Kansai Electric Power Group



#### **Overview of Kansai Electric Power**

Company name:	Th
Headquarters:	3-
Date of establishment:	M
Paid-in capital:	¥4
Shares of stock outstanding:	96
Main business:	El
Number of group companies:	59
Number of employees:	29
Electricity sales:	14
Operating revenues:	¥2
Total assets:	¥6

ne Kansai Electric Power Company, Incorporated -6-16 Nakanoshima, Kita-ku, Osaka 530-8270 ay 1, 1951 489,300 million 62,690,000 ectric power industry consolidated subsidiaries, 2 affiliates accounted for by the equity method 9,805 (consolidated), 20,292 (non-consolidated) 47,257 million kWh 259,630 million (consolidated), ¥239,680 million (non-consolidated) 682,720 million (consolidated), ¥618,890 million (non-consolidated)

(as of March 31, 2007)



Note: Due to rounding, the total may not equal 100%.



## **Editorial policies**

- This report on the Kansai Electric Power Group's work related to the economy, society, and the environment is for our customers and stakeholders that support our businesses.
- We referred to the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (3rd edition) and the Ministry of the Environment's Environmental Guidelines (fiscal 2007 edition).
- This report comprises six chapters that correspond to the six action principles in the Kansai Electric Power Group CSR Action Charter that we adopted in March 2004. Each chapter describes how the corresponding action principle is applied in our business activities.
- We have undergone inspections by a third-party organization to provide assurance of the objective reliability of the environmental information provided in this report. As a result of these inspections and fulfilling the Environmental Report Inspection Registration

Mark Allowance Standards of The Japanese Association of Assurance Organizations for Environmental Information (http://www.j-aoei.org/), we are allowed to use the mark on the right.



#### Scope of report

Period covered: April 1, 2006, to March 31, 2007. (Important items from outside this period have also been included in the report.) Companies covered: The Kansai Electric Power Co., Inc., and Kansai Electric Power Group companies Areas covered: economic, social, environmental

#### Report publication date

Published October 2007. 2006 edition published November 2006. 2008 edition to be published in the autumn of 2008.

◆ The following symbol and the relevant URL appear in this report when related information is available on our Web site.

> Kansai Electric Power Group CSR Action Standards http://www.kepco.co.jp/corporate/csr/standards.html

Please see our Web site for detailed information about the Kansai Electric Power Group's work related to corporate social responsibility and the environment:

http://www.kepco.co.jp/corporate/csr/

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# **Message from our President**



Shosuke Mori President and Director

#### Our mission: Continue to serve customers and communities

Since its establishment, for over half a century, Kansai Electric Power has continued to fulfill its greatest mission to its customers and society through the safe, reliable provision of its product—electricity—while considering the environment and valuing its relationship with local communities.

The Company staked its future on the construction of the Kurobegawa No. 4 power station (Kuroyon) to resolve the acute post-war power shortage, in what may truly be described as the crystallization of its sense of mission for the stable provision of electric power. This spirit, the Kuroyon Spirit, has been passed down to us and still lives on today. For example, after the Great Hanshin-Awaji Earthquake (the Kobe earthquake) in 1995, the entire Company, including staff who were themselves victims of the quake, joined hands in the restoration of power facilities to bring our customers electricity as swiftly as possible. I regard this powerful sense of mission as something of which the Company may be proud.

In recent years, alongside progressive power supply liberalization, the Kansai Electric Power Group has greatly expanded its business areas to encompass fields such as information technology and lifestyle amenities in addition to energy. However greatly our business environment may change, it is my hope that each and every employee will do their best to make our customers happy, and that the Group will continue to support the diverse lifestyles of consumers and provide the foundation for their economic activities.

#### Our corporate social responsibility: The Kansai Electric Power Group CSR Action Charter

For us, the meaning of corporate social responsibility (CSR) is to "reliably execute all our business efforts and steadily fulfill our responsibilities as a business to our customers, the local communities where we operate, our business partners, our clients, shareholders, employees, and our numerous other stakeholders." For this purpose, in March 2004 we established the Kansai Electric Power Group CSR Action Charter, and in order to realize its goals and fulfill the spirit that we have had since our establishment, we have reorganized our efforts according to six action principles, showing society our commitment to fulfilling our corporate social responsibilities proactively on the basis of these principles.

#### To restore trust: Comply with all regulations and fulfill all responsibilities that we must fulfill

Just at the point when we had reconfirmed our commitment to proactive engagement in CSR, in August 2004, inadequacies in our quality assurance and maintenance management systems led to the occurrence of a serious accident at Mihama Power Station Unit 3. We have reflected deeply on this incident, and based on the firm determination that such accidents should never occur again, not only made "first priority to safety" our most important management issue, but also engaged in the further promotion of CSR.

In this context, with confirmation since around the end of 2006 of successive incidents of inappropriate management, such as the falsification of data on hydroelectric, thermal, and nuclear power plants, failure to apply for permits, and double billing for electricity use, which have once again impaired the trust placed in us by society, I offer my profound apologies once again.

Restoring trust that has been lost in this way is no easy matter, but we regard these incidents and scandals as extremely serious, and the entire Group will join together in working even harder to rebuild a culture of safety, be rigorous in compliance, and engage in the implementation of CSR.

From a systematic perspective, every division is implementing a review of business, and is engaged in developing the necessary systems and optimizing its allocation of management resources such as budgets and staffing.

Alongside these activities, we consider it vital for every employee to develop his or her perception. They must learn to be aware of problems, make appropriate decisions, and naturally take the correct action under everyday circumstances, not only when they are under pressure. Even if things have been done in a particular manner in the past, each employee must have the courage to change them. I believe that promoting this organizational climate in which staff "comply with all regulations and fulfill all responsibilities that we must fulfill" throughout the Company will result in customer



satisfaction and to our being trusted by society, which in turn will lead to motivation and growth of individual employees.

To promote my philosophy of "Management that values people" on the basis of this perception, I personally am proactively visiting workplaces on the front line and deepening communications throughout the Company. Through these activities I have gained a sense of how CSR has come to be implemented in different workplaces.

We will continue such step-by-step initiatives, responding sincerely to the opinions of our customers and all our stakeholders, continuing to provide products and services that have genuine value to our customers while fulfilling the Group's overall potential. We will work toward the goal of being a corporate group that is both trusted and preferred by society.

#### Our communication goal for this CSR Report: We want to keep moving forward together with you

Our aim is to deepen communication with you by means of this report. It follows our six action principles developed for the implementation of CSR, and describes the initiatives undertaken by the Kansai Electric Power Group in as practical a way as possible. I hope you will come to understand our various efforts, and would be grateful to receive your unrestrained feedback about points you have noticed, future issues, your expectations, and any other suggestions.

# **CSR** policies

We here set out the Kansai Electric Power Group CSR Action Charter, made up of our six action principles, and the Kansai Electric Power Group CSR Action Standards, which enable all Group employees to implement these actions for themselves.

# The Kansai Electric Power Group CSR Action Charter

The business activities of the Kansai Electric Power Group are supported by our customers, shareholders, business partners, investors and employees, as well as the residents of the region and many other people throughout society. This trust that the Kansai Electric Power Group has received from our stakeholders is the foundation for fulfilling our business mission and achieving continuous growth.

At Kansai Electric Power, we see our Group-wide corporate social responsibility – CSR – in two ways. First, our CSR is to fulfill, with absolute assurance, our responsibilities as a member of society through rigorous compliance, transparency, etc. Second, our CSR is to contribute to ongoing social development by responding, in good faith, to the expectations that society embraces toward our Group-wide business activities.

Based on the foregoing understanding, in March 2004 we drew up the "Kansai Electric Power Group CSR Action Charter." It includes the following six principles to serve as guidelines in the performance of business activities.

# The Kansai Electric Power Group CSR Action Standards

The power behind our business efforts is provided by our individual employees. We respect that each of our employees is irreplaceable, and we are endeavoring to take their ideas seriously and maximize their strengths by building a corporate culture and creating structures based on the themes of "active staff," "interesting work," "strong frontline workplaces" and "harmonious workplaces."

Furthermore, we set specific standards at the individual level in the Kansai Electric Power Group CSR Action Standards in May 2005 to help individual employees, as members of society, fulfill their own responsibilities reliably and be able to respond to the expectations of society. As a result, individual employees are also carrying out their work duties in accordance with our CSR Action Standards now.



#### Kansai Electric Power Group CSR Action Charter

Safe, Stable Delivery of Products and Services

As a business operator responsible for lifelines that are indispensable to society, the Kansai Electric Power Group fully recognizes that its operations support the foundation underpinning the daily lives of its customers. Accordingly, we will take every conceivable measure, day by day, to deliver our products and services safely and stably.

#### 2 Progressive Approach to Environmental Problems

As a provider of energy services that are closely connected with the environment, the Kansai Electric Power Group fully recognizes the scale of the impact its business activities have on the global environment. Accordingly, we will strive to alleviate the environmental burden accompanying our business activities, and seek to be a world-class corporation in terms of safeguarding the environment. Furthermore, we will proactively contribute to the development of a sustainable society through progressive initiatives that target the creation of an ever better environment.

## **3** Proactive Contributions to Development of Local Communities

As a business operator closely linked with its local communities and the lives of their inhabitants, the Kansai Electric Power Group fully recognizes that its own development is inconceivable without the development of its local communities. Accordingly, we will proactively contribute to the development of our local communities through initiatives that target the vitalization of those communities and the local economy.

# 4 Respect for Human Rights, Development of Favorable Work Environments

The Kansai Electric Power Group fully recognizes that respect for human rights is a vital corporate obligation based on international agreements. Accordingly, we will strive to secure safe and comfortable work environments free of all discrimination for all persons who are in any way involved in our business activities.

#### **5** Highly Transparent and Open Business Activities

In order to properly reflect social opinions in its business activities, to ensure fairness in the management of its business operations, and to faithfully carry out its accountability to society, the Kansai Electric Power Group will promote increased communication with all members of society and conduct business activities that are highly transparent and open.

#### 6 Strict Enforcement of Compliance The Kansai Electric Power Group fully

The Kansai Electric Power Group fully recognizes that as members of society business corporations are obligated to establish a strong corporate ethic and to comply with all laws, regulations and other rules both within and outside the company. Accordingly, we will carry out those obligations as the underlying basis of all our activities. We will also develop the mechanisms to ensure that these obligations are carried out, and pursue their continuity and further improvement.

# Efforts to promote CSR

Every employee should deepen their understanding of CSR, and constantly carry out their business with this awareness. We regard this system as vital for the promotion of CSR, and the Kansai Electric Power Group is undertaking CSR promotion efforts led by our CSR Promotion Council.

# CSR promotion system centered on our CSR Promotion Council

The Kansai Electric Power Group has established a CSR Promotion Council with the President as the Chair. This Council is undertaking the planning of comprehensive policies related to promoting CSR throughout the whole Group, including the coordination and adjustment of specific policies, the promotion of implementation, and other measures.

Kansai Electric Power is developing a range of different initiatives based on the policies planned by the CSR Promotion Council. We have established CSR Oversight Managers and CSR Oversight Desks in every Group company, and are proactive in providing them with information and exchanging opinions by means of Group Communication Meetings.

As well as making good use of this system in the future to promote CSR throughout the Group, we are investigating comprehensive policies and promotion measures while considering the opinions of each of our Group business sites.

#### CSR promotion system



#### CSR Procurement Policy

Basic Philosophy of Procurement Activities

Aiming at the optimal formation, maintenance, and operation of equipment and facilities, the Purchasing Department of Kansai Electric Power will procure, at the appropriate time, equipment, materials, and services that excel in terms of safety, quality and price while keeping the environment in consideration. We would like to

**Behavioral Standards for the Procurement Activities** 

#### 1. Making safety the highest priority, while maintaining and improving quality and technological strength

With safety as the top priority, we are implementing the required measures to ensure public safety/sanitation and to prevent industrial accidents. We are also implementing measures that contribute to the maintenance and improvement of quality and technological strength to enable the optimal formation, maintenance, and operation of equipment and facilities.

#### 2. Consideration for the environment

We promote the procurement of equipment, materials, and office supplies with a low environmental impact (green procurement), and contribute to the creation of a sound material-cycle society in partnership with our business partners.

#### 3. Establishment of solid partnerships

By collaborating with our trading partners in efforts to improve the supply chain, we are building strong, trusting relationships with the aim of mutual growth and development.

#### **Concrete CSR Promotion Efforts**

## Communication between management and frontline workplaces

Our managers, including our President, proactively visit our frontline workplaces where they convey the Kansai Electric Power approach to CSR directly and endeavor to promote understanding. In the process, we are striving, by means such as exchanging



Our president visits frontline workplaces.

opinions, to identify issues and problems early for rapid reflection in business operations.

## Efforts to raise awareness by appointing and training CSR promotion leaders

We are undertaking awareness-raising efforts for all employees at every Kansai Electric Power workplace by appointing and training CSR promotion leaders. In addition to instructions from the President, these training sessions include lectures from experts outside the company on compliance and CSR, as well as case-study training in small groups, with the aim of improving the ability to discover problems and resolve issues.

Then, based on what they have learned in training, these leaders individually conduct awareness-raising efforts in their own workplaces. We are also including CSR-related content in

other training sessions at every level of the organization as part of our effort to make CSR an integral part of our corporate culture.

\* As of April 2007, about 110 section managers and department managers had been appointed as CSR promotion leaders.



CSR promotion leader training

promote our CSR activities through such procurement.

As these procurement activities are supported by our business partners, we will work to fortify relationships based on trust while building even more solid partnerships.

For this purpose, the department has set out and is implementing standards for the procurement activities listed below.

#### 4. Highly transparent, open transactions

In order to procure, at the appropriate time, equipment, materials, and services that excel in terms of safety, quality and price, we open our doors wide, both within Japan and overseas. Therefore, we are constantly examining the possibility of introducing new products and technologies, as well as that of starting business with new companies. Suppliers are selected in an equitable, fair manner in pursuit of economic rationality, with social rationality also taken into consideration. Decisions are made based on such factors as safety, quality, technological strength, environmental consideration, levels of trust with our Company, price, confirmed delivery date, implementation of maintenance and management, after-sales service and response to accidents and malfunctions.

#### 5. Thorough compliance

We comply with all applicable laws and regulations and with the spirit that underlies them, paying particular attention to compliance with safetyrelated legislation, respect for human rights (prohibition of child labor, forced labor, etc.) and strict management of personal and confidential information.

# **Corporate governance**

To enhance its corporate value on a sustained basis while maintaining the transparency and soundness of its business operations, Kansai Electric Power and its Group companies view improvement of corporate governance as a vital element integral to operational management. Unstinting efforts focus on that goal.

#### Strategic responses to management issues

Kansai Electric Power takes proactive steps to enhance its corporate governance capability on an ongoing basis. Board of Directors meetings are convened regularly once each month, complemented by extraordinary meetings held when deemed necessary, and it is here that matters of essential importance to Group management are deliberated and decided. In addition, all Directors are continuously audited through regularly issued reports on the execution status of the duties incumbent upon them.

In executing important business matters, the Company pursues swift and proper decision-making by convening executive meetings regularly, in principle once every week. Here, the executives decide on strategic responses to management issues, as a way of enhancing corporate value on a continuing basis.

The system of executive officers was introduced in order to separate the executive and auditing functions of management and to boost the speed and efficiency of business execution.

