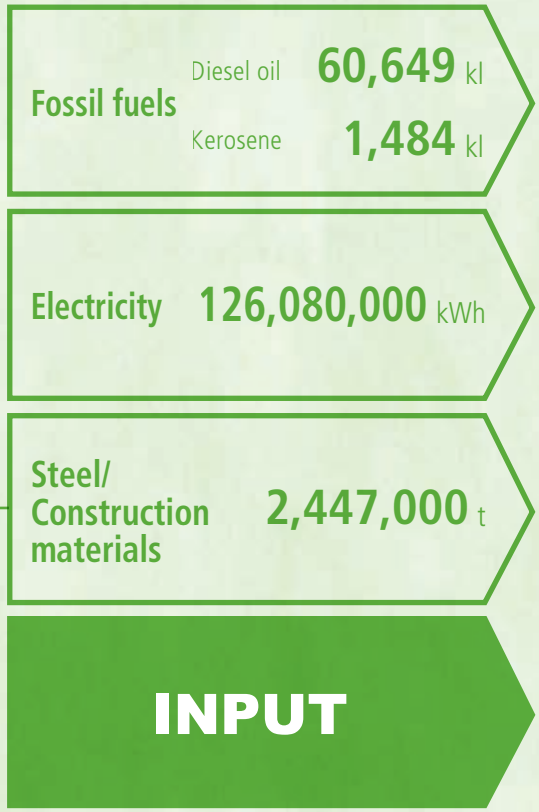
Material Flow

Material flow in Kajima's construction projects is shown below. Since it consumes enormous amounts of resources such as steel, cement, and aggregate, the construction industry has proactively addressed zero emission activities. In addition to CO_2 emissions in the construction stage, emissions in the occupancy and usage stage are calculated in terms of their long-term social impact. The results of Kajima's energy-saving designs are announced to the public.



Progressing with green procurement at construction sites

We aimed to improve the usage rate of green procurement concerning construction materials through proposals from worksites. In fiscal 2011, the rate of usage through proposals was 13%, leveling off from fiscal 2009. This is mainly because eco-friendly materials with adequately superior quality and prices are already in use, and there are not so many opportunities to make proposals in the construction stage. In relation to the primary five targeted materials (asphalt, aggregate, cement, concrete, and steel), the usage rate of recycled materials by weight was 51%. We will promote activities, setting targets concerning proposals made in the design stage. With the aim of achieving the targets set in the first half of fiscal 2012, we plan to start activities from the second half.

Green procurement rate

Principal materials	Total usage	Green procurement volume	Green procurement rate
Steel products	466,000 t	348,000 t	75%
Cement	187,000 t	84,000 t	45%
Ready-mixed concrete*	839,000 t (5,513,000 t)	120,000 t (790,000 t)	14%
Aggregate	907,000 t	654,000 t	72%
Asphalt	48,000 t	42,000 t	88%
Total	**2,447,000 t** (7,121,000 t)	**1,248,000 t** (1,918,000 t)	**51%**

*The figures for ready-mixed concrete only include the cement portion. Figures in parentheses represent the total amount of concrete.

Green procurement, results/actions

Targeted materials	Usage rate in fiscal 2011	Actions for the future
Earth from other sites Recycled aggregate Recycled ascon	83–88%	Kajima will continue these activities.
Blast furnace cement Blast furnace concrete Recycled materials for framework assembly OA floors made from recycled materials Carpets made from recycled materials	Average of 31% of sites used the 5 targeted materials (contributing factors: specifications directions, 18%; construction site proposals, 13%)	The usage rate via proposals did not reach the target, leveling off from a year earlier. Reviewing targeted materials, we will look at usage at worksites in and after the next fiscal year.
Recycled concrete	3%	As only a few construction sites can consider use of these materials, these will be excluded from items subject to management.
Organic fertilizer made from sludge	14%	

OUTPUT

CO_2 emissions 208,000 t

Construction surplus soil 1,262,000 m^3

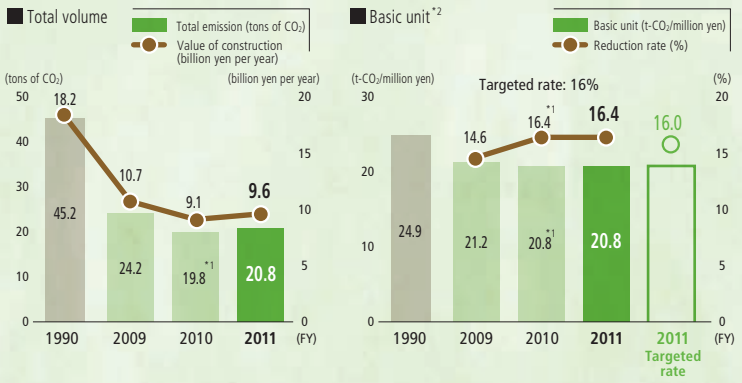
Hazardous materials

Materials containing asbestos	10,836.8 t
CFCs and halon received	7.1 t
Fluorescent tubes	61.2 t

Construction waste 2,794,000 t

Final disposal volume 262,000 t

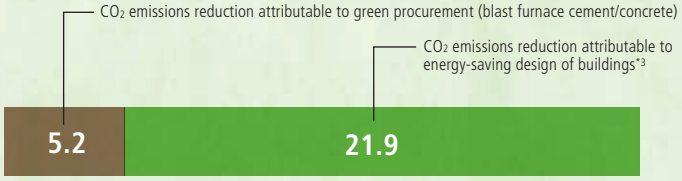
Changes in CO_2 emissions attributable to construction



*1 The value has changed from the Kajima CSR Report 2011, reflecting an amendment of the construction value, mainly in restoration works after the Great East Japan Earthquake.

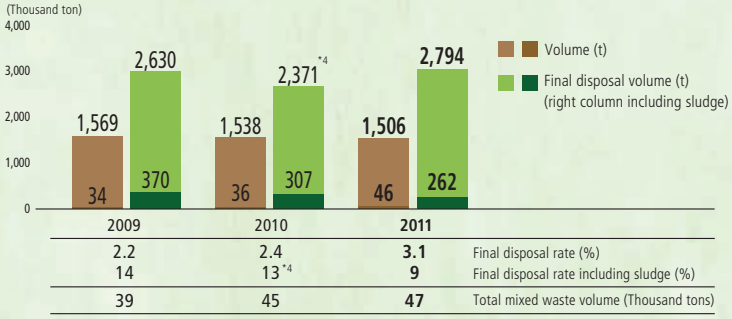
*2 Basic unit is a weighted average of basic units of civil engineering and building construction and a rate of construction value (a moving average for three years).

Indirect reduction (tons of CO_2)



*3 It is a cumulative value since fiscal 2003, when Kajima started publicizing this value, as CO_2 emissions attributable to the use of buildings continue to fall every year.

Volume of construction waste and final disposal volume



2009	2010	2011	
2.2	2.4	**3.1**	Final disposal rate (%)
14	13*4	**9**	Final disposal rate including sludge (%)
39	45	**47**	Total mixed waste volume (Thousand tons)

*4 Amended from the 2011 CSR Report due to an error made at one site in 2010.