

Efforts Towards an Environmentally Balanced Factory

At Calsonic Kansei, we quantitatively evaluate the amount of environmental burden output by our industrial operations, and strive to reduce this burden by sufficiently understanding the impact of our operations. From the point of view of global warming, the amount of carbon emissions, reduce the emission per unit, and effective use the Earth's resources to promoting 100% reuse of those resources creating zero waste to become factories environmentally balance with the world.

1 Preventing Global Warming

So far we reached our goal to reduce factory CO₂ emissions to average of 7% during the span of 5 years (FY 2008 to FY 2012) compare to the level in 1990.

Starting in 2007, the entire Calsonic Kansei group set a new goal to reduce the amount of emissions per unit by 7% by 2010 in comparison to 2005, conserve fuel, implement energy saving technologies and equipment, and aggressively move toward introducing natural energy for all domestic production plants and affiliated production companies.

For our overseas production plants, we aim to reduce the amount of emission per unit by 1% compare to previous year by 2010 with 2005 as a base year.

Calsonic Kansei Domestic Production Plants + Affiliated Domestic Production Companies

(1) Overview of FY 2008 Activities

1) Plan to reduce CO₂

Reduction Target for CO₂ Emissions

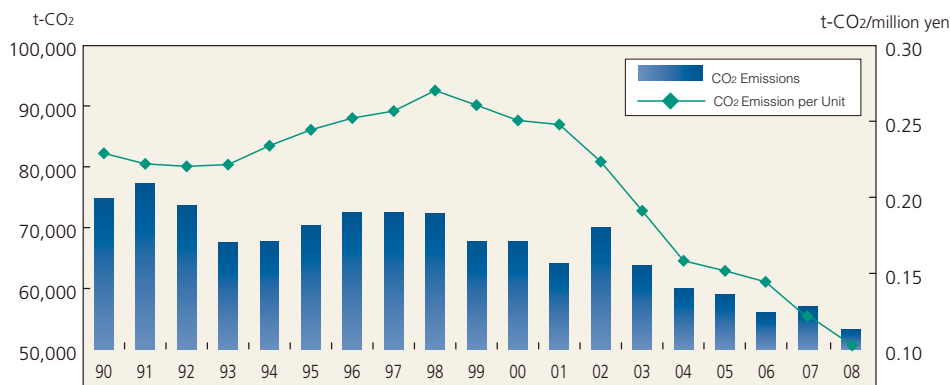
- From the level in 1990, average of 7% reduction of emission per unit from 2008 to 2012 (CK+CKK+CKF)

Reduction Target for the CO₂ Emission per Unit

- Compared to 2005, 7% reduction of total amount of emission units by 2010 (CK and all affiliated companies)

2) CO₂ Reduction Achievements

Transition of CO₂ emissions and CO₂ emission per unit since 1990



8 Plants	Management Item	FY 1990 Results	FY 2008 Results	Achievement Status
	CO ₂ Emissions (t-CO ₂)	74,391	53,178	29% reduction
	CO ₂ Emission per Unit (t-CO ₂ /million yen)	0.229	0.168	27% reduction

(CO₂ conversion factor of electricity used was 0.33 due to comparison with 1990)
 (8 Plants Total: 5 CK Plants + CKK Usa & Nakatsu Plant + CKF Nihonmatsu)

Efforts Towards an Environmentally Balanced Factory

Accomplishments to 2008

- Achievements reducing the amount of emission per unit by 7% compared to 2005 by 2010.

Emissions decreased, but emissions per unit worsened due to decreased sales.

In FY 2009, promoting new plans for “Company wide energy management activities”, we are intensifying activities aimed at achieving goals.

All Domestic Plants (includes affiliated companies)	Management Item	FY 2005 Results	FY 2007 results	FY 2008 Results	Achievement Status	
					Compared to FY 2005	Compared to Previous Year
	CO ₂ emissions (t-CO ₂)	100,525	98,679	81,849	18.5% reduction	17.1% reduction
	Emission per Unit (t-CO ₂ /million yen)	0.2125	0.1913	0.2194	3.2% increase	14.7% increase

(Due to comparison with FY 2005, 0.38 was used as conversion factor for CO₂ electrical power.)
(Subject: 5 CK Domestic Plants and all affiliated production companies)

Calsonic Kasei Affiliated Foreign Production Companies

(1) Overview of FY 2008 Activities

1) Plan to reduce CO₂

Reduction Target for the CO₂ Emission per Unit

- “Reduce amount of emission per unit by 1% compared to previous year by 2010 with 2005 as a base year”

2) CO₂ Reduction Results

- Achievements reducing the emission per unit by 1% compared to 2005 by 2010.