#### **Assurance of Transparency and Soundness**

Kansai Electric Power adopts a system of Corporate Auditors. The Corporate Auditors attend important meetings, including Board of Directors meetings and executive meetings, where they state their opinions, listen to explanations by the Directors pertaining to matters of importance to Company management, and look into the business and assets status of the Company's main bases of operation and Group companies. By auditing the Directors' execution of their duties from the perspectives of legal conformity and propriety, all the while maintaining a wholly independent stance, the Corporate Auditors ensure the transparency and soundness of the Company's business operations. In addition, meetings are regularly convened between the Corporate Auditors and Managing Directors, et al., as a way of promoting exchanges of opinion.

To support the duties of the Corporate Auditors and Board of Auditors, an Auditing Office (13 members) has been established. This is a specially appointed organization in charge of actual auditing duties, operation of Board of Auditors meetings, etc. To ensure the Office's independence, it functions directly under the Board of Auditors and does not perform any other duties relating to the executive functions of the Group. Outside officers have also been appointed: three Directors and four Corporate Auditors, the latter representing a majority among the seven Corporate Auditors in total. Outside Directors and outside Corporate Auditors have no special rights or interests in the Company.

# Management of risk accompanying business activities

In line with the "Kansai Electric Power Group Risk Management Rules," risk accompanying business activities is managed autonomously by the executive section of each respective business division. As to risk deemed of importance across multiple organizational levels, risk management is strengthened by determining, when necessary, points in risk management that are special in nature, in which case experts provide advice and guidance to the various business execution divisions.

In addition, a Risk Management Committee has been formed to manage risk comprehensively. The Committee strives to manage risk accompanying Group business activities down to a level deemed appropriate.

#### Enhancement of internal audit functions

The Kansai Electric Power Group has established an Internal Auditing Committee whose functions are to share and deliberate a broad range of management issues relating to quality or safety, secure views and information from outside the Company and, from an impartial and specialized standpoint, maintain proper internal auditing of the Group as a whole.

An Office of Internal Auditing, consisting of 41 members, has also been established as an organization specially assigned to perform internal auditing. The office conducts regular auditing of risk management systems, risk management status, etc., and submits proposals or reports to the executive meetings concerning internal auditing plans and their results. At the various work areas, activities needed for making improvements in light of the auditing results are carried out in an ongoing quest to ensure proper business management.

As the vital overseers of corporate governance, the Corporate Auditors, internal auditing division (Office of Internal Auditing) and Accounting Auditors coordinate, at their discretion, in the performance of auditing duties. They also maintain close ties for exchanging views toward auditing results, etc.



# Our pledge to stakeholders

At the Kansai Electric Power Group, we interact with diverse stakeholders in our various business activities. We resolutely discharge our responsibilities as a full member of society and respond in good faith to the expectations of all stakeholders. By earning the trust of stakeholders, the Kansai Electric Power Group makes a vital contribution to sustainable social development.

Employees Kansai Electric accurate unders order to build a customers by pr

services.

At Kansai Electric Power, our employees are our driving force. We work hard to create an organizational climate and system that motivate and inspire our employees, giving them opportunities to develop their abilities to the utmost.

Shareholders and Investors

By disclosing necessary information in a fair and timely manner, and working constantly to build enterprise value, Kansai Electric Power is building a stable relationship with our shareholders and investors.





Kansai Electric Power works hard to gain an accurate understanding of customer needs, in order to build a stable relationship with our customers by providing excellent products and

Local communities

As an enterprise with strong connections to communities and individual lifestyles, Kansai Electric Power joins hands with local communities to make an active contribution to solving the issues that confront them, building a trusting relationship with local communities.

> Business Partners

Kansai Electric Power builds stable relationships with suppliers by purchasing safe, high-quality and reasonably priced materials and services which are environmentally friendly and delivered in a timely manner.

## Our mission and responsibility to provide a safe and stable supply of electric power

Providing electric power safely and stably to our customers-that in itself is our most important mission. To fulfill this mission, Kansai Electric Power takes responsibility for the entire process from power generation to sales, and is working to ensure a stable power supply and prevent accidents and disasters.

#### Promoting the "best mix" of power sources

As Japan is poor in natural resources, it has a fragile energy structure that is dependent on imported or specific energy sources

Kansai Electric Power has already made numerous efforts to create a suitable combination of multiple energy sources that is not too dependent on any specific one, including moving from oil to nuclear power, natural gas and coal.

Kansai Electric Power seeks an optimal combination of power sources that puts safety assurance first and takes comprehensive consideration of economic, energy security and environmental impact characteristics.

We pursue the optimum generation mix with a strong focus on nuclear power including Nuclear Fuel cycle, implemented by thermal and hydro operations.

#### Power source composition comparison

Composition ratio of power generation facilities at the end



Note: Fiscal year-end facility numbers and electric power generation amounts include electric power received from other companies

#### Stable procurement of fuels

Procurement of fuel for thermal power generation has stability as its basic premise, and Kansai Electric Power is distributing its procurement sources and contract periods for the oil, LNG and coal that form its different types of fuel in the pursuit of flexibility and economy, while considering the environment.

For oil, we have already secured petroleum terminals outside the company and our own company tankers, and are engaged in maintaining and strengthening our oil procurement mechanisms

In November 2006, a basic agreement was reached on extending the Western Australia contract for LNG, and we are currently also in discussion on extending the Indonesian contract. As well as these existing contracts, we are also engaged in efforts to acquire gas prospecting rights in the Australian Pluto Project, which Kansai Electric Power is

scheduled to purchase, with the aim of combining a range of procurement strategies to enhance the stability of procurement.

With the start of operations in 2010 of Unit 2 of the Maizuru Power Station in sight, we are working to secure coal and cargo vessels for the



Working to ensure stable procurement of all fuels

future. In October 2010, we will began operating Kansai Electric Power's first dedicated coal vessel, the Mizunagi Maru, and are enhancing our procurement capacity.

#### Providing higher-quality electric power

To provide electric power safely and stably, Kansai Electric Power operates power grids that link power stations with consumers reliably, and is striving for the optimal configuration of facilities. We are also engaged in rigorous efforts to prevent accident reoccurrence. As a result, in 2006, Kansai Electric Power's electricity achieved one of the world's highest levels in power supply reliability.

for grid operation, and implement the effective, planned replacement of existing facilities with new technology and construction methods. Through such appropriate operation, maintenance, and construction work, we will continue to provide electric power safely and stably.



#### International comparison of annual accidental power outages per customer household

Min/household



Source: Research by the Federation of Electrical Power Companies of Japan

#### Annual power interruption time per household (including stoppages due to work)

Min/household (Power interruption includes stoppages due to accidents and work.)



#### **Reform of fundamental work processes** and launch of quality management system

At Kansai Electric Power, reflecting on the FY 2004 accident at Mihama Nuclear Power Station Unit 3 and the unfortunate incidents that have taken place, we are moving ahead with provisions to realize work execution that makes safety the highest priority. In practice, we are aiming to make proactive investments of resources, review rules and manuals based on actual workplace situations, and develop environments where frontline workers can lead in expressing needs and taking actions. We are also engaged in clarifying the division of roles between Kansai Electric Power Group companies, contractors, and others.

In particular, for work duties related to facility safety maintenance, we have set our goals as "appropriate and certain execution" and "fulfillment of the responsibility to explain to the outside." To this end, we are advancing the creation of a quality management system (QMS) based on the approaches of ISO 9001. To improve the practicability of this QMS in the future we will carry out continuous improvement, expand it in wider fields, and press ahead with systems for fixing it in place.

#### • QMS model built on processes



#### "I am passionate about passing on my expertise and skills." On being appointed an Expert Technician



Shigeru Okubo

Expert Technician

Maintenance Office

Abiko Power System Center

Osaka-Minami Operation and

At the Abiko Power System Center, which maintains facilities in the southern part of Osaka Prefecture. I am responsible for maintaining protection relay equipment. This equipment instantaneously detects and eliminates accidents that occur in transmission cables and elsewhere in order to prevent power outages. Should a lightning strike occur, for example, I am relieved when this equipment eliminates the cause of the accident, prevents a power outage, and returns power transmission to normal, as that means there has been no negligence in my maintenance and inspections.

#### Maintaining and improving technological prowess and nurturing successors

Kansai Electric Power is promoting a range of efforts to maintain, improve, and pass on the expertise and skills particular to the electricity business. Examples include using personnel training support tools to clarify expertise and skills, the use of skills presentation meetings to maintain and improve the capacity for early restoration after accidents, and construction of a knowledge database to share techniques and know-how.

In addition to these efforts, since fiscal 2007 we have implemented an Expert Technician Recognition System. This system certifies employees who possess high-level expertise and skills fostered through a wealth of experience and daily study as Expert Technicians, who will be assigned the role of instructing and training junior employees through everyday work duties as well as dealing with technical issues in the workplace, with the aim of the system being to pass on such expertise and skills



Skills must be passed on to junior employees.

Now that I have been appointed an Expert Technician, I feel the weight of this responsibility even more heavily. I am passionate about instructing my juniors to ensure that my expertise and skills are securely passed on, and would also like this know-how to be recorded in a manual.

To respond to advances in technology, I not only continue to increase my own expertise and skills, but also hope to contribute to improving the company's overall expertise and skills by studying together with other Expert Technicians.

## Working to provide the best service

Offering our customers services that will always ensure their satisfaction. The Kansai Electric Power Group reflects the wishes of customers as far as possible in terms of service content and electricity rates, and is implementing a range of initiatives to improve the quality of individual employees' responses.

#### Improvement of customer service

In order to promote business activities that are responsive to our customers, Kansai Electric Power is developing a range of initiatives focused on our call centers and Electric Life Consultation Office. One example is the collation and analysis of customer opinions gathered through business activities with direct customer contact. The customer needs identified in this way are reflected in improvements to products and service value.

#### Customer service improvement philosophy



#### Effective use of customer opinions



#### Implementation of customer satisfaction surveys

Kansai Electric Power employs specialist companies to conduct customer satisfaction surveys by telephone. We have implemented surveys of customers who have made various applications to our company continuously since 1993. In these surveys, customers are asked to give their impressions of our staff and evaluate the handling of their cases. In this way, we are able to objectively determine the service levels of our sales offices, verify the results of efforts to improve our work, and identify areas for further improvement. We are also working to raise the levels of our services by setting targets and improvement actions for subsequent business periods.

#### Autonomous activities at individual centers

Since 2004, individual sales offices and other centers have gradually been implementing activities to improve their responses to customers as part of their autonomous operation with the aim of making us a "customer satisfaction no. 1 enterprise." In these activities, individual staff debate how to act from the perspective of customer response, resolutely adopt customer orientation in their business environment, hold awareness surveys, workplace meetings, and leaders' meetings as necessary, while obtaining advice from lecturers outside the company, with the aim of promoting behavioral changes, continuing until their effectiveness is confirmed.

#### Customer response improvement activities



#### Electricity rate reduction through improved business efficiency

Utilizing the technological prowess it has developed to the full, Kansai Electric Power has been proactively pressing forward with the streamlining of our entire business while maintaining the reliability of supply. Reflecting the fruits of this business streamlining, reductions in the price of electricity mean that the electricity bill for a standard household in April 2006, when the rates were revised, has dropped by approximately 900 yen a month (or over 10,000 yen a year) compared with 1989.

To continue to respond to customer needs in the future, the most important aim for us is to provide customers with electricity reliably and at a low price. By promoting the investigation of an attractive menu of services and other means. Kansai Electric Power hopes to fulfill its role as a good partner for our customers.

#### Changes in monthly electricity rates



Notes: Standard household model (meter-rate electric lighting A 300 kWh model) Amounts include bank transfer charges and consumption tax

## Creating value for customers as a unified group

The Kansai Electric Power Group is not limited to energy, but safely and reliably provides customers with a variety of attractive products and services to support their lifestyles and businesses to ensure customer satisfaction, in the quest for the sustainable growth of the entire Group.

#### Supporting customers' lifestyles and businesses as an all-round life-support provider

As an all-round life-support provider, the Kansai Electric Power Group is concentrating on three strategic areas: energy-related business, lifecycle-related business, and information technology (IT).



#### **Development of Total Solution services**

The Kansai Electric Power Group is providing products and services with higher value by combining a variety of Group services into "total solutions" that accord with customers' requirements and lifestyles in their homes and places of business.

In the area of housing in particular, we are focusing our efforts on combining totally electric homes with optical fiber Internet connections and home security, offering total support to enable customers to live in safety and comfort.

#### • Provision of Group services focused on totally electric homes



#### Further initiatives for large-scale apartment complexes

In the Momosaka Comfo-Garden apartment complex, for example, which opened for residence in September 2007, Kansai Electric Power is also offering new services related to medical and long-term care in addition to the three services described above, based on the concept of creating an urban community that supports city lifestyles by means of a network of medical and lifestyle services.



#### Further initiatives for detached residences

Kansai Electric Power is participating in the development of large-scale residential areas from the urban planning concept creation stage, not only aiming for all-electric housing, optical fiber services (Internet, telephone, TV), and home security to be standard features of every house, but also working to ensure the realization of the "secure town concept" by establishing a security guard station within the area under development.

## Doing our part in the fight against global warming

## Highlights from fiscal 2006

#### **Findings from research on mangrove** afforestation technologies

Since the 2000 fiscal year, Kansai Electric Power has been working with the Coastal Resources Bureau of the Ministry of Natural Resources and the Environment of the Kingdom of Thailand, as well as Group company The General Environmental Technos Co., Ltd., to develop technologies for mangrove afforestation. To date the project has planted some 250,000 mangrove trees, at 10 locations in six regions across Thailand, from former shrimp farms to lakes and beaches at low tide. The result has been the afforestation of some 100 ha. The research project ended in fiscal 2006, at which point the partners published their findings.

#### Main research findings

Project	Findings
Establishment of a mangrove growth forecasting system	Thirteen factors affecting the growth of mangroves were identified. By forecasting mangrove growth on that basis, the team developed the world's first technology for diagnosing whether a plot of land is suitable for mangrove afforestation.
Examination of the effectiveness of mangrove forests in attenuating the impact of tsunami	In regions stricken by the Asian tsunami of 2005, mangrove forests were compared with other tree types in terms of the extent of damage. The team confirmed that mangrove forests are more effective than other species of tree in attenuating the impact of tsunami.
Development of a method to measure levels of CO <sub>2</sub> fixation	A technology was developed that uses images taken from a radio-controlled helicopter to measure the volume of CO <sub>2</sub> fixed by planted mangrove forests. The technology has an accuracy of 90%.

These findings throughout the project will be utilized in mangrove forest maintenance activities by the government of Thailand in the future. Furthermore, it is expected that they will also be useful in many other countries and contribute to the prevention of global warming.



#### Kansai Electric Power earns the Environment Minister's Award for Projects to Counteract Global Warming for the second consecutive year

Long before global warming became the hot topic it is today, Kansai Electric Power was working on renovating hydroelectric power plants to release less CO2. Although the power plant

uses the same water volume and effective head as before, improvements in the equipment enable increased output Beginning in 1988, Kansai Electric Power gradually extended this technology to generators in every region until, with the refitting of Komaki Power Station in Toyama Prefecture in May 2006, the entire series of renovation projects was completed. Thanks to this 18-year campaign, output was increased by a cumulative 40,000 kW, reducing CO<sub>2</sub> output by 100,000 tons per year.

Kansai Electric Power's efforts are now winning widespread admiration. In fiscal 2006, the Group's Hydroelectric Power Plant Renovation Project earned the Environment Minister's Award for Projects to Prevent Global Warming. This was the Group's second consecutive year of winning this award; in fiscal

2005, Kansai Electric Power won the award for its Kanden Building project, a building for "model environmental coexistence."



#### Kanden e-Kids Club Established

Preventing global warming will require raising the awareness of every citizen about environmental issues. In fiscal 2005, some 600 children of Kansai Electric Power Group employees began taking part in the "Kids' ISO 14000 Program," a series of fun activities to improve understanding of the environment.

