#### COMPANY PROFILE





#### Contents

Message from the Management					
Underlying Objectives					
Customer Satisfaction					
Stable Supply					
Environmental Friendliness					
Utility Business	1				
Energy Solutions	1				
Optimum Generation Mix	1				
Nuclear Power	1				
Thermal & Hydroelectric Power	1				
Transmission & Distribution	1				
Environmental Protection	2				
Research & Development	2				
Group Business	2				
Group Strategy	2				
Overseas Operations	2				
Regional Activities	3				
Corporate Data	3				
Brief History	3				
Directors and Auditors	3				
Organization					
Transmission Network	3				



In tandem with revisions to Japan's regulations governing the electric In order to remain the power provider of choice to our customers in We are also continuing our efforts to ensure stable supplies of high-

power industry implemented in March 2000, liberalization of the retail energy market has commenced in earnest as relates to customers with special high-voltage requirements. This segment accounts for roughly a 30% share of The Kansai Electric Power Company's total electricity sales. this new era of competition, we are mustering our comprehensive group resources to respond to the diversified requirements of our customers. Greater management efficiency enabling the delivery of electricity at ever less cost, the provision of a wider palette of rate schedule options, and the development of ever more attentive customer services are just some of the challenges The Kansai Electric Power Co., Inc. (Kansai EP) is taking up today. quality electricity, and addressing such issues as energy security and global environmental protection through the operation of facilities focused on

nuclear power.

21st century.

#### Message from the Management

Thanks to the loyal support of our many customers and shareholders, in May 2001 Kansai EP celebrated its 50th anniversary since its founding. By continuing to respond solidly to evolving demands and expectations, we pledge to maintain our commitment to ongoing development in the

We ask for your continued support and understanding in the



Yoshihisa Akiyama Yohsaku Fuji Chairman of the Board of Directors President and Director



# Toward a Brighter and More Brilliant Future Kansai EP is lighting the way to a new tomorrow.

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4

Today, as we cross the threshold into a brand-new century, lifestyles and workstyles are changing dynamically. But at Kansai EP, our fundamental philosophy remains constant: to create smiling faces through energy. By maintaining a close rapport with our customers in all segments of the local community, we consistently strive to respond to their evolving needs and demands.

# Happy smiles are our driving energy.











Electric power has become almost as indispensable to our lives today as the air we breathe, a vital support system enabling us to meet our daily needs. For us at Kansai EP, maintaining a stable power supply is therefore a task that allows for no compromises. All of our employees, supremely skilled and trained, apply their comprehensive technical capabilities round-the-clock to ensure the safe and secure operation and maintenance of all facilities in our energy grid.

# Reliable power is our duty and pride.









Environmental Friendliness

8

At Kansai EP, we never shrug our obligation to be responsible global citizens. We continuously probe all avenues to make maximum use of available energy resources with optimal friendliness to the environment. For example, we work tirelessly to develop and promote cleaner energy forms, to maximize efficiency in the use of available resources, and to build energy facilities in harmony with the natural environment. Our quest for the ideal energies — and an ideal world — propels us ever forward.

# Friendly energy is our mission and goal













## **Power To Brighten Our Lives** *Kansai EP supplies life-supporting energy.*

### **Responding proactively to the diversifying needs of our customers**

(from top) One-stop customer services Home switchboard inspection Totally electric school lunch service center (Kinomoto-cho, Shiga Prefecture)







To respond to our customers' increasingly diversified and sophisticated energy requirements as well as currents toward industry deregulation, Kansai EP is taking impressive steps to transform itself from an electric power company to an energy solutions provider.







# 23,589

'01/3 '01/5

#### Transformation to Energy Solutions Provider

In response to diversifying customer needs and industry deregulation, Kansai EP is implementing a decisive transformation of its basic corporate role from a utility supplier to a provider of value-added energy solutions. To achieve this new positioning, we are taking aggressive steps to re-engineer our operations companywide and instituting measures to enable us to take full advantage of resources throughout our group network.

