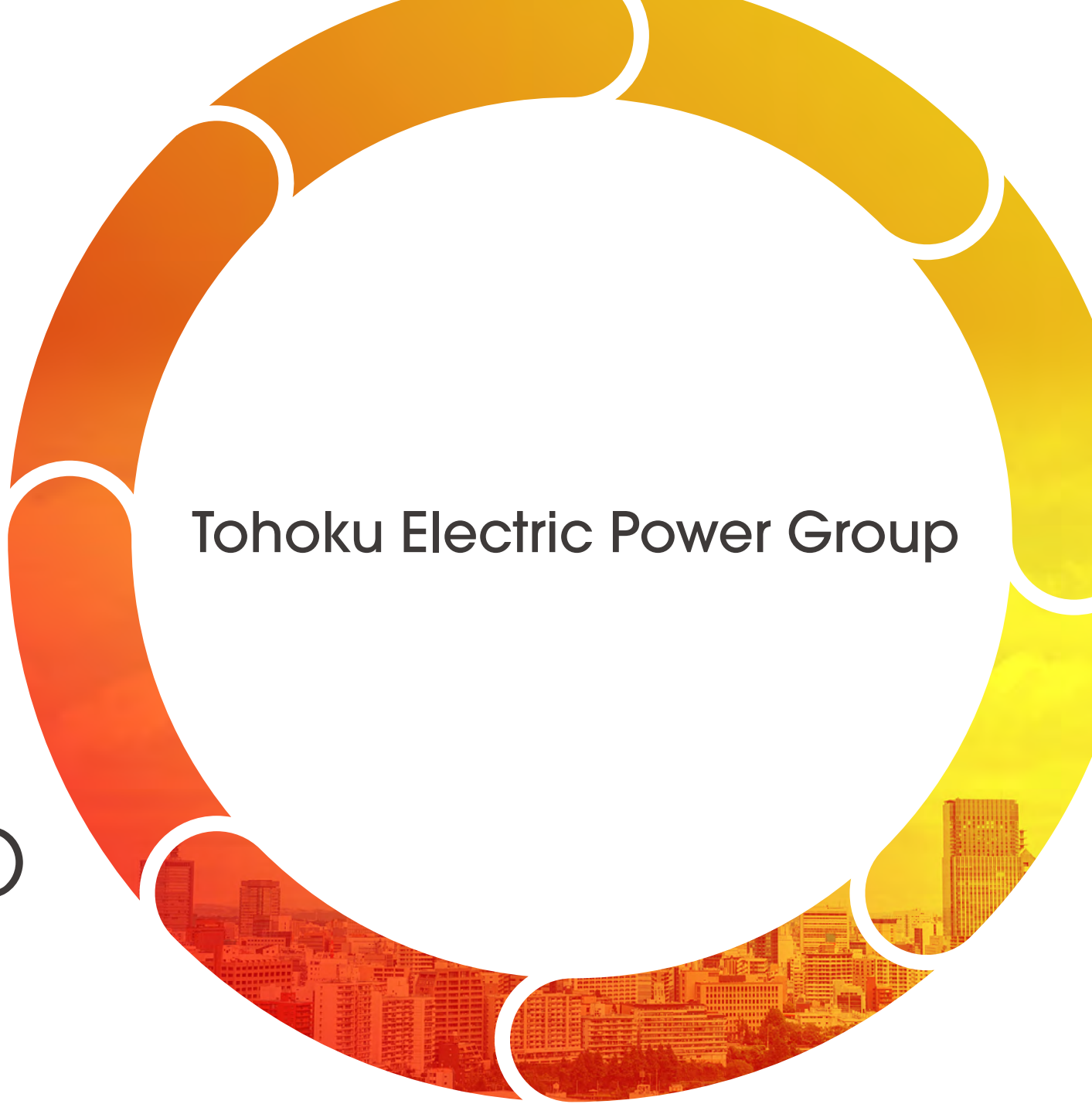
Tohoku Electric Power Group



INTEGRATED REPORT 2020

Foreword

On publication of the Tohoku Electric Power Group Integrated Report 2020

I would like to thank all our stakeholders for their continuing support of the Tohoku Electric Power Group.
Despite the impact of lower (retail) sales of electric power and other factors, FY2019 financial results show growth in profits. Contributing factors included improved fuel prices resulting from bringing Unit 3 online at the Noshiro Thermal Power Station and groupwide efforts to improve productivity and efficiency still further, as well as a major increase in profits due to the time-lag effects of the fuel-price adjustment system.
Since our founding in 1951, the entire Group has worked as one to achieve both community development and business growth, drawing on an organization integrating power generation, transmission and distribution, and sales. We have never lost sight of our mission: to benefit the public by providing electricity to customers in the six prefectures of the Tohoku region and Niigata Prefecture. Nor have we lost sight of our strong sense of community.
Various current factors have brought the business environment in which the Tohoku Electric Power Group operates to a significant turning point. These factors include transformations in the structure of electricity demand and supply accompanying the adoption of renewable energy and the continuing transformations associated with digital technology, as well as growing competition on the heels of full liberalization of retail electricity sales and the migration of our power transmission and distribution section to an in-house company organization this past April. In such times of dramatic change, unless the Tohoku Electric Power Group pursues autonomous reforms and seeks out challenges proactively, rather than simply drifting on the path we have trod to date, the future can hold major risks and uncertainties. Based on this keen sense of urgency, we have formulated a new Tohoku Electric Power Group Medium-/Long-Term Vision targeting the decade of the 2030s. This Vision will serve as a management guidepost for the coming decade and beyond and ensure that the Group can continue to grow alongside our communities.
The following words express the ideal form for the Group in the 2030s, as identified in this new Medium-/Long-Term Vision: a group of companies growing in step with sustained societal progress by helping to establish a smart society for a new age, starting in Tohoku. Through business activities based on a transformed business model, we will seek to realize both sustained societal progress and the growth of the Tohoku Electric Power Group, thereby helping to build a smart society while fulfilling our role as a source of electricity, chiefly in the six prefectures of the Tohoku region and Niigata Prefecture.
We see the five-year period from FY2020 through FY2024 as a time of transformation of our business model. During this period, we will advance business development based on three focal points: change, challenges, and creation. This Report seeks to convey information on these growth strategies and our various initiatives in a clear and easy to understand manner.
Lastly, with no end in sight to the COVID-19 pandemic, we expect various associated challenges to continue to affect the Group's business environment. Nevertheless, Tohoku Electric Power and the Tohoku Electric Power Network remains committed to providing a stable source of electricity in our role as a designated public utility. We appreciate your continuing understanding and support for our business activities.

September 2020



The Tohoku Electric Power Group's Management Philosophy and Group Slogan

The Tohoku Electric Power Group's Management Philosophy

"Prosperity in Partnership with the Community"

We seek to create value only the Tohoku Electric Power Group can deliver and to realize growth and a more abundant society by continuing to take on challenges and pursue innovation alongside our customers and our communities.

The Tohoku Electric Power Group Slogan

Yori, Sou, Chikara (The Strength to Work Alongside)

Our motto, yori, sou, chikara, derives from the care we take in providing each and every customer with services suited to their lifestyles and working lives.
Moving forward, driven by our founding motive of serving as a bedrock for the region, we will continue working hand-in-hand with local communities, delivering services to the individuals within them based on a true sense of gratitude and broad vision of the future.

Tohoku Electric Power was founded in 1951. Amid the postwar recovery, our first President, Ungoro Uchigasaki, established the management philosophy which called for "Rebuilding Japan starting in Tohoku and developing Tohoku starting with electric power." The Group rephrased this motto thereafter as follows: "The prosperity of the Tohoku region is essential to our own growth." We've continued to do business under this philosophy for some 70 years.
The strong concern for local communities expressed in this concept is a fundamental management value and the ultimate expression of the Tohoku Electric Power Group's Management Philosophy of Prosperity in Partnership with the Community. This vision of extending our roots to contribute to the regions in which we operate is an unshakeable pillar from which all Group employees continue to approach their work, even amid dramatically changing business conditions.
However, the way to achieve Prosperity in Partnership with the Community must change with the times. To date, Prosperity in Partnership with the Community has referred to generating earnings by providing a stable, low-cost source of electricity to customers in Tohoku and Niigata. Looking forward, we will seek to expand our business area and secure management resources beyond Tohoku and Niigata, while maintaining in our hearts the commitment to give back to the Tohoku and Niigata communities.
Through value created by progressive activities grounded in energy services and creating solutions to social challenges, our goal is to contribute to Tohoku and Niigata, attracting human resources, technology, and investment to the region.
Essential aspects of putting this management philosophy into practice include receptiveness to the needs and issues confronting the customers who make up our local communities and the commitment of each individual employee to creating new forms of prosperity in joint efforts.
The Tohoku Electric Power Group slogan—Yori, Sou, Chikara (The Strength to Work Alongside)—is a promise to our customers and to local communities. Based on the perspective of working together with and alongside our customers and communities, this promise says each and every Group employee will take this management philosophy to heart in his or her work and everyday activities. Under this slogan, we will seek to help build a comfortable, safe, reliable, and smart society and to provide the added value only the Tohoku Electric Power Group can deliver.

The Tohoku Electric Power Group Code of Conduct

In 1999, the Tohoku Electric Power formulated the Tohoku Electric Power Code of Conduct as a code to guide employees in their duties. The code has been revised since then in light of the changing social environment and other factors. In 2017, by establishing the Tohoku Electric Power Group Code of Conduct, we expanded the scope to cover the entire Tohoku Electric Power Group. The document was revised once again in February 2020 to serve as a Code of Conduct suitable for those implementing the Tohoku Electric Power Group Medium-/Long-Term Vision while reflecting societal understanding of recent trends and corporate ideals. In performing their duties in accordance with this Code and working together with and alongside our stakeholders, the Tohoku Electric Power Group and its employees will create and provide the value only we can create.

The Tohoku Electric Power Group Code of Conduct (excerpted from the Preamble and Principles of Conduct)

Based on the Management Philosophy of Prosperity in Partnership with the Community and our Group Slogan, Yori, Sou, Chikara (The Strength to Work Alongside), we will achieve sustained growth in partnership with society by helping to build a smart society through services and activities based on energy.
Each and every employee will need to take on unprecedented challenges and advance innovations with a strong sense of our mission as a public utility.
Each and every employee must summon the resolve needed to play a role in creating a smart society.
In addition, based on the clear recognition that the trust of customers and society represents the foundations of our business, each and every employee must demonstrate and hold at heart an unwavering sense of ethics and a deep knowledge and understanding of corporate ethics, laws, and regulations. This means going beyond mere compliance, seeking to strengthen the Tohoku Electric Power Group's groupwide culture of eschewing improprieties, never allowing improprieties to pass unremarked, and disclosing information appropriately.
Based on this understanding, we will act in accordance with the following Principles of Conduct and Code of Conduct to build strong relationships of trust with customers, community members, shareholders and investors, business partners, employees, and other stakeholders to create alongside and in partnership with them value only the Tohoku Electric Power Group can deliver.

Principles of Conduct

① Providing products and services that bring us closer to a smart society

Putting safety first at all times, we deliver products and services that bring us closer to a smart society in which customers can create and count on comfortable, safe, reliable living spaces, based on a stable supply of low-cost energy, in support of fulfilling lives and commercial activities.

② In partnership with communities

By advancing initiatives that help identify and create solutions to local issues while working alongside communities, we will contribute to the sustained growth of our communities and work to achieve harmony as a valuable corporate citizen.

② Thoroughgoing compliance with corporate ethics, laws, and regulations

In all our business activities, we go beyond mere compliance with the letter of applicable laws and regulations to meet the requirements of sound corporate ethical principles.

④ Consideration for the environment

Recognizing that the Group's business activities have deep connections to the formation of sustainable societies, we take proactive steps to address issues like global warming and the need to protect our environment.

⑤ Promoting transparent business activities

We promote highly transparent, open business activities through sensitive broad-ranging dialogue with society and full information disclosure.

⑥ Building a vital corporate culture based on respect for individuals and free and open communication

We strive to move ever closer to a vital, free, and open corporate culture characterized by free exchange of opinions, in which all employees can work together in mutual respect.

Background of the February 2020 revisions

The Code of Conduct was revised in February 2020 based on the following items:

- The need to identify employee preparedness based on the newly formulated Tohoku Electric Power Group Medium-/Long-Term Vision
- Acceleration of activities toward the Society 5.0 vision, including amendment of the Keidanren (Japan Business Federation) Charter of Corporate Behavior (November 2017)
- The need for both mitigation of and adaptation to climate change in response to the growing scale of natural disasters

Our thinking on gifts and entertainment

The Tohoku Electric Power Group Code of Conduct includes the following provisions regarding the exchange of gifts and entertainment. We seek to verify that the exchange of gifts and entertainment by those affiliated with the Group is appropriate in accordance with this policy. We remain committed to ensuring future compliance as well.

Code of Conduct 3-(2)
Gifts and entertainment

Executives and employees must reject gifts or entertainment from business partners beyond the scope commonly accepted in society. The same applies to the provision of gifts or entertainment.

The full text of the Tohoku Electric Power Group Code of Conduct is available below:
https://www.tohoku-epco.co.jp/csr/rinri/

Editorial Policy

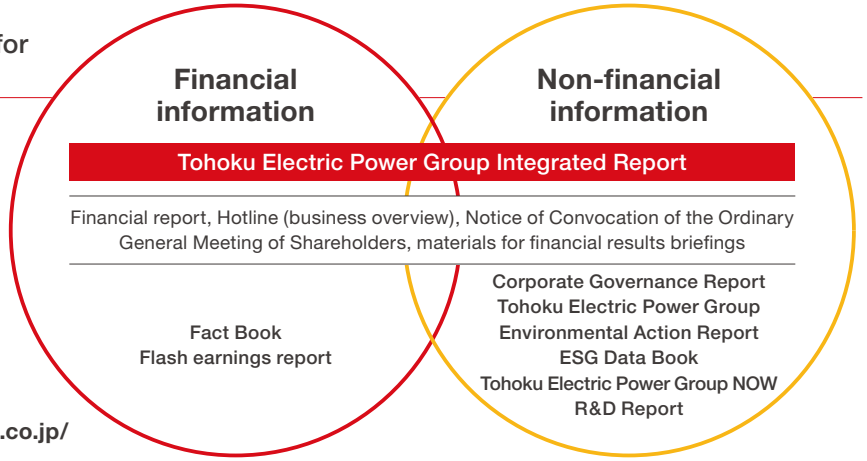
Tohoku Electric Power Group Integrated Report 2020 Editorial Policy

The Tohoku Electric Power Group has taken many actions to achieve steady growth under increasingly harsh business circumstances, including intensifying competition in the fully deregulated retail power supply market and changes in the power demand-supply structure with the shrinking population and the widespread introduction of renewable energy. Since fiscal 2018, to ensure understanding of the Group's medium- and long-term value creation through these actions from both financial and non-financial perspectives, we have published integrated reports. Reflecting comments from stakeholders regarding Integrated Report 2019, we have prepared Integrated Report 2020 based on a careful selection of content for shareholders and investors. This includes discussions of the growth strategies based on the newly formulated Tohoku Electric Power Group Medium-/Long-Term Vision and ESG management to support corporate value creation.
We will continue to enhance the content provided in the Report to deepen understanding of the Tohoku Electric Power Group among our stakeholders.

Tohoku Electric Power's media for information disclosure

The Tohoku Electric Power Group reports issues and actions of high significance in its Integrated Report. In-depth financial information and non-financial information are available from other information sources.

Website **http://www.tohoku-epco.co.jp/**



Guidelines and other information used for reference

- Ministry of Economy, Trade and Industry: Guidance for Collaborative Value Creation
- International Integrated Reporting Council (IIRC): The International <IR> Framework
- Global Reporting Initiative (GRI): GRI Sustainability Reporting Standards
- Final report of the Task Force on Climate-related Financial Disclosures (TCFD)

Environment Social Governance
Guidance for Collaborative Value Creation

Forward-looking statements

This report contains financial forecasts and other forward-looking statements. They represent Tohoku Electric Power's judgments based on information available at the time of disclosure and certain assumptions. They involve known and unknown risks, uncertainties, and other factors that may cause actual results, performance, and achievements to differ materially from expectations.

Scope of Report	The 63 companies in the Tohoku Electric Power Group
Period subject to Report	While the Report in principle covers initiatives during FY2019 (April 1, 2019–March 31, 2020), certain activities presented include information from past fiscal years or FY2020.
Date of publication	September 2020 (previous Report: September 2019)
Planned next date of publication	Roughly September 2021

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Message from Top Management



Background factors for the formulation of the Tohoku Electric Power Group Medium-/Long-Term Vision

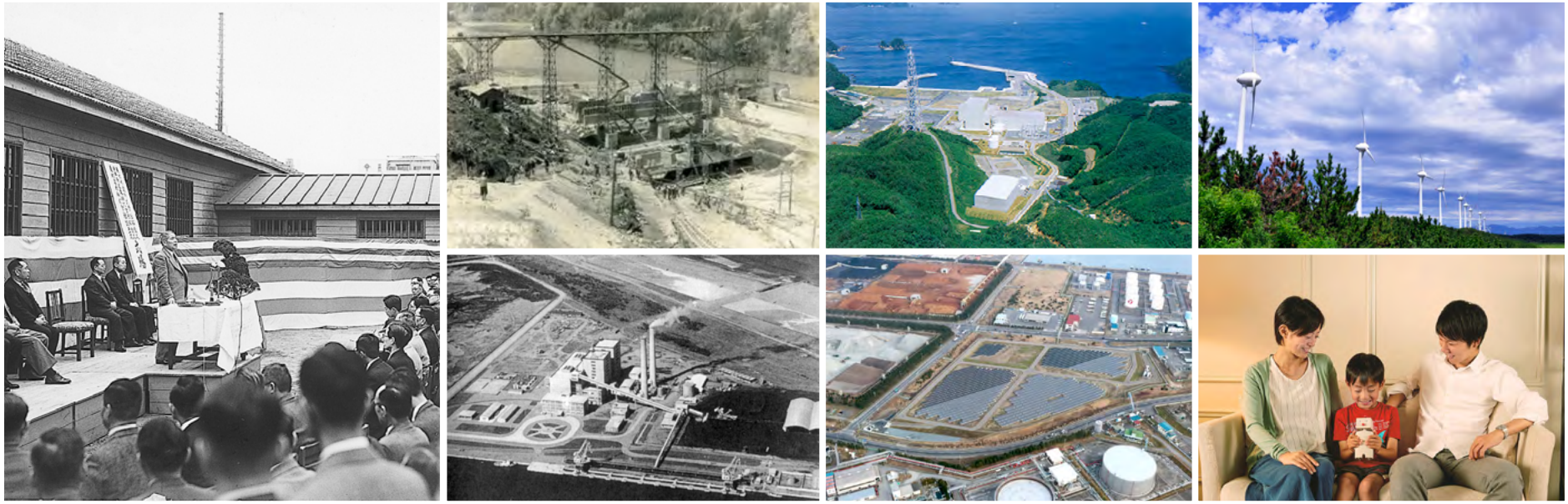
Numerous industries today face increasingly rapid and dramatic technological innovations and changing business conditions. In the energy industry in which we operate, industrial structures are transformed by the Four Ds: depopulation, decarbonization, decentralization, and digitization.

Projections indicate that the population of the six Tohoku region prefectures and Niigata Prefecture, the base of our business activities, will decline by roughly 30% from 2015 to 2045. This will present a wide range of challenges in our everyday lives. The time has come to reconsider our ideals with regard to the shape of local society and our communities; how services are provided; and how we are to live under these conditions. Based on this recognition, we formulated the Tohoku Electric Power Group Medium-/Long-Term Vision (“Medium-/Long-Term Vision” hereinafter), publishing the Vision in February of this year.

Koujiro Higuchi

Representative Director & President

Message from Top Management



The starting point of a business model transformation

Simply put, this Medium-/Long-Term Vision is an expression of our orientation toward a business model transformation. We're taking on the challenge of businesses to help realize a smart society by providing customers with new value that brings all of us closer to a smart society in which we can establish comfortable, safe, reliable living spaces and maximize enrichment and enjoyment, all based on the electric power business that has served as the core of the Group's business for roughly 70 years since our founding in 1951.
In light of our strong sense of mission as well as pride in our electricity supply business, we may perhaps be able to continue specializing in this business in the future as well. Casting our eyes back to the Tohoku Electric Power Group's roots shows we have always acted based on a desire to confront and find solutions to the issues of our times and to contribute not just to the six Tohoku prefectures and Niigata Prefecture, but to Japanese society as a whole. We must recognize that this is the starting point for the way forward from where we stand today.
An important issue facing society when Tohoku Electric Power was founded was the need for recovery in Japanese society, which was devastated by the nation's loss in World War II. An issue of similar gravity in the six Tohoku prefectures and Niigata Prefecture was the need to advance economic development to power such a recovery. One solution was to develop sources of electric power, centered on hydroelectric power. Our initial motto, "Rebuilding Japan starting in Tohoku and developing Tohoku starting with electric power," represents the starting point of our thinking on management. We can say the roots of the Tohoku Electric Power Group lie in confronting and striving to find solutions to social issues.
Turning to the present, as noted above, the issues we face today include the need to respond to changing industrial structures and to rethink society in the six Tohoku prefectures and Niigata Prefecture, based on the trend of depopulation, low birth rates, and an aging society. Examining this reality in light of Tohoku Electric Power's founding spirit prompts a new vision: a business model that targets a smart society based on the business of supplying electricity.

Message from Top Management

The path toward realizing the Medium-/Long-Term Vision

We recognize transforming our business model will be difficult. At the same time, a bylaw of the natural world says creatures that fail to change and adapt to their environment become extinct. We believe now is the time to move forward with our intentional transformation to grow over the medium to long term, proactively keeping pace with the progress of our customers and our communities—that is, to grasp this concept of the survival of the fittest from an active rather than a passive perspective.