The Group is keen to widen the circle from its employees' children to kids in the broader community, giving children as many opportunities as possible to participate in environmental activities throughout the year. In June 2006, the Kanden e-Kids'

Club was established for 5th- and 6th-grade children in the Kansai area. Some 176 kids quickly signed up, taking part in a wide range of programs aimed at "noticing," "knowing" and "doing what you can" for nature, the environment and energy



Kids who took part told us they "know more about the environment now" and are "glad they joined.

#### Kanden e-Kids Club Program

<u> </u>		
Description of events		
Inaugural meeting		
Kids' ISO 14000 Program		
Facility tours (Nanko Power Station, Osaka Waste Treatment Plant)		
Nature Experience Meetings (tree climbing, craft workshops, etc.)		
Completion ceremony		

Kanden e-Kids Club

http://www.kepco.co.jp/kankyou/ekids/

## **Environmental policy**

## Progressive Approach to Environmental Problems As an energy supplier with strong ties to the environment, the Kansai Electric Power Group aims for the world's highest advanced initiatives to create a better environment and actively contributes to building a sustainable society.

#### Philosophy: Five Basic Principles of the Global Environmental Action Plan (Adopted in 1990)

Kansai Electric Power is conscious of our great responsibilities as an energy provider. As we strive to deliver an affluent way of life to people, we are actively taking on the challenge of making the conservation of the global environment a part of our corporate agenda. In all aspects of our operations, we are investigating advanced means of global environmental protection and taking action immediately in areas where we can be effective:

Reduction of environmental impact @ Promotion of effective and efficient use of energy and resources Operation of advanced technology
 Operation of efforts throughout the Kansai Electric Power Group G Creation of a new corporate culture to support harmonious coexistence with the global environment

Action Guide: Glob	al Environmental Ac	
Action 1 Consideration for the environment in all areas of our business	<ul> <li>Addressing global environmental environmental</li></ul>	
Activities aimed at building a sound material-cycle society	<ul> <li>Promoting business ac</li> <li>Earnest exchange and</li> <li>Raising employees' aw encouraging them to d</li> </ul>	
Concrete Action F	Concrete Action Plans: Eco Action (A	

level by recognizing the extent of the impact of its business activities on the global environment and by working to reduce the load placed on the environment by its business activities. The Kansai Electric Power Group has also taken



ction Plan (Adopted in 1991, revised in 2005)

#### vironmental problems

global warming (New ERA Strategy)

to increase energy efficiency by society as a whole

ing greenhouse gas emissions in power supply

Overseas activities carried out to prevent global warming layer

#### ronmental problems

air pollution

water pollution

nemical substances, etc

ctivities suitable for a sound material-cycle society I cooperation with external groups vareness of their responsibility as global citizens and develop good daily practices

dopted every year. See pages 17-18.)

Ø Status overview of our business activities and environmental load (fiscal 2006)

# **INPUT**

Fuels for power generation			
wer	Coal	1,602 thousand t (on a dry coal basis)	
ion ion	Coal Heavy oil Crude oil LNG (Liquid Natural Gas) Other	326 thousand kL	
therm	Crude oil	1,516 thousand kL	
ls for gei	LNG (Liquid Natural Gas)	4,126 thousand t	
Fue	Other	2 thousand kL (converted to heavy oil)	
Fuel for nuclear power generation (weight of pre-irrad		195 tU (weight of pre-irradiation uranium)	
Water for nonzer concretion			

Water for power generation		
Industrial water	5.02 million m <sup>3</sup>	
Clean water	0.92 million m <sup>3</sup>	
Riverwater, groundwater, etc	0.57 million m <sup>3</sup>	
Seawater (desalinated)	2.78 million m <sup>3</sup>	

Resources	
Limestone	47 thousand t
Ammonia	6 thousand t

Off	ice
Office electricity	ice 110 GWh
Office electricity	110 GWh
Office electricity Office water	110 GWh 684 thousand m <sup>3</sup> 1,033 t

# **Business activities**



	(carbon dioxide)*	49.81 million t-CO2
	(sulfur oxides)	1,727 t
	(nitrogen oxides)	4,692 t
	, ,	from other electric companies
	Released into	water areas
COE	) emission	30 t
Tota	effluents	6.29 million m <sup>3</sup>
	Padiaaati	ve waste
	nauloacti	
	me of low-level	5,462 drums
radio gene	me of low-level pactive waste prated*	5,462 drums (200 L drums) amount - reduced amour
radio gene	me of low-level pactive waste prated*	(200 L drums)
radio gene	me of low-level pactive waste prated*	(200 L drums) amount - reduced amour
radic gene Net ge	me of low-level active waste rated* meration (generated	(200 L drums) amount - reduced amour
radic gene Net ge	me of low-level nactive waste rated* neration (generated	(200 L drums) amount - reduced amour waste, etc. ions 331 thousand t
radic gene Net ge	me of low-level vactive waste rated* eneration (generated industrial vacuum amount of emiss	vaste, etc. ions 331 thousand 1 sed 323 thousand 1
radic gene Net ge	me of low-level vactive waste rated* eneration (generated Industrial v amount of emiss Recycled or reu Reduction in	waste, etc.         ions       331 thousand 1         sed       323 thousand 1         ment       2 thousand 1

The verification mark above identifies items

that have received an independent review from

Tohmatsu Environmental Research Institute Ltd.

OUTPUT

Note: Totals may not tally due to rounding

11 thousand t-CO2

Emissions from vehicle use

CO<sub>2</sub> emissions

## **Independent review**

from Tohmatsu Environmental Research Institute Ltd. to assure confidence in our accuracy. In addition, we have expanded the extent of this review compared to the previous fiscal year. (Items that have received independent review are indicated by the mark to the right.)

	In this year's overall independent review, we received the following comments from Tohmatsu Environmental Research Institute Ltd.
<text><text><text><text><text><text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text></text></text></text></text></text>	2007       Independent expert comments         a Ld.       (1) The centralized Office of Environmental Considerations arranged for each business site to report their tabulated and calculated environmental performance data results through the Environmental Information Management System. In addition, responsible persons at the Office of Environmental Considerations strengthened the system by obtaining supporting documentation for certain significant items and verifying details. This approach also contributed to improving the accuracy of such data.         de our anony of the detailed rules related to calculation of environmental performance data. However, there are still areas where additional standardization is necessary. In addition to considering ongoing standardization of calculation methods, we hope to see a build-up in the thorough implementation of these rules at the operating level.         the the thisted size 2) resing so on: termal       (3) The Environmental Information Management System has improved in certain areas, but consideration of improving the functions for continuing increases in data accuracy is desired. We understand expansion of disclosed environmental performance data has been considered on an as needed basis. Going forward, with consideration given to the importance of such metrics, we hope to see the expansion of such data on a step-by-step basis.         the density of the environmental performance data that we         the data or a tep-by-step basis.
Acquisition of EcoLeaf environmental label certification Kansai Electric Power's main product, electric power (system electric power), has received EcoLeaf environ- mental label certification. The EcoLeaf environmental label is an environmental labeling system that is operated by the Japan Environ- mental Management Association for Industry (JEMAI). This system uses third-party verification of quantitative environmental data for the product lifecycle from the gathering of raw resources to disposal and recycling. In July 2003, Kansai Electric Power became the first business in the energy services field to receive this registered and publicly certified label.	We update our certification every year, using the latest results, and will continue to use this label to build customer confidence through the display of valuable environmental information. <b>Progistered and published data for Y 2005 results</b> Product name: System electric power Specification: 60 Hz Fiscal year: 2005  Global-warming load during life cycle (CO2 equivalent): 0.413 kg-CO2/kWh (FY 2005)  CO2 emissions in power generation (all-day average): 0.358 kg-CO2/kWh (FY 2005) 0.301 kg-CO2/kWh (5-year average for FY 2001–FY 2005)
* Updates to the FY 2006 results are based on the Law to Promote M CO <sub>2</sub> emission factor as published by the government of Japan.	

Environmental Management Association for Industry (http://www.jemai.or.jp/ecoleaf).

1 thousand kL

Diesel oil

For details on the certification data, please visit our website at (http://www.kepco.co.jp/kankyou/) or the website for the Japan

2

## Eco action (targets and results)

We set targets for our environmental efforts annually and undertake various activities to realize them in accordance with the environmental policies of the Kansai Electric Power Group. Our 2006 fiscal-year targets and results, and our targets for 2007 and later are as shown below.

ltere		FY 2005 results			Targets		Evaluation of FY 2006 results and future actions	Door		
Item	FY 2005 results	Targets	Results	FY 2007	FY 2008	FY 2009	Evaluation of FY 2006 results and future actions	Page		
CO <sub>2</sub> emission reduction per unit of electric power used (sold)	r 0.358 kg-CO2/kWh	Approx. 0.34 kg-CO <sub>2</sub> /kWh (FY 2010 target value)	0.338 kg-CO2/kWh				We reduced CO <sub>2</sub> emissions per unit of electric power used (sold) by increasing our nuclear power equipment utilization rate. In FY 2007, we raised our target for the 5-year average for the period from FY 2008 to FY 2012 to approximately 0.282 kg-CO <sub>2</sub> /kWh.	P. 23		
Promoting "safety first" operations at nuclear pouplants	ver 75.4% (facility utilization rate)	Operate nuclear power plants with safety assurance measures to prevent a recurrence of an incident like the Mihama Power Station Unit 3 accident	77.0% (facility utilization rate)	measures to prevent a	ecurrence of an incident like the Mihama Power		We carefully implemented safety assurance measures to prevent a recurrence of an incident like the Mihama Power Station Unit 3 accident. We continue to strive for the safe operation of nuclear power plants, with plans that ensure safety improvement construction and other measures based on a "safety first" perspective.	1   P. 25		
Maintaining and improving the thermal efficiency of thermal power plants (lower calorific value ba		42.0% or more	42.6%		42% or more		We met our targets by optimizing the operation of thermal power plants, largely through the use of high-efficiency combined plants. We are taking measures focused on equipment and operations, including the smooth implementation of plans to update equipment at Sakaiko Power Station.			
Limiting SF6 emissions (calendar-year basis) (ga recovery rate at inspection/removal of equipment		97% (at time of inspection)	98.2% (at time of inspection)	97% (at time of ins	spection) 99% (v	hen scrapping)	Using auxiliary equipment to recover SF6 gas, we steadily recovered gas to achieve our target. From FY 2007, we pursued our target for gas recovery when removing equipment, in line with targets for the power generation industry as a whole.	P. 25		
Reducing customer CO <sub>2</sub> emissions through the diffusion and expansion of EcoCute (cumulative	total)		95 thousand t-CO2	138 thousand t-CO	2 192 thousand t-CO:	2 246 thousand t-CO2	Starting in FY 2007, we changed the criterion to give customers a palpable sense of reducing greenhouse-gas emissions through EcoCute. We plan to promote the diffusion and expansion of totally electric homes.			
Development and diffusion of renewable energie	Target achieved	Achieve amount required by the RPS Law (790 million kWh)	Target achieved	Achieve a	mount required by t	he RPS Law	We achieved our FY 2006 targets. Moving forward, we intend to introduce biomass fuel at Maizuru Power Station and autonomously develop and promote renewable energy, including the construction of the Port of Hidaka New Energy Park. We also intend to	, D		
	Power output from subsidized facilities: 38 MW	Promote the Kansai Green Electricity Fund	Power output from subsidized facilities: 30 MW	Promote	the Kansai Green P	ower Fund	support the diffusion and promotion of the Green Power Fund by widening the range of eligible parties.	f <b>P. 24</b>		
Reducing office electricity consumption	0.6% reduction compared to the prior fiscal year (amount used: 113 GWh)	1% or more reduction compared to the prior fiscal year	2.6% reduction compared to the prior fiscal year (amount used: 110 GWh)	1% or more redu	uction compared to t	he prior fiscal year	We met our target by checking that lights are switched off, setting heating and air- conditioning thermostats appropriately, etc. We are pursuing patient efforts at each location.	P. 30		
Improving fuel efficiency of company vehicles	3.5% improvement compared to the prior fiscal year (fuel efficiency: 9.36 km/L)	1% or more improvement compared to the prior fiscal year	1.1% decrease compared to the prior fiscal year (fuel efficiency: 9.26 km/L)	1% or more impro	1% or more improvement compared to the prior fiscal year		cal year Results have slipped slightly from the previous fiscal year. We plan steady efforts at each location, including the promotion of refraining from engine idling.			
Adoption of low-pollution vehicles (ratio of low-pollution vehicles to all vehicles)	48.3%	52%	59.0%	61%	64%	66%	We achieved our targets by implementing a phased transition to low-pollution vehicles when replacing vehicles. We will continue the replacement according to the plan.	<sup>°</sup> P. 29		
Maintaining sulfur oxide (SOx) SOx and nitrogen oxide (NOx)	0.021 g/kWh (overall) 0.066 g/kWh (thermal)	Maintain current status (Reference) (Refer	0.014 g/kWh (overall) 0.045 g/kWh (thermal)		Maintain current status 5-year averages for the (Reference) 0.01 g/kWh (overall) 0.05 g/kWh (thermal)		by Using low-sulfur field and installing sulfur scrubbers, we achieved the emission levels. We will continue to use fuels with superior environmental c support the performance of sulfur-scrubbing equipment to maintain the view of cleanliness.		By using low-sulfur fuels and installing sulfur scrubbers, we achieved the world's lowest emission levels. We will continue to use fuels with superior environmental capabilities and support the performance of sulfur-scrubbing equipment to maintain the world's highest levels of cleanliness.	
emission levels per unit of power generated NOx	0.041 g/kWh (overall) 0.126 g/kWh (thermal)	Maintain current status (Reference) (Refer	0.039 g/kWh (overall) 0.121 g/kWh (thermal)	Maintain cu (Reference)	5-year averages for		By using low-nitrogen fuels and installing nitrogen scrubbers, we achieved the world's lowest emission levels. We will continue to use fuels with superior environmental capabilities and support the performance of nitrogen-scrubbing equipment to maintain the world's highest levels of cleanliness.	D 27		
Improving the recycling rate of industrial wastes			97.9%	99% or more (by FY 2009)		009)	In place of the previous targets for "improving recycling rate" and "reducing landfill disposal," we will work to improve the recycling rate to achieve zero emissions.	P. 29		
Proper processing of PCB wastes	Procesed volume Low-concentration PCB: 18,000 kL (cumulative total)	Process all PCBs by the legal deadline (by 2016)	Processed volume Low-concentration PCB: 28 thousand kL (cumulative total) High-concentration PCB: 174 units (cumulative total)	Process all PCBs by the legal deadline (by 2016)		Process all PCBs by the legal deadline (by 2016) A cumulative total of 28,000 kL were processed out of the 100,000 kL targeted for at the Recycling Center for Utility Pole Transformers. Starting from October 20 concentrated PCB waste is treated at the Japan Environmental Safety C (JESCO). Aiming to treat all waste as required by the legally stipulated de continue to treat waste appropriately.		ז   <b>P. 28</b>		
Improving the green purchasing rate for office sup (45 target items)	plies 96.7% (43 items)	Approx. 100%	96.3% (43 items)	Maintain	Maintain current status (approx. 100%) (45 items)		Results declined slightly from the previous fiscal year. We will continue raising awareness among employees to promote green purchasing. The number of target items was raised in 2007 from 43 to 45.	P. 30		
Reducing office water consumption	6.3% reduction compared to the prior fiscal year (Amount used: 689 thousand m <sup>3</sup> )	1% or more reduction compared to the prior fiscal year	0.8% reduction compared to the prior fiscal year (Amount used: 684 thousand m <sup>3</sup> )	1% or more red	1% or more reduction compared to the prior fiscal year		1% or more reduction compared to the prior fiscal year Results declined slightly from the tarainwater to wash vehicles.		Results declined slightly from the target. We will continue patient efforts such as using rainwater to wash vehicles.	P. 30
Reducing copy paper consumption         0.50% reductive to the prior (Amount use)		Promote maximum possible reduction	1.6% increase compared to the prior fiscal year (Amount used: 1,033 t)	Promote	Promote maximum possible reduction The volume of copy paper used increased from the previous fiscal year. We will patient efforts at each location, including strict enforcement of the use of both sides paper.		The volume of copy paper used increased from the previous fiscal year. We will continue patient efforts at each location, including strict enforcement of the use of both sides of copy paper.	P. 30		
Further introduction of systems in compliance with or other certifications (compliant locations at fiscal year		Support of and expansion to appropriate numbers of locations	15 locations		plan to overhaul our company-wide environmental management system, continuously		The number of locations installed with ISO-compliant systems remained the same. In the future, we plan to overhaul our company-wide environmental management system, continuously improving the system, and maintaining and expanding the number of locations meeting requirements.			
Measured dosages of radioactive gaseous wast public areas around nuclear power plants	e in Less than 0.001 millisieverts/year	Less than 0.001 millisieverts/year	Less than 0.001 millisieverts/year		Less than 0.001 millisieverts/ye	ear	We are properly managing the volume of radioactive gaseous waste, maintaining a level of less than 0.001 millisieverts per year.	f		
hanges from the previous report ew additions: We added the category "Measured dosages in a	reas around nuclear power plants from radia	tion of radioactive materials" to implement touch	er radiation controls.		easing power output t pelectric power plant up		s in items eliminated or changed.			
hanged items: We changed the item "Increasing nightime ele customer CO <sub>2</sub> emissions through the diffusion a	ctric power subscription through the promo	tion of EcoCute and other high-efficiency hot v	vater heating equipment" to "Reducing	wase	eliminated because renew	al work Increasing pov	ver output through hydroelectric power plant upgrades	2006 result		
	es," to aim for the achievement of zero emission			completed in FY 2006. rd, equipment will be rer	(************************	August a since FY 1989) attime electric power subscription through the promotion				

In "Improving green purchasing rate for office supplies," the number of target items was expanded from 43 to 45.

