## Environmental Data Book 2021

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Regarding the Explanatory Notes:
Note: Explaining the increase and decrease of individual passages

E. Comments on the entire chart

<sup>\*:</sup> Definition of words

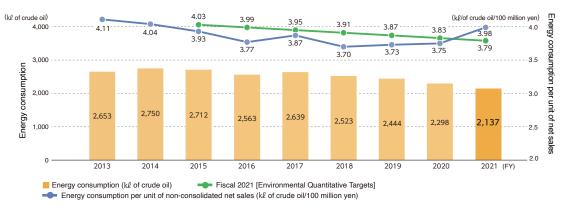
## Progress on Fiscal 2021 Environmental Quantitative Targets

Based on the Action Plan of the Industries of Electrical and Electronics on a Low Carbon Society initiative proposed by the industrial community with the aim of reconciling corporate growth and global warming policies, we have set quantitative targets for each fiscal year and are managing the progress of measures to curtail environmental impacts in order to achieve the fiscal 2021 environmental quantitative targets.

### Reduction of energy consumption (crude oil-equivalent)

Throughout Japan, reduce the energy consumption per unit of non-consolidated net sales to 3.79 kl of crude oil/100 million yen or less in fiscal 2021. (From fiscal 2015 to fiscal 2021, the yearly average improvement in energy consumption per unit of net sales is set at 1%. A determination that the target has been achieved will be based on improvement of at least 7.73% in fiscal 2021 compared to the base year (fiscal 2013)).

#### Figure 1) Changes in Companywide (Domestic) Energy Consumption and Energy Consumption Per Unit of Net Sales



Scope of calculation: Energy consumption at all of RISO KAGAKU CORPORATION'S non-consolidated domestic sites (excluding fuel used for outsourced logistics and company-owned vehicles). Net sales refer to non-consolidated net sales.

#### Reduction of CO<sub>2</sub> emissions

Throughout Japan, reduce  $CO_2$  emissions per unit of non-consolidated net sales to 12.10 tons- $CO_2$ /100 million yen or less in fiscal 2021. (The value for energy consumption of 3.79k $\ell$  of crude oil/100 million yen per unit of non-consolidated net sales converted to  $CO_2$  emissions per unit of non-consolidated net sales, including  $CO_2$  emissions from logistics and company-owned vehicles)

Throughout all domestic production sites, reduce CO<sub>2</sub> emissions per unit cost of production to 11.50 tons-CO<sub>2</sub>/100 million yen or less in fiscal 2021. (The value for energy consumption of 3.79kl of crude oil/100 million yen per unit of non-consolidated net sales converted to CO<sub>2</sub> emissions per unit cost of production)

#### Changes in Companywide (Domestic) CO<sub>2</sub> Emission and CO<sub>2</sub> Emission Per Unit of Net Sales



Scope of calculation: Energy consumption of all domestic sites, fuel consumption of company-owned vehicles, outsourced logistics for products and services under the jurisdiction of the logistics department, and CO<sub>2</sub> emissions in conjunction with those. Net sales refer to non-consolidated net sales.

## Fiscal 2031 Environmental Quantitative Targets

Since April in 2021, when the Japanese government announced new greenhouse gas reduction targets, we have reviewed our fiscal 2031 environmental quantitative targets.

#### Figure 3 Fiscal 2021 Environmental Quantitative Targets and Achievements; Fiscal 2022 Environmental Quantitative Targets

Category	Reduction of energy consumption (crude oil-equivalent)	Reduction of	CO <sub>2</sub> emissions		
Scope of application	All domestic operations (non-consolidated)	All domestic operations	Total for all domestic production sites		
Fiscal 2021 Environmental Quantitative Targets	_	Reduce to 7,192 tons-CO <sub>2</sub> or less.	Reduce to 2,716 tons-CO <sub>2</sub> or less.		
Fiscal 2021 activity results	_	6,785 tons-CO <sub>2</sub> Note 1	2,549 tons-CO <sub>2</sub>		
Rating	_	0	0		
Fiscal 2022 Environmental Quantitative Targets	Reduce to 8,398 tons-CO <sub>2</sub> or less. Note 2	Reduce to 7,368 tons-CO <sub>2</sub> or less. Note 2	Reduce to 2,691 tons-CO <sub>2</sub> or less. Note 2		

Rating symbols:  $\bigcirc$ : Achieved;  $\triangle$ : Improved;  $\times$ : Not Achieved

Note 1 The difference from the CO<sub>2</sub> emissions in fiscal 2021 (7,321 tons- CO<sub>2</sub>/year) in Figure 4 occurred because this amount includes contracted transport whose scope of calculation in Figure 4 is not under the jurisdiction of the logistics department.



Note 2 Due to effects of the novel coronavirus (COVID-19) pandemic, there are various uncertain elements and it is difficult to make a reasonable calculation at this time. Therefore, the "environmental quantitative targets" for fiscal 2022 cover only CO2 emissions volumes

Figure 1 reports the status of achievement of the environmental quantitative targets for fiscal 2021 based on the Action Plan of the Industries of Electrical and Electronics on a Low Carbon Society initiative proposed by the industrial community with the aim of reconciling corporate growth and global warming policies.

In fiscal 2021, we continued to update energy-efficient equipment such as air conditioners or lighting; however, we didn't make proactive investment with equipment that would make great reduction of CO2 emissions.

CO2 emissions decreased by 531 tons-CO2 compared to fiscal 2020, but this was the result of a decrease in production activities due to the novel coronavirus

We will try to reduce CO<sub>2</sub> emissions by using reusable energy or introducing non-conventional approaches.

