2 Establishing a Recycling Society - A Challenge towards "Zero Emission"

Toward the development of a recycling society ①, we endeavor to achieve zero emission ①, that is, to minimize the amount of final disposal waste as close to zero.

- We practice the 3Rs ① (Reduce, Reuse and Recycle) for industrial waste ① and general waste ①.
- Our group companies also take measures to promote waste recycling of such items as used paper (1), confidential documents (1) and used fluorescent tubes, while employing green procurement (1).

Industrial Waste

Industrial waste generated during the course of our business operation includes coal ash ①, gypsum ① from desulfurization facilities ①, sludge ① from wastewater treatment, scrap metal and discarded concrete poles.

"Reduce" Measures

At thermal and nuclear power stations, intervals between equipment inspections are extended to reduce the number of parts (seals, bearings and gaskets) to be replaced with the proviso that safety and soundness of equipment are first secured. Intervals for changing lubricating oil in equipment are also extended to reduce waste oil.

"Reuse" Measures

For electricity-related materials and equipment removed during power distribution works or other engineering works, we reasonably determine whether they are reusable based on our criteria to see if they have sufficient capability and quality for reuse. We put those materials to reuse either as they are or after repair.

Status of reused equipment and material for power distribution such as poles, wires and transformers for FY2004

	Number of object material and equipment	Number of reused material and equipment	Reuse ratio
Pole transformers (units)	32,211	32,211	100%
Pole-mounted gas switches (units)	2,036	1,843	90.5%
Low-voltage (LV) watt-hour meters (units)	1,004,035 989,158		98.5%
Concrete poles (pieces)	18,173	18,173	100%
High-voltage (HV) wires (km)	2,041	2,041	100%
LV wires (km)	3,673	3,673	100%

"Recycle" Measures

The overall industrial waste generated in fiscal 2004 was approximately 640,000 tons, maintaining the same level since fiscal 2000. We recycled approximately 590,000 tons of waste in fiscal 2004, which was equivalent to approximately 1% of the total amount of final disposal waste in Japan.

Further improvement of industrial waste recycling rate

Currently, Kyushu Electric Power Co., Inc. promotes the "3Rs" company wide, setting a goal of "A Challenge Towards Zero-Emission."

However, due to lack of recycling facilities available in the vicinity, some of our operational sites have no choice but to discard what otherwise could be recycled.

In this context, and to further improve the recycling rate and move towards our new goal of reducing waste disposed at landfills outside the company, we are currently examining proposals for an aggregated arrangement in which industrial waste generated company-wide on a constant basis will be collected and recycled by area.

We will continue to make the examination, and promote further promote the reduction and recycling of waste.

(Per the 2004 White Paper of the Recycling Society, the volume of annual final disposal waste in Japan totaled approximately 53 million tons.)



Status of industrial waste generation by category (FY2004)

		Amount produced (tons)	Amount recycled (tons)	Recycling rate (%)	Main use after recycling
Coal ash		522,251	471,782	90%	Cement material (1), soil conditioner
	Heavy and crude oil ash ()	334	332	Approx. 100%	Vanadium recovery
	Gypsum	89,934	89,934	100%	Cement material
te	Sludge	4,370	3,304	76%	Cement material
waste	Waste oil	2,520	2,455	97%	Heat recovery, recycled as fuel oil
rial	Waste plastic	356	232	65%	Combustion improver
lst	Scrap metal	11,098	10,690	96%	Metal materials
Other industrial	Discarded concrete poles	11,616	11,610	Approx. 100%	Concrete products, roadbed material
Othe	Waste glass and ceramics	481	481 94 20%		Material for glass products (e.g. fluorescent tubes)
	Specially Controlled Industrial Waste (1)	7	4	62%	Cement material
	Other	143	42	29%	Combustion improver
	Subtotal	120,859	118,697	98%	
Industrial waste total		643,110	590,479	92%	

\Diamond Coal ash

We effectively utilize coal ash generated at coal-fired thermal power stations by taking advantage of its properties.

