

Group Business

# The Kansai Electric Power Group provides distinctive total solutions for our customers

Since the Great East Japan Earthquake, our customers' needs and expectations with regard to energy have become more diversified than ever before. In light of this situation, the Kansai Electric Power Group is promoting comprehensive efforts to benefit the customer, with each group company offering services that provide ever-greater value.

In addition, the anticipated sweeping liberalization of the retail market resulting from the government's progressive reform of the electric power system will likely open the market to unprecedented competition before long. To ensure our Group remains the first choice of customers in the future, we will focus on proactive reform of our operations and develop new products and services by promoting corporate innovations that transcend conventional frameworks.

### Group business policies

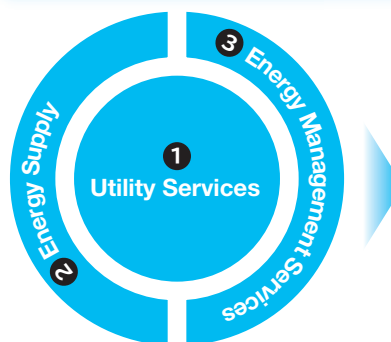
- In our three business segments of comprehensive energy supply; information and telecommunications; and amenity services in daily life, the Group is committed to expanding the scope of its products and services to strengthen and enhance the total solutions that are unique to and competitive advantage of the Kansai Electric Power Group.
- The Group will aggressively expand its business territory outside the Kansai area, especially in the large market of the greater Tokyo metropolitan area.

## Comprehensive Energy Supply

### Offering a comprehensive array of energy sources to help our customers choose the ideal energy solution

In addition to operating its electric power business, our Group is engaged in a gas business. Kanden Energy Solution Co., Inc. ("Kenes") provides Utility Services through which it designs, installs, operates, maintains, and manages customers' utility equipment (including boilers, air conditioners, private power generators, and equipment for receiving and transforming electricity). By providing such safe and stable energy solutions to optimize our customers' energy utilization, our Group focuses on gaining the confidence of the customer as an ideal partner and growing as a business entity supplying comprehensive energy solutions.

With Utility Services at our central pillar, we address all customer needs in the realm of energy by including two other types of services: Energy Supply, which delivers electricity and gas to customers; and Energy Management Services, which suggest efficient ways to use energy.



- Adopted by factories, hospitals, office buildings and many other customers in a variety of fields
- Expansion of the service area beyond the Kansai area, including the greater Tokyo metropolitan area

#### 1 Assisting customers with all aspects of their utility equipment

To meet varied customer needs, we offer comprehensive or selected services in the areas of design, installation, operation, maintenance, and management of customer utility equipment (including boilers, air conditioners, private power generators, and equipment for receiving and transforming electricity)

#### 2 Stable delivery of energy to customers

- Gas, LNG sales, fuel oil sales for co-generation
- On-site energy supply (electricity, steam)

#### 3 Enabling customers to achieve optimal energy use

- Energy diagnostic services
- Proposal of optimal energy systems
- Energy management support
- Provision of energy management systems (EMS)

### NEW

- ◆ In April 2014, Kenes launched an electric power supply business in the greater Tokyo metropolitan area in an effort to establish a new business model in the comprehensive energy supply business.
- ◆ In April 2014, Kenes acquired Kanden Energy Development Co., Inc., a company engaged in the businesses of heat supply and power generation using small-scale hydropower plants and wind turbines. This presented an opportunity to integrate existing businesses operated by separate companies and enhance service menu so that this business organization could increase its ability to address the varied needs of customers.

## Information and Telecommunications (IT)

### Offering appealing services closely connected to customers' lives and businesses

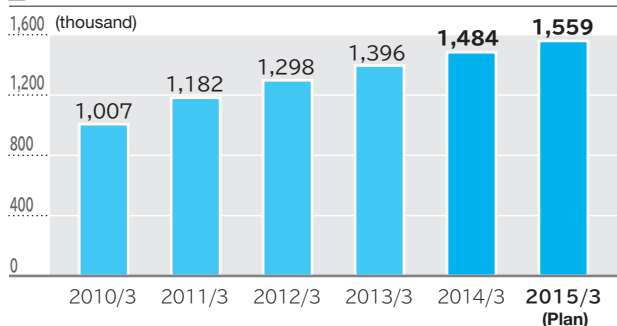
Utilizing the optical fiber network installed throughout the Kansai area, our Group offers a wide range of choices built around its flagship FTTH service to enhance customer satisfaction.

