

Environmental Targets and Results

Kajima made good progress toward achieving its environmental targets during financial year 2006, though waste reduction and recycling rate improvements remain issues. Financial year 2007 is the intermediate year for meeting the medium-term targets. We will enhance our support for zero-emissions activities at project sites, and make other efforts to steadily improve our performance and achieve our objectives by the final year of the plan.

Activities	Medium-Term Environmental Objectives (FY06 - FY08)	FY06 Targets	FY06 Results	Evaluation	FY07 Targets
Initiatives related to the four priority issues					
Resource recycling and effective use <i>"Conserving finite resources"</i>	Suppression of waste generation Civil engineering: Output volume ^(Note 1) 18.0 t/FY100 million Mixed waste 2.4 t/FY100 million Building construction: Output volume ^(Note 1) 5% reduction compared with FY05 level Mixed waste 5% reduction compared with FY05 level Recycling rate Overall 95% (Excluding sludge and slag) Green procurement rate for five major items ^(Note 2) 40%	Under 23.0 t/FY100 million Under 2.9 t/FY100 million 2% reduction compared with FY05 level (28.4 kg/m ²) 2% reduction compared with FY05 level (11.0 kg/m ²) 94% 40%	24.3 t/FY100 million 3.1 t/FY100 million 12.1% reduction (25.5 kg/m ²) 22.3% reduction (8.7 kg/m ²) 93.7% 35%	× × ×	20 t/FY100 million 2.7 t/FY100 million — 10 kg/m ² Final disposal rate down 10% from FY06 Over 94.5% (Final disposal rate: Less than 5.5%) 40%
Global warming prevention <i>"Meeting our responsibility to future generations of CO2 reduction"</i>	Building construction design: Success rate in achieving Kajima's internal energy-saving standard ^(Note 3) Over 80%	Over 73%	80%		Over 77%
	Construction: Unit of CO ² output volume 12% reduction compared with the financial year 1990 level	10% reduction	10.2% reduction		11% reduction
Hazardous substances control <i>"Reducing the environmental burden on future generations"</i>	· Proper management · Publication of results	· Proper management · Publication of results (asbestos/CFCs/devices containing PCB)	· No major accidents · Recovered and processed values (asbestos 9.625 t/CFCs 1.4 t/devices containing PCB: 0)		· Proper management · Publication of results
Ecosystem conservation <i>"Maintaining biological diversity"</i>	· Develop action guidelines	· Development and operation of ecosystem information management system · Inclusion in construction EMS	· Began in-house utilization · Made available construction planning materials		· Prepare educational materials · Conduct social contribution activities
Common initiatives concerning the four top-priority environmental tasks					
Sustainable design	Building construction design: · Improve environmental aspect utilizing CASBEE ^(Note 4) · Select high profile jobs	· Set targets for each building-usage type and evaluate the results · Select high profile jobs	· Conducted at A/E Division and nine branch offices		· A/E: Comprehensive evaluation of "A" or higher (A/E: Architectural Design Division)
	Civil engineering design: · Promote sustainable proposals	Average number of project proposals 2.5/job received	2.8/job received		Maintain
	Engineering · Promote sustainable design and construction	· Utilize checklists (design and construction) · Develop strategies for qualitative improvement in environmental aspects	· Applied to all projects · Achieved goal		Maintain Maintain
Technological development and businesses that contribute to environmental sustainability	Environmental engineering: · Expand the volume of environmental-improvement business	· ¥45 billion	· ¥23 billion	×	· ¥35 billion
	R&D: · Number of environment-designated R&D projects 6/year · Number successfully completed 2/year	· 6/year · 2/year	· 7 · 6		· 6/year · 2/year
Environmental sustainability at overseas operations	· Reduce concrete loss rate	Compile data on concrete loss rates	· Collected data from all project sites		· Set numerical targets · Achieve reduced activity
Initiatives concerning infrastructure for environmental management					
Environmental education	Office activities: Comparison with the financial year 2003-financial year 2005 average for each item · Minimum target: 3% improvement · Challenge target: 5% improvement	[Overall: Improvement of 1% annually] · Power use: 4,881 kWh/m ² · Copy paper use per person: 53.9 kg · Waste volume: 193.6 kg · Waste recycling rate: 70% · Green procurement rate for stationery: 90%	· 4,695 kWh/m ² (3.8% reduction) · 52.8 kg (2.0% reduction) · 170.1 kg (13% reduction) · 68.1% · 86.8%	× ×	2% improvement compare with the financial year 2003-financial year 2005 average for each item
Promotion of Group environmental management	Group affiliates: · Set environmental objectives · Introduce EMS	· Percentage of companies that had set environmental objectives: 90% · Increase the number of companies with environmental certification	· Percentage of companies that had set environmental objectives: 95% · The number of companies with environmental certification: 1 (Environment Management Corporation (EMCO))		· 100% · Increase the number of companies with environmental certification
	Subcontractors: · Select and utilize high-quality waste processing contractors	· Specify reliable waste processing contractors · Improve the utilization rate	· Specified at all branch offices · Utilization rate: 94% (Amount of sludge removed under contract)		· Maintain and update specified vendor list · Improve the utilization rate

Note 1: Output volume excludes sludge, concrete debris and demolition work.

