KAJIMA CORPORATION

ENVIRONMENTAL DATA

2023

Environmental Policy

Kajima, as the company "Building for the Next 100 Years," pursues a unique long-term environmental vision, doing its part in the broader social efforts to preserve the environment and ensure economic sustainability.

1

We work to reduce the environmental impact of our business and take into consideration the entire lifecycle of the structures we construct. We thereby seek to help build societies which use materials responsibly, have a low carbon footprint, and harmonize with nature.

2

As a standard for achieving these goals, Kajima:

- Creates innovative technologies that help safeguard the environment and use resources sustainably;
- Engages in construction management processes to prevent environmental damage caused by hazardous materials used in construction projects; and
- Cooperates with the public, including by proactively disclosing information.

Kajima Environmental Vision

Background of Kajima Environmental Vision

Kajima assess environmental risks and opportunities in the construction business as follows.

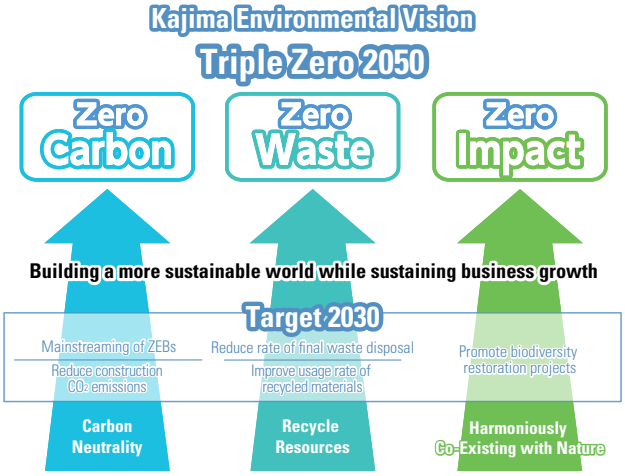
Carbon Neutral Society	• To achieve the 2050 carbon neutrality goal, both adopting renewable energy and making society more energy efficient are urgent tasks. • High expectation is observed to construction industry like initiatives to zero energy building (ZEB) since it is a high-priority measures from the standpoint that energy efficiency of buildings is in particular cost and reduction effectiveness together with adaptable easily. • Resource usage has been largely utilized as well as CO_2 emissions related to the production, processing and transportation of materials.
Recycling Resources Society	• There is a room for more efficient resource utilization since construction industry has a large amount of resource and waste consumption. • Potential to take advantage of recycled materials (including derived from other industries),therefore, an important role in resource recycling. • By leveraging the long-life of the building, the large role in the creation of stock society.
Natural Symbiosis Society	• In the construction business, a role in modifying the direct natural environment through construction projects which has been involved in the local eco-system, as well as the potential of biodiversity restoration in the urban redevelopment. • Since the urban concentration of the population progresses, the growing importance of biodiversity restoration in the city. • Through wood procurement and resource procurement, biodiversity can be addressed in logged spots.

The Kajima Environmental Vision: Triple Zero 2050

The Kajima Environmental Vision: Triple Zero 2050 recognizes carbon neutrality, resource recycling and harmoniously co-existing with nature as the key aspects of a sustainable society, and sets Zero Carbon, Zero Waste, and Zero Impact to be the future goals for Kajima to achieve by 2050.

Each of the three Zero goals has been set from two perspectives: risks (reducing the environmental impact of business activities will achieve the Zero goals) and opportunities (the Zero goals will be achieved through business/product proposals made to society and our customers).

Triple Zero 2050 was formulated in May 2013, but to match it to the state of society, it was reviewed once in May 2018, May 2021, September 2022, and again in June 2023, each time resulting in the revision of the carbon neutrality goal.



Target 2030

Target 2030 identifies the core activities for achieving Triple Zero 2050 and sets the 2030 target for the design and construction phases as quantitatively as possible.

Triple Zero 2050 (Formulated in 2013; revised in June 2023)

	Social Goals	Triple Zero 2050	Target 2030
Achieving a More Sustainable World	**Carbon Neutrality** A society that balances greenhouse gas emissions from human activities with the Earth's capacity for CO_2 absorption	**Zero Carbon** Aiming to achieve carbon neutrality for the Kajima Group's greenhouse gas emissions (Scope 1,2,3 emissions)	[Group-wide] Reduce Group-wide greenhouse gas emissions (Scope 1 and 2 emissions) per unit of sales by 42% or more compared to fiscal 2021 (equivalent to a 42% reduction of total emissions with fixed construction amount). Reduce Scope 3 emissions (classed as Category 1 during construction material production and Category 11 during building operation) by 25% on more. [Architectural Design] Implement ZEB/ZEH levels for all building construction projects starting in or after fiscal 2030. Note: The target for contract awards for construction projects starting in or after fiscal 2025 is for at least 50% to meet ZEB/ZEH levels.
	Recycle Resources A society that pursues zero emissions by employing state-of-the-art infrastructure maintained and operated using sustainable resources	**Zero Waste** Aiming to eliminate waste from construction operations by ensuring zero final waste disposal during construction, utilizing sustainable materials, and making buildings last longer	• Completely eliminate final waste disposal from construction operations • Achieve a usage rate of recycled materials of at least 60% for principal construction materials* * Principal construction materials (steel, cement, ready-mixed concrete, crushed stone and asphalt)
	Harmoniously Co-Existing with Nature A society that values the continuous benefits of ecosystem services by minimizing the impact of human activities on the environment and living creatures	**Zero Impact** Aiming to minimize the overall environmental impact of construction operations by limiting their effect on nature and living creatures while promoting the restoration of biodiversity and new ways to make use of its benefits	• Promote biodiversity restoration projects • Build a portfolio of effective projects and make them hubs for biodiversity-related networking
		Management of hazardous substances: Thoroughly implement preventative measures (especially for soil contamination and asbestos)	
	Common Foundation Initiative Areas	• Conduct technology development • Actively distribute information in and outside the Company	

