

# Environment Data & Environmental Accounting 2023

For the year ended December 31, 2023

## Environment Data 2023

### ■ Scope of Analysis

FY2019 : January 1, 2019 - December 31, 2019 FY2020 : January 1, 2020 - December 31, 2020 FY2021 : January 1, 2021 - December 31, 2021 FY2022 : January 1, 2022 - December 31, 2022	STAR MICRONICS CO., LTD. [Japan] Star Metal Company [Japan] Micro Sapporo Company [Japan] Star Micronics Manufacturing Dalian Co., Ltd. [China] Star Micronics Manufacturing (Thailand) Co., Ltd. [Thailand]
FY2023 : January 1, 2023 - December 31, 2023	Scope1: STAR MICRONICS CO., LTD. [Japan] Star Metal Company [Japan] Micro Sapporo Company [Japan] Star Micronics Manufacturing Dalian Co., Ltd. [China] Star Micronics Manufacturing (Thailand) Co., Ltd. [Thailand] Scope2: Star Micronics Group (all branches)

※The scope of applicable business locations, unless otherwise specified, refers to the aforementioned locations.

### ■ Solar Power Facilities

	FY2023
Output	350kW
Average Households	130Households
Power Generated	446,000kWh

※Scope of Analysis : Kikugawa Factory/Star Metal Company.

※Selling Destination : Chubu Electric Power Company, Incorporated.

### ■ Environmental Impact Related to Climate Change

Scope 1, 2 CO <sub>2</sub> Emissions (t-CO <sub>2</sub> )		FY2019	FY2020	FY2021	FY2022	FY2023	
Scope1	Gasoline	Japan	172	131	162	165	149
		Outside Japan	145	84	104	104	85
	LPG	Japan	114	82	115	161	112
		Outside Japan	166	83	225	272	216
	kerosene	Japan	1	0	0	1	0
		Outside Japan	0	0	0	0	0
	Light Oil	Japan	4	3	4	2	2
		Outside Japan	22	15	20	6	0
	Heavy Oil	Japan	234	201	190	295	277
		Outside Japan	0	0	0	0	0
<b>Total</b>	<b>Japan</b>	<b>525</b>	<b>417</b>	<b>471</b>	<b>624</b>	<b>540</b>	
	<b>Outside Japan</b>	<b>333</b>	<b>182</b>	<b>349</b>	<b>382</b>	<b>301</b>	
Scope2	Steam	Japan	0	0	0	0	0
		Outside Japan	929	684	602	266	176
	Electricity	Japan	6,530	4,223	4,403	4,689	4,668
		Outside Japan	6,788	4,417	5,816	6,148	5,880
	<b>Total</b>	<b>Japan</b>	<b>6,530</b>	<b>4,223</b>	<b>4,403</b>	<b>4,689</b>	<b>4,668</b>
	<b>Outside Japan</b>	<b>7,717</b>	<b>5,101</b>	<b>6,418</b>	<b>6,414</b>	<b>6,056</b>	
Scope1 and Scope2	Japan	7,055	4,640	4,874	5,313	5,208	
	Outside Japan	8,050	5,283	6,767	6,796	6,357	
	<b>Total</b>	<b>15,105</b>	<b>9,923</b>	<b>11,641</b>	<b>12,109</b>	<b>11,565</b>	

※Scope 1 greenhouse gas emissions are calculated for CO<sub>2</sub> only.

※Scope2 emission factor uses the Ministry of the Environment's "Electric Power Company Emission Coefficient" for each supplier in Japan and representative values for suppliers outside of Japan.

※Scope3 CO<sub>2</sub> emission volume calculations are currently under consideration and have not yet been implemented.

※Emission calculations for greenhouse gases other than CO<sub>2</sub> are currently under consideration and have not yet been implemented.

※Taking into consideration such factors as the review of calculation rules in 2023 and subsequent recalculation, including past performance results, published data has been changed.