### Figure 4 Environmental Burden throughout Japan (Fiscal 2021)

		I	NPUT			OUTPUT								
			FY2020	FY2021	Compared to FY2020				FY2020	FY2021	Compared to FY2020			
Ener	nergy consumption and CO <sub>2</sub> emissions, resource input amount, waste gener													
Energ	y consumption	GJ/yr	133,267	121,808	91	CO₂ ∈	missions	t-CO <sub>2</sub> /yr	8,072	7,321	91			
	Electricity	MWh	8,404	7,790	93		Electricity	t-CO <sub>2</sub> /yr	4,664	4,323	93			
	Bunker A	kl	37	32	85		Bunker A	t-CO <sub>2</sub> /yr	101	86	85			
	LPG	t	85	91	107		LPG	t-CO <sub>2</sub> /yr	255	273	107			
	Kerosene	kl	0	0	_		Kerosene	t-CO <sub>2</sub> /yr	0	0	_			
	City gas	gas 1,000 ms 9 5 56			City gas	t-CO <sub>2</sub> /yr	21	12	56					
	Gasoline	kl	483	453	94		Gasoline	t-CO <sub>2</sub> /yr	1,154	1,072	93			
	Diesel	kl	1	1	104		Diesel	t-CO <sub>2</sub> /yr	1	2	152			
	Volume of contracted transport*6	10,000 t-km	885	771	87		Volume of contracted transport*6	t-CO <sub>2</sub> /yr	1,875	1,554	83			
Water	consumption	m3	28,124	22,570	80	Water	drainage	m3	28,311	20,466	81			
						Steam	, water, and related emiss	sions m³	0	0	_			
Produ	ct parts and materials	t	6,188	6,200	100	Produ	cts*5	t	9,152	8,403	92			
Colle	ction of used products	t	2,872	2,561	89	Used	product/waste disposal vo	olume*1 t	3,954	3,386	86			
							Volume transferred to recycling processes*7	t	233	163	70			
							Volume recycled*2	t	3,689	3,193	87			
							Other*3	t	2	1	48			
							Final disposal (landfill)*	4 t	30	28	94			

Scope of calculation: INPUT and OUTPUT in the Figure 5 "Environmental Burden in Japan by Operational Process (Fiscal 2020)" (p4) are calculated.

Calculation target: At the head office, sales, development/designs and production sites, energy consumption and associated CO<sub>2</sub> emissions, water consumption and water drainage, and waste generation; at production sites, material input in production; at domestic logistics and transportation sites, fuel consumption by company-owned vehicle operations, and contracted transport volume (from not only the logistics department but also others), and associated CO<sub>2</sub> emissions; at sites of collection, reuse and recycling, volumes of used products collected and waste generation

- \*1 Waste generation: RISO classifies all unwanted substances generated from its operational processes, including valuable resources and resources to be recycled or reused, as waste \*2 Volume recycled: Total volume of materials for recycling and thermal recycling, including valuable resources. The volume to be reused in operational processes is excluded \*3 Other (waste generation): The volume of gas emissions from recycling processing and incineration

- \*4 Final disposal (landfill): The volume to be disposed of in landfill sites, which includes residues and incinerated ash from intermediate processing such as recycling
  \*5 Major products: ComColor high-speed color printers, RISOGRAPH digital duplicators, and inks, masters, and other supply products for ComColor and RISOGRAPH
  \*6 Volume of contracted transport using external carriers: Volume of contracted transport (for delup, procurement, collection, etc.) of products, parts, used products, and waste
  \*7 Volume transferred to recycling processes: The amount of recycled materials to be reused as raw materials in operational processes

#### CO<sub>2</sub> Emissions Calculations

Electricity: For Japan, a conversion value of 0.555kg-CO2/kWh was used throughout the year, and for overseas, conversion values in IEA statistical data for each country were applied. Bunker A: 2.71 kg CO<sub>2</sub>/L LPG: 3:00 kg CO<sub>2</sub>/kg Gasoline: 2.32 kg CO<sub>2</sub>/L Volume of contracted transport: According to the calculation standards of Act on the Rational Use of Energy,

Figure 5 Environmental Burden in Japan by Operational Process (Fiscal 2021)