 The paving block "Cool Tone" made from recycled clinker ash ①, a type of coal ash, is used for sidewalks in certain company's service areas in Kyushu.





Kakuei Hirukawa



Other industrial waste

 Coating of wires no longer needed is recycled into plastic wire drums.



 We developed recycled aluminum wires using waste aluminum wires from our electric works, which have been employed since fiscal 2005.



 Industrial waste is generated from electric works that are under direct management of customer service offices, etc. Certain types of waste are generated constantly and across the board. Currently, a system is under consideration to collect such industrial waste items by area and deliver them to a recycling company for recycling.



 Applying these measures, we will control the annual targeted amount of landfill waste disposed outside the company to be 1,000 tons or less.



Special Efforts in Operational Sites under Saga Branch Office Operational sites under Saga Branch Office are promoting unique undertaking to achieve a high recycling rate. For example, they manually disassemble the industrial waste from electrical works under their direct management, and achieve highly effective waste separation.

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2 General Waste

The general waste resulting from our operation includes used paper, empty bottles and cans, plastic bottles and kitchen garbage from cafeterias, along with shells from power stations and driftwood from dams. They are recycled and used in paper or fertilizer.

"Reduce" Measures

The amount of used paper is minimized through doublesided photocopying, avoidance of miscopying and utilization of digital documents. Further, "erasable toners" have been introduced in the Environmental Affairs Department on a trial basis to evaluate their operational and economical aspects and effect for environmental load \textcircled reduction.



"Reuse" Measures

We utilize the blank side of used paper as well as used stationery including document files.

A Challenge towards Zero-emission

I work in the Saga Branch Office building (Saga Branch Office, Saga Customer Service Office and Saga Power System Maintenance Office), where industrial waste from business activities is sorted by type. However, waste was not always put in the designated containers nor sorted properly. To enhance awareness towards recycling, staff members started sorting waste by themselves once a month. Through the process of sorting, we realize that we do not simply dispose waste, but we can recycle them again into resources such as plastic or metal. As a company that introduced the environmental management system ①, each employee must work together to recycle waste, minimize final disposal waste, and challenge towards zero-emission that is to minimize the amount of final disposal waste as close to zero.



General Affairs Group, General Affairs Department, Saga Branch Office Toshiyuki Ishii



Measures for "Recycling"

Our Content of Used paper

In April 2002, we began to make company-wide efforts to achieve a used paper ① recycling rate ① of 100% upon checking and securing recycling routes.

 A total of 2,083 tons of used paper generated and collected from operational sites was fully recycled during fiscal 2004.

Collection of used paper (FY2004)

	Amount collected (tons)	Main use after recycling
Newspapers*1	251	Paper for copying and catalogs, newspapers
Magazines	75	Base for cardboard, paper string
Cardboard	73	Base for cardboard
Confidential documents (j)	626	Paper for copying and catalogs, toilet paper, base for cardboard
Others*2	1,058	Paper for copying and catalogs, toilet paper, base for cardboard, paper string
Total	2,083	

*1: The amounts reported from some offices include the volume of magazines and cardboard collected.

*2: Others include used photocopy paper and envelopes.

 A portion of collected used paper is recycled by Kyushu Environmental Management Corporation to produce photocopy paper, paper string and toilet rolls with the corporate logo of Kyushu Electric Power Co., Inc.



Products made from collected used paper

\Diamond Other general waste

Recycling of general waste ① other than used paper is actively encouraged.

- Bottles, cans and plastic bottles are collected separately.
- Driftwood from dams and shells such as barnacles collected during periodic inspections ① of power stations are crushed and efficiently utilized as fertilizer.