In transforming our business model, we need to calmly identify the character of the business environment and the path we would take forward. On this point, we will seek to transform our business model by strengthening our electricity supply business and swiftly achieving profitability in services that contribute to a smart society. One commonality among companies that have succeeded with business model transformation is how they have applied their core expertise, technologies, and strengths to new domains. In our case, we see as strengths our status as electric power professionals with the capacity—for example, to manage electricity supply and demand—and our strong ties to the community, which allow effective dialogue with customers and others, chiefly in the six Tohoku prefectures and Niigata Prefecture. Our goal is to integrate advanced digital technologies and other solutions with strengths accumulated over 70 years to generate effective business model transformation.

As we work to realize the Medium-/Long-Term Vision, I would like to communicate to employees the need to maintain the trust we have established while transforming our own outlook.

Trust is the foundation of all our business activities. We must continue to build on this valuable asset earned by our predecessors alongside our customers and communities. In doing so, rather than simply resting on the laurels of the trust already established, we must keep in mind at all times that trust is created and strengthened by proposing solutions based on sensitivity to factors such as global developments, customer needs and concerns, and local issues.





Message from Top Management

Improving the ability to generate cash flow as needed to transform the business model

One of our major business responsibilities is to earn the trust of shareholders and investors and to meet their expectations. In response to the formulation of the Medium-/Long-Term Vision, we've adopted the new goal to set positive consolidated cash flow as an indicator of our ability to generate the cash flow needed to realize this vision. For now, we've set a minimum target for consolidated cash flow of 320 billion yen in FY2024. To effectively fund investment in growth fields and to drive business model transformation, we will carry out management intended to generate firm cash flow. While adequate investment in the areas needed for growth remains pressing, we have no intention of neglecting financial discipline. It also is important to provide a degree of returns from profits. Thus, we continue to implement capital policies that provide for dividends reflecting a sound balance between growth and stability.



The awareness needed to realize the Medium-/Long-Term Vision

In our Management Philosophy statement, we articulate the new awareness required for Group employees. Our goal is "to seek to create value only the Tohoku Electric Power Group can deliver and to realize growth and a more abundant society by continuing to take on challenges and pursue innovation alongside our customers and our communities." The terms challenges, innovation, and growth found in this statement will serve as keywords. While each may appear to be part of a responsible employee's awareness of and attitude toward work, ensuring that each and every one of the roughly 25,000 Group employees holds this outlook poses various challenges. Only when each employee sees the Medium-/Long-Term Vision as a narrative in which he or she plays a leading role will we be able to take practical action to take on challenges, innovation, and growth. This is why we repeatedly remind employees to take a personal interest: to understand that realizing a smart society is not something that we can rely on others to achieve, but depends on each and every individual.

Ever since joining Tohoku Electric Power, I've built a career based in the thermoelectric power generation segment. The Great East Japan Earthquake nine years ago was one of the major turning points in my career to date. At that time, I worked on recovery efforts as General Manager of the Haramachi Thermal Power Plant, which had been damaged by the disaster. At that time—just as it is today—Haramachi was a core element of the Group's supply capacity. At that time in particular, due to the dramatic loss of supply capacity from plants on the Pacific Coast, rapid recovery of the plant was especially urgent. I urged the staff to think about how to achieve recovery. Everyone involved in the recovery process—not just our own employees, but employees of our various partners—worked side by side as a team to figure out how this could be achieved, while eschewing reasons why it couldn't. As a result, we were able to bring the plant back online more than one year ahead of the initial schedule.



We must take the same approach toward the Medium-/Long-Term Vision. Difficult challenges like this one tend to generate any number of reasons why it may appear to be impossible or prohibitively difficult. Rather than regarding these as valid excuses, we must find ways to turn them into factors that help us succeed.

Message from Top Management

A major first step toward realizing the Medium-/Long-Term Vision: Bringing the nuclear power plants back online

As I mentioned above, as part of our efforts to realize the Medium-/Long-Term Vision, we're striving to strengthen our power supply business and rapidly achieve profitability in businesses that will help to realize a smart society. Among various issues, the currently most pressing one involves rapidly resuming the operation of nuclear power plants. In February of this year, the same month in which we announced the Medium-/Long-Term Vision, we secured a permit from the Nuclear Regulatory Commission of Japan to modify the nuclear reactor equipment at Unit 2 of the Onagawa Nuclear Power Plant. This represents a major step forward toward resuming operation of the unit. Nevertheless, the central aspect to resuming operations is the understanding and consent of local communities. The understanding of local residents will drive not only the resumption of nuclear power plant operations but the achievement of the Medium-/Long-Term Vision as well. Based on this clear recognition, we intend to attend to the activities that will earn this understanding.

Responding to COVID-19

Another current issue we must address is the COVID-19 pandemic. First, as a Group of companies whose role is to support social infrastructures, we have responded to the pandemic by taking measures to ensure the uninterrupted supply of electricity. We've also fulfilled our responsibilities as a power company charged with supporting a lifeline for residents and industries by extending payment deadlines for electricity fees for customers struggling financially due to the pandemic.

Taking on the challenges of realizing a smart society with an eye toward the post-COVID age

At the same time, we must also adopt a slightly longer-term perspective. A clear understanding of the efficiency and convenience of online communication, remote healthcare, and education, and robotics prompted by the pandemic has accelerated technological developments in these fields. We must not overlook the rapid growth in our receptivity to non-face-to-face and contactless communication and services. As a look outside any window will prove, workers from various delivery services are a much more common sight than just a few months ago, as home delivery now plays an even bigger part in our everyday lives. Under the new behavioral norms so recently established, people reflexively maintain a safe distance from others. Keywords that have emerged through the course of the COVID-19 pandemic, including the shift from centralization to decentralization and toward non-face-to-face and remote communication, point to new business opportunities. These in turn create favorable conditions for our progress in businesses intended to realize a smart society. The vision of a smart society depicted in the Tohoku Electric Power Group Medium-/Long-Term Vision corresponds to this new normal. We believe these factors have broadened our routes toward realizing a smart society.
At the same time, new services and their underlying ideas do not appear from thin air. It is essential to develop the human resources needed to come up with the ideas and then establish the related services. To date, we have sought to improve business efficiency under the banner of workstyle reforms and to develop an environment in which new ideas can flourish. As we move forward, we will strive to ensure that steps taken in response to COVID-19—from streamlining business activities to adopting work from home and other diverse work styles—will be more than mere temporary emergency measures, linking them instead to workstyles that reflect individual employee lifestyles and values, thereby continuing to boost productivity and shifting human resources into growth fields.

Promoting ESG management

Human resource development is a crucial element in building a smart society and assuring sustained growth for the Group. At the same time, from a sustainability perspective, comprehensive measures in the areas of the environment (E), society (S), and governance (G) also remain essential. In the area of the environment in particular, mitigation of climate change is a pressing issue worldwide. In light of factors such as growing interest in moving away from coal, the Group must take various steps to fulfill our responsibilities. In consideration of environmental aspects as well, we will make progress toward building a sustainable society from various approaches, including developing renewable energy and providing services based on renewable energy; resuming nuclear power plant operations; improving the thermal efficiency of thermoelectric power generation; and participating in feasibility studies on carbon capture and storage (CCS).



Conclusion

Our Medium-/Long-Term Vision is grounded in the belief that current conditions mark a potential second founding of the Tohoku Electric Power Group. At this critical juncture, where we face not just changes in the business environment, but the birth of Tohoku Electric Power Network (the legal unbundling of power transmission/distribution operations), this marks the time at which the Group should begin to blaze a new trail forward. Ahead of us, beyond the transformation of the business model, lies an expansive horizon with room for sustainable society, not just in the six Tohoku prefectures and in Niigata Prefecture, but in all of Japan and the world as well. It is my hope that each and every employee will move forward with bold determination to open a new page in our history, recognizing the importance of working in the Tohoku Electric Power Group at a time like this. As the individual entrusted with guiding the management of the Tohoku Electric Power Group, I am determined to provide strong leadership so that all of us within the Group can work together as one to move forward on the path identified by the Medium-/Long-Term Vision

ABOUT TOHOKU ELECTRIC POWER GROUP



Our History of Value Creation

Tohoku Electric Power was founded in 1951, a time when Japan was still recovering from the turmoil of the Second World War. Since then, we've confronted difficult challenges in each era, including power shortages during the postwar period of reconstruction, oil crises, numerous natural disasters, and the deregulation of the electric power market. On each occasion, the Group has worked as a team to fulfill its mission of delivering a stable, high-quality supply of electricity.
Moving forward, we will continue to work with local communities to contribute to the growth and development of the six prefectures of the Tohoku region and Niigata Prefecture while ceaselessly working to create new corporate value.

1950s —

Developments in society

- **Postwar reconstruction and rapid economic growth bring growing demand for electric power**

Value provided by Tohoku Electric Power

Contributing to postwar recovery and the development of Tohoku and Niigata by developing power sources catering to growing demand for electric power

Amidst electricity shortages during the postwar period of recovery, Tohoku Electric Power pushed ahead to develop energy sources within the Tadami River water system, its largest hydroelectric power zone, working under the motto: "Rebuilding Japan starting with Tohoku and developing Tohoku through electric power."
Later, to meet growing demand for electric power, we began building and expanding state-of-the-art thermal power plants, starting with the Hachinohe Thermal Power Station. We've supported local economic growth and the lives of local residents ever since.



Bird's eye view of the Tadami River power source region at the time of the construction of the hydroelectric power plant

Business topics

1958 Our first large-scale thermal power plant, Hachinohe Thermal Power Station Unit 1 (75 MW) comes online

We made the decision to build our first large-scale thermal power plant since the uneven distribution of hydroelectric power sources in the southern portion of the Tohoku region generated the urgent need to bolster power supplies in the north. Based on geographical factors, we chose to build the plant in the city of Hachinohe, in Aomori Prefecture, where it would be easy to procure coal produced in Hokkaido. We assembled a team of first-rate engineers from both within and outside the company to begin construction. Unit 1 came online in June 1958, followed by Unit 2 (75 MW) in October of the same year.



Group photograph at the Hachinohe Thermal Power Station construction office

1970s —

Developments in society

- **A global oil crisis and power shortages**

Value provided by Tohoku Electric Power

Pursuing diversification of power sources to break from dependency on oil-fired thermal power and ensure a stable supply of electrical power

Motivated by the global oil crisis, Tohoku Electric Power approached various issues, including research on diverse power sources and development site surveys, with the aim of breaking the dependency on oil-fired power. Power source diversification advanced considerably. Both the large-scale pumped-type Numazawa Power Plant No. 2 and Onagawa Nuclear Power Station Unit 1 came online during this period.



Scene from the construction of Numazawa Power Plant No. 2

Business topics

1984 Onagawa Nuclear Power Station Unit 1 (524 MW), our first nuclear power plant, begins operating

From the initial planning stages in building the Onagawa Nuclear Power Station, we recognized countermeasures against tsunamis as a key issue. An in-house committee including external academic experts determined that the minimum site elevation had to be 14.8 m above sea level, a figure based on data from past tsunamis, including the Jogan (869) and Keicho (1611) tsunamis. The height of the tsunami in the Great East Japan Earthquake in this area was 13 m and did not exceed the site elevation.



Onagawa Nuclear Power Station at the time of commencing operation

Our History of Value Creation

1990s —

Developments in society

- Deregulation of the electricity retail market begins
- Growing interest in environmental issues

Value provided by Tohoku Electric Power

Responding to partial deregulation of the electric power retail market and seeking to reduce environmental impact in response to growing interest in global environmental issues

Partial deregulation of the electric power retail market launched in the 1990s targeted in particular extra high-voltage customers. In response to partial deregulation, Tohoku Electric Power sought to achieve a corporate transformation and ensure competitive pricing. We also implemented measures to reduce impact on the global environment and make more effective use of energy, working to develop renewable wind, solar, and geothermal power generation and improve the thermal efficiency of thermal power plants.



Higashi Niigata Thermal Power Station series 4–1 achieved world-class thermal efficiency levels exceeding 55%.

Business topics

2000 Rates lowered for the first time after partial deregulation

Following the partial deregulation implemented in March 2000, we worked to improve management efficiency with the goal of achieving price levels that would make it possible to compete against our competitors while maintaining the quality of our electricity supply. These efforts included large-scale organizational improvements. Starting with the first rate reduction in October 2000 after partial deregulation went into effect, we achieved a total of four rate reductions over six years.



We established call centers in Sendai and Niigata to consolidate the handling of customer phone calls.

2010s —

Developments in society

- Phase of major change in the electricity business brought about by the Great East Japan Earthquake
- Full deregulation of electricity retail market

Value provided by Tohoku Electric Power

Supporting efforts to recover from the Great East Japan Earthquake and tackling the challenge of creating new value in the era of full-scale competition

We're currently tackling various management issues, including intensifying competition and the legal unbundling of the power transmission and distribution sectors, while supporting local communities working to recover in the aftermath of the earthquake. We're engaged in various new initiatives, including offering new pricing plans and services, supplying electricity outside our traditional operating region, and expanding use of renewable energy, as well as efforts to strengthen our corporate value.



Campaign activities for the convenient, money-saving web service Yorisou e Net

Business topics

2011 Rapid recovery from power outages caused by the Great East Japan Earthquake

The Great East Japan Earthquake and the ensuing tsunami wrought significant damage to power plants, transmission towers, utility poles, and many other elements of the infrastructure, ultimately leaving almost the entire Tohoku region without power. Despite these conditions, drawing on the combined strength of the Tohoku Electric Power Group, we resolved around 80% of all power outages within three days after the disaster. These efforts were driven by the strong sense of duty of our employees and the desire to restore power to our customers as soon as possible. We plan to pass on the experiences and memories of this difficult time to the next generation of Tohoku Electric Power employees to help prepare for future unforeseen disasters. Moving forward, we will continue to pursue activities to support recovery within the Tohoku region.



Utility pole erection work immediately after the earthquake

▶ See "Enhancing Resilience," p. 60.

Strengths of the Tohoku Electric Power Group

Throughout our history of roughly 70 years, the Tohoku Electric Power Group has built up steadily not only its financial capital but its non-financial capital as well. The capital we've amassed over this period—human capital, intellectual capital, natural capital, production capital, and social and community capital—have supported two important strengths that give the Group the power to succeed in competition. First, as electricity professionals, we've developed operational technologies for power generation, grid operating and control technologies. Secondly, we've established a customer base centered on six prefectures of the Tohoku region and Niigata Prefecture through strong ties to local communities. We plan to leverage these two strengths as we face dramatically changing business conditions.

Examples of non-financial capital built up over our 70-year history

Human capital

Example:
Total number of Group employees in FY2019
24,870

Intellectual capital

Example:
Technological developments to improve thermal efficiency
Unit 1 of the Joetsu Thermal Power Plant
(Commercial operation slated to begin in June 2023)
Thermal efficiency improved to at least **63%**

Natural capital

Example:
Number of hydroelectric power plants: **227**
Geothermal power generation: Share of equipment capacity of all geothermal power plants in Japan: approx. **45%**
(As of March 31, 2020)

Production capital

Example:
Power generation facilities: **257**
Total length of power transmission lines: **15,363** km
Total length of power distribution lines: **144,665** km
(As of March 31, 2020)

Social and community capital

Example:
Number of community activities in FY2019
1,130

Strengths of the Tohoku Electric Power Group

Electricity professionals

- The human resources and sense of mission needed to support stable electric power supply
- Power generation operating technologies and world-leading high efficiency thermal power generation technologies
- Power grid operating and control technologies
- Disaster recovery experience drawn from response to the Great East Japan Earthquake
- Renewable energy development potential of the six Tohoku prefectures and Niigata Prefecture

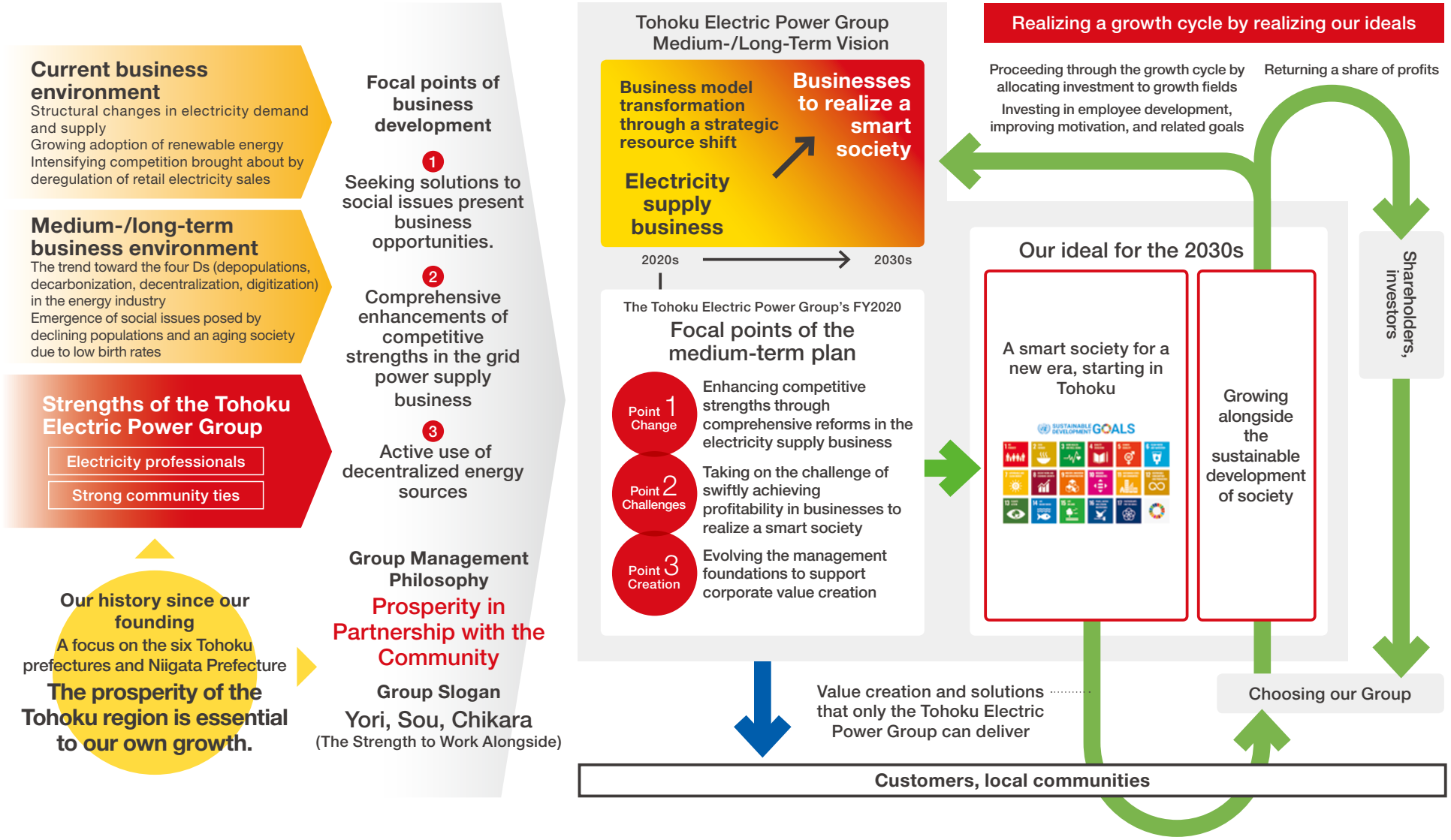
Strong community ties

- Customer base, business facilities, and power infrastructures in six Tohoku prefectures and in Niigata Prefecture
- Ties to local governments, local economic associations, and other organizations in the six Tohoku prefectures and in Niigata Prefecture
- Social contribution activities in the six Tohoku prefectures and in Niigata Prefecture

The trust of our stakeholders

Value Creation Model

The Tohoku Electric Power Group Medium-/Long-Term Vision reflects business circumstances, our own strengths, and other considerations. Based on created values only the Tohoku Electric Power Group can deliver through this plan, the Tohoku Electric Power Group will move to create a comfortable, safe, reliable smart society for a new era, starting in Tohoku. We will apply and proceed through a positive growth cycle by providing stable returns to diverse stakeholders while growing the Group and pursuing the sustainable development of society. We will invest the resulting gains into new growth fields and the measures to ensure a continuing stable supply.





TOHOKU ELECTRIC POWER GROUP MEDIUM-/LONG-TERM VISION

Awareness of the business environment

A look at the business environment in which the Tohoku Electric Power Group operates shows intensifying competition due to the deregulation of retail electricity sales and the growing adoption of renewable energy. Over the medium to long term, the four Ds of depopulation, decarbonization, decentralization, and digitization will affects business models within the energy and electric power industry. Additionally, it will be crucial both to pay close attention to the impact of the COVID-19 pandemic on demand for electricity and to pursue business development with an eye toward the post-COVID world.

Politics (P)

	Risks	Opportunities, response
Electric power system reforms (Full liberalization of retail electricity sales)	Intensifying competition in retail markets	Advancing sales strategies targeting profitability and venturing into markets beyond Tohoku-Niigata
Establishing new transaction markets	Unreliable returns on expenditures due to perspective differentiation concerning electricity values and corresponding market segmentation	Enhancing competitive strengths within the market through appropriate bidding strategies and by hedging risks
Enhanced regulatory environment for nuclear power	Prolonged suspension of operations at nuclear power plants and impact on back-end expenses	Initiatives to resume operations at nuclear power plants, with safety set as the major prerequisite

Economy (E)

	Risks	Opportunities, response
Fluctuations in international crude oil markets	Uncertain fuel prices	Optimizing procurement by building well-balanced power source structures, diversifying fuel procurement methods, and other means
Falling wholesale electricity transaction prices	Difficulty securing profits in the electricity wholesale business	Optimizing fuel procurement and building optimal power source structures
Changing consumer orientation (e.g., from products to services, shift toward sharing economy)	Emergence of competitors across industry boundaries	Offering products and services to help find solutions to new customer needs and community issues
Transformations in economic activity in the post-COVID age	Changing demand for electricity (total demand, load curve)	
More active ESG investment	Accelerating investor selectivity	Promoting ESG management to drive the evolution of management foundations

Society (S)

Depopulation	Risks	Opportunities, response
Accelerating population declines in the six Tohoku prefectures and in Niigata Prefecture	Decreased demand for electricity, difficulty of maintaining the Group's business foundation	Business development that regards solutions to social issues as business opportunities
Decarbonization		
Advancing global warming	Impact on continued use of power from fossil fuels (particularly inefficient coal power sources)	Use of low-carbon power sources and implementing climate change mitigation measures in both demand and supply
Need to enhance resilience (against disasters, pandemics, etc.)	Impact on the stable supply of electricity	Preventive measures and enhancement of ability to respond to an emergency
Transformations in values and lifestyles in the post-COVID world	Changing demand for electricity and need for products and services	Uncovering new business opportunities and demand for electrification

Technology (T)

	Risks	Opportunities, response
Digitalization		
Accelerating digital innovation (AI, 5G, etc.)	Damage to competitive strength due to inadequate digitization and innovation	Digital human resource development, accelerating use of digital technologies in service marketing, and advancing open innovation
Decentralization		
Spread of decentralized energy (storage cells, etc.)	Decreased demand for grid power	Developing services that harness decentralized energy sources, such as virtual power plants (VPPs; see p. 42)
Growing adoption of renewable energy	Decline in relative competitive strength of thermoelectric power (increase in competitive strengths of renewable energy sources) and difficulty of grid interconnection	In addition to accelerating development as a major power source, advancing power networks for accepting renewable power appropriately

Phenomena corresponding to the four Ds

▶See "Environmental Management," p. 51.

