

The background of the cover is a scenic photograph of a city waterfront. In the foreground, there is a large field of vibrant red tulips. Behind them is a paved walkway with a black metal railing overlooking a river. In the distance, a stone bridge with multiple arches spans the river. The city skyline includes several modern buildings, with a prominent blue glass skyscraper on the right. The sky is clear and blue, and the scene is framed by the branches of a cherry blossom tree in the upper left and right corners.

# Annual Report 2017

For the year ended March 31, 2017

**Tohoku Electric Power Co.,Inc. (Japan)**

# Contents

- 3. Dear Shareholders and Investors
- 5. Financial and Operating Highlights
- 6. Tohoku EPCO Group Mid-Term Management Policies
- 7. Top Message
- 9. Overview of our electric power business
  - Generation
  - Network
  - Sales
  - Internal Services
- 17. Initiatives to Enhance Profits
- 19. Renewable Energy
- 21. Efforts to Enhance the Safety of Nuclear Power Stations
- 24. Corporate Governance
- 32. Financial Section
- 68. Power Supply Network



Our aim is to be a multiple-energy service company  
that grows together with the local communities.



# *We see new opportunities ahead to meet challenges and seek further growth.*

We are in the midst of dramatic change in the electric power business environment. The full retail market liberalization has intensified competition. Legal unbundling of the transmission and distribution sectors is to be implemented in April 2020.

We see such changes as an opportunity to sustainably grow with local communities. To realize this idea, we formulated “Tohoku EPCO Group Mid-Term Management Policies (FY2017 to FY2020)” in January 2017.

In the mid-term policies, we positioned the period of FY2017 to FY2020 as a “renovation period for growth.” In parallel with focusing on electric power business in our franchise area, we intend to seek new business opportunities for growth in six sectors: electric power business outside our home turf (including wholesale supply), overseas business, gas supply business, trading business, renewable energy related business, and business using innovative information technologies. In the future we expect great potential for growth in these sectors, in which we can fully leverage our group companies’ management resources. We will devote our management resources preferentially to these six areas to achieve our financial target of consolidated equity ratio of 25% or greater by FY2020.

Thank you for your continued confidence in Tohoku EPCO. All of us, throughout the company, remain diligent in our efforts to provide exceptional shareholder value. It is an honor to serve you.



*Makoto Kaiwa*

**Makoto Kaiwa**  
Chairman of the Board



*Hiroya Harada*

**Hiroya Harada**  
President

# Financial and Operating Highlights

Tohoku Electric Power Co.,Inc. and Consolidated Subsidiaries  
Years ended March 31

	Billions of yen					Millions of U.S. dollars
	2017	2016	2015	2014	2013	2017
<b>For the year</b>						
Operating revenue	¥ 1,949.5	¥ 2,095.5	¥ 2,182.0	¥ 2,038.8	¥ 1,792.6	\$ 17,377
Operating income (loss)	130.4	189.7	169.7	85.6	(55.9)	1,162
Net income (loss) attributable to owners of parent	69.9	97.3	76.4	34.3	(103.6)	623
<b>At year-end</b>						
Total assets	4,145.9	4,152.4	4,131.2	4,243.0	4,284.3	36,954
Total net assets	755.6	684.3	651.2	574.5	522.7	6,735
Interest-bearing liabilities	2,435.5	2,471.3	2,561.9	2,763.9	2,714.5	21,709
<b>Per share of the common stock</b>						
	¥	Yen	Yen	¥	¥	U.S. dollars
Net income (loss)	¥ 140.10	¥ 195.01	¥ 153.35	¥ 68.78	¥ (207.97)	\$ 1.248
Total net assets	1,392.24	1,261.40	1,206.38	1,073.45	969.97	12.409
Cash dividends	35.00	25.00	15.00	5.00	—	0.311
<b>Electric power sales (GWh)</b>						
	74,258	75,057	76,623	77,452	77,833	
<b>Financial ratios</b>						
			%			
ROA*1	3.1	4.6	4.1	2.0	(1.3)	
ROE*2	10.6	15.8	13.6	6.7	(19.4)	
Equity ratio	16.8	15.2	14.6	12.6	11.3	

\*1.ROA = Operating income (loss) /Average total assets at beginning and ending of the fiscal year

\*2.ROE = Net income (loss) /Average equity at beginning and ending of the fiscal year

Note: All dollar amounts in this annual report represent U.S. dollars translated from yen, for convenience only, at the rate of ¥112.19 = U.S. \$1.00, the approximate rate of exchange on March 31, 2017. Billion is used in the American sense of one thousand million.



# Tohoku EPCO Group Mid-Term Management Policies

In January 2017, we formulated “Tohoku EPCO Group Mid-Term Management Policies (FY2017 to FY2020).” Under these policies, Tohoku EPCO group will deploy diverse measures based on the following basic stance consisting of “three focal points.”

< Basic Stance of Mid-Term Management Policies >

**We see new opportunities ahead to meet challenges and seek further growth.**

## **Focal point 1 Solutions to Satisfy the Needs of the Customers and Communities We Serve**

1. Proposals to satisfy customers’ needs
2. Efforts toward reinforcing the safety of nuclear power stations
3. Enhancement of cost competitiveness with optimal power portfolio
4. Work toward a low-carbon society
5. Stable supply and efficiency of transmission/distribution business
6. Contribution to revitalization and prosperity of local communities

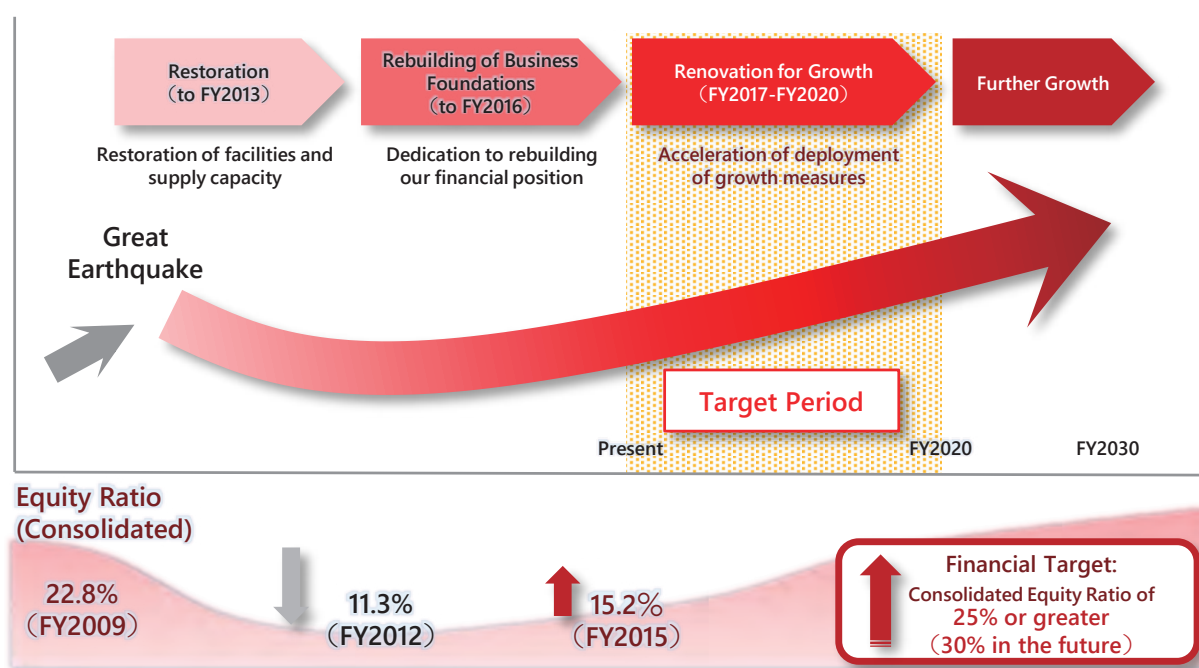
## **Focal point 2 Seeking New Business Opportunities for Growth**

1. Sales of power beyond our home turf
2. Expansion of overseas business
3. Enhancement of gas supply business
4. Development of power and fuel trading business
5. Promotion of renewable energy business
6. Pursuit of innovation to expand future business domains

## **Focal point 3 Establishing Solid Business Foundations with Renovation**

1. Further improvement of our financial position
2. Reorganization to prevail against competition
3. Promotion of utilizing diverse human resources
4. Steady progress of Corporate Social Responsibility (CSR)

We positioned the period FY2017 to FY2020 as a “renovation period for growth.” We intend to expand our business and investment for further growth and put all our efforts into achieving our financial target, in order to enhance our business foundations.



---

# President's Message

The collective strengths of Tohoku EPCO Group depend on each and every employee proactively seeking new business opportunities and further growth. We will integrate our strengths and accelerate deployment of growth measures under our new Mid-Term Management Policies, formulated in January 2017.

The following is the outline of our new Mid-Term Management Policies:

## Response to Dramatic Change in Environment

We are facing dynamic change in the electric power business environment: intensifying competition resulting from the full deregulation of retail sales of electricity and gas, as well as the legal unbundling of the network sector, which will go into effect starting in April 2020. Our local region is also confronting challenges, such as rapid depopulation and the aging of the population, which were already evident even before the Great East Japan Earthquake in 2011.

To transcend the various challenges that lie ahead, we have formulated our "Mid-Term Management Policies (FY2017 to FY2020)" to integrate our strengths to sustainably grow hand-in-hand with our local communities, which are still on their way to recovery from the disaster.

## Six Sectors of Growth Potential

In line with the Mid-Term Management Policies, we will devote our management resources selectively to six promising areas: electric power business outside our home turf, including wholesale supply; overseas business; gas supply business; trading business; renewable energy

related business; and business using innovative information technologies. Especially in areas where we can fully leverage our group companies' management resources, such as electric power business beyond our franchise area, overseas business and gas supply business, we have set quantitative targets to drive our business forward.

### 1. Electric Power Business Outside Our Home Turf, Including Wholesale Supply

We will enhance our sales measures to augment our electric power sales, including wholesale supply and sales outside our home turf. By fiscal 2020, we will increase our sales by 3.5 terawatt hours, and by 15 terawatt hours by fiscal 2030. In our franchise area, Tohoku and Niigata, we will expand our sales by proposing electrification and serving total energy solutions, such as heat pump devices that provide energy-saving and cost-reduction benefits to customers. We will also enhance and diversify our services and rate plans to suit our customers' varied lifestyles. Outside our franchise area, we sell electricity to high-voltage and extra high-voltage customers in the north



Kanto area through Synergia Power Co., Ltd., a joint company of Tohoku EPCO and Tokyo Gas. We have been steadily acquiring new contracts and will continue to proactively deploy our sales strategy for both retail and wholesale supply.

## 2. Overseas Business

For overseas business, we will increase our ownership capacity to 600 megawatts by fiscal 2020, and 1,200 megawatts by fiscal 2030. We will use our distinctive strengths such as geothermal and high-efficiency thermal power generation as a gateway into our target regions of North America, Central America and Southeast Asia.

## 3. Gas Supply Business

We will expand gas sales volume to 450,000 tons by fiscal 2020, and 600,000 tons by fiscal 2030. We realize that many of our customers need to improve their energy efficiency and reduce CO<sub>2</sub> emissions, and their best solution will be fuel conversion from heavy oil to LNG. To meet such customers' needs, Tohoku EPCO Group will concertedly reinforce total energy solutions using both electricity and gas.

## 4. Trading Business

We see business opportunities in the growing energy trading market in Japan, represented by the power futures market, which is expected to start in fiscal 2017. To actively participate in this growing market, we established a trading company in June 2017. We expect this new company to integrate power and fuel trading and to raise profits by collaborating with Tohoku EPCO.

## 5. Renewable Energy Related Business

Our franchise region, Tohoku and Niigata, boasts abundant natural resources. As a local electric power company, it is our task to use these blessings effectively and develop the renewable energy supply business as a growth field for Tohoku EPCO Group in order to boost the total renewable energy in the region. Through the verification projects of large-scale storage batteries, we try to solve technical challenges to expand grid capacity for renewables. In addition, Tohoku EPCO Group will develop a certain level of renewables focusing on large-scale wind power generation through our group company Tohoku Sustainable & Renewable Energy Co., Inc.

## 6. Business Using Innovative Information Technologies

A business using IT innovation, such as the Internet of Things, or IoT, as well as artificial intelligence and big data analytics – so-called Industry 4.0 has great potential to affect the conventional electric power business and drive progress both at home and abroad. We see business opportunities in this rapid advancement of IT, and we are accelerating our efforts to effectively upgrade our facilities' operations and improve our conventional services. Furthermore, we will investigate new businesses or services by combining new IT with distributed power sources and storage batteries, and by using open innovation. To accelerate internal examinations to expand our business domains, we

established a system for promoting IoT innovation, including assigning a board member in charge of IoT innovation.

## Improving our Financial Position

We believe our financial target, a consolidated equity ratio of 25% or greater by fiscal 2020, will be met reliably by achieving the published quantitative target for growth. We will accomplish a consolidated equity ratio of 30% in the future, with structural cost reductions throughout our management operation, including the ongoing procurement reform.

## Introducing an In-House Company System

Prior to the legal unbundling of transmission and distribution sectors scheduled for April 2020, we will reorganize our company system. We are designing an organizational system that will allow both generation and sales sectors to collaborate and fully utilize our competitive power sources and customer base. With this in mind, we will introduce our in-house company system prior to the legal unbundling of networks.

## Efforts to Resume Operation of Nuclear Power Units

We are undergoing assessments on conformity to the new regulatory standards, and implementing construction work on safety measures to resume operation of Onagawa Nuclear Power Station Unit 2 and Higashidori Nuclear Power Station Unit 1.

It is important for resource-poor Japan not to depend too heavily on specific fossil fuels, but to combine thermal, renewable and safety-assured nuclear power to simultaneously secure stable supply, environmental conservation and economic efficiency. I believe this will lead to the satisfaction of our customers and local communities.

To resume operations of our nuclear power units, we are continuing our all-out efforts toward conformity assessment and safety measures, while gaining the understanding of local communities.

## Optimal Energy Mix

The Japanese government recently announced the energy mix for 2030, which is a well-balanced combination of power sources that enables us to simultaneously secure Safety (S), Energy security (E), Economic efficiency (E) and Environmental conservation (E).

Based on the principle of S+3E, we will continue promoting a well-balanced combination of thermal, hydroelectric, renewable and safety-assured nuclear power to offer cost-competitive and stable electric power.

This is the outline of our new Mid-Term Management Policies. In closing, I would like to emphasize that our company slogan, "Yori, Sou, Chikara" (literally, "The Strength to Work Alongside") remains at the center of all we do. We continue to align with customer needs and work alongside our local communities while we implement business development and investments set by the new policies, which are aimed at increasing our corporate value.

While prioritizing safety,  
we supply inexpensive and high-quality power.

# Generation

Even in the midst of the transition in the energy business due to legal unbundling, the mission of power producers remains unchanged. We will maintain our commitment to satisfy customer needs based on the principle of S + 3E announced in the Basic Energy Plan by the Japanese government.

## Priority Measures

1. Acceleration of Efforts to Resume Nuclear Power Units → p.20-21
2. Continued Stable and Efficient Operation of Hydroelectric & Thermal Power Stations → p.18
3. Establishment of Optimal Energy Mix & Improvement of Operational Efficiency
4. Diversified Fuel Procurement and Enhancement of Elasticity & Competitiveness
5. Smooth Transition to New Organizational Structure Targeting Legal Unbundling

## Measures to Enhance Competitiveness and Increase Operational Flexibility

### Enhance Our Generation Competitiveness

We strive to develop new thermal power units with high thermal efficiency that are first-class in economic efficiency and environmental friendliness as well as contend for improving thermal efficiency of existing thermal power units.

**Noshiro Thermal Power Unit 3** (600 megawatts, Coal, Planned Operation Start: June 2020)

We have adopted an ultra super critical power plant (USC), which is superior in environment-friendliness and thermal efficiency than the existing Units 1 and 2 (LHV: 44.8%) and will expand the use of sub-bituminous coal with less coal ash, which will achieve both high economic efficiency and less waste.

**Joetsu Thermal Power Unit 1** (572 megawatts, LNG, Planned Operation Start: June 2023)

Aiming to reduce power generating costs and CO<sub>2</sub> emissions, we plan to introduce state-of-the-art gas turbine combined-cycle generating facilities. We will achieve the world's highest thermal efficiency of 63% or more (LHV).

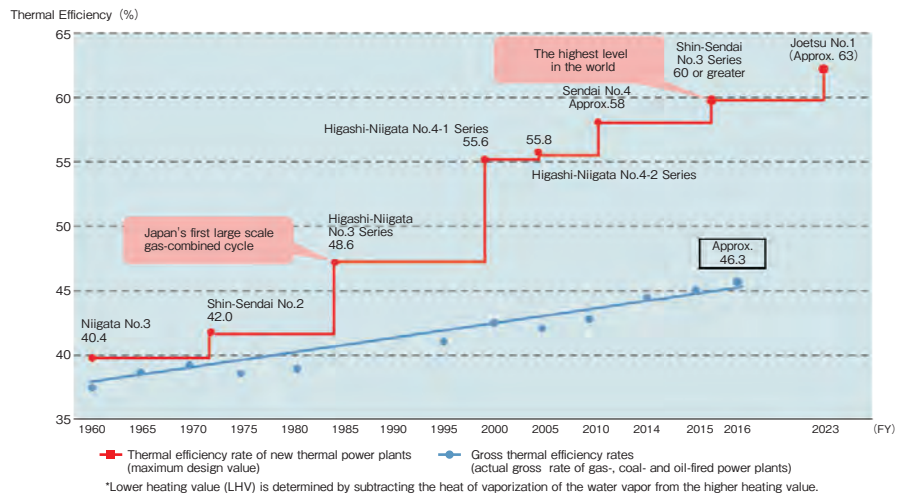
### Improve Thermal Efficiency of Existing Thermal Units

We are upgrading aging turbines to state-of-the-art models to increase thermal efficiency. To raise the utilization ratio, we are making efforts to curtail the regular inspection period by improving plant maintenance work and reviewing the work process. This contributes to an increase in profitability.

### Increase Operational Flexibility

In response to rapid augmentation of renewable energy generation led by solar, we

## Thermal Efficiency of Thermal Units [LHV\*]



## Mitsuhiro Sakamoto

Executive Vice President  
General Manager in charge of  
Thermal and Nuclear Power Division



Construction Image of Noshiro Unit 3



Upgrade of Kanose Hydroelectric Station  
(Above: Before upgrade, Below: After upgrade)

will enlarge the output adjustment capability range and increase start-and-stop operation of existing power units. We will also initiate development of gas turbine technology that will secure responsiveness to sudden load fluctuations and maintain a high level of thermal efficiency.

### More Efficient Use of Hydroelectric Power

Hydroelectric power generation is superior in terms of stable supply, load-following capability and durability, which makes hydropower one of the best power sources among renewables.

To proactively use the natural energy of hydropower in an efficient manner, we are systematically replacing facilities to improve power generation efficiency and promote labor saving for maintenance of these profitable and environment-friendly generation facilities.

### Measures to reduce fuel purchasing costs

We introduce new fuel procurement schemes and diversify fuel pricing systems to further enhance our cost competitiveness. Through continuous review of our procurement portfolio, including diverse procurement sources, we strive for ever-more efficient and optimal fuel procurement with an emphasis on stability, economic efficiency and resilience.

Concerning coal procurement, we will expand the number of competitive biddings, increase procurement of economically-efficient Australian specification coal\*, and procure low-ash coal such as sub-bituminous coal to reduce ash disposal and other costs.

Concerning LNG procurement, in parallel with dispersing suppliers, we seek for flexible contract terms like diversifying pricing structure and abolition of destination terms to secure stable, economic efficient and elastic procurement.

For example, we started purchasing LNG from the Wheatstone LNG Project in Australia this year and for the U.S. Cameron Project, scheduled to start receiving LNG in 2018 (approximately 270,000 tons per year), we decided to introduce our first pricing structure pegged to the Henry Hub Natural Gas Spot Price. The Cameron Project contract allows us to change destinations and resell LNG to third parties to control inventories. Consequently, we can improve flexibility in purchasing LNG.

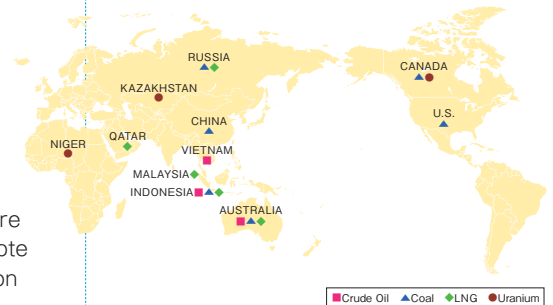
\* Specification coal means procured coal based on pre-existing standard quality without designating a brand (that is, a specific coal mine).

### Introduce new business management to enhance competitiveness

Prior to the legal unbundling of networks, Tohoku EPCO will introduce its inter-company system. The power generation sector is establishing a structure that will leverage competitive power sources and existing customer base to the maximum, in cooperation with the sales sector. To begin with, we established the Business Strategy Department in July 2017.

The Business Strategy Department is in charge of formulating business strategies to maximize profits and optimize resource allocation within the company to implement self-sustaining business management to achieve our profit target.

### Main fuel supplier countries



This new LNG carrier slated for the U.S. Cameron project is a 165,000m<sup>3</sup> type LNG carrier. (Photo courtesy Mitsubishi Heavy Industries Shipbuilding Co., Ltd.)

With our first co-ownership of an LNG carrier, we will cut transport costs and strengthen our transport system. We will strive for flexible procurement in accordance with LNG market trends.

## Topics The EEI's 2017 International Edison Award for Our Shin-Sendai Thermal Power Station Replacement Project

Tohoku EPCO received the Edison Electric Institute's (EEI's) 2017 International Edison Award for our Shin-Sendai Thermal Power Station Replacement project on June 13, 2017.

The Edison Award is the most prestigious award offered by the EEI, an institute with a history of more than 80 years. The award honors "distinguished leadership, innovation and contributions to the advancement of the electric industry for the benefit of all."

The Edison Award is presented annually, usually to one U.S. and one international electric power company, selected from EEI's membership. Tohoku EPCO received the International Edison Award in 2011 for the "conversion of the Sendai Thermal Power Station from an aging coal-fired to a combined-cycle generation facility." We are the only Japanese company to receive the award for the second time.



The bronze bust and medal of the 2017 International Edison Award



## Hiroshi Tanae

Executive Vice President  
General Manager in charge of  
Power Network Division

Simultaneous achievement of safety, stable supply and economic efficiency  
Securing neutrality, fairness and appropriate services to customers

# Network

Our network business finds itself in turbulence, amid the expansion of the use of renewables and legal unbundling. However, we think the mission of network business remains unchanged: “Simultaneous achievement of safety, stable supply and economic efficiency,” and “Securing neutrality, fairness, and appropriate services to customers.” In line with this mission, we will strive to co-prosper with local communities and improve customer trust.

### Priority Measures

1. Reducing Costs
2. Securing Stable Supply
3. Securing Safety and Security
4. Reinforcing Business Operation Base
5. Cooperating with Local Communities

### Efforts to Future Structural Cost Reductions and the Steady Implementation

We will pursue research and technology development on the use of drones, AI and wearable devices to improve efficiency. We will also implement cost reduction measures by adopting new technology, streamlining specifications and methods of construction, assessing the optimal time for replacement, reviewing intervals of construction and inspections, and expanding competitive bidding. Following are some of the specific measures we are working on:

- ▶ Evaluating labor saving by using drones in transmission line maintenance (inspection and tree management) and construction work (transportation and extension).
- ▶ Adopting a new environment-friendly distribution transformer (using vegetable oil as insulating oil) that realize longer life with less loss as our standard model, and examining the expansion of their application to grid transformers.
- ▶ Reviewing and updating specifications, mainly for transformers and circuit breakers, such as applying a new polymer bushing material that is superior in seismic resistance for extra-high voltage circuit breakers.
- ▶ Reducing construction costs and more effectively using resources by expanding the reuse of pole transformers.