0		INP	UT				OUTPU	JT		
Operational process			FY2020	FY2021	Compared			FY2020	FY2021	Compared
	Fnergy consumption a	nd CO2 er	nissions fro	om the he	to FY20	nd sales department service	activities			to FY20
	Energy consumption	GJ/yr	18,181	18,146	100	CO <sub>2</sub> emissions	t-CO <sub>2</sub> /yr	1,013	1,011	100
Head Office and	Daytime electricity	MWh	1,809	1,806	100	Daytime electricity	t-CO2/yr	1,004	1,002	100
Sales	LPG	t	3	3	102	LPG	t-CO <sub>2</sub> /yr	8	8	102
Scope of calculation:	Kerosene	kl	0	0	_	Kerosene	t-CO <sub>2</sub> /yr	0	0	-
The head office and domestic	City gas	1,000 m <sup>3</sup>	0	0	_	City gas	t-CO <sub>2</sub> /yr	0	0	_
sales bases of RISO KAGAKU CORPORATION and RISO OKI-	Water consumption	m3	3,879	3,182	82	Water drainage	m <sup>3</sup>	3,879	3,182	82
NAWA CORPORATION (Data						Waste generation*1	t	17	10	61
on wastes are available only for the head office.)						Volume recycled*2	t	17	10	61
the flead office.)						Other*3	t	0	0	0
						Final disposal (landfill)*4	t	0	0	74
	Energy consumption a	nd CO₂ er	nissions at	the produ	ıct develo	oment stage				
	Energy consumption	GJ/yr	22,474	20,115	90	CO <sub>2</sub> emissions	t-CO <sub>2</sub> /yr	ote 1 1,273	1,142	90
	Daytime electricity	MWh	1,614	1,415	88	Daytime electricity	t-CO <sub>2</sub> /yr	896	785	88
Design and	Nighttime electricity	MWh	643	623	97	Nighttime electricity	t-CO <sub>2</sub> /yr	357	346	97
Development	LPG	t	0	0	_	LPG	t-CO <sub>2</sub> /yr	0	0	_
·	City gas	1,000 m3	9	5	56	City gas	t-CO <sub>2</sub> /yr	21	12	56
ope of calculation:	Water consumption	m3	8,356	6,258	75	Water drainage	m3	8,356	6,258	75
RISO R&D Center						Waste generation*1	t	256	116	45
						Volume recycled*2	t	254	115	45
						Other*3	t	0	0	_
						Final disposal (landfill)*4	t	1.4	0.8	59
	Volume of raw materials	used, ene	ergy consun	nption, CO	2 emissions	s, and waste generation in the	e process of	major prod	duct*⁵ man	ufacturing
	Energy consumption	GJ/yr	48,616	44,790	92	CO <sub>2</sub> emissions	t-CO <sub>2</sub> /yr	2,756	2,540	92
	Daytime electricity	MWh	3,945	3,558	90	Daytime electricity	t-CO <sub>2</sub> /yr	2,189	1,975	90
	Nighttime electricity	MWh	393	389	99	Nighttime electricity	t-CO <sub>2</sub> /yr	218	216	99
	Bunker A	kl	37	32	85	Bunker A	t-CO <sub>2</sub> /yr	101	86	85
	LPG	t	82	88	107	LPG	t-CO <sub>2</sub> /yr	247	264	107
	Kerosene	kl	0	0	_	Kerosene	t-CO <sub>2</sub> /yr	0	0	_
	Water consumption	m <sup>3</sup>	15,889	13,130	83	Water drainage	m3	13,049	11,026	84
Production	Product parts and materials	t	6,188	6,200	100	Steam, water, and related emission	ons ma	0	0	_
rioduction	Metals	t	968	774	80	Products*5	t	9,152	8,403	92
cope of calculation:	Plastic	t	1,057	832	79					
Tsukuba Works Ube Works	Glass	t	0	0	80					
Kasumigaura Works	Paper	t	1,875	1,402	75					
	Other	t	2,288	3,192	140					
	PRTR-regulated substances	t	4.0	2.0	49	Total PRTR substance emissions/t	ransfers kg	29.5	204.9	695
						Emissions into the air	kg	1.9	0.0	0
						Emissions into the waters	kg	0	0	_
						Emissions into the soil	kg	0	0	_
						Volume transferred to waste	kg	27.6	204.9	742
						Waste generation*1	t	809	699	86
						Volume recycled*2	t	805	695	86
						Other*3	t	2	1	50
						Final disposal (landfill)*4	t	2	3	145
Sales, Logistics,						used in sales activities and mai oduct delivery and used produ				
and Transportation	Energy consumption	GJ/yr	43,996	38,757	88	CO <sub>2</sub> emissions	t-CO <sub>2</sub> /yr	3,030	2,628	87
ope of calculation:	Gasoline	kl	483	453	94	Gasoline	t-CO <sub>2</sub> /yr	1,154	1,072	93
Logistics and transportation in Japan, operation of com-	Diesel	kl	1	1	104	Diesel	t-CO <sub>2</sub> /yr	1	2	152
pany-owned vehicles	Volume of contracted 1 transport*6	0,000 t-km	885	771	87	Volume of contracted transport*6	t-CO <sub>2</sub> /yr	1,875	1,554	83
						Although RISO promotes to ocessed for landfill dispos		e use of c	ollected p	oroducts,
Collecting, Reusing,	Collection of used products	t t	2,872	2,561		Used product disposal volume	t t	2,872	2,561	89
and Daniellan			2,557	2,297	90	Volume transferred to recycling p		233	163	70
and Recycling								. 200	100	1 ,0
, ,	Digital duplicato and other printer		2,007	2,201		Volume recycled*2	t	2.613	2 373	91
Gcope of calculation: Used products in Japan			281	236	84	Volume recycled*2 Other*3	t	2,613	2,373	91

<sup>\*1</sup> Waste generation: RISO classifies all unwanted substances generated from its operational processes, including valuable resources and

There were errors in the figures for fiscal 2020 and accordingly, they have been corrected.

resources to be recycled or reused, as waste

\*2 Volume recycled: Total volume of materials for recycling and thermal recycling, including valuable resources. The volume to be reused in operational processes is excluded

in operational processes is excluded

3 Other (waste generation). The volume of gas emissions from recycling processing and incineration

4 Final disposal (landfill): The volume to be disposed of in landfill sites, which includes residues and incinerated ash from intermediate processing such as recycling

5 Major products: ComColor high-speed color printers, RISOGRAPH digital duplicators, and inks, masters, and other supply products for ComColor and RISOGRAPH digital duplicators.

<sup>\*6</sup> Volume of contracted transport using external carriers: Volume of contracted transport (for delivery, procurement, collection, etc.) of products, parts, used products, and waste
\*7 Volume transferred to recycling processes: The amount of recycled materials to be reused as raw materials in operational processes

### Figure 6 Environmental Burden of Overseas Production Bases (Fiscal 2021)

<b>.</b>		INF	PUT			OUTPUT					
Target			FY2020	FY2021	Compared to FY20			FY2020	FY2021	Compared to FY20	
	Volume of raw materials	s used, e	nergy con	sumption,	CO <sub>2</sub> emiss	sions, and waste generation in overseas production subsidiaries					
	Energy consumption	GJ/yr	15,427	13,987	91	CO <sub>2</sub> emissions	t-CO2/yr	1,061	976	92	
	Electricity	MWh	1,454	1,321	91	Electricity	t-CO <sub>2</sub> /yr	999	921	92	
Overseas	Bunker A	kl	0	0	_	Bunker A	t-CO <sub>2</sub> /yr	0	0	_	
production	Gasoline	kl	27	24	90	Gasoline	t-CO <sub>2</sub> /yr	62	55	88	
subsidiaries	Diesel	kl	0	0	_	Diesel	t-CO2/yr	0	0	_	
Scope of calculation:	Water consumption	m3	16,919	13,828	82	Water drainage	m3	13,242	10,638	80	
All overseas production bases of	Product parts and materials	t	1,986	2,046	103	Steam, water, and related emiss	ions m3	3,154	2,573	82	
the Riso Kagaku Group: RISO TECHNOLOGY CHINA CO., LTD.	Metals	t	863	891	103	Products*5	t	2,509	2,663	106	
ZHUHAI FACTORY, RISO TECH-	Plastic	t	328	345	105						
NOLOGY CHINA CO., LTD., RISO INDUSTRIES (SHENZHEN) LTD.,	Glass	t	1	1	159						
RISO INDUSTRY SHANGHAI CO.,	Paper	t	476	458	96						
LTD., RISO INDUSTRY (THAI- LAND) CO., LTD.	Other	t	318	351	110						
LAND) CO., LTD.						Waste generation*1	t	419	213	51	
						Volume transferred to recycling pr	rocesses*7 t	0	0	_	
						Volume recycled*2	t	384	181	47	
						Other*3	t	13.4	11.3	84	
						Final disposal (landfill)*4	t	22.2	20.6	93	