Focal Points in Business Development

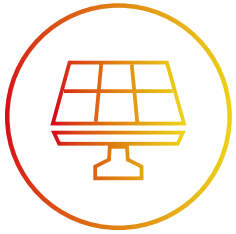
In the business environment in which the Group operates, recent developments such as intensifying competition due to deregulation of retail electricity sales and growing use of renewable energy have had marked impacts. Other developments include the emergence of issues accompanying a declining population and an aging society due to low birth rates in the six Tohoku prefectures and in Niigata Prefecture, which serve as the base of Group businesses, as well as the four “D” trends affecting the power business. We see these as medium- to long-term changes in the business environment. In response, we’ve identified the following three focal points for business development: 1. seeing solutions to social issues as business opportunities and linking them to business growth; 2. comprehensively enhancing the competitive abilities of our grid power supply business; and 3. making active use of decentralized energy in areas such as storage cells and electric vehicles. Based on these focal points, the Group will continue contributing to sustainable development in the six Tohoku prefectures and in Niigata Prefecture while continuing to supply electricity to the region.

Recent changes in the business environment

Intensifying competition due to deregulation of retail electricity sales



Growing use of renewable energy





Medium- to long-term changes in the business environment

Six Tohoku prefectures and Niigata Prefecture

Emergence of issues accompanying declining populations and an aging society due to low birth rates (Efficient provision of various services, maintenance of community functions, etc.)

Energy, electric power industry

Transforming business models in response to the four Ds

- **D**epopulation
- **D**ecentralization
- **D**ecarbonization
- **D**igitalization

Focal points for future business development

Continuing to contribute to sustainable development in the six Tohoku prefectures and in Niigata Prefecture

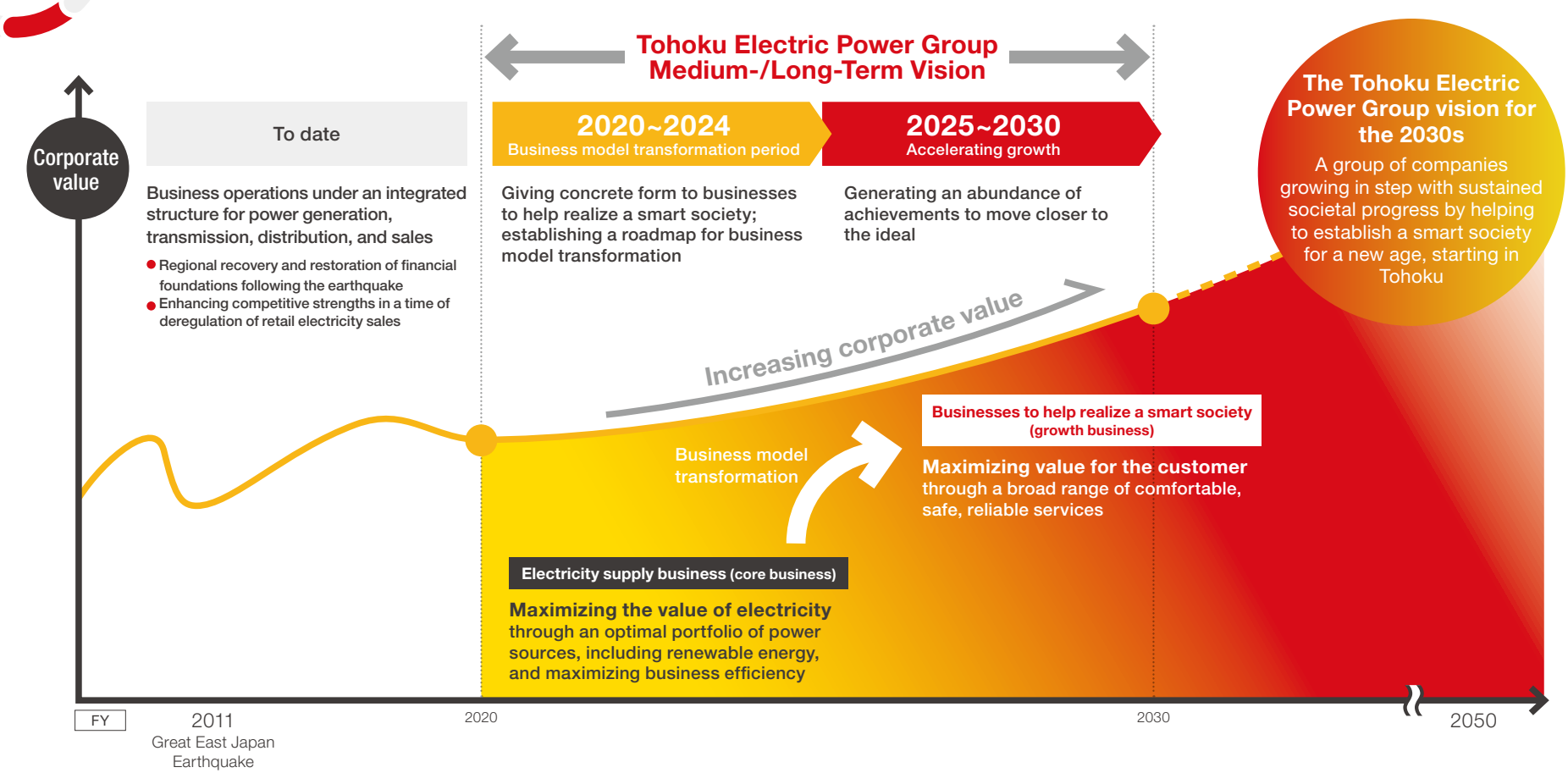
1. Seeing solutions to social issues as business opportunities and linking them to business growth

Continuing to supply electricity to the six Tohoku prefectures and in Niigata Prefecture

2. Comprehensively enhancing the competitive abilities of our grid power supply business

3. Active use of decentralized energy in areas such as fuel cells and electric vehicles

An overview of the Tohoku Electric Power Group Medium-/Long-Term Vision: A vision for the 2030s



In February 2020 the Group published the Tohoku Electric Power Group Medium-/Long-Term Vision. The publication of the Vision was motivated by a certain urgency: Should the Group fail to advance and successfully tackle the challenge of proactive reforms in this time of dramatic changes in society and in electric power demand and supply structures, it would be difficult to continue pursuing the mission that has guided us since our founding, as expressed in the Management Philosophy, which calls for Prosperity in Partnership with the Community, or to achieve sustained growth alongside society. Using this Vision as a guidepost, we plan to contribute to sustained societal progress through businesses that help realize a smart society (Society 5.0)—primarily in the six Tohoku prefectures and Niigata Prefecture. In so doing, we plan to achieve our own growth. This will lend energy needed to achieve our ideal for the 2030s: to work as a group of enterprises to bring us closer to a smart society for a new era, starting from Tohoku, and keeping pace with sustainable societal progress.

As we strive to realize this ideal, we will seek to achieve stable earnings by enhancing our competitive strengths and structural reforms in our core electric power supply business, while pursuing the transformation of our business model through the strategic investment of management resources in growth businesses that will bring us closer to a smart society. Having positioned the period through FY2024 as one entailing the transformation of business models, we will proceed with this transformation and move to generate expansive results during a period of accelerated growth starting in FY2025.



BUSINESS STRATEGY

Looking Back over the Tohoku Electric Power Group's Medium-term Management Policy (FY2017–2020)

To date, the Group has advanced management based on the Tohoku Electric Power Group Medium-term Management Policy (FY2017–2020). Facing a changing business environment, including the deregulation of retail electricity sales, we have pushed ahead with initiatives by tackling the challenge of sustained growth by framing change as opportunity. We have focused on the following three points: 1. solutions to meet the needs of the customers and communities we serve; 2. seeking new business growth opportunities; and 3. establishing solid business foundations through transformation. We will apply the results of the Medium-term Management Policy and the expertise gained from its formulation and implementation to move toward a business model transformation and the realization of the ideal set forth in the Tohoku Electric Power Group Medium-/Long-Term Vision.

	Focal point 01 Solutions to meet the needs of the customers and communities we serve	Focal point 02 Seeking new business growth opportunities	Focal point 03 Establishing solid business foundations through transformation
Measures related to focal points	1 Proposals to meet customer needs 2 Efforts to reinforce the safety of nuclear power stations 3 Enhancing cost competitiveness via an optimal power portfolio 4 Work to move closer to a low-carbon society 5 Stable supply and efficiency of transmission/distribution business 6 Contributing to the revitalization and prosperity of local communities	1 Power sales beyond our home turf 2 Expanding the overseas business 3 Enhancing the gas supply business 4 Developing the power and fuel trading business 5 Promoting the renewable energy business 6 Pursuing innovations to expand future business domains	1 Further improving our financial position 2 Reorganization to succeed against competition 3 Promoting use of diverse human resources 4 Steady progress with Corporate Social Responsibility (CSR)
Initiatives and results	■ Proposing optimal rate plans; enhancing Web services for home users; proposing a wide range of services beyond electrical power based on the Yori, Sou, Chikara + ONe approach; launching full-fledged services for corporate users under our proprietary exEMS energy management system ■ In the area of power sources, advancing safety measures for both nuclear power plants at Onagawa and Higashidori and obtaining permission to modify reactor equipment at Unit No. 2 of the Onagawa plant; suspending operations at aging thermoelectric power plants, which offer low environmental and economic efficiency, while moving forward with the construction of Unit No. 3 at Noshiro and Unit No. 1 at Joetsu ■ In the power transmission and distribution business, in addition to advancing efficiency based on drones and other state-of-the-art technologies, enhancing preventive measures and our resilience to respond to emergencies, thereby enabling effective response rapid disaster recovery and other areas ■ Implementing initiatives to revitalize and develop communities through the Machizukuri Genki Juku® community development programs and the Tohoku-Niigata Revitalization Support Program	■ Boosting electricity sales through the Yorisou Denki electricity plan for the greater Tokyo area and alliances with Synergia Power and Tokyu Power Supply ■ In overseas businesses, participating in the Lantau Dedap geothermal power generation project (Indonesia) and Nghi Son 2 Coal-Fired Thermal Power Plant (Vietnam) projects ■ In the natural gas business, bringing the LNG shipment facility of the Shin-Sendai Thermal Power Station online and enhancing alliances with local natural gas businesses ■ At Tohoku EPCO Energy Trading, developing integrated energy trading through electricity trading markets and fuel futures ■ In the renewable energy business, accelerating development by setting development targets, enhancing structures, participating in multiple projects, and other initiatives ■ In the area of innovation, in addition to making progress in providing services based on IoT and AI, advancing activities such as virtual power plant (VPP) feasibility studies in cooperation with local governments and others	■ Pursuing appropriate organizational reforms reflecting the changing business environment, including statutory separation of the power transmission & distribution businesses, in addition to steadily building up equity capital ■ Establishing productive and rewarding workplace environments by promoting diversity, workstyle reforms, and other efforts ■ Advancing ESG management based on the Tohoku Electric Power Group Code of Conduct and Tohoku Electric Power Group CSR Policy

Results of Efficiency Improvements in FY2019

We consider it vital to advance comprehensive efficiency improvements in all businesses, starting with thoroughgoing enhancements of competitive strength through structural reforms in the electricity supply business. In FY2019, Tohoku Electric Power and Tohoku Electric Power Network together realized efficiency improvements of 165.8 billion yen, surpassing the improvement of 113.9 billion yen (FY2013–2015 average) incorporated when we obtained permission to raise electricity rates.

Results of efficiency improvements in FY2019

(Unit: 100 million yen)

	FY2019 efficiency improvements	Amount incorporated when securing permission to raise electricity rates	Specific initiatives
Personnel expenses	175	403	Reduction of wages and allowances for employees, reduction of recruitment for cutting personnel expenses and revision to welfare programs
Fuel cost and purchased electricity cost	833	316	Short-term and spot purchase contracts for LNG, increase in coal procurement from short distance sources, continued procurement of coal with high economic efficiency and increase in operation of high efficiency thermal power generation facilities
Expenses related to capital investment	188	95	Introduction of new technologies, close monitoring of the scope of work for rationalizing work specifications and methods, studies on machinery deterioration to optimize timing of replacement
Repair expenses	270	135	Close monitoring of the scope of repair work based on strict reviews of facility deterioration, revision of work and inspection cycles and rationalization of work specifications
Other expenses	192	190	Revision of details and specifications, and reduction of prices for procurement from affiliates and other business partners
Total	1,658	1,139	

* On average during the cost calculation period (FY2013 to FY2015)

Future topics of consideration and schedule

Action subject to consideration	Schedule envisioned (FY2019 / FY2020 / FY2021)	Specific measures
Enhancing actions to boost competitiveness	Intensification of cost reduction measures to further boost cost competitiveness	Enhancing measures under the three focal points Utilizing supplier intelligence Utilizing new technologies, etc.
Strengthening of organizational capabilities, systems and infrastructure to pave the way for continuous cost reduction	Expansion of rank- and department-specific training programs to enhance skills related to procurement	Systemizing measures studied and implemented to date and converting them into organizational knowledge Deployment of training programs at frontline worksites, etc.

Three focal points for the Procurement Reform Committee

Change the purchasing methods	■ Expansion of competitive bidding ■ Concentration and leveling of orders ■ Joint procurement with outsiders ■ Increase in overseas suppliers
Change items to be purchased	■ Revision to design, specification and others (including revision to proprietary specifications, high specifications, work specifications and processes)
Change the amount of purchase	■ Revision to the standards for facility maintenance ■ Revision to the work standards

In July 2013, to reduce procurement costs for supplies, materials, and services provided—an important pillar of cost structural reforms—we established the Procurement Reform Committee. This body is charged with advancing various measures in line with the three focal points of purchasing methods, items purchased, and volumes purchased. During Phase III, which began in June 2019, to achieve further improvements in management efficiency and competitive strengths and in light of the intensifying competition accompanying the deregulation of retail electricity sales and other developments, this committee is advancing cost savings by building on its initiatives to date, while prioritizing safety and supply stability.

Qualitative Goals (Financial Targets)

In addition to securing stable revenue through comprehensive enhancements in competitive strengths through structural reforms of our core electricity supply business, the Tohoku Electric Power Group will take on the challenge of business growth to help realize a smart society by strategically investing management resources to dramatically transform our own business model. Success in this endeavor will require a certain cash flow. To increase our ability to generate cash flow, we've established a financial target (indicator) for returns on consolidated cash flow. In addition to achieving returns on consolidated cash flow of at least 320 billion yen in FY2024 and building the foundations for the sustainable generation of cash flow over the long term, we will seek not just to realize continuing and sustained growth, but to generate stable returns to our diverse stakeholders.

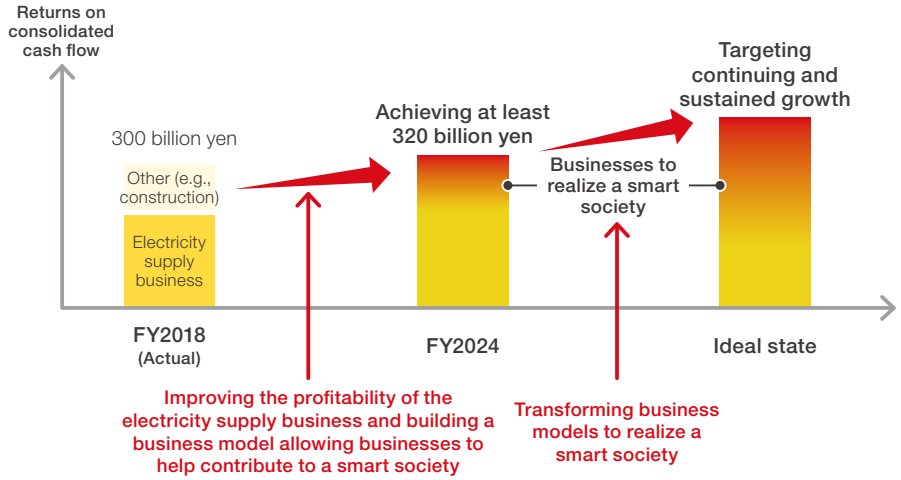
About return on consolidated cash flow

- We face the pressing need to improve our ability to generate cash flow due to intensifying competition and changes in the demand and supply structure. Cash flow is also an essential aspect of promoting future growth businesses. However, since accounting profits such as ordinary income entail significant costs, including depreciation, that do not involve positive cash flow, we have been unable to properly gauge our ability to generate cash flow. For this reason, we've established the new financial target: return on consolidated cash flow.
- Return on consolidated cash flow is calculated as follows:

Return on consolidated cash flow = operating income + depreciation + impairment loss on nuclear fuel + investment gain on equity method
(Operating income does not include the effects of the time lag in the fuel cost adjustment system.)

Financial targets

Based on the levels of cash needed to maintain stable supply, invest in new growth fields, pay various costs, and provide returns to our diverse stakeholders, we've set a target of returns on consolidated cash flow of 320 billion yen in FY2024 as the minimum we must achieve.



Keys to achieving financial targets

To make steady progress toward our financial targets, we plan to move forward with bold structural reforms in the electricity supply business while advancing sales strategies that stress the generation of cash flow and profits, thereby implementing cost savings on a scale of tens of billions of yen in both variable and fixed costs.

Making steady progress toward achieving financial targets through comprehensive enhancements in profitability

Sales strategies targeting profitability

- Transformation to a sales approach with a greater emphasis on capacity to generate cash flow (within and beyond our major regions in both retail and wholesale sales)

Maximum use of and improving supply capabilities

- Enhancing competitive strengths in power supply by optimizing demand and supply via flexible fuel procurement and trading functions; reducing power generation costs by suspending and decommissioning aging thermal power facilities

Comprehensive review of business processes

- Enhancing staffing to promote growth businesses by improving efficiency in sales and back-office operations
- Comprehensive expense reductions through teleconferencing, shifting to paperless offices, and other measures
- Cutting total working hours, accelerating decision-making, and controlling staffing to reduce labor costs by advancing workstyle reforms and improving business process efficiency

Anticipated downside risk factors

- Decreased profitability due to intensifying competition
- Structural changes on the supply side (decreased competitive strength of thermal power sources) accompanying large-scale adoption of renewable energy

We will respond appropriately to downside risks through the key measures indicated at left.

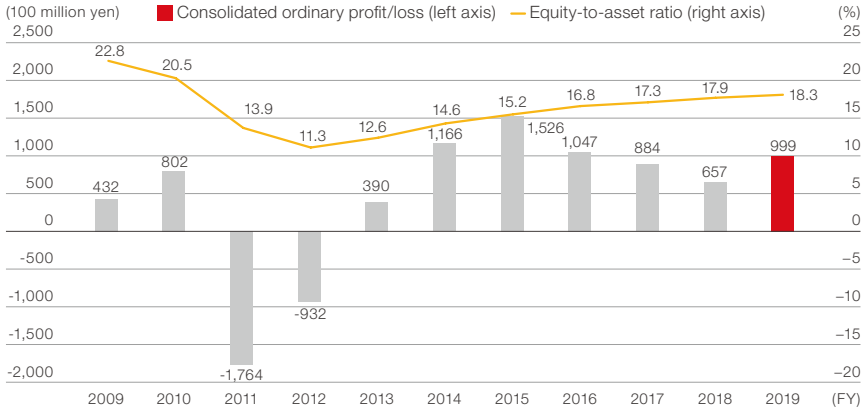
Our Thinking on Financial Discipline, Returns to Shareholders, and Capital Efficiency

During the period of business model transformation, we expect to invest in growth businesses as a step toward just such a transformation, in addition to investing to restore operations at nuclear power plants and to enhance thermal power capacity. To secure a degree of financial discipline and soundness and to maintain our current credit rating, we will move steadily forward with initiatives seeking to enhance our capacity to generate cash flows through achievement of financial targets and strengthen balance sheet management.

	Approach to date	Approach for the Medium-/Long-Term Vision	Reasons for changes
Financial soundness	Consolidated equity-to-asset ratio of 25% or higher	Monitoring consolidated interest-bearing debt/return on cash flow ratio and the consolidated equity-to-asset ratio	Since capital stock damaged by the Great East Japan Earthquake has been restored to some degree, we will also confirm financial discipline and soundness by accounting for indicators reflecting the capacity to repay debts (cash flows).
Returns to shareholders	Stable dividends	Steady returns based on consideration for stable dividends as well as resumption of operations at Unit No. 2 at Onagawa and achievement of financial targets	Returning to shareholders the results of improvements in our capacity to generate cash flows
Capital efficiency	We plan to improve returns on invested capital by monitoring returns on individual investments and groupwide capital efficiency, as well as by securing profitability in the electricity supply business and shifting resources to quickly achieve profitability in growth businesses.		

