# FY 2014

# TEPCO Group Action Plan

→ for Fulfillment of Our Responsibility to Fukushima →

# TOKYO ELECTRIC POWER CO., INC.

### March 2014

#### **DISCLAIMER**

This presentation is translated under the responsibility of TEPCO. Also, this translation is solely for reference purposes. Should there be any discrepancies between the English translation and the Japanese original, the latter shall prevail.

### **Preface**

### Mission of the TEPCO Group

- The mission of the TEPCO Group is to "achieve stable power supply under the world's highest level of safety assurance and competition while fulfilling its responsibility in the Fukushima Nuclear Accident".
- In order to fulfill its responsibility in the long term, the TEPCO Group is to reinforce its business foundation including finances, human resources and technologies amidst "competition" to accelerate Fukushima's reconstruction, minimize public burden and ensure stable, affordable and convenient power supplies under fresh competition.

### FY2014 TEPCO Group Action Plan

- The FY2014 TEPCO Group Action Plan consists of 75 specific focal actions to be carried out over three years from FY2014 to FY2016 to ensure the achievement of goals listed in the New Comprehensive Special Business Plan (hereinafter New Comprehensive Plan), adopted in January this year.
- The AP consists of the concrete actions that each TEPCO's affiliate company and division shall take. The AP is derived from "The TEPCO Group Commitment", the major objectives of the TEPCO Group, and "Division Commitment", the practical targets of "The TEPCO Group Commitment".
- By achieving the commitments through realizing the AP, the TEPCO Group establishes business foundation to fulfill its responsibility toward Fukushima in the long term.

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<sup>\*</sup> Hereinafter, the Action Plan shall be abbreviated as "AP," and the notation " [AP\cap ]" shall be used to indicate a specific item in the Action Plan.



## **TEPCO Group Commitment**



### Targets relating to responsibility

#### Target 1 Smooth and prompt provision of compensation

• TEPCO will, with all speed, provide every last person with appropriate compensation so that victims can rehabilitate their livelihoods at the earliest possible date.

#### Target 2 Acceleration of Fukushima revitalization

As well as making every effort to provide compensation, TEPCO will also continue to work closely
with the government to progress the reconstruction of Fukushima's lifestyle and industrial
infrastructure so that the revitalization of Fukushima is achieved as quickly as possible.

#### Target 3 Promotion of steady decommissioning

TEPCO will implement long-term decommissioning work in safely and steadily manner as the entity
executing decommissioning, and bring early resolution to the issue of contaminated water and
tanks, which are causing social anxiety.

#### Target 4 Comprehensive nuclear power safety

 TEPCO will strengthen the safety improvement measures for power stations, including strategies to counter severe accidents, and use the lessons learned from the accident to set in place overlapping and comprehensive functionality in each level of our defense in depth.

#### Target 5 Stable power supply

• TEPCO will provide a stable supply of electricity while also addressing the issues of safety and disaster prevention. We will also actively introduce new technologies to promote energy efficiency and peak cut as well as dealing with the increase of renewable energy.

# 2 Targets relating to competition

#### Target 6 Enhanced business competitiveness

 TEPCO will provide a stable supply of low-cost electricity even in the face of competition. In order to maintain a firm business foundation in the face of new competition, we will also abandon the comprehensive cost method and drastically enhance our business competitiveness.

#### Target 7 Business expansion beyond regions or industry types

To maintain and boost profitability in the face of new competition, TEPCO will discard its regionally
monopolistic approach and start up fully fledged electricity businesses in other regions. We will also
make positive inroads into businesses other than power supply, such as the gas related business.

#### Target 8 Autonomous funding procurement

To cover the costs of the large-scale infrastructure investment needed for business expansion,
 TEPCO aims to quickly procure self-sustaining funding by boosting its equity capital and assuring stable profits.

#### Target 9 Assurance of transparency and objectivity in management

 TEPCO will actively present details of its business activities and dealings to its various stakeholders, including the public, residents of disaster-affected regions, and the government, to gain their understanding.

## **Efforts Towards Fukushima Revitalization**

- TEPCO will stand shoulder to shoulder with the people forced to leave their homes and with people
  looking to restart their businesses and will ensure that every last person is compensated so that they can
  begin new lives and business activities at the earliest possible opportunity.
- We will provide intensive introductions of human and technological resources to facilitate early repatriation and will rebuild a living environment in which people can live with peace of mind, free from concerns regarding radioactive materials.
- We will work positively to inject our own resources (personnel, technology and funding) with the aim of creating employment opportunities and building the industrial infrastructure that will form the core of the revitalization of Fukushima.
- We will reinforce the functions of the Fukushima Revitalization Headquarters with regard to compensation, decontamination and the promotion of revitalization as well as cooperation with national and local governments.

### Departmental Commitments 《Targets》

#### Provision of compensation to people forced to evacuate

Follow-up for non-claimants and a 100% take-up rate for compensation of individuals

Accelerated decontamination, the introduction of a total of 400,000 people over 3 years to revitalize the living environment, and 100% response to demands from national and local governments

Response rate to demands from national and local governments regarding decontamination and revitalization:
 100%

Creation of lifestyle and industrial infrastructure by coordinating with national and local government revitalization plans

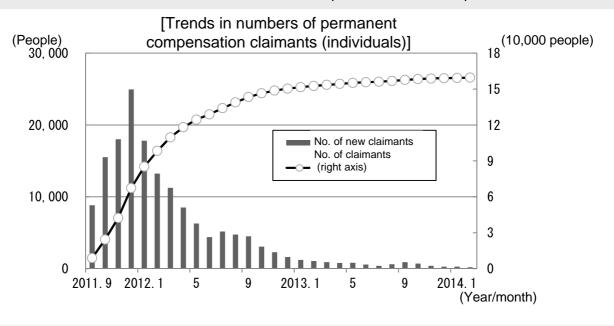
 The proposal and implementation of specific measures for restoring commercial zones and creating the employment indicated in the revitalization plans (proposal content achievement rate: 100%)

# Compensation

- Ongoing measures aimed at fully implementing the New Comprehensive Special Business Plan and "compensating every last person" [AP01]
  - ► TEPCO will ramp up measures to call for requests from people who want permanent compensation. Our aim is to achieve a permanent compensation request rate of 100% in 3 years' time from individuals whose lives were based in areas targeted for evacuation.
- Speedy responses to compensation related to the drafting of the 4th supplement to the interim guidelines and early commencement of payments [AP02]
  - ▶ We will quickly begin dealing with compensation related to the drafting of the 4th supplement to the interim guidelines (compensation for extended evacuation orders, etc.) with the aim of achieving a 100% take-up rate in 3 years' time.
- Enhanced on-site response capability to effectively support victims and provide compensation linked to livelihood rehabilitation [AP03]
  - ▶ We will exclusively assign seasoned managers to Fukushima and thereby strengthen the on-site framework to discuss individual issues on site and to deal appropriately with issues such as decisions regarding compensation payment with the aim of providing compensation that will assist in livelihood rehabilitation for victims.
  - \* Interim guidelines: "Interim Guidelines on Criteria for Determining Nuclear Damage Indemnification Coverage (Losses due to Voluntary Evacuation)" (Council on Disputes concerning Atomic Damages Compensation)



• As at the end of February 2014, we have received claims for permanent compensation from around 160,000 of the 166,000 individuals to whom advance compensation had been paid.