#### Figure 7 Environmental Burden of Overseas Sales Subsidiaries (Fiscal 2021)

			INP	TU			ОИТРИТ					
Target				FY2020	FY2021	Compared to FY20			FY2020	FY2021	Compared to FY20	
	Energy	Energy consumption and CO <sub>2</sub> emissions at the head office and sales bases of overseas subsidiaries										
All overseas	Energy cor	nsumption per unit	GJ/person*9	64.1	53.5	83	CO <sub>2</sub> emissions per unit	t-CO <sub>2</sub> /person*9	4.32	3.61	84	
sales subsidiaries	Energy consumption		GJ/yr	53,543	30,535	57	CO <sub>2</sub> emissions	t-CO <sub>2</sub> /yr	3,604	2,063	57	
		Electricity	MWh	1,227	998	81	Electricity	t-CO <sub>2</sub> /yr	838	685	82	
Scope of calculation:		Natural gas	kl	23,846	9,000	38	Natural gas	t-CO2/yr	50	19	38	
17 overseas subsidiaries** and sales bases*8		Gasoline	kl	841	466	55	Gasoline	t-CO <sub>2</sub> /yr	1,951	1,082	55	
and sales pases**		Diesel	kl	297	107	36	Diesel	t-CO <sub>2</sub> /yr	765	277	36	
	Water con	nsumption	m3	1,738	748	43	Water drainage	m3	1,738	748	43	

\*\*RISO, INC., RISO FRANCE S.A., RISO (Deutschland) GmbH, RISO (U.K.) LTD., RISO IBERICA, S.A., RISOGRAPH ITALIA S.R.L., RISO AFRICA (PTY) LTD., RISO KOREA LTD., RISO HONG KONG LTD., RISO (Thailand) CO., LTD., RISO INDIA PRIVATE LTD., RISO TECHNOLOGY CHINA CO., LTD., RISO LATIN AMERICA, INC., RISO EURASIA LLC, RISO TURKEY BASKI COZUMLERI A.S, RISO (SG) PTE. LTD., RISO EURASIA KAZAKHSTAN LLC.

<sup>\*1</sup> Waste generation: RISO classifies all unwanted substances generated from its operational processes, including valuable resources and resources to be recycled or reused, as waste

<sup>\*2</sup> Volume recycled: Total volume of materials for recycling and thermal recycling, including valuable resources. The volume to be reused in operational processes is excluded

<sup>&</sup>quot;3 Other (waste generation): The volume of gas emissions from recycling processing and incineration

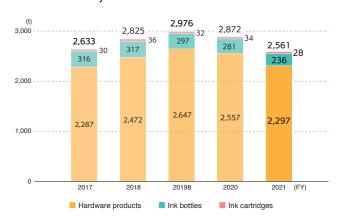
\*4 Final disposal (landfill): The volume to be disposed of in landfill sites, which includes residues and incinerated ash from intermediate processing such as recycling

\*5 Major products: ComColor high-speed color printers, RISOGRAPH digital duplicators, and inks, masters, and other supply products for ComColor and RISOGRAPH digital duplicators

<sup>\*6</sup> Volume of contracted transport using external carriers: Volume of contracted transport (for delivery, procurement, collection, etc.) of products, parts, used products, and waste \*7 Volume transferred to recycling processes: The amount of recycled materials to be reused as raw materials in operational processes

<sup>7</sup> Volume transferred to recycling processes: The amount of recycled materials to be reused as raw materials in operational processes
88 The head office has primary responsibility for ascertaining the environmental burden of overseas sales subsidiaries, but data collection for sales bases such as branch offices is incomplete. The data supplement rate based on the ratio of employees registered at offices/bases in fiscal 2021 was 53.5%.
99 Concerning overseas sales subsidiaries, because there are large fluctuations in topics such as office movement, the increase and decrease of personnel, and the propriety of surveys, the output level is calculated using the total number of employees belonging to the site where the survey was conducted as the denominator, and represents the change in efficiency.

### Figure 8 Quantity of Used Products and Consumables Collected

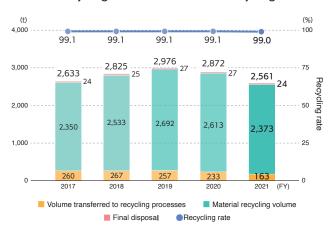


Scope of calculation: The amount of used RISO products in Japan (excluding second-hand digital duplicators that are returned or collected and then used as rental equipment)

#### KEY POINT

We are actively carrying out the collection and recycling of used hardware products and consumables based on the idea that used products are not wastes but precious resources. Even overseas, we are promoting the collection and recycling of used products based on local laws and social demands.

#### Figure 9 Recycling of Used Products and Recycling Rate

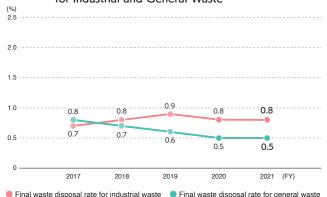


Scope of calculation: The amount of used RISO products in Japan (excluding second-hand digital duplicators that are returned or collected and then used as rental equipment)

#### **KEY POINT**

We continue to use products recycled from used products and to recycle parts and components which can't be reused.

#### Figure 10 Specific Final Waste Disposal Rates\* for Industrial and General Waste



Scope of calculation: Industrial and general waste (including valuable resources and recyclable materials) generated at the Tsukuba Works, Ube Works, Kasumigaura Works, and R&D Division; volume of all used RISO products collected in Japan, materials recycled, and materials for other treatment processes (excluding rental equipment returned or reused by different users without refurbishment)

\*Specific final waste disposal rate: RISO calculates the amount of specific final waste disposal as the total of the amount of waste incinerated, the residue and ashes resulting from recycling processes and used for landfill, and other waste used directly for landfill. Then, RISO calculates the specific final waste disposal rate as the ratio of the specific final waste disposal amount to the total waste it generates, including valuable and recyclable substances. RISO recognizes the incineration of waste as an inefficient treatment of resources. Therefore, the amount of waste incinerated is included in the amount of other waste directly used for landfill.