Trends in ordinary income and equity-to-asset ratio

The March 2011 Great East Japan Earthquake significantly damaged our financial foundations. Since then, we have sought to enhance equity by targeting a consolidated equity-to-asset ratio of 25% or higher (as of the end of FY2020). As a result, through management efficiency improvements advanced to date and other measures, although we were unable to achieve the target level, through steady generation of profits, we are returning to an equity level approaching that prior to the earthquake.
In the future, as we aim to realize the Medium-/Long-Term Vision the most important topic will be improving our ability to generate cash flows. Accordingly, together with making steady progress toward achieving the new target of returns on consolidated cash flow, we will monitor indicators such as the ratio of consolidated interest-bearing debt to returns on cash flow and the consolidated equity-to-asset ratio, striving to maintain financial discipline and secure financial soundness.



Dialogue with shareholders and investors

Management strives to explain the state of matters such as management policies, finances, and settlement of accounts to shareholders and investors in easily understandable ways through briefings on financial results and other opportunities for dialogue. We also strive to reflect in our management the opinions and inquiries received through this dialogue.



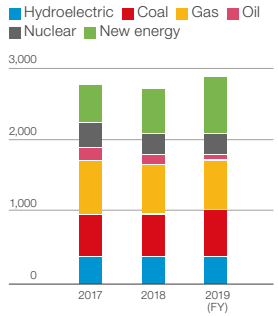
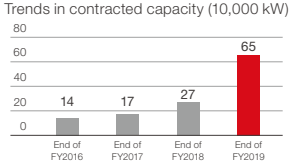
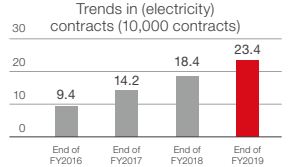
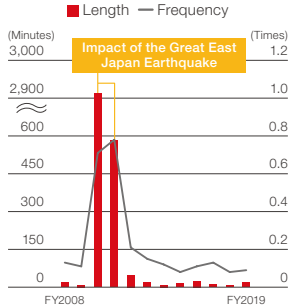
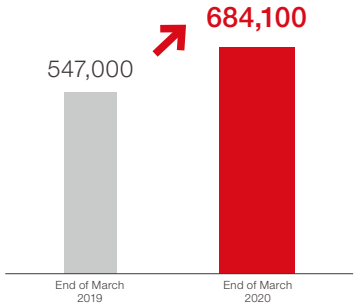
A briefing on financial results

The Tohoku Electric Power Group's Value Chain

Each and every member of the Tohoku Electric Power Group is continuing to provide various services related to activities ranging from fuel procurement to retail sales of electricity and advancing our project to transform the business model through the deployment of businesses that will bring us closer to realizing a smart society while demonstrating the Group's comprehensive capabilities in accordance with the Tohoku Electric Power Group Medium-/Long-Term Vision.

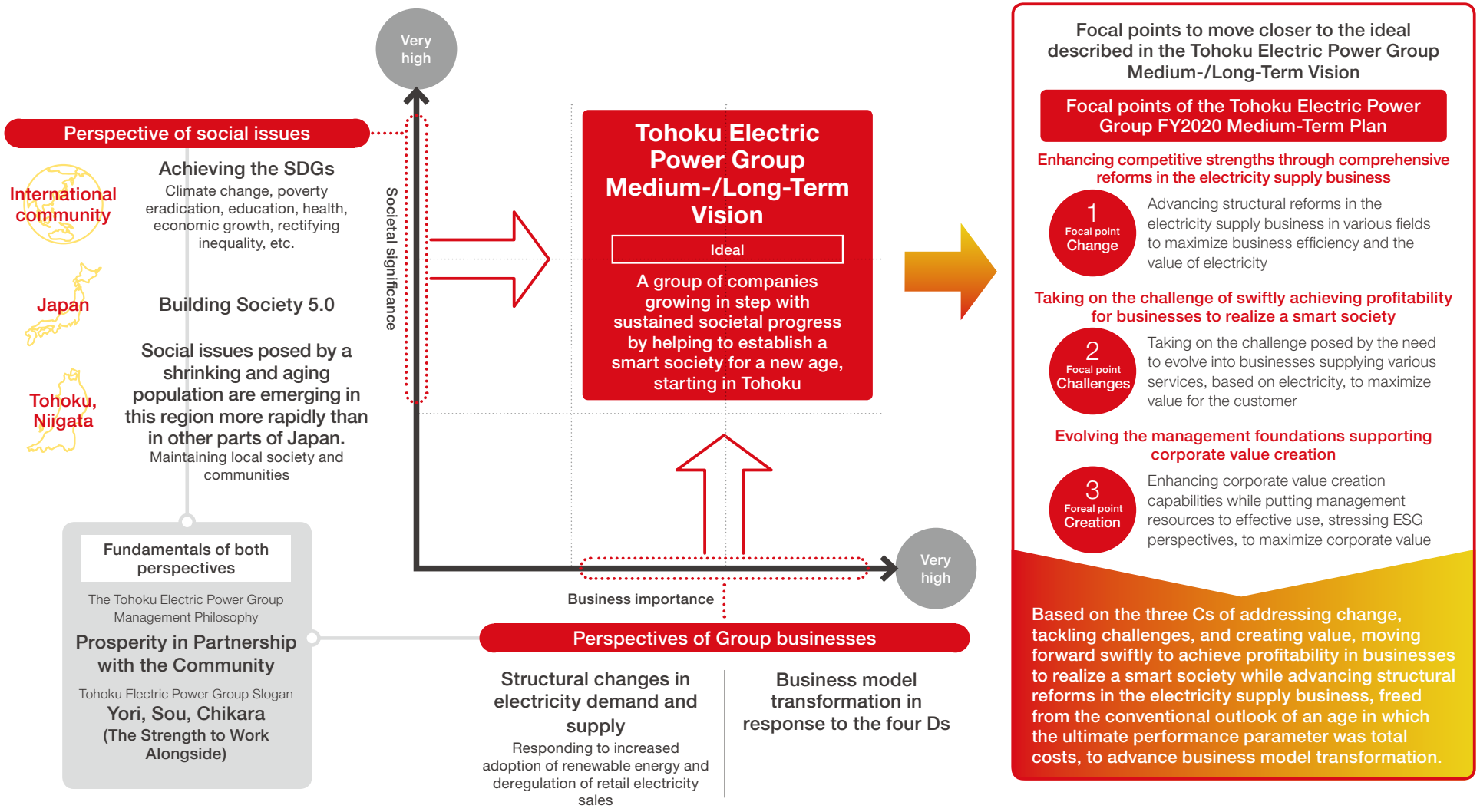
Electricity supply business → **Businesses to realize a smart society**

Fuel procurement → Thermal / Nuclear / Renewables → Trading → Electricity wholesaling → Power transmission & distribution → Electricity retail sales

	Fuel procurement	Thermal / Nuclear / Renewables	Trading / Electricity wholesaling	Power transmission & distribution	Electricity retail sales
Main initiatives	**Fuel procurement with consideration for efficiency, flexibility, etc.** Reducing fuel costs and securing fuel procurement flexibility through diversification of procurement methods and other methods	**Pursuing an optimal power source structure in light of the S+3E approach** Building an optimal power source structure to achieve energy security, economic efficiency, and environmental performance simultaneously, based on the safety-first principle	**Growing profits by maximizing the value of electricity** In addition to growing profits by maximizing the value of electricity, we will make full use of trading functions to explore and advance services for increased added value of electricity wholesaling.	**Maintain a stable power supply.** In addition to managing power transmission & distribution networks to contribute to stable power supplies while improving their efficiency, we will improve disaster resilience and preventive measures.	**Maximizing value for the customer by establishing a comfortable, safe, reliable smart society** In addition to expanding marketing functions to enhance competitive strengths in retail electricity sales while demonstrating comprehensive abilities in cooperation with other Group members, we deploy a diverse range of services and initiatives to maximize value for the customer and contribute to solutions to social issues, taking on the challenge of swiftly generating new value and transforming our business model.
Main related companies See p. 86 for a list of Group member companies.	Tohoku Electric Power NIHONKAI LNG Tohoku Natural Gas	Tohoku Electric Power, Tohoku Sustainable & Renewable Energy, Tohoku Electric Power Engineering & Construction, SAKATA KYODO POWER, JOBAN JOINT POWER	Tohoku Electric Power Tohoku EPCO Energy Trading Synergia Power Tokyu Power Supply	Tohoku Electric Power Network Tohoku Power Transmission and Distribution Service Yurtec Kitanihon Electric Cable	Tohoku Electric Power, Tohoku Energy Service, Yurtec, Tohoku Intelligent Telecommunication, HNK, E life-Partners, ELTAS TOHOKU
Topics	**Main sources of imported fuel used for power generation** **Crude oil:** Indonesia **Coal:** Indonesia, China, Russia, Canada, US **LNG:** Mozambique, Qatar, Malaysia, Indonesia, Russia, US **Uranium:** Niger, Kazakhstan, Canada	**Ratios of power generation capacity** (including power received from other companies) 	**Synergia Power** Trends in contracted capacity (10,000 kW)  **Tokyu Power Supply** Trends in (electricity) contracts (10,000 contracts) 	**Average frequency and length of power failures per customer household** 	**Yori, Sou eNet members** 
	▶ See "Fuel procurement, thermal power," p. 29.	▶ See "Corporate information," p. 85.	See "Wholesaling," p. 37.	See "Performance Data", ESG Databook p. 35-37.	

Focal points of the Tohoku Electric Power Group's FY2020 Medium-Term Plan

Reflecting the importance of balancing social and business objectives, the Tohoku Electric Power Group Medium-/Long-Term Vision calls for the Group to contribute to establishing a smart society for a new era, starting in Tohoku, and to grow alongside sustained societal progress. The aim is to generate solutions to social issues through our businesses. To realize this ideal, under the Tohoku Electric Power Group FY2020 Medium-Term Plan we plan to make progress on structural reforms in the electricity supply business and achieve profitability swiftly to realize a smart society, based on the three focal points of addressing change, tackling challenges, and creating value.



List of Measures to Be Implemented under the Focal Points of the Tohoku Electric Power Group FY2020 Medium-Term Plan

The main measures to be implemented based on the three focal points of the Tohoku Electric Power Group FY2020 Medium-Term Plan are summarized below. These measures will help move us closer to the SDGs, as a socially responsible corporate group, in addition to enhancing competitive strengths in the electricity supply business and swiftly achieving profitability to realize a smart society.

	Examples and summaries of measures		Related SDGs	Related pages
1 Focal point Change **Enhancing competitive strengths through comprehensive reforms in the electricity supply business** Advancing structural reforms in the electricity supply business in various fields to maximize business efficiency and the value of electricity	Moving forward with the development of Joetsu Unit No. 1	Operations scheduled to begin in June 2023 (thermal efficiency 63% or higher)		P30
	Moving forward with the development of renewable energy	Developing 2 million kW (mainly wind power)		P34
	Swift resumption of operations at nuclear power plants	Swift resumption of operations at Onagawa Unit No. 2 and Higashidori Unit No. 1		P35
	Supply chain optimization using trading functions	Supply chain optimization from procurement of fuel and power sources through power generation and sales		P37
	Proactive sales via electricity trading markets	Wholesaling to Synergia Power and Tokyu Power Supply, proactive market trading		P37
	Stable supplies	Improving disaster resilience of Tohoku Electric Power Network, etc.		P39
	Advancing networks to realize a smart society	Developing efficient configuration of facilities, operating the grid in response to changes in demand and supply, deploying new business		P40
2 Focal point Challenges **Taking on the challenge of swiftly achieving profitability for businesses to realize a smart society** Taking on the challenge posed by the need to evolve into businesses supplying various services, based on electricity, to maximize value for the customer	Enhanced competitive strengths in retail electricity sales through enhanced marketing functions and other means	Boosting customer satisfaction and profitability by bundling energy and services		P44
	Shifting management resources to growth business	Strategic investment of management resources in growth businesses		P44
	Deployment of the Yori, Sou, Chikara + ONe brand	Proposing electrification solutions for smarter living and enhancing living support services		P45
	VPP business development	Swift development of services to assist with strengthening community disaster resilience as well as energy conservation and cost savings		P46
	Mobility initiatives	Providing mobility services to contribute to solutions to community challenges		P46
	Deployment of services related to decentralized energy	Rapid development of services in areas such as decentralized energy and installation of storage cells		P46
	Growing profits from natural gas sales	Growing profits through alliances with gas providers, comprehensive solutions, and other efforts		P47
	Enhancement of business creation functions	Corporate reorganization and formation of business creation sections in July 2020		P48
3 Foreal point Creation **Evolving the management foundations supporting corporate value creation** Enhancing corporate value creation capabilities while putting management resources to effective use, stressing ESG perspectives, to maximize corporate value	Advancing environmental management	Seeking to achieve a CO_2 emissions coefficient of 0.37 kg-CO_2/kWh for the electricity business as a whole in FY2030		P53
	Embodiment of the Yori, Sou, Chikara (The Strength to Work Alongside) slogan among all Group employees	Engaging in activities alongside customers and communities on a daily basis		P55
	Promoting diversity	Creating workplaces where diverse human resources can demonstrate their abilities to the fullest		P57
	Accelerating workstyle reforms	ICT environmental development, streamlining operations, reviewing in-house rules		P58
	Developing a corporate culture based on the safety-first principle	Allowing the Tohoku Electric Power Group Safety and Security Policy to take firm root		P59
	Enhancing resilience	Enhancing the capacity to respond to increasingly diverse risks, including natural disasters and cyber risks		P60
	Enhancing corporate governance	Sustained initiatives to enhance corporate governance		P64
	Promoting compliance	Deploying autonomous activities based on the Corporate Ethics/ Compliance Action Plan		P76

Electricity Supply Business: Fuel Procurement, Thermal Power Generation

Business environment

With slow growth in domestic demand for electricity due to the shrinking population and other factors, the competition for sales is intensifying due to power system reforms (including power market adjustments and the emergence of new electricity services). In addition, factors such as the growing adoption of renewable energy are generating increasingly tight controls on output from thermal power supplies and other impacts on the rate of use of our thermal power. At the same time, alongside stronger environmental regulations (under the Act on Sophisticated Methods of Energy Supply Structures and the Act on the Rational Use of Energy), climate change concerns continue to grow, as seen for example in the rise of ESG investment.

Courses of action

We plan to move forward with the following initiatives as we seek to enhance competitive strengths and improve environmental performance, all in line with the safety-first principle.

- **Cutting fuel costs and boosting fuel procurement flexibility through diversification of fuel procurement methods and other means**
- **Enhancing competitive strengths by developing high-efficiency power sources and decommissioning aging thermal power plants**
- **Promoting advances and efficiency improvements in power plant operations through new technologies**

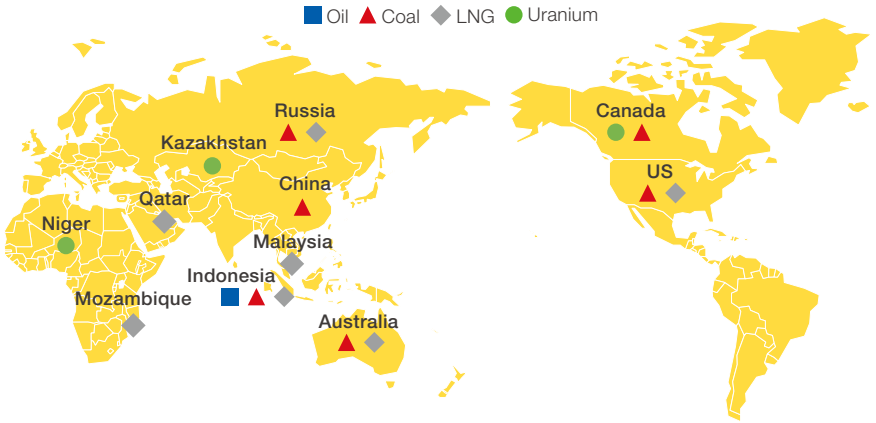
Cutting fuel costs and boosting fuel procurement flexibility

Our fuel procurement is based on the concurrent pursuit of economy, flexibility, and stability.

Operation of thermal power generation is undergoing dramatic changes due to various factors, including the growing adoption of renewable energy and utilization of wholesale electricity trading. For this reason, to reduce fuel costs and secure fuel procurement flexibility, we're advancing various initiatives, including procurement that reflects market conditions and diversification of suppliers and pricing structures. Specifically, to increase flexibility in LNG procurement, we're expanding use of economical and flexible short-term and spot contracts and expanding use of contracts for which destinations may be changed. For coal procurement, in addition to cutting transport costs by increasing use of nearby sources like Russia, we're pursuing various efforts, including procuring low-ash subbituminous coal, as we move forward to cut costs in ash processing costs and other areas.

We're also advancing efforts to optimize the supply chain from the procurement of fuel and power sources through power generation and sales while making full use of market trading functions (see p. 37).

Main sources of imported power generating fuels





Procurement of natural gas produced in the US, including shale gas from the Cameron LNG project (tanker: Diamond Gas Sakura)

Full-fledged study in preparation for the adoption of coal vessels equipped with the Wind Challenger hard sail

Together with Mitsui OSK Lines, we've launched a full-fledged joint study of Wind Challenger technology, the world's first hybrid propulsion system equipped with a hard sail, on coal vessels.

After verifying effects on loading, port entry/exit at coal loading ports, and greenhouse gas reductions when underway, the two companies will discuss the operational launch of the first ships equipped with Wind Challenger technology beginning in FY2022. Adopting this equipment is expected to reduce environmental impact and boost economic performance by reducing fuel use during shipment.

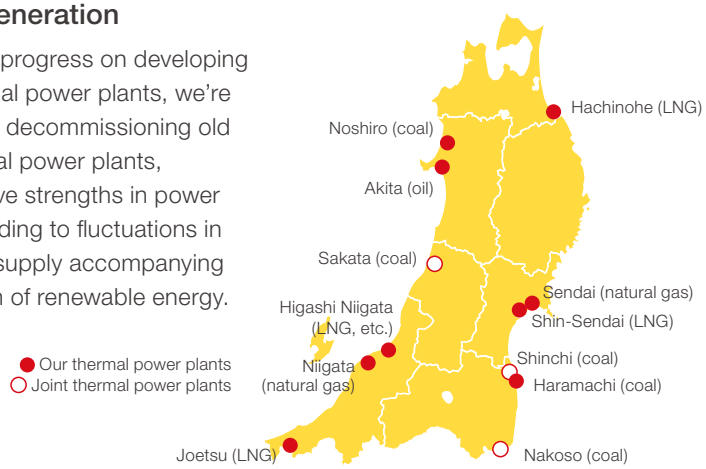


Simulation of a coal vessel equipped with Wind Challenger equipment

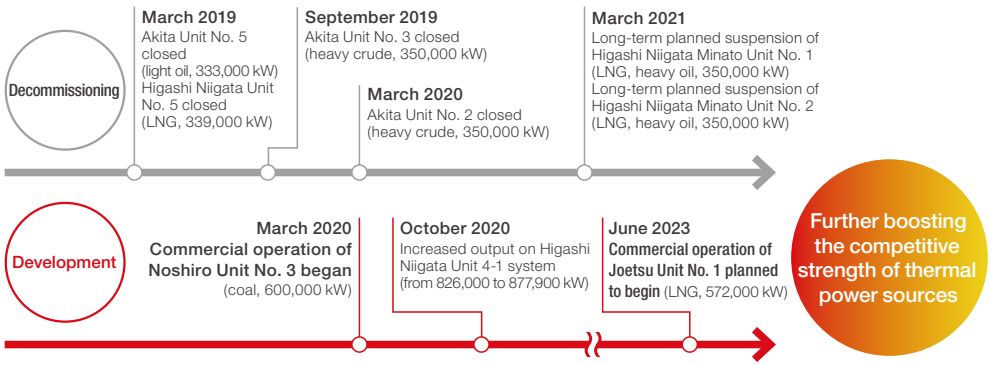
Electricity Supply Business: Fuel Procurement, Thermal Power Generation

Enhancing competitive strengths in thermal power generation

In addition to steady progress on developing high-efficiency thermal power plants, we're also suspending and decommissioning old and inefficient thermal power plants, enhancing competitive strengths in power sources, and responding to fluctuations in power demand and supply accompanying the growing adoption of renewable energy.



Status of thermal power plants in power source development plans



Unit No. 3 at the Noshiro Thermal Power Plant



Unit No. 3 at the Noshiro Thermal Power Plant

The Noshiro Thermal Power Plant's Unit No. 3 came online in March 2020. Employing ultra-supercritical (USC) technology and by boosting steam temperatures, Noshiro Unit No. 3 has achieved thermal efficiency of 46%, among the world's highest levels of thermal efficiency recorded to date (based on low-level heat generation volume) for coal-fired power generation equipment.

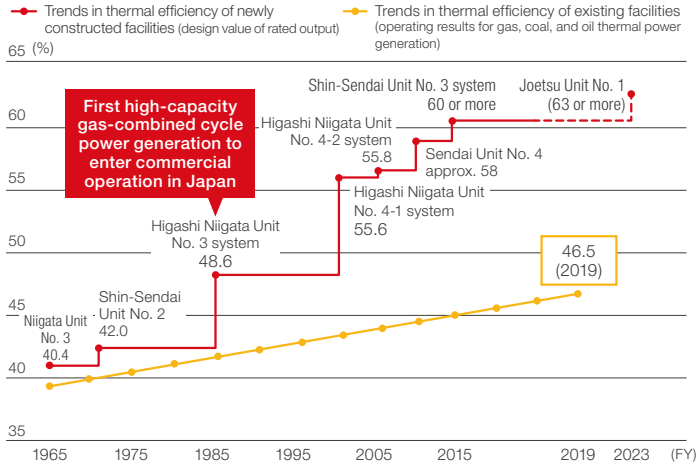
Unit No. 1 at the Joetsu Thermal Power Plant

Construction of the new Unit No. 1 at the Joetsu Thermal Power Plant began in May 2019. Plans call for Joetsu Unit No. 1 to come online in June 2023. Powered by LNG, Joetsu Unit No. 1 will employ a next-generation gas turbine adopting a forced air-cooled combustor system jointly developed with Mitsubishi Hitachi Power Systems, Ltd. (now Mitsubishi Power, Ltd.). This technology was recognized by a 2018 Energy-Efficient Machinery Award from the Minister of Economy, Trade and Industry. This unit is designed to achieve both high economic benefits and lower environmental impact by reducing fuel consumption and CO_2 emissions, with the goal of realizing a world-leading thermal efficiency of 63% or better for gas combined cycle power generation equipment.
In addition, since it takes less time to start up than conventional gas turbine equipment and can flexibly cope with output adjustment, startup, suspension, and other operations in response to power demand, we expect it to contribute to the stable supply of electricity.