### Maintenance & Upgrading of Facilities and Management of Networks

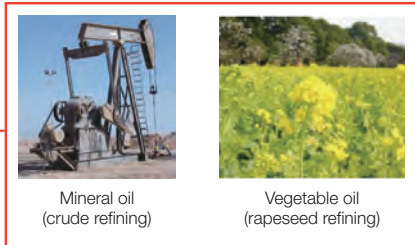
Many of our aging network facilities will need to be upgraded. Meanwhile, construction work to reinforce grids has been increasing, along with the increasing grid access of new power sources, such as renewables. Since the output of renewables fluctuates heavily with the weather, the expansion of grid access volume of renewables is expected to adversely affect power quality, such as stability and



We are evaluating labor saving by using drones in transmission line maintenances and construction work.



We are adopting a new environment-friendly distribution transformer as the standard model, and examining the expansion of their application to grid transformers.



Mineral oil  
(crude refining)

Vegetable oil  
(rapeseed refining)

Insulating oils are now all vegetable oils.

frequency. In addition, as expert workers are aging, securing the employees needed to build and maintain facilities is becoming an issue.

Under these circumstances, we will secure stable supply by implementing the following initiatives, while promoting steady cost reductions.

- ▶ Upgrading and maintaining aging facilities, taking into consideration their condition
- ▶ Reinforcing grids to respond to grid access by new power sources, including renewables
- ▶ Securing the workers needed to build and maintain facilities
- ▶ Implementing the following measures to control the supply-demand and grid operations required as grid access volume increases:
  - (i) *Advancing renewables' output prediction and their output control*
    - Development of a remote output control system and facilitation of verification tests (research and development project of NEDO\*1)
    - Increase the sophistication of predicting output of solar and wind power
  - (ii) *Using hydrogen energy*
    - Development of a power grid control system (research and development project of NEDO\*1)
  - (iii) *Using storage battery*
    - Promotion of Nishi-Sendai Substation storage battery system verification project (frequency fluctuation control) and practical application of Minami-Soma Substation storage battery system verification project (surplus power control)

\*1.NEDO : New Energy and Industrial Technology Development Organization

### Efforts to Prevent Crisis Accidents Together with Contractors

We will thoroughly follow basic safety rules, deploy activities to ensure safety, and strengthen communications with our contractors.

### Active Adjustment to Environmental Change — organizational structures, succession of skills and education

We will create an operational management system, profit control, and optimal allocation of management resources that efficiently adjust to environmental changes including legal unbundling.

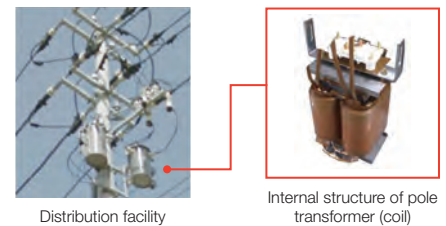
We will also hand down accumulated skills and knowledge to the next generation and foster human resources who proactively adapt to changes.

### Building Relationships with Local Communities and Customers

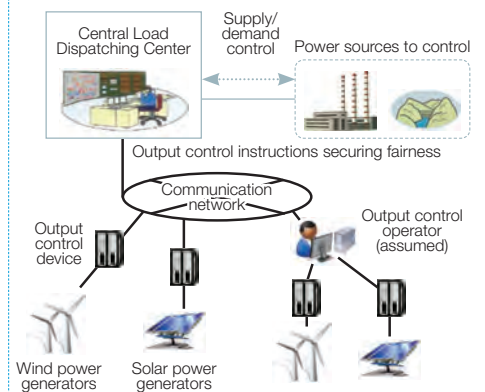
We will put our efforts into building relationships with local communities and customers through power supply to reconstruction areas, sincerely responding to an electromagnetic field issue, protecting rare animals and plants, and communicating with local residents.

### Expansion of Reuse of Pole Transformers

Parts	Details of reuse
Transformer case	If the deterioration level is high, the case is recoated after stripping off all the old coating film, or is replaced with a new case.
Insulating oil	If the deterioration level is low, some insulating oil is reused.
Coil	If the deterioration level is high, old windings are replaced with new ones and transformers are reused.



### Conceptual Diagram of Remote Output Control System



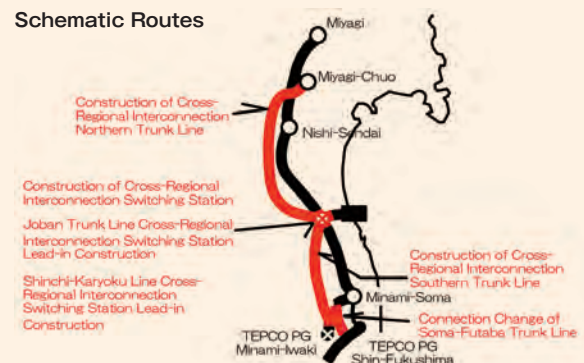
## Topics

We launched construction projects in relation to "Cross-regional Network Development Plan between Tohoku and Tokyo" formulated by OCCTO\*2. These projects include construction of the Cross-Regional Interconnection Northern Trunk Line, the Cross-Regional Interconnection Southern Trunk Line and the Cross-Regional Interconnection Switching Station. We plan to start construction work in September 2022 and operations in November 2027.

\*The names of transmission lines and switching station are tentative.

\*2. OCCTO : Organization for Cross-regional Coordination of Transmission Operators, JAPAN

### Schematic Routes





## Toshinori Abe

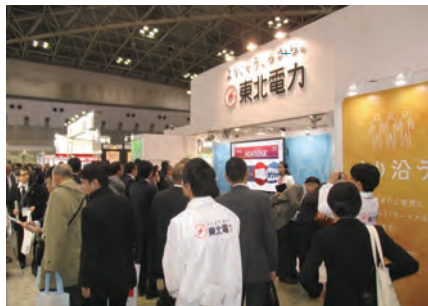
Managing Director

General Manager in charge of  
Customer Services Division



### HEATEDGE

Designed for the weather conditions of Tohoku, to adequately answer our customers' needs



Explaining the performance of HEATEDGE to business users

Expanding Profits, Enhancing Sales and Competitiveness, and Seeking Further Growth

# Sales

With the aim of securing expansion of profits, we will enhance our sales and competitive forces, including solution skills, sales channels, new rate plans and services. We will seek further growth by achieving sales goals through electrification promotions, customer retention and sales outside our home turf.

### Priority Measures

1. Create more suitable services – meeting the needs of the customers and communities we serve
2. Seek growth – seeking out new business opportunities
3. Renovation to prevail against competition – establishment of solid business foundations

## Proposals to Satisfy Customers' Needs

### For Business Customers

We will expand our total energy solution including the use of HEATEDGE, an air-cooled heat pump heat source, which we jointly developed with Toshiba Carrier Corp.

We offer flexible proposals in accordance with the competitive environment and will consider enhancing marketing for business customers and rebuilding our sales channels.

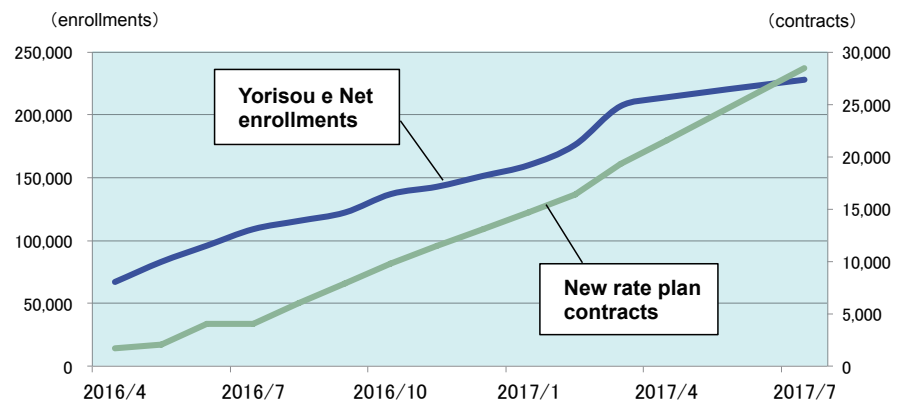
### Development of HEATEDGE

The performance of existing heat pumps significantly declines when the outside air temperature is low. Specifically during defrosting operations, it is difficult to maintain sufficient hot water outlet temperature. Improving the heat pumps' heating performance is an important requirement of customers in Tohoku and Niigata who live in cold regions. To meet their demands, we jointly developed HEATEDGE with Toshiba Carrier Corp. HEATEDGE is capable of maintaining excellent heating performance even in low outside temperatures. Accordingly, it can contribute to customers' energy conservation in the severe Tohoku winters. The development of this heat source equipment will help us tackle the weather conditions of Tohoku and adequately answer our customers' needs.

### For Family Customers

We will promote member benefits on our members-only website, Yorisou e Net, which offers easy access to members' own electricity bills and electricity usage, and a simple contract procedure through offering attractive content and expanding our loyal program, Yorisou e Points.

## Changes in "Yorisou e Net" enrollments and the number of new rate plan contracts



We will dedicate ourselves to offering services that can win the satisfaction of our customers, such as new rate plans more suitable for customers' lifestyles, and package plans with other service companies (LPG supply, internet service and security services).

## Seeking New Business Opportunities for Growth

### ExEMS, a service using IoT, AI and other new information technologies

We developed a new system, "exEMS" (experience Energy Management System) using IoT and AI technology. This system enables customers to "experience" energy saving by adjusting demand data to simulate their electricity charges, so they can better understand energy saving results for various energy-saving measures they choose. This system also has a patent-pending support function for energy saving. These functions are designed to satisfy the energy-saving needs of customers.

By offering exEMS, we will be able to maintain and strengthen the relationship with small high-voltage customers with whom we have less contact. (ExEMS is in a trial implementation until September 2018.)

### Power Supply beyond our Franchise Area

We started selling electricity in the north Kanto area in April 2016 to high-voltage/extra-high-voltage customers through Synergia Power Co., Ltd., jointly established with Tokyo Gas Co.,Ltd. In parallel, we offer our special rate plan, "Yorisou Denki," to low-voltage residential customers in the Tokyo metropolitan area. We will continue deploying group-wide initiatives to provide electricity.

We are also proactively committed to power trading at the Japan Electric Power eXchange (JEPX) by leveraging our competitive power sources and trading function, expanding electricity sales beyond our franchise area.



Explaining our new rate plans to family users

### Tie-up Service



Package plans combining our electricity with LPG supply, internet service, and security services.

## Topics Tohoku EPCO's "Yori, Sou" Energy Solution - Akita Sakigake Shimpo -

Through our energy-saving diagnosis service, we found that Akita Sakigake Shimpo, the oldest newspaper company in Tohoku, needed to update the air-conditioning facilities at its head office building and the storage batteries of its printing office. They wanted to reduce expenses of the update by using a subsidy.

Based on our considerable expertise in electricity and a wide range of channels including our group companies, such as Yurtec and Tohoku Energy Service, we presented a detailed proposal to meet their needs, including procedures to receive the subsidy, use of a lease, optimal choice of equipment for the building, and equipment contracts.

The change from an absorption chiller-heater (city gas) to heat pump (electricity) greatly reduced CO<sub>2</sub> emissions, increased electricity sales, and contributed to meeting the customer's need for cost reduction (we achieved 30% reduction for energy cost and decreased insurance and maintenance costs). Consequently, the three parties, including the equipment manufacturer, achieved win-win-win results. The customer was pleased with the energy-saving results, which exceeded the initial plan.

We continue to leverage our resources to offer detailed proposals to satisfy customers' needs, which steadily leads to expansion of our profits.



Hiroyuki Kobayashi  
A member of consulting team for Akita Sakigake Shimpo project



## Shunji Yamamoto

Managing Director

General Manager in charge of Internal Services Division

Pursuing increased effectiveness and efficiency of internal back-office services by reconfiguring operations

# Internal Services

We established the Internal Services Division in July 2017 to promote autonomous and sustainable renovation of our back office operations. We provide effective support that increases our productivity, which boosts Tohoku EPCO group's corporate value.

## Priority Measures

With autonomous and sustainable renovation, we will reduce back-office operation costs while maintaining and optimizing our service level.

## Internal Services Division

Confronting the changing competitive landscape along with the upcoming legal unbundling, our back-office sections need to further contribute to enhancing competitiveness by raising awareness of improving their operations and autonomously adapt the changes. In July 2017, we integrated the sections in charge of providing support functions across the company into the Internal Services Division. This division consists of the departments of Human Capital, General Affairs, Accounting and Finance, Materials and Procurement, Information Systems and Communications, as well as the newly established Office of Internal Services Planning, which facilitates autonomous and sustainable renovation. The entire division is making concentrated efforts to drive the renovation and efficiency of back-office operations, through which we strive to reduce general and administrative costs and offer effective services.

## Integration of Business Operations

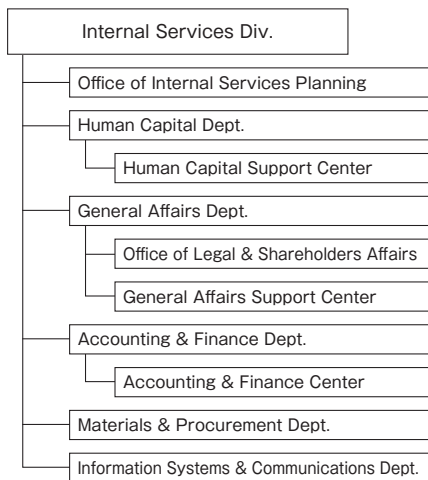
Aiming to provide effective support throughout the company and contribute to smooth business operations, we have consolidated some operations. In addition to this effort, to promptly deal with the impending legal unbundling and contribute to the enhancement of competitiveness, we have consolidated personnel-, accounting-, and materials and procurement-related operations into the Head Office in July 2017. We continue to conduct thorough and efficient business operations to enhance productivity.

## Development of Software Systems

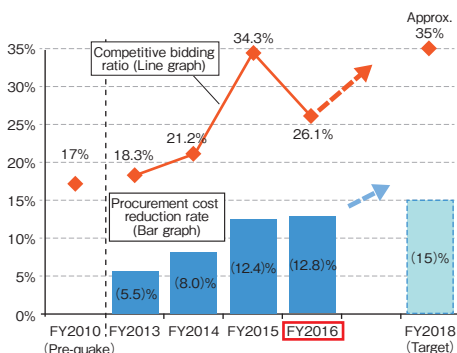
With an eye to the rapid advance of information and communications technology, we are developing and operating software systems that offer effective support and drive autonomous and continuous efforts to improve efficiency.

Our main task is to upgrade and develop software systems related to the upcoming electricity system reform in a prompt and efficient manner. To drive our company forward, we are reinforcing project management and streamlining our operations.

## Internal Services System

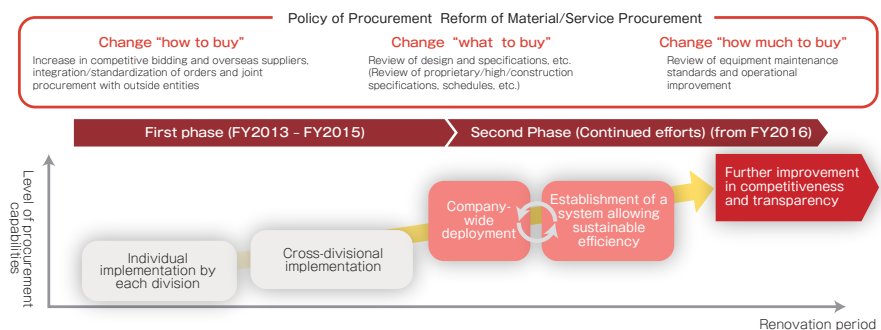


## Progress of Procurement Reform



(The rise in competitive bidding ratio in FY2015 was due to a large scale project.)

## Procurement Reform of Material/Service Procurement





## Procurement Reform

We established the Procurement Reform Committee led by the management team in July 2013. During the first phase (FY2013 – FY2015), we achieved our target of reducing procurement costs by 10% and expanding the competitive bidding ratio to approximately 30% by the end of FY2015.

We launched the second phase in June 2016 to enhance competitiveness and transparency in procurement. Our target is to, by the end of FY2018, reduce procurement costs by 15% and expand the competitive bidding ratio to approximately 35% (including 50% in the transmission and distribution sectors). We are continuing our efforts to structurally drive down costs. (FY2016 actual results: procurement costs reduced by 12.8% and the competitive bidding ratio to 26.1%)

Specifically, we are enhancing our measures to lower procurement costs and increase our competitiveness with three changes in: "how to buy," "what to buy" and "how much to buy."

To further strengthen cost competitiveness, it is essential to collaborate with our business partners. While intensifying cooperation, we are broadly asking for win-win proposals from them, such as value engineering (VE) proposals and business alliances (multi-year contracts), which lead to lower procurement costs. Consequently, we have received various proposals from our business partners in the fields of thermal power, transformation, distribution and construction. These efforts have resulted in a steady curtailing of costs.

## Empowerment of Diverse Human Resources

To flexibly adapt to the impending changes in our business environment, it is important for us to sufficiently draw out each employee's abilities and qualities to create new value. We are securing and developing new human resources, people who have specialized skills, and who positively enter new business fields and proactively adapt themselves to changes in our business model, taking into the progress of a competitive environment. We are also opening up employment opportunities for outside/elderly persons; in addition, we empower female employees and promote the employment of persons with disabilities. We are deploying measures to encourage these diverse people to fully use their abilities.

### [Specific Initiatives]

- ◆ Review of specifications for transforming equipment
- ◆ Review of business computer systems
- ◆ Transition from blanket orders to separate orders
- ◆ Facilitation of VE proposals
- ◆ Joint procurement with outside entities



The Accounting and Finance Center started in July 2017.



## Topics Promotion of Hiring Mid-Career Professionals

To enhance our ability to make efficient proposals and offer dynamic energy-saving consultations to our customers, we have been actively hiring persons with specialized skills.

**Yasutaka Maeda** Business Customer Solutions, Customer Services Div.  
Miyagi Branch Office

Since joining the company in 2008, I have been working as a consultant for business customers on energy conservation and CO<sub>2</sub> reduction, leveraging my experience at an electronics manufacturer.

As a specialist, I continue to make every effort to develop my skills and study not only the latest technologies, but also business management. With my colleagues at Tohoku EPCO Group, I will actively seek for the best solutions for our customers by integrating the strength of the entire group.

The entire group is aiming for further growth under the new Mid-Term Management Policies (FY2017 to FY2020).

## Initiatives to Enhance Profits

The year 2017 is the beginning of a “renovation period for growth.” With this in mind, in parallel with deploying priority measures in each business domain, we will work to achieve tangible results to enhance profits in the gas supply business and Tohoku EPCO Group companies.

### I. Enhancement of Gas Supply Business

We expect that the full gas retail market liberalization that started in April 2017 will spur competition even in the Tohoku region, including new entrants to the energy market. To work alongside our local communities, we will further improve our services to satisfy diversified customer needs so that Tohoku EPCO will be their energy supplier of choice. However, the Tohoku region does not have adequate gas pipeline infrastructure as metropolitan areas do; supplying gas to general households is not being considered. We focus on business customers. In order to become an integrated energy service company, we will enhance gas supply business for business customers.

There is a high demand potential for natural gas in our franchise area of Tohoku and Niigata. We expect more business customers will convert their fuel from heavy oil to natural gas to reduce CO<sub>2</sub> emissions. The entire group led by Tohoku Natural Gas Co., Inc. intends to reinforce its total energy solutions, including supplying electricity and gas, and to proactively sell gas.

For instance, we began to sell natural gas to Toyota Motor East Japan, Inc. and Denso Iwate Corporation. In addition to Nihonkai LNG Co., Ltd., located on the Japan Sea coast, we will construct new LNG off-loading facilities at Shin-Sendai Thermal Power Station located on the Pacific coast and will start shipping natural gas from the Pacific coast side in the next fiscal year. We will operate sales to large industrial customers where LNG truck supply has cost competitiveness.

### II. Group Companies' Initiatives

#### Yurtec Corporation

Yurtec is a community-based overall plant engineering company, whose main business is installation of electric equipment and air conditioning ducting. It has more than 80 offices at home and abroad. With innovative ideas and accumulated skills, the company desires to help make its customers' lives more comfortable and spiritually wealthy, which customers greatly desire.

The company conducts its business activities in the Kanto area, including the construction of large shopping malls. Moreover, the company has also been engaged in the Chain Urban Renaissance Project in Otemachi, Tokyo, for three consecutive phases from 2007. The company also conducts business in Southeast Asia, based in Vietnam and Africa.

Yurtec established a subsidiary in the Kanto area in April 2017 to enhance its operations installing electric equipment and air conditioning ducting there.

#### Tohoku Intelligent Telecommunication Co., Inc. (TOHKnet)

TOHKnet offers safe and secure network services through its own optical fiber. The company is enhancing its services to respond to the changing needs of customers, including cloud services, data center services, and the combination of optical IP phone and the internet.

The company has designed its main service of V-LAN (powered Ethernet service) to have a utilization rate of 99.999% or more.



Nihonkai LNG's gas shipping facility



Noi Bai International Airport (Vietnam)  
(Installation of electric equipment)



V-LAN, designed to have a utilization rate  
of 99.999% or more

### Tohoku Sustainable & Renewable Energy Co., Inc. (TOUSEC)

TOUSEC specializes in renewable energy conducting development, construction, operation and maintenance, and owns 26 power stations with total output of approximately 260 megawatts. These include hydroelectric, geothermal (including geothermal steam supply), wind and solar power generation.

Currently, TOUSEC is constructing the Tamagawa Daini Hydroelectric Power Station in Yamagata Prefecture, conducting a geothermal resources survey to build a geothermal power station in Kijiyama and Shimonotai in Akita Prefecture, and considering replacing the Noshiro Wind Farm in Akita Prefecture.

TOUSEC has dedicated itself to further developing renewable energies by participating in projects such as a wind power generation project in Abukuma Mountains in Fukushima Prefecture and a feasibility study of offshore wind power generation in Akita Prefecture.

### Tohoku Energy Service Co., Inc.

Tohoku Energy Service proposed a disaster-resistant energy supply system to achieve both comfort and energy conservation for Miyagi Children's Hospital. This was adopted as "Miyagi Children's Hospital ESCO Project" and it received the "Excellent Energy Conservation Factory & Building in 2017, Director General Prize of the Tohoku Bureau of Economy, Trade and Industry."

Tohoku Energy Service continues to propose optimal plans to solve customers' energy usage concerns by offering total energy solutions as an integrated energy service company.

### Tohoku EPCO Energy Trading, Inc.

Tohoku EPCO Energy Trading is a Tohoku EPCO wholly owned subsidiary, established on June 30, 2017, and will start power and fuel trading business from April 2018. It will expand profitability through power trading at the wholesale electricity market and electricity futures market, and control fluctuation of fuel costs by using fuel futures.



**Matsukawa Geothermal Power Station**

The station commenced Japan's first commercial operation in 1966 and reached half a century in 2016, when The Japan Society of Mechanical Engineers certified the station as "Mechanical Engineering Heritage."



**Miyagi Children's Hospital (ESCO project)**

### Tohoku EPCO Energy Trading, Inc.

Location: Chiyoda-ku, Tokyo  
Establishment date: June 30, 2017  
Representative Director & President:  
Kaoru Hijikata  
Capital at establishment: ¥990 million  
Investment ratio: 100% by Tohoku EPCO  
Business start: April 2018 (scheduled)

We have been expanding the use of the natural blessings of our service area.