#### ■ For residential customers

We offer an integrated service comprising Internet, telephone, and television at strategic prices under the "eo HIKARI" brand name. This is made possible by our relentless focus on streamlining. In providing these services, we are determined to satisfy our customers by taking every effort to prevent recurrence of communications disturbances and accidents.

- In customer satisfaction surveys conducted by multiple external organizations, the FTTH service continues to be rated very highly.
- By June 2014, we had reached more than 1.5 million FTTH line contracts.

■ Number of FTTH Line Contracts



#### NEW

- ◆ In June 2014, we launched our "mineo" low-priced smartphone service. This innovation supports both data and voice communication, handles retail sales of smartphones, and allows for portability of existing phone numbers. By offering a secure yet economical service, we are committed to making this an appealing choice for the consumer.
- ◆ In September 2013, we introduced our LaLa Call communication application, and in April 2014 we expanded its scope by offering Business LaLa Call for corporate customers.

#### ■ For business customers

Under the BUSINESS HIKARI brand name, we offer a variety of communication services, including a high-speed Internet service, Ethernet private lines\*, VPN services\*\*, mobile communications, and optical-fiber telephone services. In addition, we operate a data center that enables us to offer business solutions. Moreover, under the "OFFICE eo HIKARI" brand name, specifically intended for small and medium-sized enterprises and SOHO users, we offer an integral office environment providing Internet, telephone, and hosting services.

We are focused on developing and offering appealing services closely aligned with customer lifestyles and business needs. As a result, our IT business segment is becoming the next pillar in our earnings structure, second only to our electric power business segment.

\* Ethernet private lines: A dedicated line service that uses the Ethernet standard, which is highly compatible with LAN equipment used in corporate networks.

\*\* VPN services: A service that uses various types of telecommunications networks (Ethernet, IP, Internet) and connects multiple points in a virtual private network that is protected using encryption and authentication technologies.

## Amenity Services in Daily Life

### Striving to be the best partner for our customers, providing safe, secure, comfortable, and convenient lifestyle options

By offering a variety of services that make our lives safer and more secure, comfortable, and convenient, each company in our Group is committed to developing a closer relationship with our customers and meeting their diverse needs to become their ideal partners.

#### ■ Lifestyle-related services

We offer varied services closely linked to customer lifestyles, including home security, nursing care, support for health management, catering, and housekeeping.

#### ■ Real estate services

We offer high-quality housing and offices that incorporate the

Group's products and services in energy-efficient condominiums and buildings that reduce energy consumption and CO<sub>2</sub> emissions. We are also involved in the development of comfortable homes by offering home renovation services, a housing performance evaluation service, and sales of residential facilities and equipment.

We will continue to expand our lifestyle-related services with the goal of improving customers' lives by offering services carefully customized to different life stages and life cycles of them. In the real estate sector, we seek to stabilize the supply of housing with superior energy-efficient properties generating low CO<sub>2</sub> emissions while expanding our network of developers in order to undertake complex development and large-scale building projects both inside and outside the Kansai area.

#### NEW

- ◆ In November 2013, MID Urban Development Co., Ltd. undertook development of an office building, the Kyobashi MID Building, in Chuo-ku, Tokyo. In addition to achieving an expecting 46% reduction in CO<sub>2</sub> emissions, the building adopts a seismically isolated structure and an emergency power generator capable of running for 72 hours to support customer business continuity planning. (It is scheduled for completion in February 2015.)



Kyobashi MID Building  
(Chuo-ku, Tokyo)

- ◆ In January 2014, Kanden Joy Life Co., Ltd. started construction of a private nursing home, Yutream Minoh Sakuragaoka, and an apartment for the elderly that includes nursing services, Nurvice Sakai Nakamozu, both of which are scheduled for completion in the spring of 2015. This brings the number of facilities and housing developments we own to fourteen.