Unit No. 1 at the Joetsu Thermal Power Plant (artist's depiction of completed unit)

Trends in thermal efficiency of our own thermal power plants (based on low-level heat generation volume)



* Low-level heat generation volume basis: volume of heat generated after subtracting condensation heat from water content of fuel and water generated by burning fuel

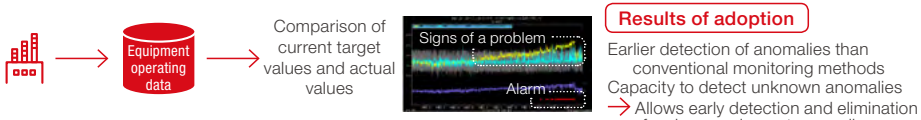
Electricity Supply Business: Fuel Procurement, Thermal Power Generation

Advancements in the operation of thermal power plants

Seeking to boost operational efficiency of thermal power plants still further, we're adopting advanced digital technologies like Big Data analysis and IoT.
Since 2017, we've moved forward in advanced joint verification efforts with Toshiba Energy Systems & Solutions Corporation for the following two systems, which are intended to contribute to the early detection of equipment anomalies and increased thermal efficiency. Through March 2020, we've deployed and launched these systems at all thermal power plants (16 units at eight plants).

Of these, we believe that systems for early detection of signs of equipment anomalies will contribute to safety and stable operations not just for our own power plants, but for customers with their own power generation equipment, as well as customers in various manufacturing industries. For this reason, in preparation for external sales of advanced equipment monitoring services utilizing these systems, we're working with Group members Tsuken Electric Ind. Co., Ltd. and Tohoku Intelligent Telecommunication Co., Inc. to develop related businesses by roughly 2021, making full use of Group strengths.

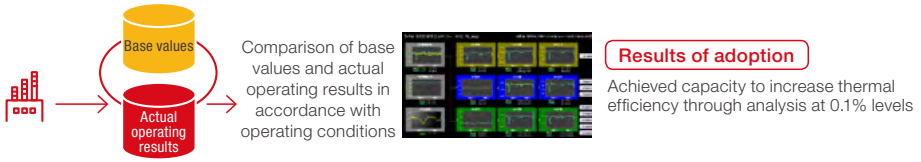
Systems for early detection of signs of equipment anomalies (utilizing Big Data analysis technologies)



Results of adoption

Earlier detection of anomalies than conventional monitoring methods
Capacity to detect unknown anomalies
→ Allows early detection and elimination of serious equipment anomalies

Systems to increase thermal efficiency by modifying operating conditions (applying IoT technologies)



Results of adoption

Achieved capacity to increase thermal efficiency through analysis at 0.1% levels

Utilization

Advanced equipment monitoring services (targeting commercialization by roughly 2021)

Expertise with operations and maintenance of a broad range of equipment at thermal power plants based on more than 60 years of experience

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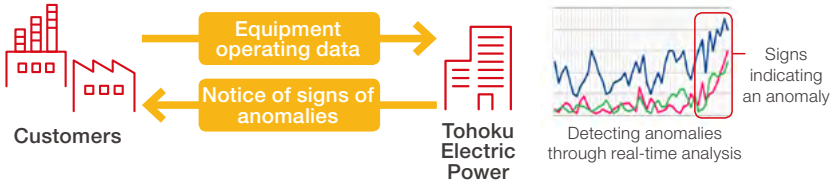
Tohoku Electric Power's high-performance, state-of-the-art digital technologies for a wide range of general applications

Early detection of equipment anomalies and minimizing associated negative costs



Overseas power generation business

We've applied the technologies, experience, and other resources gathered in Japan in activities related to the power generation business in pursuing business opportunities around the world. We plan to press forward to launch the commercial operation and stable utilization of projects in which we have invested and participated worldwide.
In development and planning for renewable energy and businesses to realize a smart society, we will make full use of the expertise, personnel networks, and other resources accumulated to date in our overseas power generation operations.

Projects in which we have invested and participate

Project	Country	Output (thousand kW)	Our share of output (thousand kW)
Falcon Gas Thermal IPP Project	Mexico	2,233	223
Lantau Dedap Geothermal Power Project	Indonesia	98	10
Nghi Son 2 Coal Power Plant Project	Vietnam	1,200	120



Lantau Dedap Geothermal Power Project (Indonesia)

Electricity Supply Business: Renewable Energy



Accelerating renewable energy development as a responsible business operator

Toshinori Abe

Director and Managing Executive Officer/General Manager, Power Generation and Sales Company
Tohoku Electric Power Co., Inc.

The motto of our first President, Ungoro Uchigasaki, when Tohoku Electric Power was founded in 1951, called for “Rebuilding Japan starting in Tohoku and developing Tohoku starting with electric power.” Inspired by this belief, the Company developed hydroelectric power. Thus, in a sense, the tradition of renewable energy can be traced all the way back to the origins of the Tohoku Electric Power Group.

Our network of 227 hydroelectric power plants and a roughly 45% share of Japan’s nationwide geothermal power generating capacity testify the progress our predecessors have made in developing renewable energy. Today, we’ve reached a true turning point in renewable energy. In addition to improvements in cost competitiveness made possible by technological advances, I’m convinced environmental concerns are driving growth in customer demand for renewable energy—as seen, for example, in the case of the RE100 initiative.
In light of these circumstances and other considerations, we consider renewable energy to be an integral part of our portfolio of power sources, and we’re continuing to expand and accelerate associated developments. In January 2019, we announced the target of developing 2 million kW of capacity from renewables, centered on wind power, chiefly in the six Tohoku prefectures and in Niigata Prefecture. We currently participate in numerous projects, including onshore and offshore wind power as well as solar power, among other proactive initiatives in this field.
A fundamental tenet of our movement forward with renewable energy development is our desire to remain a responsible business operator. In the six Tohoku prefectures and in Niigata Prefecture, which offer high potential for renewable energy development, numerous businesses are launching efforts to develop renewable energy sources. While this high potential is creating intense competition, we believe, as a Group with a solid business foundation in the region, that we must participate not just in development, but throughout the lifecycle of renewable power generation, including operations and maintenance, decommissioning, and replacement.
By moving forward with comprehensive initiatives based on the close ties and relationships of trust established to date with our customers and communities in our business operations to date, we will establish a solid position for the Group as a responsible business operator in renewable energy. This in turn will serve as a driving force toward realizing our ideal of being a Group that helps establish a smart society for the new age, starting from Tohoku—a Group that grows alongside sustained progress within society.

Electricity Supply Business: Renewable Energy Business Environment

Business environment

The six Tohoku prefectures and Niigata Prefecture are home to rich renewable energy resources, including hydroelectric, geothermal, and wind power. Having positioned renewable energy sources as key sources of electricity for the future, we're moving forward with development leveraging these geographical resources. At the same time, we must pay close attention to trends in competition and policy. For example, in addition to the numerous companies participating in planning and development projects in the six Tohoku prefectures and in Niigata Prefecture, centered on wind power, the government is also making revisions of policies to support renewable energy adoption. We must proceed with renewable energy development based on the precondition of maintaining relationships of trust with the community while also considering matters such as growing customer needs.

Courses of action

To be a responsible operator of renewable energy in the six Tohoku prefectures and in Niigata Prefecture, we're aiming to develop 2 million kW of capacity through new development and new businesses throughout all spheres of renewable energy, including hydroelectric, solar, geothermal, and biomass, with a primary focus on wind power. In development efforts, we will capitalize on our wealth of knowledge and experience, established over many years of doing business providing electricity alongside local communities. Moving forward, we will accelerate our efforts to further expand the use of renewable energy.

State of initiatives

Since our founding in 1951, we've advanced hydroelectric power development in the Tadami River (Fukushima Prefecture) watershed and elsewhere. Currently, the Group owns 227 hydroelectric power plants and a large share (roughly 45%) of Japan's nationwide geothermal power generating capacity. We're active in solar power as well, having established megasolar facilities in Hachinohe, Sendai, and Haramachi.
Given the limited number of locations at which new hydroelectric and geothermal power generation facilities can be developed, we're striving to carry out new development while closely monitoring business potential. In addition, we're putting existing power plants to more effective use by repairing aged equipment and other measures.



Hydroelectric power

The Group owns 227 facilities



Geothermal power

The Group holds a significant share (roughly 45%) of Japan's nationwide geothermal power generating capacity

(as of March 31, 2020)

Wind power generation potential in Tohoku and Niigata

Renewable energy has been rapidly adopted across Japan under the feed-in tariff program. Thanks to the large number of locations exposed to strong wind, the region consisting of the six Tohoku prefectures and Niigata Prefecture is ideally suited to wind power. In consideration of factors such as capacity connected to the grid to date and grid enhancements through the bidding process*1 in the northern Tohoku area, as well as future progress with the connect and manage*2 approach, the wind power generating potential in the six Tohoku prefectures and in Niigata Prefecture is estimated to be approximately 10 million kW, based on wind power facilities currently operating and new facilities in the pipeline.

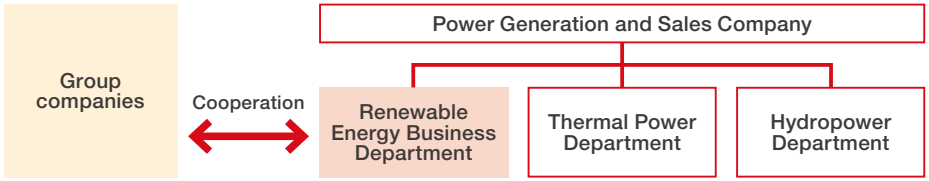
*1 System for soliciting bids from companies that will share in the cost of costly grid enhancements required for the high-voltage grid when connecting power generation facilities and other facilities to the electrical grid
*2 System that makes flexible use of available capacity on the electrical grid to permit connection under certain restrictive conditions

Electricity Supply Business: Renewable Energy

Outlook on and progress in initiatives to date

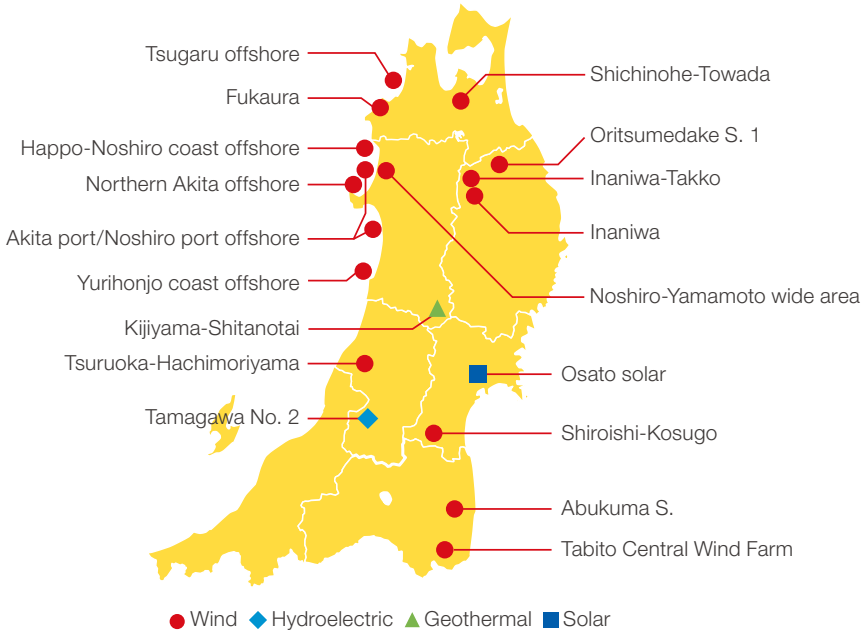
From perspectives ranging from improving energy security to environmental compatibility, Tohoku Electric Power sees renewable energy as an integral component of its portfolio of power sources. As a responsible business operator, the Group is working to develop renewable energy in the six Tohoku prefectures and in Niigata Prefecture.

Positioning as power source	Integral part of our future power source portfolio **Competitive strength**: Costs can be expected to fall with technological development. Variable costs are low. **Environmental performance**: Eco-friendly and free of greenhouse gas emissions **Regional potential**: Abundant resources available in the six Tohoku prefectures and in Niigata Prefecture
Initiative methods	○ New development and new business participation drawing on our accumulated expertise in hydroelectric, solar, geothermal, and biomass power, with a primary focus on wind power ○ Participating in all aspects of the renewable energy life cycle with due consideration for efforts in areas such as operation and maintenance (O&M) and power source replacement
Goal	Developing 2 million kW of capacity mainly in the six Tohoku prefectures and in Niigata Prefecture, with a primary focus on wind power
Scale of investment	We believe achieving our development goal will require investment of more than 100 billion yen. For now, we anticipate investment on a scale of roughly 10–20 billion yen/year. We will select our investment targets with care, seeking those that will generate returns on consolidated cash flow after identifying their business potential.
Business structure	Centered on the Renewable Energy Business Department, previously an internal section of the Group Business Department but spun off into an independent section under the Power Generation and Sales Company in July 2020, we will adopt and expand renewable energy on an integrated groupwide basis.



Progress	To date, including our participation in existing projects, we've developed 18 sites (output capacity: 2.66 million kW). We will continue to work toward our goals by adopting and expanding renewable energy through in-house development and joint efforts with other leading companies within the industry.

Major renewable energy development/participation projects (including development feasibility studies)



(as of September 30, 2020)

Electricity Supply Business: Nuclear Power

Business environment

Formulated in July 2018, Japan's national basic energy plan identifies a policy of reducing reliance on nuclear power as much as possible. However, it also calls for resuming nuclear power plant operations as important baseload power sources, with a top priority on safety.
Amid intensifying competition accompanying progress on reforms of the electric power system, to enhance competitive strengths, we must continue to improve in cost savings and operating efficiency, based on the paramount precondition of safety, in nuclear power.

Courses of action

In addition to accelerating efforts to achieve rapid resumption of nuclear power plant operations, based on the paramount precondition of safety, we will continue to improve cost savings and operating efficiency to enhance our competitive strengths.
We will also make steady progress on decommissioning Unit No. 1 at Onagawa.

Initiatives to resume nuclear power plant operations

We're moving forward with Companywide initiatives to review compliance with new regulatory standards in preparation for the resumption of nuclear power plant operations.
In February 2020, we received a permit from the Nuclear Regulatory Commission to change the reactor equipment at Unit No. 2 at the Onagawa Nuclear Power Plant. We will continue responding appropriately to inspections related to construction plan permits and other matters. We've also set the goal of completing safety-related construction during FY2022.
For Unit No. 1 at the Higashidori Nuclear Power Plant, we've finished responding to inspections related to seismic fault assessments. An inspection is currently underway to assess base seismic vibrations and base tsunami resistance. We will continue making every effort to complete these inspections at the earliest possible date.
We aim to resume operation once all preparations are complete, not just in relation to compliance with new regulatory standards, but also as regards achieving greater nuclear power plant safety and securing the understanding and consent of local residents.

Our nuclear power plants

		Electricity output (thousand kW)	Date operation began	Type
Onagawa Nuclear Power Plant	Unit No. 2	825	July 1995	Boiling water reactor (BWR)
	Unit No. 3	825	January 2002	Boiling water reactor (BWR)
Higashidori Nuclear Power Plant	Unit No. 1	1,100	December 2005	Boiling water reactor (BWR)

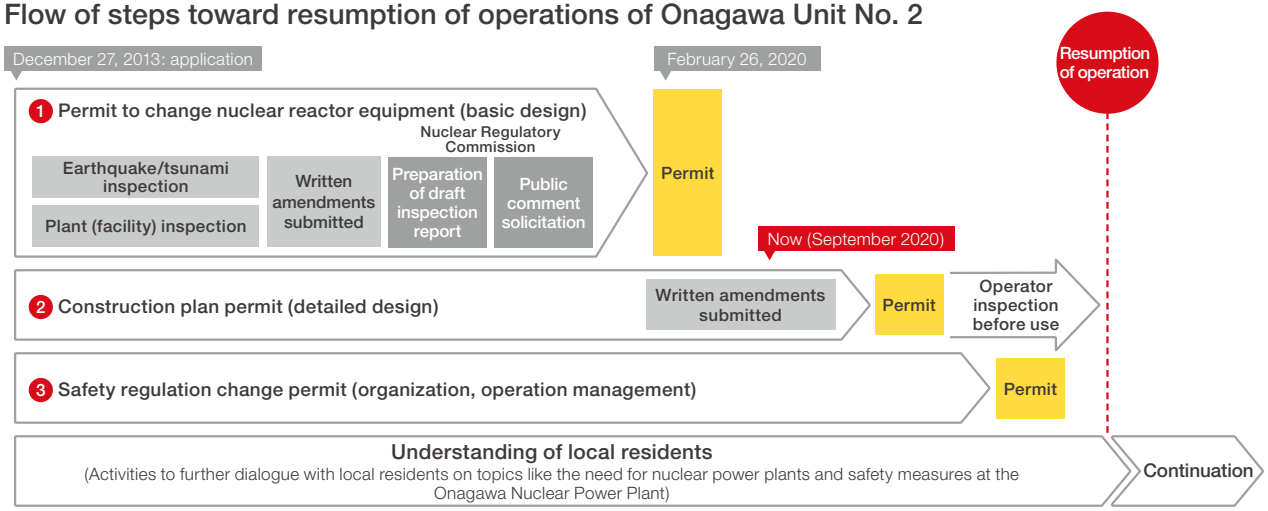

Onagawa Nuclear Power Plant, where safety construction is underway


Drill involving use of mobile power generators to supply power (Onagawa Nuclear Power Plant)


Visiting all households in the community (Higashidori Nuclear Power Plant)

▶ See ESG Data Book, pp. 16–18.

Flow of steps toward resumption of operations of Onagawa Unit No. 2



Electricity Supply Business: Nuclear Power

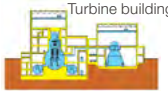
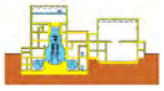
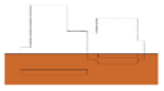
Decommissioning of Unit No. 1 at the Onagawa Nuclear Power Plant

Decommissioning plans for Unit No. 1 at the Onagawa Nuclear Power Plant were approved by the Nuclear Regulatory Commission in March 2020. In May 2020, Miyagi Prefecture, the town of Onagawa, and the city of Ishinomaki also granted preliminary approval for the plans in accordance with our safety agreements. In addition to putting safety first in the decommissioning process, we will share information on the status of decommissioning with local residents and other parties through our website and other means.

Background of this decommissioning

Date	Details
October 25, 2018	Decision made on decommissioning
December 21, 2018	Operation terminated
July 26, 2019	Requested advance discussions with Miyagi Prefecture, the town of Onagawa, and the city of Ishinomaki on application for approval of the decommissioning plan
July 29, 2019	Applied for approval for the decommissioning plan
March 18, 2020	Decommissioning plan approved
May 22, 2020	Received answers to advance discussions with Miyagi Prefecture, the town of Onagawa, and the city of Ishinomaki on application for approval of the decommissioning plan (approval)
July 28, 2020	Decommissioning work begins.

The decommissioning process

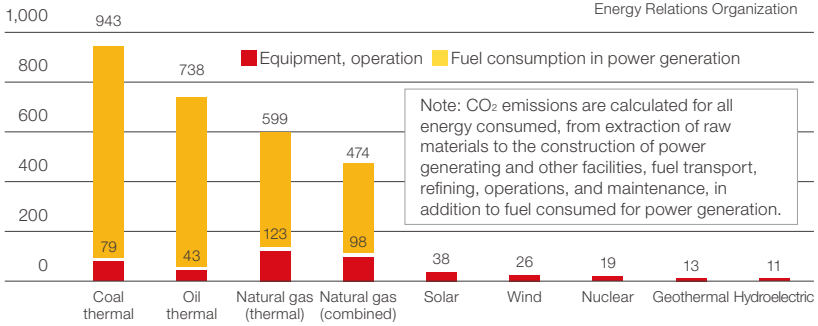
	Stage 1	Stage 2	Stage 3	Stage 4
Category of work in each stage	Preparatory period for demolition work	Demolition and removal period for equipment near the reactor zone	Demolition and removal period for equipment in the reactor zone	Demolition and removal period for buildings and structures
	8 years (FY 2020–2027)	**7 years** (through FY2034)	**9 years** (through FY2043)	**10 years** (through FY2053)
	Nuclear reactor building, Turbine building 			
Main tasks	Fuel removal Contamination inspection Safe storage	Demolition and removal of equipment inside the radiation management zone (outside nuclear reactor zone)	Demolition and removal in the reactor zone	Demolition and removal of buildings and structures
	Removal of contamination			
	Demolition and removal of equipment outside the radiation management zone			
	Treatment and disposal of radioactive waste			

Why nuclear power?

As a nation with limited energy resources, Japan relies on imports for most fossil fuels such as oil, coal, and natural gas. Its energy self-sufficiency is quite low compared to other industrialized nations (11.8% in FY2018). This makes it especially important to target a balanced energy mix that can achieve, at the same time, the S+3E objectives while securing safety (**S**) as a major consideration: stable energy supply (energy security) (**E**), environmental safeguards (**E**), and economic performance (**E**).
From a 3E perspective, we view nuclear power as a key power source. We're making every effort to advance compliance with new regulatory standards and integrate safety measures to permit the rapid resumption of nuclear power plant operations.

CO_2 emissions of various power sources (g-CO_2/kWh)

Source: "2018 General Nuclear Power Pamphlet," Japan Atomic Energy Relations Organization



Electricity Supply Business: Wholesaling

Business environment

Our volume of retail electricity sales is declining for various reasons, including the shrinking population in the six Tohoku prefectures and in Niigata Prefecture and intensifying competition for sales with new energy suppliers following power system reforms. For this reason, to grow our revenues, we must expand both wholesale and retail sales. Given these conditions, we're growing electricity sales volume outside our main service area through Synergia Power and Tokyu Power Supply.