## Renewable Energy

(information is as of March 2017)

The Tohoku EPCO group has been expanding the use of renewables, such as hydropower, geothermal power, wind power and biomass, which are superior in environment-friendliness and greatly help us increase our energy self-sufficiency ratio. These energy are abundant in our franchise region, Tohoku and Niigata.

To make maximum use of these natural blessings, we are working to solve technical challenges to control unstable output generated from wind and solar sources with the aim of expanding the acceptance volume of renewables based on the feed-in tariff scheme. The entire corporate group is proactively developing and using renewable energy sources.

### Hydroelectric Power Generation

Hydroelectric power generation has excellent characteristics of stable supply, load-following capability and durability, which makes hydropower one of most valuable power sources among renewables.

Since our home turf boasts abundant snowfall, there are many suitable places for hydroelectric power generation. The entire corporate group possesses 227 hydro power stations, and hydroelectric power generation accounts for approximately 10% of our total output.

To secure stable and efficient power, we need to operate and maintain hydroelectric power stations in accordance with their characteristics. Moreover, we are taking prompt action to deal with a variety of climatic conditions, such as abrupt heavy rains. Having secured safety in this way, we are endeavoring to secure stable operation of hydroelectric power stations and efficiently use hydro energy.

Our group companies are also committed to expanding use of hydro energy, including construction work to reinforce existing facilities, and build new hydroelectric power stations.

### Geothermal Power Generation

Geothermal power stations in Japan are concentrated in Kyushu and Tohoku. Our corporate group proactively expand the use of geothermal power generation: six units in five sites in Tohoku with total output of approximately 250 megawatts, which accounts for approximately half of the national total.

Among others, Matsukawa Geothermal Power Station, the first geothermal power station in Japan, has a history of 50 years. This station uses the country's only "vapor-dominated" type facility, which is simple and yields only superheated steam when exploited.

Since 2010, we have been conducting a geothermal resource survey in the Kijiyama and Shimonotai area in Akita Prefecture.

In Japan, development of quasi-national and national parks has been rigidly restricted. With the authorization of the Ministry of the Environment, we are experimenting with "diagonal drilling" method in a national park. This method is expected to reach geothermal sources below such parks from outside the park boundaries, to allow power generation without spoiling the landscape.

Our corporate group will continue to secure stable operation of geothermal power stations.

We own 227 hydroelectric power stations, which generate approximately 2,551 megawatts. Large-scale work to upgrade aging hydroelectric power stations is in progress.



Kanose Dam (constructed in 1928) and Kanose Power Station under upgrade (to be completed in 2017).

Our group owns six units at five sites, with approximately 250 megawatts capacity, half of the national total.



Kakkonda Geothermal Power Station

## Wind Power Generation

The Tohoku region is blessed with favorable wind conditions for wind power generation; approximately 900 megawatts was connected to our grids at the end of FY2016. We are working to expand the acceptance volume of wind power. Since we anticipate that the number of large-scale wind power developments in Tohoku will increase, we intend to develop a remote control system for output fluctuation, improve output prediction for wind power generation, and drive verification projects using large-scale storage batteries to control output fluctuation. This will help enlarge the acceptance volume.

In addition to operating the Noshiro Wind Power Station, with output of 14.4 megawatts, we are participating in a feasibility study on development of offshore wind power generation in Akita Prefecture.

While supporting local revitalization, we will continue considering the feasibility of development on the premise of securing profitability.

## Solar Power Generation

At the end of FY2016, approximately 3,200 megawatts of solar power generating equipment was connected to our grids, and grid access volume is expected to continue to grow. In response to this trend, we are enhancing prediction accuracy by operating a solar power generation output prediction system, which enables us to simultaneously secure both stable supply and expansion of acceptance of solar energy.

We operate four solar power generation stations, with total output of 4.8 megawatts, and the entire group has approximately 15 megawatts.

The Tohoku EPCO group is also developing solar power generation to support reconstruction and prosperity in the communities we serve.

## Biomass Power Generation

Biomass power generation is not affected by weather conditions, so it can stably generate power. It is therefore an important power source to expand the use of renewables.

Our group companies conduct wood-chip biomass mixed-combustion generation at our coal-fired thermal power stations to reduce CO<sub>2</sub> emissions. We promote local production and local consumption. At our power stations, we use wood chips made from trees and unused lumber within our service area. We contribute to effective use of forest resources, conservation of the forest environment and forestry activity in the local communities we serve.

We are implementing wood-chip biomass mixed-combustion generation in our thermal power stations at Noshiro and Haramachi and joint thermal power stations of Sakata, Joban and Soma.



Advances in output control techniques is leading to expanding use of wind power generation.



Improvement in output prediction enables to expand the acceptance volume of solar power generation.



Upgrading the seawall at Onagawa (March 2017 photo)

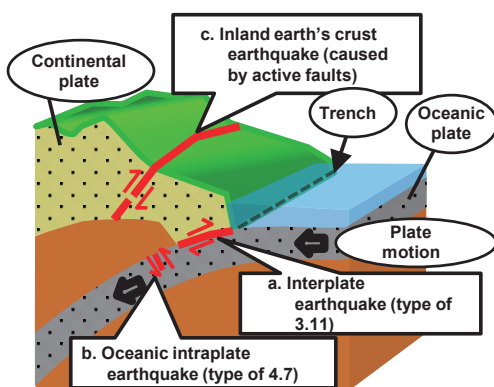
### Conformity Assessment Status at Onagawa Unit 2 (as of August 2017)

When we applied for the conformity assessment, we set two design-basis earthquake ground motions (Ss) — Ss-1 (640 gals) and Ss-2 (1,000 gals). These are standards of quake-proof design, and are based on findings from the Great East Japan Earthquake of March 11, 2011, and other earthquakes. Ss-1 includes “interplate earthquakes,” and Ss-2 takes into consideration oceanic intraplate earthquakes, inland earthquakes and evaluation of ground motion with no specific hypocenter.

Subsequently, on the basis of comments at conformity assessment hearings, we conducted additional evaluations with even severe conditions. We reviewed two original ground motions and added five new ones. Accordingly, we have presented seven design-basis earthquake ground motions. (See table below.)

On August 10, 2017, the design-basis earthquake ground motions (Ss) for Onagawa Unit 2 were judged appropriate at the conformity assessment. We think the change in design-basis earthquake ground motions will not affect the ongoing seismic constructions, since their facility design already has seismic margins from the original ground motions. We will continue evaluating these facility designs in detail, based on the seven new design-basis earthquake ground motions.

### Our Evaluation of Quake Ground Motions (Ss) \*1 at Onagawa Nuclear Power Station Unit 2



[ Image of Seismogenic Structure ]

		Quake ground motions at the time of application for assessments on conformity to the new regulatory standards	Latest quake ground motions
Quake ground motions based on specific hypocenters	a. Interplate earthquake	Quake ground motion Ss-1 640 gals	i. Quake ground motion Ss-D1: 640 gals ii. Quake ground motion Ss-F1: 717 gals iii. Quake ground motion Ss-F2: 722 gals
	b. Oceanic intraplate earthquake	Quake ground motion Ss-2 1,000 gals	iv. Quake ground motion Ss-D2: 1,000 gals v. Quake ground motion Ss-D3: 800 gals vi. Quake ground motion Ss-F3: 835 gals
	c. Inland earth's crust earthquake		
Quake ground motion with no specific hypocenters *2			vii. Quake ground motion Ss-N1: 620 gals

\*1. Quake ground motions (Ss) are design-basis earthquake ground motions (Ss).

\*2. Quake ground motion caused by past inland earthquakes whose hypocenters were difficult to correlate with specific active faults.

In response to the new regulatory standards, we are committed to multilayered measures to ensure greater safety.

## Efforts to Enhance the Safety of Nuclear Power Stations

We submitted applications for conformity assessments on Onagawa Nuclear Power Station Unit 2 in December 2013, and on Higashidori Nuclear Power Station Unit 1 in June 2014, to the Nuclear Regulation Authority.

We are currently engaged in reinforcing our safety measures, which allow us to take prompt action appropriate to the type and severity of natural disasters such as earthquakes, tsunamis and tornadoes, or in case of accidents. In addition, we explain in detail our safety efforts and policy toward nuclear power stations when we meet with authorities for conformity assessment hearings.

### Rescheduling of Construction Completion to Meet New Regulatory Standards

Due to the ongoing assessment on conformity to the new regulatory standards and construction work related to safety measures, we rescheduled the completion of construction of Onagawa Unit 2 and Higashidori Unit 1 in February 2017. This entailed moving the previously scheduled completion of April 2017 to the second half of FY2018 at Onagawa Unit 2, and to FY2019 at Higashidori Unit 1.

Regarding the conformity assessment on Onagawa Unit 2, the earthquake/tsunami-related assessment has been progressing steadily. For instance, the evaluation of design-basis earthquake ground motions (Ss) and conceivable maximum tsunami have been judged appropriate. On the other hand, the plant-related assessment, conducted in parallel with other BWR plants owned by other companies, will take some time before its completion.

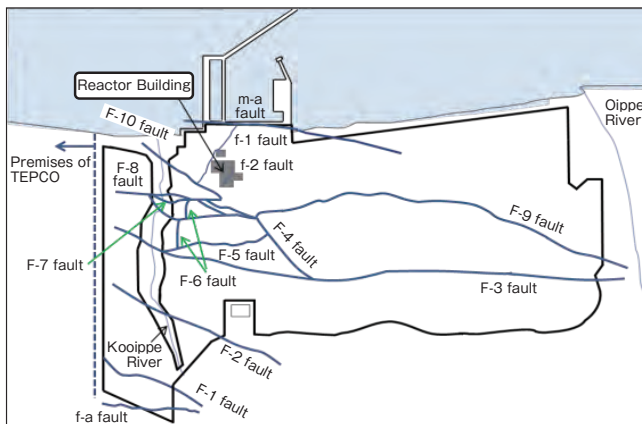
Concerning Higashidori Unit 1, the assessment will take longer than that of Onagawa Unit 2 because the investigation of fault activity on the premises will take longer than expected.

While working on the conformity assessments, we are committed to construction work related to safety measures. We need to reflect knowledge and evaluation obtained from conformity assessment meetings in our design and construction; accordingly, we rescheduled the entire construction process. After the construction is completed, we will make preparations for resuming operations while seeking to gain the understanding of local communities.

### Conformity Assessment Status at Higashidori Unit 1 (as of August 2017)

The conformity assessment on Higashidori Unit 1, which focused on the activity of the faults on the premises, required us to enhance our data on faults just below the seismically critical facilities, including the reactor building, to carefully assess them. To meet this requirement, we are conducting additional surveys and striving to detail our initiatives.

The fault just below the reactor building, the f-2 fault, has been carefully examined, and the judgement is that it will be inactive for the foreseeable future. We will continue our efforts to explain our position with enhanced data derived from the additional surveys.



Faults on the premises of Higashidori Nuclear Power Station



Construction of fresh water tank at Higashidori (May 2017 photo)

< MEMO >



# CORPORATE GOVERNANCE

## Contents

- 25 Corporate Governance
  - Corporate Governance Structure
  - Remuneration and Nomination for Directors and Audit & Supervisory Board Members
  - Internal Control
  - Corporate Ethics and Compliance with the Law
  - Risk Management
- 29 Board of Directors and Audit & Supervisory Board Members

## Corporate Governance

The Company has established the “Tohoku Electric Power Group Management Vision 2020 - Together with Local Communities” program, continuing its efforts to be a corporate group that grows together with the local community and plays an essential role in it. The Company will proactively adapt itself to changes in the business environment in the future and engage in continuous dialogue with its stakeholders, with the aim of producing a management culture that creates its own distinctive character in collaboration with the local community.

Under this principle to ensure proper business management, the Company is endeavoring to enhance its corporate governance by securing legal compliance and corporate ethics, as well as conducting sincere, fair and transparent business activities, and increasing the rigor of our internal control and risk management.

## Corporate Governance Structure

### Directors

The Board of Directors consists of 15 Directors including two Outside Directors and meets once every month in principle to draw up important management-related plans and make decisions on key issues regarding the business execution of the Company. At the Board of Directors meetings, Directors also report on the status of business execution and mutually supervise the performance of their duties. Also, the Council of Managing Directors meets every week in principle to discuss policies and plans for general business operations and the execution of important business matters from various angles in accordance with the Board of Directors’ resolutions.

The Company also promotes the development of appropriate and efficient business processes including seeking autonomy in business operations through its four key divisions, namely, the Thermal & Nuclear Power Division, the Power Network Division, the Customer Services Division and the Internal Services Division.

Inside Directors shall be selected from among persons who are knowledgeable in each field in consideration of the balance of their respective fields of specialization, etc., in

addition to their technical expertise, practical abilities based on their on-site experiences, etc., taking into account such factors as the characteristics of the electric power business in terms of being highly specialized and having a broad business domain.

Outside Directors shall be selected by giving weight to whether they are capable of realizing appropriate decision-making and management supervision in the Board of Directors, based on their practical experience stemming from corporate management, etc. and deep insight in socioeconomic trends, etc.

### Audit & Supervisory Board Members

The Company has adopted a system of Audit & Supervisory Board Members, three out of five of whom are Outside Audit & Supervisory Board Members.

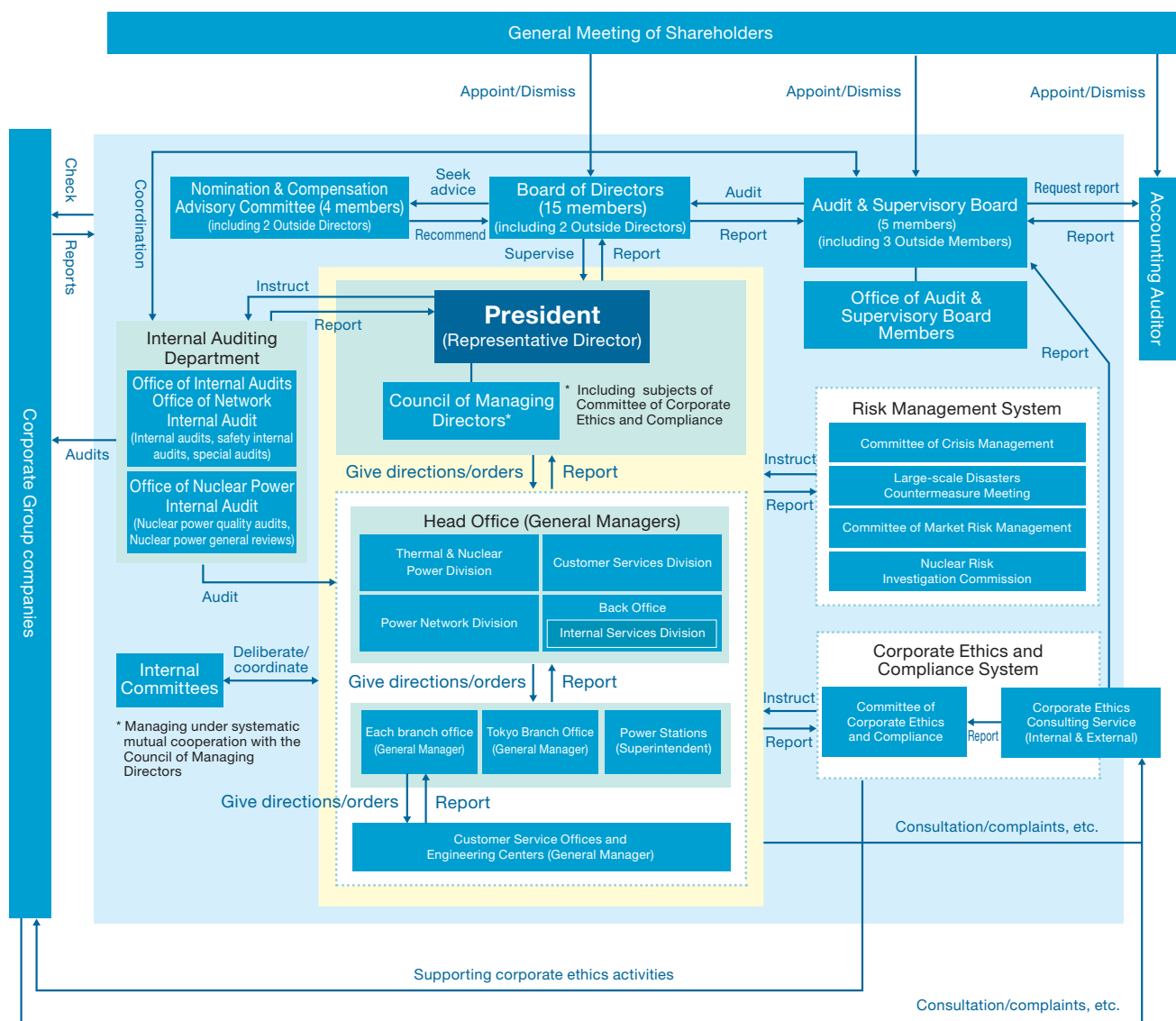
Outside Audit & Supervisory Board Members are independent in that they are not at risk of giving rise to conflicts of interest with ordinary shareholders, and have extensive experience and excellent insight on the business world, etc.

Audit & Supervisory Board Members attend the meetings of the Board of Directors and the Council of Managing Directors and other important meetings, examine important documents, conduct surveys, etc. on the status of operations and assets of the Company’s offices, and endeavor to enhance audits including those on the performance of duties of Directors and the status of development and operation of internal control systems. The members of the Audit & Supervisory Board are endeavoring to further improve the effectiveness of audits by such means as exchanging information periodically with the Office of Internal Audits, the Office of Network Internal Audit and the Office of Nuclear Power Internal Audit—which are the Company’s internal auditing departments—and the accounting auditors, while strengthening ties with the audit & supervisory board members of its affiliates.

The Company has established the Office of Audit & Supervisory Board Members, consisting of 11 staff members, as an organization dedicated to assisting the Audit & Supervisory Board Members’ work.

### Independence Standards for Outside Directors/Audit & Supervisory Board Members

The Company evaluates the independence of an Outside



Director/Audit & Supervisory Board Member in compliance with the independence criteria established by the financial instruments exchange on which the Company is listed and based on the requirements set forth below.

In principle, the Company designates a person who does not fall under any of the following criteria as an Independent Director/Audit & Supervisory Board Member:

- (1) A person whose major business partner is the Company or an executive thereof
- (2) A major business partner of the Company or an executive thereof
- (3) A person who is a consultant, accounting expert or legal expert who receives a significant amount of money or other property from the Company other than

compensation as Director/Audit & Supervisory Board Member of the Company (if the person who receives such property is an organization, such as a juridical person, association, etc., a person who belongs to such an organization)

- (4) A person who recently fell under any of (1) through (3) above
- (5) A close relative of a person who falls under any of a. through d. below (excluding those who are insignificant):
  - a. A person who falls under any of (1) through (4) above
  - b. An executive of a subsidiary of the Company
  - c. A Director who is not an executive of a subsidiary of the Company
  - d. A person who recently fell under b. or c. above or was

an executive of the Company (in cases where Outside Audit & Supervisory Board Members are designated as Independent Audit & Supervisory Board Members, including Directors who are not executives)

### Internal Audits

At the Company, the Office of Internal Audits and the Office of Network Internal Audit conduct internal audits of the overall operations with respect to the effectiveness and validity of organizational systems and administration structures, the economy and efficiency of business operations, the effectiveness and efficiency of facility security activities, and other related matters. The Office of Nuclear Power Internal Audit performs internal audits for ensuring the safety and improving the reliability of nuclear power generation. The methods of internal audits include conducting interviews with personnel in the targeted areas (departments/offices of the Head Office, power plants, offices, etc.), investigation of documents and on-site checks.

The results of internal audits are reported to the President, the Council of Managing Directors and the Board of Directors, and relevant departments are prompted to take corrective action with respect to problems, etc. that need to be rectified. Moreover, the plans and results of internal audits are explained to the Audit & Supervisory Board Members, with whom information is exchanged on a regular basis, in an effort to enhance collaboration with them.

The Office of Internal Audits and the Office of Nuclear Power Internal Audit are independent of all executive organs, are under the direct control of the President in terms of organizational structure and consist of 18 members combined. The Office of Network Internal Audit is independent of all executive organs of the Power Network Division, is under the direct control of the General Manager of the Power Network Division in terms of organizational structure, and consists of 6 members.

### Remuneration and Nomination for Directors and Audit & Supervisory Board Members

The Representative Director proposes candidates for Directors and candidates for Audit & Supervisory Board

Members to the Nomination & Compensation Advisory Committee in view of ensuring greater objectivity and transparency, and subject to deliberation at the Committee, the candidates are decided by resolution of the Board of Directors.

Of note, before the candidates for Audit & Supervisory Board Members are presented to the Board of Directors for resolution, the consent of the Audit & Supervisory Board shall be obtained.

The Representative Director proposes matters concerning Directors' remuneration to the Nomination & Compensation Advisory Committee in view of ensuring greater objectivity and transparency, and subject to deliberation at the Committee, the amount to be paid to each Director and other such matters are decided by resolution of the Board of Directors.

The amount to be paid to each Audit & Supervisory Board Member is decided through discussion among the Audit & Supervisory Board Members, within the total amount resolved at the General Meeting of Shareholders.

### Internal Control

With regard to our internal control system, the Board of Directors has resolved to establish the "Basic Policy Underlying the System to Ensure Proper Business Operations" pursuant to the Companies Act and the Ordinance for Enforcement of the Companies Act. Under this basic policy, mindful of our status as a member of society, the Company has been developing a system to promote fair, transparent and efficient business activities in compliance with laws/regulations and our articles of incorporation, while verifying the status of maintenance and operation of the system stipulated by the basic policy as part of our internal auditing.

As to the "Internal Control Report System for Financial Reporting" under the Financial Instruments and Exchange Act, the Company has established the "Basic Policy Underlying the System to Provide Internal Control over Financial Reporting as the Tohoku Electric Power Group," under which the Company properly operates and evaluate the system to ensure the reliability of our financial reporting.

## Corporate Ethics and Compliance with the Law

To promote, maintain and improve corporate ethics and compliance with laws, the Company has set up the Committee of Corporate Ethics and Compliance, and assigned a Corporate Ethics Manager and Corporate Ethics Promotion Staff at our head office, branches and offices. The Company has also established the Tohoku Electric Power Action Guidelines as a code of conduct, to ensure sincerity, fairness and transparency in the implementation of our business activities.

The Company conducts awareness program to increase knowledge and awareness, which are the foundation of ethical behavior, for promoting corporate ethics and compliance as well as conducts monitoring activities to gauge employee ethical behavior and practices. Furthermore, as a part of monitoring activities, the Company creates Corporate Ethics Consulting Services for both inside and outside the company. The Company shall investigate cases on which advice has been sought and take corrective actions as well as prevent reoccurrence while protecting the persons seeking advice.

Based on the view that all business activities of the Tohoku Electric Power Group relate to corporate social responsibility (CSR), the Company has established the “CSR Promotion Council” chaired by the President and prescribed the “Tohoku Electric Power Group CSR Policy” and “Tohoku Electric Power Group Action Guidelines,” under which the Tohoku Electric Power Group is acting as one united body to promote CSR, premised on ensuring safety, giving consideration to the environment, observing corporate ethics and complying with laws and regulations.

## Risk Management

The Company periodically identifies and assesses the potential risks in our business and financial activities and, for those likely to have a serious impact on our business management, the relevant committees deliberate them, as well as each department incorporates their countermeasures in their work planning and the medium-term business plans, thereby the Company appropriately implements the PDCA

(plan-do-check-act) cycle.

Specifically, the Company has several countermeasure organizations: the Committee of Crisis Management, the Large-scale Disasters Countermeasure Meeting, and the Committee of Market Risk Management. The Committee of Crisis Management is to implement preventive measures in preparation for unexpected crises as well as to minimize damage if the risks occur. The Large-scale Disasters Countermeasure Meeting is to prepare for supply stoppage accidents across the whole our service area and severe accidents in our nuclear power stations. The Committee of Market Risk Management is to control market risks stemming from power trading and others.