Changed targets: In "CO2 emissions reduction per unit of electric power used (sold)," a more ambitious target was selected, to make a greater contribution to combating global warming. In "Limiting SF6 emissions," the recovery rate at the time of scrapping was added to the target to conform to the targets of the Federation of Electric Power Companies of Japan.

forward, equipment will be renovated at each power station taking into account the level of obsolescence and economic efficiency.





The verification mark above identifies items that have received an independent review from Tohmatsu Environmental Research Institute Ltd.

cription through the promotion water heating equipment	Further expand subscription	770 thousand units
tes	Maintain current status	97.4%
wastes strial waste)	50% reduction from FY 2000 levels (4,500 t or less)	5,744 t
	-	

## **Environmental management system**

The Kansai Electric Power environmental management system is based on the ideas of the total quality management (TQM) system. With this system, we seek sustainable development that balances the environment, society and economics. Under the environmental policy, we are working to reduce environmental burdens in our enterprise activities through our continuous environment-improvement activities based on the PDCA cycle.

#### Establishment of a company-wide promotion system

In order to further strengthen and promote across departments our leading efforts to resolve environmental problems, we established the Environmental Board as an organization below the CSR Promotion Council in February 2006. The Environmental Board prepares, checks and reviews Eco Actions, which are concrete action plans for company-wide environmental management.



Second CSR Promotion Council (Environmental Board) (August 18, 2006)

#### Maintenance of the group-wide promotion system

The Group Environmental Management Committee was established in August 2005, with the goal of expanding environmental management efforts at Group companies. This Committee establishes, checks and reviews the Group's Eco-Action, working with the CSR Promotion Council's Environmental Board.

We will make an effort to expand the number of companies participating in the Group Environmental Management Committee



Third Group Environmental Management Committee (November 28, 2006)

#### • Environmental management promotion system of Kansai Electric Power and the Group companies



Group business support
KINDEN CORPORATION
Kanden Engineering Corp.
Kanden Plant Corp.
The Kanden Services Co., Inc.
Kanden Power-Tech Corp.
NEWJEC INC.
THE GENERAL ENVIRONMENTAL TECHNOS
CO., LTD.
KANDEN AMENIX Corp.
The Kurohe Gorge Bailway Co. 1 td

Lifecycl

KANDEN F

Clearnas KANDEN S

Kanden E

KANSAI M

Kansai Jvu

Kanden Jo

Kanden Fa

Kanden Bu

Kanden CS

Informat

K-Opticon

Kanden S

K Cable Te

K-Square C

NIHON NETWORK SUPPORT CO., LTD. The Kanden L & A Co., Ltd. Kanden Office Work Corp. Institute of Nuclear Safety System, Inc Akinai Biz Square Corp. Kansai.com. Inc. Kanden-el-farm, Inc CCL Co., Ltd. Nuclear Engineering, Ltd.

(38 companies, as of March 31, 2007)

Cc., Ltd. iecurity of Society, Inc. House Corp. edical Net Co., Inc. taku Hinshitsu Hosho Co., Inc. y Life Co., Ltd. S Forum, Inc. Energy-related business SAKAI LNG Co., Inc. Kanden Gas and Cogeneration Co., Inc. Kanden Energy Development Co., Inc. Kanden Energy Development Co., Inc.
y Life Co., Ltd. cility Management Corp. ilding Management Co., Ltd. S Forum, Inc. Energy-related business SAKAI LNG Co., Inc. Kanden Gas and Cogeneration Co., Inc. Kanden Energy Development Co., Inc.
tion Technology (IT) Corp. Stem Solutions Co., Inc. levision Corporation So., Ltd.

#### Eco Action: Group company concrete action plans

Starting in the 2005 fiscal year, we began implementing concrete plans for the environment, called Eco Actions, in all Group Companies

In fiscal 2006 results, we achieved our targets in two

Itom	FY 2005 results	Targets and results in FY 2006		Targets	Evaluation
Item	* 38 target companies in FY 2006 () cumulative total for 41 companies	Targets	Results (*38 target companies)	FY 2007 FY 2008 FY 2009	(Reasons for increase/reduction)
Reducing office electricity consumption	46.8 million kWh (47.1 million kWh)	1% or more reduction compared to the previous fiscal year	0.002% increase compared to the previous fiscal year 46.8 million kWh	1% or more reduction compared to the previous fiscal year	<ul> <li>As operations expanded, this figure rose slightly, so we fell short of our target.</li> <li>We will continue to deploy energy-saving activities.</li> </ul>
Reducing utility water consumption	297,000m <sup>3</sup> (320,000m <sup>3</sup> )	1% or more reduction compared to the previous fiscal year	14.7% reduction compared to the previous fiscal year 253,000 m <sup>3</sup>	1% or more reduction compared to the previous fiscal year	<ul> <li>As equipment was eliminated, volume of use fell dramatically, enabling us to reach our target.</li> <li>We will continue to deploy water-saving activities.</li> </ul>
Improving fuel efficiency of company vehicles	8.9 km/L (8.9 km/L)	1% or more improvement compared to the previous fiscal year	1.5% improvement compared to the previous fiscal year 9.0 km/L	1% or more improvement compared to the previous fiscal year	<ul> <li>Fuel efficiency was improved through actions such as strict elimination of idling stops and switching to fuel-efficient vehicles. As a result, we reached our target.</li> <li>We will continue to promote Eco-Drive.</li> </ul>
Reducing copy paper consumption	699.0 t (728.0 t)	Reduce as much as possible	1.1% increase compared to the previous fiscal year 706.5 t	Reduce as much as possible	We were not able to reach our target.     We will continue making efforts to use less paper.
Purchasing recycled copy paper	82.0% (78.9%)	100%	83.6%	Green purchase rate of 100%	Green purchase rate improved; however, we were not able to reach our target.     We will continue promoting environmental awareness and the green purchase rate.

#### Maintaining an environmental risk management system

At Kansai Electric Power, we divide environmental risk into three categories-legal risk, social risk and cost risk-and carry out necessary risk management. We intend to extend this risk-management approach to all applicable Group companies, to deploy environmental risk management Group-wide.



Observance of laws, regulations and other rules

Kansai Electric Power strictly abides by all laws and regulations related to the environment. We also ensure compliance with environmental protection agreements concluded with local governments in the areas of our power plants. Verification of our compliance status indicates that none of our facilities have violated the terms of these agreements. We did not receive any guidance, notices or orders from any national or local government entities in fiscal 2006 regarding these environmental laws, regulations and agreements.

#### Implementation of systems compliant with **ISO standards**

Since the 1997 fiscal year, we have been implementing environmental management systems that conform to the ISO 14001 standard, an international body of environmental management, especially at our thermal power stations.



The verification mark above identifies items that have received an independent review from Tohmatsu Environmenta Research Institute Ltd.

items: reducing utility water consumption and improving fuel efficiency of company vehicles. In other areas, however, we were unable to reach our targets.

In and after fiscal 2007, the single-year targets for fiscal 2006 have been recast as targets for the three-year period to fiscal 2009. We will continue to promote activities to reach our targets for each area.

\* In FY 2006, the number of companies under review was reduced from 41 to 38. As of the end of FY 2006, this report evaluated the results at those 38 companies.

In model operations for each business type, the Company has received ISO 14001 external certification, and in February 2005, our Hokusetsu Sales Office acquired Eco Action 21 certification from the Ministry of the Environment.

We plan to deploy and introduce these environmental management systems throughout the Group, in consideration of the activities of these model business locations.

#### Business locations that have acquired ISO 14001 external certification (as of the end of FY 2006) Kansai Electric Powe

Business type	Name of business location	Date of registration	Certification agency	
	Himeji No. 1 Power Station (thermal)	March 24, 2000	Organization of	
	Himeji No. 2 Power Station (thermal)	March 23, 2001	Standards	
Power	Sakaiko Power Station (thermal)	February 22, 2002	Co., Ltd.	
generation	Kainan Power Station (thermal)	October 27, 2000		
	Nanko Power Station (thermal)	March 29, 2002	Japan Audit and Certification	
	Ohi Power Station (nuclear)	October 25, 2002		
Distribution	Himeji Operation and Maintenance Office	March 29, 2002	Organization	
DISTINUTION	Power Distribution and Sales Division, Technical Test Center	January 26, 2004		

Group

Business type	Name of Group company				
	KINDEN CORPORATION				
	Kanden Engineering Corp.				
Power support	Kanden Plant Corp.				
Fower support	ENEGATE Co., Ltd.				
	NEWJEC INC.				
	THE GENERAL ENVIRONMENTAL TECHNOS CO., LTD.				
Information technology	K-Opticom Corp.				

#### • Business locations that have acquired Eco Action 21 certification (as of the end of FY 2006)

Business type	Name of location	Date of registration	Certification agency
Sales	Hokusetsu Sales Office	February 16, 2005	Institute for Global Environmental Strategies Sustainability Center

## **Environmental accounting**

Since the 1999 fiscal year, we have conducted environmental accounting of the annual results for Kansai Electric Power as an individual company and made these results public. Beginning with fiscal 2003, we now publish environmental accounts for the entire Kansai Electric Power Group. We plan to continue to improve and extend this process.

#### Environmental protection costs (Millions of yen)

Category	Investment		Expense		Main items	
Calegory	FY 2006	FY 2005	FY 2006	FY 2005	Waintients	
1. Cost of measures against global environmental problems	690	580	2,230	1,970	Purchase of new energy and surplus power, construction of mixed- biomass fuel facilities	
2. Cost of conservation of regional environments	22,460	11,100	27,560	2,758		
1. Monitoring and measuring of environmental impact	0.0	160	2,570	2,230	Measurement and management of radioactivity levels, measurement of atmospheric concentrations, survey of ocean regions	
2. Pollution prevention	14,410	4,890	20,990	21,200	Measures for preventing air and water pollution	
3. Natural environment protection and harmonization	8,050	6,050	4,000	4,140	Burying of transmission cables, planting projects	
3. Cost of building a sound material-cycle society	20	700	9,700	9,100		
1. Treatment and recycling of industrial waste	20	90	4,890	4,770	Industrial waste and PCB treatment	
2. Treatment and recycling of general waste	-	-	20	20	Recycling of old paper	
3. Treatment of radioactive waste	—	610	4,790	4,310	Low-level radioactive waste treatment	
4. Green purchasing	0.0	0.0	0.0	10	Leasing of low-pollution vehicles	
4. Cost of environmental management	30	300	3,220	3,570	Personnel costs	
5. Cost of research and development	40	_	1,680	1,840	Measures against CO2 to preserve the environment and make effective use of energy	
6. Other costs	10	330	1,100	1,080		
1. Coexistence with local communities and support for environmental education	-	-	250	230	Membership in environmental organizations, donations for events	
2. International activities	10	330	10	10		
3. Environmental subsidies and donations	-	_	840	850	Levies on pollution levels	
Total	23,240	13,000	45,490	45,140		
Total investment for the period concerned	22,370	180,600	-	-		
Total running costs for electric utilities business during the period concerned	_	_	2,168,700	2,069,200		

#### • Economic effect of environmental protection efforts (Millions of yen)

Category		FY 2006	FY 2005	Main items
Revenue Business income from recycling, etc.		2,630	1,080	Sales of desulfogypsum etc.
Cost reduction by energy saving		17,380	10,610	Reduction in fuel consumption by improving heat efficiency of thermal power plants*
Expenditure	Cost reduction by material reuse and recycling	4,460	5,610	Cost reduction by reusing utility pole transformers, etc.
	Other	60	20	Reduction in pollution load levies by reducing SOx emissions
Total		24,530	17,320	

\* The reduced fuel consumption for this year was calculated from the thermal efficiency improvement compared to FY 1990 levels.

#### **Evaluation of the 2006 fiscal year**

#### Environmental protection costs

In investments, Kansai Electric Power launched the construction of Maizuru Power Station Unit 2 and upgraded equipment at Sakaiko Power Station, raising investment by ¥10.2 billion over the previous fiscal year to ¥23.2 billion. Costs were roughly equal to last year's at ¥45.5 billion.

#### Effect of environmental protection activities

Although demand for power remained stable compared with the previous fiscal year, the availability factor of lowenvironmental-impact equipment was increased, reducing environmental impact on the atmosphere.

• CO<sub>2</sub> emissions declined 5.5% from the previous fiscal year to 49,810,000 tons. This was due to increased use of nuclear and thermal power generation, an increase in the availability factor of LNG thermal power, and a decline in the availability factor of coal-fired power.

- SOx emissions declined 30% from the previous fiscal year to 1,727 tons, due to a decline in the availability factor of coal-fired power and the use of low-sulfur fuels. NOx emissions fell slightly from the previous fiscal year to 4,692 tons.
- Industrial waste emissions were reduced 15% from the previous fiscal year to 331,000 tons, thanks to a decline in the availability factor of coal-fired power that reduced the generation of coal ash.

#### Economic effect of environmental protection efforts

Improvements in the fuel efficiency of thermal power plants engendered dramatic savings in fuel costs, raising the economic effect to Kansai Electric Power by ¥7.2 billion from the previous fiscal year, to ¥24.5 billion.