### Skills Honed through Decades of Experience

Kansai EP has been delivering a stable supply of high-quality electric power for roughly half a century. Today our engineering staff apply the company's wealth of accumulated experience in all aspects of their activities, in order to achieve ideal solutions to every customer need. Simultaneously we are vigorously creating an environment to enable our comprehensive group capabilities to function with optimum effect.

13

#### **Innovator in Menu Options**

In recent years Kansai EP has set a number of major industry precedents with respect to rate plan development. In timing with partial deregulation implemented in March 2000, we launched a new discount menu targeted at totally electric homes. We also introduced a new scheme, offered to commercial and industrial users, which is based on load factor categories, and a special discount program created for customers who construct new or expanded factories or office buildings. Going forward, we will continue to devote our corporate resources to the development of rate schedules in our customers' best interests.

#### **One-stop Customer Service System**

Applying state-of-the-art interfacing of information technology, Kansai EP has built a "one-stop" customer service network embracing all of its service bases. The configuration is making it possible for us to respond ever more speedily and accurately to customer inquiries and requests.

### **Ensuring a stable power supply through the opti mum generation mix**



14



Japan is a nation of limited energy resources. To ensure a stable and sustainable power supply, Kansai EP vigorously pursues the optimum generation mix of generation modes.









Central Load Dispatching Center

#### Probing and Delivering the Optimum Generation Mix

Achieving a well-balanced generation mix begins with a thorough understanding of the strengths and weaknesses of all options available: stability of fuel supply, impact on the environment, economic viability, adaptability to future demand expansion. Based on that understanding, options are then coordinated in a manner ensuring a power supply of utmost efficiency and stability. Kansai EP's best generation mix places nuclear power in the base-load role, fossil fuels in a middle-load role, and conventional hydro and pumped-storage hydro cover both peak and base-load needs. During peak hours, maximum stability and efficiency are assured through flexible dependency on fossil fuels and pumped-storage hydro power.

#### A Commitment to Meet Rising Demand

The 21st century is destined to be a century marked by rising demand for electric power. As demographics shift toward an ever more mature society, home environments will become increasingly automated and convenience will be progressively targeted through powerassisted nursing aids. Meanwhile, as society becomes ever more information-intensive, a new array of electronic products and information equipment will become an indispensable feature of homes and offices. To meet the ever expanding power needs these developments will engender, Kansai EP is working now to forge the optimum generation mix of reliable power generation modes to satisfy those requirements well into the future.

Utility Business: Nuclear Power

### **Placing nuclear power in the principal role**





Spent fuel rod inspection (Takahama Nuclear Plant)

Central Control Room (Takahama Nuclear Plant)

16





Nuclear power plants (from left): Ohi Plant (4,710 MW), Mihama Plant (1,666 MW), Takahama Plant (3,392 MW)

#### **Salient Economic and Environmental Benefits**

At Kansai EP, 51% of total electricity output derives from nuclear power, an energy source offering important economic and environmental advantages. Not only is uranium available in dependable supply, recycling of spent fuel can boost efficiency in energy usage many times over. Equally significant, generation of electricity from nuclear power produces no CO<sub>2</sub>, so it can make a dramatic contribution to curbing global warming. Of course, in every aspect of our reliance on nuclear power, we always accord foremost priority and utmost attention to the assurance of maximum safety in all areas of operation, upstream and down.

#### Safe, Efficient Use of Uranium Resources

Kansai EP is vigorously carrying forward a program targeted at making effective use of uranium resources and reducing plutonium stocks. Under this project, plutonium recovered by reprocessing spent nuclear fuel is mixed with uranium to form mixed oxide (MOX) fuel.



#### 😒 The Kansai Electric Power Co., Inc. Company Profile 2001

Utility Business: Thermal & Hydroelectric Power

#### Another Vital, Flexible Energy Source

Thermal power is a vital source of energy offering supreme elasticity to cope with continuously fluctuating energy demand. At Kansai EP. 38% of total electricity output is generated using energy created by burning fossil fuels. Over the long term, we aim to diversify our fuel options through the use of coal, available at relatively stable prices, and LNG, an environmentally clean energy source.

