KAJIMA CORPORATION

ENVIRONMENTAL DATA

2021

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.

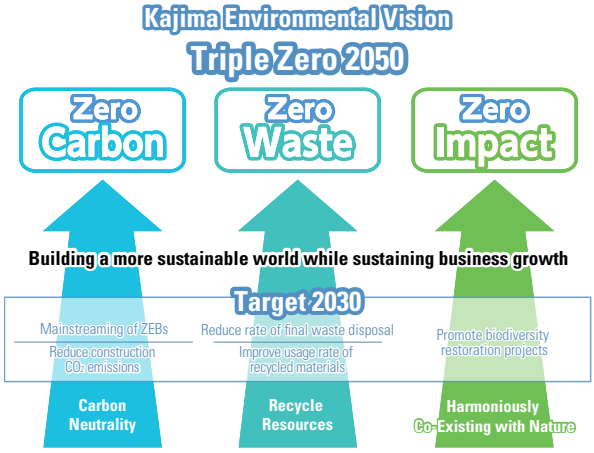
Carbon Neutral Society	• To achieve the 2050 carbon neutrality goal, both adopting renewable energy and making society more energy efficient are urgent tasks. • High expectation is observed to construction industry like initiatives to zero energy building (ZEB) since it is a high-priority measures from 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.

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 and again in May 2021, 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 2018 and May 2021)

	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 and 2 emissions) • Aiming to reduce Scope 3 emissions by at least 80%, compared to fiscal 2013	[Group-wide] Reduce Group-wide greenhouse gas emissions (Scope 1 and 2 emissions) per unit of sales to 50% of fiscal 2013 level or lower (equivalent to a 50% reduction of total emissions with fixed construction amount); contribute to the reduction of Scope 3 emissions as well, through joint efforts in the supply chain [Architectural Design] Achieve a ratio of more than 50% ZEB for new buildings
	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 (FY2018-2020) and FY2020 Actual Figures

		Three-Year (FY2018–2020) Targets	FY2020 Results
Lower CO_2 Emissions (Carbon Neutrality)	**Construction**	● Reduce CO_2 emissions per unit of sales by 8% compared to fiscal 2013	● Reduced CO_2 emissions per unit of sales by 37.3% compared to fiscal 2013 (22.2% reduction if calculated using the same method as until fiscal 2019)
	Design	● Secure conformance with SEQDC mandatory standards in Building Energy Efficiency Act ● Become an industry leader in reducing CO_2 emissions	● Mandatory standards in Building Energy Efficiency Act: Set and managed original issues in line with building use ● Industry-leading CO_2 emissions targets: Many projects for ZEB, BELS, and other labeling systems. The main building of the Kajima Technical Research Institute received the WELL Health-Safety Rating along with the WELL Platinum Certification. Obtained CASBEE-Smart Wellness Office Certification (S rank) for two high-rise offices, etc.
Recycle Resources	**Construction**	● Less than 3% landfill waste including sludge	● 2.5% final waste disposal including sludge
	Design	● Implement green procurement	● Implement green procurement: Average of 5.7 items proposed
Harmoniously Co-Existing with Nature		● Implement outstanding biodiversity projects	● Selected six outstanding biodiversity projects (civil engineering: 1, building construction: 5)
		● Reduce the impact of construction on the natural environment (particularly through management of hazardous materials and polluted water)	● Hazardous material problems: 1
Common Foundation Initiative Areas	**Research & Development**	● Implement research and technology development that contributes to preservation and sustainable use of the environment ● Deployment of more than six specific results of basic research and development over three years	● Environmental contribution technology development projects: 16 (designated environmental topics) ● Environmental contribution technology project deployment: 7 (deployment of results)
	Engineering	● Respond to changes in social conditions and customer requirements ● Promote the prevention of environmental accidents involving various chemical substances	● Confirmed Triple Zero support (7 cases) ● Confirmed response to chemical substances (3 cases) ● Project participation: 45 projects
	Environment Engineering	● Promote environmental management in concert with Group companies ● Make technical innovations and create projects based on Triple Zero	● Steadily promoted renewable energy projects ● Obtained orders for environmental infrastructure (disposal facilities, water supply) ● Ongoing demonstration in the Hokkaido hydrogen supply chain