- 2 Decontamination & repatriation
  - Responses to demands from national and local governments with regard to decontamination and revitalization (contributions of personnel and technology for decontamination and contributions of personnel for revitalization) [AP04]
    - ▶ As part of our contributions of human and technological resources to the efforts by national and local governments towards their implementation of decontamination and the subsequent follow-up, cleaning and tidying up and agricultural and commercial resumption, we will respond 100% to their requests.
  - Human and technological contributions to the implementation of decontamination and the subsequent follow-up [AP05]
    - ▶ In addition to contributing human and technological resources to the efforts by national and local governments to implement decontamination, we will cooperate to the tune of a total of 160,000 person-days over the next 3 years in the post-contamination monitoring and alleviating concerns over radiation.
  - Human contributions within Fukushima prefecture towards restarting farming and commercial businesses and with cleaning and tidying to assist repatriation [AP06]
    - Over the next 3 years, TEPCO will devote the efforts of the entire company to speeding up the revitalization of Fukushima by injecting around 250,000 person-days to engage in activities that will assist in the revitalization in accordance with local needs (such as monitoring, mowing and tidying up residential and public facilities to assist with repatriation).

[Simple decontamination work in school facilities]



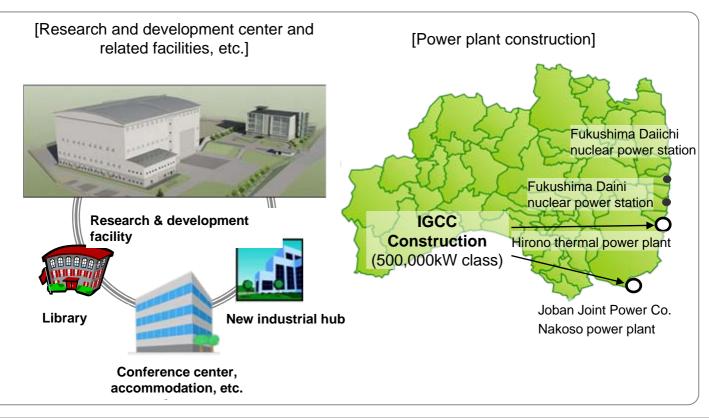
[Residential cleanup work]



### **Efforts Towards Fukushima Revitalization**

# 3 Revitalization

- The building of a collaborative system with national and local governments to develop effective programs [AP07]
  - ▶ TEPCO will set up a collaborative system with national and local governments by augmenting personnel to strengthen the proposal planning function and establishing a flexible, cross-sectional internal system.
- Contribution to the realization of national government restoration measures (Innovation Coast scheme\*1)
   [AP08]
  - ▶ TEPCO aims to reflect and implement specific measures in the proposals by the study panel into a scheme for a Fukushima international industry research hub.
- Proposal and realization of a future vision for integrated decommissioning in the Fukushima-Hamadori region [AP09]
  - ► TEPCO will work with national and local governments to formulate and in turn implement plans for revitalization.
- Contributions by the TEPCO Group to the recovery of commercial zones and the creation of employment [AP10]
  - ► Through measures such as the construction of the world's most advanced coal-fired thermal power plant (IGCC\*2), TEPCO will contribute to the creation of industry and employment.
- Third-party evaluation and application of the content and effects of programs aimed at revitalization [AP11]
  - ▶ The content and effects of revitalization programs will be evaluated by third parties, and those evaluations will then be applied to subsequent actions.
  - \*1 Innovation Coast scheme: Fukushima International Industry Research Hub Scheme (multiple research and development centers and related facilities)
  - \*2 IGCC: Integrated coal gasification Combined Cycle
- TEPCO will continue to build an industrial platform and create employment opportunities through the realization of the "Innovation Coast scheme" in collaboration with related parties, and "Construction of the world's most advanced coal-fired thermal power plants".



### **Decommissioning of Fukushima Daiichi Nuclear Power Station**

- Overhauling emergency response actions, implemented amidst time and workplace environmental
  constraints after the accident, and establishing permanent and sustainable facilities and their
  administration system that cater to long-term decommissioning work
- Continuously improving the mid- and long-term roadmap for decommissioning by incorporating domestic and international knowledge to promote the development of required technologies, and integrating them into on-site work

### Departmental Commitments 《Targets》

Ensuring the implementation of contaminated water countermeasures

- Preventing the leakage of contaminated water into the sea
- Ensuring the management and risk reduction of retained contaminated water
- Preventing the increase of contaminated water from the inflow of groundwater

Amassing domestic and international knowledge for steady promotion of decommissioning

- Ensuring the removal of fuel from the spent fuel pools (Units 3 and 4)
- Establishing an international platform for exploring various scenarios to define a specific scenario for debris and fuel removal

Building a foundation toward 40-year decommissioning work

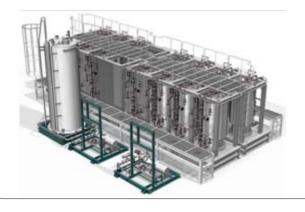
 Shifting from makeshift facilities to the installation and administration of more permanent facilities, fostering and securing human resources for decommissioning, and improving the on-site work environment

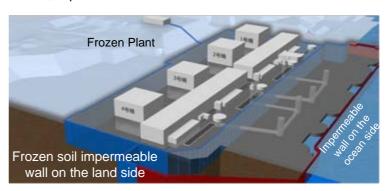
## Countermeasures for contaminated water

- Preventing the leakage of contaminated water into the sea [AP12]
  - ▶ Installing steel pipe piles on the ocean side to establish an impermeable wall (FY2014)
- Ensuring the management of retained contaminated water [AP13]
  - ▶ Installing large welded tanks to replace flange tanks for establishing the total tank capacity of approx. 800,000 tons (FY2014)
- Reducing risks concerning contaminated water retained in tanks [AP14]
  - ▶ Improving the capacity factor of multi-nuclide removal facilities (ALPS) and installing additional ALPS facilities to purify contaminated water (concentrated RO brine) in tanks by the end of 2014.
- Implementing measures to prevent the inflow of groundwater [AP15]
  - ▶ Installing an impermeable wall on the land side in the frozen soil method (early FY2015)