Courses of action

In addition to the proactive use of wholesale power exchanges, we will continue to expand our revenue through sales of electricity via Synergia Power and Tokyu Power Supply as well as the trading business through Tohoku EPCO Energy Trading. Further, to maximize future wholesale and resale profits, we will optimize prices and volumes in power and fuel procurement through use of related markets, as well as operations to realize optimal combinations of wholesale, resale, and market transactions, thereby enhancing optimization and trading functions.

Advancing sales outside of our service area through alliances

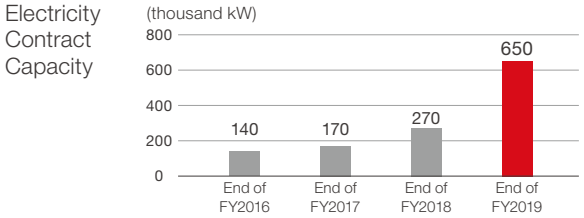
We collaborate proactively with other companies in the Kanto region, aiming to increase the amount of electricity we sell outside the six Tohoku prefectures and Niigata Prefecture.

Synergia Power Co., Ltd., a company we established jointly with Tokyo Gas Co., Ltd., began to offer electricity for customers who use high- or extra-high voltage power in the Kanto region (mainly in the northern Kanto area) in April 2016. In the tough competitive environment, the company has acquired customers steadily, having won contracts for approx. 650,000 kW as of the end of FY2019.

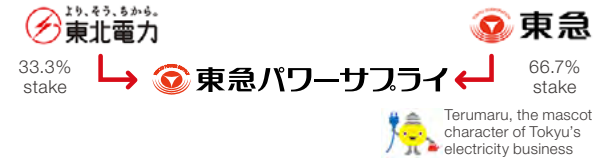
Tokyu Power Supply Co., Ltd., in which we invested in March 2018 sells electricity and gas mainly to customers living in areas along the Tokyu lines. We collaborate with Tokyu Power Supply mainly as a wholesale supplier of electricity to the company. Tokyu Power Supply has a wealth of sales channels, solid branding skills and excellent marketing skills. We combine these strengths with ours, which are stable, competitive power sources and the know-how and experience gained in the electricity business, in our efforts to offer services that appeal to our customers. As of the end of FY2019, we had won approx. 230,000 electricity sales contracts (low-voltage sector).

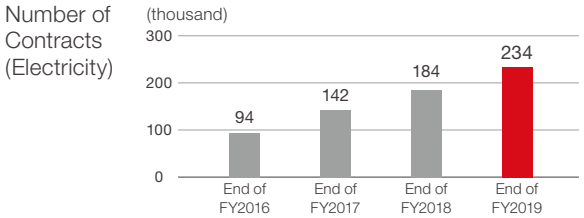
Synergia Power





Tokyu Power Supply



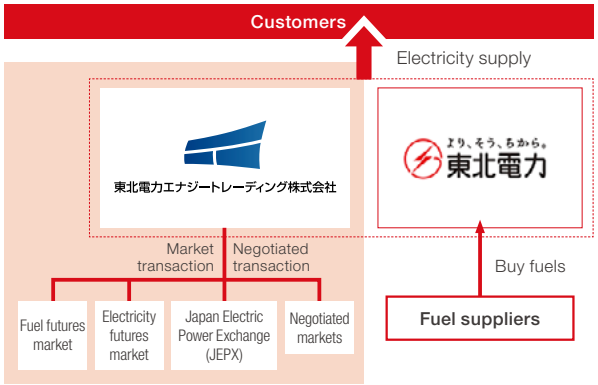


Trading Business

Tohoku EPCO Energy Trading Co., Inc., which is our strategic subsidiary, engages in integrated trading, including trading in the electricity market and the use of fuel futures. Hence, the company prepares for increased market transactions, which are expected to result from the complete retail liberalization of electric power.

Since it started operating in April 2018, Tohoku EPCO Energy Trading has proactively explored new business areas while looking toward the future. It also acquires and accumulates the trading skills and know-how to continue to boost revenues.

We manage a range of risks surrounding the company, including market risk, by building a multilayered system involving the parent company.



Electricity Supply Business: Power Transmission and Distribution

We will fulfill our mission to deliver a stable supply of electricity, thereby delivering safety, reliability, comfort, and convenience to our customers and our communities.

In April 2020, Tohoku Electric Power's power transmission and distribution business was spun off to form Tohoku Electric Power Network, an independent company.
A look back at the history of Tohoku Electric Power's power transmission and distribution business to date shows a journey characterized by the challenge of battling and overcoming natural disasters. We've confronted numerous challenges over the years, including the 2011 Great East Japan Earthquake and other earthquakes, as well as intensifying natural disasters such as the recent typhoons, Faxai and Hagibis, and blizzards. In each case, we have overcome the challenges through the knowledge, efforts, and perseverance of all employees. This strong concern for and sense of mission in delivering a stable supply of electricity is part of our DNA as a company. While the spin-off changes our organization, our ultimate mission remains unchanged: to deliver a stable supply of electricity to the Tohoku and Niigata areas while maintaining neutrality and fairness, with safety always first.
The electric power business, including power transmission and distribution, cannot succeed without the trust of the communities it serves. Under the basic philosophy handed down from the time of Tohoku Electric Power's founding, which states that the prosperity of the Tohoku region is essential to our own growth as a company, we will strive to build even stronger relationships of trust with our communities.
The business environment in which we operate is undergoing dramatic changes, including declining demand for electric power in Tohoku and Niigata due to shrinking populations, expanding adoption of renewable energy, and aging facilities. In response to these changes and to survive as an enterprise, we must make even stronger efforts to cut costs. For this reason, in addition to advancing current efforts to improve the efficiency of equipment and to improve business efficiency through kaizen activities, we will make optimal use of new technologies such as AI, IoT, and drones to streamline configuration of facilities and refine maintenance and inspections technologies.
We will also make proactive efforts to pursue new revenue-generating opportunities, unconstrained by the framework of the power transmission and distribution business, actively and boldly taking on the challenges of new business development. We will contribute, through sophisticated use of our network facilities, technologies, information, and other resources, to help realize the smart society called for in the Tohoku Electric Power Group Medium-/Long-Term Vision.
As a company playing a key role in the electricity business through our power transmission and distribution, we must ensure that each and every employee fully demonstrates his or her own unique abilities and maximize the resulting combined power to carry out business operations while cherishing the relationships of trust with local communities based on the Group Management Philosophy of Prosperity in Partnership with Communities. As an individual responsible for management, I intend to lead our 7,500 employees based on the perspective of overall optimization to continue to fulfill our mission of delivering safety, reliability, comfort, and convenience to our customers and our communities, even amid the current dramatically changing business environment.



東北電力ネットワーク

Company name: Tohoku Electric Power Network Co., Inc.
Established: April 1, 2019
Representative: Mitsuhiro Sakamoto, Representative Director & President
Capital: 24 billion yen
Employees: approximately 7,500

Electricity Supply Business: Power Transmission and Distribution

Business environment

In April 2020, the power transmission and distribution segment was spun off to form a legally separate entity to ensure further neutrality and fairness in the power transmission and distribution business. At the same time, shrinking populations have slowed demand growth for electric power in the Tohoku and Niigata regions, while revenues from power transmission under contract, the main source of income for Tohoku Electric Power Network, are trending down. There is also a need for further enhancements in resilience due to intensifying natural disasters and aging power transmission and distribution equipment, as well as adapting appropriately to growing use of the grid to transmit renewable energy. The Tohoku Electric Power Network must also draw on technological innovations and digitization to take on the challenge of helping to realize a smart society, as identified in the Tohoku Electric Power Group Medium-/Long-Term Vision.

Courses of action

We will advance the following initiatives to fulfill our mission of delivering a stable supply of electricity, with consideration for safety, reliability, comfort, and convenience to our customers and communities:

- **Further improvements in safety and business quality**
- **Enhancing resilience to maintain stable supplies**
- **Structural cost savings achieved by developing efficient configuration of facilities and applying new technologies**
- **Promoting advances in the power network to help realize a smart society**

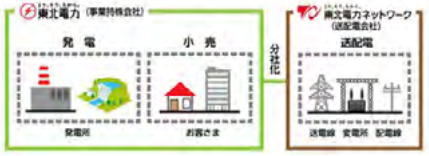
Spinoff of the power transmission and distribution segment

Following the amendment of the Electricity Business Act, we spun off the power transmission and distribution segment as a separate legal entity in April 2020 to ensure neutrality and fairness of operations in that segment.
In response to this change, since April 2020, the power generation and retail electricity sales businesses have been operated by Tohoku Electric Power Co., Inc. and the power transmission and distribution business by Tohoku Electric Power Network Co., Inc.
Tohoku Electric Power Network Co., Inc. will continue in its efforts to deliver a stable supply of electricity in the six Tohoku prefectures and in Niigata Prefecture.

Through March 31, 2020



Since April 2020

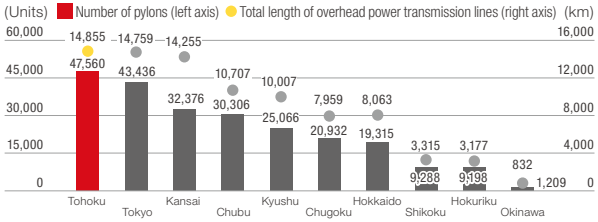


Initiatives to ensure stable supply and enhanced resilience

▶ See “Enhancing resilience,” p. 60.

The area to which the Company supplies electricity—the six Tohoku prefectures and Niigata Prefecture—accounts for about 20% of Japan’s land mass and includes the largest-scale facility infrastructure of any general power transmission business in Japan, both in terms of total length of overhead power transmission lines and number of pylons. In addition, the Tohoku and Niigata area poses challenging topographic and climatic conditions, including a long coastline, numerous mountainous areas, and Japan’s heaviest snow belts. Given these conditions, in addition to striving to maintain and develop facilities in response to an aging infrastructure through new technologies and other means, we will endeavor to enhance our ability to respond to increasingly frequent and severe natural disasters, based on the lessons of numerous past disasters, including the Great East Japan Earthquake. Since the Tohoku and Niigata area has numerous locations ideally suited to the generation of wind power and other renewable energy, the number of requests to connect to our grid is growing. Given that renewable energy output varies with weather conditions, we’re doing our utmost to maintain the balance between electrical demand and supply through flexible use of thermal power and pumped-storage hydroelectricity. We’ve also installed large-scale storage cells at the Nishi-Sendai and Minami-Soma substations to smooth out fluctuations in grid frequency and voltage. Accordingly, together with measures intended to put existing power transmission facilities to maximum use, we are working with the Organization for Cross-regional Coordination of Transmission Operators, Japan (OCCTO), an agency certified by the Japanese government, to improve and expand the grid connecting Tohoku with Tokyo and other areas, as well as implementing a bidding process for connecting to the grid in the northern Tohoku area and other efforts as we strive to expand ways to connect renewable energy to the grid.

Volume of power transmission facilities of individual general power transmission & distribution business





Exterior of the storage cells at the Nishi-Sendai Substation

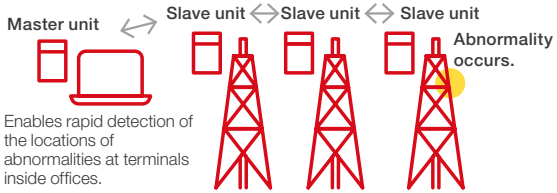
Electricity Supply Business: Power Transmission and Distribution

Efficiency improvement initiatives

We're proactively adopting new technologies to maintain and reliably manage power transmission and distribution facilities extending across a wide service area. Specifically, we're promoting improvements in efficiency by adopting auto-tracking drones for automated inspections along power transmission lines on a trial basis, developing and using systems based on AI to judge the degree of corrosion on power pylons, and performing substation operations and maintenance using smart glasses systems.

Case 1 Remote monitoring of facilities using IoT

This system uses IoT (low-power wide-area telecommunications) and other technologies to collect information on operations from on-site sensors (slave units) for use in remote facility monitoring and allows rapid detection of the locations of any abnormalities.



Case 2 Developing a system based on AI

Using AI to judge the corrosion status of pylon materials via image recognition supports formulation of efficient repair plans that accurately reflect corrosion.



Kaizen activities

- Initiatives to improve efficiency are based on kaizen activities and the identification and study of solutions for improving efficiency from multifaceted perspectives, including reduction, centralization, and outsourcing of operations.
- Through 5S and small-group activities, centered on power transmission and power system sections, we strive to use the time generated by efficiency improvements for purposes such as further improvements in business quality.



A meeting to choose themes for small-group activities

Power network advancement

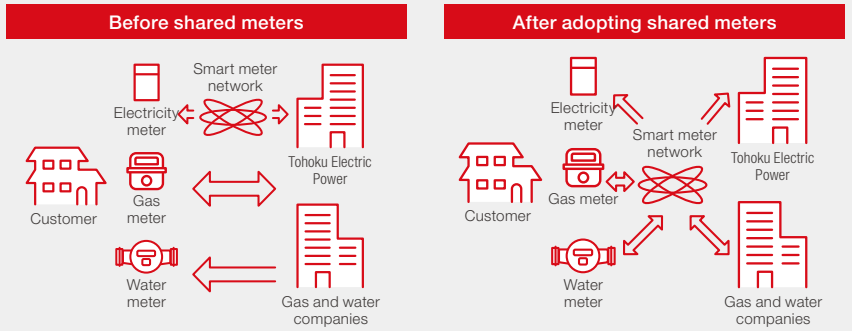
Amid the growing adoption of renewable energy and use of decentralized energy, in addition to studying forms for efficient configuration of facilities and grid operation suitable to changes in demand and supply, we're also striving to advance the power network to help realize a smart society. Specific examples of expected initiatives in this area include the development of power transmission and distribution facilities suited to growing use of EVs and the development of a platform for advanced use of smart meter data and telecommunications networks.

Developing efficient configuration of power transmission & distribution facilities suited to growing use of EVs
Developing next generation power networks suited to new methods of using the grid, including VPPs and peer-to-peer (P2P)
Developing efficient configuration of power transmission & distribution facilities suited to growing use of renewable energy and advancing methods for managing demand and supply through output controls on power generation system and other means
Developing and operating microgrids and other power networks independent of the grid
Developing a platform for advanced use of smart meter data and telecommunications networks

Feasibility testing of shared electricity, gas, and water meters using smart meter telecommunications networks

In August 2020, in partnership with Hachinohe Gas Co., Ltd. and the Hachinohe Regional Water Supply Authority, we began feasibility testing of shared electricity, gas, and water meters using our smart meter telecommunications network.

- Installation of a wireless telecommunication device capable of connecting to smart meter telecommunications network on gas and water meters and verifying use of the smart meter telecommunications network for automated remote collection of gas and water meter data, and collection of safety information on matters such as gas and water leaks, and remote opening and closing gas valves
- Assessing the environmental durability and wireless propagation properties of wireless devices under the harsh natural conditions of the Tohoku and Niigata region and studying the development of a system suited to the region
- By enabling advanced and efficient operations, these shared meters will lead to solutions to regional issues, such as a shrinking working population and aging society.



Businesses to Help Realize a Smart Society

In the six Tohoku prefectures and in Niigata Prefecture, where the Tohoku Electric Power Group's businesses are based, shrinking populations and an aging society resulting from low birth rates is proceeding at a faster pace than in other regions. As a result, wide-ranging social issues are expected to emerge in the future, including transportation, education, and welfare. Among related issues, the Group considers the following issues as important: effective utilization of energy in the community, consideration for the environment, advancement of digitization, securing safety and peace of mind, making optimal use of diverse human resources, realizing a sharing economy, expanding flows of non-resident people, rebuilding social infrastructures, and building a transportation infrastructure for the new era.
Businesses that can contribute to realizing a smart society refer to those that can identify and create solutions to the abovementioned social issues through next generation digital technologies and innovations, to enable residents to live in comfort and safety, and with peace of mind without conscious concern over each of the individual services used.

Illustration of businesses to help realize a smart society

A vision of the region's future reflecting Tohoku's natural abundance: Comfort, safety, and convenience for adults and children alike

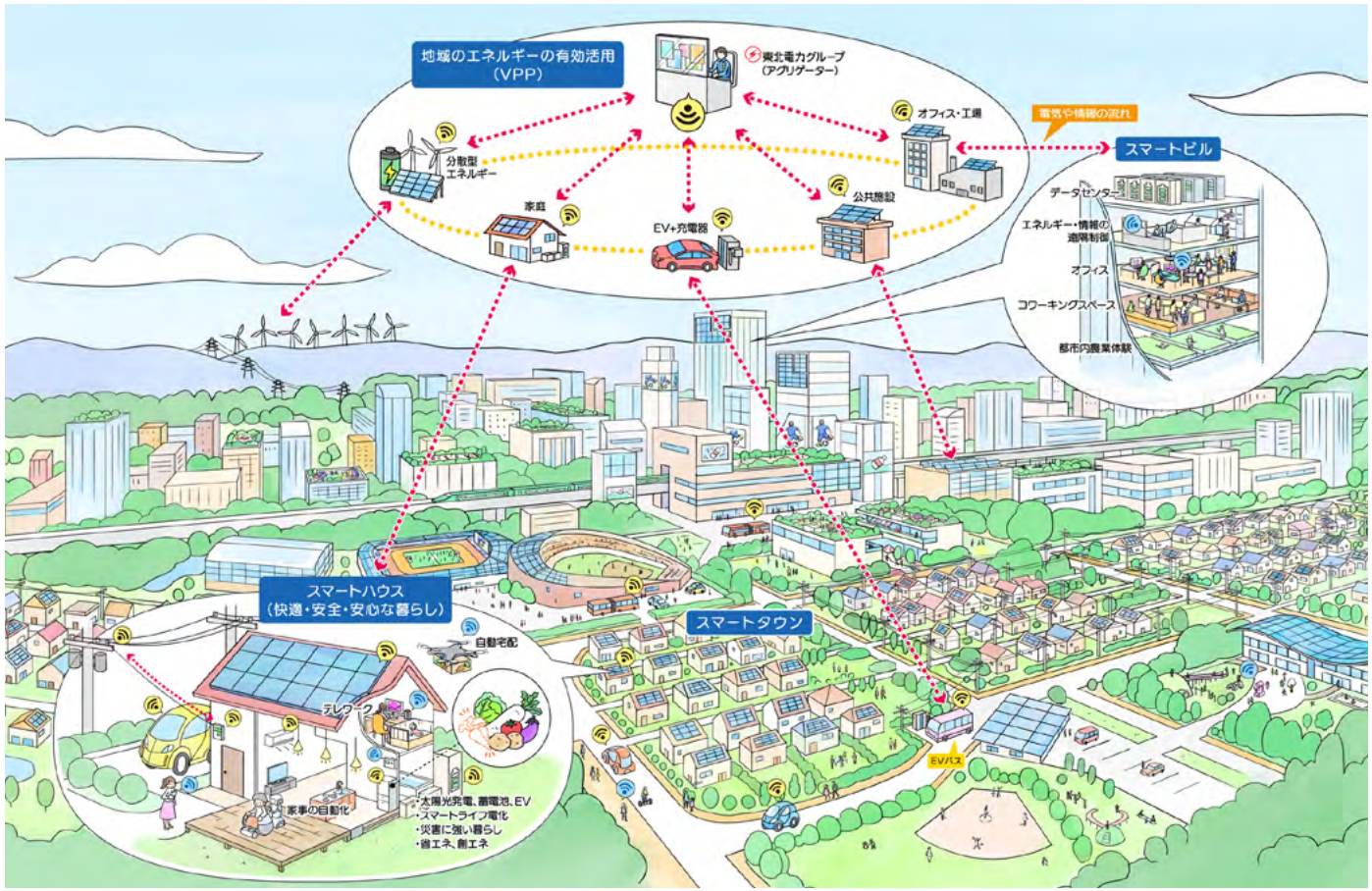


Businesses to Help Realize a Smart Society

By providing services like VPP* that make effective use of decentralized energy resources in the community and various electricity-related services that improve quality and satisfaction in commerce and the lives of residents, the Tohoku Electric Power Group will help realize a smart society and create value only the Group can provide as a utility based in the six Tohoku prefectures and Niigata Prefecture.
The COVID-19 pandemic has brought with it a society characterized by new modes of daily life and working through utilization of digital technologies. Our businesses that help realize a smart society also help realize such new ways of living. We will invest in them strategically as growth businesses for the Group.

Illustration of businesses that help realize a smart society

A future vision for urban and suburban communities
Convenient, comfortable urban functions inspired by resident needs and a true vision of inviting modes of life



* Virtual power plants realized through IoT and other new information technologies in the remote control and integration of power generating facilities, storage cells, EVs, and other decentralized energy resources owned by municipalities, firms, and residents across the community.

Businesses to Help Realize a Smart Society



Establishing a firm position to realize a smart society

Shinichi Okanobu

Representative Director & Executive Vice President
Tohoku Electric Power Co., Inc.

The recently formulated Tohoku Electric Power Group Medium-/Long-Term Vision discusses the Group's resolve to implement a business model transformation. Businesses that help realize a smart society are key to effecting this transformation. This is a new business domain established by the Group.

Businesses that help realize a smart society are ones that resolve social issues and realize safety, comfort, and peace of mind through use of next generation digital technologies and innovations.

We are already making progress on planting the seeds of these businesses, centered on next generation energy services and life- and business-related services in which we possess expertise and strengths. Examples include virtual power plants (VPPs) and the Yori, Sou, Chikara + ONe solutions. In the area of VPPs, we've established a strategic alliance with Next Kraftwerke, among the world's largest VPP firms, while simultaneously advancing activities such as feasibility studies on the use of various resources together with local governments and other partners, as we make steady progress toward commercial operation. We're also focusing on providing services suited to residential needs, including housework and caring for family members, as well as business needs such as optimal use of energy.