Target for fiscal 2022 for reducing waste:

The final waste disposal rate for industrial waste and general waste will not exceed 1.0%

#### KEY POINT

Maintenance and management are being performed so that specific final waste disposal rates for industrial and general waste do not exceed current levels.

#### Figure 11 Water Consumption



Scope of calculation: Data is collected for water consumption volume in Japan

Target for fiscal 2022:

The water consumption will reduce by 3% or higher from the previous fiscal year.

#### KEY POIN

Approximately 10% of the water used at production sites are for raw materials and raw water for boiler steam, and the remaining 90% of water are for daily use such as toilets and dining halls. This water is discharged into the public waters and the sewage systems.

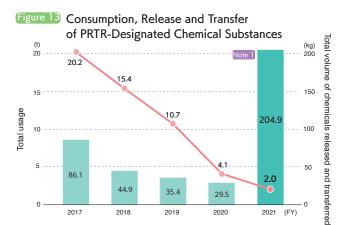
The amount used in fiscal 2021 decreased by approximately 5,554m<sup>3</sup> (approximately 20%) from the previous fiscal year.

### Figure 12 Breakdown of Released and Transferred Volume of PRTR-Designated Chemical Substances

			Total vo	Total volume of chemicals released and transferred									
	Total	Total usage				Emissions into the air		Emissions into the waters		Emissions into the soil		Waste generated	
	FY2020	FY2021	FY2020	FY2021	FY2020	FY2021	FY2020	FY2021	FY2020	FY2021	FY2020	FY2021	
Polyoxyethylene alkyl ether	129.9	109.9	_	_	_	_	_	_	_	_	_	_	
ВНТ	2,120.0	180.0	25.2	16.0	_	_	_	_	_	_	25.2	16.0	
Boron and its compounds	83.5	_	2.4	_	_	_	_	_	_	_	2.4	_	
2-Aminoethanol	1.9	_	1.9	_	1.9	_	_	_	_	_	_	_	
Molybdenum and its compounds	91.0	83.6	_	_	_	_	_	_	_	_	_	_	
2,3-Epoxypropyl methacrylate	1,619.9	1,555.1	_	33.0	_	_	_	_	_	_	_	33.0	
2-Ethylhexanoic acid	3.8	3.4	_	_	_	_	_	_	_	_	_	_	
Cobalt and its compounds	_	12.4	_	35.5	_	_	_	_	_	_	_	35.5	
Methacrylic acid	_	1.5	_	0.7	_	_	_	_	_	_	_	0.7	
Acetonitrile	_	35.1	_	33.7	_	_	_	_	_	_	_	33.7	
Methyl methacrylate	_	2.0	_	2.0	_	_	_	_	_	_	_	2.0	
Xylene	_	0.5	_	42.0	_	_	_	_	_	_	_	42.0	
Ethylbenzene	_	0.5	_	42.0	_	_	_	_	_	_	_	42.0	
Total	4,050.0	1,984.1	29.5	204.9	1.9	_	_	_	_	_	27.6	204.9 Note 1	

Scope of calculation: Tsukuba Works, Ube Works, Kasumigaura Works, and RISO R&D Center

<sup>\*</sup>Data based on the results of environmental inspections with regard to the release and transfer of substances that RISO handled 1 kg or more in weight on an annual basis.

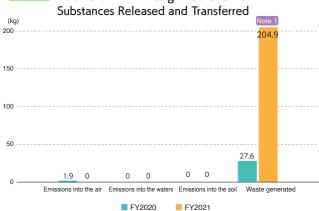


Scope of calculation: Tsukuba Works, Ube Works, Kasumigaura Works, and RISO R&D Center

2019

2020





Scope of calculation: Tsukuba Works, Ube Works, Kasumigaura Works, and RISO R&D Center

\*Data based on the results of environmental inspections with regard to the release and transfer of substances that RISO handled 1 kg or more in weight on an annual basis

The waste generated increased because the scopes of the calculation extended after the calculation method was reviewed.

2021 (FY)

Total usage

2017

2018

■ Total volume of chemicals released and transferred

We are investigating the environmental release and transfer of toxic chemicals listed in PRTR\*. Based on this investigation, we examine the possibility of reducing toxic releases, or switching to alternatives, so that total releases and transfers during the manufacturing process are minimized

Total usage of PRTR-designated chemical substances in fiscal 2021 was 2.0 tons, a decrease of 2.1 tons compared with the previous fiscal year. Total volume of release and transfer increased by 0.18 tons.

By constantly considering the use of alternative substances, we continue to strive to reduce the use of PRTR-listed substances.

Target for fiscal 2022 for reducing PRTR-designated chemical substances:

The total of PRTR-designated chemical substances released and transferred will reduce by 5% or higher from the previous fiscal year.

\*PRTR (Pollutant Release and Transfer Register): A system whereby business operators ascertain the volumes of chemical substances that may pollute the environment (atmosphere, water, soil) as well as the volumes transferred as waste, report the results to an administrative body, and disclose the results to promote the voluntary management by business operators and prevent impediments to environmental preservation.

<sup>\*</sup>Data based on the results of environmental inspections with regard to the release and transfer of substances that RISO handled 1 kg or more in weight on an annual basis

# Figure 15 Breakdown of Contracted Transport Volume and Modal Shift Rate throughout Japan



Scope of calculation: Volume of contracted transport (of products, components, raw materials, waste and used products) in Japan by the logistics department, sales department, plants, and the Center for Recycling

#### Figure 16 Breakdown of CO<sub>2</sub> Emissions from Contracted Transport (t-CO<sub>2</sub>) 2,003 1,972 1,958 2,000 49 47 1,876 97 106 94 37 99 1,554 1810 1,851 1,818 1.400 1,200 2018 2019 2020 2021

Scope of calculation:  $CO_2$  emissions attributable to contracted transport (of products, components, raw materials, waste and used products) in Japan by the logistics department, sales department, plants, and the Center for Recycling

Rail

Sea

Air

Truck

#### KEY POINT

Although our company is not included as a designated shipper under the Energy Conservation Act, in order to reduce environmental burden during product transportation, we are working to accurately understand the volume of contracted transport and reduce CO<sub>2</sub> emissions.