Scope 1, 2 CO <sub>2</sub> Emissions Per Unit of Sales (t-CO <sub>2</sub> /million JPY)		FY2019	FY2020	FY2021	FY2022	FY2023
Scope1 and Scope2	Japan and Outside Japan	0.249	0.217	0.181	0.139	0.148

※The calculation of CO<sub>2</sub> Emissions Per Unit of Sales is "Scope1+Scope2 in the scope of analysis" / "Consolidated net sales".

※Taking into consideration such factors as the review of calculation rules in 2023 and subsequent recalculation, including past performance results, published data has been changed.

## Environment Data 2023

### ■ Environmental Impact Related to Energy

Total Energy Consumption (GJ)		FY2019	FY2020	FY2021	FY2022	FY2023
Total Energy Consumption	Japan	144,922	105,326	120,553	126,152	113,041
	Outside Japan	159,443	107,964	143,644	149,605	144,484
	<b>Total</b>	<b>304,365</b>	<b>213,290</b>	<b>264,197</b>	<b>275,757</b>	<b>257,525</b>
Total Energy Consumption Per Unit of Sales (GJ/million JPY)		FY2019	FY2020	FY2021	FY2022	FY2023
Japan and Outside Japan		5.018	4.670	4.105	3.156	3.293
Electricity Consumption (MWh)		FY2019	FY2020	FY2021	FY2022	FY2023
Electricity Consumption	Japan	13,742	9,936	11,374	11,704	10,524
	Outside Japan	13,911	9,399	12,839	13,940	13,706
of which electricity purchased	Japan	13,742	9,936	11,374	11,704	10,524
	Outside Japan	13,911	9,399	12,839	13,940	13,706
of which electricity purchased from renewable energy sources	Japan	0	0	0	0	0
	Outside Japan	0	0	0	0	0
Renewable Energy Generation	Japan	0	0	0	0	0
	Outside Japan	0	0	0	0	0
Renewable Energy Ratio	Japan	0	0	0	0	0
	Outside Japan	0	0	0	0	0

※Energy conversion outside of Japan is calculated using Japan's coefficients.

Gasoline (t)	FY2019	FY2020	FY2021	FY2022	FY2023
Japan	74,054	56,357	69,814	71,010	64,037
Outside Japan	62,435	36,208	44,704	44,979	36,634
<b>Total</b>	<b>136,489</b>	<b>92,565</b>	<b>114,518</b>	<b>115,989</b>	<b>100,671</b>

LPG (kg)	FY2019	FY2020	FY2021	FY2022	FY2023
Japan	37,943	27,312	38,426	53,691	37,392
Outside Japan	55,403	27,608	75,089	90,641	72,089
<b>Total</b>	<b>93,346</b>	<b>54,920</b>	<b>113,515</b>	<b>144,332</b>	<b>109,481</b>

Kerosene (t)	FY2019	FY2020	FY2021	FY2022	FY2023
Japan	205	138	144	203	144
Outside Japan	0	0	0	0	0
<b>Total</b>	<b>205</b>	<b>138</b>	<b>144</b>	<b>203</b>	<b>144</b>

Light Oil (t)	FY2019	FY2020	FY2021	FY2022	FY2023
Japan	1,482	1,117	1,551	954	631
Outside Japan	8,627	5,872	7,781	2,253	142
<b>Total</b>	<b>10,109</b>	<b>6,989</b>	<b>9,332</b>	<b>3,207</b>	<b>773</b>

Heavy Oil (t)	FY2019	FY2020	FY2021	FY2022	FY2023
Japan	86,500	74,000	70,140	109,000	102,140
Outside Japan	0	0	0	0	0
<b>Total</b>	<b>86,500</b>	<b>74,000</b>	<b>70,140</b>	<b>109,000</b>	<b>102,140</b>

Steam (t)	FY2019	FY2020	FY2021	FY2022	FY2023
Japan	0	0	0	0	0
Outside Japan	5,788	4,260	3,749	1,656	1,099
<b>Total</b>	<b>5,788</b>	<b>4,260</b>	<b>3,749</b>	<b>1,656</b>	<b>1,099</b>

## Environment Data 2023

### ■ Environmental Impact Related to Waste

※The applicable business locations are STAR MICRONICS CO., LTD., Star Metal Company, Micro Sapporo Company, Star Micronics Manufacturing Dalian Co., Ltd., and Star Micronics Manufacturing (Thailand) Co., Ltd.