Material Flow

Construction Sites

INPUT		
Energy		
Electricity	7,272 ×10⁴kWh	✓
Diesel oil	44,554 kℓ	✓
Kerosene	709 kℓ	✓
Gasoline	914 kℓ	✓
Heavy oil	868 kℓ	✓
Tap water	87 ×10⁴m³	✓
Main construction materials	1.95 ×10⁴t	

OUTPUT		
CO_2 emissions	15.7 ×10⁴t	✓
Wastewater	112 ×10⁴m³	✓
Construction surplus soi	108 ×10⁴m³	✓
Hazardous materials collected		
Materials containing asbestos	14,251 t	✓
CFCs and halon	3.9 t	✓
Fluorescent tubes	49.2 t	✓
Construction waste	159.2 ×10⁴t	✓
Final disposal volume	4.0 ×10⁴t	✓

Changes in CO_2 emissions attributable to construction		
Total emissions	15.7 ×10⁴t-CO_2	✓
Basic unit	13.8 t-CO_2/10²million	✓
Reduction rate (compared with FY2013)	37.3 %*	✓

* 22.2% reduction if calculated using the same method as until FY2019

Volume of construction waste and final disposal volume		
Volume	159.2 ×10⁴t	✓
Volume (excluding sludge)	102.1 ×10⁴t	✓
Final disposal volume	4.0 ×10⁴t	✓
Final disposal volume (excluding sludge)	3.3 ×10⁴t	✓
Final disposal rate	2.5 %	✓
Final disposal rate (excluding sludge)	3.2 %	✓

Office

INPUT		
Energy		
Electricity	2,627 ×10⁴kWh	✓
Diesel oil	8 kℓ	✓
Kerosene	10 kℓ	✓
Heavy oil	7 kℓ	✓
Gas	16.9 ×10⁴m³	✓
Heating, Steam, Cooling	14,782 GJ	✓
Tap water	15 ×10⁴m³	✓

OUTPUT		
CO_2 emissions	1.3 ×10⁴t	✓
Wastewater	15 ×10⁴m³	✓
Volume of waste	1,670 t	✓

■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 FY2020, 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 from construction sites

(FY)

		2013 (base year)	2018	2019	2020
Emissions	$\times10^4$t-CO_2	22.8	25.1	22.7	15.7 ☑
Basic unit	t-CO_2/10^2million ¥	22.0	20.0	17.6	13.8 ☑
Reduction rate	%	—	9.0	20.0	37.3* ☑

* The emissions calculation method was changed in FY2020 from making estimates based on sample data to obtaining the actual data from all construction sites.
If calculated using the FY2019 method, emissions, the basic unit and the reduction rate would be 19.5 x10^4 t-CO_2, 17.1 t-CO_2/10^2 million yen, and 22.2%, respectively.

Scope type CO_2 emissions (construction sites and offices)

(FY)

		2016	2017	2018	2019	2020
Scope-1	$\times10^4$t-CO_2	18.5	19.0	20.5	17.0	12.4 ☑
Scope-2	$\times10^4$t-CO_2	8.8	9.8	6.0	7.0	4.7 ☑

Energy Consumption

(FY)

		2016	2017	2018	2019	2020
Total amount of energy consumption*	$\times10^4$kWh	120.1	113.6	115.4	109.1	77.9 ☑
Fossil fuels consumption	$\times10^4$kWh	74	75.9	81.8	68.0	49.9 ☑
Construction sites	$\times10^4$kWh	73.7	75.6	81.6	67.8	49.7 ☑
Offices	$\times10^4$kWh	0.3	0.3	0.2	0.2	0.2 ☑
Purchased electricity	$\times10^4$kWh	16.4	13.5	11.9	14.6	9.9 ☑
Construction sites	$\times10^4$kWh	13.8	10.8	9.4	12.1	7.2 ☑
Offices	$\times10^4$kWh	2.6	2.7	2.5	2.5	2.6 ☑
Steam/Heating/Cooling consumption (only office)	$\times10^4$kWh	0.7	0.6	0.6	0.6	0.6 ☑

* 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.