### Using thermal power as elastic, middle-load energy sources



10%

6%

51%

10%

1% 8%

24%

51%





(from top) Himeji No.1 Thermal Power Plant (1,442 MW) Himeji LNG Control and Command Center

### Making optimum use of renewable energy sources

#### **Proactively Developing Hydro Power**

18

Today a comparably modest 11% of the electricity generated by Kansai EP derives from hydroelectric power, but in light of this energy source's environmental advantages and Japan's available water resources, we are working aggressively to develop increased capacity in this area. We also rely significantly on pumpedstorage hydro power, a method whereby water is pumped during low-demand nighttime hours to support power generation requirements during peak daylight hours.



Kurobegawa No.4 Thermal Power Plant (335 MW)

### Ensuring a stable supply of high-quality electric power







Utility Business: Transmission & Distribution

(from top) Transmission network map Shin-Ikoma Substation

#### **Highly Sophisticated Power Supply** Network

To deliver a stable supply of electricity efficiently from the power station to the customer is one of Kansai EP's overriding missions, and to fulfill that mission we have long worked to continuously reinforce and update our Transmission and Distribution (T&D) facilities. Today, for example, sophisticated systems applying information technologies perform round-the-clock network monitoring and automated T&D system control. In addition to pursuing ever more advanced network operating systems, we also carry out all necessary steps to prepare against all types of possible mishaps. The result is that Kansai EP boasts one of the world's strongest records in reducing the incidence and length of power failures. Going forward, while maintaining our high quality standards, we will continue to maintain power supply systems of ever greater efficiency, and we will pursue ever lower T&D system costs through the adoption of new technologies and new engineering methods.

(from top) Flue-gas decarbonization testing

20

(Technical Research Center) Flue-gas decarbonization pilot plant (Nanko Plant)

### Taking a committed, global approach to environ m ental concerns

As an energy supplier, Kansai EP proactively pursues research and corporate activities targeted at protecting the environment. Their scope is worldwide.



Photovoltaic power-generating devices and attractively designed flue (Nanko Plant)







#### **Reducing CO2 Emissions on Global Scale**

To counteract the warming of the earth's environment, Kansai EP is actively committed to reducing the world's CO<sub>2</sub> emissions. Toward that objective, in our domestic operations we are making steady progress in promoting the use of nuclear power, enhancing thermal energy efficiency, and engaging in research into flue-gas decarbonization technology. Moreover, from the perspective that reducing CO<sub>2</sub> emissions is a task of global proportions, we take our activities beyond national borders and participate in a multitude of international projects. For example, in Indonesia we are conducting joint research targeted at regeneration of tropical rain forests, and in Thailand we are investigating technologies relating to mangrove afforestation.

#### **Internationally Certified** in Environmental Management

We are also actively working to forge environmental management structures up to the highest international standards at our thermal and nuclear power plants, power stations and sales offices. The success of our efforts to date is reflected in our acquisition of ISO14001 certification at our Himeji No.1 and four other operating bases.

21

#### Vital Support to New Energy Initiatives

Kansai EP helps to foster expanded adoption of wind and solar energy by supporting the Center for Industrial Renovation of Kansai's (CIRK) "Kansai Green Power Fund," which is targeted at promoting the use of new energies. We also actively purchase surplus power produced by wind and solar generating facilities installed by our customers.



### **Probing new technologies to survive intensifying competition in the energy market**

In an ongoing quest to supply high-quality electric power and enhance customer convenience. Kansai EP dedicates its resources to the development of new energy technologies and attractive new services to serve as driving forces of tomorrow's business expansion.