In fiscal 2021, we worked hard on a modal shift from trucks to ships for the transportation of consumables. Compared to fiscal 2020, the modal shift rate went from 29.6% to 33.5%, and CO<sub>2</sub> emissions decreased by 322 tons-CO<sub>2</sub>, or 17%.

# Figure 17 Utilization Rate of Returnable Racks and Reduction in Use of Disposable Packaging



Scope of calculation: Digital duplicators and high-speed color printers shipped from the Tsukuba Distribution Center to RISO's Japanese sales bases, sales representatives, and customers nationwide

#### KEY POINT

The use of returnable racks for product shipments reduces the volume of disposable packaging materials such as cardboard and polystyrene foam. The returnable rack usage rate was 27% in fiscal 2021, which is equivalent to a 69.1-ton reduction in packaging materials.

## Figure 18 Environmental Education Programs and Number of Participants (Fiscal 2021)

Type of education	Events (times)	Participants (employees)	Hours (aggregate)
Basic environmental education program	13	162	113
Internal auditor training	4	44	319
Environmental policy and EMP confirmation training	1	332	166
Special environmental education program	6	70	24
Accident/emergency drill	9	106	61
Disaster drill	3	105	105
Advanced EMS skill program	3	18	27
Workplace health and safety program	1	8	12
Total	40	845	826

Scope of calculation: Educational and training programs provided at RISO's domestic sites in Japan

#### KEY POINT

In order to raise the environmental awareness of each employee and carry out environmental conservation activities, a wide variety of programs are provided from general education to specialized trainings regarding internal quality environmental auditors, EMS external qualification, ISO, and so on.

<sup>\*</sup>Table includes data for programs with an environmental focus.

## **Environmental Accounting**

#### Calculation method and idea

- Our calculations of the environmental protection costs and the economic effects are basically made in keeping with the "Environmental Account Guidebook (2005)" of the Ministry of the Environment. However, the classification of costs is modified to our own standard. Also, expenses related to environmental protection costs do not include depreciation. The economic effects are based on revenue and cost saving, both of which are considered to be actual effects (as they are calculated using actual figures), and not on presumed or estimated effects.
- Ideally, the environmental protection costs relating to environment-friendly design should be listed in the chart. However, due to the difficulty in accurately distinguishing which costs are directly related to environmental protection, the trend data presented on the securities report is based on total R&D expenditures.
- ●Term: Fiscal 2021 (April 1, 2020 to March 31, 2021)
- Scope of calculation: All of RISO KAGAKU CORPORATION'S domestic sites in Japan (Tsukuba Works, Kasumigaura Works, Ube Works, RISO R&D Center, the head office, and domestic sales bases).

For RISO's sales network, "resource conservation and recycling" as well as "EMS establishment and maintenance activities" are included in the scope of calculation.

#### Figure 19 Environmental Accounting Results for Fiscal 2021

(Thousands of Yen)

		Environmental prote	ction costs		Envir	onmental protection effect
Activities	Classification	Environmental protection activities	Investment	Cost	Economic effect	Actions
Global warming prevention measures	Reduction of fuel consumption     Reduction of electricity consumption	Replacement of boilers with high efficiency models, pursuit of a modal shift strategy     Introduction of energy-saving equipment	1,050	23	148	Reduction of CO <sub>2</sub> emissions during manufacture and product transport     Reduction of electricity consumption
Promotion of resource conservation and recycling	Effective utilization of used products     Effective utilization of wastes     Safe disposal of wastes	Collection and recycling of used products     Separation and recycling of waste		2,686	219,061	•Reduction of costs through reuse •Improvement of resource recovery rates
Environmental communication	Publication of product environmental data     Publication of information about environmental initiatives	Acquisition of environmental label certification  Publication of the Environmental Data Book  Participation in events and exhibitions		9,321		Acquisition of certification under the Eco Mark Program  Publication of the Environmental Data Book, website revisions, etc.
Green areas	Clean-up and maintenance of green areas	Clean-up and maintenance of green areas		2,686		•Clean-up and maintenance of green areas
Legal compliance (pollution control measures, environmental pollution control)	Compliance activities (water, air, etc.)     Understanding of legal and regulatory trends	Water drainage management Gas emissions management Inspection and maintenance of facilities Monitoring of laws and regulations		18,282		Environmental protection activities     Research for and understanding of legal and regulatory trends in Japan and overseas
Green procurement	•Collection and registration of environmental data relating to raw materials and parts			6,970		•Environmental information updates, operation and maintenance
EMS establishment and maintenance activities	•ISO	Acquisition and maintenance of ISO 14001 certification		9.321		•Updates and maintenance of ISO 14001 certification
Total			1,050	380,009	219,209	

#### Figure 20 Breakdown of Costs (Investment + Actual Costs)

(Thousands of Yen)

					(111000001100 01 1011)
	FY2017	FY2018	FY2019	FY2020	FY2021
Global warming prevention measures	63,469	50,347	63,672	18,163	1,073
Promotion of resource conservation and recycling	312,210	344,356	391,304	383,016	333,979
Environmental communication	18,279	18,140	21,320	15,153	8,749
Green areas	3,293	3,000	3,000	3,000	2,686
Legal compliance	18,899	29,440	28,657	15,604	18,282
Green procurement	7,692	7,684	7,489	7,484	6,970
EMS establishment and maintenance activities	3,995	9,732	4,765	5,071	9,321

### Figure 21 Breakdown of Economic Effects (Revenue + Cost Saving)

(Thousands of Yen)

	FY2017	FY2018	FY2019	FY2020	FY2021
Global warming prevention measures	840	1,948	1,142	676	148
Promotion of resource conservation and recycling	398,467	410,695	414,798	358,227	219,061

<sup>\*</sup>Five categorized activities, including environmental communication, had no economic effects.