Yutream Minoh Sakuragaoka

International Business

# Challenge to a Great Leap in our Growing International Business

In our international business, we are developing projects around the concepts of using and getting feedback on management resources, contributing to the stable supply of electric power in our overseas partner countries, and contributing to solutions to global environmental problems. In addition to securing stable revenues into the future, we expect these efforts to help strengthen our domestic businesses and generate growth for the Kansai Electric Power Group by allowing the experience and knowledge gained from our international business to provide feedback for our domestic business.

## Our International Business Activities

### Characteristics of our international business

- **Participation in a variety of projects:** We launched our first venture in international business in 1998, when we took part in the San Roque Hydropower Project. Today, we are involved in a variety of power generation projects, ranging from hydropower to gas-fired and coal-fired projects in Thailand, Taiwan, Singapore, and Australia. Our plans are to expand our operations further afield to other countries and to participate in the renewable energy segment.
- **Seeking project development with our direct engagement:** In order to develop projects from the stage when they are discovered, we have been aggressive about engaging in consulting tasks. Whether in thermal power, hydropower or the power transmission and distribution sector, we study proposals in detail for their potential to develop into sound projects with healthy earnings. We select our target markets, mainly in Southeast Asia, with this strategy in mind.

### Applying our technological strengths

We give priority to increasing the value of a project by ensuring our participation. In projects we participate in, we actively provide technical support in addition to participating in management.

#### ■ Senoko Power Station in Singapore







For this facility update project, completed in 2012, we dispatched engineers with the aim of improving the efficiency of the existing power generation facility. We focused on streamlining tasks such as process management and improving quality.

#### ■ San Roque Hydropower Station in the Philippines

In addition to providing ongoing technical guidance through engineers stationed in the Philippines, we invite management supervisors and operations and maintenance personnel to visit Japan every year to provide them with technical training to support their independent participation in the future overhaul of the power station.

### ■ List of power generation projects located outside Japan (as of June 30, 2014)

Participation in six projects in five countries (total share of capacity: 1,172 MW)

Project name (capacity)	1 San Roque Hydropower (346 MW)	2 Rojana Thermal Power (448 MW)	3 Ming-jián Hydropower (17 MW)	4 Kuo Kuang Thermal Power (480 MW)	5 Senoko Thermal Power (3,300 MW)	6 Bluewaters Thermal Power (459 MW)
						
	San Roque Hydropower Station	Rojana Power Plant	Ming-jián Hydropower Station	Kuo Kuang Power Station	Senoko Power Station	Bluewaters Power Station
Region	Philippines	Thailand	Taiwan	Taiwan	Singapore	Australia
Power source	Hydropower (dam)	Gas combined-cycle cogeneration	Hydropower (run-of-river)	Gas combined-cycle	Gas combined-cycle / Oil thermal power	Coal thermal power
Ownership ratio (share capacity)	50% (173 MW)	39% (175 MW)	25% (4 MW)	20% (96 MW)	15% (495 MW)	50% (229 MW)
Participation	December 1998	March 2003	March 2005	December 2006	September 2008	February 2013

## Major Projects Currently in Progress

### ■ Nam Ngiep 1 Hydropower Project (Laos)

This project on the Nam Ngiep River, the tributary of the Mekong River which demarcates the border between Laos and Thailand, involves construction of a dam measuring 148 m high and 530 m along the top and two power stations of 270 MW and 20 MW. The electric power generated here will be sold to the Electricity Generating Authority of Thailand (EGAT) and Electricité du Laos (EDL). We acquired exclusive development rights in April 2006 and, as the project leader, have been promoting the project in collaboration with partners from multiple countries. In August 2013, we caused the project company to sign Power Purchase Agreement (PPA) with these two public corporations.