To further enhance the safety of nuclear power generation, the Company needs to reinforce organizational and systematical ‘high-quality risk management’; consequently, the Company has established the Nuclear Risk Investigation Commission under the commitment of top management to address overall nuclear risks.

## Board of Directors and Audit & Supervisory Board Members

(as of June 28, 2017)

### Chairman of the Board



Makoto Kaiwa

### President



Hiroya Harada

### Executive Vice President



Mitsuhiro Sakamoto



Takao Watanabe



Shinichi Okanobu



Hiroshi Tanae

### Managing Director



Noboru Hasegawa



Shunji Yamamoto



Naoto Miura



Haruyuki Nakano



Satoshi Seino



Jiro Masuko



Kojiro Higuchi



Toshinori Abe



Shiro Kondo

## Standing Audit & Supervisory Board Member



Koki Kato



Takashi Sasaki

## Outside Audit & Supervisory Board Member



Sakuya Fujiwara



Ikuo Uno



Chiharu Baba

	Supplementary Explanation of the Relationship	Reasons of Appointment
Satoshi Seino	Mr. Seino is the Chairman of the Board of East Japan Railway Company, which has electricity supply transactions, etc. with the Company.	Mr. Seino is the Chairman of the Board of East Japan Railway Company. As he has experience in the management of public utility business and is expected to contribute to the management of the Company drawing on his extensive experience and excellent insight developed through his past experience and records, he has been appointed as Outside Director.
Shiro Kondo	Mr. Kondo is the Director & Chairman of the Board of Ricoh Company, Ltd., which has electricity supply transactions with the Company.	Mr. Kondo is the Director & Chairman of the Board of Ricoh Company Ltd. and he has experience in the management of a company that manufactures optical equipment, office equipment, etc. As he is expected to contribute to the management of the Company drawing on his extensive experience and excellent insight developed through his past experience and records, he has been appointed as Outside Director.
Sakuya Fujiwara		Mr. Fujiwara has experience in dealing with Japan's monetary policies as a Deputy Governor of the Bank of Japan. As he has considerable financial and accounting knowledge and is expected to conduct objective and impartial audits of the Company drawing on his extensive experience and excellent insight developed through his past experience and records, he has been appointed as Outside Audit & Supervisory Board Member.
Ikuo Uno	Mr. Uno is the former Chairman of Nippon Life Insurance Company, which has loan transactions, etc. with the Company.	Mr. Uno has many years of experience in the management of Nippon Life Insurance Company. He is expected to conduct objective and impartial audits of the Company drawing on his extensive experience and excellent insight developed through his past experience and records, he has been appointed as Outside Audit & Supervisory Board Member.
Chiharu Baba	Mr. Baba is a former Deputy President and Representative Director of Mizuho Trust & Banking Co., Ltd., which has loan transactions, etc. with the Company; however, it has been approximately 10 years since he retired from Mizuho Trust & Banking Co., Ltd.	Mr. Baba has experience in positions such as a Deputy President and Representative Director of Mizuho Trust & Banking Co., Ltd. As he has considerable financial and accounting knowledge and is expected to conduct objective and impartial audits of the Company drawing on his extensive experience and excellent insight developed through his past experience and records, he has been appointed as Outside Audit & Supervisory Board Member.

< MEMO >



# FINANCIAL SECTION

## Contents

- 33 Financial Review (Consolidated basis)
- 35 Business and Other Risks
- 37 Five-Year Summary (Consolidated basis)

### <Consolidated Financial Statements>

- 39 Consolidated Balance Sheets
- 41 Consolidated Statements of Income
  - Consolidated Statements of Comprehensive Income
- 42 Consolidated Statements of Changes in Equity
- 43 Consolidated Statements of Cash Flows
- 44 Notes to Consolidated Financial Statements
- 59 Independent Auditor's Report

### <Non-consolidated Financial Statements>

- 60 Non-consolidated Balance Sheets
- 62 Non-consolidated Statements of Income
- 63 Non-consolidated Statements of Changes in Equity

# Financial Review (Consolidated basis)

## Operating Results

Consolidated operating revenue for the year ended March 31, 2017 (fiscal 2016) decreased ¥146.0 billion (US\$1,301 million) or 7.0% from the previous year to ¥1,949.5 billion (US\$17,377 million) and ordinary revenue decreased ¥148.8 billion (US\$1,326 million) or 7.1% from the previous year to ¥1,955.8 billion (US\$17,433 million), mainly due to a decline in revenue from electricity sales because of decreases in the volume of electricity sales and fuel cost adjustment charges, despite an increase in the grant under Act on Purchase of Renewable Energy Sourced Electricity.

With respect to expenses, despite an increase in retirement benefit expenses caused by a decrease in discount rate for actuarial calculation, consolidated ordinary expenses decreased ¥100.8 billion (US\$899 million) or 5.2% from the previous year to ¥1,851.1 billion (US\$16,500 million), thanks to a decrease in fuel costs because of a fall in fuel prices and an appreciation of the yen, as well as our thorough streamlining efforts.

As a result, consolidated ordinary income decreased ¥47.9 billion (US\$427 million) or 31.4% from the previous year to ¥104.7 billion (US\$933 million).

Net income attributable to owners of parent decreased ¥27.3 billion (US\$244 million) or 28.1% from the previous year to ¥69.9 billion (US\$623 million).

Fiscal 2016 results by business segment are as follows:

### [Electric power business]

Operating revenue decreased ¥125.9 billion (US\$1,123 million) or 6.8% from the previous year to ¥1,730.2 billion (US\$15,422 million), mainly due to a decline in revenue from electricity sales because of decreases in the volume of electricity sales and fuel cost adjustment charges, despite an increase in the grant under Act on Purchase of Renewable Energy Sourced Electricity.

Operating expenses, even with an increase in retirement benefit expenses caused by decrease in discount rate for actuarial calculation, decreased ¥69.5 billion (US\$619 million) or 4.1% from the previous year to ¥1,629.0 billion (US\$14,520 million), thanks to a decrease in fuel costs because of a fall in fuel prices, appreciation of the yen and our thorough streamlining efforts.

As a result, Operating income for the fiscal year was ¥101.2 billion (US\$902 million), a decrease of ¥56.4 billion (US\$503 million) or 35.8% from the previous fiscal year.

### [Construction business]

Operating revenue decreased ¥1.8 billion (US\$16 million) or 0.6% from the previous fiscal year to ¥296.8 billion (US\$2,646 million), mainly due to a decrease in construction orders.

Operating expenses decreased ¥0.4 billion (US\$3 million) or 0.2% from the previous fiscal year to ¥280.2 billion (US\$2,497 million), due to a decrease in the costs of construction as a result of the decrease in construction orders.

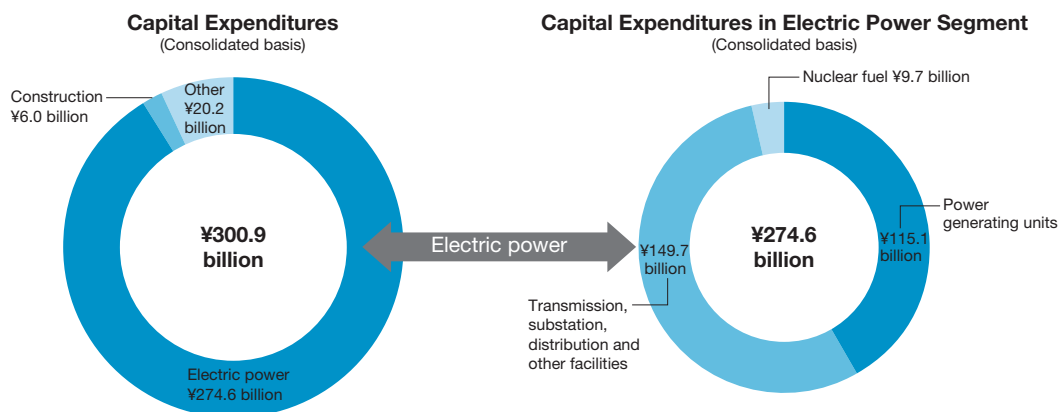
As a result, operating income for the fiscal year totaled ¥16.6 billion (US\$148 million), a decrease of ¥1.3 billion (US\$12 million) or 7.6% from the previous fiscal year.

### [Other businesses]

Operating revenue decreased ¥18.9 billion (US\$168 million) or 8.1% from the previous fiscal year to ¥215.0 billion (US\$1,917 million), mainly due to the decreased sales in gas business.

Operating expenses decreased ¥18.1 billion (US\$161 million) or 8.3% from the previous fiscal year to ¥200.6 billion (US\$1,788 million), due to a decrease in gas business.

As a result, operating income for the fiscal year totaled ¥14.4 billion (US\$128 million), a decrease of ¥0.8 billion (US\$7 million) or 5.5% from the previous fiscal year.



## Capital Expenditures

The Group's capital expenditure in fiscal 2016 (not subject to adjustment) was ¥300.9 billion (US\$2,682 million). By segment, the electric power business accounted for ¥274.6 billion (US\$2,447 million), the construction business for ¥6.0 billion (US\$54 million) and other businesses for ¥20.2 billion (US\$180 million).

In the electric power business, we invested in plant and equipment necessary to respond efficiently to long-term demand. Of the capital outlay in the electric power business, ¥115.1 billion (US\$1,026 million) or 41.9% was spent on new construction of power generating units, and ¥149.7 billion (US\$1,334 million) or 54.5% was spent on new construction of transmission, transformation, distribution and other facilities. Another ¥9.7 billion (US\$86 million) or 3.6% was invested in nuclear fuel.

## Assets, Liabilities and Net Assets

Total assets at the end of fiscal 2016 were valued at ¥4,145.9 billion (US\$36,954 million), a decrease of ¥6.5 billion (US\$58 million) or 0.2% from the end of fiscal 2015, mainly due to advance of depreciation.

Total liabilities at the end of fiscal 2016 were ¥3,390.3 billion (US\$30,219 million), a decrease of ¥77.7 billion (US\$692 million) or 2.2% from the end of fiscal 2015, resulting from a decrease in interest-bearing liabilities such as loans as well as notes and accounts payable-trade.

Net assets at the end of fiscal 2016 came to ¥755.6 billion (US\$6,735 million), an increase of ¥71.2 billion (US\$634 million) or 10.4% from the end of fiscal 2015, mainly due to an increase in retained earnings as a result of the recording of net income attributable to owners of parent.

As a result, the equity ratio rose to 16.8% from 15.2% in the previous year.

## Cash Flows

Cash and cash equivalents at the end of fiscal 2016 were ¥228.2 billion (US\$2,034 million), a decrease of ¥34.2 billion (US\$304 million) or 13.0% from the end of fiscal 2015.

Cash flows by activity and factors contributing to year-on-year changes are as follows:

### [Cash flows from operating activities]

Cash inflow from operating activities decreased ¥93.7 billion (US\$835 million) or 25.2% from the previous fiscal year to ¥278.1 billion (US\$2,479 million), which was mainly attributed to a decrease in income before income tax.

### [Cash flows from investing activities]

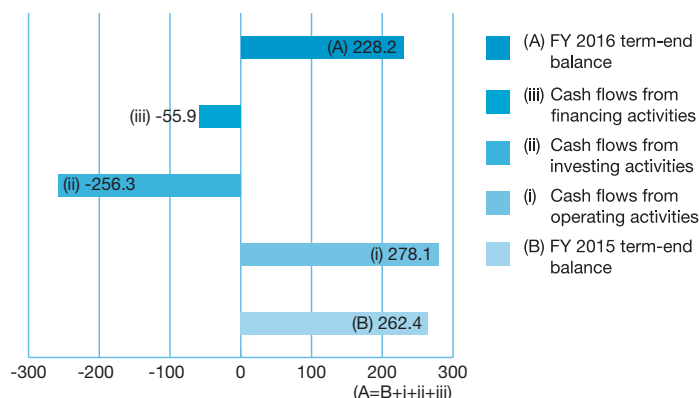
Cash outflow from investing activities increased ¥5.8 billion (US\$51 million) or 2.3% from the previous fiscal year to ¥256.3 billion (US\$2,284 million) mainly because of a decrease in inflow from collection of investments and loans receivable, despite a decrease in outflow of purchase of non-current assets.

### [Cash flows from financing activities]

Cash outflow from financing activities decreased ¥48.2 billion (US\$429 million) or 46.3% from the previous fiscal year to ¥55.9 billion (US\$498 million), mainly due to a decrease in outflow from redemption of corporate bonds.

**Cash Flows** (Consolidated basis)

(¥ billions)



## Business and Other Risks

The following are major risks that could affect the corporate group's performance and financial position. We will focus our efforts on minimizing these risks, and if any should occur, we will take prompt action. The risks shown below were those identified by our company on June 28, 2017, and they may be affected by changes in energy policy and/or electricity system reform in the future.

### 1. Changes in Nuclear Energy Policy

We think it is necessary to utilize nuclear power generation to some extent under the basic premise of securing safety, and we have been implementing safety measures in response to new regulatory requirements in addition to our voluntary and continuing efforts to further enhance safety.

Meanwhile, the circumstances surrounding nuclear power generation have become increasingly severe. If changes in nuclear energy policies and/or regulations affect stable operations of nuclear power stations including long-term suspension of operation, thermal power fuel and other costs may increase, which may have an impact on the results and financial position of our corporate group.

### 2. Changes in Business Environment

Electricity system reform, including the establishment of Organization for Cross-regional Coordination of Transmission Operators, a full liberalization of retail sales and legal separation of transmission/ distribution, have been under way.

This reform, change in policies based on the Basic Energy Plan, and the subsequent intensified competition with other businesses may affect our performance and financial condition.

### 3. Fluctuation in Nuclear Power Back-End Cost

The back-end business of nuclear power takes an extremely long time period and has many uncertainties. Despite the risk reduction efforts by the government, costs may vary depending on national energy policy, regulatory reform, changes in estimates of future expenses, the operating status of reprocessing plants, and other factors, which may have an impact on the results and financial condition of our corporate group.

### 4. Changes in Electric Power Sales Affected by Economic and Climatic Conditions and the Great East Japan Earthquake

In the electric power business, the volume of electricity sales fluctuates due to economic conditions and temperature, as

well as the progress of energy conservation. Consequently, the performance of our corporate group could potentially be affected.

The Great East Japan Earthquake on March 11, 2011, seriously affected the Tohoku region. Even though six years have passed since the earthquake, reconstruction in the region is still underway. The recovery of electricity demand to the level before the earthquake will take some time.

In addition, fluctuation in yearly precipitation affects hydropower output, which may affect our fuel costs. However, we have set aside a reserve for fluctuation in water levels, which allows the Company to make certain adjustments against such impact within balance of reserve, thus limiting the effect on performance.

### 5. Fluctuations in Fuel Prices

Fuel costs for thermal power generation are affected by fluctuations in CIF prices of coal, LNG, and heavy/crude oil, as well as exchange rates. To diversify the risk caused by fuel price fluctuations, we are making efforts to maintain a well-balanced combination of power sources.

The Fuel Cost Adjustment System, which is designed to reflect fluctuations in fuel prices and exchange rates on electricity rates, applies to electric utilities. However, if fuel and other prices change significantly, our corporate group companies' business performance and financial condition could be affected.

### 6. Natural Disasters and Operational Problems

Our corporate group companies conduct regular inspections and repair of facilities in order to improve their reliability and provide a stable supply of high-quality electricity. Despite such efforts, large-scale power outages may occur, facilities may be damaged, and power sources could be cut off over a long period of time due to natural disasters, such as earthquakes, tsunamis, typhoons, accidents or illegal activities, including terrorism. In such cases, our group companies' business performance and financial condition could be adversely affected.

### 7. Interest Rate Fluctuations

Our group companies' results and financial status may be affected by future trends in market interest rates and changes in ratings. However, because the balance of interest-bearing liabilities mainly consists of corporate bonds and long-term loans with fixed interest, we believe that the influence of fluctuations in market interest rates is limited.

## 8. Information Leakage

Our corporate group companies possess a large amount of important information, such as information on individuals and facilities. Our efforts to secure proper handling of important information include the establishment of Standards of Personal Information Protection, education for our employees, and asking our outsourcing contractors for thorough management, to enhance information security. If any problems occur as a result of a leakage of important information, our corporate group companies' results and financial condition could be affected adversely.

## 9. Businesses other than Electricity Services

In the energy service area, our corporate group companies, while placing emphasis on providing electricity services, have also been supporting Tohoku ESCO projects, which provide integrated services to save energy, and partnering with gas supply businesses. In information and communications and other business areas, we are promoting profitability-focused, highly self-sustaining business operations through careful selection and greater concentration. The performance of these businesses is sometimes affected by changes in the business environment, such as increased competition with other companies and the progress of gas system reform. For this reason, business performance in areas other than electricity services may affect our corporate group companies' entire results and financial condition.

## 10. Compliance

We believe that compliance with business ethics and applicable laws and regulations must be a precondition of all business activities. Therefore, our corporate group companies have established systems to ensure strict observation of corporate ethics, laws and regulations, and are making efforts to spread the use of these systems. Despite these efforts, if any violation of business ethics is committed, the reputation of our corporate group may be damaged, adversely affecting our results and financial condition.

# Five-Year Summary (Consolidated basis)

Tohoku Electric Power Co., Inc. and Consolidated Subsidiaries  
Years ended March 31

	2017	2016	Millions of yen 2015	2014	2013
<b>Operating results</b>					
Operating revenue .....	<b>¥1,949,584</b>	¥2,095,587	¥2,182,075	¥2,038,882	¥1,792,666
Operating expenses .....	<b>1,819,161</b>	1,905,828	2,012,335	1,953,239	1,848,589
Operating income (loss) .....	<b>130,422</b>	189,759	169,739	85,642	(55,922)
Interest expenses .....	<b>24,420</b>	32,419	53,908	46,314	40,848
Other expenses (income), net .....	<b>1,298</b>	4,723	(20,512)	(24,720)	35,154
Income (loss) before income taxes .....	<b>104,704</b>	152,616	136,343	64,049	(131,925)
Income taxes .....	<b>28,364</b>	48,150	51,915	28,265	(24,262)
Net income (loss) attributable to non-controlling interests .....	<b>6,408</b>	7,140	7,935	1,479	(3,964)
Net income (loss) attributable to owners of parent .....	<b>¥ 69,931</b>	¥ 97,325	¥ 76,493	¥ 34,303	¥ (103,698)

## Sources and application of funds

### Sources:

Internal funds .....	<b>¥337,189</b>	¥409,871	¥466,026	¥206,836	¥ 19,091
External funds:					
Bonds .....	<b>139,506</b>	180,565	119,610	109,603	119,638
Borrowings .....	<b>354,465</b>	347,502	363,643	550,396	1,163,673
<b>Total</b> .....	<b>831,160</b>	937,938	949,280	866,835	1,302,402

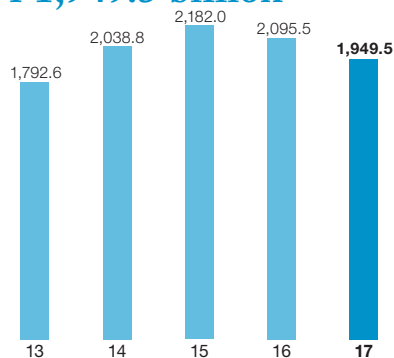
### Applications:

Capital expenditure .....	<b>300,921</b>	319,834	263,582	255,827	286,340
Debt redemption .....	<b>530,239</b>	618,104	685,698	611,008	1,016,061
<b>Total</b> .....	<b>831,160</b>	937,938	949,280	866,835	1,302,402

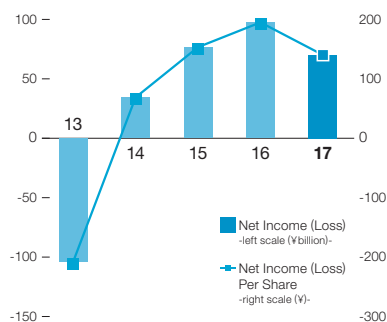
## Assets and capital

Total assets .....	<b>¥4,145,928</b>	¥4,152,436	¥4,131,217	¥4,243,037	¥4,284,371
Property, plant and equipment, net .....	<b>2,983,003</b>	2,949,631	2,931,897	2,926,383	2,980,898
Capital stock .....	<b>251,441</b>	251,441	251,441	251,441	251,441
Total net assets .....	<b>755,624</b>	684,393	651,216	574,595	522,714

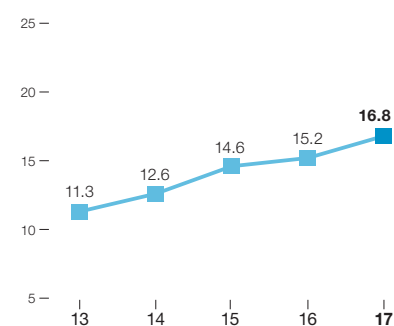
## Operating Revenue ¥1,949.5 billion



## Net Income (Loss) & Net Income (Loss) Per Share ¥69.9 billion



## Equity Ratio 16.8%



	2017	2016	Millions of yen 2015	2014	2013
<b>Cash flows</b>					
Operating activities:					
Net cash provided by operating activities .....	¥278,147	¥371,873	¥374,212	¥236,413	¥ 46,665
Investing activities:					
Net cash used in investing activities .....	(256,341)	(250,521)	(247,732)	(247,545)	(236,726)
Financing activities:					
Net cash (used in) provided by financing activities .....	(55,925)	(104,131)	(211,278)	45,439	262,674
Effect of exchange rate changes on cash and cash equivalents .....	(94)	(66)	(58)	130	197
Increase in cash and cash equivalents from newly consolidated subsidiary .....	—	—	39	—	—
Increase in cash and cash equivalents resulting from merger .....	—	752	—	—	—
Cash and cash equivalents at end of the period ...	228,262	262,476	244,570	329,389	294,951

<b>Electric power sales (GWh)</b>					
Lighting (Residential) .....	24,004	23,706	24,266	24,815	25,153
Power .....	50,255	51,351	52,357	52,637	52,680
Total .....	74,258	75,057	76,623	77,452	77,833

#### Plant data

Generating capacity (MW)

(Number of plants):

Hydroelectric .....	2,551	2,538	2,549	2,549	2,543
	(227)	(226)	(229)	(227)	(227)
Thermal* .....	12,965	12,725	12,563	11,415	11,415
	(13)	(13)	(13)	(9)	(9)
Nuclear .....	3,274	3,274	3,274	3,274	3,274
	(2)	(2)	(2)	(2)	(2)
Internal combustion power* .....	—	—	—	1,116	1,116
	—	—	—	(8)	(8)
Renewables .....	276	276	271	269	265
	(18)	(18)	(14)	(12)	(8)
Total .....	19,066	18,812	18,658	18,623	18,613
	(260)	(259)	(258)	(258)	(254)
Substation capacity (MVA) .....	75,708	75,211	74,305	73,966	73,516
Transmission lines (km) .....	15,190	15,212	15,181	15,104	15,094
Distribution lines (km) .....	147,078	146,550	145,943	145,369	144,816

\* Internal combustion power is included in Thermal in the year ended March 31, 2015 and after.