## Figure 22 Status of Environmental Accounting

(Comparison of Figures Excluding Development Costs such as Environmental-Friendly Design for Products)

		FY2017	FY2018	FY2019	FY2020	FY2021
Costs (investment + actual costs)	(Thousands of Yen)	427,838	462,699	520,208	447,491	381,059
Economic effect (Revenue + Cost saving)	(Thousands of Yen)	399,307	412,643	415,941	358,903	219,209
Economic effect ratio	(%)	93%	89%	80%	80%	58%

#### KEY POINT

In fiscal 2021, the cost of global warming prevention measures (investment + actual cost) decreased by 17,090,000 yen in comparison with fiscal 2020. We continued to replace lighting and air conditioning equipment with units that have high energy-saving effects and implement other measures. The positive economic effect decreased by 528,000 yen.

The number of used products collected and production using reused parts decreased, but the production volume of reused parts was flat. The cost of resource saving and recycling promotion decreased by 49,037,000 yen. The positive economic effect decreased by 139,166,000 yen.

The ratio of cost (investment + actual costs) and economic effects (revenue + cost saving) was 58%.

## Environmental Data for Major Plants and Offices

#### Figure 23

### Tsukuba Works

Scope of calculation: Tsukuba Works

127-7 Fukuda(Fukuda-Kougyou-danchi), Overview

Ami-machi, Inashiki-gun, Ibaraki-ken,

Japan

Commencement of Operations October 1981

Site Area 97,000m<sup>2</sup> **Total Floor Space** 29,326m<sup>2</sup>

281 (As of March 31, 2021) Number of Employees

RISOGRAPH digital duplicators and peripherals **Major Products** 

ComColor high-speed color printers, inks, and peripherals

• Facilities that generate smoke (boilers), as specified under the Air Pollution Control Act Registration of

**Specified Facilities** •Facilities specified in the ordinance regarding the prevention of eutrophication in Kasumigaura: Purification tank

• Facilities specified in the Vibration Regulation Law: Hydraulic and mechanical presses, air compressors, shear cutters, circular saw machines

•ISO 14001: Certification updated in October 2017 ·Reduction of waste generation and promotion of recycling Major

•Designing environmentally friendly products to respond to the RoHS Directive and other environmental regulations

Environmental •Reduction of CO<sub>2</sub> emissions through energy conservation **Protection Activities** •Implementation of green procurement

•Promotion of green purchasing •Recycling of used ink bottles

#### **Environmental Data**

		Unit	FY2017	FY2018	FY2019	FY2020	FY2021	YoY (%)
Electricity consumption		MWh	2,133	2,021	2,066	1,855	1,805	97
Water consumption		m3	13,019	10,044	10,669	9,737	7,963	Note 1 82
	Clean water	m3	13,019	10,044	10,669	9,737	7,963	Note 1 82
	Groundwater	m3	0	0	0	0	0	_
Wate	Water drainage		13,019	10,044	10,669	9,737	7,963	Note 1 82
	Annual biochemical oxygen demand (BOD) emissions	kg	7.2	3.3	0.9	9.7	8.0	Note 2 82
	Annual nitrogen emissions	kg	106	95	92	78	72	92
	Annual phosphorus emissions	kg	10.0	9.8	8.2	13.2	4.1	Note 2 31
Total waste generation		t	594	555	439	460	397	86
Final	Final disposal (landfill)		4.4	3.5	3.3	1.5	1.9	123
Waste recycling rate		%	99.3	99.4	99.2	99.7	99.5	100

<sup>\*</sup>Wastewater from Tsukuba Works is drained into the public waters.

Due to a decrease in production activities as a result of effects of the novel coronavirus (COVID-19) pandemic

The range of variation within the standard value

#### Figure 24

## Kasumigaura Works

Scope of calculation: Kasumigaura Works, including the Center for Recycling

Overview Address 282-2 Ami. Ami-machi. Site Area 28,265m<sup>2</sup> Inashiki-gun, Ibaraki-ken, Japan **Total Floor Space** 16,821m<sup>2</sup>

> Commencement of Operations August 1965 Number of Employees 56 (As of March 31, 2021)

**Major Products** 

Registration of Facilities as specified under the Noise Regulation Law and the Vibration Regulation Law: machine tools, including Specified Facilities compressors and shearing machines

•ISO 14001: Certification updated in December 2017 •Reduction of waste generation and promotion of recycling Major Environmental •Recycling of used printers •Reduction of CO2 emissions through energy conservation

### **Protection Activities Environmental Data**

		Unit	FY2017	FY2018	FY2019	FY2020	FY2021	YoY (%)
Elect	tricity consumption	MWh	477	480	511	464	449	97
Water consumption		m3	1,609	1,573	1,155	843	843	100
	Clean water	m3	1,609	1,573	1,155	843	843	100
	Groundwater	m3	0	0	0	0	0	_
Water drainage		m3	1,609	1,573	1,155	843	843	100
	Annual biochemical oxygen demand (BOD) emissions	kg	10	29	8	5	11	Note 1 234
	Annual nitrogen emissions	kg	6	90	49	30	41	Note 1 140
	Annual phosphorus emissions	kg	6.3	9.9	6.2	4.3	4.8	Note 1 112
Total waste generation		t	387	293	256	160	153	96
Final disposal (landfill)		t	0.3	0.6	2.5	0.3	1.1	Note 2 396
Waste recycling rate		%	99.9	99.8	99.0	99.8	99.2	99

<sup>\*</sup>Wastewater from Kasumigaura Works is drained into the public sewage systems.

The range of variation within the standard value The range of variation of the release frequency







## Environmental Data for Major Plants and Offices

#### Figure 25

### **Ube Works**

Scope of calculation: Ube Works

Overview Address Setobara-Kougyou-danchi, Ube-shi,

Yamaguchi-ken, Japan Total Floor Space 15,598m<sup>2</sup>

Commencement of Operations June 1986 Number of Employees 84 (As of March 31, 2021)

Site Area

Major Products Inks and masters for digital duplicators

Registration of There is no applicable facility.