Scope3 (indirect emissions excluding Scope-1,2)

(FY)

		2018	2019	2020
Scope-3	$\times10^4$t-CO_2	235.1	413.1	230.1 ☑
Category1*1 (purchased goods and services)	$\times10^4$t-CO_2	117.9	126.1	127.2 ☑
Category11*2 (use of sold products)	$\times10^4$t-CO_2	103.6	257.9	79.1 ☑

*1: The procured amount of crusher-run stone, asphalt, cement, and ready mixed concrete, which are the core materials in the construction industry, are subjected for accounting.

*2: The amount of CO_2 emissions of the buildings from the use stage to the end of lifetime (are set for 30 years) includes in the accounting in the year in which the building was designed and built.

Contribution amount of indirect CO_2 emissions reduction

(FY)

		2016	2017	2018	2019	2020
Contribution amount of CO_2 emissions reduction attributable to green procurement (blast furnace cement/concrete)	$\times10^4$t-CO_2	10.4	10.0	9.4	9.3	8.8 ☐
Contribution amount of CO_2 emissions reduction attributable to energy-saving design of buildings	$\times10^4$t-CO_2	129.3	39.0	31.3	48.8	31.7 ☐
Total	$\times10^4$t-CO_2	139.7	49.0	40.7	58.1	40.5 ☐

* 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).

Scope type CO_2 emissions (principal affiliates in Japan)

(FY)

		2018	2019	2020
Scope-1	$\times10^4$t-CO_2	5.6	5.1 ☐	4.6 ☐
Scope-2	$\times10^4$t-CO_2	1.9	1.7 ☐	1.6 ☐

* The amount of CO_2 emissions of 14 principal construction and environment affiliates exclude real estate development.
Sales of these 14 companies account for at least 70% of sales by subsidiaries and affiliates in Japan.

Zero Waste

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

Volume of construction waste and final disposal volume

(FY)

		2016	2017	2018	2019	2020
Volume	×10⁴t	230	198.8	199.4	145.5	159.2 ☑
Volume (excluding sludge)	×10⁴t	123.6	123.4	130.2	88.4	102.1 ☑
Final disposal Volume	×10⁴t	13.2	4.8	8.5	5.7※	4.0 ☑
Final disposal Volume (excluding sludge)	×10⁴t	3.3	2.6	5.8	2.9	3.3 ☑
Final disposal rate	%	5.8	2.4	4.3	3.9	2.5 ☑
Final disposal rate (excluding sludge)	%	2.7	2.1	4.5	3.3	3.2 ☑

*Total waste disposal volume: total volume from construction sites (the table above) and offices (the table: volume of offices waste) is 41,289t

Waste treatment by category

(FY)

Construction waste			Concrete remnants			Asphalt Concrete remnants			Wood scrap		
			2018	2019	2020	2018	2019	2020	2018	2019	2020
Processing Category	Recycled volume	t	797,971	559,495	541,836 ☑	139,679	117,001	108,294 ☑	42,700	25,178	43,887 ☑
	Reduction volume	t	28	49	93 ☑	26	35	13 ☑	673	412	401 ☑
	Final disposal volume	t	1,994	1,069	1,075 ☑	439	9	168 ☑	421	506	249 ☑
	Total volume	t	799,992	560,612	543,004 ☑	140,144	117,044	108,476 ☑	43,794	26,096	44,537 ☑

Construction waste			Construction sludge			Mixed waste		
			2018	2019	2020	2018	2019	2020
Processing Category	Recycled volume	t	601,964	435,015	496,016 ☑	35,982	25,374	20,914 ☑
	Reduction volume	t	62,959	50,535	46,915 ☑	2,177	2,716	1,986 ☑
	Final disposal volume	t	26,601	27,127	6,708 ☑	13,415	9,372	11,397 ☑
	Total volume	t	691,524	512,676	549,638 ☑	51,574	37,462	34,297 ☑

Recycle rate by waste category

(FY)

Construction waste			Concrete remnants			Asphalt Concrete remnants			Wood scrap		
			2018	2019	2020	2018	2019	2020	2018	2019	2020
Processing Category	Recycled rate	%	99.7	99.8	99.8 ☑	99.7	99.8	99.8 ☑	97.5	94.1	98.5 ☑
	Reduction rate	%	0.0	0.0	0.0 ☑	0.0	0.0	0.0 ☑	1.5	4.0	0.9 ☑
	Final disposal rate	%	0.2	0.2	0.2 ☑	0.3	0.0	0.2 ☑	1.0	1.9	0.6 ☑
	Total	%	100	100	100 ☑	100	100	100 ☑	100	100	100 ☑