#### Other data

Number of employees	24,771	24,285	24,536	24,667	24,726
---------------------	--------	--------	--------	--------	--------

# Consolidated Balance Sheets

Tohoku Electric Power Co., Inc. and Consolidated Subsidiaries  
March 31, 2017 and 2016

	Millions of yen		Thousands of U.S. dollars (Note 2)
	2017	2016	2017
<b>Assets</b>			
<b>Property, plant and equipment</b> (Note 3) .....	<b>¥ 9,518,706</b>	¥ 9,371,912	<b>\$ 84,844,513</b>
Less accumulated depreciation .....	<b>(6,535,702)</b>	(6,422,281)	<b>(58,255,655)</b>
Property, plant and equipment, net .....	<b>2,983,003</b>	2,949,631	<b>26,588,849</b>
<b>Nuclear fuel:</b>			
Loaded nuclear fuel .....	<b>34,729</b>	34,729	<b>309,555</b>
Nuclear fuel in processing .....	<b>114,471</b>	109,891	<b>1,020,331</b>
Total nuclear fuel .....	<b>149,201</b>	144,621	<b>1,329,895</b>
<b>Long-term investments</b> (Notes 4 and 5) .....	<b>113,134</b>	93,556	<b>1,008,414</b>
<b>Reserve fund for reprocessing of irradiated nuclear fuel</b> (Note 4) .....	—	69,340	—
<b>Net defined benefit asset</b> (Note 12) .....	<b>2,723</b>	2,179	<b>24,271</b>
<b>Deferred tax assets</b> (Note 15) .....	<b>123,889</b>	139,396	<b>1,104,278</b>
<b>Other assets</b> .....	<b>103,459</b>	103,997	<b>922,176</b>
<b>Current assets:</b>			
Cash and deposits (Notes 4 and 7) .....	<b>224,112</b>	218,114	<b>1,997,611</b>
Notes and accounts receivable — trade (Notes 4 and 9) .....	<b>196,809</b>	202,037	<b>1,754,247</b>
Inventories (Note 8) .....	<b>62,911</b>	68,747	<b>560,754</b>
Deferred tax assets (Note 15) .....	<b>59,105</b>	61,501	<b>526,829</b>
Other current assets (Note 7) .....	<b>127,575</b>	99,312	<b>1,137,133</b>
Total current assets .....	<b>670,515</b>	649,713	<b>5,976,602</b>
<b>Total assets</b> .....	<b>¥ 4,145,928</b>	¥ 4,152,436	<b>\$ 36,954,523</b>



	Millions of yen		Thousands of U.S. dollars (Note 2)
	2017	2016	2017
<b>Liabilities and net assets</b>			
<b>Long-term debt</b> (Notes 4 and 11) .....	<b>¥2,236,710</b>	¥2,194,776	<b>\$19,936,803</b>
<b>Provision for reprocessing of irradiated nuclear fuel</b> .....	—	73,362	—
<b>Provision for preparation of reprocessing of irradiated nuclear fuel</b> .....	—	15,214	—
<b>Reserve for restoration costs of natural disaster</b> .....	<b>5,034</b>	5,245	<b>44,870</b>
<b>Net defined benefit liability</b> (Note 12) .....	<b>185,287</b>	191,027	<b>1,651,546</b>
<b>Asset retirement obligations</b> (Note 13) .....	<b>119,410</b>	118,233	<b>1,064,355</b>
<b>Deferred tax liabilities for land revaluation</b> (Note 10) .....	<b>1,426</b>	1,436	<b>12,710</b>
<b>Current liabilities:</b>			
Current portion of non-current liabilities (Notes 4 and 11) .....	<b>262,665</b>	328,231	<b>2,341,251</b>
Notes and accounts payable – trade (Note 4) .....	<b>131,688</b>	155,775	<b>1,173,794</b>
Accrued income taxes .....	<b>6,188</b>	16,027	<b>55,156</b>
Other advances .....	<b>239,789</b>	137,431	<b>2,137,347</b>
Reserve for restoration costs of natural disaster .....	<b>376</b>	440	<b>3,351</b>
Other current liabilities .....	<b>201,724</b>	230,840	<b>1,798,056</b>
Total current liabilities .....	<b>842,433</b>	868,746	<b>7,508,984</b>
<b>Contingent liabilities</b> (Note 19)			
<b>Net assets</b> (Note 20):			
Shareholders' equity (Note 16):			
Capital stock, without par value:			
Authorized — 1,000,000,000 shares			
Issued — 502,882,585 shares .....	<b>251,441</b>	251,441	<b>2,241,206</b>
Capital surplus .....	<b>26,558</b>	26,536	<b>236,723</b>
Retained earnings .....	<b>445,547</b>	390,843	<b>3,971,361</b>
Treasury shares; 3,914,835 shares in 2017 and 3,726,505 shares in 2016 .....	<b>(7,320)</b>	(7,087)	<b>(65,246)</b>
Total shareholders' equity .....	<b>716,226</b>	661,733	<b>6,384,044</b>
Accumulated other comprehensive income:			
Valuation difference on available-for-sale securities (Note 5) .....	<b>6,462</b>	3,979	<b>57,598</b>
Deferred losses on hedges (Note 6) .....	<b>(1,883)</b>	(2,754)	<b>(16,784)</b>
Revaluation reserve for land (Note 10) .....	<b>(940)</b>	(1,128)	<b>(8,378)</b>
Foreign currency translation adjustments .....	<b>186</b>	561	<b>1,657</b>
Remeasurements of defined benefit plans (Note 12) .....	<b>(25,371)</b>	(32,753)	<b>(226,143)</b>
Total accumulated other comprehensive income .....	<b>(21,546)</b>	(32,096)	<b>(192,049)</b>
Subscription rights to shares (Note 14) .....	<b>879</b>	736	<b>7,834</b>
Non-controlling interests .....	<b>60,064</b>	54,019	<b>535,377</b>
Total net assets .....	<b>755,624</b>	684,393	<b>6,735,217</b>
Total liabilities and net assets .....	<b>¥4,145,928</b>	¥4,152,436	<b>\$36,954,523</b>

See notes to consolidated financial statements.

## Consolidated Statements of Income

Tohoku Electric Power Co., Inc. and Consolidated Subsidiaries  
Years ended March 31, 2017 and 2016

	Millions of yen		Thousands of U.S. dollars (Note 2)
	2017	2016	2017
<b>Operating revenue:</b>			
Electric utility operating revenue .....	¥1,727,228	¥1,853,261	\$15,395,561
Other business operating revenue .....	222,356	242,326	1,981,959
	<u>1,949,584</u>	<u>2,095,587</u>	<u>17,377,520</u>
<b>Operating expenses (Note 18):</b>			
Electric utility operating expenses (Note 17) .....	1,618,706	1,686,371	14,428,255
Other business operating expenses .....	200,455	219,457	1,786,745
	<u>1,819,161</u>	<u>1,905,828</u>	<u>16,215,001</u>
<b>Operating income</b> .....	<b>130,422</b>	<b>189,759</b>	<b>1,162,510</b>
<b>Other expenses (income):</b>			
Interest and dividend income .....	(1,571)	(2,784)	(14,003)
Interest expenses .....	24,420	32,419	217,666
Share of profit of entities accounted for using equity method .....	(89)	(92)	(793)
Other, net .....	2,959	7,599	26,374
	<u>25,718</u>	<u>37,143</u>	<u>229,236</u>
<b>Income before income taxes</b> .....	<b>104,704</b>	<b>152,616</b>	<b>933,273</b>
<b>Income taxes (Note 15):</b>			
Current .....	14,719	20,836	131,197
Deferred .....	13,645	27,313	121,624
	<u>28,364</u>	<u>48,150</u>	<u>252,821</u>
<b>Net income</b> .....	<b>76,339</b>	<b>104,465</b>	<b>680,443</b>
<b>Net income attributable to non-controlling interests</b> .....	<b>6,408</b>	<b>7,140</b>	<b>57,117</b>
<b>Net income attributable to owners of parent (Note 20)</b> .....	<b>¥ 69,931</b>	<b>¥ 97,325</b>	<b>\$ 623,326</b>

See notes to consolidated financial statements.

## Consolidated Statements of Comprehensive Income

Tohoku Electric Power Co., Inc. and Consolidated Subsidiaries  
Years ended March 31, 2017 and 2016

	Millions of yen		Thousands of U.S. dollars (Note 2)
	2017	2016	2017
<b>Net income</b> .....	<b>¥76,339</b>	<b>¥104,465</b>	<b>\$680,443</b>
<b>Other comprehensive income (Note 21):</b>			
Valuation difference on available-for-sale securities .....	2,537	(4,318)	22,613
Deferred gains (losses) on hedges .....	871	(677)	7,763
Revaluation reserve for land (Note 10) .....	—	75	—
Foreign currency translation adjustments .....	(377)	(136)	(3,360)
Remeasurements of defined benefit plans .....	8,018	(55,594)	71,468
Share of other comprehensive income of entities accounted for using equity method .....	2	(2)	17
Total other comprehensive income .....	<u>11,051</u>	<u>(60,653)</u>	<u>98,502</u>
<b>Comprehensive income</b> .....	<b>¥87,391</b>	<b>¥ 43,811</b>	<b>\$778,955</b>
Total comprehensive income attributable to:			
Owners of parent .....	¥80,292	¥ 37,679	\$715,678
Non-controlling interests .....	7,098	6,132	63,267

See notes to consolidated financial statements.

# Consolidated Statements of Changes in Equity

Tohoku Electric Power Co., Inc. and Consolidated Subsidiaries  
Years ended March 31, 2017 and 2016

	Year ended March 31, 2017													
	Shareholders' equity					Accumulated other comprehensive income								
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Subscription rights to shares	Non-controlling interests	Total net assets
	Millions of yen													
<b>Balance at April 1, 2016</b> .....	¥251,441	¥26,536	¥390,843	¥(7,087)	¥661,733	¥3,979	¥(2,754)	¥(1,128)	¥ 561	¥(32,753)	¥(32,096)	¥736	¥54,019	¥684,393
Changes in parent's ownership interests arising from transactions with non-controlling interests .....		22			22									22
Dividends of surplus .....			(14,975)		(14,975)									(14,975)
Net income attributable to owners of parent .....			69,931		69,931									69,931
Purchases of treasury shares .....				(397)	(397)									(397)
Disposal of treasury shares .....			(62)	163	101									101
Reversal of revaluation reserve for land .....			(188)		(188)									(188)
Net changes in items other than shareholders' equity .....						2,482	871	188	(374)	7,382	10,549	143	6,044	16,737
<b>Balance at March 31, 2017</b> .....	<b>¥251,441</b>	<b>¥26,558</b>	<b>¥445,547</b>	<b>¥(7,320)</b>	<b>¥716,226</b>	<b>¥6,462</b>	<b>¥(1,883)</b>	<b>¥ (940)</b>	<b>¥ 186</b>	<b>¥(25,371)</b>	<b>¥(21,546)</b>	<b>¥879</b>	<b>¥60,064</b>	<b>¥755,624</b>

	Year ended March 31, 2016													
	Shareholders' equity					Accumulated other comprehensive income								
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Subscription rights to shares	Non-controlling interests	Total net assets
	Millions of yen													
<b>Balance at April 1, 2015</b> .....	¥251,441	¥26,678	¥303,803	¥(7,687)	¥574,235	¥ 8,193	¥(2,077)	¥(1,150)	¥ 690	¥ 21,908	¥ 27,564	¥809	¥48,606	¥651,216
Changes in parent's ownership interests arising from transactions with non-controlling interests .....		(142)			(142)									(142)
Dividends of surplus .....			(9,980)		(9,980)									(9,980)
Net income attributable to owners of parent .....			97,325		97,325									97,325
Purchases of treasury shares .....				(49)	(49)									(49)
Disposal of treasury shares .....			(320)	649	329									329
Reversal of revaluation reserve for land .....			14		14									14
Net changes in items other than shareholders' equity .....						(4,213)	(677)	21	(129)	(54,662)	(59,660)	(72)	5,412	(54,320)
<b>Balance at March 31, 2016</b> .....	<b>¥251,441</b>	<b>¥26,536</b>	<b>¥390,843</b>	<b>¥(7,087)</b>	<b>¥661,733</b>	<b>¥ 3,979</b>	<b>¥(2,754)</b>	<b>¥(1,128)</b>	<b>¥ 561</b>	<b>¥(32,753)</b>	<b>¥(32,096)</b>	<b>¥736</b>	<b>¥54,019</b>	<b>¥684,393</b>

	Year ended March 31, 2017													
	Shareholders' equity					Accumulated other comprehensive income								
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Subscription rights to shares	Non-controlling interests	Total net assets
	Thousands of U.S. dollars (Note 2)													
<b>Balance at April 1, 2016</b> .....	\$2,241,206	\$236,527	\$3,483,759	\$(63,169)	\$5,898,324	\$35,466	\$(24,547)	\$(10,054)	\$ 5,000	\$(291,942)	\$(286,086)	\$ 6,560	\$481,495	\$6,100,303
Changes in parent's ownership interests arising from transactions with non-controlling interests .....		196			196									196
Dividends of surplus .....			(133,478)		(133,478)									(133,478)
Net income attributable to owners of parent .....			623,326		623,326									623,326
Purchases of treasury shares .....				(3,538)	(3,538)									(3,538)
Disposal of treasury shares .....			(552)	1,452	900									900
Reversal of revaluation reserve for land .....			(1,675)		(1,675)									(1,675)
Net changes in items other than shareholders' equity .....						22,123	7,763	1,675	(3,333)	65,799	94,027	1,274	53,872	149,184
<b>Balance at March 31, 2017</b> .....	<b>\$2,241,206</b>	<b>\$236,723</b>	<b>\$3,971,361</b>	<b>\$(65,246)</b>	<b>\$6,384,044</b>	<b>\$57,598</b>	<b>\$(16,784)</b>	<b>\$( 8,378)</b>	<b>\$ 1,657</b>	<b>\$(226,143)</b>	<b>\$(192,049)</b>	<b>\$7,834</b>	<b>\$535,377</b>	<b>\$6,735,217</b>

See notes to consolidated financial statements.

# Consolidated Statements of Cash Flows

Tohoku Electric Power Co., Inc. and Consolidated Subsidiaries

Years ended March 31, 2017 and 2016

	Millions of yen		Thousands of U.S. dollars (Note 2)
	2017	2016	2017
<b>Operating activities</b>			
Income before income taxes .....	¥ 104,704	¥ 152,616	\$ 933,273
Adjustments to reconcile income before income taxes to net cash provided by operating activities:			
Depreciation .....	226,024	242,381	2,014,653
Decommissioning costs of nuclear power units .....	4,705	4,727	41,937
Loss on retirement of non-current assets .....	11,304	9,252	100,757
Decrease in net defined benefit liability .....	(7,451)	(6,607)	(66,414)
Decrease in provision for reprocessing of irradiated nuclear fuel .....	(6,040)	(8,460)	(53,837)
Increase in provision for preparation of reprocessing irradiated nuclear fuel .....	304	585	2,709
Interest and dividend income .....	(1,571)	(2,784)	(14,003)
Interest expenses .....	24,420	32,419	217,666
Decrease in reserve fund for reprocessing of irradiated nuclear fuel .....	6,208	8,462	55,334
Changes in operating assets and liabilities:			
Increase in notes and accounts receivable – trade .....	(1,309)	(20,508)	(11,667)
Decrease in inventories .....	5,812	7,974	51,804
(Decrease) increase in notes and accounts payable – trade .....	(23,876)	6,280	(212,817)
Other operating assets and liabilities .....	(17,891)	(9,184)	(159,470)
Subtotal .....	325,343	417,154	2,899,928
Interest and dividend income received .....	2,098	2,809	18,700
Interest expenses paid .....	(24,845)	(33,316)	(221,454)
Income taxes paid .....	(24,449)	(14,773)	(217,924)
Net cash provided by operating activities .....	278,147	371,873	2,479,249
<b>Investing activities</b>			
Purchase of non-current assets .....	(290,086)	(293,809)	(2,585,667)
Proceeds from contribution received for construction .....	34,378	33,626	306,426
Payment of investment and loans receivable .....	(9,853)	(11,755)	(87,824)
Collection of investments and loans receivable .....	8,225	12,394	73,313
Other, net .....	995	9,023	8,868
Net cash used in investing activities .....	(256,341)	(250,521)	(2,284,882)
<b>Financing activities</b>			
Proceeds from long-term loans payable and issuance of bonds .....	299,620	293,850	2,670,648
Repayment or redemption of long-term loans payable or bonds .....	(310,350)	(366,706)	(2,766,289)
Decrease in short-term loans payable and commercial papers .....	(25,524)	(17,096)	(227,506)
Cash dividends paid .....	(14,919)	(10,031)	(132,979)
Dividends paid to non-controlling interests .....	(1,008)	(829)	(8,984)
Other, net .....	(3,742)	(3,319)	(33,354)
Net cash used in financing activities .....	(55,925)	(104,131)	(498,484)
Effect of exchange rate changes on cash and cash equivalents .....	(94)	(66)	(837)
Net (decrease) increase in cash and cash equivalents .....	(34,213)	17,153	(304,955)
Cash and cash equivalents at beginning of the period .....	262,476	244,570	2,339,566
Increase in cash and cash equivalents resulting from merger .....	—	752	—
Cash and cash equivalents at end of the period (Note 7) .....	¥ 228,262	¥ 262,476	\$ 2,034,602

See notes to consolidated financial statements.

# Notes to Consolidated Financial Statements

Tohoku Electric Power Co., Inc. and Consolidated Subsidiaries  
March 31, 2017

## 1. Summary of Significant Accounting Policies

### (a) Basis of preparation

The accompanying consolidated financial statements of Tohoku Electric Power Company, Incorporated (the "Company") and its consolidated subsidiaries have been compiled from the consolidated financial statements prepared by the Company as required by the Financial Instruments and Exchange Law of Japan and are prepared on the basis of accounting principles generally accepted in Japan, which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards.

As permitted by the Financial Instruments and Exchange Law, amounts of less than one million yen have been omitted. As a result, the totals shown in the accompanying consolidated financial statements (both in yen and U.S. dollars) do not necessarily agree with the sum of the individual amounts.

Certain amounts previously reported have been reclassified to conform to the current year's presentation.

### (b) Principles of consolidation and accounting for investments in affiliates

The accompanying consolidated financial statements include the accounts of the Company and significant subsidiaries (forty-eight as of March 31, 2017 and 2016) controlled directly or indirectly by the Company.

YURTEC HAIDEN TECHNO CORPORATION, which was established on April 5, 2016, was included in the scope of the consolidation. Sakakyo Engineering Service Company, Ltd., which was dissolved as of June 17, 2016 and its liquidation was completed on September 13, 2016, was excluded from the scope of consolidation.

The affiliates (four as of March 31, 2017 and 2016) over which the Company exercises significant influence in terms of their operating and financial policies have been included in the consolidated financial statements by equity method.

All significant intercompany balances and transactions have been eliminated in consolidation.

### (c) Property, plant and equipment

Property, plant and equipment are generally stated at cost.

Depreciation of property, plant and equipment is computed by the declining-balance method over the estimated useful lives of the respective assets. Significant renewals and additions are capitalized at cost. Maintenance and repairs are charged to income when incurred.

The recognition and calculation method of the cost of the assets corresponding to asset retirement obligations concerning decommissioning of specified nuclear power units among non-current assets is described in (i).

Amortization of easements is computed by the straight-line method based on the estimated useful lives of the power transmission lines.

### (d) Nuclear fuel

Nuclear fuel is stated at cost less accumulated amortization. The amortization of loaded nuclear fuel is computed based on the proportion of heat production for the current year to the total heat production estimated over the life of the nuclear fuel.

### (e) Marketable and investment securities

Marketable and investment securities are classified into three categories depending on the holding purpose: i) trading securities, which are held for the purpose of earning capital gains in the short-term, ii) held-to-maturity debt securities, which the Company has the positive intent to hold until maturity, and iii) other securities, which are not classified as either of the aforementioned categories.

Held-to-maturity debt securities are carried at amortized cost. Marketable securities classified as other securities are carried at fair value with any changes in valuation difference, net of the applicable income taxes, included directly in net assets. Non-marketable securities classified as other securities are carried at cost. Cost of securities sold is determined by the moving average method.

### (f) Inventories

Inventories are stated at cost determined by the average method (inventories on the balance sheet are written down when profitability declines).

### (g) Cash equivalents

All highly liquid investments with a maturity of three months or less when purchased are considered cash equivalents.

### (h) Employees' retirement benefits

Accrued retirement benefits for employees have been provided mainly at an amount calculated based on the retirement benefit obligation and the fair value of the pension plan assets at the year end.

The retirement benefit obligation is attributed to each period by the benefit-formula method over the estimated remaining years of service of the eligible employees.

Actuarial gain or loss is amortized in the year following the year in which the gain or loss is incurred primarily by the straight-line method over periods (one year through fifteen years) which are shorter than the average remaining years of service of the employees participating in the plan.

Prior service cost is primarily charged or credited to income when incurred.

### (i) The method to recognize and calculate the cost of the assets corresponding to asset retirement obligations concerning decommissioning of specified nuclear power units

Item 8, the "Guidance on Accounting Standard for Asset Retirement Obligations" is applied to the assets corresponding to asset retirement obligations concerning decommissioning of specified nuclear power units based on the rules of the Ministerial Ordinance for Reserve for Decommissioning Costs of Nuclear Power Units (a ministerial ordinance by the Ministry of Economy, Trade and Industry No. 30 issued in 1989), the total estimate of decommissioning costs of nuclear power units is recognized by the straight-line method over the expected running period and safety storage period of nuclear power units.

### (j) The method to recognize the contribution of reprocessing irradiated nuclear fuel

Based on the "Act for Partial Revision of the Spent Nuclear Fuel Reprocessing Implementation Act" (2016 Act No. 40, hereinafter referred to as the "Revised Act"), the Company pays an amount corresponding to the volume of

spent fuel generated from operation of its nuclear power stations to the Nuclear Reprocessing Organization of Japan as a contribution, and records it as electric utility operating expenses. Through the contribution payment, the Company fulfills its responsibilities to bear the expenses as a nuclear operator. On the other hand, in proportion to the contributions received, the Organization reprocesses the irradiated nuclear fuel.

The balance of the unamortized differences of ¥8,073 million (\$71,958 thousand) resulting from the changes in the accounting rules for reserve recognition in the year ended March 31, 2006, is to be paid evenly to the organization as contributions and recorded as operating expenses until the year ending March 31, 2020.

According to these revisions, the Company reversed ¥63,131 million (\$562,715 thousand) of reserve fund for reprocessing of irradiated nuclear fuel, ¥68,667 million (\$612,059 thousand) of provision for reprocessing of irradiated nuclear fuel, and ¥15,518 million (\$138,318 thousand) of provision for preparation of reprocessing of irradiated nuclear fuel. The Company also posted other non-current liabilities of ¥4,155 million (\$37,035 thousand). In this consolidated fiscal year, the Company paid ¥15,553 million (\$138,630 thousand) to Nuclear Reprocessing Organization of Japan, the amount notified from the Minister of Economy, Trade and Industry pursuant to the provision of paragraph 1 of Article 7 of Revised Act.

The difference in estimated amount for reprocessing of irradiated nuclear fuel in pre-revised Act (¥39,752 million, as of March 31, 2016) has not been recognized due to the enforcement of the Revised Act.

#### (k) Reserve for restoration costs of natural disaster

The reserve for restoration costs of natural disaster is stated at an estimated amount at the year end for the expenses required for recovery of damaged assets, and for contingent losses incurred due to the Great East Japan Earthquake and the torrential rain in Niigata and Fukushima.

#### (l) Income taxes

Deferred tax assets and liabilities have been recognized in the consolidated financial statements with respect to the differences between financial reporting and the tax bases of the assets and liabilities, and were measured using the enacted tax rates and laws which will be in effect when the differences are expected to reverse.

#### (m) Foreign currency translation

All monetary assets and liabilities, both short-term and long-term, denominated in foreign currencies are translated into yen at the exchange rates prevailing at the balance sheet dates, and the resulting gain or loss is included in income.

The revenue and expense accounts of foreign subsidiaries are translated into yen at the average rates of exchange prevailing during the year. The balance sheet accounts are translated into yen at the rates of exchange in effect at the balance sheet date, except for the components of shareholders' equity which are translated at their historical exchange rates. Adjustments resulting from this translation process are accumulated in a separate component of net assets.