Environmental Targets (FY2021-2023) and FY2022 Actual Figures

		Three-Year (FY2021–2023)Targets	FY2022Targets	FY2022 Results
Carbon Neutrality	**Construction**	● Reduce CO_2 emissions per unit of sales by 26% compared to FY2013 →7% compared to FY2021	● Reduce by 3.5% compared to FY2021	● Increased by 14.9% compared to FY2021
	Design	● Deepen ZEB technologies that contribute to the decarbonization of customer companies. Strengthen promotion of the use of labeling systems such as ZEB and Building-Housing Energy-efficiency Labeling System (BELS) ● Deepen energy management technologies	● Strengthen promotion of ZEB, BELS, and other labeling systems (with a particular focus on ZEB Ready and ZEB Oriented) ● Achieve internal energy conservation standards (20% reduction) and promote internal targets (30% reduction in office buildings, 25% reduction in commercial buildings) ● Promote ZEB through technical proposals for energy management, use of IoT and other digital technologies, and work style proposals	● Pushed the use of the labeling systems in 45 projects and acquired the ZEB/ZEH certification for five projects ● Office buildings: achieved a 44% reduction as a weighted average for all projects while the internal energy conservation standard was 20% and the internal target was 30% ● Commercial buildings: achieved an 18% reduction as a weighted average for all projects while the internal energy conservation standard was 20% and the internal target was 25% ● Two projects were selected for the ZEB/ZEH feasibility demonstration program by the Ministry of Land, Infrastructure, Transport, and Tourism (Shin-Fukuoka Building and Osaka Juso East Area Development Plan)
Recycle Resources	**Construction**	● Less than 3% final waste disposal including sludge	● Less than 3% final waste disposal including sludge	● 2.7% final waste disposal including sludge
	Design	● Implement green procurement	● Propose more than four items for green procurement, indicate them on working drawings and verify whether or not the proposed items were ultimately adopted	● Implement green procurement: Average of 5.4items proposed
Harmoniously Co-Existing with Nature	**Construction**	● Reduce the impact of construction on the natural environment (particularly through management of hazardous materials and polluted water)	● Reduce the impact of construction on the natural environment (particularly through management of hazardous materials and polluted water)	● Environmental problems that would affect the natural environment: 0
	Design	● Implement outstanding biodiversity projects	● Implement more than six outstanding biodiversity projects per year	● Selected 7 outstanding biodiversity projects (building construction: 5, Civil Engineering; 1, frontier: 1)
Common Foundation Initiative Areas	**Kajima Technical Research Institute**	● With the goal of contributing to fulfilment of Triple Zero 2050, tighten cooperation of all departments and move forward with research and development that will contribute to the environment	● Target for research and development to help with the environment Themes: at least 15 Patents: at least 10 Academic papers: at least 30	● Result for research and development to help with the environment Themes: 16 (Climate strategy: 4; resource recycling: 2; harmoniously co-existing with nature: 4; and living environment: 6) Patents: 12 Academic papers: 54
	Engineering Division	● Respond to changes in social conditions and customer requirements ● Promote the prevention of environmental accidents involving various chemical substances	● Identify customers' EHS statuses and check and support their plans to achieve Triple Zero ● Assess customers' risks, pay close attention to their handling of chemical substances, and implement strict environmental risk management ● Promote activities to win contract awards through the utilization of wastewater treatment technologies	● Checked their Triple Zero efforts and gave them appropriate guidance ● Checked their handling of chemical substances and gave them appropriate guidance ● Participated in all required projects
	Environmental Engineering Division	● Promote environmental management in concert with Group companies ● Make technical innovations and create projects based on Triple Zero 2050	Expand projects with core environmental technologies and services ● Strengthen efforts in four priority fields ● Initiatives for next-generation technologies/projects	● Worked on many renewable energy projects ● Continued working on environmental infrastructure projects (waste disposal sites and water and sewage facilities) (two orders received for water and sewage facility construction projects) ● Launch of the Hokkaido Shikaoi Hydrogen Supply Project