#### Effect of environmental protection activities

Item (unit)	FY 2006	Compared to the previous fiscal year	
CO <sub>2</sub> emissions	(millions of t-CO <sub>2</sub> )	49.8	(2.9)
CO2 emissions factor	(kg-CO2/kWh)	0.338	(0.020)
SOx emissions	(t)	1,727	(747)
SOx emissions factor	(g/kWh)	0.014	(0.007)
NOx emissions	(t)	4,692	(60)
NOx emissions factor	(g/kWh)	0.039	(0.002)
Extended length of buried cable	(km)	167	17
Forested area	(1,000 m <sup>2</sup> total area)	3,680	(4)
Industrial waste discharge	(1,000 t)	331	(68)
Industrial waste recycle rate	(%)	98	±0
Low-level radioactive waste	(drums)	5,462	1,081
Use of low-pollution vehicles	(no. of vehicles)	2,809	510
Acquisition of external certification such as ISO	(no. of facilities)	8	(1)
Forestation	(10,000 trees)	1.4	(0.2)
Beautification activities	(no. of cases)	279	(127)

#### **Eco-efficiency**

Kansai Electric Power conducts trial calculations of the relationship between the environmental loads of our business activities and the economic value that those activities produce to express eco-efficiency. In fiscal 2006, while the volume of power we sold was roughly equivalent to the previous fiscal year, nuclear and thermal power comprised a greater share, while the use of coal-fired power plants declined. As a result, both the integrated index of environmental load and CO<sub>2</sub> emissions volumes fell by about 5%, while the eco-efficiency rate increased by about 7%.

#### Group environmental accounting efforts

Group environmental accounting efforts focused on the 38 companies participating in the Group Environmental Management Committee.

The Kansai Electric Power Group will continue to improve the precision of its environmental accounting, so that interested parties can quickly and accurately understand the cost of environmental preservation in its operating activities and the quantities and economic effects involved.

(Millions of ven)

#### Environmental protection costs

Category	Main items		2006 Ipanies)	FY 2005 (38 companies)		
		Investment	Expense	Investment	Expense	
Management activity costs		3	685	7	1,464	
Pollution prevention costs	Air pollution, water quality degradation prevention, equipment maintenance	13	29	51	23	
Recycling costs	Ordinary/industrial waste processing/recycling	0	572	1	632	
Social activity costs	Tree and vegetation planting activities, participation in non-company projects	_	5		5	
Other costs	Levies on pollution levels	22	17	0	12	
Total		38	1,307	59	2,136	

# Environmental accounting at Kansai Electric Power

#### 1. Environmental accounting

These data show that the cost of pollution prevention rose dramatically during the period under review, due to the upgrading of existing power plants and construction of new ones. It is clear that the Company has put great effort into preventing air pollution.

#### 2. Eco-efficiency

The Company used LIME to calculate the environmental impact, due to its value in measuring efficiency. Because the Company switched its indices of eco-efficiency from operating income to power volume sold, the figure does not include external factors such as the steep rise in fuel prices.

#### 3. Our expectations

Changes in the placement of tables and other changes lead me to judge that the Company has made strong efforts to link environmental protection costs with environmental protection costs with

environmental protection effects. In the future, I expect the items listing environmental protection effects to be more clearly linked to specific related environmental protection costs, to provide environmental accounting of more practical use in decision-making.

Eriko Nashioka Director



Institute for Environmental Management Accounting

#### Eco-efficiency graph (FY 1990 level = 100)



disposal amount

Each is multiplied by the LIME integration coefficient

\* Beginning this fiscal year, the indices of eco-efficiency switched from operating income to power volume sold.

#### Effect of environmental protection activities

Category Item (unit) FY 2006 FY 2005				
Category	Item (unit)	FY 2005		
Environmental management	Acquisition of external certification such as ISO (no. of facilities) 23 2			
	CO2 emissions (millions of t-CO2)	6	8	
Global and regional environmental	SOx emissions (t)	3	4	
protection	NOx emissions (t)	8	3	
	Forested area (1.000 m <sup>2</sup> total area)	39	40	
Building of a sound	Industrial waste discharge (1,000 t)	73	65	
material-cycle society	Use of low-pollution vehicles (no. of vehicles)	672	565	
Other	Forestation (trees)	7,078	1,252	
	Beautification activities (no. of cases)	66	90	

#### • Economic effect of environmental protection efforts (Millions of yen)

	Category		FY 2006	FY 2005
	Revenue	Business income from recycling, etc.	765	493
		Sales proceeds from eco-products, etc.	13	8
	Expenditure	Cost reduction by energy saving, etc.	20	13
	Total		798	514

## **Global warming prevention efforts**

Promoting our New ERA Strategy of comprehensive measures to prevent global warming and developing the initiatives for the reduction of greenhouse gases and appropriate energy use worldwide.

#### New ERA Strategy

We are actively promoting our New ERA Strategy of comprehensive measures to reduce greenhouse gas emissions.

We are conducting our business by pursuing balanced policies to promote the three ERA themes of efficiency (E), reduction (R) and activities abroad (A) in order to contribute even more to confronting the global warming problem.



#### Kansai Electric Power's CO<sub>2</sub> reduction target and performance from implementation of the New ERA strategy

#### Setting CO<sub>2</sub> reduction targets

Kansai Electric Power considers environmental issues to be among its top management priorities, and has vigorously and independently tackled them. As a result, the Group stands in the top ranks of the industry in reducing the CO<sub>2</sub> emissions factor of electrical power consumed (sold) [end-use CO2 emissions factor]. With the first commitment period of the Kyoto Protocol (FY 2008-FY 2012) close at hand, the Group has set more challenging targets.

#### Target

We have set a reduced numerical CO<sub>2</sub> emissions target of an average of approximately 0.282 kg of CO<sub>2</sub> per kWh of electric power consumed for the five years from FY 2008 to FY 2012.

#### CO2 emissions factor result

Thanks to the increased utilization of our nuclear power plants and the improved thermal efficiency of thermal power plants compared to the previous fiscal year, the CO2 emissions factor for our fiscal 2006 improved by 0.02 kg-CO2/kWh over fiscal 2005, to 0.338 kg-CO2/kWh.\*

Our core focus continues to be increasing the utilization of nuclear power generation facilities where our top priority is safety, as well as improving the thermal efficiency of our thermal power plants and our application of the Kyoto mechanism related to the reduction of CO<sub>2</sub> emissions on a global scale. Through these efforts, we intend to make significant progress in reducing CO<sub>2</sub> emissions.

\* This is a provisional value. The government will officially announce actual values, based on the Law concerning the Promotion of Measures to Cope with Global Warming, etc.

efforts to reduce customers'

CO<sub>2</sub> emission volumes.



all power station including thermal, nuclear and hydroelectric

The CO<sub>2</sub> emissions factor for end use of electricity is published by the government of Japan annually



The verification mark above identifies items that have received an independent review from Tohmatsu Environmental Research Institute Ltd.

E fficiency – achieving more efficient energy use throughout society

and other ways to increase more efficient use of energy throughout society.

#### Spreading and expanding use of EcoCute and other high-efficiency devices

Kansai Electric Power is working hard to popularize the use of EcoCute, a high-efficiency water heater. EcoCute uses an environmentally friendly heat-pump system, which can realize three times the heat energy per unit of electric power consumed. This system enables us to save energy and dramatically cut CO<sub>2</sub> emissions.

#### Comparison of household CO<sub>2</sub> emissions (Kansai Electric Power estimation)



#### Potential for private-sector CO<sub>2</sub> reduction using heat-pump technology



What would happen if all privately used heating equipment in Japan (in both businesses and homes) that currently uses fossil-fuel combustion were replaced with high-efficiency heat pumps? Trial calculations suggest that the nation could reduce CO<sub>2</sub> emissions by some 100 million tons per year. This one innovation has the potential to surpass Japan's obligations for private-sector CO<sub>2</sub> emissions (about 60 million t-CO<sub>2</sub>) under the Kyoto Protocol. (Source: Trial calculations by the Heat Pump & Thermal Storage Technology Center of Japan and the Institute of Energy Economics, Japan)

#### Informing the public about energy-saving practices

Kansai Electric Power is dedicated to assisting its customers in practicing efficient energy use. For our corporate customers, we provide a full suite of services for this purpose, throughout the entire equipment cycle from equipment planning and design to installation, operation and maintenance. To serve individual customers, we provide a wealth of information about energy-saving techniques, including the household environmental account book described below.

#### Household environmental account book

The first commitment period of the Kyoto Protocol (FY 2008-FY 2012) begins next year. As this period approaches, every family and individual will need to gain greater awareness of environmental issues and change their habits accordingly. Kansai Electric Power publishes a new "household environmental account book" on its website, explaining at a glance how CO2 is generated by electricity, gas and water

use every month. Though it is currently aimed at the families of Company employees, Kansai Electric Power is encouraging broader use of the account book and promoting it in the Kansai region.



Household environment account book 

http://www.kepco.co.jp/kankyou/kakeibo/index.html

## We are working to promote customer energy conservation methods, the development and popularization of new energy

#### Providing information about saving energy through websites and pamphlets

Kansai Electric Power distributes pamphlets explaining how customers can use energy wisely, without undue effort or waste. On the Group's website, a simulation called Sho-ene Kaiketsu Mama Fighter offers tips on reducing energy use.



Sho-ene Kaiketsu Mama Fighter http://www.kepco.co.jp/sho-ene/index.html

#### Service to find out how much energy you use

The energy use notice we deliver every time a customer's electricity meter is read contains a comparison with the amount of electricity used in the same month of the previous year. On our website, customers can view their accounts to see how much electricity they have used in the past 15 months. Information services such as these provide a handy index for reducing lighting and heating expenses and saving energy.

#### Promoting the use of renewable energy

As of the end of fiscal 2006, solar-power and wind-power generators installed by Kansai Electric Power generate 959 kW and 150 kW, respectively. The Company is also conducting a wide range of related support activities, such as purchasing electricity from solar and wind generators and participating in the Kansai Green Electricity Fund, actively encouraging the use of renewable energy.

Other initiatives include research to select ideal locations for wind-power generation and to develop highly precise technologies to measure wind conditions.

#### Participation in the Kansai Green Electricity Fund

The Kansai Green Electricity Fund is a citizen-participation project operated by the Kansai Institute of Information Systems and Industrial Renovation (KIIS). The Fund solicits contributions from customers in the Kansai region to assist in the construction of solar panels, wind farms and other new types of energy generating equipment that do not emit CO2. Kansai Electric Power is proud to match its customers' contributions, taking an active part in the quest to promote the increased use of new energy sources.

Since its launch in fiscal 2000, the Kansai Green Electricity Fund has assisted in the installation of some 75 "new energy" equipment installations (as of the end of fiscal 2006), playing a key role in the diffusion and promotion of new energy sources in the Kansai region. We at the fund intend to continue to collaborate with Kansai Electric Power to undertake aggressive activities to promote the fund system.



Kansai Institute of Information Systems and Industrial Renovation

The Kansai Green Electricity Fund by KIIS http://www.kiis.or.jp/greenpow/gre00.htm **Reduction** – decreasing greenhouse gas emissions through the supply of electric power

We are working actively to reduce greenhouse gas emissions through promotion of nuclear power generation that puts assurance of safe and stable operation first, as well as maintenance and improvement of thermal power plant efficiency and other aspects of the electric power supply.

#### Promoting nuclear power generation

Nuclear power generation does not produce CO<sub>2</sub> emissions that cause global warming, and so is a valuable tool in measures to prevent global warming. Moreover, the uranium used in nuclear power plants as fuel is available in a number of politically stable countries, assuring stability of supply and economic efficiency.

For these reasons, based on safe and stable operations, Kansai Electric Power considers the promotion of nuclear power generation a high priority, and is actively pressing ahead with its development.

#### Lifecycle CO<sub>2</sub> emissions factor by source



(Taken from the Report of the Central Research Institute of Electric Power Industry) \* Calculations take into account all energy consumed, not just the fuel burnt in producing the electricity but also the energy consumed in obtaining the basic fuel for the construction of facilities, transportation of fuel, refining, use and maintenance.

#### Maintaining and improving the thermal efficiency of thermal power plants

Improving the thermal efficiency of thermal power plants contributes directly to the saving of fossil fuels, resulting in suppressing CO<sub>2</sub> emissions.

At the Sakaiko Power Station, we are presently pursuing a facility renewal plan that will incorporate a state-of-the-art combined cycle power generation method (approx. 58% thermal efficiency) with a temperature in the entrance of the gas turbine of around 1,500°C. Phased launch of the new facility will begin in April 2009. In other power plants, the Company is continuously maintaining and raising thermal efficiency through improvements in both equipment and operation.





#### Developing technologies to separate, recover and fix CO<sub>2</sub>

Kansai Electric Power is developing technologies to separate and recover CO<sub>2</sub> from emission gases at thermal power plants. The Group is also taking part in a project called carbon dioxide coal bed sequestration technology development, promoted by the Ministry of Economy, Trade and Industry (METI).

The verification mark

above identifies items that have received an

independent review from

Tohmatsu Environmental Research Institute Ltd.



SF<sub>6</sub> is a greenhouse gas that is used in gas circuit breakers and gas-insulated switchgears. The Company is working hard to increase SF<sub>6</sub> recovery rate when these devices are inspected or scrapped; in fiscal 2006, the recovery rate at inspection was 98.2%.

#### Admixture of biomass fuel at Maizuru **Power Station**

At Maizuru Power Station, a coal-fired thermal plant, the Company plans to generate power using a mixture of coal and wood pellets, a biomass fuel, starting from fiscal 2008. This

measure will reduce consumption of coal, reducing in turn CO<sub>2</sub> generation by approximately 92,000 tons per year.



Wood pellets



Kansai Electric Power is using the technological capabilities, knowledge and expertise that it has gained through years of operation as an electricity supplier to undertake efforts overseas that make use of the Kyoto mechanisms valuable for cost-effective greenhouse gas reduction on a global scale.

#### Solar power generation project in Tuvalu

As part of its environmental preservation activities with e8, a group of the world's leading electric power companies, Kansai Electric Power is implementing a solar power generation project in the small South Pacific island nation of Tuvalu. In this project, the Company plans to install a 40-kW solar generator and provide its construction and operation know-how to the Tuvalu Power Corporation, the body that will operate the power station. Construction will begin in October 2007.

Global warming is an issue of special concern in Tuvalu. As an archipelago with average elevation of just 2 m above sea level, if present warming trends continue, Tuvalu may become the first country to sink into the sea and disappear due to rising sea levels. The government of Tuvalu feels strongly that it must not only petition the developed world to generate less CO2, but also do its own part to introduce renewable energy, participating directly in environmental preservation. Kansai Electric Power planned this project to play a valuable role in this effort.

# Bird's-eye view of Hunahuti, capital of Tuvalu



Artist's conception of the completed solar power generation equipment

#### • Main overseas projects by Kansai Electric Power



#### Environmental afforestation project in Australia

Past logging of native vegetation in Australia has led to serious environmental problems, as soil salinization has made previously arable land unfit for farming. Responding to this crisis, in fiscal 2002, the Kansai Electric Power Group launched a project to help prevent global warming and soil salinization at the same time. In an agricultural area in the suburbs of Perth in Western Australia, we have planted 2.5 million malee eucalyptus trees in

a belt on 1,000 ha of agricultural land. This project is expected to fix approximately 860,000 tons of CO2 over a 20year period.



#### Wind Power Generation Project in China's Inner Mongolia

Kansai Electric Power has decided to procure CO2 credits, through Sumitomo Corporation, that are to be generated through 2012 by the Chifeng Dongshan 49.300 kW Wind Power Project. which is currently in operation in the Inner Mongolia Autonomous region in China.

In this project, 58 wind turbine generators have been installed in hilly areas in Chifeng City and the power generated is sold to a local power company. In addition, the project was registered as a CDM project by the United Nations in December 2006. CO2-free electricity, generated by the wind farm, is expected to reduce 750,000 tons of CO<sub>2</sub> emissions by 2012.