### **Decommissioning of Fukushima Daiichi Nuclear Power Station**

Promoting countermeasures for contaminated water, e.g. improving the capacity factor of multi-nuclide removal facilities (ALPS) and installing impermeable walls on the ocean and land sides
 [Multi-nuclide removal facility (ALPS)]





- Ensuring steady progress in the mid- and long-term roadmap
  - Fuel removal from spent fuel pools [AP16]
    - Preparing a safe and efficient work plan based on reviews by domestic and international experts to ensure steady removal of fuel from spent fuel pools
    - ▶ Aiming to complete fuel removal at Unit 4 by the end of 2014 and commence it at Unit 3 in FY2015
  - Fuel debris removal [AP17]
    - Producing devices for a full-scale investigation inside PCV (FY2014), and drawing up a flexible and specific scenario for removing debris fuel (FY2016)
    - ▶ Establishing an international platform for exploring scenarios, and promoting the foundation of a practical research structure for application to actual equipment

[Overhead crane / fuel handling machine]

[Unit 4]



[Removal of on-site transportation containers]



[Exterior (fuel removal cover)]



[Before the removal of large debris]

[Unit 3]



[ After the removal of large debris ]



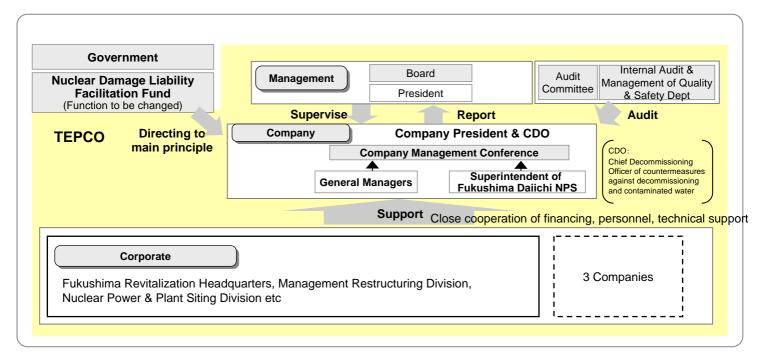
 Currently implementing radiation reduction measures in preparation for the installation of fuel removal cover, fuel handling machine, etc.



Improving reliability through the introduction and administration of more permanent facilities

- Introducing more permanent facilities to boost reliability [AP18]
  - ▶ Introducing more permanent facilities that can handle long-term decommissioning work to boost reliability; Main measures include installing a new Central Monitoring Room in FY2016 and commencing the construction of a power supply base on the Units 5 / 6 side in FY2016.
- Improving the working environment in view of the feedback of on-site workers [AP19]
  - ▶ Improving the workplace environment and working conditions based on on-site needs, setting up a large resting room and canteen in FY2014 as well as building a new administration building in FY2015
  - ightharpoonup Carrying out decontamination to reduce on-site radiation levels so as to bring the amount of radiation exposure as low as possible; Bringing the radiation level to below 5  $\mu$  Sv/hour at areas around the contaminated water tanks, etc. in FY2014 in an effort to gradually expand the areas of reduced radiation
- Reinforcing the organizational administration structure [AP20]
  - ▶ Reinforcing the project management structure for handling task-specific projects in order to resolve a diverse range of miscellaneous decommissioning tasks as they arise; Ensuring that the administration of the new project management structure is established in one year, and that resources are appropriately distributed among various on-site tasks within 3 years to achieve flexible and swift project management
- Reinforcing and securing on-site human resources for decommissioning [AP21]
  - Drawing up a program for fostering and revamping on-site engineering capacity (FY2014) and systematically securing human resources in order to reinforce HR development for long-term decommissioning work
  - Working in partnership with general contractors and other contractors to explore and implement measures for securing workforce

Governing Structure of Fukushima Daiichi Decontamination & Decommissioning Engineering Company



### **Nuclear Power Safety**

- Given the summation that "the cause of the accident at the Fukushima Daiichi Nuclear power station cannot be simply be swept aside as a natural disaster. TEPCO was unable to avoid an accident that should have been avoided through advance preparations making every use of the human intellect," TEPCO will promote the "Nuclear Safety Reform Plan" formulated with the determination embodied in the statement: "strongly motivated by the lessons learned from the Fukushima Daiichi nuclear accident, we will continue our efforts to enhance safety awareness towards achieving the highest level of nuclear safety as we advance nuclear safety reforms."
- We will also continue to implement improvements based on guidance provided by internal and external
  monitoring and evaluation organizations and will work to accelerate reform and imbue our organization
  with a culture of safety.

### Departmental Commitments 《Targets》

#### Achieving the world's highest level of safety awareness, technological capacity and interactivity

Raising quality and safety to the world's highest level in the global standard for safety indicators\*1

#### Renewed trust in the nuclear power industry

- Operational reforms and completed safety improvement measures (short-term measures) in all units at Kashiwazaki-Kariwa NPS
- Assessments by the local region and community
- \*1 Global standard for safety indicators: Plant operation indicators for safety and reliability by World Association of Nuclear Operators (WANO)

### 1 Nuclear power safety reforms

#### Improvements to safety awareness [AP22]

- ► TEPCO aims to raise the level of safety awareness throughout the entire company and to lay down solid improvements in nuclear power safety.
- Our goal is to conduct discussions designed to foster a safety culture through our entire organization and to systematically progress enhanced measures that will continually and comprehensively identify risks relating to nuclear power safety so as to improve our evaluations by third-party organizations (positive results relative to the previous financial year).

### Increased technological capabilities [AP23]

- ▶ TEPCO will bolster the fostering of on-site capability, which forms the bedrock supporting nuclear power safety.
- ▶ To improve the capacity of our response systems when emergencies arise, we will quantitatively assess our comprehensive training programs and then formulate and implement improvements based on the results of those assessments.
- ▶ We will also boost our capacity to present defense in depth\*² through measures such as building improvement processes based on hazard analysis and running competitions to enhance our ability to present safety improvements.

#### Improved interactivity [AP24]

- ▶ We will broaden our advertising and public relations campaigns for nuclear power on the basis of objective evaluations from society.
- ▶ We will aim to implement and establish prompt and readily understandable information releases, both domestically and overseas, regarding our progress in reactor decommissioning.
- \*2 Defense in depth: A concept in which multiple layers of security controls (defense) are put in place to ensure overall safety even if a number of controls are broken



 Under the Nuclear Safety Reform Plan, we are working to speed up the pace of reforms and foster a safety culture.