Total Waste, Hazardous Waste, Recycled Waste		FY2019	FY2020	FY2021	FY2022	FY2023
Total Waste ( t )	Japan	304	248	320	357	248
	Outside Japan	693	324	527	572	493
	<b>Total</b>	<b>997</b>	<b>572</b>	<b>847</b>	<b>929</b>	<b>741</b>
of which hazardous waste( t )	Japan	59	70	74	79	43
	Outside Japan	17	46	69	71	62
	<b>Total</b>	<b>76</b>	<b>116</b>	<b>143</b>	<b>150</b>	<b>105</b>
Recycled Waste ( t )	Japan	301	247	318	355	245
	Outside Japan	337	293	449	489	360
	<b>Total</b>	<b>638</b>	<b>540</b>	<b>767</b>	<b>844</b>	<b>605</b>
Recycling Rate (%)	Japan	99.1%	99.4%	99.4%	99.4%	99.0%
	Outside Japan	48.6%	90.4%	85.2%	85.4%	73.1%
	<b>Total</b>	<b>64.0%</b>	<b>94.3%</b>	<b>90.6%</b>	<b>90.9%</b>	<b>81.6%</b>

※Harmful waste refers to materials classified as specially controlled industrial waste in Japan's Waste Management Act.

※Recycling volume is the total of thermal recycling and material recycling.

※In Japan, our recycling rate goal is 99.0%.

※

Non-recycled Waste ( t )		FY2019	FY2020	FY2021	FY2022	FY2023
Land-filled	Japan	3	2	2	2	3
	Outside Japan	356	31	78	84	133
	<b>Total</b>	<b>359</b>	<b>33</b>	<b>80</b>	<b>86</b>	<b>136</b>
Incinerated without Recycling	Japan	0	0	0	0	0
	Outside Japan	-	-	-	-	-
	<b>Total</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

※Waste incineration volumes without related recycling outside of Japan are not known.

※Items without clear data are marked with "-".

### ■ Environmental Impact Related to Water

※The applicable business locations are STAR MICRONICS CO., LTD., Star Metal Company, Micro Sapporo Company, Star Micronics Manufacturing Dalian Co., Ltd., and Star Micronics Manufacturing (Thailand) Co., Ltd.

Water Use (m <sup>3</sup> )		FY2019	FY2020	FY2021	FY2022	FY2023
Groundwater (recyclable)	Japan	943	0	0	0	0
	Outside Japan	0	0	0	0	0
Third-party Source (city water)	Japan	24,307	17,452	18,894	21,284	15,780
Third-party Source (industrial water)	Japan	0	0	0	0	0
<b>Total (Japan)</b>		<b>25,250</b>	<b>17,452</b>	<b>18,894</b>	<b>21,284</b>	<b>15,780</b>
Groundwater (recyclable)	Outside Japan	0	0	0	0	0
	Outside Japan	25,796	21,263	26,418	20,679	19,566
Third-party Source (city water)	Outside Japan	21,444	13,808	20,312	25,856	31,867
Third-party Source (industrial water)	Outside Japan	0	0	0	0	0
<b>Total (Outside Japan)</b>		<b>47,240</b>	<b>35,071</b>	<b>46,730</b>	<b>46,535</b>	<b>51,433</b>
<b>Total (Japan and Outside Japan)</b>		<b>72,490</b>	<b>52,523</b>	<b>65,624</b>	<b>67,819</b>	<b>67,213</b>

## Environment Data 2023

### ■ Response to the PRTR Law in Japan (FY2023)

※Only chemical substances with emissions or movements are displayed.

※Measurements taken for Japan only.