## Responding to community environmental issues

At Kansai Electric Power, we conduct comprehensive efforts to protect the community environment, including preventing atmospheric pollution and water quality contamination. We also take appropriate measures to prevent chemical substances from harming people and the environment.

#### **Community environmental protection** measures

At our power stations, we undertake measures based on laws, regulations, environmental protection agreements and other rules to reduce atmospheric pollution, water quality contamination, noise, vibrations and other problems. In addition, we monitor and measure the air and seas around our power stations and carefully evaluate the environmental effects of our operations on the regional environment to ensure that no problems occur.

#### Air pollution prevention measures (NOx, SOx, soot)

Our thermal power plants use low-sulfur and low-nitrogen fuels. and we have dramatically reduced sulfur oxide (SOx) and nitrogen oxide (NOx) emissions through measures such as the installation of flue gas desulfurization and denitrification equipment.

As a result, SOx and NOx emissions from our thermal power facilities are ranked among the lowest in the world.

In addition, high-performance electric filters installed drastically cut soot emissions.



NOx emissions and thermal power generation



#### SOx and NOx emissions per unit of thermal power generated



Amount of electric power generation: Energy Balances of OECD Countries 2002-2003 Japan: Research of The Federation of Electric Power Companies of Japan

#### Water quality degradation and hot water discharge measures

Water used in thermal power plants is thoroughly purified by a variety of processing equipment before discharge. Furthermore, to supplement oil barricades and loading arms, we have installed oil fences and other oil spill countermeasures to be completely prepared for the unlikely occurrence of an oil spill.

We also release seawater used for power plant cooling (hot water discharge) at a temperature no more than 7°C higher than the nearby ocean. In addition, to prevent affecting the sea creatures that live nearby, we choose appropriate methods and locations for water intake and output.

#### Noise pollution, vibration and odor prevention measures

Whenever possible, we place devices that could cause noise pollution or vibrations inside and far from the boundaries of our power plants and substations. We also reinforce machinery foundations and install noise absorbers and barriers to minimize noise pollution and vibrations.

#### Research on the use of bamboo charcoal for CO<sub>2</sub> fixation and effective applications in the Maizuru region

Kansai Electric Power is conducting empirical research on making charcoal from bamboo grown in the Maizuru region of Kyoto to fix CO2 from the atmosphere and on effective applications for bamboo charcoal, including water purification and soil improvement,

Since October 2006, the Group has been conducting a proving test in which bamboo charcoal is used as a purifying agent in water purifiers used to clean rivers and streams. This purifying action is enabled by the ability of microbes lodged in bamboo charcoal to break down organic substances in water.

In addition, the Group is drawing on a range of research findings to examine possible commercial applications making effective use of bamboo charcoal



Equipment used in proving tests of water nurification

#### Strict management of chemical substances

We conduct strict management of chemical substances to prevent harm to human health and impact on ecosystems in accordance with applicable laws.

#### PCB waste processing

Since April 2004, Kansai Electric Power has been smoothly processing pole transformers at our Recycling Center for Utility Pole Transformers to handle low-concentration PCB wastes in insulation oil and transformer cases.

In addition, for high-concentration PCB wastes, such as high-voltage transformers and condensers, we contracted the Japan Environmental Safety Corporation to process these items, starting in October 2006. Moreover, we are managing heavy electrical machinery and other equipment appropriately in response to the identification of PCB traces in some items.

#### Efforts to handle asbestos problems

Kansai Electric Power has been periodically monitoring and appropriately managing the condition of facilities identified as containing asbestos and taking appropriate action. In July 2005, we established the in-house Asbestos Countermeasure Investigation Committee, to further enhance our efforts to deal with asbestos problems.

We continue to undertake appropriate management and execute carefully planned measures to handle asbestos.

#### Volumes of chemical emissions and amounts transported

In anticipation of the enactment of the PRTR law, the Company prepared the Handbook on PRTR Chemical Management, as part of ongoing efforts to ensure the prudent and appropriate handling of chemicals. Using this handbook, and in accordance with the PRTR law, we disclose to the national government our volumes of chemical emissions and the amounts transported, and regularly make the same information public.

## Discharge and transferred substances subject to PRTR Law (FY 2006)

Substances	Application	Consumed quantity		vischarge (t/year)		Transferred (t/year)	
Oubstances	Αρριοαίοη	(t/year)	Atmospheric	Public waters	Soil	Sewage	Waste
2-aminoethanol	Water-supply treatment agents	58	0	0	0	0	4.7
Asbestos (designated)	Insulation materials	80	0	0	0	0	80
Bisphenol A epoxy	Paints	7.5	0.11	0	0	0	0
Ethylbenzene	Paints	14	14	0	0	0	0
Xylene	Fuel (kerosene), paints, cleaning oil	39	36	0	0	0	0.11
HCFC-225	Cleaning agents (for clothing)	4.6	4.6	0	0	0	0
Styrene	Paints	1.2	1.2	0	0	0	0
Dioxins (designated)	Waste incinerators (driftwood, etc.)	—	0.39 (mg-TEQ/year)	0.057 (mg-TEQ/year)	0	0	14 (mg-TEQ/year)
Toluene	Paints, cleaning oil	6.9	6.9	0	0	0	<0.1
Hydrazine	Water-supply treatment agents, chemical cleaning agents for boilers	130	< 0.1	0	0	<0.1	0.89
Tris phosphate (dimethylphenyl)	Control oil for power generation turbines	8.7	8.7 0 0 0 0 7.3			7.3	
* The consumed quantity indicates data for one ton or more of Class I Designated Chemical Substances and 0.5 tons or more of Specific Class I Designated Chemical Substances per year (excent for dioxin)							

\* The consumed quantity indicates data for one ton or more of Class I Designated Chemical Substances and 0.5 tons or more of Specific Class I Designated Chemical Substances per year (except for dioxin).
\* A "0" indicates no discharge. \*"<0.1" indicates discharge was less than 0.1 t/year.</p>
\* Dioxin quantities indicate discharges and transfers from facilities with special requirements (waste incinerators, etc.) only. No consumed quantities are reported.
\* Displayed to two significant digits



The verification mark above identifies items that have received an independent review from Tohmatsu Environmenta Research Institute Ltd

#### Implementing environmental assessments

An environmental assessment is a consultative process with respect to the environmental impact of a company's business activities. The company's operations are measured and evaluated to determine the degree of their environmental impact. The results are disclosed to the regional community and opinions are canvassed. These findings inform the company's environmental efforts and are reflected in its operating plans.

In environmental assessments of power generating stations, not only the procedures stipulated in the Environmental Impact Assessment Law, but also the specific steps outlined in the Electricity Enterprises Law, must be followed.

Kansai Electric Power is upgrading its generating equipment at Sakaiko Power Station to a combined cycle power generation system. This upgrade was the subject of an environmental assessment lasting from January 2004 to July 2006

The station's combined cycle uses a dedicated natural-gas turbine (1,500°C-class) to deliver high-efficiency power generation. This upgrade will dramatically reduce CO2 and NOx emissions from present levels.

Similarly, we are evaluating the commercial viability of upgrading the Himeji No. 2 Power Station to combined cycle power generation. The environmental-assessment process for this move began in May 2007.

#### • Overview of equipment upgrade at Sakai Power Station

Item	Current	After upgrade
Method of generation	Steam	Combined cycle
Capacity	2 million kW (250,000 kW × 8 turbines)	2 million kW (400,000 kW × 5 turbines)
Fuel used	Heavy oil, crude oil, natural gas	Natural gas
Thermal efficiency (power generation end) (lower calorific value base)	Approx. 41%	Approx. 58%

Note: Start of operations: From April 2009 for No. 1 unit to October 2010 for No. 5 unit (tentative)



he color scheme includes motifs the power plant's grounds and in Hamadera Park.

## Promotion of business activities suitable for a sound material-cycle society

At Kansai Electric Power, we are promoting efforts related to the three Rs (reduce, reuse and recycle), including green purchasing, energy and resource conservation in offices and other business places and other efforts to further develop our Group as a sound material-cycle enterprise.

#### Industrial waste recycling rate and landfill disposal volume performance

Kansai Electric Power promotes efforts related to the three Rs for waste and other materials throughout all its operations, to encourage business activities appropriate to a sound materialcycle society. For example, waste concrete utility poles are recycled as roadbed materials, and all of the coal ash and gypsum produced by the Maizuru Power Station is recycled as raw materials for cement and the like.

We strived for a target of limiting total landfill disposal of industrial waste\* to 4,500 tons or less (a 50% reduction from fiscal 2000 level), to strengthen our sound material-cycle business activities. In fiscal 2006, however, landfill disposal totaled 5,744 tons due to an increase in the volume of difficultto-recycle waste such as insulation scraps from our thermal power stations and other sources. This was the second fiscal year in a row that we were unable to meet this target.

\* Excluding special management industrial waste



#### Applications for resources recovered from industrial and other waste



#### Efforts to achieve zero emissions

At Kansai Electric Power we have adopted a new industrial waste recycling rate target of 99.5% or above in line with our commitment to achieving zero emissions in our business operations in the medium and long term. We hope to achieve this target over the next five years or so through incremental, step-by-step efforts.

In fiscal 2007 we will strengthen our in-house system for promoting recycling and move forward with efforts to collect information on recycling contractors and to establish mechanisms for information sharing within the company.

#### Concrete efforts to meet targets



#### Joint research aimed at popularization of electric cars

Electric cars are clean energy vehicles that use batteries to power a motor and produce no exhaust emissions. Kansai Electric Power has been involved in research on electric cars for some time. In fiscal 2006 we launched a new joint research initiative in collaboration with The Tokyo Electric Power Company, The Chugoku Electric Power Company, The Kyushu Electric Power Company, and Mitsubishi Motors aimed at the popularization of these vehicles

The participating electric power companies are responsible for carrying out trial runs, collecting data, and evaluation of actual market viability, while Mitsubishi Motors supplies the test vehicles and analyzes data from trial runs.



#### Conservation of energy and resources in our offices

We continue efforts at each of our facilities to use resources carefully. In particular, we have set company-wide targets for electricity, water, copy paper, and vehicle fuel conservation, and are pursuing a variety of efforts to reduce their use at our individual facilities.



#### Estimation of CO<sub>2</sub> emissions reduction through our efforts to conserve energy and resources

At the Kansai Electric Power Group we have established Eco Action items to help conserve energy and resources in our day-to-day work. An estimation based on our performance figures for fiscal 2006 shows that the efforts of the Group as a whole produced the equivalent of a reduction of 608 tons of CO2 emissions during the 12-month period. We believe that



The verification mark above identifies items that have received an independent review from Tohmatsu Environmenta Research Institute Ltd.

such efforts can be expanded throughout the private sector, where carbon dioxide emissions are currently increasing substantially

Action item		Reduction volume	CO <sub>2</sub> emissions index	Reduction in CO <sub>2</sub> emissions	
Reduction in office electricity usage		(2,972 MWh)	0.358kg-CO2/kWh	(1,064 t)	
Reduction in water usage for personal purposes		(49,000 m <sup>3</sup> )	0.36kg-CO2/m3	(18 t)	(608 t)
Increase in vehicle	Gasoline usage	+252 kL	2.32kg-CO2/L	+584 t	(000 L)
fuel consumption	Diesel usage	(42 kL)	2.62kg-CO2/L	(110 t)	

#### Increasing the number of green purchasing items

At Kansai Electric Power, in accordance with Japan's green purchasing promotion policy, which was established in 1999, we are pursuing green purchasing efforts by giving priority to products and services with low environmental impact when buying supplies. Specifically, we have established a green purchasing manual and are promoting efforts to realize the company-wide purchasing targets that we have set.

We maintained a high rate of 96.3% for green purchasing of 43 office supply items in fiscal 2006. In addition, we have reevaluated our green purchasing manual in response to changes in the green purchasing guidelines. Furthermore, we are working to make our performance management more efficient by using an environmental management system and other measures.

By increasing the range of office supply items to 45, we will work to maintain a high green purchasing rate at Kansai Electric Power.

In fiscal 2006, we actively advanced the procurement of environmentally friendly materials for electric lines, transformers, and other materials and parts for electric power facilities, raising the number of green purchasing items to 108. The number of covered items will rise to 111 in fiscal 2007 as we continue to expand the scope of our green purchasing program.

#### Green purchasing results for electric power facility materials and parts



#### Green purchasing results for office supplies and related items

lt e ere	Green purchasing rate			
Item Targets Performance (FY 2006)				
	approx.	96%		
Office supplies (43 items)	100%	Copy paper	99%	
		OA devices (5 items)	99%	
		Stationery (26 items)	89%	
		Appliances and furniture (11 items)	94%	

## Efforts to protect the natural environment

Kansai Electric Power is involved in a variety of efforts to protect the natural environment. These are motivated by our desire to provide a good environment for local residents and to preserve the natural ecosystem.

#### Afforestation and creation of green spaces under our environmental revegetation policy

In the large-scale green spaces surrounding our thermal and nuclear power plants, we have introduced an Ecological Revegetation Method designed to create natural woodlands as a highly effective way to preserve the environment. The method involves dense planting of mixed varieties of saplings suitable for the geographical region in order to create a forest similar to the natural state quickly. Many of our facilities are already surrounded by lush greenery that forms a habitat for wild birds, insects, and small animals.

In addition, we landscape the public areas surrounding our substations and other facilities in urban settings to provide relaxing spaces for local residents to enjoy.



Environmental revegetation at our Nanko Power Station

#### Creating biotopes and holding viewing parties

We are working to create environments (biotopes) around our thermal and nuclear power plants where insects such as dragonflies and fireflies can thrive. We also organize viewing parties and other events to encourage local residents to become more familiar with them.

At the Okutataragi Power Station we are involved in the creation and management of a biotope that we hope will become a breeding ground for the forest green tree frog, which has been designated "B rank" in Hyogo Prefecture's Red Data Book of endangered species.



Biotope at our Okutataragi Power Station

#### Yamazaki Traditional Horticulture Laboratory

Since ancient times the Japanese have prized harmony with nature and have actively incorporated horticulture into their lives. The art of breeding garden flowers and plants to achieve novel combinations of colors and shapes has been particularly highly prized from the Edo period (1603-1868) onward, and a large number of new varieties have been produced.

"Traditional horticulture" can be considered a crystallization of the traditional culture handed down by skilled gardeners from generation to generation. However, such gardens are not protected by the Japanese government, and in recent years the danger has arisen that most of them will disappear.

At Yamazaki Traditional Horticulture Laboratory in Shiso, Hyogo Prefecture, Kansai Electric Power is working to preserve precious examples of traditional horticulture and to assist in the establishment and preservation of horticultural techniques.

Yamazaki Traditional Horticulture Laboratory is the only facility of its kind in Japan where living examples of traditional horticulture are collected and preserved. The collection of the laboratory presently includes more than 2,000 varieties of traditional Japanese garden plants.



What I think as I watch the forest grow.



Seiji Ueno Office of Environmental Considerations, Environmental Technology Group

We began using the Ecological Revegetation Method to create green spaces around our thermal power stations and other facilities about 30 years ago. Since then some plants have withered from salt damage due to typhoons and the like, but I have also seen seedlings that were only about 50 cm tall at first grow into mighty trees some 15 meters in height. These trees have also spawned many new seedlings, and the woodlands have expanded to become broad green spaces.

It may be true that the trees have thinner trunks than those in a natural forest, but as a group they are able to withstand punishing conditions and to grow and flourish. When I look at the trees I think that we at Kansai Electric Power are also like a forest: we must work together as a team in order to advance toward our goals.