Material Flow

Construction Sites

INPUT	
Energy	
Electricity	8,666 ×10⁴kW
Green electricity	104 ×10⁴kW
Diesel oil	68,286 kℓ
GTL	499 kℓ
B100	9 kℓ
B5	97 kℓ
Kerosene	566 kℓ
Gasoline	586 kℓ
Heavy oil	1,622 kℓ
Water	
Tap Water	123 ×10⁴m³
Construction materials	1,335 ×10⁴t

OUTPUT	
CO_2 emissions	22.6 ×10⁴t
Wastewater	92.4 ×10⁴m³
Construction surplus soil	127.6 ×10⁴m³
Hazardous materials collected	
Materials containing asbestos	5,627 t
CFCs and halon	3.2 t
Fluorescent tubes	49.1 t
Construction waste	188.2 ×10⁴t
Final disposal volume	5.1 ×10⁴t

Changes in CO_2 emissions attributable to construction	
Total emissions	22.6 ×10⁴t-CO_2
Basic unit	16.0 t-CO_2/10²million
Reduction rate	+14.9 %

* Denominator of the basic unit is sales of construction work (/100 million) (not disclosed)

Volume of construction waste and final disposal volume	
Volume	188.2 ×10⁴t
Volume (excluding sludge)	120.8 ×10⁴t
Final disposal volume	5.1 ×10⁴t
Final disposal volume (excluding sludge)	4.3 ×10⁴t
Final disposal rate	2.7 %
Final disposal rate(excluding sludge)	3.6 %

Office

INPUT	
Energy	
Electricity	2,741 ×10⁴kWh
Green electricity	786 ×10⁴kW
Diesel oil	6 kℓ
Kerosene	20 kℓ
Heavy oil	24 kℓ
Gas	15.0 ×10⁴m³
Heating, Steam,Cooling	13,153 GJ
Water	
Tap Water	17.0 ×10⁴m³

OUTPUT	
CO_2 emissions	0.8 ×10⁴t
Wastewater	17.0 ×10⁴m³
Volume of waste	1,651 t

Kajima Group CO_2 Emissions

	Scope1	Scope2	Scope3
Kajima (non-consolidated)	18.9 ×10⁴t-CO_2	4.6 ×10⁴t-CO_2	23.4 ×10⁴t-CO_2
Domestic Group companies	8.9 ×10⁴t-CO_2	2.4 ×10⁴t-CO_2	11.3 ×10⁴t-CO_2
Overseas Group companies	6.5 ×10⁴t-CO_2	6.9 ×10⁴t-CO_2	13.3 ×10⁴t-CO_2
Consolidated Kajima Group	34.2 ×10⁴t-CO_2	13.8 ×10⁴t-CO_2	48.1 ×10⁴t-CO_2

The Kajima Group's CO_2 emissions are subject to error due to rounding of individual data and total.

■Scope: Kajima Corporation only

- Construction sites: all domestic and overseas sites (excluding domestic affiliate companies and overseas subsidiaries)
- Offices: offices of Kajima corporation and overseas offices (excluding domestic affiliate companies and overseas subsidiaries)

■Regarding third party verification

- Environmental performance data for FY2022, including greenhouse gas emissions (Scope 1, 2, 3), energy use, tap water use, hazardous materials, and waste emissions were verified by Japan Quality Assurance Organization (JQA). Items indicated with were verified by the third party. (Verification document attached to the end page)

Zero Carbon

CO_2 emissions (construction sites, office sector)

(FY)

		2021	2022
Emissions	$\times 10^4$t-CO_2	19.1	23.4
Basic unit*	t-CO_2/¥ 10^2million	15.3	16.4
Reduction rate	%	Base year	+6.7

* The basic unit is sales (per 100 million yen)

CO_2 emissions from construction sites

(FY)

		2013 (base year)	2019	2020	2021(base year)	2022
Emissions	$\times 10^4$t-CO_2	22.8	22.7	15.7	17.7	22.6 ☑
Basic unit*	t-CO_2/¥ 10^2million	22.0	17.6	13.8	14.0	16.0 ☑
Reduction rate	%	14.8	20.0	37.3	36.4	+14.9 ☑

* The benchmark year is 2013 for the FY2019 and FY2020 results, and FY2021 for the FY2022 results.
* The emissions calculation method was changed in FY2020 from making estimates based on sample data to obtaining the actual data from all construction sites.
* Basic unit is sales of construction work (/ 100 million)

Scope Type CO_2 emissions

(FY)

Kajima (non-consolidated)		2018	2019	2020	2021	2022
Scope-1	$\times 10^4$t-CO_2	20.5	17.0	12.4	14.9	18.9 ☑
Scope-2	$\times 10^4$t-CO_2	6.0	7.0	4.7	4.2	4.6 ☑
Scope-3	$\times 10^4$t-CO_2	235.1	413.1	230.1	674.9	936.0 ☑
Category1*1 (purchased goods and services)	$\times 10^4$t-CO_2	117.9	126.1	127.2	405.6	570.2 ☑
Category11*2 (use of sold products)	$\times 10^4$t-CO_2	103.6	257.9	79.1	204.9	273.3 ☑
Scope-1,2,3 total	$\times 10^4$t-CO_2	261.6	437.1	247.1	694.0	959.5 ☑
Consolidated Kajima Group					2021	2022
Scope-1*3	$\times 10^4$t-CO_2				29.2	34.2
Scope-2	$\times 10^4$t-CO_2				12.9	13.8
Scope-3	$\times 10^4$t-CO_2				1032.7	1557.1
Category1*3 (purchased goods and services)	$\times 10^4$t-CO_2				610.6	916.5
Category11*2 (use of sold products)	$\times 10^4$t-CO_2				307.9	467.7
Scope-1,2,3 total	$\times 10^4$t-CO_2				1074.9	1605.2