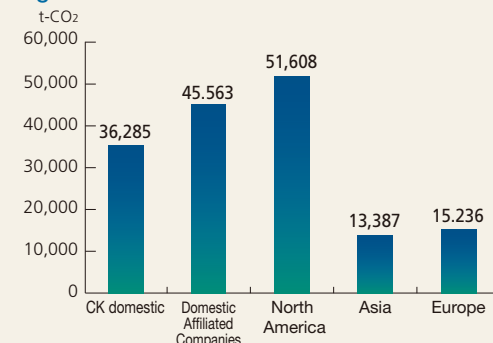
Emission per unit increased compared with the previous year, but was achieved on the base point FY 2005.

Overseas Factories	Management Item	FY 2005 Results	FY 2007 Results	FY 2008 Results	Achievement Status	
					Compared to FY 2005	Compared to Previous Year
	CO ₂ emissions (t-CO ₂)	79,507	92,317	80,282	1.0% increase	13.0% reduction
	Emission per Unit (t-CO ₂ /million yen)	0.2919	0.2212	0.2468	15.5% reduction	11.5% increase

Domestic and Overseas Affiliated Companies Achievements

The graph below indicates CO₂ emissions for our domestic and overseas affiliated companies.

Regional CO₂ Emissions in 2008



Examples of major CO₂ emissions reduction activities

- Improvements due to energy saving diagnostic activities (CK Group all companies) 665t - CO₂
- Renewed to Hf-type lighting (Kodama Plant, Yoshimi Plant) 57t - CO₂
- Energy saving due to introduction of inverter systems (Kodama Plant) 26t - CO₂
- Energy saving of the electrical transformer (Kodama Plant, Yoshimi Plant, CKK Corporation) 20t - CO₂

Development of energy-saving furnace brazing

In constructing automotive aluminum heat exchangers, the heating process is close to the melting point of aluminum using “furnace brazing”, which is the greatest energy consuming process. Because of the great energy loss in the mesh belt product delivery system, a roller delivery system was developed as an innovative idea.

Thus, achieving improved heat efficiency, it received the (Finance) Energy Saving Center Chairman’s award for 2008 National Energy-Saving example of excellence at the National Convention.



Furnace brazing



(Finance) Energy-saving Center Chairman’s award

Achievements of ton-kilometer in logistics steps

• FY 2007 Results... 22.72 million tkm • 2008 Results... 26.69 million tkm (increase of 17% over previous year)
 Less than 30 million tkm but this is not a subject of the notification. We created a reduction plan for logistics and reduction efforts are being made.

2 Natural Resource Conservation Activities

To conserve the limited resources the Earth provides, we are working to accomplish zero emissions as a core to the group globally, promote preservation activities while also working to limit the amount of materials used and the amount of waste produced.