Research into CO<sub>2</sub> separation and fixation (Technical Research Center) Wind power generation equipment (Okutataragi Pumped-Storage Plant/150 kW)





22

(from top) Redox-flow battery

#### **Products to Satisfy the Customer's Needs**

R&D programs at Kansai EP focus on the creation of products offering ever greater convenience and economy. Among the more recent fruits of our labors is an innovative system for heating, cooling and hot-water supply that makes use of relatively less expensive energy generated during nighttime hours. Another project in progress is the development of redox-flow batteries; easy to maintain and offering outstanding service life, they can play a significant role as emergency power sources or as energy boosters to counter momentary voltage drops.

#### **Exploring New Avenues** in Multi-energy Services

Micro gas turbines harbor great potential to become a common alternative in power-generating systems, owing to their salient advantages in terms of compact size, simple structure, and ease of maintenance. Today Kansai EP is carrying forward a robust R&D program focused on micro gas turbines. Field tests are being performed to assess their cogeneration characteristics, endurance, system interconnection characteristics, and impact on the environment, in order to assess their overall feasibility as decentralized power sources.

23

#### **Aggressive Stance on Environmental Protection**

In conjunction with our strong commitment to protect the global environment, we pursue an active program of research into high-performance chemical absorbents of CO2. Already we have acquired related patents not only in Japan but also in the United States, Europe and Asia, and our technologies have been adopted in a urea production plant in Malaysia. We are also conducting research into regeneration of tropical rain forests as a means of revitalizing the natural environment and creating expanded CO<sub>2</sub> absorption sinks.

#### Semiconductor Elements for Tomorrow

Kansai EP is also vigorously involved in basic research into silicon carbide (SiC) diodes, targeting their application into the power industry. Conventional silicon diodes are vulnerable to breakage under high voltage, and they are prone to significant power loss. SiC diodes are a revolutionary new type of diode that offers outstanding promise as a low-loss semiconductor element enabling a host of next-generation power applications, such as cooling units of smaller size.



4

# **Boundless Possibilities, Borderless Expansion**

#### Group Business: Group Strategy

### **Deploying our collective Group resources to satis fy a broader spectrum of needs**

The managerial resources and expertise of all Kansai EP Group members are pooled and focused into three areas: energy, IT and life amenities. By offering services that respond to customer needs and providing total support to their lifestyles, we will continuously enhance customer satisfaction.



(from top) Nursing care service Kanden L-Home a social welfare-oriented group member





**Fotally electric home** PC card for mobile computer—'eo card' LNG storage facilities at Himeji







LNG shipment from storage depot

#### **Core Business as Multi-energy Supplier**

Kansai EP effectively utilizes its robust brand strength to provide optimal multi-energy solutions to its customers. In keeping with that commitment, today we have become an active participant in gas supply operations, marketing liquefied natural gas (LNG) and constructing storage depots in the Osaka region. We also offer options involving cogeneration.

#### Full Use of Fiber-Optic Network

In recognition of the dynamic transformation under way to an advanced IT society, Kansai EP is linking the assets of its Group members toward providing a diversified menu of communication and other services. In particular, by making optimum usage of our Group's fiber-optic network in the greater Kansai area, communication services of outstanding quality can be achieved at low cost. Toward that goal, today we lease our optical network to telecom carriers and cable TV service providers, and we offer high-speed, large-capacity communications platforms to both individual and corporate users.

#### Vital Support to Everyday Life

Kansai EP is also a forceful innovator of services designed to provide customers with an environment conducive to comfortable, safe and worryfree living. For the changing requirements of senior citizens, for example, we are exploring a variety of nursing care and meal services, and to make lives easier for everyone we are developing a broad palette of services integrated with progress in home automation. In coming years, one of our goals is to supply housing and office buildings engineered to accommodate energy, IT and lifecycle services attuned to tomorrow's needs.



### **Expanding corporate activities to broad global scale**

The environment and energy are issues that must be addressed on global scale. Kansai EP, recognizing that need, is a dynamic and flexible participant in international projects and business activities of worldwide breadth.