Factory		Emissions Volume (kg)				Transfer Volume (kg)	
		Discharged to the Atmosphere	Discharged to Public Water Bodies	Discharged to the Soil at the Sites	Land-filled at the Sites	Transferred to Sewers	Transferred to Off-site
Star Metal Company	Toluene	566	0	0	0	0	0
	Xylene	27	0	0	0	0	0
Micro Sapporo Company	Chlorinated Paraffins	0	0	0	0	0	87
	Nickel Compounds	0	56	0	0	0	0
	Sodium Linear Alkylbenzene Sulfonate	0	47	0	0	0	0
	Hydrofluoric Acid and its Water-soluble Salts	0	43	0	0	0	0
	Coconut Oil Fatty Acid Diethanolamide	0	41	0	0	0	0
	Inorganic Cyanides	0	21	0	0	0	0
	Diethanolamine	0	14	0	0	0	0
<b>Total</b>		<b>593</b>	<b>222</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>87</b>

Total Volume of PRTR Emission and Transfer (Kg)	FY2019	FY2020	FY2021	FY2022	FY2023
	1,199	999	1,704	1,934	902

### ■ Copy Paper

※The applicable business locations are STAR MICRONICS CO., LTD., Star Metal Company, Micro Sapporo Company, Star Micronics Manufacturing Dalian Co., Ltd., and Star Micronics Manufacturing (Thailand) Co., Ltd.

Copy Paper Purchased (Thousand Sheets)	FY2019	FY2020	FY2021	FY2022	FY2023
Japan	2,572	1,369	2,068	2,003	1,373
Outside Japan	3,043	2,074	3,025	3,773	2,750
<b>Total (Japan and Outside Japan)</b>	<b>5,615</b>	<b>3,443</b>	<b>5,093</b>	<b>5,776</b>	<b>4,123</b>

## Environmental Accounting 2023

Target Period	: January 1, 2023 - December 31, 2023
Japan	: STAR MICRONICS CO., LTD. Star Metal Company Micro Sapporo Company
Outside Japan	: Star Micronics Manufacturing Dalian Co., Ltd. Star Micronics Manufacturing (Thailand) Co., Ltd.

### ■ Environmental Protection Costs

(Thousands of JPY)

Category		Initiatives	Japan		Outside Japan	
			Investment	Cost	Investment	Cost
Costs within business area	Pollution prevention cost	Prevention of air/water/ground contamination	0	3,412	24,418	31,540
	Environmental preservation cost	Energy conservation	0	1,171	30,514	970
	Resource recycling cost	Treatment/disposal of waste	0	10,010	0	4,763
Upstream/downstream cost		Green procurement difference	0	309	0	0
Management activity cost		EMS operation, education, on-site planting	0	12,417	0	7,865
Research & development cost		R&D, WEEE/RoHS measures	0	6,903	0	0
Social contribution cost		Donations, financial support	0	168	0	93
Environmental damage response cost		Repairs for ground/water contamination	0	0	0	0
<b>Total</b>			<b>0</b>	<b>34,390</b>	<b>54,932</b>	<b>45,231</b>

※Excludes depreciation expense.

### ■ Financial Impact Resulting from Environmental Protection Measures

(Thousands of JPY)

	Category	Japan	Outside Japan
Earnings	Gains from sales of marketable waste from business activities	13,131	6,146
Expense reductions (Year on year)	Total energy expense (electricity/heavy oil/LPG/gasoline/light oil) reductions	29,994	27,780
	Reductions in water/well water usage expense	1,152	▲351
	Reductions in copy paper purchase expense	▲125	840
	Reductions in waste disposal expense	▲1,328	0
	Others	0	0
	<b>Total</b>		<b>29,693</b>

### ■ Costs Related to Water-related Risks

(Thousands of JPY)

Investment in Research and Development, and Cost of Countermeasures	
Investment	0
Cost	0

### ■ Environment-related Accidents, Violations, Fines, etc.

Violations of Environmental Laws and Regulations and Occurrence of Accidents	
Serious violations of environment-related laws and regulations	0
Serious accidents related to the environment	0