Note 2: Five major items: Steel, ready-mixed concrete, cement, aggregate and asphalt.

Note 3: Voluntary standard: 5% or more above Japan's energy efficiency standards in all categories.

Note 4: CASBEE: Comprehensive Assessment System for Building Environmental Efficiency.

Evaluation: = Achieved; = Nearly achieved; × = Not achieved

Material Flow

This chart shows the amount of principal construction materials used during financial year 2006, along with output volumes of waste, hazardous materials, and CO₂ emissions.

The construction industry consumes a large amount of resources, but Kajima takes a proactive stance toward resource recycling, and has achieved a recycled-materials usage rate of 35%*.

* For ready-mixed concrete, only the cement portion is included in the calculation.

	Input		
	Construction	Offices	Total
Fossil fuel			
Diesel oil	89,769		89,769 kl
Kerosene	4,728		4,728 kl
Heavy oil		59	59 kl
Electricity	194,890	25,280	220,170 thousand kWh
Natural gas		242,000	242,000 Nm ³ / year
Principal materials	Total quantity used		Green procurement volume
Steel products	637,000		462,000 t
Cement	133,000		31,000 t
Ready-mixed concrete	8,356,000 (1,272,000)		752,000 t (118,000 t*)
Aggregate	509,000		259,000 t
Asphalt	31,000		25,000 t
Total	9,666,000 (2,582,000)		1,529,000 t (895,000 t)

Note: Figures in parentheses are the cement portion of ready-mixed concrete.



	Output		
	Construction	Offices	Total
CO2	313,616	9,258	322,874 t
Construction surplus soil (transported off-site)			1.06 million m ³
Construction waste			
Generated amount		2,543,422 t	
Reduced amount		168,167 t	
Recycled amount		2,058,925 t	
Final disposal amount		316,329 t	
Harmful substances processed			
Materials containing asbestos		9,625 t	
CFCs and halon recovered		1,428 kg	
Devices containing PCB		None	
Fluorescent tubes		21,130 kg	

Environment-Related Litigation and Fines

Three lawsuits claiming compensation due to an environmental impact related to construction work (for vibration, blockage of sunlight, and a shift in underground water level along with change in flow direction) were filed against Kajima during financial year 2006, all of which are still ongoing. Two cases filed during financial year 2005 (for subsidence and blockage of sunlight) were resolved during financial year 2006. There were no cases that resulted in official reprimands or fines.

Cleanup of Contaminated Soil on Company-Owned Land

Kajima conducts historical surveys of all the sites it owns, as well as on-site surveys of all land subject to sale or a construction project. Land found to be contaminated is cleansed, and information on the cleanup made available.

Environmental Accounting

Environmental conservation costs amounted to ¥27.6 billion in financial year 2006, accounting for 2.1% of annual domestic construction sales (compared to ¥28.22 billion, and 2.3% in the previous financial year). Recycling costs totaled ¥14.82 billion, 53.7% of total preservation expenses. The volume of CO₂ reduction realized from sustainable design of buildings is estimated to be 1,132 thousand tons over the entire operating period, approximately 3.5 times the 320 thousand tons of CO₂ emitted by Kajima in the course of its business activities during financial year 2006.

Summary of Environmental Accounting	(¥100 million)	Major Benefits (quantified items only)
Prevention costs at project sites ^(Note 1)	215.2	
Breakdown:		
Global warming prevention-related costs	0.8	Reduction in construction-related CO ₂ emissions ^(Note 3) 36,000 tons-CO ₂
Resource recycling and effective use-related costs	148.2	Recycling rate 93.7% (excluding sludge)
Hazardous substances control-related costs	3.6	
Ecosystem conservation-related costs	1.5	
Pollution prevention activity-related costs	61.1	
Sustainable design costs	7.6	Reduction in building operation-related CO ₂ emissions ^(Note 4) 1,132,000 tons-CO ₂
R&D, environmental engineering operations ^(Note 2)	33.9	Orders from environmental engineering operations ¥23,000 million
Environmental damage response costs	2.0	
Environmental management, environmental education	7.6	
Social contribution, communications	9.7	
Breakdown:		
Beautification and clean-up of area around project sites	8.4	
Public relations, donations, etc.	1.3	
Total	276.0	Note: Total cost in financial year 2005 was ¥28,220 million

Note 1: On-site costs were determined through sampling. The sample consisted of 70 project sites, representing 23.3% of construction revenue.

Note 2: R&D costs amounted to ¥2,000 million.

Note 3: Calculate using the following formula: (Financial year 1990 CO₂ emissions per unit-sales - Financial year 2006 CO₂ emissions per unit-sales) × Financial year 2006 construction unit-sales.

Note 4: Calculated on the basis of an average building life of 35 years.

Key Indicators

Indicator	Formula	FY 2005	FY 2006
Environmental cost ratio	Environmental cost / Construction sales	2.3%	2.1%
Construction waste disposal cost ratio	Construction waste disposal cost / Construction sales	1.1%	1.1%
Environmental R&D cost ratio	Environmental R&D cost / Total R&D cost	24.7%	22.3%