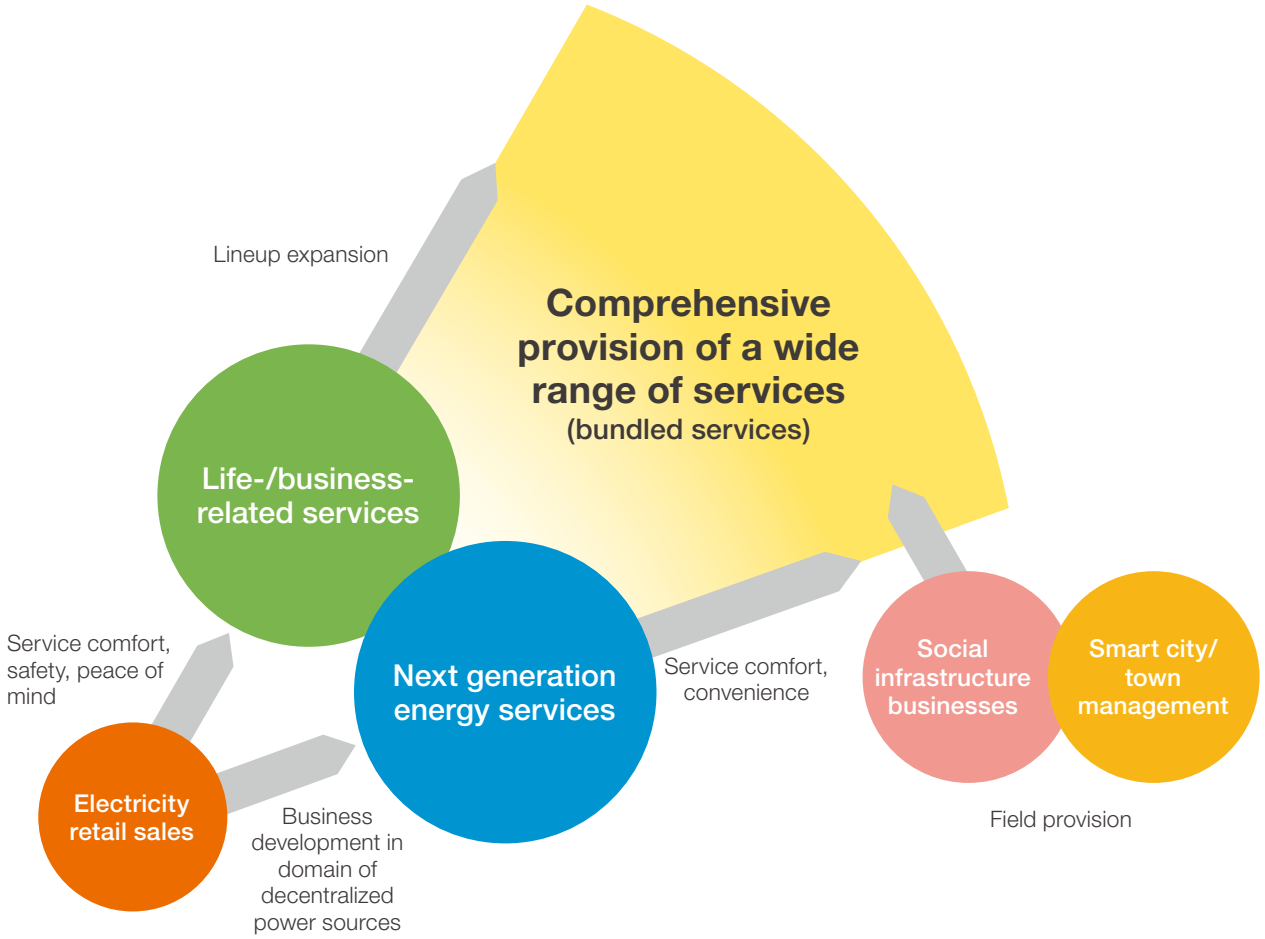
With these positioned at the core, we will accelerate our initiatives to realize a smart society. Given digital technologies are advancing steadily, competition among businesses active in this sphere is fierce. For this reason, we're also striving to strengthen our business foundations to succeed in competition. In addition to accelerating the speed of decision-making in the newly established Business Creation Division, which serves as a control tower for these efforts, we're accelerating open innovation efforts and enhancing alliances with startups through investment in venture capital funds. We're also developing structures to encourage employees in the field and on the frontlines—employees who daily face various needs and issues in connection with their customers and communities—to propose business ideas and holding ideathons and other activities, through which the Group strives as one toward profitable businesses to speedily move us closer to the goal of a smart society. We're resolved to deliver value only the Tohoku Electric Power Group can provide and to contributing to comfort, safety, and peace of mind not just through electricity, but in various other aspects, backed by the support of stable, yet agile business foundations.

In deploying businesses to help realize a smart society, we will seek to become a one-stop provider for a wide range of service bundles and solutions, including electric power, in cooperation with various partners, thereby delivering safety, comfort, and peace of mind to our customers and communities by resolving social challenges. By bundling solutions only we can provide, based on our position as a Group that clearly grasps local customer needs and social issues and holds expertise accumulated through energy services, we will establish a solid position in realizing a smart society, not just in the six Tohoku prefectures and in Niigata Prefecture, but extending to other regions.

Businesses to Help Realize a Smart Society

How we develop businesses to help realize a smart society

For now, we're building the foundations for these businesses by prioritizing investment in life- and business-related services, which will generate results in synergy with the electricity supply business, and next generation energy services such as VPPs and decentralized power supply equipment. We will promote these services by making the most of the Tohoku Electric Power Group's opportunities to engage with members of the community, together with use of our grid operation technology, as a utility with deep roots in our region.
From the middle of the 2020s, based on the above life- and business-related services and next generation energy services, we will offer bundled services to deliver comprehensive solutions to customer needs through comfort, safety, peace of mind, and convenience and use of digital technologies, in addition to building innovative new services.
While our businesses established to help realize a smart society will mainly focus on the six Tohoku prefectures and Niigata Prefecture, since trends such as shrinking populations are expected to emerge nationwide, we will deploy the services, businesses, technologies, and other resources accumulated in the six Tohoku prefectures and in Niigata Prefecture broadly nationwide in the future.



Our outlook on investment

At this time, we've decided to invest a projected 1 billion yen or so per year in efforts to give concrete form to businesses that help realize a smart society, starting in the next fiscal year. We expect the scale of these investments to reach tens of billions of yen through the 2030s on a cumulative basis.

	Examples of initiatives
Life-/business-related services	Yori, Sou, Chikara + ONe services (living support), energy solutions, business solutions
Next generation energy services	VPP and decentralized power supply equipment business, mobility services
Social infrastructure businesses	Natural gas business
Smart city/town management	Participation in advanced council in Izumi Ward, Sendai

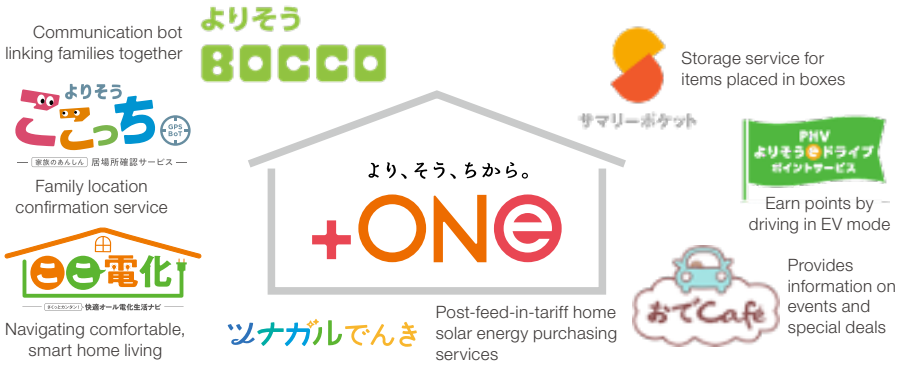
Businesses to Help Realize a Smart Society

Life-/business-related services

Positioning of services, value provided	We will deliver comfort, safety, and peace of mind to customers by providing services that contribute to the lives of residents and meet the energy management and facility management needs of businesses, all based on the starting point of retail electricity sales.
Progress on initiatives	In life-related services, based on the Yori, Sou, Chikara + ONe approach, we have begun offering delivery-based storage and various other services. In business-related services as well, we're deploying energy and business solutions built around the core of our exEMS property energy management system.
Future issues and courses of action	In life-related services, we will expand the Yori, Sou, Chikara + ONe service lineup in pursuit of further improvements in comfort, safety, and peace of mind. In business-related services, our efforts will include functional expansion of our energy business solutions through digital technologies and other efforts, with exEMS serving as the hub.

Life-related services

In the residential sector, under the Yori, Sou, Chikara + ONe brand we are accelerating expansion of our services to support residents' lives by providing electrification solutions for smarter living and by promoting development of services utilizing AI, IoT, Big Data, and other technologies.
We're creating and deploying various services suited to changing needs in customers' everyday lives, due to transformations in peoples' lifestyles and family structures.



Summary Pocket delivery-based storage service

Summary Pocket is a delivery-based storage service based on smart phones or computers that manages and retrieves items placed in storage. After requesting pickup of items for which no storage space is available at the home using a special-purpose box, the customer can manage deliveries using a smartphone or computer. Optional services available include dry cleaning and hanging apparel, enabling highly convenient storage services.



Business-related services

In addition to enhancing our energy business solutions catering to customer needs, such as the proprietary exEMS energy management system, we also offer a range of services suited to customers' equipment.

Energy solutions
Proposing optimal energy use for individual businesses and customers

Business solutions
Employee benefit outsourcing services
Support services related to business continuity planning

exEMS
experience Energy Management Systems
Our proprietary exEMS energy management system

exEMS	■ Electricity visualization, demand monitoring ■ Power-saving trials ■ Energy conservation advisory reports ■ Functions for comparison with other customers
exEMS with A	■ Automated control of air conditioning equipment
exEMS Advanced	■ Visualizing electricity use by individual equipment ■ Automated control of multiple types of equipment, including air conditioning

The exEMS system applies IoT and AI to visualize information such as maximum power demand and changes in power usage, as well as forecasting fluctuations in demand due to the effects of external air temperature and other factors. It includes features for comparisons to past results, detailed demand forecasts for the next 24 hours using Big Data, and power-saving trials to support taking action to save energy. The lineup includes exEMS with A for automated control of air conditioning equipment and exEMS Advanced for automated control of multiple types of equipment, including air conditioning.

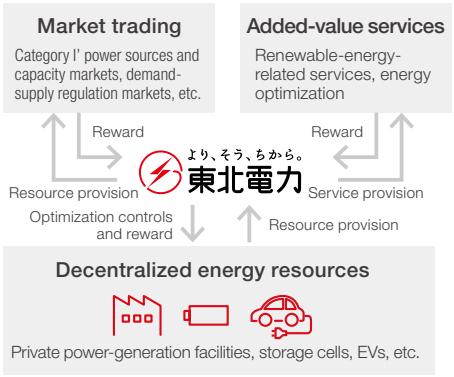
Businesses to Help Realize a Smart Society

Next generation energy services

Positioning of services, value provided	In addition to promoting adoption of renewable energy in the region and optimal energy usage and developing solutions to issues such as the need for greater resilience to disasters, we also contribute to improving customer convenience and realizing energy and cost savings.
Progress on initiatives	In the VPP business, in addition to launching practical implementation of Category I' adjustable power sources through public bidding*, we're also advancing study of commercialization in cooperation with various domestic and overseas partners. We've formed a capital alliance with Next Energy and Resources for business development in areas such as decentralized energy and storage cell installation services.
Future issues and courses of action	In the VPP business, based on knowledge obtained from various feasibility studies, we will develop business in areas such as demand-supply regulation markets, with plans to begin trading in April 2021. In areas such as decentralized energy and storage cell installation services, we will seek to launch residential solar power generation and storage cell services rapidly.

* Mainly includes power sources that can be used to balance demand and supply during peak times, such as fierce heat and cold weather.

Virtual power plant (VPP)



Through integration and effective use of regional energy resources, we will create win-win relationships in which customers in the community benefit with us via market trading in electricity on the demand-supply regulation markets, slated to open in April 2021, and other markets, as well as through direct transactions, then returning a portion of these gains to customers in the communities providing the resources.

Strategic alliance with Next Kraftwerke (Germany) (May 2019)

- We concluded a basic agreement on a strategic alliance in VPP feasibility studies with Next Kraftwerke, one of the world's largest VPP operators. Currently, we're verifying matters such as the feasibility of offering new services based on use of Next Kraftwerke's systems and learning from its expertise.

Participation in the VPP development feasibility study program supported by the Ministry of Economy, Trade and Industry's Agency for Natural Resources and Energy (June 2020)

- Plans call for this program to verify matters such as the efficiency of controls in response to use of EVs, including car-sharing models, tourist destination models, and business site models and the feasibility of using EV storage cells in functions for adjusting the balance between power demand and supply.

VPP business informational website launched (June 2020)

- As an effort to expand awareness of our VPP business, we launched a VPP business informational website.
- In addition to information on the VPP business concept and VPP feasibility-study initiatives, it features easy to understand videos explaining VPP-related matters such as demand response (DR) technologies.

https://vpp.tohoku-epco.co.jp/

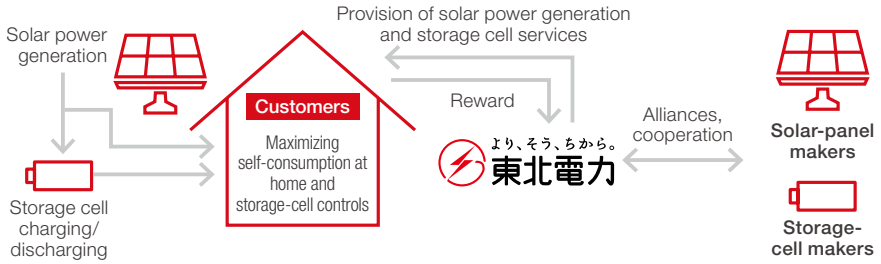


Feasibility study of VPP solutions utilizing local government storage cells

- This feasibility study will verify matters such as the use of storage cells owned by local governments (Miyagi Prefecture, the city of Sendai, the city of Koriyama, and the city of Niigata) in functions to adjust the balance of electricity demand and supply and make effective use of renewable energy through the application of remote monitoring and optimal control technologies.
- We're also implementing initiatives toward effective use of home solar power generation in cooperation with Niigata Prefecture and the city of Sado.

Residential solar power generation and storage cell services

We're studying deployment of a third-party ownership (TPO) model in which we bear the initial costs of supplying community residents with solar-power generating equipment, storage cells, and other equipment. Striving to bring this solution to commercial operation rapidly, we're proceeding with alliances and joint efforts with partners including manufacturers of solar panels and storage cells who share our vision.



Alliances and joint efforts with partners including manufacturers of solar panels and storage cells, to swiftly realize commercial operation

Capital alliance with Next Energy and Resources (July 2020)

We've invested in Next Energy and Resources, which possesses the technological capability and expertise related to decentralized energy accumulated through its 15-year history of sales of solar power generation equipment and storage cells. The goal of this alliance is swiftly to realize commercial operation of the solar power generation and storage cell services and enhance services related to daily life and businesses.

より、そう、ちから。東北電力 × 明日を未来にする。Next Energy ネクストエナジー

Businesses to Help Realize a Smart Society

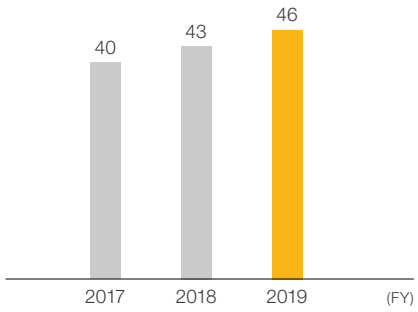
Natural gas business

Positioning of services, value provided	Delivering total energy solutions through optimal combinations of electricity and natural gas while reducing environmental impact by shifting from fuels such as heavy oil to LNG.
Progress on initiatives	In addition to existing supplies of gasified LNG using the pipelines from NIHONKAI LNG's Niigata facility and LNG supplied by truck, using the LNG shipping facilities for the Shin-Sendai Thermal Power Plant (which began commercial operation in August 2018) and other efforts to expand natural gas sales volumes.
Future issues and courses of action	Through Group member company TOHOKU NATURAL GAS, we wholesale natural gas to numerous gas providers. We plan to undertake broad-ranging studies on the feasibility of cooperation with other gas providers in the same way we currently work with Ishinomaki Gas and Nikaho Gas.

Alliances with regional natural gas companies

Counterparty	Date contract concluded	Summary of initiatives
Ishinomaki Gas (Ishinomaki, Miyagi Prefecture)	January 2019	We've concluded a basic agreement on a business alliance in sales of electricity and gas and are carrying out joint sales activities to increase sales to corporate customers in the Ishinomaki Gas service area, in addition to cooperation across a broad range of other areas, including proposing solutions bundling electricity and gas services.
Nikaho Gas (Nikaho, Akita Prefecture)	March 2020	We've concluded an agreement on a business alliance in sales of electricity and gas, and in May 2020 we began offering bundled solutions to its gas customers.

Trend in natural gas sales volume
(10,000 t)



LNG shipping facilities for the Shin-Sendai Thermal Power Plant



Smart city and town management

Positioning of services, value provided	Drawing on our knowledge and experience as a comprehensive energy company centered on electricity, we provide value to help find solutions to social challenges and further sustained progress within local communities.
Progress on initiatives	We're participating in a council aiming to promote the adoption of advanced technologies and systems to contribute to sustainable town management in Izumi Park Town (Izumi Ward, Sendai).
Future issues and courses of action	We seek to apply the knowledge attained through supporting the council's activities in other locations as well.

Participation in an advanced council in Izumi Ward, Sendai

We're participating in an advanced council in Izumi Ward, Sendai to promote the adoption of advanced technologies and systems and thereby contribute to sustainable town management in Izumi Park Town. This includes studies of the feasibility of community transport systems and the adoption of solutions and services to contribute to a low carbon, recycling-oriented society, in cooperation with the phase-six residential community east zone development project currently underway. The community is slated to open in 2022. (The initiatives of this council have been selected as a priority promotion project under the Smart City Model Program, for which the Ministry of Land, Infrastructure, Transport and Tourism seeks entries.)

Energy
Self-production, self-consumption of energy

Health
Comfortable, healthy lifestyles

Urban development ordinated to solutions to social issues
Comfortable living in which people engage with nature

Proposing new modes of daily life through adoption of solutions and services to contribute to the formation of a low carbon, recycling-oriented society

Transport, logistics
Convenient, smart automated transport

Peace of mind, safety
Smart functions to increase peace of mind and safety

By providing value integration services across multiple levels, delivering highly attractive living spaces and convenient, comfortable urban functions and living experiences

Participating organizations

City of Sendai, Mitsubishi Estate, Panasonic, Panasonic Homes, Kanden Realty & Development, Tohoku Electric Power, etc.

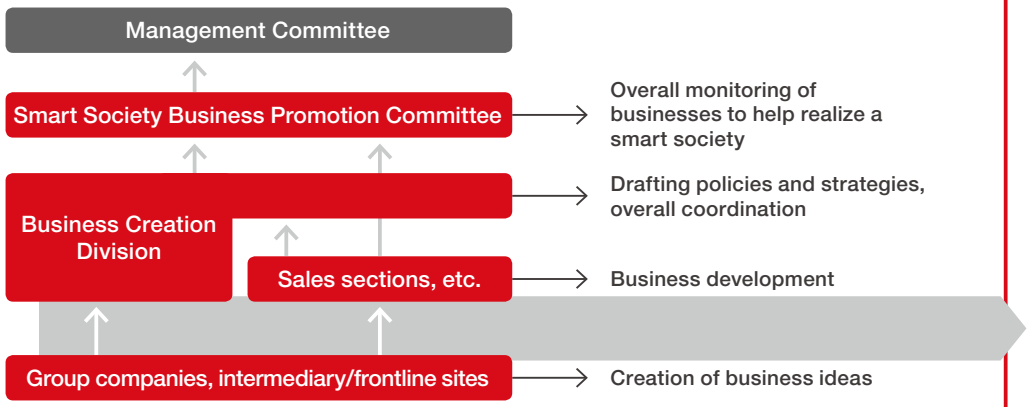
Main initiatives

- Promoting autonomous disaster prevention and energy management efforts using VPP technologies within the community
- Efficient and effective mobility measures

Businesses to Help Realize a Smart Society

Promotion structure

Businesses to help realize a smart society are led by the Business Creation Division, newly established in July 2020 to serve as a groupwide control tower to draft policies and strategies and carry out overall coordination.
Individual business development and operation activities are carried out by the Business Creation Division, sales sections, and other parties, while generation of business ideas is handled under a companywide and groupwide structure that includes sites on the frontlines of business. In this way, the Tohoku Electric Power Group seeks to take on the challenges of realizing a smart society from an integrated approach.



Structure for generation of business ideas

Implementing businesses to help realize a smart society requires the deployment of new businesses and new services to meet customer needs and deliver solutions to community challenges. Ideas of solutions and approaches will emerge from interactions between individual employees and our customers and communities. For this reason, we develop businesses and services based on ideas sought from all employees in Tohoku Electric Power and Tohoku Electric Power Network—including those at intermediate and frontline sites. Other activities include ideathons held at individual branches and offices.

- **Holding ideathons at individual branches of Tohoku Electric Power and offices of Tohoku Electric Power Network**
- **Using the portal site and other means to seek ideas from a broad range of sites, including those on the front lines of business**
- **Drawing out and screening ideas through business idea creation working groups in which the deputy general managers of branches of Tohoku Electric Power and offices of Tohoku Electric Power Network take part**


In-house ideathon



In-house portal site

Alliances with diverse business partners

In giving concrete form to businesses to help realize a smart society, we're allying with a diverse range of businesses capable of sharing our vision for establishing a smart society, including startups offering innovative technologies or business models and other companies with their own unique strengths.
In January 2020, we invested in the GB-VII Growth Fund Investment Limited Partnership operated by Global Brain Corporation. We will continue efforts to strengthen alliances and joint efforts through investment in startups. The goals of these efforts include creating new businesses and services through open innovation.