Kansai EP New York Office









#### **Pioneer in Overseas Business**

In 1998 Kansai EP became Japan's first electric power provider to participate actively in a power-generation project overseas, in the Philippines. For the San Roque Multipurpose Project, we constructed a hydro power plant in line with a comprehensive "BOT" (Build, Operate and Transfer) scheme; after operating the plant for 25 years, we will transfer the facility to that country. More recently we are participating in a fund targeted at conserving energy and curbing emissions in eastern Europe and, under the Naniwa Project, we are giving our gas turbines no longer needed in the domestic market a second life as reliable power sources in the United States.

#### International Commitment to Mitigate Climate Change

At Kansai EP we recognize that a global approach is indispensable to addressing environmental issues of global scale. We therefore contribute to environmental enhancement in a broad spectrum of cross-border activities spanning from planting mangrove forests to participating in the aforementioned fund targeting energy conservation and emission reductions in eastern Europe.

29



Gas turbines, Nevada

### Maintaining open links with the local community

people have to say. We want to tell — all about energy. At Kansai EP, we create avenues of communication that build a strong rapport with the communities we serve.

We want to listen — to what local

(from top) Flashball (football game) FM CO·CO·LO Kanden L-Heart, a Kansai EP subsidiary







(from top) Recycling class PR Hall (Ohi Nuclear Power Plant)







Kobe Lamp Museum

#### **Entertaining, Educational PR Venues**

One of our aims at Kansai EP is for the public to have an accurate understanding of the important roles energy plays in their lives. Toward that end, we have created PR Halls at 23 locations where visitors can see how electricity is generated and learn all about energy in an entertaining way. We also operate an array of other facilities of a PR nature, including Wakasa Takahama Eldoland, which has been designed like an amusement park, and the Kobe Lamp Museum, which focuses on the theme of lights and lighting.

#### Joint Action on the Environment

The environment is an issue that affects everyone, and at Kansai EP we are committed to helping local communities address this problem from various perspectives. Among the ways we use to achieve real results are organization of symposiums on the environment and classes on recycling. We also lead a broad program of "eco-friendly" activities including tree planting and environmental beautification. Through these and other undertakings, our local staff join with their local communities toward the protection and preservation of our earthly environment at the grass-roots level.

31

#### **Close Rapport with Local Citizens**

At each location, our local staff engage in a broad array of activities all aimed at strengthening Kansai EP's ties with local citizens. To encourage curiosity towards science, we conduct electricity workshops and hold classes directly within the community. To foster increased communication, we support cultural activities such as concerts and art exhibitions, and sports activities such as football and soccer. We also carry out regular inspections of electrical equipment in homes occupied by seniors living alone, and at venues where important cultural properties are kept.

#### In Support of Local Internationalization

The Kansai region is home to large numbers of non-Japanese, and Kansai EP actively works to support the internationalization of the local community. As an example, we are a voluntary sponsor of FM CO·CO·LO, Japan's first multilingual radio station. By broadcasting news, entertainment and emergency information in a multitude of languages, the station is eagerly embraced and relied on by foreign listeners as a vital source of information.