Countermeasure	Ideal we must strive for
Reforms from management level	Management and nuclear power leaders* are raising their own awareness of safety, resulting in heightened safety awareness throughout the entire organization and improved safety in nuclear power.
Enhanced management monitoring and support	Nuclear power safety is being improved by promoting reforms in executive divisions.
Enhanced capacity to make defense in depth proposals	<ul> <li>Nuclear power leaders work systematically, effectively and efficiently to set in place overlapping layers of defense in depth, working always to improve nuclear power safety and being active in campaigns that reform the entire organization with regard to improving nuclear power safety.</li> </ul>
Comprehensive risk communication activities	<ul> <li>Management and nuclear power leaders prepare as many countermeasures as they can think of for a range of problems and then prioritize the countermeasures sensibly so as to minimize the overall risk. By doing so, they build a relationship of trust with the region and everyone in the community.</li> </ul>
Power plant and head office reorganization in an emergency	At all times, the Superintendent has the confidence to quickly and confidently respond to a state of emergency.
6. Review of power station organization during normal times and enhanced technical capability for direct management	The organization and each individual has the technical capability to continually progress reforms so as to improve nuclear power safety.

<sup>\*</sup> Nuclear power leaders: Executive officers in charge of nuclear power, superintendent, head office general managers related to nuclear power generation, etc.

# 2 Safety measures at the Kashiwazaki-Kariwa Nuclear Power Station

#### Implementation of safety improvement measures [AP25]

- ▶ TEPCO will resolutely apply the safety measures necessary to ensure that we achieve the world's highest standards of safety assurance in our nuclear power stations.
- ▶ We will strengthen our defense in depth by adding a range of heat-removal and cooling functions and safeguards against natural disasters, fires and inundation.
- ▶ We will complete the short-term measures for units 1, 5, 6 and 7 during FY2014.
- ▶ We aim to complete the medium- to long-term measures for units 1, 5, 6 and 7 and the short-term measures for units 2, 3 and 4 by FY2016.

#### • Safe plant operation and management [AP26]

With regard to problems that could impact on the performance indicators for safety systems, our aim is to improve performance so that we achieve the world's highest levels for internationally standard safety performance indicators by analyzing the causes of any such problems and putting countermeasures in place.

### **Nuclear Power Safety**

 At Kashiwazaki-Kariwa Nuclear Power Station, we are setting in place a range of countermeasures based on the lessons learned from the Fukushima nuclear accident.

	Main countermeasures	Implementation status
Tsunami countermeasures	<ul> <li>Installation of seawalls</li> <li>Installation of flood barrier walls and flood barrier panels</li> <li>Making key machinery rooms watertight, etc.</li> </ul>	Seawall (for units 1-4)  Flood barrier wall  Watertight doors
Power supply/cooling function enhancements	<ul> <li>Power supply diversification</li> <li>Installation of additional water supplies</li> <li>Deployment of alternative seawater heat exchangers, etc.</li> </ul>	Air-cooled gas turbine power supply car
Impact alleviation measures	<ul> <li>Installation of filter vent facilities</li> <li>Installation of hydrogen processing equipment, etc.</li> </ul>	Filter vent facility (unit 7)  Hydrogen processing equipment (unit 7)

- 3 Fukushima Daini Nuclear Power Station
  - Enhanced safety at the Fukushima Daini nuclear power station [AP27]
    - ▶ To improve the reliability of the facility and to appropriately maintain a stable cold shutdown state, we will transfer the fuel rods from the unit 1 and unit 3 reactors to the spent fuel pool (FY2014).
    - ▶ We will also put in place systematic measures to improve the reliability of stable cooling.
- 4 Higashidori Nuclear Power Plant Construction office
  - Implementation of safety measures and education activities at the Higashidori nuclear power plant construction office [AP28]
    - ▶ TEPCO will steadily undertake work on the peripheral infrastructure required with a view to measures to ensure safety and quality.
    - We will also fully explain our efforts to the people of the community, focusing primarily on our Higashidori facilities.
- 5 Nuclear fuel cycle
  - Initiatives for the nuclear fuel cycle business [AP29]
    - ▶ TEPCO is providing support to the completion of the Japan Nuclear Fuel Ltd (JNFL) reprocessing facility (scheduled for October 2014), which is pivotal to the nuclear fuel cycle business, as well as to the start of operations at the medium-term storage facility at the Recyclable-Fuel Storage Company (RFS) and the acquisition of spent fuel casks.



### **Corporate Divisional Strategy**

- TEPCO will formulate a company-wide rationalization, investment and financial strategy to ensure that
  resources are distributed appropriately within the group and will also comprehensively monitor the
  implementation of the strategy and undertake risk management.
- TEPCO will introduce a holding company (hereinafter HD company) structure with the aim of building a world-class business management system, by April 2016.
- To rebuild trust in the TEPCO Group, each division, company and group enterprise will adopt a unified approach to safety assurance, legal compliance, information release and consideration for the environment.
- We will foster a climate in which employees engage in open dialog that extends beyond their positions or workplaces, as they should in a company where they can work with pride and energy, and this will assist in driving corporate reform.

### Departmental Commitments 《Targets》

Enhancement of the management platform to fulfill our responsibilities arising from the Fukushima nuclear accident

Ensuring an ordinary profit in the region of 130 billion yen

Restoration of commercially based funding and financial reform that positions TEPCO as a utility\* on the global level

• The acquisition of ratings and improvements in financial indicators that will allow a return to the bond market and thereby lead to a resumption of funding

The building of transparent and practical business management structure incorporating governance that will enable risk management and the optimal distribution of company-wide resources (personnel and capital)

- The smooth introduction of an HD company structure that achieves both "accountability and competitiveness"
- The assurance of a structure in which the group companies work together to respond to disasters smoothly and with certainty.
- \* Utilities: Public agencies that provide electricity, gas, water supply, etc.

### Achievement of company-wide profit targets

- Deep cost reductions in excess of 1 trillion yen [AP30]
  - ▶ Through reforms to procurement and cost structures, TEPCO will reduce costs by -576.1 billion yen annually and by an accumulated -1.3 trillion yen over 3 years compared with our planned costs prior to the earthquake.
  - ▶ In addition to the procurement and cost structure reforms, we will increase our competitive procurement rate to 45% by the end of FY2014 and to 60% by the end of FY2015.
- Reduction and reallocation of investment [AP31]
  - ▶ By carefully examining existing investment, TEPCO will cut investment by -120 billion yen annually and by an accumulated -410 billion yen over 3 years compared with the previous Comprehensive Special Business Plan (CSBP).
  - ▶ We will also rebuild our investment appraisal and management systems and will strategically reallocate investment towards more effective investments (70 billion yen annually and an accumulated 250 billion yen over 3 years).

## **Corporate Divisional Strategy**

Achievement of company-wide profit targets (continued)

#### Promotion of overseas business [AP32]

- ▶ The relevant TEPCO divisions and group companies will work together to promote overseas consulting linked to overseas investment companies and exports of manufacturer's power systems. At the same time, we will work to expand our overseas IPP investment business while make use of existing overseas business enterprises.
- ▶ In this way, we are targeting equity gains from overseas investment business of 17.5 billion yen and overseas consulting business sales of 1.1 billion yen (FY2014).