#### (n) Derivatives and hedging transactions

The Company has entered into various derivatives transactions in order to manage certain risk arising from adverse fluctuation in foreign currency exchange rates,

interest rates and fuel price. Derivatives are carried at fair value with any changes in unrealized gain or loss charged or credited to operations, except for those which meet the criteria for deferral hedge accounting or special treatment as permitted by the accounting standard for financial instruments.

#### (o) Goodwill

Amortization of goodwill is computed by the straight-line method over a period of five years. In case the amount is immaterial, goodwill is recognized in profit or loss immediately.

#### (p) Appropriation of retained earnings

Under the Corporation Law of Japan, the appropriation of retained earnings with respect to a given financial year is made by resolution of the shareholders at a general meeting to be held subsequent to the close of the financial year. The accounts for that year do not, therefore, reflect such appropriations.

See Note 16.

## 2. U.S. Dollar Amounts

Amounts in U.S. dollars are included solely for the convenience of the reader. The rate of ¥112.19 = U.S.\$1.00, the approximate rate of exchange in effect on March 31, 2017 is used in translation. The inclusion of such amounts is not intended to imply that yen have been or could be readily converted, realized or settled in U.S. dollars at that or any other rate.

## 3. Property, Plant and Equipment

Property, plant and equipment at March 31, 2017 and 2016 were summarized as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Hydro power plant .....	¥ 581,879	¥ 571,052	\$ 5,186,549
Thermal power plant ...	1,890,676	1,857,419	16,852,446
Nuclear power plant ...	1,403,330	1,399,340	12,508,512
Transmission plant .....	1,713,355	1,694,667	15,271,904
Transformation plant ...	840,422	831,988	7,491,059
Distribution plant .....	1,500,640	1,481,117	13,375,880
General plant .....	329,753	320,696	2,939,237
Other .....	967,413	964,783	8,622,987
	<u>9,227,471</u>	<u>9,121,065</u>	<u>82,248,605</u>
Construction work in progress .....	291,234	250,847	2,595,899
Total	<u>¥9,518,706</u>	<u>¥9,371,912</u>	<u>\$84,844,513</u>
Contributions in aid of construction .....	¥ 271,030	¥ 266,427	\$ 2,415,812

## 4. Financial Instruments

#### (a) Positions of Financial Instruments

The Company procures funds for plant and equipment development and for business operation mainly by bond issuance and bank loans. The Company uses interest-rate swaps to hedge its exposure to adverse fluctuation in interest rates on bonds and long-term loans as well as fuel-price swaps to moderate fuel price fluctuation, not for speculation purposes. A certain consolidated subsidiary utilizes a principal-guaranteed compound financial

instrument to be held to maturity for the purpose of efficient management of the fund surplus.

The Company holds long-term investments which are mainly stocks in business partners and bonds to be held to maturity. Though such investments are exposed to the market price volatility risk, fair values and financial positions of issuers relating to such investments are checked on a regular basis.

Notes and accounts receivable – trade are mainly operating receivables of residential, commercial and industrial power sales, thus are exposed to counterpart credit risk. Such risk is being managed by early comprehension and reduction of collection concerns as well as management of due dates and balances based on electric power supply agreements.

Bonds and long-term loans payable are to procure funds for plant and equipment development and funds for redemption. These funds are procured mostly with fixed interest rates; hence, the impact of interest rate changes on the financial performance is limited.

Due dates for most notes and accounts payable – trade are within a year.

Derivative transactions are exposed to counterpart credit risk. However, the Company enters into derivatives transactions only with financial institutions that have high credit ratings in compliance with its internal policies stipulating the authority for transactions and the credit lines.

Fair values of financial instruments include value amounts based on market prices and those based on rational calculation in the case where a market price does not exist. In calculating such value amounts, certain assumptions are adopted, and if based on different assumptions, those calculated value amounts may change. Derivative contract amounts noted below in Note 6 do not denote the market risk from the derivatives themselves. In addition, fair value and valuation gains or losses are reasonably quoted values based on market indicators for valuations and other measures. These are not the amounts that would be received or paid in the future.

## (b) Fair Values of Financial Instruments

Carrying values, fair values and unrealized gains or losses as of March 31, 2017 and 2016 were as follows:

At March 31, 2017	Millions of yen		
	Carrying value	Fair value	Unrealized gain (loss)
Assets:			
Long-term investments*1	¥ 40,793	¥ 40,694	¥ (98)
Reserve fund for reprocessing of irradiated nuclear fuel	—	—	—
Cash and deposits	224,112	224,112	—
Notes and accounts receivable – trade	197,259	197,259	—
Liabilities:			
Bonds payable*2	900,240	919,671	19,430
Long-term loans payable*2	1,516,092	1,558,201	42,108
Notes and accounts payable – trade	131,688	131,688	—
Derivative transactions*3	(2,612)	(2,612)	—

At March 31, 2016	Millions of yen		
	Carrying value	Fair value	Unrealized gain (loss)
Assets:			
Long-term investments*1	¥ 77,106	¥ 77,156	¥ 50
Reserve fund for reprocessing of irradiated nuclear fuel	69,340	69,340	—
Cash and deposits	218,114	218,114	—
Notes and accounts receivable – trade	204,042	204,042	—
Liabilities:			
Bonds payable*2	880,467	909,794	29,326
Long-term loans payable*2	1,546,342	1,597,667	51,324
Notes and accounts payable – trade	155,775	155,775	—
Derivative transactions*3	(3,822)	(3,822)	—

At March 31, 2017	Thousands of U.S. dollars		
	Carrying value	Fair value	Unrealized gain (loss)
Assets:			
Long-term investments*1	\$ 363,606	\$ 362,723	\$ (873)
Reserve fund for reprocessing of irradiated nuclear fuel	—	—	—
Cash and deposits	1,997,611	1,997,611	—
Notes and accounts receivable – trade	1,758,258	1,758,258	—
Liabilities:			
Bonds payable*2	8,024,244	8,197,441	173,188
Long-term loans payable*2	13,513,610	13,888,947	375,327
Notes and accounts payable – trade	1,173,794	1,173,794	—
Derivative transactions*3	(23,281)	(23,281)	—

\*1. Long-term investments include bonds to be held to maturity (including those which mature within a year) and other securities.

\*2. Bonds payable and long-term loans payable include those which are scheduled to be redeemed or paid back within a year.

\*3. The amounts denote net liabilities and obligations resulting from derivative transactions.

(Note 1) The method of calculating fair values of financial instruments, and other matters related to marketable securities and derivative transactions are as follows:

Assets:

Long-term investments

Negotiable certificates of deposit are recorded in carrying values as they are settled in the short term, where their carrying values are proximate to their fair values. Present values of municipal bonds are calculated by discounting the redemption amount using the government bond yield as a discount rate. Fair values of other bonds are the prices indicated by the correspondent financial institutions. Fair values of stocks are based on the exchange share prices. With respect to securities with different holding purposes, please refer to Note 5.

Cash and deposits, Notes and accounts receivable – trade  
These assets are recorded in carrying values as they are settled in the short term, where their carrying values are proximate to fair values.

Liabilities:

Bonds payable

The fair values of bonds are calculated based on market

prices. Interest-rate swaps subject to special treatment permitted by the accounting standards for financial instruments are included in the hedged bonds and their fair values are determined based on the prices indicated by correspondent financial institutions.

#### Long-term loans payable

The fair values of loans at fixed interest-rates are calculated based on a method where the total amount of the principal and interest is discounted by the interest rate calculated based on the Company's bonds. The fair values of loans at floating interest-rates are for the short term, reflecting market interest rates; hence, the carrying values approximate fair values. Interest-rate swaps subject to special treatment permitted by the accounting standards for financial instruments are included in the hedged long-term loans and their fair values are determined based on the prices indicated by correspondent financial institutions.

#### Notes and accounts payable – trade

These are recorded in carrying values as they are settled in the short term, where their carrying values are proximate to their fair values.

#### Derivative transactions:

The fair value of derivative transactions is measured at the quoted price obtained from the financial institution. Purchase amount and the valuation gain or loss of compound financial instruments are included in "Long-term investments." Interest-rate swaps subject to special treatment permitted by the accounting standards for financial instruments are accounted for together with the hedged long-term loans and bonds; therefore, the fair values of interest-rate swaps are included in the fair values of those long-term loans and bonds.

(Note 2) Financial instruments for which it was extremely difficult to determine the fair value at March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Unlisted stocks .....	¥142,429	¥142,627	\$1,269,533
Subscription certificate .....	1,174	1,179	10,464
Other .....	180	202	1,604
Total .....	¥143,785	¥144,008	\$1,281,620

(Note 3) Redemption schedule of financial bonds and marketable securities with maturity at March 31, 2017 and 2016 were as follows:

At March 31, 2017	Millions of yen			
	Due in one year or less	Due after one year through five years	Due after five years through ten years	Due after ten years
Long-term investments:				
Held-to-maturity debt securities:				
Municipal bonds .....	¥ 62	¥190	¥4	¥ –
Bonds .....	2,999	–	–	1,000
Certificate of deposit .....	2,590	–	–	–
Other .....	–	–	–	8,000
Other securities with maturity dates:				
Bonds .....	47	–	–	–
Certificate of deposit .....	–	–	–	–
Reserve fund for reprocessing of irradiated nuclear fuel .....	–	–	–	–
Cash and deposits .....	224,112	–	–	–
Notes and accounts receivable – trade .....	197,259	–	–	–
Total .....	¥427,071	¥190	¥4	¥9,000

At March 31, 2016	Millions of yen			
	Due in one year or less	Due after one year through five years	Due after five years through ten years	Due after ten years
Long-term investments:				
Held-to-maturity debt securities:				
Municipal bonds .....	¥ 63	¥249	¥8	¥ –
Bonds .....	–	–	–	1,000
Certificate of deposit .....	6,860	–	–	–
Other .....	–	–	–	7,000
Other securities with maturity dates:				
Bonds .....	47	–	–	–
Certificate of deposit .....	39,000	–	–	–
Reserve fund for reprocessing of irradiated nuclear fuel .....	12,138	–	–	–
Cash and deposits .....	218,114	–	–	–
Notes and accounts receivable – trade .....	204,042	–	–	–
Total .....	¥480,265	¥249	¥8	¥8,000

At March 31, 2017	Thousands of U.S. dollars			
	Due in one year or less	Due after one year through five years	Due after five years through ten years	Due after ten years
Long-term investments:				
Held-to-maturity debt securities:				
Municipal bonds .....	\$ 552	\$1,693	\$35	\$ –
Bonds .....	26,731	–	–	8,913
Certificate of deposit .....	23,085	–	–	–
Other .....	–	–	–	71,307
Other securities with maturity dates:				
Bonds .....	418	–	–	–
Certificate of deposit .....	–	–	–	–
Reserve fund for reprocessing of irradiated nuclear fuel .....	–	–	–	–
Cash and deposits .....	1,997,611	–	–	–
Notes and accounts receivable – trade .....	1,758,258	–	–	–
Total .....	\$3,806,676	\$1,693	\$35	\$80,221



## 5. Marketable Securities and Investment Securities

Held-to-maturity debt securities at March 31, 2017 and 2016 were as follows:

At March 31, 2017	Millions of yen		
	Carrying value	Fair value	Unrealized gain (loss)
Securities whose fair value exceeds their carrying value:			
Public bonds .....	¥ 258	¥ 259	¥ 1
Corporate bonds .....	1,000	1,004	4
Other .....	3,000	3,184	184
Securities whose carrying value exceeds their fair value:			
Public bonds .....	—	—	—
Corporate bonds .....	2,999	2,999	—
Other .....	7,590	7,301	(288)
Total .....	¥14,847	¥14,749	¥ (98)

At March 31, 2016	Millions of yen		
	Carrying value	Fair value	Unrealized gain (loss)
Securities whose fair value exceeds their carrying value:			
Public bonds .....	¥ 321	¥ 323	¥ 1
Corporate bonds .....	1,000	1,012	12
Other .....	3,000	3,187	187
Securities whose carrying value exceeds their fair value:			
Public bonds .....	—	—	—
Corporate bonds .....	—	—	—
Other .....	10,860	10,707	(152)
Total .....	¥15,181	¥15,231	¥ 50

At March 31, 2017	Thousands of U.S. dollars		
	Carrying value	Fair value	Unrealized gain (loss)
Securities whose fair value exceeds their carrying value:			
Public bonds .....	\$ 2,299	\$ 2,308	\$ 8
Corporate bonds .....	8,913	8,949	35
Other .....	26,740	28,380	1,640
Securities whose carrying value exceeds their fair value:			
Public bonds .....	—	—	—
Corporate bonds .....	26,731	26,731	—
Other .....	67,653	65,077	(2,567)
Total .....	\$132,337	\$131,464	\$ (873)

Other securities at March 31, 2017 and 2016 were as follows:

At March 31, 2017	Millions of yen		
	Acquisition cost	Carrying value	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition cost:			
Stock .....	¥13,337	¥22,343	¥9,006
Securities whose acquisition cost exceeds their carrying value:			
Stock .....	3,766	3,602	(164)
Other .....	—	—	—
Total .....	¥17,103	¥25,945	¥8,841

At March 31, 2016	Millions of yen		
	Acquisition cost	Carrying value	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition cost:			
Stock .....	¥ 8,698	¥15,873	¥ 7,175
Securities whose acquisition cost exceeds their carrying value:			
Stock .....	8,784	7,051	(1,732)
Other .....	39,000	39,000	—
Total .....	¥56,482	¥61,925	¥ 5,442

At March 31, 2017	Thousands of U.S. dollars		
	Acquisition cost	Carrying value	Unrealized gain (loss)
Securities whose carrying value exceeds their acquisition cost:			
Stock .....	\$118,878	\$199,153	\$80,274
Securities whose acquisition cost exceeds their carrying value:			
Stock .....	33,568	32,106	(1,461)
Other .....	—	—	—
Total .....	\$152,446	\$231,259	\$78,803

## 6. Derivatives

### (a) Derivative transactions to which hedge accounting was not applied

With respect to purchase amount and the valuation gain or loss of compound financial instruments, please refer to Note 4 and 5.

### (b) Derivative transactions to which hedge accounting was applied at March 31, 2017 and 2016 were as follows:

Interest-rate swaps:

At March 31, 2017	Hedged item	Millions of yen			
		Contract amount total	due after one year	Fair value	
Basic treatment:					
	Pay fixed / Receive floating	Long-term loans	¥130,377	¥112,525	¥(2,612)*1
Special treatment:					
	Receive fixed / Pay floating	Bonds	30,000	30,000	*2
	Pay fixed / Receive floating	Long-term loans	75,000	75,000	
Total			¥235,377	¥217,525	¥(2,612)

At March 31, 2016	Hedged item	Millions of yen		
		Contract amount		Fair value
		total	due after one year	
Basic treatment:				
Pay fixed / Receive floating	Long-term loans	¥132,655	¥118,862	¥(3,822)*1
Special treatment:				
Receive fixed / Pay floating	Bonds	30,000	30,000	*2
Pay fixed / Receive floating	Long-term loans	75,000	75,000	
Total		<u>¥237,655</u>	<u>¥223,862</u>	<u>¥(3,822)</u>

At March 31, 2017	Hedged item	Thousands of U.S. dollars		
		Contract amount		Fair value
		total	due after one year	
Basic treatment:				
Pay fixed / Receive floating	Long-term loans	\$1,162,108	\$1,002,986	\$(23,281)*1
Special treatment:				
Receive fixed / Pay floating	Bonds	267,403	267,403	*2
Pay fixed / Receive floating	Long-term loans	668,508	668,508	
Total		<u>\$2,098,021</u>	<u>\$1,938,898</u>	<u>\$(23,281)</u>

\*1. The fair value of derivative transactions is measured at the quoted price obtained from the financial institution.

\*2. Interest-rate swaps subject to special treatment permitted by the accounting standards for financial instruments are accounted for together with the hedged bonds and long-term loans; therefore, the fair values of interest-rate swaps are included in the fair values of those bonds and long-term loans.

## 7. Cash Flow Information

For the consolidated statements of cash flows, reconciliation between cash and cash equivalents and cash balances on the consolidated balance sheets as of March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Cash and deposits .....	<u>¥224,112</u>	¥218,114	<u>\$1,997,611</u>
Time deposits with maturities of more than three months ...	(2,097)	(1,067)	(18,691)
Short-term investments with an original maturity within three months included in other current assets .....	6,247	45,429	55,682
Cash and cash equivalents ...	<u>¥228,262</u>	<u>¥262,476</u>	<u>\$2,034,602</u>

## 8. Inventories

Details of inventories are as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Commercial products and finished goods ...	¥ 6,291	¥ 5,931	\$ 56,074
Work in process .....	7,000	5,677	62,394
Raw materials and supplies .....	49,619	57,138	442,276
Total .....	<u>¥62,911</u>	<u>¥68,747</u>	<u>\$560,754</u>

## 9. Notes and Accounts Receivable – Trade

Notes and accounts receivable – trade at March 31, 2017 and 2016 consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Notes and accounts receivable – trade ...	¥197,259	¥204,042	\$1,758,258
Less allowance for doubtful accounts ...	(450)	(2,004)	(4,011)
Total .....	<u>¥196,809</u>	<u>¥202,037</u>	<u>\$1,754,247</u>

## 10. Revaluation Reserve for Land

In accordance with “Act on Revaluation of Land” (Act No. 34 issued on March 31, 1998), the land used for business owned by consolidated subsidiaries was valued, and the unrealized gain on the revaluation of land, net of deferred tax, was recorded as “Revaluation reserve for land” within net assets, and the relevant deferred tax was recorded as “Deferred tax liabilities for land revaluation” in liabilities.

### (a) The method of revaluation was as follows:

Under Article 2.4, “Order for Enforcement of the Act on Revaluation of Land,” the land price for the valuation was determined based on the official notice prices assessed and published by the Commissioner of National Tax Agency of Japan as basis for calculation of Landholding Tax as stipulated in article 16 of the Landholding Tax Law. Appropriate adjustments for the shape of land and the timing of the assessment have been made.

### (b) Revaluation Date: March 31, 2002

The difference between the total book value after revaluation and the total fair values as of March 31, 2017 and 2016 were ¥4,909 million (\$43,756 thousand) and ¥5,150 million, respectively.

## 11. Long-Term Debt

At March 31, 2017 and 2016, long-term debt with definite repayment schedule consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Bonds in yen due through 2036	¥ 900,240	¥ 880,467	\$ 8,024,244
Loans from banks and other financial institutions due through 2036	1,516,092	1,546,342	13,513,610
Other	12,643	13,460	112,692
Subtotal	2,428,977	2,440,271	21,650,566
Less current portion	(251,286)	(313,365)	(2,239,825)
Total	¥2,177,690	¥2,126,905	\$19,410,731

Long-term debt payments fall due subsequent to March 31, 2017 were as follows:

Years ending March 31,	Millions of yen	Thousands of U.S. dollars
2018	¥ 251,286	\$ 2,239,825
2019	361,634	3,223,406
2020	309,176	2,755,824
2021	340,258	3,032,872
2022	240,282	2,141,741
2023 and thereafter	926,339	8,256,876
Total	¥2,428,977	\$21,650,566

All assets of the Company are subject to certain statutory preferential rights established to secure the bonds and loans from the Development Bank of Japan Incorporated.

Certain of the agreements relating to long-term debt stipulate that the Company is required to submit proposals for the appropriation of retained earnings and to report other significant matters, if requested by the lenders, for their review and approval prior to presentation to the shareholders. No such requests have ever been made.

Secured long-term debt at March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Bonds	¥899,700	¥879,700	\$8,019,431
Long-term loans	389,180	404,984	3,468,936

The assets of certain consolidated subsidiaries pledged as collateral for the above long-term debt at March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Land	¥12,467	¥12,488	\$111,123
Structures	23,051	23,936	205,463
Machinery and equipment	7,860	7,501	70,059
Other	7,930	8,413	70,683
Total	¥51,309	¥52,339	\$457,340

The assets pledged as collateral for the loans of a company, which was invested by the Company at March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Long-term investments	¥254	—	\$2,264

## 12. Retirement Benefit Plans

The Company and certain of its subsidiaries have either funded or unfunded defined benefit plans and defined contribution plans, which together cover substantially all full-time employees who meet certain eligibility requirements.

### (a) Defined benefit plans (excluding plans calculated in simple and easy ways)

The changes in the defined benefit obligation during the years ended March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Balance as of beginning of the period	¥503,514	¥452,844	\$4,488,047
Service cost	14,504	12,898	129,280
Interest cost	2,467	5,801	21,989
Actuarial loss	1,270	55,668	11,320
Retirement benefit paid	(23,420)	(24,261)	(208,753)
Prior service cost	—	1	—
Other	211	562	1,880
Balance as of end of the period	¥498,548	¥503,514	\$4,443,782

The change in plan assets during the years ended March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Balance as of beginning of the period	¥319,900	¥323,116	\$2,851,412
Expected return on plan assets	9,828	10,183	87,601
Actuarial gain	26	(4,883)	231
Contribution by the companies	5,539	5,545	49,371
Retirement benefit paid	(14,199)	(14,241)	(126,562)
Other	178	179	1,586
Balance as of end of the period	¥321,274	¥319,900	\$2,863,659

The following table sets forth the funded and accrued status of the plans, and the amounts recognized in the consolidated balance sheets at March 31, 2017 and 2016 for the Company's and the consolidated subsidiaries' defined benefit plans:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Defined benefit obligation under funded plans	¥ 357,832	¥ 360,035	\$ 3,189,517
Plan asset at fair value	(321,274)	(319,900)	(2,863,659)
	36,557	40,134	325,849
Defined benefit obligation under unfunded plans	140,716	143,479	1,254,265
Net amount of liabilities and assets for defined benefits on consolidated balance sheet	177,274	183,613	1,580,123
Net defined benefit liability	179,961	185,754	1,604,073
Net defined benefit asset	(2,687)	(2,140)	(23,950)
Net amount of liabilities and assets for defined benefits on consolidated balance sheet	¥ 177,274	¥ 183,613	\$ 1,580,123

The components of retirement benefit expenses for the years ended March 31, 2017 and 2016 were outlined as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Service cost	¥14,504	¥12,898	\$129,280
Interest cost	2,467	5,801	21,989
Expected return on plan assets	(9,828)	(10,183)	(87,601)
Amortization of unrecognized actuarial gain	12,272	(16,189)	109,385
Amortization of unrecognized prior service cost	47	52	418
Other	1,683	1,297	15,001
Retirement benefit expenses for defined benefit plans	¥21,147	¥ (6,323)	\$188,492

The components of remeasurements of defined benefit plans for the years ended March 31, 2017 and 2016 were outlined as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Prior service cost	¥ 47	¥ 50	\$ 418
Actuarial loss	11,028	(76,741)	98,297
Total	¥11,075	¥(76,691)	\$98,716

Unrecognized actuarial gain/loss and unrecognized prior service cost included in accumulated other comprehensive income as of March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Unrecognized prior service cost	¥ 176	¥ 223	\$ 1,568
Unrecognized actuarial loss	35,216	46,244	313,896
Total	¥35,392	¥46,468	\$315,464

The fair value of plan assets by major category, as a percentage of total plan assets as of March 31, 2017 and 2016 were as follows:

	2017	2016
Bonds	50%	52%
Assets in general account	23%	23%
Stocks	26%	24%
Other	1%	1%
Total	100%	100%

The expected return on plan assets has been estimated based on the current and anticipated allocation of plan assets, and expected rates of long-term return on various assets in each category.