Construction waste			Construction sludge			Mixed waste		
			2018	2019	2020	2018	2019	2020
Processing Category	Recycled rate	%	87.0	86.2	90.4 ☑	69.8	67.7	61.0 ☑
	Reduction rate	%	9.1	9.0	8.5 ☑	4.2	7.2	5.8 ☑
	Final disposal rate	%	3.8	4.7	1.2 ☑	26.0	25.0	33.2 ☑
	Total	%	100	100	100 ☑	100	100	100 ☑

Zero Waste

Emissions by waste category (FY2020)

Construction waste	Volume (t)	Percentage of waste volume
Concrete remnants	543,003 ☑	34% ☑
Asphalt Concrete remnants	108,476 ☑	7% ☑
Wood scrap	44,537 ☑	3% ☑
Construction sludge	571,195 ☑	36% ☑
Mixed waste	34,297 ☑	2% ☑
Others	290,377 ☑	18% ☑
Total volume	1,591,885 ☑	100% ☑

Volume of offices waste

(FY)

		2016	2017	2018	2019	2020
Offices	t	1,414.8	1,942.4	2,036.4	2,096.5	1,670.0 ☑

Amount of tap water consumption

(FY)

		2016	2017	2018	2019	2020
Construction sites	$\times 10^4 m^3$	159.7	86.5	71.3	60.9	87 ☑
Offices	$\times 10^4 m^3$	12.7	14.8	15.6	15.0	15 ☑
Total	$\times 10^4 m^3$	172.4	101.3	86.9	75.9	102 ☑

Amount of wastewater discharge

(FY)

		2020
Construction sites	$\times 10^4 m^3$	112 ☑
Offices	$\times 10^4 m^3$	15 ☑
Total	$\times 10^4 m^3$	127 ☑

Usage rate of recycled materials

(FY)

Material			2018	2019	2020
Cement	Total usage	t	1,460,063	1,558,339	1,569,311 ☐
	Recycled material usage	t	368,654	365,654	344,785 ☐
	Usage rate of recycled materials	%	25	23	22 ☐
Aggregate	Total usage	t	674,733	691,046	361,439 ☐
	Recycled material usage	t	445,273	441,925	117,452 ☐
	Usage rate of recycled materials	%	66	64	32 ☐
Asphalt	Total usage	t	53,947	26,378	20,039 ☐
	Recycled material usage	t	44,656	25,036	19,664 ☐
	Usage rate of recycled materials	%	83	95	98 ☐
Total	Total usage	t	2,188,743	2,275,763	1,950,789 ☐
	Recycled material usage	t	858,583	832,615	481,901 ☐
	Usage rate of recycled materials	%	39	37	25 ☐

Zero Impact

Recover amount of CFCs & halons

(FY)

		2016	2017	2018	2019	2020
Recover amount	t	0.1	5.3	1.5	0.2	3.9 ☑

Recover amount of used florescent lamp

(FY)

		2016	2017	2018	2019	2020
Recover amount	t	34.9	42.2	77.9	43.3	49.2 ☑

Disposal volume of PCB include equipment

(FY)

	2016	2017	2018	2019	2020
Number of items	24	8	22	105	0 ☑

Disposal volume of hazardous materials (disclosed from FY2017)

(FY)

			2020
Number of items	t	CFCs/ halon, fluorescent lamps (mercury), asbestos and other hazardous materials	104,127 ☑

Recover amount of materials containing asbestos

(FY)

		2016	2017	2018	2019	2020
Recover amount	t	13,250.5	17,490.1	56,926	6,197	14,251 ☑

Number of soil contamination surveys

(FY)

	2016	2017	2018	2019	2020
Number of surveys as a designated institution	17	17	14	9	9 ☐
Number of law investigation included in above number	5	5	7	4	4 ☐

Air pollutant emissions

(FY)

		2016	2017	2018	2019	2020
NOX	t	1,220	1,250	1,346	1,120	821 ☑
SOX	t	180	185	200	167	122 ☑

2020 Environmental accounting report

1. Overview

Kajima has shifted to the segment accounting, which was limited to the construction waste the subject of environmental accounting in the FY 2010.