## Efforts by group companies

The companies of the Kansai Electric Power Group are actively engaged in efforts to contribute to society through environmental preservation. They make use of their expertise and advanced technology in the field of environmental preservation, backed by the management resources of the Group as a whole.

#### Development of the FDEM probe The General Enternation

The spate of natural disasters in recent years has increased the necessity of confirming the safety of existing infrastructure equipment and facilities. Against this background, The General Environmental Technos has developed an FDEM (Frequency Domain ElectroMagnetic induction) probe that generates electromagnetic fields at multiple frequencies to measure specific resistance quickly (multiple-frequency probe technology NETIS registration No. KK-050083-V). This probe technology can be used to identify weak points underground, for example, under road surfaces, in mountain fissure faces, in embankments along rivers, and behind revetments. The FDEM probe makes it possible to search for landslide locations, cavities, and foreign matter quickly and cheaply. The General Environmental Technos also evaluates facilities based on the survey results.



#### Opening of Good Health University Kanden Amenix

In September 2006, Kanden Amenix opened the Good Health University Northern Alps Campus at Kuroyon Royal Hotel in Omachi, Nagano Prefecture. "Good Health University" is a practical educational program on healthy living organized by Minkatsu Corporation operated by the Ministry of Economy, Trade and Industry. It is grounded in "hot spring treatment studies" in natural settings with fresh air and features a combination of local "hot spring resources," "food resources," "exercise resources," and "environmental resources." Good Health University Northern Alps Campus provides participants

with an opportunity to enjoy the hot spring facilities for recreation alongside services that focus on promoting good health.



Example programs





Water exercises in a heated pool

Hot yoga



#### **Recycling by the Kansai Electric Power** Group

As recycling becomes a familiar activity in our daily lives, the Kansai Electric Power Group is working to promote recycling of a wide variety of items.

#### Recycling utility poles

The Kanden L&A

Kanden L&A recycles old utility poles. The company's machine for pulverizing concrete utility poles is one of only three of its type in Japan.

1 Removal:	Concrete utility poles are removed during roadwork, etc.
② Sorting:	Utility poles that are still serviceable are reused, and the remainder are transported to the Kanden L&A for processing.
③ Separation:	At the Kanden L&A plant, the concrete utility poles are crushed and the reinforcing steel and concrete are separated.
④ Recycling:	The pulverized concrete is used as roadbed materials, etc., while the reinforcing steel is melted down and recycled.



Pulverizing old concrete

#### Recycling driftwood from dams

Kanden-el-farr

Kanden-el-farm Inc. recycles driftwood that collects in the dams of our hydropower plants into environmentally friendly products such as coasters, business card cases, and potted plant kits sold under the name "El Pianta." In addition, their fertilizer and planting soil made from driftwood from dams is sold at home centers throughout Japan and is very popular among both ordinary families and farming households.



El Pianta consists of a biodegradable pot, soil and a bulb

## Contributions to society as a corporate citizen

As an enterprise with deep connections to communities and individual lifestyles, we are actively contributing to regional society at each of our business facilities.

Grand Prize

#### Safe havens for children program (110-ban movement for children)

In recent years many crimes have occurred in which children were victimized on their way to or from school. This has led to the creation of the safe havens for children program (110-ban movement for children) nationwide.

Kansai Electric Power is participating in this effort in collaboration with our Group companies and labor unions. We are utilizing our deep roots in local communities, together with a network of companies and labor unions covering the entire Kansai region, to help ensure the safety of local communities.





Safe haven vehicle with 110-ban movement sticker (Ogimachi Sales Office)

110-ban movement safe haven marker cone (Shiga Sales Office)

#### Sponsoring community events

Each of our business facilities sponsors local events as a way to express our thanks to the members of the communities in which we operate.

#### Ako Cherry Blossom Festival (Ako Power Station)

Ako Power Station is known locally as "the cherry blossom power station" due to the 200 cherry trees planted on its grounds. Each year the power station sponsors a public Cherry Blossom Festival on the second Sunday in April, when the cherry blossoms are in full bloom.

April 2007 marked the 15th time the festival was held and corresponded with the 20th anniversary of the station's opening. Accordingly, the plant employees planned extra events, stage performances, and the like. Approximately 4,000 people attended. The stage performances included Japanese-style taiko drummers from a local nursery school and a show by dance school students. This popular event provided an excellent opportunity to get to know members of the local community better.



Cherry Blossom Festival at Ako Power Station

#### Assisting people with disabilities through art

#### Kanden Collabo Art 21 exhibitions for disabled artists

Kanden Collabo Art 21, a series of exhibitions featuring submissions of art created by disabled people, is a collaborative project that connects businesses and society through art. It is organized in collaboration with the Tanpopono-ye Foundation, a group that has extensive experience with disabled artists. We accept works of art from throughout Kansai, and every year we receive over 600 submissions. The most outstanding are selected for awards and displayed in public exhibitions. In fiscal 2006, the 6th year we held this event, we held exhibitions at seven locations throughout Kansai and Wakasa to allow as many people as possible to directly experience art created by disabled people.



#### Fostering increased interest in student sports

#### Supporting student American football in Kansai

Kansai Electric Power has been supporting student American football in Kansai since 1988.

The KANDEN FLASHBOWL SERIES is a league tournament held each spring and autumn. It aims to generate interest in student American football in Kansai and raise the level of skill.



KANDEN FLASHBOWL SERIES

#### Helping art and culture to bloom

#### Classical concerts

Since 1998 we have been holding classical concerts, with an emphasis on local Kansai musicians, at our headquarters, branches and other locations.



Kanden classical special in FY 2006: An Invitation to the Opera

#### Support for employee volunteer activities

We support the desires of our individual employees to contribute to society through volunteer activities. In addition to offering volunteer time-off, a matching gift program and other support policies, we provide information to our employees through in-house publications to raise their desire to participate in volunteer activities.

#### Support system for volunteer activities

Matching gift program Results (FY 2006): 9 instances totaling ¥500,000

Under this system, the company makes contributions up to a set limit to match support provided, either by individual employees or collected through workplace fund-raising activities, to public organizations that meet fixed requirements.

#### Volunteer time-off program

Results (FY 2006): 121 instances totaling 244 days

This system allows employees that participate in activities that contribute to society and meet fixed conditions to take 50% to 100% of the time devoted to such activities as specially recognized time off, up to an annual limit.

Volunteer sabbatical program Utilized by 14 employees from FY 1992 to FY 2006

This program enables employees who have worked for the company for five years or more to take up to a year off in order to participate in long-term volunteer work for a public social welfare organization. In the case of the Japan Overseas Cooperation Volunteers, however, the maximum sabbatical period is two years and six months.

Participation in the Japan Overseas **Cooperation Volunteers through the volunteer** sabbatical program



I am currently teaching electrical engineering in the Electrical Engineering Division of the college. We recently started an internship program in collaboration with KINDENKO (Thailand), the local subsidiary of Kinden Corporation, in order to increase the motivation of the students. Each day is hard work, but I am doing my best in the hope of making my own small contribution to the social development of Thailand.

#### Efforts for regional vitalization

#### Attracting businesses to Kansai from Japan and overseas

Since fiscal 2000, Kansai Electric Power has been cooperating with local governments and business communities in an effort to promote economic growth in the areas where we operate by attracting new businesses. For example, we provide information on the incentive system by local governments and industrial parks in Kansai to enterprises that are investigating Kansai as a new location. We also conduct public relations efforts and other activities to promote the convenient transport access and numerous merits of the Kansai region in order to attract the attention of businesses that are considering investment in domestic facilities

#### PR tools

We produce The KANSAI Guide to Investment, a concise pamphlet with information on industrial parks in Kansai and the incentive systems offered by local governments. Japanese and English versions of The KANSAI Guide to Investment may be accessed on the Kansai Electric Power Web site.



The KANSAI Guide to Investment makes it easy to search for information on industrial parks in Kansai. It is also available in English in order to attract business investment from overseas.

We also publish the magazine Community Information on a bimonthly basis. It contains information on industry-university collaboration projects, industrial promotion policies and the latest incentive systems offered by local governments, and available industrial sites.

#### An accelerating concentration of high-tech industry

Matsushita Plasma Display Panel Co. has built a new factory for plasma display panels on the site of Kansai Electric Power's decommissioned Amagasaki No. 3 Power Station, and production started in September 2005. They have also announced plans to build another factory, which will be the largest of its kind, on an adjacent site. Construction is presently underway with the goal of starting operation in 2009. These large state-of-the-art factories harmonize beautifully with the Amagasaki coastal zone, an area that is being redeveloped according to concepts outlined in the Amagasaki Forest Plan for the 21st Century.

In a related development, Asahi Glass Co., Ltd., has built

a plant to produce glass panels for plasma displays on the site of Kansai Electric Power's decommissioned Osaka Power Station in Suminoe Ward, Osaka. The Kansai region is rapidly becoming home to a concentration of hightech industry in the flatscreen TV and other fields.



The new Matsushita Plasma Display Panel factory built on the site of a decomm Kansai Electric Power station in Amagasaki

The KANSAI Guide to Investment http://www.kepco.co.jp/english/i-park/

## Promotion of diversity and creation of comfortable workplaces

While complying with applicable laws and regulations, the entire Kansai Electric Power Group is pursuing efforts for the realization of fair and impartial employment, and the creation of comfortable workplaces that suit individual abilities and aptitudes.

#### Promotion of hiring in compliance with the Equal Employment Opportunity Law

Through the entire work cycle from hiring to retirement, we conduct personnel deployment with no distinction of gender. In accordance with the 1986 enactment of the Equal Employment Opportunity Law and the revisions of the same law in 1999 and 2007, we have consistently worked to create employment environments where all employees can fully use their abilities.

#### Support for lifestyle choices

#### Diverse working time systems

In order to support flexible lifestyles, we are operating existing working hour and time-off systems adaptably while implementing new ones, including the Refresh Time-off and Flexible Time-off long-term time-off systems and the Selective Working Hour and Flextime Working Hour systems to promote efficient work.

Furthermore, to help support family lifestyles with greater flexibility and peace of mind, we have established systems for half-day time-off, sick-leave time-off accumulation and time-off to take care of sick children.

#### Expansion of "cafeteria" plan

We have introduced a "cafeteria" plan that allows employees to choose the services they require and receive support by selecting from a varied "menu" of options. In fiscal 2006 we reviewed the system, based on the views of employees, to make it even more convenient and effective.

#### Support for childcare and nursing

To support both work and households, we provide a diverse variety of options to meet employee needs. For example, we introduced a temporary leave system for child-raising in 1991, before such provisions were mandated by law. At present, employees can utilize this system until the end of the fiscal year in which their child turns three. The system is easy to use and well-established, with several male employees presently making use of it, even though it is primarily utilized by women.

#### Main child-raising support systems



#### Appropriate management of work hours

Through the entire work cycle from hiring to retirement, we endeavor to monitor the work hours of employees and to comply with the applicable laws by, for example, encouraging employees working long hours to meet with and receive guidance from industrial physicians. At Kansai Electric Power we also require employees who work overtime to receive instructions from management beforehand and to self-report the hours worked. In addition to having management personnel check the reported overtime hours, we aim to instill an awareness in all employees of the need for appropriate management of work hours.

#### Promotion of employment of older people

Efforts to employ the elderly at Kansai Electric Power predate the implementation of the Law for the Stabilization of Employment of Older Persons in 2006, which mandates such measures. Our reemployment system for employees retiring at the age of 60 was introduced in 1996. In 2001 we established the e-Staff system, which increased the mandatory retirement age to 65 in stages and greatly expanded the types of work covered. Today, more than half of our employees choose to continue to work after age 60 under the e-Staff system. It enables older employees to continue to use their knowledge and experience in their familiar workplaces.

#### f-Staff system

Approximately 20 employees are presently participating in our f-Staff system, which reemploys women who resigned their jobs with Kansai Electric Power to give birth or to raise their children. Based on work performance, f-Staff may eventually be hired as full-time employees if they so desire.

#### Words of an f-Staff employee

I continued to work full-time at Kansai Electric Power after I got married, but I had to resign when I had my first child because my husband had his own work responsibilities and neither of our parents lived nearby. Later, when my second child entered kindergarten, I started to think about reentering the workforce. Then found out about the f-Staff system, and since April 2006 I have worked as an f-Staff employee.

The system allows me to choose my work hours so that I can take my children to and from kindergarten. It makes it possible to combine childrearing with working outside the home. The f-Staff system provides another alternative for employees who want to do both, alongside existing childcare leave systems

and shortened work-hour systems. I really think it's wonderful.



#### Promotion of the employment of people with disabilities

Our efforts to employ the disabled are ongoing. For example, in 1993 we established Kanden L-Heart, a special affiliate company where we have actively employed disabled people for many years. Our employment rate for

Change in the rate of employment of disabled people (Unit·%) 1.98 1.95 10 0 02/6 03/6 04/6 05/6 06/6

disabled people was 2.03% in June 2006, exceeding the legally required employment rate of 1.8%

again. In the future, with the goal of increasing their independence and participation in society, we will do everything

#### we can to promote the employment of people with disabilities Kanden L-Heart (business facility employing a large

number of severely disabled people ) At present, 97 disabled employees work at Kanden L-Heart. In fiscal 2006 the company established Friendly Community Garden: Udono-no-Sato in order to expand its employment of disabled people. Kanden L-Heart is considered a model employer of the disabled, and has received many visitors from all over Japan. The total number thus far is just short of 50,000. In August 2006, HIH Crown Prince Naruhito visited the facility.

There has been growing demand in recent years for employment opportunities for the mentally disabled. We hired two such persons in fiscal 2005 and two more in fiscal 2006. We also have trained four in-house job coaches (No. 2 workplace adaptation assistants) who provide assistance to disabled people having difficulty adapting to the work environment. In the years ahead we plan to expand our efforts to employ people of various mental and physical conditions, with the emphasis on the

severely disabled, who continue to be underemployed, and including people with mental or developmental disorders. We hope to develop new model businesses tailored to the characteristics of different disabilities. Shiro Nakai



President, Kanden L-Heart Co., Inc.

#### Maintenance of stable labor and management relations

Kansai Electric Power has concluded union shop agreements with the Kansai Electric Power Labor Union, and we have built over 50 years of history of working toward the shared goal of improving company productivity accompanied by improving labor conditions. We have built good labor and management relations based on a strong relationship of trust. In order to maintain this good relationship, we will hold operation confabulations about company management plans and other topics among other efforts to promote mutual understanding and agreement between labor and management.

#### Main opportunities for communication between labor and management

	-
Operation confabulation	Promote mutual understanding between labor and management about the company management plan etc. (held annually)
Operation discussion	Consultation between labor and management about organizational reform and other important issues (held as necessary)

#### Enhancement of personnel vitalization systems

Our employees are the driving force behind the future growth of the Kansai Electric Power Group. With this in mind, we are actively introducing a variety of systems for the cultivation and management of personnel.

#### Cultivation of personnel

We are actively implementing educational and support policies to promote the growth as individuals of each of our employees. In fiscal 2006 we put particular effort into improving training for different specialized fields and stages of capability, and ensuring that expert knowledge and skills are passed on to new employees, with the key policy of "implementation of training to support reliable execution of work tasks, with safety as the top priority." In addition, we have increased the subjects and coverage of our Challenge Training courses, which employees can attend on their days off. The response has been enthusiastic, with 4,311 participating in the 151 courses offered.



#### Diagram of the training system for FY 2006

#### Promotion of human resources management

We endeavor to create an environment in which each and every employee can track their own growth and maximize their innate abilities while constantly striving for improvement. In fiscal 2006 we reviewed the existing evaluation system, adding a new "contribution evaluation" and enhancing communication with frontline employees in order to ensure the system takes firm root. In the future we plan to study ways to restructure our personnel vitalization policies, starting with the employee wage system, with "growth" as the keyword.