*1: Up to and including FY2020, calculations of CO_2 emissions only covered the main construction materials, namely crushed stone, asphalt, cement, and ready-mixed concrete.
*2: The calculation includes CO_2 emissions from the use stage of the lifecycle (set to 30 years) of buildings designed by us and completed during the subject fiscal year.

When the lifecycle is set to 60 years

		2021	2022
Kajima (non-consolidated)	$\times 10^4$t-CO_2	409.7	546.6
Consolidated Kajima Group	$\times 10^4$t-CO_2	615.7	935.3

*3: When CO_2 emitted by companies helping with construction projects by our overseas group companies is recorded as Scope-3, Category 1 emissions

		2021	2022
Scope-1	$\times 10^4$t-CO_2	24.5	29.1
Scope-3, Category 1	$\times 10^4$t-CO_2	615.3	921.6

Zero Carbon

Energy Consumption

(FY)

		2018	2019	2020	2021	2022
Total amount of energy consumption*	×10⁴kWh	115.4	109.1	77.9	86.6	108.2 ☑
Fossil fuels consumption	×10⁴kWh	81.8	68.0	49.9	60.0	76.1 ☑
Construction sites	×10⁴kWh	81.6	67.8	49.7	59.7	75.2 ☑
Offices	×10⁴kWh	0.2	0.2	0.2	0.2	0.2 ☑
Diesel oil substitute consumption (B100, B5, GTL)	×10⁴kWh					0.6
Construction sites	×10⁴kWh					0.6
Offices	×10⁴kWh					0
Purchased electricity	×10⁴kWh	11.9	14.6	9.9	9.4	11.4 ☑
Construction sites	×10⁴kWh	9.4	12.1	7.3	6.6	8.7 ☑
Offices	×10⁴kWh	2.5	2.5	2.6	2.8	2.7 ☑
Steam/Heating/Cooling consumption (only office)	×10⁴kWh	0.6	0.6	0.6	0.6	0.5 ☑

* The total amount of energy consumption is different from the simple total value of each energy consumption, since it sums up the value obtained by converting the purchased electric energy into the primary energy.energy into the primary energy.

Contribution amount of indirect CO_2 emissions reduction

(FY)

		2018	2019	2020	2021	2022
Contribution amount of CO_2 emissions reduction attributable to energy-saving design of buildings*	×10⁴t-CO_2	31.3	48.8	31.7	30.8	63.3

* From FY2017, the CO_2 emission amount is calculated by multiplying annual contribution of CO_2 reduction attributable to energy-saving design of buildings, which are designed internally and completed in the FY, by the life-cycle of buildings (30years).

Zero Waste

Overseas construction sites are excluded from the calculation because standards and treatment methods for waste are greatly different from country to country.

Usage of materials

(FY)

Material			2018	2019	2020	2021	2022
Steel	Total usage	t				867,860	943,593
Cement	Total usage	t	1,460,063	1,558,339	1,569,311	4,338,657	8,021,759
Aggregate	Total usage	t	674,733	691,046	361,439	1,663,110	1,860,099
Asphalt	Total usage	t	53,947	26,378	20,039	3,040	417,130
Others	Total usage	t				1,200,113	2,111,643
Total	Total usage	t	2,188,743	2,275,763	1,950,789	8,072,781	13,354,224

* Until FY2020, only main construction materials were aggregated; since FY2021, all construction materials have been aggregated.

Volume of construction waste and final disposal volume

(FY)

		2018	2019	2020	2021	2022
Volume	$\times 10^4$t	199.4	145.5	159.2	228.6	188.2 ☑
Volume (excluding sludge)	$\times 10^4$t	130.2	88.4	102.1	151.5	120.8 ☑
Final disposal Volume	$\times 10^4$t	8.5	5.7	4.0	5.4	5.1 ☑
Final disposal Volume (excluding sludge)	$\times 10^4$t	5.8	2.9	3.3	3.7	4.3 ☑
Final disposal rate	%	4.3	3.9	2.5	2.4	2.7 ☑
Final disposal rate (excluding sludge)	%	4.5	3.3	3.2	2.4	3.6 ☑

* The final disposal volume from construction sites and offices was 41,289t

Emissions by waste category (FY2022)

Construction waste	Volume (t)	Percentage of waste volume
Concrete remnants	710,012 ☑	38% ☑
Asphalt Concrete remnants	99,296 ☑	5% ☑
Wood scrap	43,176 ☑	2% ☑
Construction sludge	674,800 ☑	36% ☑
Mixed waste	35,813 ☑	2% ☑
Waste plastic	8,817 ☑	0% ☑
Others	310,476 ☑	16% ☑
Total	1,882,390 ☑	100% ☑

(FY)

Volume of offices waste

		2018	2019	2020	2021	2022
Waste	t	2,036.4	2,096.5	1,670.0	2,129.0	1650.8 ☑

Plastic reduction

The Plastic Resource Recycling Promotion Act came into effect in April 2022. At Kajima, as a mass producer that generates industrial plastic product waste, we are working to reduce and recycle such waste. Specifically, we are making efforts to continuously collect and recycle used products such as helmets, work clothes, and badges as well as to increase construction sites' recycle rates by promoting waste separation.