Specified Facilities

Major

•ISO 14001: Certification updated in September 2017 •Rec

•Reduction of waste generation and promotion of recycling

75.871m2

Environmental • Designing environmentally friendly products to respond to the RoHS Directive and other environmental regulations

Protection Activities • Reduction of CO2 emissions through energy conservation • Promotion of green purchasing • Recycling of used ink bottles

#### **Environmental Data**

		Unit	FY2017	FY2018	FY2019	FY2020	FY2021	YoY (%)
Elect	ricity consumption	MWh	2,504	2,303	2,182	2,109	1,693	Note 1 84
Wate	r consumption	m3	6,069	5,854	5,528	5,309	4,324	Note 1 81
	Clean water	m3	2,610	2,685	2,481	2,469	2,220	Note 1 90
	Groundwater	m3	3,459	3,169	3,047	2,840	2,104	Note 1 74
Water drainage		m3	2,610	2,685	2,481	2,469	2,220	Note 1 90
	Annual biochemical oxygen demand (BOD) emissions	kg	8	17	15	5	9	Note 2 163
Total	waste generation	t	220	226	211	188	148	Note 1 79
Final	disposal (landfill)	t	0.2	0.6	0.2	0.3	0.1	Note 1 33
Wast	e recycling rate	%	99.5	99.2	99.5	98.7	99.4	101

<sup>\*</sup>Wastewater from Ube Works is drained into the public waters.

Note 1 Due to a decrease in production activities as a result of effects of the novel coronavirus (COVID-19) pandemic

Note 2 The range of variation within the standard value

#### Figure 26

### **RISO R&D Center**

Scope of calculation: RISO R&D Center

 
 Overview
 Address
 2 Chome 8-1, Gakuenminami, Tsukuba-shi, Ibaraki-ken, Japan
 Site Area
 17,521m²

 Total Floor Space
 15,197m²

Commencement of Operations June 2013

Registration of Specified Facilities

Specified facilities related to the Water Pollution Prevention Act and Sewerage Act: 1 draft chamber, 5 sinks, 1 washing

machine

Specified facilities related to the Noise Regulation Law: 4 ventilators, 3 hydraulic presses, 2 shearing machines

Specific facilities related to the Vibration Regulation Law: 3 hydraulic presses, 2 shearing machines

Facilities that generate smoke: 1 emergency generator

Major
-ISO 14001: Certification updated in December 2017
Environmental
-Reduction of CO<sub>2</sub> emissions through energy conservation

•Designing environmentally friendly products

•Reduction of waste generation and promotion of recycling

# Protection Activities Environmental Data

	Unit	FY2017	FY2018	FY2019	FY2020	FY2021	YoY (%)
Electricity consumption	MWh	2,353	2,289	2,331	2,257	2,037	Note 1 90
Water consumption	m3	9,883	9,958	9,788	8,356	6,258	Note 1 75
Clean water	m3	9,883	9,958	9,788	8,356	6,258	Note 1 75
Groundwater	m3	0	0	0	0	0	_
Water drainage	m3	9,883	9,958	9,788	8,356	6,258	Note 1 75
Annual biochemical oxygen demand (BOD) emissions	kg	195	153	275	275	356	Note 2 129
Total waste generation	t	193	185	204	256	116	Note 1 45
Final disposal (landfill)	t	1.6	1.9	1.7	1.4	0.8	Note 1 59
Waste recycling rate	%	99.0	98.9	99.2	99.2	99.0	100

<sup>\*</sup>Wastewater from RISO R&D Center is drained into the public sewage systems.

Due to the decrease in the number of employees working at the office in conjunction with remote working

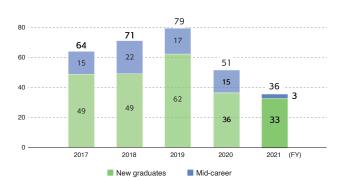
The range of variation within the standard value



<sup>\*</sup>Opened in June 2013. We continue to consider the environment.

## Social Data

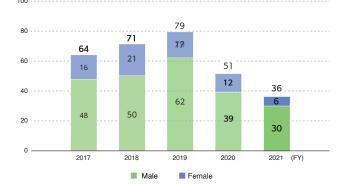
## Figure 27 Employment (Japan) (New Graduates/Mid-career)



Scope of calculation: Non-consolidated basis (Japan)

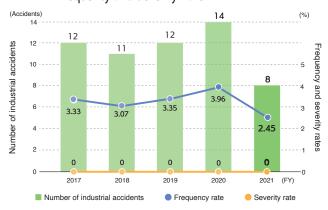
#### Figure 28 Employment (Japan) (Male/Female)

eople) 100 -----



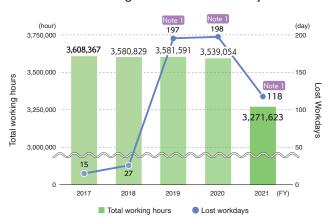
Scope of calculation: Non-consolidated basis (Japan)

#### Figure 29 Industrial Accidents: Frequency and Severity Rate



Scope of calculation: Non-consolidated basis (Japan)

#### Figure 30 Total Working Hours and Lost Workdays



Scope of calculation: Non-consolidated basis (Japan)

The numbers of lost workdays were high in fiscal 2019, 2020, and 2021 because an employee missed work due to occupational injuries or illness.

#### **KEY POINT**

Occupational health and safety

Each production site has established an Occupational Health and Safety Committee to improve the work environment, identify and correct unsafe areas, and undertake voluntary safety activities in an effort to prevent accidents and disasters.

In addition, we have an Occupational Health and Safety page on the company intranet to raise awareness and educate employees about safety.

The number of industrial accidents in Japan in fiscal 2021 was 8, a decrease of 6 from fiscal 2020. The lost workdays due to industrial accidents decreased by 80 days.

Promoting employee health

We are attentive toward the health of employees through the implementation of health checkups and concern toward mental health.

We conduct general health checkups, lifestyle-related disease checkups, and comprehensive medical exams in order to verify the health status of employees and provide guidance on lifestyle and health as seen needed.

In addition, to maintain not only physical health but also mental health, we have established a mental health inquiry and assistance service.

We also hold sports competitions with the goal of deepening friendships among employees and creating a fun outlet.

## RISO KAGAKU CORPORATION

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