The Flow of Reuse Operations for Waste Discharged from Plants

Categories/Types	Method for handling/disposal	Disposal Location	Method of Recycling	Recycled Product
Oil waste (including benzine and waste LLC) Other oily water	Oil water separation	Cement Manufacturers Calsonic Kansei (Fuel)	Sale as resources (Recycled heavy oil)	Fuel, cement, roadbed
High quality paper, newspaper, magazines	Sort/dissolve	Paper manufacturers	Sale as resources	Toilet paper etc.
Cardboard	Sort/dissolve	Paper manufacturers	Sale as resources	Recycled Paper
Confidential documents (diagrams etc)	Sort/dissolve	Paper manufacturers	Sale as resources	Cardboard medium etc.
Paper core	Sort/dissolve	Paper manufacturers	Sale as resources	steel, nonferrous metal (bronze, aluminum, stainless steel) materials
Steel scrap	Sort/dissolve	Metal refinement manufacturers	Steel making raw material	Bio diesel fuel, assorted feed
Empty cans				
Oil waste (cooking oil waste)	Separate/recycle	Oleochemical manufacturer	Fuel for deochemical manufacturer company cars , feed	Recycled materials (mercury, glass, metal)
Fluorescent waste	Crush/separate	Material manufacturers	Recycled materials of each element	Glass bottles
Glass bottles	Sort/crush	Glass manufacturers	Glass materials	Solid fuel
Waste plastic (light)	Crush, volume reduction and solidification	Resin recycling manufacturer	Boiler fuel	Boiler fuel
Oil waste (oil bearing waste cloth)	Incineration	Waste heat boiler installed manufacturer	Utilization of heat (collecting steam)	Metal, glass, resin etc.
Waste plastic (computers)	Crush/separate	Office equipment recycling manufacturers	Reproduce materials of each element	Ferrous materials, solid fuel, fuel
Waste plastic (with metal)	Crush/separate	General recycling manufacturers	Sort, steel making raw materials, fuel	
Waste plastic (hard)				
Waste plastic (plastic materials)				
Waste plastic (PET)				
Metal scraps (contains aluminum chips)	Incineration fusion	Integrated steel manufacturer	Shaft furnace reducing agent	Steel, roadbed (incineration residue)
Florescent waste (crushed pieces)				
Contaminated waste				
Glass ceramic scraps				
Contaminants (flux)				
Contaminants (active aluminum)				
Oil waste (filter)				
Contaminants (dry battery waste)	Incineration	Integrated steel manufacturer	Utilization of heat (furnace heat reserves) Shaft furnace reducing agent	Roadbed (incineration residue)
Plastic type waste (from kitchen)				
Contaminants (Grinding residue)				
Contaminants (liquid N-F)				
Liquid contaminants (flux)	Sorting	Waste heat recycling manufacturers	Processed granular materials	Raw cement materials
Water contaminant (filter press)	Crush	Waste wood recycling manufacturer	Compressed graft cutting	Particle board
Wood scrap	Crush	Compost manufacturer	Compost materials	Compost
Wood clippings	Ferment	Compost manufacturer	Compost materials	Compost
Grass				

(1) Waste Reduction and Achievements in FY 2008

The 5 Calsonic Kansei Plants, CKK Corporation (Usa and Nakatsu Plants), and CKF Corporation (Nihonmatsu Plant)

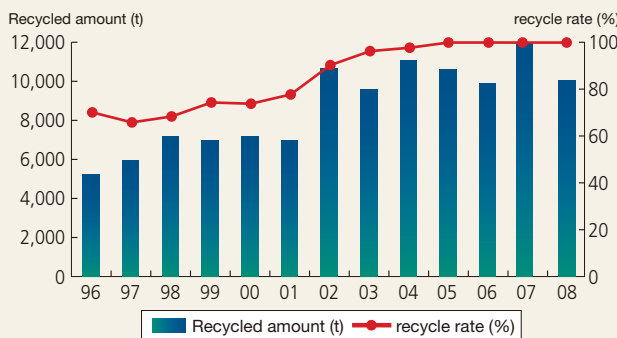
Item	FY 2005 results	FY 2006 results	FY 2007 results	FY 2008 results
Amount of waste produced *(t)	10,527	9,891	11,987	10,195
Amount disposed (residual amount buried) (t)	23	3	0	0
Recycling rate (%)	99.80	99.97	100	100
Waste per Unit (kg/million yen)	26.3	26.1	23.4	32.3
FY 2005 reduction rate (%)	—	0.8	11.0	22.8 increase

$$\text{Waste per Unit} = \frac{\text{Amount of waste produced}}{\text{Volume of Sales}}$$

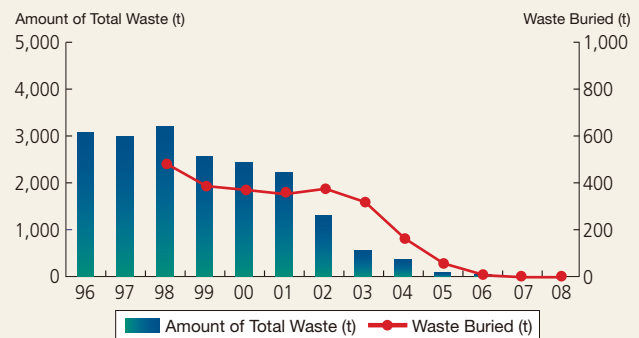
In 2008, we achieved 100% recycling rate, and the amount of waste decreased, but due to decreased sales, the amount of waste per unit increased. In the future we will try to further reduce the amount of waste produced, and even when sales have decreased, we will try to reduce the amount of waste per unit.

*Waste that can be sold is included in total amount of waste.