#### Gas business expansion [AP33]

- ▶ In response to customer demand, we aim to make effective use of our LNG facilities to increase gas sales.
- Specifically, we are aiming for sales of 110 billion yen after 1 year, and sales of 160 billion yen after 3 years.

#### Enhanced competitiveness in Group companies [AP34]

- ▶ Through more efficient staffing levels and major cost reductions following cost structure analysis, the TEPCO Group companies will reduce costs by -36.7 billion yen annually and by an accumulated -105.2 billion yen over 3 years compared with planned costs prior to the earthquake.
- ▶ The companies and related Group companies will collaborate closely with the aim of increasing external sales for consolidated subsidiaries to 163.4 billion yen annually, reaching a total of 530 billion yen over the 3-year period.

# Restoration of commercially based funding and an improved financial standing

### Improved financial standing [AP35]

- ▶ TEPCO aims to acquire ratings and improvements in financial indicators that will allow a return to the bond market and thereby lead to a resumption of funding.
- ▶ The company will work towards improving its ratio of self-sustaining funding (to 16% by the end of FY2016) and boosting its ratio of cash flow to debt/interest to a level that reflects the standard for global utilities.

# Enhanced Group business management functions with the focus on introducing an HD company structure

#### Organizational restructuring and the distribution of functions and authority [AP36]

▶ To ensure that our responsibilities for the Fukushima nuclear power accident are fulfilled and that business development is optimized for business subsidiaries, TEPCO will set up practical and transparent business management systems and organizational structures that are on a par with international standards and that will mesh with the introduction of the HD company structure in April 2016.

#### Personnel reforms [AP37]

- ► TEPCO will pursue thorough efficiency improvement of operations by realizing business management that brings the company closer to customers and society based on the "organizational flattening" policy (abolishment of branch offices and thermal power offices) (fiscal 2014-2015). Through this effort, we will offer voluntary retirement to around 1,000 staff (June 2014) to trim our organization while securing the personnel necessary to promote compensation, decommissioning and reconstruction.
- ▶ We will also review the employment conditions and apply some of the overachievements in the cost reductions planned in the new CSBP (July 2014).
- ▶ By promoting diversity and personnel interchange between the HD company and subsidiaries, we will also develop a group-wide personnel system that will nurture staff who create new value (April 2016).



#### • Enhanced utilization of management accounting [AP38]

► Transactions between business companies that provide autonomous growth for the business companies and are also optimal for the company as a whole will be established by March 2016 in readiness for the introduction of the HD company structure.

#### IT system rebuilding [AP39]

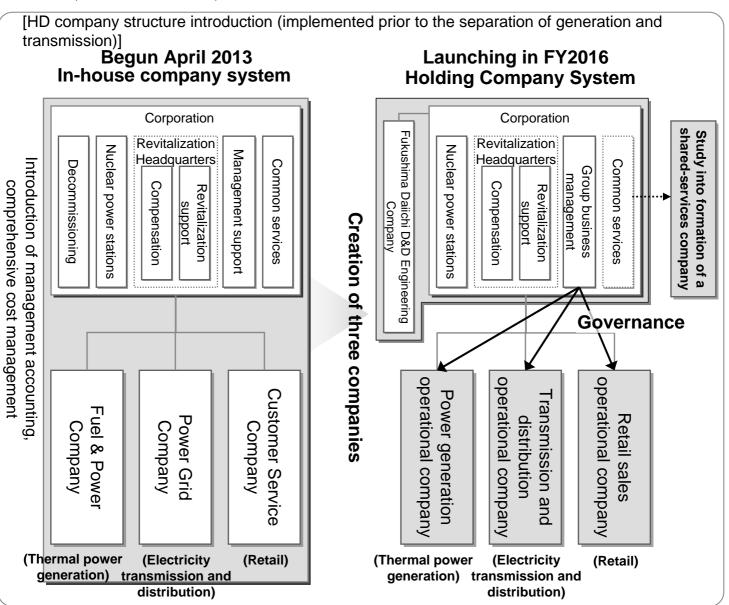
► TEPCO will rebuild the systems for the energy wheeling business and customer services, etc., and will revise the financial accounting and other internal systems so that they are suited to an HD company structure (April 2016).

#### Implementation of "society-oriented communication" [AP40]

► TEPCO will put into practice educational activities that draw on the feelings and standpoints of people who receive information, from top management down to individual employees, so that we will receive appreciation of the way the company releases information from everyone in the community.

#### Enhanced preparations for disasters [AP41]

▶ TEPCO will revamp its disaster preparations so that they fit in with the HD company structure (April 2016) and with the flattening of the organization (July 2015). We will also strengthen our preparations on an ongoing basis by continually conducting training in the revamped preparations (functional verification).



## **Corporate Divisional Strategy**

# 4 Initiatives to support reform

#### Corporate ethics and legal compliance [AP42]

- ▶ TEPCO will conduct its everyday business operations through the eyes of society, maintaining a keen awareness throughout the entire Group that any violation of corporate ethics and legal compliance is a risk to the very existence of the company.
- ▶ We will also ensure open communication in the workplace to ensure that any instances of inappropriateness are prevented in advance.

#### Safety and quality assurance [AP43]

Under our responsibility as an infrastructure company supporting the community economy, TEPCO will place the utmost priority on safety while working to improve our on-site capacity and ensure a stable electricity supply.

#### Consideration for the environment [AP44]

- Business activities that consider the environment are conducted by the entire Group.
- ► TEPCO will build a new environmental management systems compatible with the HD company structure and redouble our efforts to reduce environmental impacts. At the same time, we will work steadily to manage and deal with risks such as environmental pollution.
- ▶ TEPCO will contribute to addressing the problem of global warming in light of the energy and environmental policies of the National Government.

#### Technological development [AP45]

- ► Technological development undertaken by TEPCO will assist in promoting reactor decommissioning, ensuring the safety of nuclear power and providing a stable electricity supply.
- ▶ We aim to maximize the benefits by combining our own technologies with those of external research organizations.

#### Enhancement of the dynamism needed to respond to competition [AP46]

► TEPCO will boost the dynamism needed to respond to competition through open dialog in workplaces and by providing ample opportunities for communication among and between staff and management.

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## **Fuel & Power Company Growth Strategy**

- As well as delivering a stable supply of low-cost electricity and fuel to customers, TEPCO is creating assets to use in the revitalization of Fukushima.
- By maximizing our utilization of inclusive alliances throughout the entire supply chain and implementing strategic fuel cost reductions, we are transforming ourselves into an energy business that is spreading its dynamism around the globe.