The principal assumptions used in actuarial calculation were as follows:

	2017	2016
Discount rates	0.0%~1.2%	0.0%~1.2%
Expected rates of long-term return on plan assets	0.0%~3.3%	0.0%~3.4%

**(b) Defined benefit plans (calculated in simple and easy ways)**

The changes in the defined benefit obligation by simple and easy method during the years ended March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Balance as of beginning of the period	¥5,233	¥5,267	\$46,644
Retirement benefit expenses	843	904	7,514
Retirement benefit paid	(674)	(599)	(6,007)
Contribution to the plans	(113)	(103)	(1,007)
Other	—	(235)	—
Balance as of end of the period	¥5,290	¥5,233	\$47,152

The following table sets forth the funded and accrued status of the plans, and the amounts recognized in the consolidated balance sheets at March 31, 2017 and 2016 for the Company's and the consolidated subsidiaries' defined benefit plans calculated in simple and easy ways:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Defined benefit obligation under funded plans	¥ 1,711	¥ 1,689	\$ 15,250
Plan asset at fair value	(1,734)	(1,691)	(15,455)
	(23)	(1)	(205)
Defined benefit obligation under unfunded plans	5,313	5,235	47,357
Net amount of liabilities and assets for defined benefits on consolidated balance sheet	5,290	5,233	47,152
Net defined benefit liability	5,326	5,272	47,473
Net defined benefit asset	(36)	(38)	(320)
Net amount of liabilities and assets for defined benefits on consolidated balance sheet	¥ 5,290	¥ 5,233	\$ 47,152

Retirement benefit expenses calculated in simple and easy ways for the years ended March 31, 2017 and 2016 were as follows:

Millions of yen		Thousands of U.S. dollars
2017	2016	2017
¥843	¥904	\$7,514

### (c) Defined contribution plans

Required contribution by the Company and its consolidated subsidiaries for the years ended March 31, 2017 and 2016 were as follows:

Millions of yen		Thousands of U.S. dollars
2017	2016	2017
¥1,702	¥1,721	\$15,170

## 13. Asset Retirement Obligations

### (a) Overview of asset retirement obligations

With regards to decommissioning of specified nuclear power units provided mainly in Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors, related asset retirement obligations are recognized. Item 8, the "Guidance on Accounting Standard for Asset Retirement Obligations," is applied to the assets corresponding to asset retirement obligations concerning decommissioning of specified nuclear power units based on the rules of the Ministerial Ordinance for Reserve for Decommissioning Costs of Nuclear Power Units (a ministerial ordinance by the Ministry of Economy, Trade and Industry No. 30 issued in 1989), the total estimate of decommissioning costs of nuclear power units is recognized by the straight-line method over the expected running period and safety storage period of nuclear power units.

### (b) The calculation method for the amounts of asset retirement obligations

Assuming the expected periods of operation and storage for safety of power supply facilities as provided mainly by the Ministerial Ordinance for Reserve for Decommissioning Costs of Nuclear Power Units (a ministerial ordinance by the Ministry of Economy, Trade and Industry) as estimated utility periods, the amount of asset retirement obligations is recognized by using the discount rate of 2.3%.

### (c) Increase/decrease in the total amount of asset retirement obligations for the fiscal years ended March 31, 2017 and 2016.

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Balance as of beginning of the period .....	¥119,947	¥111,465	\$1,069,141
Net changes .....	806	8,481	7,184
Ending balance .....	¥120,754	¥119,947	\$1,076,334

## 14. Stock Options

At the Board of Directors meeting held on June 29, 2010, the Company resolved to grant share subscription rights to its directors as equity-settled share-based compensation type stock option plans pursuant to the Companies Act.

Expenses related to stock options in the amount of ¥241 million (\$2,148 thousand) and ¥252 million were recorded under share-based compensation expenses of electric power operating expenses for the years ended March 31, 2017 and 2016, respectively.

The stock options outstanding as of March 31, 2017 were as follows:

	2011 Stock Option	2012 Stock Option	2013 Stock Option
Individuals covered by the plan	17 directors of the Company and 24 executive officers of the Company	17 directors of the Company and 23 executive officers of the Company	16 directors of the Company and 24 executive officers of the Company
Type and number of shares to be issued upon the exercise of the share subscription rights*	165,400 shares of capital stock of the Company	286,900 shares of capital stock of the Company	297,500 shares of capital stock of the Company
Date of grant	August 2, 2010	August 1, 2011	August 1, 2012
Vesting conditions	Not defined	Not defined	Not defined
Eligible service period	Not defined	Not defined	Not defined
Exercise period	From August 3, 2010 to August 2, 2035	From August 2, 2011 to August 1, 2036	From August 2, 2012 to August 1, 2037

	2014 Stock Option	2015 Stock Option	2016 Stock Option
Individuals covered by the plan	15 directors of the Company (excluding an outside director) and 24 executive officers of the Company	15 directors of the Company (excluding an outside director) and 25 executive officers of the Company	15 directors of the Company (excluding an outside director) and 23 executive officers of the Company
Type and number of shares to be issued upon the exercise of the share subscription rights*	218,300 shares of capital stock of the Company	242,300 shares of capital stock of the Company	147,500 shares of capital stock of the Company
Date of grant	August 1, 2013	August 1, 2014	August 3, 2015
Vesting conditions	Not defined	Not defined	Not defined
Eligible service period	Not defined	Not defined	Not defined
Exercise period	From August 2, 2013 to August 1, 2038	From August 2, 2014 to August 1, 2039	From August 4, 2015 to August 3, 2040

	2017 Stock Option
Individuals covered by the plan	14 directors of the Company (excluding outside directors) and 27 executive officers of the Company
Type and number of shares to be issued upon the exercise of the share subscription rights*	195,400 shares of capital stock of the Company
Date of grant	August 1, 2016
Vesting conditions	Not defined
Eligible service period	Not defined
Exercise period	From August 2, 2016 to August 1, 2041

\* Number of stock options is converted into number of shares.

The change in the size of stock options was follows:

	Shares						2017 Stock Option
	2011 Stock Option	2012 Stock Option	2013 Stock Option	2014 Stock Option	2015 Stock Option	2016 Stock Option	
<b>Non-vested</b>							
as of March 31, 2016							
- Outstanding	25,100	68,700	113,400	110,800	170,400	147,500	—
Granted	—	—	—	—	—	—	195,400
Forfeited	—	—	—	—	—	—	—
Vested	3,000	6,900	13,800	14,400	24,800	20,200	—
as of March 31, 2017							
- Outstanding	22,100	61,800	99,600	96,400	145,600	127,300	195,400
<b>Vested</b>							
as of March 31, 2016							
- Outstanding	—	—	—	—	—	—	—
Vested	3,000	6,900	13,800	14,400	24,800	20,200	—
Exercised	3,000	6,900	13,800	14,400	24,800	20,200	—
Forfeited	—	—	—	—	—	—	—
as of March 31, 2017							
- Outstanding	—	—	—	—	—	—	—

Unit price information is as follows:

	Yen		U.S. dollars		Yen		U.S. dollars		Yen		U.S. dollars	
	2011	Stock	2012	Stock	2013	Stock	2014	Stock	2015	Stock	2016	Stock
	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
Exercise price	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008
Weighted average exercise price	1,303	11.614	1,303	11.614	1,303	11.614	1,303	11.614	1,303	11.614	1,303	11.614
Weighted average fair value per stock at the granted date	1,608	14.332	821	7.317	480	4.278						

	Yen		U.S. dollars		Yen		U.S. dollars		Yen		U.S. dollars	
	2014	Stock	2015	Stock	2016	Stock	2016	Stock	2016	Stock	2016	Stock
	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
Exercise price	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008	¥ 1	\$ 0.008
Weighted average exercise price	1,303	11.614	1,303	11.614	1,303	11.614	1,303	11.614	1,303	11.614	1,303	11.614
Weighted average fair value per stock at the granted date	1,229	10.954	1,155	10.295	1,713	15.268						

	Yen		U.S. dollars	
	2017	Stock	2017	Stock
	Option	Option	Option	Option
Exercise price	¥ 1	\$ 0.008		
Weighted average exercise price	—	—		
Weighted average fair value per stock at the granted date	1,234	10.999		

The estimation method of the fair value of 2017 Stock Option granted in the year ended March 31, 2017 is as follows:

I. The valuation technique used is the Black-Scholes Option pricing model.

II. Assumption used:

Stock price volatility*1	39.019%
Expected period*2	3.996 years
Expected cash dividend*3	¥25 (\$0.222) per share
Risk-free interest rate*4	(0.253)%

\* 1. Stock price volatility is computed based on the past stock prices during the period (From August 2012 to August 2016) corresponding to the expected remaining

period (3.996 years).

\*2. Estimation is made based on weighted-averaging of the expected remaining service period of each individual to whom subscription rights to shares were granted by the number of subscription rights to shares granted, after calculating the average age of leaving office for each position over the past ten years.

\*3. Actual cash dividend for the fiscal year ended March 31, 2016.

\*4. Risk-free interest rate refers to yields of Japanese government bonds corresponding to the expected remaining period.

Estimation method of the number of vested stock options

Since it is difficult to estimate the number of stock options to be forfeited in the future on a reasonable basis, the number of the vested options reflects the number of options that have actually forfeited.

## 15. Income Taxes

The Company and consolidated subsidiaries operating electric power business are subject to several taxes based on earnings, which, in the aggregate, resulted in a statutory tax rate of approximately 28% for 2017 and 29% for 2016. Other major consolidated subsidiaries are subject to several taxes based on earnings, which, in the aggregate, resulted in a statutory tax rate of approximately 31% for 2017 and 33% for 2016.

The significant components of deferred tax assets and liabilities at March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
<b>Deferred tax assets:</b>			
Net defined benefit liability	¥ 52,271	¥ 53,856	\$ 465,914
Intercompany profits	26,612	26,342	237,204
Deferred revenues	25,729	27,798	229,334
Tax loss carryforwards	23,211	33,420	206,890
Asset retirement obligations	15,667	15,888	139,647
Other	91,281	96,487	813,628
	234,774	253,793	2,092,646
Valuation allowance	(39,114)	(40,678)	(348,640)
Total deferred tax assets	195,659	213,115	1,743,996
<b>Deferred tax liabilities:</b>			
Assets corresponding to asset retirement obligations	(8,969)	(9,526)	(79,944)
Valuation difference on available-for-sale securities	(2,542)	(2,037)	(22,657)
Other	(1,157)	(656)	(10,312)
Total deferred tax liabilities	(12,668)	(12,221)	(112,915)
Net deferred tax assets	¥182,990	¥200,893	\$1,631,072

The effective tax rates reflected in the accompanying consolidated statements of income differed from the statutory tax rates for the years ended March 31, 2017 and 2016 for the following reasons:

	2017*	2016
Statutory tax rates .....	—	28.68%
Effect of:		
Downward adjustments of deferred tax assets at the year end due to the change in corporate tax rates .....	—	2.93
Other, net .....	—	(0.06)
Effective tax rates .....	<u>—</u>	<u>31.55%</u>

\* In the year ended March 31, 2017, the difference between statutory tax rates and effective tax rates was immaterial, thus these figures were omitted.

## 16. Shareholders' Equity

The Corporation Law of Japan (the "Law") provides that an amount equal to 10% of the amount to be disbursed as distributions of capital surplus (other than the capital reserve) and retained earnings (other than the legal reserve) be transferred to the capital reserve and the legal reserve, respectively, until the sum of the capital reserve and the legal reserve equals 25% of the capital stock account. Such distributions can be made at any time by resolution of the shareholders, or by the Board of Directors if certain conditions are met, but neither the capital reserve nor the legal reserve is available for distributions.

The legal reserve of ¥62,860 million (\$560,299 thousand) was included in retained earnings in the accompanying consolidated financial statements for the year ended March 31, 2017.

## 17. Operating Expenses

Electric utility operating expenses for the years ended March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Personnel .....	¥ 149,394	¥ 118,299	\$ 1,331,616
Fuel .....	319,049	413,981	2,843,827
Maintenance .....	193,890	191,351	1,728,228
Subcontracting fees .....	49,002	50,366	436,776
Depreciation .....	204,106	220,853	1,819,288
Purchased power .....	352,015	374,240	3,137,668
Taxes other than income taxes .....	83,992	85,104	748,658
Other .....	267,254	232,172	2,382,155
Total .....	<u>¥1,618,706</u>	<u>¥1,686,371</u>	<u>\$14,428,255</u>

## 18. Research and Development Costs

Research and development costs for the years ended March 31, 2017 and 2016 were ¥8,821 million (\$78,625 thousand) and ¥7,205 million, respectively.

## 19. Contingent Liabilities

Contingent liabilities at March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Guarantees of bonds and loans of other companies:			
Japan Nuclear Fuel Limited .....	¥ 68,771	¥ 71,472	\$ 612,986
The Japan Atomic Power Company and other companies .....	11,207	11,964	99,893
Guarantees of housing loans for employees .....	106	140	944
Guarantees for transactions of affiliates and other companies .....	4,468	2,121	39,825
Recourse under debt assumption agreements .....	<u>229,700</u>	<u>310,300</u>	<u>2,047,419</u>

## 20. Amounts Per Share

Basic net income per share is computed based on the net income available for distribution to shareholders of capital stock and the weighted-average number of shares of capital stock outstanding during the year. Diluted net income per share is computed based on the net income available for distribution to the shareholders and the weighted-average number of shares of capital stock outstanding during the year assuming full conversion of the convertible bonds. Net assets per share are computed based on the net assets available for distribution to the shareholders and the number of shares of capital stock outstanding at the year end.

The amounts per share for the years ended March 31, 2017 and 2016 were as follows:

	yen		U.S. dollars
Years ended March 31,	2017	2016	2017
Net income:			
Basic .....	¥140.10	¥195.01	\$1.248
Diluted .....	132.86	191.46	1.184
Cash dividends applicable to the year .....	¥ 35.00	¥ 25.00	\$0.311

	yen		U.S. dollars
At March 31,	2017	2016	2017
Net assets .....	<u>¥1,392.24</u>	<u>¥1,261.40</u>	<u>\$12.409</u>

## 21. Consolidated Statements of Comprehensive Income

The components of other comprehensive income for the years ended March 31, 2017 and 2016 were as follows:

	Millions of yen		Thousands of
	2017	2016	U.S. dollars
Valuation difference on available-for-sale securities:			
Amount recorded during the fiscal year .....	<b>¥ 3,006</b>	¥ (5,835)	<b>\$ 26,793</b>
Reclassification adjustments .....	<b>381</b>	0	<b>3,396</b>
Before income tax effect .....	<b>3,387</b>	(5,834)	<b>30,189</b>
Income tax effect .....	<b>(850)</b>	1,516	<b>(7,576)</b>
Valuation difference on available-for-sale securities .....	<b>2,537</b>	(4,318)	<b>22,613</b>
Deferred gains (losses) on hedges:			
Amount recorded during the fiscal year .....	<b>1,632</b>	(1,787)	<b>14,546</b>
Reclassification adjustments .....	<b>913</b>	878	<b>8,137</b>
Asset at cost adjustments .....	<b>(1,335)</b>	—	<b>(11,899)</b>
Before income tax effect .....	<b>1,210</b>	(909)	<b>10,785</b>
Income tax effect .....	<b>(338)</b>	231	<b>(3,012)</b>
Deferred gains (losses) on hedges .....	<b>871</b>	(677)	<b>7,763</b>
Revaluation reserve for land:			
Income tax effect .....	—	75	—
Foreign currency translation adjustments:			
Amount recorded during the fiscal year .....	<b>(377)</b>	(136)	<b>(3,360)</b>
Remeasurements of defined benefit plans:			
Amount recorded during the fiscal year .....	<b>(1,252)</b>	(60,452)	<b>(11,159)</b>
Reclassification adjustments .....	<b>12,328</b>	(16,238)	<b>109,885</b>
Before income tax effect .....	<b>11,075</b>	(76,691)	<b>98,716</b>
Income tax effect .....	<b>(3,057)</b>	21,096	<b>(27,248)</b>
Remeasurements of defined benefit plans .....	<b>8,018</b>	(55,594)	<b>71,468</b>
Share of other comprehensive income of entities accounted for using equity method:			
Amount recorded during the fiscal year .....	<b>2</b>	(2)	<b>17</b>
Total other comprehensive income .....	<b>¥11,051</b>	¥(60,653)	<b>\$ 98,502</b>



## 22. Segment Information

### (a) Overview of reportable segments

The reportable segments of the Company and its consolidated subsidiaries are those units for which separate financial statements can be obtained among the constituent units of the Company and its consolidated subsidiaries and which are regularly examined by the Council of Managing Directors for decisions on the allocation of management resources and for assessing business performance.

The Company and its consolidated subsidiaries have operations as an energy service conglomerate with a core of electric power business.

The Company and its consolidated subsidiaries consist of segments based upon energy services and thus the Company designates two segments: the electric power business and the construction business as reportable segment. The electric power business segment involves the electric power supply business. The construction business segment consists of business related to the construction of electrical, telecommunication facilities and buildings, civil engineering, the design and manufacture of electricity supply facilities, and business related to the research, survey and analysis concerning environment preservation.

### (b) Basis for calculating sales, profit and loss, assets and other items by reportable segment

The method for accounting process of reportable segments is equivalent to the method described in Note 1 "Summary of Significant Accounting Policies." Segment performance is evaluated based on operating income or loss. Intersegment sales recorded are based on the third party transaction prices.

### (c) Information on amounts of sales, profit or loss, assets and other items by reportable segment

The segment information of the Company and its consolidated subsidiaries for the years ended March 31, 2017 and 2016 were summarized as follows:

Year ended March 31, 2017	Millions of yen						Reconciling item*	Consolidated total
	Reportable segment			Other	Total			
	Electric power business	Construction business	Subtotal	Other	Total			
Net sales:								
(1) Net sales to external customers	¥1,727,228	¥138,043	¥1,865,271	¥ 84,312	¥1,949,584	¥ —	¥1,949,584	
(2) Net intersegment sales	3,047	158,822	161,870	130,785	292,655	(292,655)	—	
Total	1,730,275	296,865	2,027,141	215,098	2,242,240	(292,655)	1,949,584	
Segment profit	¥ 101,265	¥ 16,633	¥ 117,899	¥ 14,429	¥ 132,328	¥ (1,905)	¥ 130,422	
Segment assets	¥3,826,844	¥243,796	¥4,070,641	¥361,229	¥4,431,871	¥(285,942)	¥4,145,928	
Other items:								
Depreciation	¥ 211,108	¥ 4,357	¥ 215,466	¥ 18,049	¥ 233,516	¥ (7,492)	¥ 226,024	
Increase in property, plant, equipment and intangible assets	¥ 274,613	¥ 6,094	¥ 280,708	¥ 20,213	¥ 300,921	¥ (8,896)	¥ 292,025	

Year ended March 31, 2016	Millions of yen						Reconciling item*	Consolidated total
	Reportable segment			Other	Total			
	Electric power business	Construction business	Subtotal	Other	Total			
Net sales:								
(1) Net sales to external customers	¥1,853,258	¥143,823	¥1,997,081	¥ 98,506	¥2,095,587	¥ —	¥2,095,587	
(2) Net intersegment sales	3,012	154,860	157,873	135,539	293,413	(293,413)	—	
Total	1,856,271	298,683	2,154,955	234,046	2,389,001	(293,413)	2,095,587	
Segment profit	¥ 157,714	¥ 18,003	¥ 175,718	¥ 15,266	¥ 190,984	¥ (1,225)	¥ 189,759	
Segment assets	¥3,829,691	¥245,530	¥4,075,222	¥352,912	¥4,428,134	¥(275,698)	¥4,152,436	
Other items:								
Depreciation	¥ 227,760	¥ 3,927	¥ 231,688	¥ 17,962	¥ 249,650	¥ (7,268)	¥ 242,381	
Increase in property, plant, equipment and intangible assets	¥ 295,590	¥ 6,533	¥ 302,124	¥ 17,710	¥ 319,834	¥ (7,440)	¥ 312,394	

Year ended March 31, 2017	Thousands of U.S. dollars					Reconciling item*	Consolidated total
	Reportable segment			Other	Total		
	Electric power business	Construction business	Subtotal				
Net sales:							
(1) Net sales to external customers .....	\$15,395,561	\$1,230,439	\$16,626,000	\$ 751,510	\$17,377,520	\$ —	\$17,377,520
(2) Net intersegment sales .....	27,159	1,415,652	1,442,820	1,165,745	2,608,565	(2,608,565)	—
Total .....	15,422,720	2,646,091	18,068,820	1,917,265	19,986,095	(2,608,565)	17,377,520
Segment profit .....	\$ 902,620	\$ 148,257	\$ 1,050,886	\$ 128,612	\$ 1,179,499	\$ (16,980)	\$ 1,162,510
Segment assets .....	\$34,110,384	\$2,173,063	\$36,283,456	\$3,219,796	\$39,503,262	\$(2,548,729)	\$36,954,523
Other items:							
Depreciation .....	\$ 1,881,700	\$ 38,835	\$ 1,920,545	\$ 160,878	\$ 2,081,433	\$ (66,779)	\$ 2,014,653
Increase in property, plant, equipment and intangible assets .....	\$ 2,447,749	\$ 54,318	\$ 2,502,076	\$ 180,167	\$ 2,682,244	\$ (79,294)	¥ 2,602,950

\* Reconciling item includes eliminations of intersegment transactions and other factors.

(Related information)

**(a) Information by product and service:**

This information is omitted, since similar information is described above.

**(b) Information by area:**

I. Net sales

This information is omitted, since sales to external customers in Japan exceed 90% of net sales on the consolidated statements of income.

II. Property, plant and equipment

This information is omitted, since amount of property, plant and equipment in Japan exceed 90% of property, plant and equipment on the consolidated statements of balance sheet.

**(c) Information by major customer:**

Disclosure is omitted, since there are no customers to whom sales exceed 10% of net sales on the consolidated statements of income.

**(d) Information on impairment loss on fixed assets by reportable segment:**

This information is omitted, since this information is of less importance.

**(e) Information on amortization of goodwill and amortized balance by reportable segment:**

None applicable

**(f) Information on gain on negative goodwill by reportable segment:**

None applicable

## 23. Related Party Transactions

Significant transactions of the Company with directors, audit & supervisory board members for the years ended March 31, 2017 and 2016 were as follows:

Satoshi Seino (Outside Director of the Board)

Transactions:	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Payment of membership dues .....	¥15	¥15	\$133
Balances .....	—	—	—

Satoshi Seino, who is an outside Director of the Board, is also concurrently the Chairman of Tohoku Tourism Promotion Organization. The Company paid the membership due to the organization as the Company assents the activity purpose. Transaction amounts do not include consumption taxes.

Takashi Sasaki (Standing Audit & Supervisory Board Member)

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
Transactions:			
Exercise of stock options .....	¥24	—	\$213
Balances .....	—	—	—

Takashi Sasaki, who is a Standing Audit & Supervisory Board Member of the Company, exercised stock option granted. Transaction amounts do not include consumption taxes.

## 24. Subsequent Event

The following appropriations of retained earnings, which have not been reflected in the accompanying consolidated financial statements, were approved at a meeting of the shareholders of the Company held on June 28, 2017:

	Millions of yen	Thousands of U.S. dollars
Year-end cash dividends (¥20 = U.S.\$0.178 per share) .....	¥9,979	\$88,947



Ernst & Young ShinNihon LLC  
 Hibiya Kokusai Bldg.  
 2-2-3 Uchisaiwai-cho, Chiyoda-ku  
 Tokyo 100-0011, Japan

Tel: +81 3 3503 1100  
 Fax: +81 3 3503 1197  
 www.shinnihon.or.jp

## Independent Auditor's Report

The Board of Directors  
 Tohoku Electric Power Company, Incorporated

We have audited the accompanying consolidated financial statements of Tohoku Electric Power Company, Incorporated and its consolidated subsidiaries, which comprise the consolidated balance sheet as at March 31, 2017, and the consolidated statements of income, comprehensive income, changes in equity, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

### *Management's Responsibility for the Consolidated Financial Statements*

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for designing and operating such internal control as management determines is necessary to enable the preparation and fair presentation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditor's Responsibility*

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. The purpose of an audit of the consolidated financial statements is not to express an opinion on the effectiveness of the entity's internal control, but in making these risk assessments the auditor considers internal controls relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Opinion*

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Tohoku Electric Power Company, Incorporated and its consolidated subsidiaries as at March 31, 2017, and their consolidated financial performance and cash flows for the year then ended in conformity with accounting principles generally accepted in Japan.