Zero Waste

Waste treatment by category

(FY)

Construction waste			Concrete remnants			Asphalt Concrete remnants			Wood scrap		
			2020	2021	2022	2020	2021	2022	2020	2021	2022
Processing Category	Recycled volume	t	541,836	853,921	704,839 ☑	108,294	253,363	99,040 ☑	43,887	61,198	37,808 ☑
	Reduction volume	t	93	18	20 ☑	13	33	4 ☑	401	686	411 ☑
	Final Disposal volume	t	1,075	1,199	5,154 ☑	168	2,140	252 ☑	249	709	462 ☑
Total volume		t	543,004	855,138	710,012 ☑	108,476	255,535	99,296 ☑	44,537	62,593	38,681 ☑

Construction waste			Construction sludge			Waste plastic*			Mixed waste		
			2020	2021	2022	2020	2021	2022	2020	2021	2022
Processing Category	Recycled volume	t	496,016	507,470	490,432 ☑	4,521	5,615	5,608 ☑	20,914	20,077	22,698 ☑
	Reduction volume	t	46,915	47,787	34,920 ☑	719	805	823 ☑	1,986	2,643	1,880 ☑
	Final disposal volume	t	6,708	17,581	8,143 ☑	1,891	2,403	2,386 ☑	11,397	7,915	11,235 ☑
Total volume		t	549,638	572,838	533,496 ☑	7,131	8,823	8,817 ☑	34,297	30,635	35,813 ☑

* Only plastics separated as waste are counted. This volume does not include plastics found in mixed waste.

Recycle rate by waste category

(FY)

Construction waste			Concrete remnants			Asphalt Concrete remnants			Wood scrap		
			2020	2021	2022	2020	2021	2022	2020	2021	2022
Processing Category	Recycled rate	%	99.8	99.9	99.3 ☑	99.8	99.1	99.7 ☑	98.5	98.1	98.0 ☑
	Reduction rate	%	0.0	0.0	0.0 ☑	0.0	0.0	0 ☑	0.9	0.9	1.0 ☑
	Final disposal rate	%	0.2	0.0	0.7 ☑	0.2	0.8	0.3 ☑	0.6	1.0	1.1 ☑
Total		%	100	100	100 ☑	100	100	100 ☑	100	100	100 ☑

Construction waste			Construction sludge			Waste plastic*			Mixed waste		
			2020	2021	2022	2020	2021	2022	2020	2021	2022
Processing Category	Recycled rate	%	90.4	69.4	74.3 ☑	63.4	63.6	63.6 ☑	61.0	65.5	63.4 ☑
	Reduction rate	%	8.5	28.3	24.5 ☑	9.1	9.0	9.3 ☑	5.8	9.0	5.2 ☑
	Final disposal rate	%	1.2	2.3	1.2 ☑	27.2	27.2	27.1 ☑	33.2	25.8	31.4 ☑
Total		%	100	100	100 ☑	100	100	100 ☑	100	100	100 ☑

Amount of tap water consumption

(FY)

		2018	2019	2020	2021	2022
Construction sites	$\times 10^4 m^3$	71.3	60.9	87.0	91.8	122.7 ☑
Offices	$\times 10^4 m^3$	15.6	15.0	15.0	16.2	17.0 ☑
Total	$\times 10^4 m^3$	86.9	75.9	102.0	108.1	139.7 ☑

Amount of wastewater

(FY)

		2020	2021	2022
Construction sites	$\times 10^4 m^3$	112.3	98.3	92.4 ☑
Offices	$\times 10^4 m^3$	15.0	16.2	17.0 ☑
Total	$\times 10^4 m^3$	127.3	114.5	109.4 ☑

Note: At construction sites, more sewage is drained than tap water is used because rain and spring water are treated as sewage.