### Departmental Commitments 《Targets》

#### Establishing and utilizing an inclusive alliance business entities

- Establishment of business entities: FY2014
- Commencement of joint procurement: FY2015
- Upstream fuel businesses: 1 project in FY2015 and another in FY2016 will be decided
- Replacement of aged thermal power plants: Sequential tendering through an invitation for bids using a customer service company in FY2014

# Creation of competitive assets by strategically reducing fuel costs and increasing earning capacity

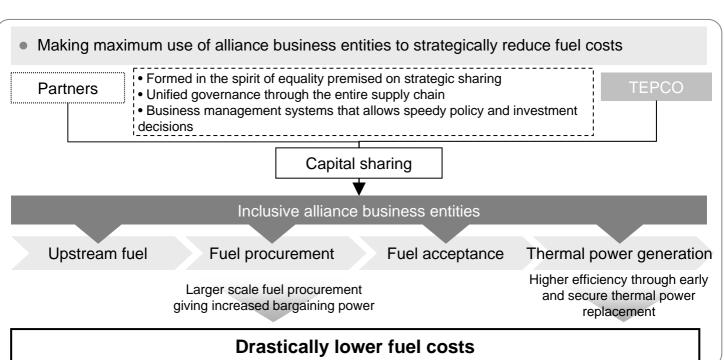
Added competitive assets (cost reductions + increased profits): 60 billion yen

#### Increased profit by expanding the scope for business at the supply chain periphery

Peripheral business profit: 20 billion yen

## 1 Provision and utilization of business promotion systems to realize business strategies

- Establishment and utilization of inclusive alliance business entities [AP47]
  - ▶ By March 2015, TEPCO will establish alliance business entities through the entire supply chain on the basis of providing a business management system that supports the national interest, increases client revenues, operates in the spirit of equality and permits rapid decision making.
  - ▶ We will use the inclusive alliance business entities to proceed with joint fuel procurement and set up a thermal power tendering system.



## **Fuel & Power Company Growth Strategy**

# 2

### Competitive asset creation and expanded business scope

- Expanded introduction of light LNG and lower LNG unit prices [AP48]
  - ▶ TEPCO will commence joint procurement through its inclusive alliance business entities (FY2015).
  - As well as beginning the installation of additional LNG tanks at Futtsu, we are engaged in negotiations for new light LNG sales agreements to expand the adoption of light LNG.
  - ▶ We are also working to bring down the LNG unit price by amending the price in existing LNG agreements.
- Upstream fuel business expansion [AP49]
  - ► TEPCO will locate superior investment candidates and conduct detailed investigation, analysis and evaluation before making decisions on upstream business investments (1 in FY2015 and 1 in FY2016).
- Replacement of aged thermal power plants consistent with power supply tendering and joint development of power stations outside the TEPCO service area [AP50]
  - ▶ TEPCO will set up a thermal power supply tender system using its inclusive alliance business entities (FY2014) and will formulate plans for replacing aged thermal power plants before conducting a tender process.
  - ▶ We are also setting up a system for joint power station development in areas outside the TEPCO service area.
- Enhanced trading business to improve responsiveness to fuel and power price changes [AP51]
  - ▶ In line with the full deregulation of electricity retailing, TEPCO will broaden its operations by establishing a trading company (FY2014).
- Overseas IPP business development and gas business expansion [AP52]
  - ▶ With regard to overseas IPP business, TEPCO will develop new types of candidate proposals that will create a virtuous cycle with fuel procurement.
  - ▶ For the gas business, we will pursue increasing of sales by utilizing LNG facilities effectively.
- Beginning of sales of highly economical and high-efficiency LNG thermal power and an accelerated start to power generation [AP53]
  - ▶ To achieve higher efficiencies, TEPCO converted the gas turbine installed as an emergency measure immediately after the earthquake to a combined-cycle system. Currently, trial operation is under way at the Chiba thermal power station group 3 (total 1,500MW with a thermal efficiency of approx. 58%) and the Kashima thermal power station group 7 (total 1,248MW with a thermal efficiency of approx. 57%), with commercial operation scheduled to begin by July 2014.
  - ▶ We have also brought forward the start of trial operation (power generation) in units 2 and 3 of group 2 at the highly efficient Kawasaki thermal power station<sup>\*</sup> (MACCII\* total 1,420MW with a thermal efficiency of approx. 61%). (Scheduled to begin commercial operation in FY2016 and FY2017 respectively)
- Formulation and implementation of plans to upgrade existing combined-cycle facilities [AP54]
  - ► TEPCO is formulating and implementing plans to improve its gas turbines and achieve higher efficiencies, with the effects expected to be felt following a relatively short period of work.

- Fulfilling our responsibility to provide stable supply while also aggressively reducing costs
  - Fuel cost reductions and fulfillment of the responsibility for stable supply [AP55]
    - ► To achieve fuel cost reductions while also maintaining a stable power supply, TEPCO will maximize the operation of its highly economical thermal power supply (coal-fired thermal, MACC\* and ACC\*) by shortening the periodic inspection processes, while at the same time improving the stability and flexibility of its fuel procurement and minimizing the risk of unplanned stoppages.
  - Reduction in the fuel unit price through economic fuel procurement [AP56]
    - ▶ TEPCO will reduce its unit price for fuel by expanding the introduction of highly economical, low-grade fuels at its oil- and coal-fired thermal power stations.
  - Reductions in fixed costs and cost structure review [AP57]
    - ▶ In addition to reducing costs, particularly equipment maintenance and repair costs, through measures such as careful selection of the work to be carried out and the scope of implementation, TEPCO will also conduct a review of cost structures for the entire Group.
- Optimizing fuel operations and transactions, and achieving the most economical thermal unit operation [Energy supply chain (schematic for LNG)] Upstream fuel Thermal power Fuel procurement Fuel acceptance generation High-efficiency LNG LNG ship LNG project I NG tanks thermal power station LNG purchase TEPCO investment utilized throughout the entire supply chain Market trends Most economical thermal Optimized fuel operations/transactions unit operation Optimal Trading operations Thermal infrastructure planning operation
  - \*CC: Combined Cycle
  - ACC: Advanced Combined Cycle (1300°C class)

Delivers greater efficiency compared to a conventional CC (combination of a gas turbine and steam turbine) by increasing combustion temperature from 1100°C to 1300°C)

- MACC: More Advanced Combined Cycle (1500°C class)
- Delivers even greater efficiency compared to ACC with an even higher combustion temperature of 1500°C
- MACCII: More Advanced Combined Cycle II (1600°C class)

  Delivers even greater efficiency compared to MACC with an even higher combustion temperature of 1600°C

## **Power Grid Company Neutrality and Investment Strategy**

- Once the reliability of power supply is assured, TEPCO will implement comprehensive cost reductions
  keeping in mind a low wheeling rate on a par with international levels, and will also optimize efficiency in the
  electricity transmission and distribution network operation.
- We will significantly improve the convenience of network use while also increasing the neutrality, fairness and transparency of business management.
- As well as helping to improve the capacity of Japanese industry to compete, this will continually generate resources for the revitalization of Fukushima.

