There are five stages of SEGES certification. Currently Kuwabata Plant has "Excellent Stage 3" certification and Chino Plant has "Excellent Stage 2" certification.



Source: SEGES website, Five Stages of Certification, <https://seges.jp/schema.html> (Japanese)



Excellent Stage 3 Certification (Kuwabata Plant)



The Green Social Contribution Award