We, utilizing the experiences gained from our utility business in Japan, are engaged in process and quality control of the design and overall construction procedures. This scope of involvement has made it possible for us to place orders by separating the whole work into several types such as civil engineering and electrical and mechanical works. This opened the door for Japanese companies with a technological advantage to construct the dam and install the water turbine generators. We believe that we can contribute to expanding the export of infrastructure technology from Japan by making our advantages known and undertaking projects with an organization consisting mainly of Japanese companies.

### Second Kurobe Hydropower Project

The Nam Ngiep 1 Hydropower Station will include a dam approximately the same size as the Kurobe Dam, the highest dam in Japan, yet with ten times the reservoir capacity. Consequently, we are undertaking this project as a challenge equivalent to constructing a second Kurobe Hydropower Project. More than ten employees are already in Laos to coordinate this project, obtain permission for construction, and proceed with preliminary construction of roads leading to the site.

### ■ Rajamandala Hydropower Project (Indonesia)

This 47 MW hydropower station project takes advantage of the head (vertical drop) between two hydropower stations located on the upstream and downstream reaches of the Citarum River. The power generated will be sold to the State Electricity Company of Indonesia (PT PLN (Persero)). Because this power station can utilize the water released from a dam-type peaking power plant located upstream, it will be able to replace some of the power generated by thermal power plants during peak hours, which will help to reduce CO<sub>2</sub> emissions. We obtained exclusive development rights in September 2007 and caused the project company to sign Power Purchase Agreement (PPA) with the public corporation in August 2013. Currently, we are engaged in coordination, including obtaining permission for construction.

### The first overseas hydropower project launched by a Japanese company at site-finding stage

“This would be an ideal site for hydropower generation!”

This discovery by an engineer of our Group company who visited the site was the spark that ignited this project. This is the first new hydropower project outside Japan which a Japanese company developed from the earliest stage of finding the site.

### Expanding our Business Domain to the Middle East and North and Central America

In the future, we intend to expand our business domain beyond Asia to include the Middle East and North and Central America and to participate in development by selecting promising projects through bids for new projects, purchasing existing projects, and participating in renewable energy projects. We also plan to strengthen our organization in project development and management with an eye to future business expansion.

## Activities in International Exchange and Contribution

### Interaction and Cooperation as a GSEP Member

#### ■ Renewable energy projects

As a member of Global Sustainable Electricity Partnership (GSEP) comprising major utility companies around the world, we are promoting initiatives to resolve global issues affecting the electricity sector. To date, we have been involved in a small-scale hydropower project in Bhutan and a photovoltaic power project in Tuvalu.

#### ● Dhiffushi Solar-Ice Project (Maldives)

This construction project is for a 40 kW photovoltaic power system on Dhiffushi Island in the Republic of Maldives. Because the island's peak power demand is only 120 kW, the proportion provided by solar power, which is noted for its unstable output, is very high. In order to cope with the inherently unstable output of a photovoltaic power generation system, an ice-making machine that enables fishermen to preserve their fish for sale will be installed to cancel out the fluctuation; moreover, a system that automatically controls the number of photovoltaic power generation units in operation will be introduced. This project is attracting attention as a model project that can be deployed on other islands. This is a public-private partnership (PPP) project supported partially by an official development assistance grant aid (“grass-roots” grant aid) provided by the Japanese government.

#### ■ Human Capacity Building

##### ● Workshops

Implementation	Target country	Object	Theme
2012	Nepal	Government and utility companies	• Photovoltaic power generation
2012 • 2014	Pacific island nations	Utility companies	• Improving the efficiency of energy utilization • Tariff system facilitating further development of renewable energy sources

### Other Exchange/Cooperation Programs Implemented Proactively

We are actively implementing various exchange programs with utility companies located in Asia, Europe, and the U.S.A. through agreements on information exchange and technical cooperation.

Vietnam	Held several workshops on power transmission/transformation technologies from 2012 onward.
Myanmar	Provided technical support for electric power development plan and hydropower development: • Dispatching JICA experts to Yangon City Electricity Supply Board • Accepting trainees from Myanmar
Accepting trainees and visitors	In response to requests for cooperation from foreign energy experts and JICA, we accepted trainees and visitors and exchanged opinions.