### Departmental Commitments 《Targets》

#### Reducing energy wheeling costs while also providing stable supply

 TEPCO will maintain the required level of reliability while also creating the resources required to reduce the cost price and revitalize Fukushima.

#### More advanced environment for network use

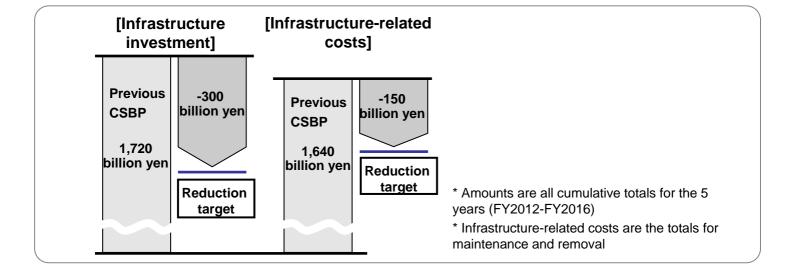
 TEPCO will ensure a stable supply in a competitive environment and improve neutrality and transparency with the aim of providing greater and more comprehensive freedom.

#### Expanding the scope of business using technological expertise

 TEPCO will use the technological expertise of the Group companies to boost the sophistication of domestic and overseas networks.

## Cost price reductions and stable supply

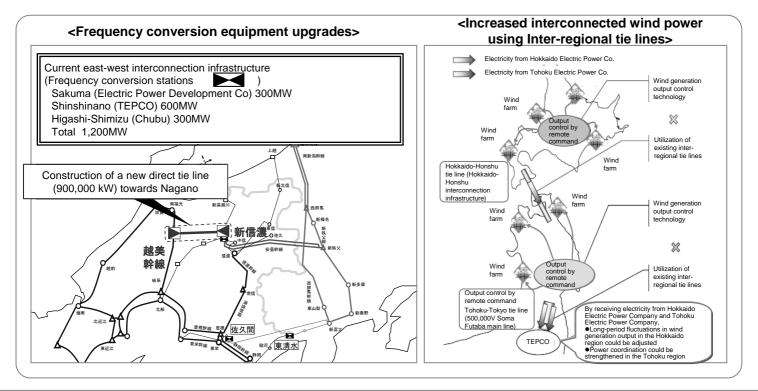
- Infrastructure investment and lower infrastructure costs [AP58]
  - ► Through technological and business innovations, deeper rationalization measures and improved procurement rates, TEPCO is committed to further reducing engineering costs, reducing the 5-year totals for the 2012-2016 period by -300 billion yen in investment and by -150 billion yen in costs.
- Implementation of repairing aged infrastructure [AP59]
  - ▶ While putting in place comprehensive cost reductions, TEPCO will resolutely implement the infrastructure measures necessary to ensure system reliability and safeguards against disasters so that stable supply, safety and quality, which form the bedrock of our business, are assured.





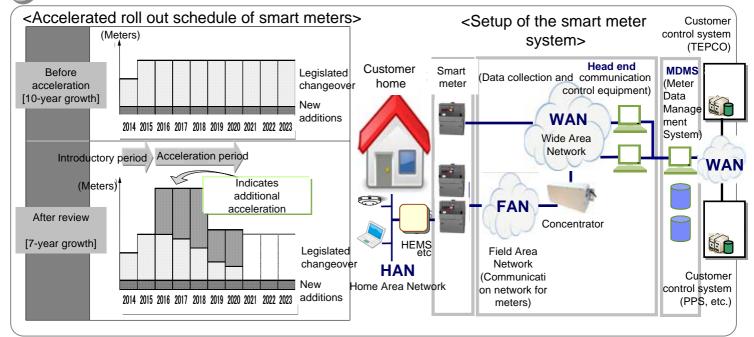


- Promotion of broad-ranging operations (contribution to the Organization for Nationwide Coordination of Transmission Operators, strengthening of East-West ties and interconnection with regional wind power systems) [AP60]
  - ► TEPCO will cooperate in preparing the location and the establishment of the Organization for Nationwide Coordination of Transmission Operators in FY2015.
  - ▶ With regard to the frequency conversion equipment at the Shinshinano substation, which is the location for the nationwide connection with the Chubu Electric Power Company, we will begin the preparations for upgrading its capacity from the current 600 MW to 1,500 MW (with operation to begin in 2020). These preparations will include the selection of power transmission line routes as of FY2014.
  - ▶ During FY2016, verification testing will begin with the aim of expanding the introduction of wind-powered electricity generation, using the capacity we have as a large-scale generator to adjust our area of operations using the inter-regional tie lines in 50 Hz regions.
- Establishment of neutral and transparent business management systems [AP61]
  - ▶ With regard to information disclosure relating to business management, TEPCO will respond in detail to the various requirements of network users, including providing a full-range of services for system interconnection.
- Smarter electricity use (installation of smart meters, joint gas and water meter reading) [AP62]
  - ► TEPCO will begin installing smart meters from FY2014, with a total of 10 million to be installed by the end of FY2016. We will also conduct verification testing in FY2015 based on joint gas and water meter reading.
- Expansion of renewable energy (expansion of hydroelectric power stations and more advanced regional interconnection for islands) [AP63]
  - ▶ As part of its policy for expanding the use of renewable energy, TEPCO Group will increase its total hydroelectric power station output to 4GWh by FY2016.
  - ▶ We will also boost our interconnection capacity for renewable energy in island regions to 1,550 kW by FY2016.

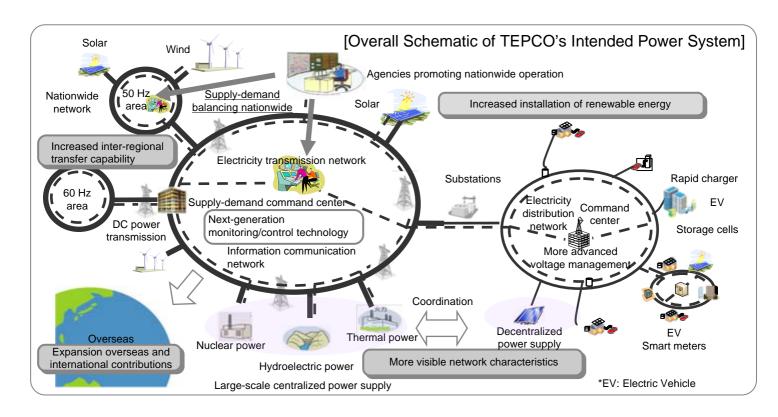


## **Power Grid Company Neutrality and Investment Strategy**

# 2 Network use environment



- Operating area expansion
  - Business sales outside Group enterprises [AP64]
    - ▶ TEPCO will realize 59 billion yen of outside sales in the 3 years from FY2014 to FY2016 at consolidated subsidiaries in the Power Grid Company.
  - Participation in overseas electricity transmission and distribution business [AP65]
    - ▶ From FY2014, TEPCO will begin investigating the feasibility of operations that encompass upgrades to overseas electricity transmission and distribution infrastructure and future investment in electricity transmission and distribution businesses.