Zero Impact

Management of hazardous substances

Recover amount of CFCs & halons

(FY)

		2018	2019	2020	2021	2022
Recover amount	t	1.5	0.2	3.9	1.9	3.2 ☑

Recover amount of used florescent lamp

(FY)

		2018	2019	2020	2021	2022
Recover amount	t	77.9	43.3	49.2	66.4	49.1 ☑

Disposal volume of PCB include equipment

(FY)

		2018	2019	2020	2021	2022
Number of items		22	105	0	0	0 ☑

Disposal volume of hazardous materials (disclosed from FY2017)

(FY)

		2018	2019	2020	2021	2022
CFCs/ halon, fluorescent lamps (mercury), asbestos and other hazardous materials	t	523,009	216,398	104,127	62,867	141,402 ☑

Recover amount of materials containing asbestos

(FY)

		2018	2019	2020	2021	2022
Recover amount	t	56,926	6,197	14,251	8,916	5,627 ☑

Number of soil contamination surveys

(FY)

		2018	2019	2020	2021	2022
Number of surveys as a designated institution		14	9	9	25	15
Number of law investigation included in above number		7	4	4	8	9

Air pollutant emissions

(FY)

		2018	2019	2020	2021	2022
NOX	t	1,346	1,120	821	987	1,252 ☑
SOX	t	200	167	122	147	186 ☑

Harmoniously Co-Existing with Nature

Outstanding biodiversity projects (FY2022)

Area	Project name
Building construction	Reitaku University Campus Redevelopment Plan
Building construction	(Tentative) GFS Plan
Building construction	(Tentative) New Building Construction in the Osaka Yodogawa Ward Juso East Area Development Plan
Building construction	(Tentative) B Building Construction in the Toyosu 4-2 Area
Building construction	JASM New Construction
Civil Engineering	Achiwa Industrial Park Construction project in Okazaki city
Frontier	Seaweed bed preservation and creation activities by the Hayama Seagrass Council obtained J Blue Credit certification

2022 Environmental accounting report

1. Overview

Kajima limits environmental accounting to construction waste for the following reasons.

- Construction waste is managed by manifest system, together with high accuracy of numerical value (product category of emissions and disposal amount).
- Construction waste revealed to be the largest cost factor, which accounts for half of the total environmental cost based on the survey results of environmental accounting.
- Waste disposal is evaluated from both aspects of cost and environmental impact, and use it as an incentive for zero emissions.

2. Result on major construction waste

Construction waste	Volume of waste (156.2×10^4t)	Processing cost (124× ¥ 10^2million)	CO_2 emissions (0.1×10^4t)
Construction sludge	674,800t	6,825 x ¥ 10^2million	59t
Concrete remnants	710,012t	2,774x ¥ 10^2million	791t
Asphalt concrete remnants	99,296t	401x ¥ 10^2million	108t
Mixed waste (organic)	32,181t	1,250x ¥ 10^2million	70t
Mixed waste (inorganic)	3,028t	106x ¥ 10^2million	11t
Wood scrap	43,176t	1,071x ¥ 10^2million	396t
Total	1,562,493t	12,426x ¥ 10^2million	1,436t
reference: All construction waste	1,882,390t	-	10,572t
Percentages of major wastes	83%		14%

Characteristics of the construction industry include the following.

- Wood scrap & mixed waste have large impact on treatment costs compared to emissions.
- Concrete remnants & asphalt concrete remnants are easily recycled, and, the impact on CO_2 emissions and the cost are small compared to the emissions.

3. Evaluation

- CO_2 emission of 0.1x10^4t caused by waste disposal in general is equivalent to over 1% of 22.6x10^4 tons, the CO_2 emissions from the construction work. (FY2021: 1%)
- Waste disposal cost accounts for 0.9% of value of construction work. (FY2021: 1.1%)

4. R&D investment on addressing environmental issues

- R&D investment for addressing environmental issues in fiscal 2022 amounted to 9,400 million yen.

Calculation method

【Quantity】

- All quantity data of waste manifests are aggregated at Kajima's environmental information system.

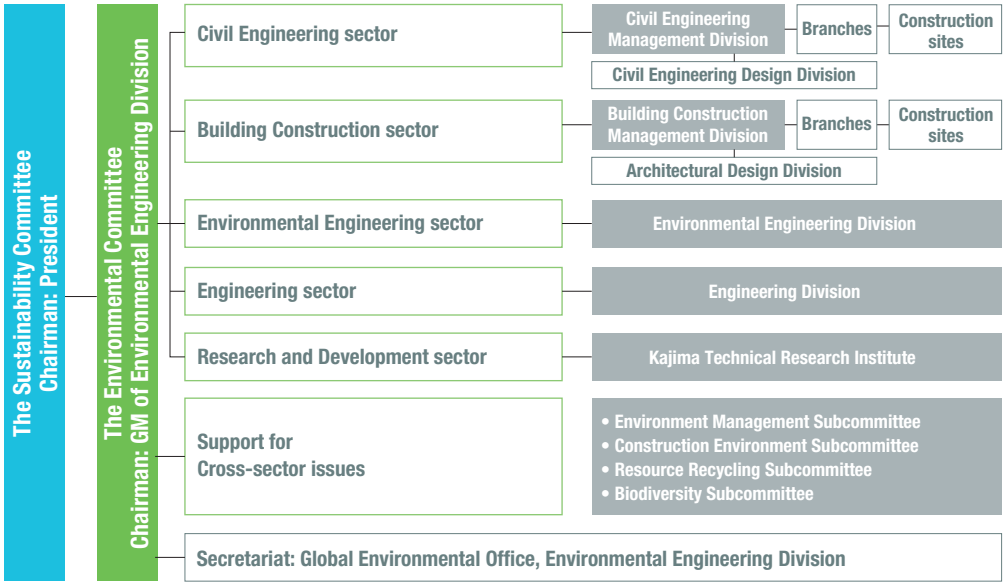
【Cost】

- The processing unit price of each project was aggregated and set the average unit cost for each branch by-item.