#### Introduction of an Expert Technician Recognition System

We introduced a system of selecting and certifying Expert Technicians in fiscal 2007 (see page 10 for details). This system will ensure that key technology and skills specific to the electric power industry are reliably handed down to new generations of employees. In addition, we expect it to inspire our employees to improve their own technical knowledge and skills.

## Diverse opportunities for communication with stakeholders

The Kansai Electric Power Group actively works to create opportunities for exchanging views with customers and for conveying our ideas and concerns to customers. We make extensive use of a variety of publicity media, including print publications and the Internet.

#### **Communication at every business** location

We are actively promoting communication with local customers at all our business sites in order to deepen their understanding of our business activities and to hear their opinions so that we can reflect them in our efforts to improve our enterprise.

Branch offices, district offices and sales offices hold customer meetings. We invite local experts and opinion leaders to these meetings in order to deepen their understanding of Kansai Electric Power business activities and to listen to their opinions and requests related to every aspect of these activities.



Creating opportunities for communication with local residents



Tour of substation operations (customer meeting)

#### Creation of public relations facilities

For people in our region to understand Kansai Electric Power's business activities and electricity generation efforts while increasing communication with local communities, we have built public relations facilities at power plants and elsewhere that are being used extensively by ordinary people.

Currently we are working with Wakayama Prefecture and the city of Gobo to build new public relations facilities in the Port of Hidaka New Energy Park (EE Park) with the aim of researching and popularizing new sources of energy (the park is scheduled to open in October 2007).



Port of Hidaka New Energy Park

#### Providing information through print publications and email magazines

We are making use of media, including print publications, to broadly provide information to deepen understanding of the business activities of the Kansai Electric Power Group.

Examples include the regularly issued public relations magazine Watt, which features our business activities in addition to lifestyle information and regional topics, and Insight: Keywords for Understanding the Times, an e-mail magazine aimed at opinion leaders. In addition, through the present report we are introducing our business activities and efforts to promote corporate social responsibility (CSR) concisely and clearly, and seek to deepen our readers' understanding

Furthermore, we administer questionnaires to gather readers' opinions, which we use in our efforts to improve our business activities and corporate social responsibility efforts.



Group CSR Report Group Environmental (published annually) Initiatives

#### Communication via the Internet

In the interests of rapid and accurate disclosure, we present on our Web site the contents of press conferences, messages from Kansai Electric Power, and various other information

In addition, Kanden e-Patio, an Internet club (with approximately 35,000 members) we launched in 2002, provides information through an e-mail magazine and its own Web site

We have also established an e-mail inquiry desk and are actively advancing two-way communication with all our stakeholders



Kanden e-Patio (updated regularly)



#### Providing information to media agencies

Information about Kansai Electric Power on television and in newspapers greatly influences customer understanding of our business and our corporate image. Kansai Electric Power actively provides information to media agencies, including regular press conferences with the company President. In addition, we respond swiftly and appropriately to reporting requests from media agencies, and disclose and communicate accurate information.



ress conference

#### Promoting communication within the company

We promote active communication within the company to encourage sharing and understanding of business information, and to enable employees and management to work together as a team.

We provide time-sensitive information via our in-house portal site and publish a monthly in-house newspaper, Kansai Electric Power News. In keeping with the goal of reliably conveying business information to each of our employees, especially important information, we sometimes publish special issues and

include explanatory matter as summaries in the monthly issues. We also administer questionnaires after issues appear and use this feedback to implement changes as needed in order to make the newspaper more useful to our employees.

In the case of particularly

important or urgent information,

messages from the President, are

run on our in-house television

announcements,

system



Kansai Electric Power News (published monthly)

#### Sharing insights from customers throughout the Group

including

We receive a variety of views and requests regarding our business activities in the course of our day-to-day work and when we encounter members of the community. Our "Dambono-Koe" feedback system is designed to ensure that every one of these valuable opinions can be used to help improve the operations of Kansai Electric Power. Customer views collected through Dambo-no-Koe are conveyed to the management at our business locations and also shared throughout the entire company, including top management. We sort these opinions according to content and utilize them to the full.

#### Providing information to shareholders and investors

Kansai Electric Power discloses information to our investors impartially and swiftly. We provide information to our institutional

investors, individual investors, public groups and a wide range of other investors in Japan and overseas in response to various needs through the Kansai Electric Power web site and other means.



Company explanatory meeting about FY 2005 financial statement (May 10, 2006)

#### Company explanatory meetings and visits to investors

We periodically hold company explanatory meetings headed by the President, and visits to investors in Japan and abroad by the President and corporate officers. Through these meetings, corporate managers promote active two-way communication with investors.

#### Investor relations tools for providing information

We create pamphlets that we also make available as downloads from our web site to provide our shareholders and investors with an overview of Kansai Electric Power business activities, our management targets, financial data and other information



Company Profile (profile of Kansai Electric Power, published annually)



Factbook (objective overview of the company and analysis of market trends, published annually)



Annual Report (published annually)



Kanden Davori (newsletter for shareholders, published half-yearly)

Kansai Electric Power Web site (corporate information and investor elations, updated regularly)



For shareholders and investors (IR information) http://www.kepco.co.jp/ir/

# Consciousness raising and autonomous efforts in individual workplaces

In fiscal 2006 we continued to promote autonomous efforts in every workplace, mainly through discussions, led by compliance promotion staff (section manager level) appointed at each location, of themes closely related to the specific tasks being carried out.

# Consciousness raising in individual workplaces

In order to conduct well-grounded compliance promotion efforts and deepen the awareness of our individual employees, members of our compliance promotion staff have promoted grassroots compliance activities at every workplace since fiscal 2004.

In fiscal 2006, our efforts to train CSR promotion leaders included compliance training sessions (a set of two sessions) led by outside instructors and targeted at top executives (CSR promotion leaders) in each division and business location. This provided an opportunity in individual workplaces for consciousness raising regarding compliance, as described below.

In fiscal 2007, we will increase our emphasis on discussions in individual workplaces in order to foster in employees a concrete awareness of compliance risks and problem points in their own day-to-day work and a shared risk consciousness throughout the entire workplace.



③ Training by compliance promotion staff based on actual examples of compliance

# Promotion of dialogue with frontline workplaces

Staff from our Compliance Committee Secretariat (Legal Department) visit our frontline workplaces to conduct dialogue and training. This effort is designed to ensure that compliance awareness becomes firmly rooted throughout Kansai Electric Power and to further promote autonomous efforts at each workplace.

In fiscal 2005 such visits covered all 82 of our frontline workplaces, including our sales offices and power stations, and involved dialogue-centered training for compliance promotion staff. The training emphasized the importance of risk management and preventative measures at each workplace.

In fiscal 2006, staff from the Compliance Committee Secretariat visited 31 business locations, mainly technical facilities such as operation and maintenance offices and power stations, for "frontline workplace dialogues." These sessions with the compliance promotion staff at each location included the following: (1) listening to descriptions of awareness of the issues at the site, areas of concern, and opinions and requests; (2) dissemination of thoughts on compliance as part of the risk management process; (3) providing knowledge about legal issues of rising public concern, such as falsified work contracts (*giso ukeoi*: bringing in workers from independent contractors to have them work like temporary workers (*haken*) as if dispatched from staffing agencies but without *haken* benefits); and (4) efforts to promote the utilization of traveling legal consultations and the legal consultation system.

In fiscal 2007, the Compliance Committee Secretariat plans to further broaden its program of direct visits to frontline workplaces for dialogue and training activities.



Discussion and training at Sakaiko Power Station

#### A word from one of our compliance promotion staff



Toshiyuki Hayashi Head Jintsugawa Power System Center Hokuriku District Office

In order to maintain hydropower plants, dams and transmission facilities, and to supply stable electric power, it is most important to ensure that our basic business activities have been carried out correctly, giving top priority to CSB and safety

As a member of the compliance promotion staff, I make an effort to conduct basic business activities while ensuring compliance with all applicable laws and regulations. I always advise our employees to confirm and implement laws and in-house rules, and to ensure zero accidents and work-related incidents.

The causes of risk on the frontline of the workplace can be both great and small. I believe in raising consciousness by sharing information and recognizing risks through daily communication. We are working to create good teamwork and a workplace that promotes mutual communication, and in which we point out each others' weaknesses, give advice and consider others.

# Implementation of policies for ensuring compliance with applicable laws and regulations

In addition to raising awareness, we strive for practical implementation. In fiscal 2006 we launched an enlightenment effort at Kansai Electric Power to instill awareness regarding compliance with applicable laws and regulations. We also implemented a variety of measures to deal with specific legal risks.

# Spurring attention to legal issues in a timely manner

The Compliance Committee Secretariat within the Legal Department works to deal quickly and appropriately with specific legal risks as they arise, holding explanatory meetings and disseminating information on legal issues of increasing concern to society as a whole on a Group-wide basis and in a timely manner.

For example, falsified work contracts (*giso ukeoi*) became a national issue in 2006. In September of that year the Compliance Committee Secretariat (Legal Department) held explanatory meetings for every division of Kansai Electric Power and instructed that inspections be carried out. They also advised consultation with the Legal Department in any case where there was a possibility of *giso ukeoi*.

Subsequently, they made use of various opportunities that presented themselves to explain the situation at individual Group companies and frontline worksites such as operation and maintenance offices and power stations, and they provided guidance on corrective measures in response to specific matters brought to their attention in discussions.

We will continue to work to raise awareness throughout the Kansai Electric Power Group of legal issues such as *giso ukeoi*. Should any questionable practices come to light, we will take immediate action to eliminate them.

#### Compliance with the Anti-Monopoly Law

The economic environment in which Kansai Electric Power operates is undergoing major changes, such as further liberalization of retail sales of electrical power. This means we must be more careful than ever to conduct our business with an awareness of the Anti-Monopoly Law and to ensure fair competition. In the past, Kansai Electric Power produced and distributed in-house manuals and explanatory materials on the Anti-Monopoly Law. Then, in June 2006, we began updating our Anti-Monopoly Law Observance Manual (first issued in 1996) to reflect revisions to the Electricity Enterprises Law and the "Guidelines for Proper Electric Power Trade" issued by METI.

In July and August 2006, we held Anti-Monopoly Law training sessions, as we do every year, at our headquarters and branches in order to deepen understanding of this topic among our employees.

As part of our efforts to ensure thorough compliance, in the years ahead we will continue these training sessions with the aim of instilling in our employees a correct understanding of the intent and content of the Anti-Monopoly Law that will be reflected in their work.

#### Compliance activities at Kanden Plant Corp.



Chief Manager, General

Administration Group

General Administration

and Personnel Division

Kanden Plant Corp.

Kanden Plant Corp. has put a system in place to promote compliance. In addition to a message from top management issued in July 2005, we have adopted a Kansai Electric Power Group CSR Action Charter, established compliance regulations and policies, created a Compliance Committee, and set up a compliance consultation desk. In addition, we have taken steps to ensure our employees carry out their day-to-day duties responsibly, based on a thorough understanding of the importance of compliance. These include implementation of an e-learning program and group education sessions, as well as having all employees carry conduct cards listing the gist of the Kansai Electric Power Group CSR

# Efforts to prevent omissions in legal procedures

In the past, Kansai Electric Power has relied on a list of procedures required by law in relation to our business operations (Legal Procedure Checklist) to prevent omissions. However, inadequacies in our performance of legal procedures, including failure to submit the required reports and applications, came to light at some of our power stations in fiscal 2006.

In response, we are reviewing the Legal Procedure Checklist based on the facts of the cases. In future we will work to make better use of the checklist and to accurately track the execution of required legal procedures in our business activities.

#### Introduction of Legal FOCUS

It is essential to obtain copies of the latest laws and ordinances in order to keep abreast of the legal procedures that must be followed in our business activities. In the past, each division independently collected information on applicable laws from sources such as the government gazette and made sure that frontline personnel were made aware of this information. In January 2007, we supplemented the existing system by introducing Legal FOCUS, a system for collecting and managing information on the latest revisions to laws and ordinances, throughout the Kansai Electric Power Group.

In the years ahead, we plan to use this system to prevent the omission of mandated procedures due to lack of awareness of revisions to legal requirements.



Legal FOCUS is a Web-based product (provided by Dai-Ichi Hoki Co., Ltd.) that allows individual enterprises to register laws relevant to them, on a division-bydivision basis, and view complete information on any revisions to those laws.

> Action Charter and compliance action checkpoints. In 2007, we started using the newly introduced Legal FOCUS system at the Kansai Electric Power Group. We are using it to keep track of revisions to laws relevant to our work and prevent inadvertent omission of legally mandated procedures.

> In fiscal 2007 we will continue these actions and, as a company engaged in the maintenance and repair of thermal and nuclear power plants, continue to strictly comply with applicable laws and regulations, the foundation of our day-to-day business activities. We are committed to redoubling efforts to promote and firmly establish compliance in all our operations.

# **About the Kansai Electric Power Group**

With energy at its core, the Kansai Electric Power Group is aiming to be a "customer satisfaction no. 1 enterprise" in areas fundamental to people's lifestyles. To achieve this, we are deepening Group communications and pressing ahead with business activities while making full use of our overall potential.



#### **Company details**

(Consolidated subsidiaries and companies to which the equity method is applied)

(as of March 31, 2007)

#### Energy-related business

SAKAI LNG Corp. Kanden Gas and Cogeneration Co., Inc. Kanden Energy Development Co., Inc. Osaka Bioenergy Co., Ltd. ECHIZEN ENELINE CO., INC. Two other companies

#### Information Technology (IT)

K-Opticom Corp. K Cable Television Corporation Kansai.com, Inc. Kanden Systems Solutions Co., Inc. Five other companies

#### Lifecycle-related business

KANDEN FUDOSAN CO., LTD. Clearpass Co., Ltd. KANDEN Security of Society, Inc. Kanden E House Corp. KANSAI Medical Net Co., Inc. Kansai Jyutaku Hinshitsu Hosho Co., Inc. Kanden Joy Life Co., Ltd. Kanden Facility Management Corp. Kanden CS Forum, Inc. KANDEN AMENIX Corp. Three other companies

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### Group business support

Kanden Plant Corp. Kanden Power-Tech Corp. Nuclear Engineering, Ltd. Kanden Engineering Corp. THE GENERAL ENVIRONMENTAL TECHNOS CO., LTD. NEWJEC INC. NIHON NETWORK SUPPORT CO., LTD. ENEGATE Co., Ltd. The Kanden Services Co., Inc. The Kanden L & A Co., Ltd. Institute of Nuclear Safety System, Inc. The Kurobe Gorge Railway Co., Ltd. Kanden Business Support Corporation Akinai Biz Square Corp. Kanden Office Work Corp. KINDEN COPRORATION Nine other companies

#### Other business areas

Kansai Power International Corp. KANDEN GEO-RE Co., Ltd. Kansai Power Venture Management Corp. Kanden L-Heart Co., Inc. Linecom Co., Inc. Two other companies





















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Kansai Electric Power Group CSR Report 2007

This report is also available on the Internet (http://www.kepco.co.jp/english). Please direct your opinions and questions about this report to the CSR Promotion Group.

Tel: (06) 7501-0270 (direct) The Kansai Electric Power Co., Inc. 3-6-16 Nakanoshima, Kita-ku, Osaka 530-8270, Japan



We have undergone inspections by a third-party organization in order to provide assurance of the objective reliability of the environmental information in this report. As a result of these inspections and fulfilling the Environmental Report Inspection Registration Mark Allowance Standards of The Japanese Association of Assurance Organizations for Environmental Information (http://www.j-aoei.org/), we are allowed to use the mark on the left.





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