- 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 (127.3×10^4t)	Processing cost (134×10^2million ¥)	CO_2 emissions (0.8×10^4t)
Construction sludge	548,477t	7,350 x million ¥	2,977t
Concrete remnants	542,158t	2,023 x million ¥	2,712t
Asphalt concrete remnants	108,334t	434 x million ¥	597t
Mixed waste (organic)	26,925t	1,116 x million ¥	1,055t
Mixed waste (inorganic)	2,908t	96 x million ¥	242t
Wood scrap	44,505t	2,386 x million ¥	607t
Total	1,273,307t	13,405 x million ¥	8,190t
reference: All construction waste	1,591,885t	-	9,043t
Percentages of major wastes	80%		91%

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 $0.8\text{x}10^4$t caused by waste disposal in general is equivalent to over 5% of $15.7\text{x}10^4$ tons, the CO_2 emissions from the construction work. (FY2019: 4%)
- Waste disposal cost accounts for 1.1% of value of construction work. (FY2019: 1.2%)

4. R&D investment on addressing environmental issues

- R&D investment for addressing environmental issues in fiscal 2020 amounted to 8,100 million yen.

Calculation method

【Quantity】

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

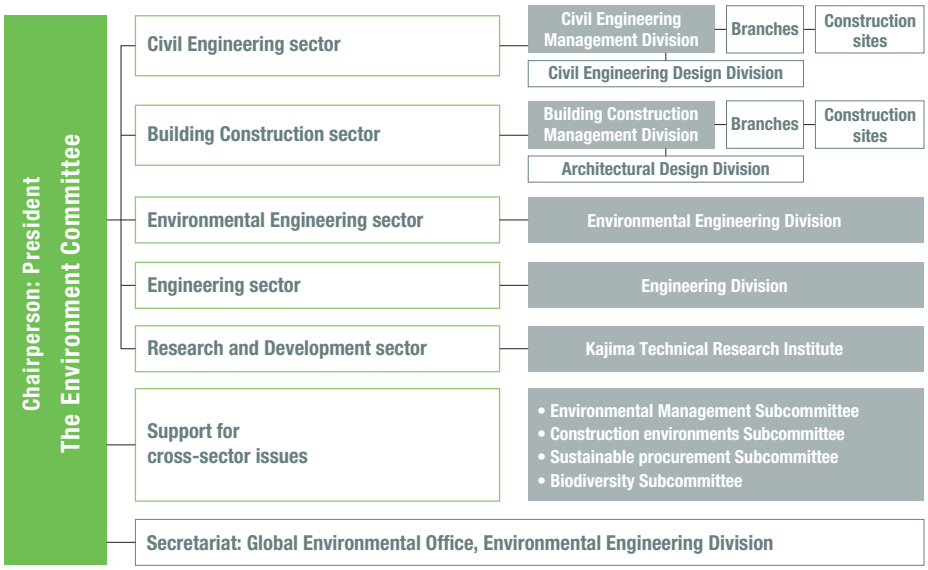
【Cost】

- 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



Kajima operates environmental management systems (EMS) that are compliant with ISO 14001. The Environment Committee is headed by the President and implements initiatives in each of five sectors: civil engineering, building construction, environmental engineering, engineering, and research and development.

Four subcommittees address environmental management, construction environments, sustainable procurement, and biodiversity as cross-sector issues.

Environmental initiatives for domestic Group companies are primarily focused on construction-related companies, due to their high environmental impact.

Environmental Management System Certification

MSA
MSA-ES-24

Accredited by a Member of the International Accreditation Forum Multilateral Recognition Arrangement for Environmental Management System

JAB
MS CM024

Certificate

KAJIMA CORPORATION

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

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.