【CO_2 emission】

- In the Kanto area, waste disposal sites are selected for each item, then CO_2 emissions per treatment volume are calculated based on processing costs, energy consumption, maintenance / expendable items and facility construction costs.
- As for managed waste disposal sites, CO_2 emissions are estimated based on the existing survey literatures.
- The boundary is set to intermediary processing facilities and disposal sites which are first delivered from construction sites. Subsequent facilities are excluded.
- Project sites outside of Japan are excluded since applicable standards and treatment methods of construction waste vary widely from country to country.

Environmental Management System



The Environment Committee (a special-purpose committee under the Sustainability Committee) implements initiatives in five sectors: civil engineering, building construction, environmental engineering, engineering, and research and development. Four subcommittees address environmental management, construction environments, resource recycling, and biodiversity as cross-sector issues, and working groups are also organized for matters such as addressing requirements under the Act on Rationalizing Energy Use.

Kajima surveys the energy usage of domestic and overseas Group companies and holds discussions regarding reduction measures with those companies that have the highest emissions.

Environmental Management System Certification

Original Certificate

MSA-ES-24 MS CM024

KAJIMA CORPORATION

1-3-1 Motoakasaka, Minato-ku, Tokyo 107-8388, Japan

JIS Q 14001:2015(ISO 14001:2015)
Certification No.: MSA-ES-24

This is to certify that the environmental management system of the above organization meets the requirements of the applicable standard in the following areas:

Certified management system:
Design, construction, technical research & development and engineering relative to civil engineering structures, buildings and related facilities.

Detailed information of sites/departments included in the scope of certification:
The certification number above and the following effective date are recorded in the attached appendix.

Date of issue	17 December 1999	*Date of original issue*	17 December 1999
Effective date	8 December 2022	*Date of revision*	28 November 2022
Date of expiration	16 December 2023	*Date of recertification*	22 December 2020

MSA Management System Assessment Center Co., Ltd.
2-2-12 Hamamatsucho, Minato-ku, Tokyo 105-0013, Japan

S. Fujii
Shinji Fujii, President & Chief Executive

This certificate is comprised of a certificate and an appendix in electronic format.
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For the validity of this certificate, please email tsuruku@msac.co.jp.

Appendix to Certificate

Certification No.: MSA-ES-24

MSA-ES-24 MS CM024

Detailed information of sites/departments included in the scope of certification:

< Same as certified scope >

HEAD OFFICE ADMINSTRATION DIV. GENERAL ADMINISTRATION DEPT., PUBLIC RELATIONS OFFICE
1-3-1 Motoakasaka, Minato-ku, Tokyo, Japan

HEAD OFFICE ENVIRONMENTAL ENGINEERING DIV., ENGINEERING DIV.
6-5-30 Akasaka, Minato-ku, Tokyo, Japan

HEAD OFFICE CIVIL ENGINEERING MANAGEMENT DIV., MACHINERY AND ELECTRICAL ENGINEERING DEPT., INTERNATIONAL DIV.
1-3-8 Motoakasaka, Minato-ku, Tokyo, Japan

HEAD OFFICE ARCHITECTURAL DESIGN DIV.
6-5-30 Akasaka, Minato-ku, Tokyo, Japan

HEAD OFFICE SAFETY AND ENVIRONMENTAL AFFAIRS DEPT., BUILDING CONSTRUCTION MANAGEMENT DIV., NUCLEAR POWER DEPT. NUCLEAR STRUCTURES DESIGN SECTION
6-5-11 Akasaka, Minato-ku, Tokyo, Japan

HEAD OFFICE CIVIL ENGINEERING DESIGN DIV.
1-3-8 Motoakasaka, Minato-ku, Tokyo, Japan

HEAD OFFICE KAJIMA TECHNICAL RESEARCH INSTITUTE
2-19-1 Tobitakyu, Chofu-shi, Tokyo, Japan

HOKKAIDO BRANCH
4-1-3 Kita 2-Jo-Nishi, Chuo-ku, Sapporo-shi, Hokkaido, Japan

TOHOKU BRANCH
1-27 Futsukamachi, Aoba-ku, Sendai-shi, Miyagi-ken, Japan

AOMORI DISTRICT OFFICE
2-4-22 Nagashima, Aomori-shi, Aomori-ken, Japan

MORIOKA DISTRICT OFFICE
3-3-10 Odori, Morioka-shi, Iwate-ken, Japan

AKITA DISTRICT OFFICE
3-1-23 Sanno, Akita-shi, Akita-ken, Japan

YAMAGATA DISTRICT OFFICE
1-14-11 Matsunami, Yamagata-shi, Yamagata-ken, Japan

Date of issue	17 December 1999	*Date of original issue*	17 December 1999
Effective date	8 December 2022	*Date of revision*	28 November 2022
Date of expiration	16 December 2023	*Date of recertification*	22 December 2020