Recycling	of shell	s and d	from dams 🐖	
	Amount generated (tons)	Amount recycled (tons)	Recycling rate	Main use after recycling
Shells	1,124	690	61%	Material for compost
Driftwoods	9,811	8,517	87%	Substitute goods for straws, gardening compost

Recycling of shells and driftwood from dams





Composting facility for compost with shells (compost production flow)



• All used work clothes of our employees are recycled in principle. In fiscal 2004, 30,729 pieces of expendable clothing (work clothes: 16,313; antistatic clothing: 1,816; and female office wear: 12,600) were recycled and made into felt material for auto use and work gloves.

Eco work gloves that are commercially offered as Kyushu Electric Power's original goods are used at our operational sites.

Flow of used work cloth recycling





Won commendation for promoting Reduce, Reuse and Recycle for three straight years

In fiscal 2004, Sendai Nuclear Power Stations won the Chairman's Prize hosted by the Reduce, Reuse and Recycle ① Promotion Conference as part of their official commendation program for Reduce, Reuse and Recycle Promotion Contributors. This commendation program is intended to acknowledge the efforts of individuals, groups and schools for "reduce, reuse and recycle" that produced significant outcomes through continuous effort to promote a recycling society ③. We were honored three consecutive years following the award granted to Omarugawa Hydro Power Station Construction Office in fiscal 2002 and 2003.

Challenges in Recycling Activities

Kyushu Electric Power Co., Inc. operates waste recycling business with the cooperation of its group companies. For details of recycling business of our group companies, see page 62.

Fluorescent Tube Recycling Business

Japan Recycling Light Technology & System

- Currently most used fluorescent tubes are incinerated or disposed of in landfills. However, fluorescent tubes contain a very small amount of hazardous mercury and require proper collection, processing and recycling. Japan Recycling Light Technology & System collects used fluorescent tubes from companies, schools, local governments and households, and recycles them into recycling resources including glass, metals, phosphor and mercury in an effort to reduce waste and environmental load ①.
- In fiscal 2004, the Company treated 6.33 million fluorescent tubes, contributing to reducing emissions of approximately 230 tons-CO₂ compared to disposal at landfills, and other environmental loads such as mercury.
- · The company also manufactures (by outsourcing) and

Confidential Document Recycling Business

Kyushu Environmental Management Corporation

- Kyushu Environmental Management Corporation collects confidential documents that are usually shredded and burned, and transports, shreds, compresses and recycles them into material for green products ① at the rate of 100% under strict security control.
- The company sells recycled paper products such as private-label photocopy paper and toilet paper, and offers document storage services.

4 Promotion of Green Procurement

The green procurement ① system was introduced in fiscal 2002 as a measure towards the establishment of a recycling society. Under the system, the company promotes green procurement by placing a greater priority on purchasing eco-friendly goods and encouraging the cooperation of suppliers.

- The company employs comprehensive criteria for procurement. Environmental assessment is additionally included when purchasing goods, besides conventional economic considerations (such as quality, price and delivery time).
- When purchasing commodities such as office supplies, the company selects eco-friendly products ① that meet the respective purchase standards of Kyushu Electric Power Co., Inc. The rate of green procurement ① in fiscal 2004 reached 94% thanks to awareness enhancement through distribution of the Green Catalog, which contains information on eco-friendly products.
- For electricity-related materials and equipment, we established criteria for assessing the level of environmental load reduction by product category, and

sells fluorescent tubes made from recycled material () with around 70,000 such fluorescent tubes manufactured and sold in fiscal 2004.

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In fiscal 2004, they recycled approximately 3,227 tons of confidential documents, and sold green products including photocopy paper (approximately 62,000 boxes) and toilet paper (approximately. 9,600 boxes).







designated qualified products as Green Products, and actively promote their procurement. In fiscal 2004, we added three items, optical transmission equipment, microwave radio equipment and eco work gloves, increasing the designated items to five.

• We enhanced cooperation with oursuppliers through environment related-seminars in fiscal 2004, and registered additional 121 Green Suppliers that proactively tackle environmental issues, increasing the registered total to 155. The lists of Green Products and Green Suppliers are released on website of Kyushu Electric Power Co., Inc.

(http://www.kyuden.co.jp/company_procurement_provide_green_index)

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