# **Growth Strategy for Customer Service Company**

- Rather than simply selling power, TEPCO will supply power premised on the most efficient energy use for the customer, based on adopting the viewpoint of our customers so that we can understand them better.
- In the future, we intend to supply products and services that minimize the medium to long -term costs of infrastructure use, up to and including the customer's own infrastructure.
- Through initiatives of this sort, we aim to be an "future-oriented infrastructure company" that plays an active role in fulfilling the wishes both of families who want a rich and full lifestyle that is also safe, and of companies who want to grow and develop.

### Departmental Commitments 《Targets》

#### Competing actively in the national energy market by using alliances for market penetration

Sales increased by +54 billion yen

#### Providing new services that are useful to business and livelihoods through open platforms, etc.

 Initiating the provision of new services that use alliances, and increased number of members of its service

#### Developing a schedule of rates for the future using smart meters and demand response

Future rate menu: Participation by half the number of customers with smart meters installed

# Maintaining and increasing sales

#### Commencement and expansion of nationwide power sales [AP66]

- ▶ TEPCO will quickly set up a business structure and begin nationwide power sales.
- ▶ We will also investigate alliances aimed at increasing sales.

#### Expanded gas sales using alliances [AP67]

- ▶ By offering a hybrid of electricity and gas, TEPCO hopes to gain large numbers of customers.
- ▶ We aim to assure gas supply and increase sales by forming alliances with other companies premised on gas system reforms such as a gas wheeling rate system and dual pipe regulations.

#### Increased sales through new services, etc. [AP68]

- ▶ TEPCO will continue to develop its energy-related services in cooperation with Group companies.
- ▶ In Summer 2014, we will begin trial implementation of collective electricity access services for apartment blocks.

### Positive development of lifestyle platforms<sup>\*1</sup> [AP69]

► TEPCO will provide new services that will be of use to customers with the aim of reaching 10 million households signed up to an "Electricity Housekeeping Book\*2" after 3 years.

#### Increased sales by cultivating demand [AP70]

- ▶ In the corporate sector, TEPCO will develop total energy solutions using electricity and gas.
- ▶ In the household sector, we intend to expand proposal-based sales to housing-related businesses, with service proposals and information distribution tailored to the different stages of life of the customers.
  - \*1 Lifestyle platforms: Open platforms that provide various lifestyles and housing services
  - \*2 Electricity Housekeeping Book: A free online service provided by TEPCO that allows users to confirm their electricity fees and usage over the past two years, as well as current contract details, and to calculate the most suitable service plan for them (http://tepco.co.jp/kakeibo/index-j.html).

## **Growth Strategy for Customer Service Company**

# 2 Reducing costs

#### Development of a schedule of rates for the future [AP71]

- During FY2014, TEPCO will finalize its future rate menu.
- ▶ In FY2015, we will begin accepting orders for the future rate menu using Electricity Housekeeping Books.

#### Competitive power supply procurement [AP72]

▶ In order to quickly procure a competitive power supply, TEPCO will systematically conduct tendering on the 10 million kW scale.

#### Power supply procurement for nationwide power sales [AP73]

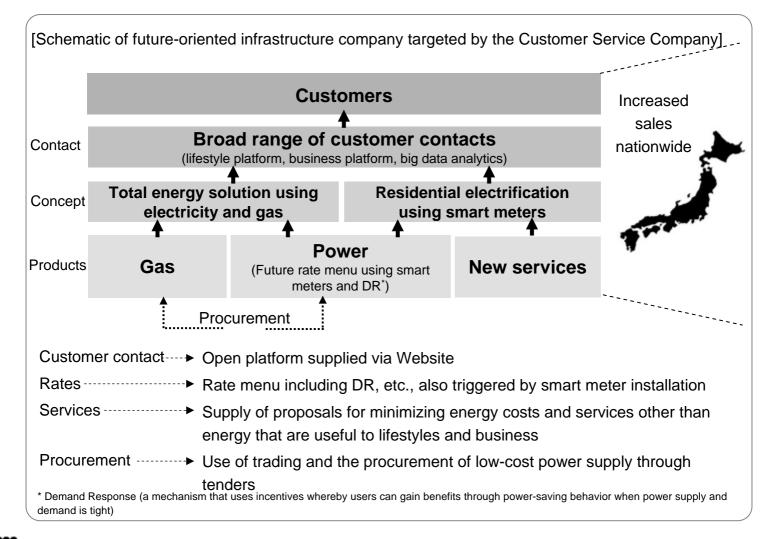
- ► TEPCO aims to procure power supply by approaching suppliers such as independent power generators with excess generation capacity throughout Japan.
- ▶ We will also investigate the potential for alliances that will lead to large-scale procurement.

#### Gas procurement using alliances [AP74]

► TEPCO will being negotiating alliances with other companies to facilitate competitive gas procurement.

#### More efficiency in operating costs [AP75]

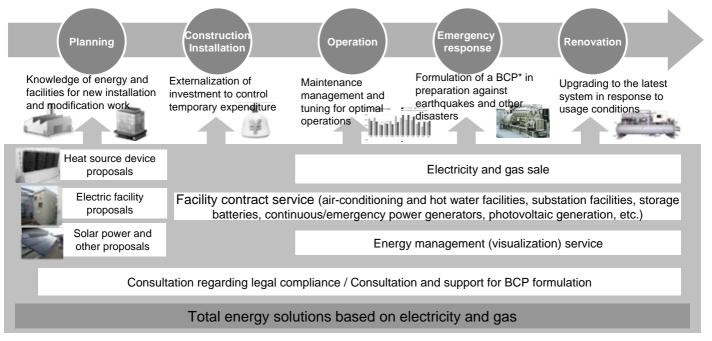
- ▶ TEPCO will boost the productivity of its workforce through measures such as centralizing its operations, expanding the level of outsourcing and broadening the scope of system support.
- ▶ We will also increase workforce productivity through the installation of smart meters.





 TEPCO will create an environment where customers can feel secure about using energy by aiming to minimize overall energy costs (electricity and gas fees, equipment procurement, operating costs, etc.) and by proposing optimal energy usage.

#### [Proposal of efficient energy use throughout the long life cycle of buildings and facilities]



#### \*BCP: Business Continuity Plan

- The "Electricity Housekeeping Book"\* will be enhanced to offer provide appealing electricityrelated content that will prove useful to customers.
- In the future, TEPCO aims to offer an open platform that will provide a diverse range of lifestyle and household services.

# [Provision of even greater value-added lifestyles and households throughout customers' life events]