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(1/4)

Independent Verification Report

JQA

No.1811004629

Independent Verification Report

To: Kajima Corporation

1. Objective and Scope

Japan Quality Assurance Organization (hereafter "JQA") was engaged by Kajima Corporation (hereafter "the Company") to provide an independent verification on" Kajima Corporation - Calculation Results for FY2022* environmental performance data, revised July 7 2023" (hereafter "the Report"). The content of our verification was to express our conclusion, based on our verification procedures, on whether the statement of information regarding greenhouse gas (hereafter "GHG") emissions; energy consumption (incl. data converted into calorific equivalents) (hereafter "energy consumption"); tap water consumption; wastewater discharge; waste volume, final disposal volume and final disposal rate(hereafter "waste volume"); disposal and transfer volume of the 18 hazardous substances associated with construction work, disposal volume of PCB include equipment (hereafter "hazardous substances volume"); and NOx and SOx emissions in the Report was correctly measured and calculated, in accordance with the "Kajima Corporation - Calculation rule for environmental performance data (June 2023)" (hereafter "the Rule"). The purpose of the verification is to evaluate the Report objectively and to enhance the credibility of the Report.
*The fiscal year 2022 of the Company ended on March 31, 2023.

2. Procedures Performed

JQA conducted verification in accordance with "ISO 14064-3" for GHG emissions for Scope 1, 2 and 3 and energy consumption, and with "ISAE3000" for tap water consumption; wastewater discharge; waste volume; hazardous substances volume; and NOx and SOx emissions, respectively. The scope of this verification assignment covers energy-derived CO_2 emissions from Scope 1 & 2, and 3 (category1,2,3,4,5,6,7,8,9,10,11,12,13,14 and 15) as GHG emissions; energy consumption, tap water consumption; wastewater discharge; waste volume; hazardous substances volume; and NOx and SOx emissions. The verification was conducted to a limited level of assurance and quantitative materiality was set at 5 percent each of the total emissions, consumption, amount of discharge and amount of volume in the Report. The organizational boundaries of this verification covers domestic construction sites and civil engineering sites, overseas civil engineering sites, 75 domestic offices and 7 overseas offices of the Company.
Our verification procedures included:

- Visiting the Company's head office to perform validation to check the Rule and conduct verification. Verifying to check monitoring and calculation system; calculation scenario; and cross-check activity data against evidence
- Cross-checking activity amount data of 4 offices on the basis of sampling, to evaluate accuracy of calculated results for GHG emissions (Scope 1 and 2), energy consumption; tap water consumption; wastewater discharge; waste volume
- On-site assessment to check the report scope and boundaries, calculation scenario and allocation method for CO_2 emissions of Scope 3; emissions, hazardous substances volume; NOx and SOx emissions; and monitoring and calculation system and its controls for overall

3. Conclusion

Based on the procedures described above, nothing has come to our attention that caused us to believe that the statement of the information regarding the Company's FY2022 GHG emissions (Scope 1, 2 and 3); energy consumption; tap water consumption; wastewater discharge; waste volume, hazardous substances volume; and NOx and SOx emissions in the Report is not materially correct, or has not been prepared in accordance with the Rule. In addition, the main scope of this verification assignment and calculation results are shown in Table 1.

*Please refer to the previous page.

JQA

No.1811004629

4. Consideration

The Company was responsible for preparing the Report, and JQA's responsibility was to conduct verification of GHG emissions (Scope 1, 2 and 3); energy consumption; tap water consumption; wastewater discharge; waste disposal volume, hazardous substances volume; and NOx and SOx emissions in the Report only. There is no conflict of interest between the Company and JQA.

Sumio Asada, Board Director
For and on behalf of Japan Quality Assurance Organization
1-25, Kandasudacho, Chiyoda-ku, Tokyo, Japan
July 25, 2023

*Please refer to the previous page and the annex in the next page.

JQA

No.1811004629

Independent Verification Report
ANNEX

To: Kajima Corporation

Table1 Main scope of this verification assignment and calculation results

GHG emissions			
Scope1		t-CO_2	188,580
Scope2			45,838
Scope3			9,360,385
Scope3 Breakdown	category1		5,701,816
	category2		98,576
	category3		35,045
	category4		571,420
	category5		10,572
	category6		1,057
	category7		5,462
	category8		0
	category9		0
	category10		0
	category11		2,733,153
	category12		155,757
	category13		47,527
	category14		0
	category15		0
Energy			
Total amount of energy consumption		MWh	1,081,934
Water			
Tap water consumption		m^3	1,397,115
Wastewater discharge		m^3	1,094,295
Waste			
Volume of construction waste(including sludge)		m^3	1,882,390
Final disposal volume of construction waste(including sludge)		m^3	51,141
Final disposal rate of construction waste(including sludge)		%	2.7
Volume of office waste		m^3	1,651
Hazardous substances			
18 Hazardous substances volume		t	141,402
NOx emissions		t	1,252
SOx emissions		t	186

*Please refer to the previous page.