#### 😂 The Kansai Electric Power Co., Inc. Company Profile 2001 Corporate Data

Overview	(As of March 31, 2001)			Brief History Company events	Year	National, world events
Date of establishment:	May 1, 1951			Kansai Electric Power Company Inc. established	1951	Signing of San Francisco Peace Treaty
Paid-in capital:	¥489,320 million			in tandem with reorganization of Japan's power industry	•	
Outstanding shares:	978.6 million			Nuclear Power Department founded to conduct research and development of nuclear power	1957	
Operating revenues:	¥2,581,451 million (consolidated: ¥2,647,944 million)			Successful installation of transmission line across Naruto Strait using balloon method (first in the world)	1961 •	
Total assets:	¥7,212,514 million (consolidated: ¥7,550,821 million)			Completion of Kurobegawa No.4 plant after 7 years of difficult construction	1963	
Employees:	24,539 (consolidated: 32,589)			Summer peak power output exceeds winter peak for first time	1966	
Energy sales volume:	Lighting: 44,408 million kWh			Inauguration of company's first nuclear power plant (Mihama No.1)	1970	Osaka Expo '70
	Power: 98,44	14 million kWh			1973	First oil crisis
	Total: 142,85	52 million kWh		Completion of 500 kV trunk network	1976	
Contracted customers:	Lighting: 11,39	98 thousand		Completion of LNG storage facilities at Himeji No.2 plant	• 1979	Second oil crisis;
	Power: 1,417	thousand		Inauguration of domestic power industry's first total quality control (TQC) program	• 1981	Three Mile Island nuclear power plant accident
	Total: 12,815	thousand		Recipient of Deming Award	1984	
Gross system input:	155,818 million kWh 32,230 MW (August 2, 1996)			(first outside the manufacturing and construction industries)	1986	Charpohyl puckar power plant
System peak demand:					•	Chernobyl nuclear power plant disaster in the Soviet Union <b>33</b>
Supply area:	Entire Osaka, Kyoto, Nara, Shiga and Wakayama prefectures and portions of			Annual energy sales exceed 100 billion kWh for first time	1987 •	٠
	Hyogo, Mie, G	ifu and Fukui prefect	ures (total coverage area: 28,681 km²)		1990 •	International Garden and Greenery Exposition held in Osaka
				Accident involving broken steam generator tube at Mihama No.2 plant	1991	Persian Gulf Crisis
Supply facilities				Institute of Nuclear Safety System, Inc. (INSS) established in response to 1991 accident	1992	United Nations Conference on Environment and Development ("Earth Summit") convened in Brazil
				Electric Utility Industry Law revised for first time in 31 years, enabling deregulation of wholesale power operations, etc.	1995	Great Hanshin-Awaji Earthquake
Power plants:	Hydro:	145	8,129 MW	Electricity rate reductions implemented;	1996	
	Thermal:	18	19,561 MW	Organized first bidding for wholesale power supply	• 1997	Third session of Conference on Parties to
	Nuclear:	3	9,768 MW	Electricity rate reductions implemented	• 1998	United Nations Framework Convention on Climate Change (COP3) held in Kyoto
	Total:	166	37,458 MW	Revisions to Electric Utility Industry Law amended, ushering	2000	
				in liberalization of retail power operations; Implemented first electricity rate reductions using new rate-reporting system	2000	
Transmission lines (length):	Overhead:	14,221 km				

3,992 km

117,952 km

5,232 km

148 million kVA

Underground:

Underground:

Overhead:

1,499

Distribution lines (length):

Substations:

32

Brief History

Directors and Auditors

#### Directors and Auditors (As of June 28, 2001)



Chairman of the Board of Directors Yoshihisa Akiyama

President and Director

Yohsaku Fuji

Executive Vice Presidents and Directors Yoji Goto Kazuo Sato Hideki Osada Shosuke Mori

Managing Directors Tetsuji Kishida Hisao Takamoto Takashi Inoue Keishi Yoshimoto Tetsuo Akiyama Hiroshi Fujiwara Hiroo Ariga Hiroshi Morimoto Isao Aoki

Directors Hiroshi Matsumura Koji Kaibe Ikuro Tsukuda Hiroyuki Kitamoto Masanobu Tezuka Yoku Matsumoto Jozo Ogawa Takeshi Imai Sadanori Ozasa Yasuo Shinomaru Michiyuki Hashimoto Norihiko Saito Toshiaki Mukai Hiroshi Yatsuzuka Senior Advisor and Director Hiroshi Ishikawa

> Directors Yasuo Shingu

Naotaka Saeki

Senior Corporate Auditors Takashi Iwasaki Toshihisa Hatanaka Mitsunobu Kemuyama Yoshimitsu Kajii

Corporate Auditors Tetsuhei Kiji Wa Tashiro