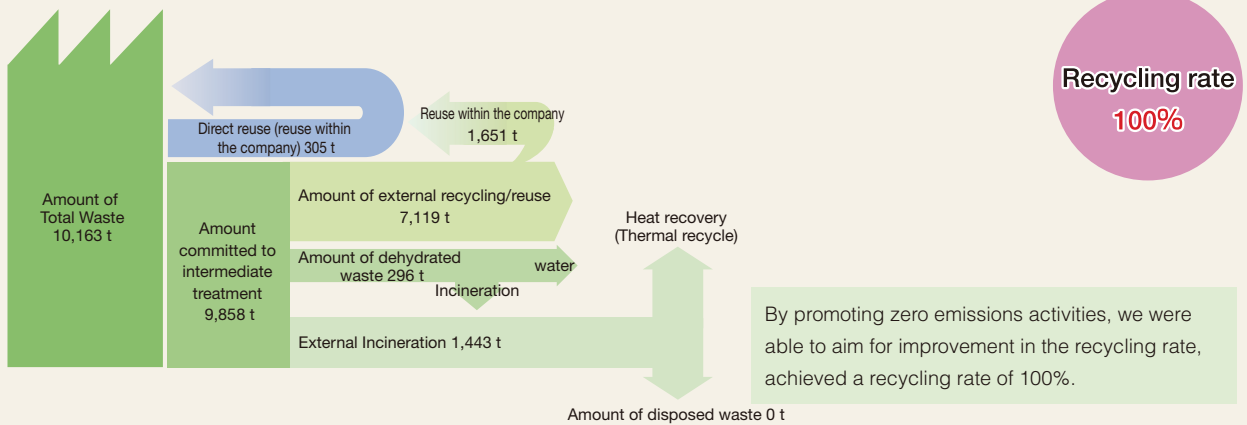
Transition of Recycled Amount and Recycling Rate



Transition of Amount of Total Waste and Waste Buried



Status of Waste Disposal in FY 2008

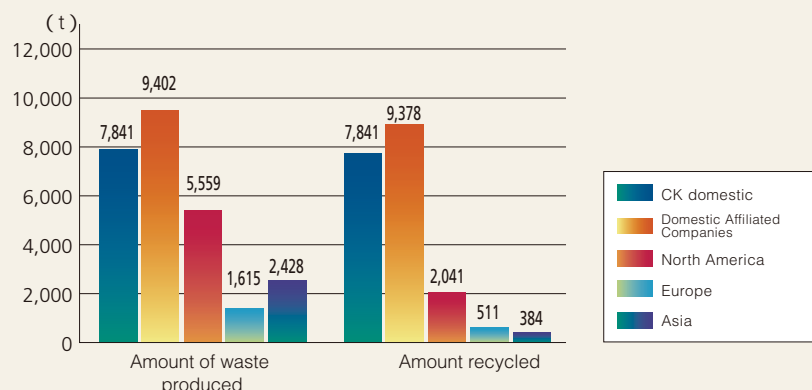


Domestic and Foreign Affiliated Companies

Our domestic and foreign affiliated companies are also controlling waste produced and improving recycling.

Amount of Waste Produced and Amount Recycled

FY 2008 Global results



(2) Activities toward “Zero Emissions”

We are active in managing and promoting more improvement to a higher level after achieving step 2 through “Zero emissions” activities strive for ensure the final amount of waste disposed to get closer to zero.

Definition of Zero Emissions

- Step 1** Making more than 98% of industrial business waste recyclable
- Step 2** Making more than 98% of industrial business waste and general business waste recyclable
- Step 3** Making 100% of all waste recyclable

The Status of Zero Emissions for all of Calsonic Kansei’s Domestic Factories and Affiliated Companies

	FY 2008 Plan	FY 2008 Results
5 Calsonic Kansei Plants (Gunma, Oppama, Yoshimi, Kodama, Atsugi)	Step2 preservation activities	Step2 acquisition activities
CKK Corporation		
CKF Corporation		
Tokyo Radiator Mfg. Co., Ltd. (TRS)		
CKP Corporation		
Calsonic Kansei Utsunomiya Corporation (CKU)	Step2 continuation	Step2 acquisition
Calsonic Kansei Iwate Corporation (CKI)		

(3) Water Resources Used and Reduction Measures

Activities for all of Calsonic Kansei’s Domestic Factories and Affiliated Companies in FY 2008

FY 2005 Usage Results	FY 2007 Usage Results	FY 2008 Usage Target 1% reduction from previous year	FY 2008 Usage Results
961Km ³	839Km ³	831Km ³	794Km ³

Accomplished targets set for FY 2008.

《Examples of Reduction Measures》

Installing of water-saving washers/cyclic usage of coolant/replacing parts with those that do not require cleaning/reuse of rainwater

Regional Usage in FY 2008