### *Convenience Translation*

We have reviewed the translation of these consolidated financial statements into U.S. dollars, presented for the convenience of readers, and, in our opinion, the accompanying consolidated financial statements have been properly translated on the basis described in Note 2.

*Ernst & Young ShinNihon LLC*

June 28, 2017  
 Tokyo, Japan

# Non-consolidated Balance Sheets (Unaudited)

Tohoku Electric Power Co., Inc.  
March 31, 2017 and 2016

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
<b>Assets</b>			
<b>Property, plant and equipment</b> .....	<b>¥8,771,452</b>	¥8,620,180	<b>\$78,183,902</b>
Less accumulated depreciation .....	<b>(5,958,995)</b>	(5,843,788)	<b>(53,115,206)</b>
Property, plant and equipment, net .....	<b>2,812,457</b>	2,776,392	<b>25,068,695</b>
<b>Nuclear fuel:</b>			
Loaded nuclear fuel .....	<b>34,729</b>	34,729	<b>309,555</b>
Nuclear fuel in processing .....	<b>114,471</b>	109,891	<b>1,020,331</b>
Total nuclear fuel .....	<b>149,201</b>	144,621	<b>1,329,895</b>
<b>Investments in and advances to:</b>			
Subsidiaries and affiliates .....	<b>194,217</b>	195,250	<b>1,731,143</b>
Other .....	<b>95,269</b>	75,971	<b>849,175</b>
Total investments and advances .....	<b>289,487</b>	271,222	<b>2,580,328</b>
<b>Reserve fund for reprocessing of irradiated nuclear fuel</b> .....	—	69,340	—
<b>Deferred tax assets</b> .....	<b>80,500</b>	93,479	<b>717,532</b>
<b>Other assets</b> .....	<b>8,489</b>	9,359	<b>75,666</b>
<b>Current assets:</b>			
Cash and deposits .....	<b>139,096</b>	145,558	<b>1,239,825</b>
Accounts receivable, less allowance for doubtful accounts .....	<b>135,399</b>	133,147	<b>1,206,872</b>
Other accounts receivable .....	<b>95,944</b>	9,912	<b>855,192</b>
Short-term investments .....	—	39,000	—
Fuel and supplies .....	<b>42,063</b>	50,585	<b>374,926</b>
Deferred tax assets .....	<b>55,094</b>	58,414	<b>491,077</b>
Other current assets .....	<b>31,107</b>	40,850	<b>277,270</b>
Total current assets .....	<b>498,706</b>	477,469	<b>4,445,191</b>
<b>Total assets</b> .....	<b>¥3,838,843</b>	¥3,841,884	<b>\$34,217,336</b>

(U.S. dollar amounts are translated from yen, for convenience, at the rate of ¥112.19 = U.S. \$1.00, the approximate rate of exchange at March 31, 2017.)

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
<b>Liabilities and net assets</b>			
<b>Long-term debt</b> .....	<b>¥2,218,128</b>	¥2,169,541	<b>\$19,771,173</b>
<b>Provision for retirement benefits</b> .....	<b>114,604</b>	110,172	<b>1,021,517</b>
<b>Provision for reprocessing of irradiated nuclear fuel</b> .....	—	73,362	—
<b>Provision for preparation of reprocessing of irradiated nuclear fuel</b> .....	—	15,214	—
<b>Reserve for restoration costs of natural disaster</b> .....	<b>5,034</b>	5,245	<b>44,870</b>
<b>Asset retirement obligations</b> .....	<b>118,793</b>	117,980	<b>1,058,855</b>
<b>Current liabilities:</b>			
Current portion of non-current liabilities .....	<b>254,373</b>	318,441	<b>2,267,341</b>
Short-term loans payable .....	—	33,500	—
Commercial paper .....	<b>19,000</b>	11,000	<b>169,355</b>
Accounts payable .....	<b>110,221</b>	128,974	<b>982,449</b>
Accrued income taxes .....	—	9,838	—
Accrued expenses .....	<b>79,169</b>	70,335	<b>705,668</b>
Other advances .....	<b>239,263</b>	136,872	<b>2,132,658</b>
Reserve for restoration costs of natural disaster .....	<b>309</b>	373	<b>2,754</b>
Asset retirement obligations .....	<b>1,343</b>	1,713	<b>11,970</b>
Other current liabilities .....	<b>64,753</b>	73,547	<b>577,172</b>
Total current liabilities .....	<b>768,434</b>	784,596	<b>6,849,398</b>
<b>Net assets :</b>			
Shareholders' equity :			
Capital stock, without par value:			
Authorized — 1,000,000,000 shares			
Issued — 502,882,585 shares .....	<b>251,441</b>	251,441	<b>2,241,206</b>
Capital surplus .....	<b>26,657</b>	26,657	<b>237,605</b>
Retained earnings .....	<b>338,535</b>	293,663	<b>3,017,514</b>
Treasury shares, at cost; 3,914,835 shares in 2017 and 3,726,505 shares in 2016 .....	<b>(7,402)</b>	(7,169)	<b>(65,977)</b>
Total shareholders' equity .....	<b>609,232</b>	564,593	<b>5,430,359</b>
Valuation, translation adjustments:			
Valuation difference on available-for-sale securities .....	<b>5,619</b>	3,195	<b>50,084</b>
Deferred losses on hedges .....	<b>(1,883)</b>	(2,754)	<b>(16,784)</b>
Total valuation, translation adjustments .....	<b>3,735</b>	440	<b>33,291</b>
Subscription rights to shares .....	<b>879</b>	736	<b>7,834</b>
Total net assets .....	<b>613,847</b>	565,770	<b>5,471,494</b>
Total liabilities and net assets .....	<b>¥3,838,843</b>	¥3,841,884	<b>\$34,217,336</b>

(U.S. dollar amounts are translated from yen, for convenience, at the rate of ¥112.19 = U.S. \$1.00, the approximate rate of exchange at March 31, 2017.)

# Non-consolidated Statements of Income (Unaudited)

Tohoku Electric Power Co., Inc.

Years ended March 31, 2017 and 2016

	Millions of yen		Thousands of U.S. dollars
	2017	2016	2017
<b>Operating revenue</b>	<b>¥1,738,662</b>	¥1,868,862	<b>\$15,497,477</b>
<b>Operating expenses :</b>			
Personnel expenses	147,094	116,098	1,311,115
Fuel	309,470	404,387	2,758,445
Purchased power	391,343	417,473	3,488,216
Maintenance	192,275	190,596	1,713,833
Depreciation	206,691	223,193	1,842,329
Taxes, etc.	79,119	80,106	705,223
Subcontracting fees	49,952	51,658	445,244
Levy under Act on Purchase of Renewable Energy Sourced Electricity	137,472	96,203	1,225,349
Other	125,129	132,444	1,115,331
	<b>1,638,549</b>	1,712,163	<b>14,605,125</b>
<b>Operating income</b>	<b>100,113</b>	156,699	<b>892,352</b>
<b>Other expenses (income):</b>			
Interest and dividend income	(7,460)	(3,446)	(66,494)
Interest expenses	23,927	31,849	213,272
Other, net	3,163	8,372	28,193
	<b>19,630</b>	36,775	<b>174,971</b>
<b>Income before income taxes</b>	<b>80,483</b>	119,924	<b>717,381</b>
<b>Income taxes :</b>			
Current	5,440	11,817	48,489
Deferred	15,132	28,160	134,878
	<b>20,572</b>	39,978	<b>183,367</b>
<b>Net income</b>	<b>¥ 59,910</b>	¥ 79,946	<b>\$ 534,004</b>

(U.S. dollar amounts are translated from yen, for convenience, at the rate of ¥112.19 = U.S. \$1.00, the approximate rate of exchange at March 31, 2017.)

# Non-consolidated Statements of Changes in Equity (Unaudited)

Tohoku Electric Power Co., Inc.

Years ended March 31, 2017 and 2016

	Year ended March 31, 2017									
	Shareholders' equity					Valuation, translation adjustments				
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Total valuation and translation adjustments	Subscription rights to shares	Total net assets
	Millions of yen									
<b>Balance at April 1, 2016</b> .....	¥251,441	¥26,657	¥293,663	¥(7,169)	¥564,593	¥3,195	¥(2,754)	¥ 440	¥736	¥565,770
Dividends of surplus .....			(14,975)		(14,975)					(14,975)
Net income .....			59,910		59,910					59,910
Purchases of treasury shares .....				(397)	(397)					(397)
Disposal of treasury shares .....			(62)	163	101					101
Net changes in items other than shareholders' equity .....						2,423	871	3,295	143	3,438
<b>Balance at March 31, 2017</b> .....	<b>¥251,441</b>	<b>¥26,657</b>	<b>¥338,535</b>	<b>¥(7,402)</b>	<b>¥609,232</b>	<b>¥5,619</b>	<b>¥(1,883)</b>	<b>¥3,735</b>	<b>¥879</b>	<b>¥613,847</b>

	Year ended March 31, 2016									
	Shareholders' equity					Valuation, translation adjustments				
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Total valuation and translation adjustments	Subscription rights to shares	Total net assets
	Millions of yen									
<b>Balance at April 1, 2015</b> .....	¥251,441	¥26,657	¥224,017	¥(7,769)	¥494,347	¥ 7,319	¥(2,077)	¥ 5,242	¥809	¥500,398
Dividends of surplus .....			(9,980)		(9,980)					(9,980)
Net income .....			79,946		79,946					79,946
Purchases of treasury shares .....				(49)	(49)					(49)
Disposal of treasury shares .....			(320)	649	329					329
Net changes in items other than shareholders' equity .....						(4,214)	(677)	(4,801)	(72)	(4,874)
<b>Balance at March 31, 2016</b> .....	<b>¥251,441</b>	<b>¥26,657</b>	<b>¥293,663</b>	<b>¥(7,169)</b>	<b>¥564,593</b>	<b>¥ 3,195</b>	<b>¥(2,754)</b>	<b>¥ 440</b>	<b>¥736</b>	<b>¥565,770</b>

	Year ended March 31, 2017									
	Shareholders' equity					Valuation, translation adjustments				
	Capital stock	Capital surplus	Retained earnings	Treasury shares	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred losses on hedges	Total valuation and translation adjustments	Subscription rights to shares	Total net assets
	Thousands of U.S. dollars									
<b>Balance at April 1, 2016</b> .....	\$2,241,206	\$237,605	\$2,617,550	\$(63,900)	\$5,032,471	\$28,478	\$(24,547)	\$ 3,921	\$6,560	\$5,042,962
Dividends of surplus .....			(133,478)		(133,478)					(133,478)
Net income .....			534,004		534,004					534,004
Purchases of treasury shares .....				(3,538)	(3,538)					(3,538)
Disposal of treasury shares .....			(552)	1,452	900					900
Net changes in items other than shareholders' equity .....						21,597	7,763	29,369	1,274	30,644
<b>Balance at March 31, 2017</b> .....	<b>\$2,241,206</b>	<b>\$237,605</b>	<b>\$3,017,514</b>	<b>\$(65,977)</b>	<b>\$5,430,359</b>	<b>\$50,084</b>	<b>\$(16,784)</b>	<b>\$33,291</b>	<b>\$7,834</b>	<b>\$5,471,494</b>

(U.S. dollar amounts are translated from yen, for convenience, at the rate of ¥112.19 = U.S. \$1.00, the approximate rate of exchange at March 31, 2017.)



## < MEMO >

## Major Generation Plants (Non-consolidated basis)

(as of March 31, 2017)

## Thermal Power Stations

Name of Power Station	Unit	Authorized Maximum Capacity (MW)	Commencement of Commercial Operation	Major Fuel	Location
Hachinohe	No.5	416	Aug. 2014	Gas	Hachinohe, Aomori
	No.2	350	Feb. 1972		
Akita	No.3	350	Nov. 1974	Heavy Oil, Crude Oil	Akita, Akita
	No.4	600	Jul. 1980		
	No.5	333	Jun. 2012	Gas Oil	
Noshiro	No.1	600	May 1993	Coal	Noshiro, Akita
	No.2	600	Dec. 1994		
Sendai	No.4	446	Jul. 2010	Gas	Shichigahama, Miyagi
Shin-Sendai	No.3 Series	980	Dec. 2015 (Half) Jul. 2016 (Half)	Gas	Sendai, Miyagi
Haramachi	No.1	1,000	Jul. 1997	Coal	Minamisoma, Fukushima
	No.2	1,000	Jul. 1998		
Niigata	No.4	250	Aug. 1969	Gas	Niigata, Niigata
	No.5 Series	109	Jul. 2011		
Higashi-Niigata	No.1	600	Apr. 1977	Gas	Seiro, Niigata
	No.2	600	Jun. 1983		
	No.3 Series	1,210	Dec. 1984 (Half) Oct. 1985 (Half)		
	No.4 Series	1,700	Jul. 1999 (Half) Dec. 2006 (Half)		
	No.5	339	Jun. 2012		
	Minato No.1	350	Nov. 1972		
	Minato No.2	350	Nov. 1975		

## Nuclear Power Stations

Name of Power Station	Unit	Rated Generating Capacity (MW)	Commencement of Commercial Operation	Reactor Type	Location
Onagawa	No.1	524	Jun. 1984	BWR	Onagawa, Miyagi and Ishinomaki, Miyagi
	No.2	825	Jul. 1995		
	No.3	825	Jan. 2002		
Higashidori	No.1	1,100	Dec. 2005	BWR	Higashidori, Aomori

## Hydroelectric Power Stations (with a capacity of more than 60 MW)

Name of Power Station	Authorized Maximum Capacity (MW)	Commencement of Commercial Operation	Type	Location
Yakuwa	60.3	Mar. 1958	Dam and conduit	Tsuruoka, Yamagata
Hondoji	75	Jun. 1990	Dam and conduit	Nishikawa, Yamagata
Honna	78	Aug. 1954	Dam	Kaneyama, Fukushima
Uwada	63.9	Mar. 1954	Dam	Kaneyama, Fukushima
Numazawa No.2	460	May 1982	Pumped storage	Kaneyama, Fukushima
Miyashita	94	Dec. 1946	Dam and conduit	Mishima, Fukushima
Yanaizu	75	Aug. 1953	Dam	Yanaizu, Fukushima
Toyomi	61.8	Dec. 1929	Dam	Aga, Niigata

## Renewable Power Stations

Name of Power Station	Unit	Authorized Maximum Capacity (MW)	Commencement of Commercial Operation	Location
<b>(Geothermal)</b>				
Kakkonda	No.1	50	May 1978	Shizukuishi, Iwate
	No.2	30	Mar. 1996	
Uenotai	No.1	28.8	Mar. 1994	Yuzawa, Akita
Sumikawa	No.1	50	Mar. 1995	Kazuno, Akita
Yanaizu-Nishiyama	No.1	65	May 1995	Yanaizu, Fukushima
<b>(Solar)</b>				
Hachinohe		1.5	Dec. 2011	Hachinohe, Aomori
Sendai		2.0	May 2012	Shichigahama, Miyagi
Haramachi		1.0	Jan. 2015	Minamisoma, Fukushima

## Non-consolidated Corporate Data Tohoku Electric Power Co., Inc.

(as of March 31, 2017)

<b>Registered Head Office</b>	1-7-1 Honcho, Aoba-ku, Sendai, Miyagi 980-8550, Japan URL: <a href="http://www.tohoku-epco.co.jp">http://www.tohoku-epco.co.jp</a>			
<b>Date Established</b>	May 1, 1951			
<b>Paid-in Capital</b>	¥251,441 million			
<b>Common Stock</b>	Authorized: 1,000,000,000 shares Issued: 502,882,585 shares			
<b>Common Stock Price Range (Tokyo Stock Exchange)</b>	FY2016		FY2015	
	High	Low	High	Low
First quarter	¥1,472	¥1,202	¥1,834	¥1,329
Second quarter	¥1,403	¥1,191	¥1,909	¥1,511
Third quarter	¥1,563	¥1,214	¥1,835	¥1,406
Fourth quarter	¥1,535	¥1,369	¥1,582	¥1,330
<b>Cash Dividends</b>	FY2016		FY2015	
Interim	¥15.00		¥10.00	
Year-end	¥20.00		¥15.00	
Total	¥35.00		¥25.00	
<b>Number of Shareholders</b>	181,989			
<b>Number of Employees</b>	12,748 (Not including on loan or leave)			
<b>Transfer Agent</b>	Mitsubishi UFJ Trust and Banking Corporation 1-4-5, Marunouchi, Chiyoda-ku, Tokyo 100-8212, Japan			

## Facts and Figures about Main Subsidiaries

(as of March 31, 2017)

Company	Date of Establishment	Equity Ownership (%)	Paid-in Capital (Millions of yen)
<b>1. Electric Power Business</b>			
Sakata Kyodo Power Co., Ltd.	Apr. 2, 1973	100.0	25,500
Tohoku Sustainable & Renewable Energy Co., Inc.	Jan. 26, 1953	96.1	5,270
* Joban Joint Power Co., Ltd.	Dec. 23, 1955	49.1	56,000
* Soma Kyodo Power Co., Ltd.	Jun. 1, 1981	50.0	112,800
<b>2. Construction Business</b>			
YURTEC CORPORATION	Oct. 10, 1944	48.1	7,803
Tohoku Electric Power Engineering & Construction Co., Inc.	Feb. 1, 1959	100.0	1,000
<b>3. Gas Business</b>			
Nihonkai LNG Co., Ltd.	Aug. 26, 1978	42.3	12,000
Tohoku Natural Gas Co., Inc.	Jul. 8, 1993	55.0	300
<b>4. Information and Communications Business</b>			
Tohoku Intelligent Telecommunication Co., Inc.	Oct. 27, 1992	100.0	10,000
Tohoku Information Systems Co., Inc.	Jun. 5, 1954	100.0	96
<b>5. Other Businesses</b>			
Kitanihon Electric Cable Co., Ltd.	Jul. 11, 1946	60.8	135

\* Equity method applied affiliates

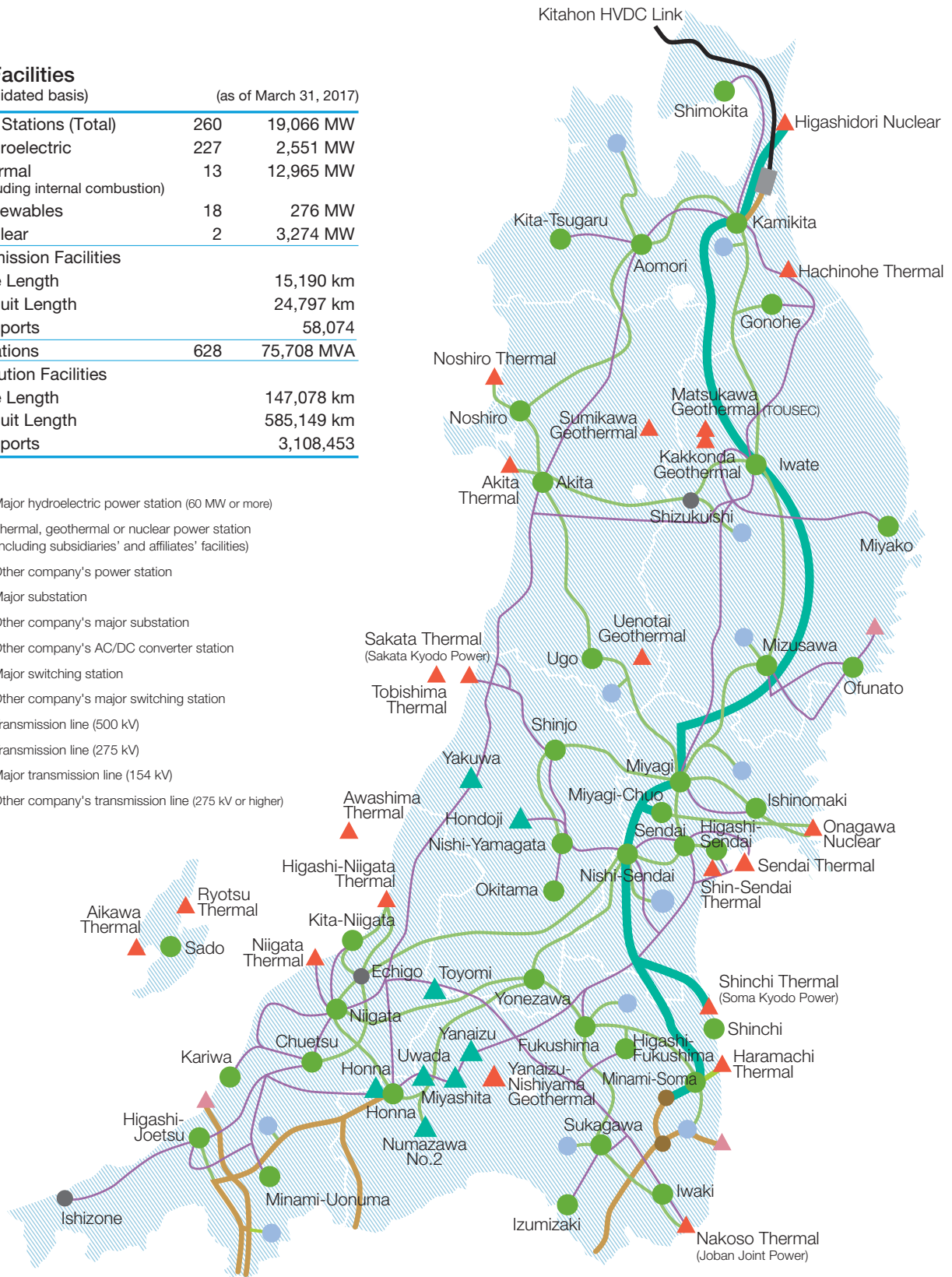
# Power Supply Network

## Our Facilities

(Consolidated basis) (as of March 31, 2017)

Power Stations (Total)	260	19,066 MW
Hydroelectric	227	2,551 MW
Thermal (including internal combustion)	13	12,965 MW
Renewables	18	276 MW
Nuclear	2	3,274 MW
<b>Transmission Facilities</b>		
Line Length		15,190 km
Circuit Length		24,797 km
Supports		58,074
Substations	628	75,708 MVA
<b>Distribution Facilities</b>		
Line Length		147,078 km
Circuit Length		585,149 km
Supports		3,108,453

- ▲ Major hydroelectric power station (60 MW or more)
- ▲ Thermal, geothermal or nuclear power station (including subsidiaries' and affiliates' facilities)
- ▲ Other company's power station
- Major substation
- Other company's major substation
- Other company's AC/DC converter station
- Major switching station
- Other company's major switching station
- Transmission line (500 kV)
- Transmission line (275 kV)
- Major transmission line (154 kV)
- Other company's transmission line (275 kV or higher)





### **Bandai Bridge**

The first Bandai Bridge built in 1886 facilitated the modernization of Niigata Prefecture. This third-generation Bandai built in 1929 is recognized as a symbol of the prefecture and was designated a nationally important cultural property in 2004. The bridge is 306.9 meters long and spans the Shinano River, which is the longest river in Japan. The magnificent structure accentuates the beauty of the granite six arches. In spring, colorful tulips, an official symbol of Niigata, planted along the bank of the river brighten up the bridge.

## **Tohoku Electric Power Co., Inc.**

1-7-1 Honcho, Aoba-ku, Sendai, Miyagi 980-8550, Japan  
Telephone: +81-(0)22-225-2111  
Facsimile: +81-(0)22-225-2550  
URL: <http://www.tohoku-epco.co.jp>



This report was printed in an eco-friendly manner, employing waterless printing and using vegetable oil ink.