Related organization(s) included in the certification:

As per Appendix of the following number:

JIS Q 14001:2015 (ISO 14001:2015)

Certification No.: MSA-ES-24

Date of issue: **17 Dec 1999** *Date of recertification:* **22 Dec 2020** *Date of expiration:* **16 Dec 2023**

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

S. Fujii
Shinji Fujii, President & Chief Executive

複製

MSA
MSA-ES-24

Accredited by a Member of the International Accreditation Forum Multilateral Recognition Arrangement for Environmental Management System

JAB
MS CM024

Appendix to Certificate

KAJIMA CORPORATION

Related organization(s) included in the certification:
(More detailed information is set out in the Certification Content on the MSA homepage)

HEAD OFFICE ADMINISTRATION DIVISION GENERAL ADMINISTRATION DEPARTMENT,
PUBLIC RELATIONS OFFICE: Same as certified address.
HEAD OFFICE CIVIL ENGINEERING DESIGN DIVISION, ARCHITECTURAL DESIGN DIVISION: 6-5-30 Akasaka, Minato-ku, Tokyo, Japan
HEAD OFFICE SAFETY AND ENVIRONMENTAL AFFAIRS DEPARTMENT, CIVIL ENGINEERING MANAGEMENT DIVISION, BUILDING CONSTRUCTION MANAGEMENT DIVISION, NUCLEAR POWER DEPARTMENT NUCLEAR STRUCTURES DESIGN SECTION, ENGINEERING DIVISION, ENVIRONMENTAL ENGINEERING DIVISION, MACHINERY AND ELECTRICAL ENGINEERING DEPARTMENT, INTERNATIONAL DIVISION: 6-5-11 Akasaka, 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
KANTO BRANCH: 2-1-1 Shimocho, Omiya-ku, Saitama-shi, Saitama-ken, Japan
TOKYO CIVIL ENGINEERING BRANCH, TOKYO ARCHITECTURAL CONSTRUCTION BRANCH: 1-3-8 Motoakasaka, Minato-ku, Tokyo, Japan
YOKOHAMA BRANCH: 4-51 Otamachi, Naka-ku, Yokohama-shi, Kanagawa-ken, Japan
HOKURIKU BRANCH: 1-3-4 Bandai, Chuo-ku, Niigata-shi, Niigata-ken, Japan
CHUBU BRANCH: 2-14 Shinsakaemachi, Naka-ku, Nagoya-shi, Aichi-ken, Japan
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S. Fujii
Shinji Fujii, President & Chief Executive

複製

Independent Verification Report

JQA

No.1811004234

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 FY2020* environmental performance data, revised July 7, 2021" (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 use (incl. data converted into energy equivalents) (hereafter "energy use"); clean water use; wastewater discharge; waste emissions; emissions, transfer and disposal amount of the 18 hazardous substances associated with construction work (hereafter "hazardous substances emissions"); 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 (July 2021)" (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 2020 of the Company ended on March 31, 2021.

2. Procedures Performed

JQA conducted verification in accordance with "ISO 14064-3" for GHG emissions for Scope 1, 2 and 3 and energy use, and with "ISAE3000" for clean water use; wastewater discharge; waste emissions; hazardous substances emissions; and NOx and SOx emissions, respectively. The scope of this verification assignment covers Scope 1, 2 and 3 (15 categories) as GHG emissions; energy use; clean water use; wastewater discharge; waste emissions; hazardous substances emissions; 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 and total amount of energy use, clean water use and wastewater discharge in the Report. The organizational boundaries of this verification covers domestic construction sites and civil engineering sites, overseas civil engineering sites, 71 domestic offices and 6 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 3 offices on the basis of sampling, to evaluate accuracy of calculated results for GHG emissions (Scope 1 and 2), energy use; clean water use; wastewater discharge; waste emissions
- On-site assessment to check the report scope and boundaries, calculation scenario and allocation method for CO2 emissions of Scope 3; emissions, hazardous substances emissions; 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 FY2020 GHG emissions (Scope 1, 2 and 3); energy use; clean water use; wastewater discharge; waste emissions; hazardous substances emissions; and NOx and SOx emissions in the Report is not materially correct, or has not been prepared in accordance with the Rule.

*Please refer to the next page.

JQA

No.1811004234

Table: Environmental data reported by Kajima Corporation for the FY2020

GHG emissions(t-CO2)	
Scope1	123,759
Scope2	46,568
Scope3	2,300,701
Water consumption(m^3)	1,020,240
Wastewater discharge(m^3)	1,272,759
Waste emissions(t)	41,289
Hazardous substances emissions(t)	104,127
NOx emissions(t)	821
SOx emissions(t)	122

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 use; clean water use; wastewater discharge; waste emissions; emissions, hazardous substances associated with construction work; 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 26, 2021