GB-VII Growth Fund Investment Limited Partnership

Operator	Global Brain Corporation
Investment domains	IoT, AI, energy, etc.
Investment areas	Centered on Japan, Europe, Asia, and the US
Investment period	10 years

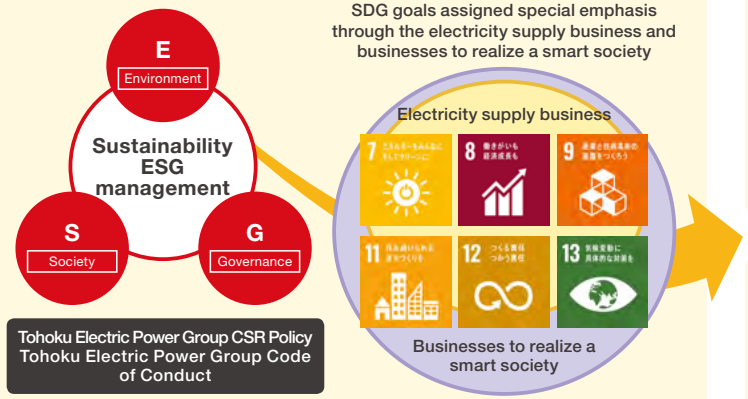
EVOLUTION of THE MANAGEMENT FOUNDATION SUPPORTING CORPORATE VALUE CREATION



Promoting ESG Management

In light of growing ESG investment in recent years, the Tohoku Electric Power Group sees it as an important mission to fulfill its corporate social responsibility (CSR) by stressing the interests of the environment (E), society (S), and governance (G).
Based on the Tohoku Electric Power Group Code of Conduct, which governs our corporate conduct, and the Tohoku Electric Power Group CSR Policy, which describes our outlook on CSR, the Tohoku Electric Power Group seeks to help establish a smart society for the new era, starting in the Tohoku region, and to help reach the Sustainable Development Goals (SDGs), by stressing ESG as we advance initiatives in line with the Tohoku Electric Power Group Medium-/Long-Term Vision.

Advancing the Tohoku Electric Power Group Medium-/Long-Term Vision



Contributing to achievement of the SDGs



Realizing the ideal

The Tohoku Electric Power Group's ideal for the 2030s
A Group that grows together with the sustainable development of society, contributing to the realizations of a smart society for the new age, starting from Tohoku

Promotion of ESG management

Tohoku Electric Power and Tohoku Electric Power Network are members of the CSR Promotion Council, which deliberates on ESG-related matters. The Tohoku Electric Power Group CSR Liaison Committee promotes groupwide cooperation.

CSR Promotion Council*

Tohoku Electric Power: President, Vice President, Managing Directors
Tohoku Electric Power Network: President, Vice President, Managing Directors

Sharing information on social conditions related to CSR/ESG
Confirming the status of initiatives related to CSR/ESG
Considering the need for revisions to policies based on the above

FY2019 meetings

July 2019	CSR promotion structure in light of the spinoff of the power transmission business into a separate legal entity FY2019 Tohoku Electric Power Group Integrated Report
February 2020	Revisions to the Tohoku Electric Power Group Code of Conduct and the Tohoku Electric Power Group CSR Policy reflecting the Tohoku Electric Power Group Medium-/Long-Term Vision

Tohoku Electric Power Group CSR Liaison Committee

Tohoku Electric Power: Division Manager of Public Relations Div., Division Manager of Corporate Strategy Div.
Tohoku Electric Power Network: General Managers of Corporate Planning and General Affairs Dept..
Affiliates: Directors responsible
Sharing information on social conditions related to CSR/ESG and the status of related initiatives in the Group

Command and control → Reporting

Head offices

Command and control → Reporting

Intermediate and frontline sites

* Deliberations on environmental matters take place in the Conference to Promote Action Plans for Global Environmental Issues. Deliberations on corporate ethics and compliance take place in the Committee on Corporate Ethics and Compliance.

Our views on use of coal-fired thermal power

From the perspectives of ESG investment, particularly consideration for the environment (E), coal-fired thermal power, which among fossil fuels generates relatively higher levels of CO_2 emissions, is under growing criticism, particularly in Europe. The Japanese government has begun discussions on phasing out inefficient coal-fired thermal power in Japan, and financial institutions have ceased financing new coal-fired thermal power generation projects, portending significant changes in the business environment for coal-fired thermal power.
Japan is not rich in energy resources. To secure a stable supply of cost-effective electricity, it is important to build an optimal structure of power sources based on the S-3E approach of simultaneously achieving energy security, economic efficiency, and environmental performance, all premised on the safety-first principle, through an approach that combines coal, which is relatively stable in terms of price and available from reserves in many nations, with other fossil and non-fossil (renewable and nuclear) sources. We see coal-fired thermal power as important in our efforts to secure a stable supply of electricity, an important Group responsibility to society (S), which is an aspect of ESG considerations.
Of course, use of coal requires thorough initiatives to help combat climate change. We are also advancing efforts in areas such as rapid resumption of nuclear power plant operations and improving the efficiency of thermal power generation, along with the development of renewable energy. In addition, we will continue striving to mitigate climate change through means including cooperation and support toward the establishment of carbon capture and storage (CCS) technologies, which are expected to enter practical use in the future.

Climate change mitigation an adaptation initiatives

Our understanding of climate change

Having long recognized climate change as an important management issue, we've moved forward with measures to reduce emissions of CO_2 and other greenhouse gases in terms of both supply and demand. The impact of climate change has been increasingly evident in recent years, as seen in the damage caused by the effects of extreme weather events, such as flooding and fierce heat waves, and wildfires worldwide, as well as damage due to major typhoons in Japan. While the economic impact of the COVID-19 pandemic in 2020 led to reduced CO_2 emissions, this effect is expected to be temporary. Climate change remains a priority topic.

This year marks the start of the implementation period of the Paris Agreement, concluded in 2015. The Japanese government is seeking to reduce greenhouse gas emissions by 26% vs. 2013 in 2030 and by 80% vs. 2013 in 2050.

In light of such circumstances, we believe it is essential to ascertain both the risks and opportunities of climate change and to enhance our initiatives to address climate change through both mitigation and adaptation.

In accordance with the long-term vision on climate change announced in October by the Electric Power Council for a Low Carbon Society (ELCS), we, as a member of the ELCS, will continue initiatives based on both the decarbonization of electricity by achieving an optimal energy portfolio and the promotion of electrification to realize energy conservation.

The Group will strive to grow alongside the sustainable development of society, helping to establish a smart society for a new age, starting from Tohoku, in line with the risks and opportunities posed by climate change. We see climate change mitigation measures and reductions in greenhouse gases as part of our crucial societal mission.

Support for the TCFD*

In April 2019, in response to growing demand for information disclosure among stakeholders, including institutional investors, we announced our support for the TCFD recommendations.

Since then, we've redoubled efforts to promote environmental management in areas such as strengthening our responses to climate change, as well as carrying out continual improvements and enhancements of our internal initiatives and information disclosure in accordance with the recommendations.

In responding to the TCFD, we believe it is important not merely to disclose information, but to reflect in our management strategies the risks and opportunities posed by climate change. In addition to expanding the disclosure of environmental information in accordance with the TCFD recommendations, we will reflect these in management strategies through engagement with various stakeholders, including institutional investors.

* Task Force on Climate-related Financial Disclosures, established by the Financial Stability Board (FSB) to reflect the aims announced by G20 finance ministers and central bank governors

CDP assessment

In 2019, we submitted our answers to the climate change questionnaire* of the CDP (formerly Carbon Disclosure Project), an international NGO that assesses corporate information disclosure in areas such as climate change. We earned an assessment of B, the third highest level. We will continue efforts to maintain and improve this assessment.

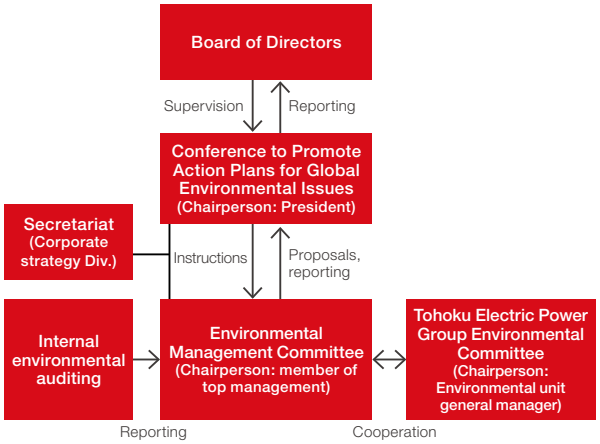
* Responses were gathered from more than 8,400 companies worldwide.
https://www.cdp.net/en/info/about-us/what-we-do
Respondents are assigned to one of eight ranks (A, A-, B, B-, C, C-, D, D-).

Disclosure of information on climate change
(disclosure based on the TCFD recommendations)

Governance

Recognizing response to climate change and other environmental issues as an important management topic, our Environmental Management Committee, with a membership composed of representatives of related sections responsible and related directors, examines and deliberates on related matters, submitting its findings to the Conference to Promote Action Plans for Global Environmental Issues at the executive level.

In addition, we've begun ascertaining risks and opportunities related to climate change and reporting our conclusions to the Board of Directors, as we establish a structure for monitoring these issues at the management level.



▶ See "The Tohoku Electric Power Group's Environmental Management Structure," p. 7, ESG Data Book.

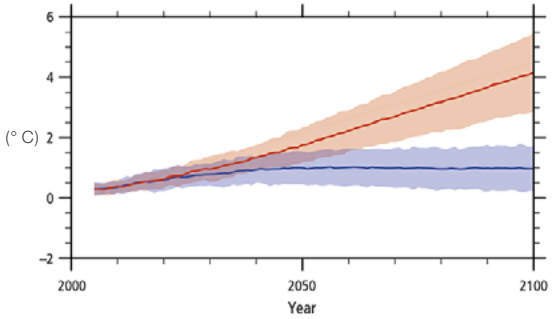
Environmental Management

Strategy

To ascertain future risks and opportunities related to climate change, we've chosen two scenarios: a 4° C scenario under which the shift to a low carbon society fails to advance and countermeasures against climate change prove unfruitful; a 2° C scenario under which the necessary measures are taken to maintain temperature increases to no more than 2° C. We have initiated a scenario analysis on a medium- to long-term timeline, looking at the period starting in 2050.*

* We're improving our scenario analysis in stages, based on multiple climate change scenarios identified by the International Energy Agency (IEA), Intergovernmental Panel on Climate Change (IPCC), and other bodies. This scenario analysis is intended to consider impacts that may arise under certain assumptions and feasible responses, based on a long-term perspective. No guarantees are made regarding results.

Global average land temperature increases (vs. 1986–2005 average)



4° C scenario

Temperature rises by 3.2–5.4° C from the Industrial Revolution due to failure to take additional countermeasures.

2° C scenario

Temperature rises by 0.9–2.3° C from the Industrial Revolution due to rigorous countermeasures

Source: From Fig. SPM 6 in the Synthesis Report of the IPCC Fifth Assessment Report

Risks related to climate change

Individual climate change risks are summarized below, under the categories of physical risks (acute and chronic) and transition risks (political, economic, social, and technological):

	Acute	Chronic	
Physical risks	**Increasingly severe climate disasters** Major impact	**Rising air temperatures and sea levels**	**Changes in precipitation patterns (droughts)**
	Frequent occurrence of increasingly severe typhoons, torrential downpours, etc., damage to facilities, and occurrence of power failures, and the need for measures that account for reviews of national technological standards	Rising air temperatures with wide-ranging impacts such as rising incidence of heat stroke and growth in electricity demand, while rising sea levels increase risks of flooding in the event of disasters	Droughts due to decreased rain and snowfall lead to the possibility of reduced hydroelectric power production

	Politics (policies)	Economy (markets)	Society (reputation)	Technology
Transition risks	**Carbon pricing** Major impact Rising cost of CO_2 emissions due to adoption of carbon taxing, emissions trading, etc. **CO_2 emissions targets** Rising cost in areas such as facility responses and purchase of certificates due to tougher targets or adoption of mandatory measures **Energy-mix/non-fossil-fuel ratio targets** Rising cost of power sources and transmission facilities due to strengthening of targets on shares of electricity purchased from non-fossil or renewable sources **Revisions to systems involving adoption of renewable energy** Impaired capacity to recover investments in renewable energy sources due to falling feed-in tariff prices or system changes	**Energy prices, market prices** Changing fuel and electricity market prices **Rising cost of CO_2 credits** Increasing demand for J-Credits, certificates of non-fossil-fuel sources, etc. due to progress in decarbonization, resulting in rising credit prices **Changing electricity demand** Changing electricity demand accompanying use of renewable energy **Intensifying competition in renewable energy businesses** Intensifying competition among renewable energy businesses due to entry into the market of new companies	**Changing customer behavior** Rising demand for low carbon energy, such as electricity from renewables **Changing investor behavior** Rising cost of fundraising or lower stock prices due to accelerating divestment from coal-fired thermal power generation or delays in responding to climate change **Social receptivity to nuclear power** Issues in securing social receptivity to nuclear power, despite increasing need as a non-fossil-fuel source	**Extent of advances in technologies related to electrification** Major impact Changing rates of electrification, including automobile electrification, due to innovations in electrification **Falling prices of renewable energy equipment** Falling cost of equipment such as solar panels and wind power generation systems, due to technological innovation and other factors **Further promotion of decarbonization technologies** Advancement and promotion of storage cell technologies, carbon capture, utilization, and storage (CCUS) and other technologies for increasing use of renewable energy

Environmental Management

Business risks and opportunities based on climate change scenarios and related responses

Under the 4° C scenario, which entails considerable physical risk, the resilience of the electric power infrastructure will grow increasingly important, as pronounced impacts of climate change would be expected to lead to acute risks such as increasingly frequent and severe natural disasters, damage to Company facilities, and supply impediments, along with chronic risks such as the impact on hydroelectric power of changes in rain and snowfall patterns.

Under the 2° C scenario, which involves significant transition risks, the decarbonization of electivity and electrification would advance while use of thermal power decreases due to policy, market, and other considerations, in response to measures to achieve a decarbonized society.

(Arrows in the chart below indicate the direction of financial impacts.)

Scenario	Risks	Responses/opportunities
4° C	↓ **Increasing frequency of disasters** Growing damage to our facilities due to climate change impacts on electricity supply.	↑ **Increasing resiliency of electric power** Increasing the strength and resilience of facilities Considering business opportunities involving decentralized energy
2° C	↓ **Progress in decarbonization policies** Rising cost of CO_2 emissions due to policies, market conditions, etc. make existing power sources less competitive.	↑ **Decarbonizing electricity** Supplying more economical and eco-friendly electricity through more efficient thermal power, development and expansion of renewable energy, etc. **Electrification** Taking on the challenges of shifting to diverse service-provision businesses and promoting electrification in mobility and other aspects through progress on realizing a smart society

To maintain our businesses under either scenario, in accordance with the Tohoku Electric Power Group Medium-/Long-Term Vision, we're striving to achieve sustained growth through a transformation into a business model that considers electricity supply as our core business and establishing a smart society as a growth business segment.

Risk management

Each section in charge is selecting and assessing risks related to climate change on its own, as areas of its responsibility, and formulating its own medium-term plans on business and environmental management.

Important risks are submitted for deliberation to the Conference to Promote Action Plans for Global Environmental Issues, chaired by the President, and reported to the Board of Directors, as part of measures to ensure that the validity of measures is confirmed at the management level.

Since climate change risks also pose risks for the Group's business performance and financial status over the long term, our securities report for the fiscal year ended March 2020 includes a new section on risks related to climate change.

Securities reports, quarterly reports, etc.
https://www.tohoku-epco.co.jp/ir/report/security/index.html

Targets and goals

Reducing CO_2 emissions

The ELCS goal for the electivity business as a whole is a CO_2 coefficient reduction of roughly 0.37 kg-CO_2/kWh in 2030. As an ELCS member, we will seek to reduce CO_2 emissions through the following measures:

Renewable energy development
Centered on the six Tohoku prefectures and Niigata Prefecture, aiming to develop capacity of 2 million kW, mainly through wind power

Improving thermal power efficiency
Measures such as realizing the world's highest thermal efficiency level, at 63% or higher, at Joetsu Unit No. 1, currently under construction

Rapid resumption of nuclear power plant operations
Accelerating initiatives to achieve rapid resumption of nuclear power plant operations founded on the safety-first principle

Enhancing and advancing the resilience of the power network
Measures such as enhancing the capacity to withstand natural disasters and to develop efficient power transmission facilities suited to the growing adoption of renewable energy

Enhancing initiatives toward increasing customers' energy-use efficiency
Proposing energy systems offering outstanding environmental performance, conservation, and safety, etc.

▶ See "Scope 1, Scope 2, and Scope 3 (Category 3) greenhouse gas emissions," p. 8, ESG Data Book.

Environmental Management

New environmental technologies

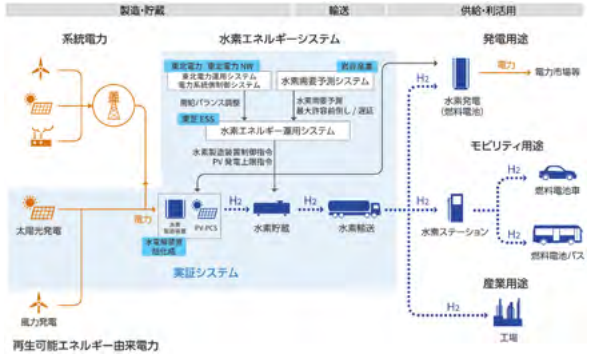
Initiatives toward realizing a hydrogen society

Alongside the New Energy and Industrial Technology Development Organization (NEDO), Toshiba Energy Systems & Solutions Corporation, Iwatani Corporation, and Asahi Kasei Corporation, Tohoku Electric Power and Tohoku Electric Power Network are taking part in feasibility studies, which began in July 2020, for the Fukushima Hydrogen Energy Research Field (FH2R) in the town of Namie, Fukushima Prefecture. Plans call for this to become one of the world's largest hydrogen production facilities based on renewable energy.

This facility will have the capacity to generate 1,200 Nm3*of hydrogen per hour (during rated operation) from renewable energy and other sources. Based on adjustments of grid demand and supply, this is intended both to put renewable energy (which entails considerable output variation) to maximum use and to establish clean, low-cost hydrogen production technologies and technologies to enable practical implementation of the power-to-gas concept. Toward these ends, the project seeks to achieve progress in various control systems (hydrogen energy operation systems, control systems on the grid side, and hydrogen-demand forecasting systems) and in water electrolysis.

* Normal cubic meter (Nm3) is a unit indicating volume of gas in a dried state at pressure of 1 ATM and temperature of 0° C

Fukushima Hydrogen Energy Research Field (FH2R)



This project is part of the NEDO Development of Technologies for Realizing a Hydrogen Society/Development of Hydrogen Energy System Technology project.



Aerial photo of the Name Fukushima Hydrogen Energy Research Field (FH2R) project

Issuing Tohoku Electric Power Green Bonds

▶ See "Our Renewable Energy Business Initiatives," pp. 33, 34.

In February 2020, we became the first general power company in Japan (under the previous legal standard) to issue green bonds.
These green bonds were the first from a general power company to be certified through the strict certification process of the Climate Bonds Initiative (CBI), an independent agency.
For renewable energy generation, centered mainly on wind power, we're striving to develop 2 million kW of capacity in the six Tohoku prefectures and in Niigata Prefecture. Funds raised from these green bonds are used mainly for this business.

1 Overview

Name	Tohoku Electric Power Green Bonds
Use of funds	New investment and refinancing in businesses related to development, construction, operation, and repairs for renewable energy
Date conditions decided	February 20, 2020
Date issued	February 27, 2020
Type of bonds	Straight bonds (with general mortgage)
Issue amount	5 billion yen
Redemption period on issue	10 years
Interest rate	0.310%
Lead/structuring agent	SMBC Nikko Securities Inc.
Ratings secured	A+ (Rating & Investment Information, Inc.) A++ (Japan Credit Rating Agency, Ltd.)
Consistency between use of funds and the SDGs	

2 Assessment by external agencies

Our issue of green bonds has been assessed and verified for compliance with various standards related to their issue by the independent agency DNV GL Business Assurance Japan K.K. We were also the first general power company to secure certification by the Climate Bonds Initiative (CBI)*, an international NGO that establishes strict standards to secure the reliability and transparency of green bonds.



CBI certificate

* Refers to Certificate issued by CBI for bonds verified to be consistent with the standards for climate bonds. Climate bond standards are international standards formulated to ensure strict confirmation, based on scientific grounds, of the consistency between green bonds and the 2° C target under the Paris Agreement.

Independent verification of these green bonds continues after their issue.

3 Allocation of funds raised
(as of March 31, 2019)

Projects	3
Amount allocated	3.1 billion yen
Amount allocated to refinancing	3.1 billion yen
Unallocated balance	1.9 billion yen

4 Environmental impact

As of the end of FY2019, all renewable energy projects targeted by funds raised using these bonds were under construction. We plan to report on their specific environmental impact (annual CO_2 emissions reductions in t-CO_2/y) after they come online. There have been no major changes in project progress or allocation plans.

Our Brand

To ensure that the Tohoku Electric Power Group continues to be selected in a business environment undergoing intensifying competition, it is essential to propose and deliver value only the Tohoku Electric Power Group can offer while continuing to work alongside our customers and communities in efforts grounded in customer needs and community issues. We consider this to be the root of the Tohoku Electric Power Group brand. To ensure that each and every Group employee can embody the Yori, Sou, Chikara (The Strength to Work Alongside) slogan in his or her everyday business activities and to inspire specific actions and initiatives, Tohoku Electric Power and Tohoku Electric Power Network are incorporating this vision as a perspective in their medium-term plans and assigning supporters to promote this vision at each section and site.

Encouraging employees to embody the Yori, Sou, Chikara (The Strength to Work Alongside) slogan

Practical implementation based on business plans under the leadership of corporate management and site managers

Reflecting the Yori, Sou, Chikara (The Strength to Work Alongside) perspective in medium-term plans

Reflecting the Yori, Sou, Chikara (The Strength to Work Alongside) perspective in the Tohoku Electric Power Group Medium-Term Plan formulated each year to help realize the Tohoku Electric Power Group Medium-/Long-Term Vision.

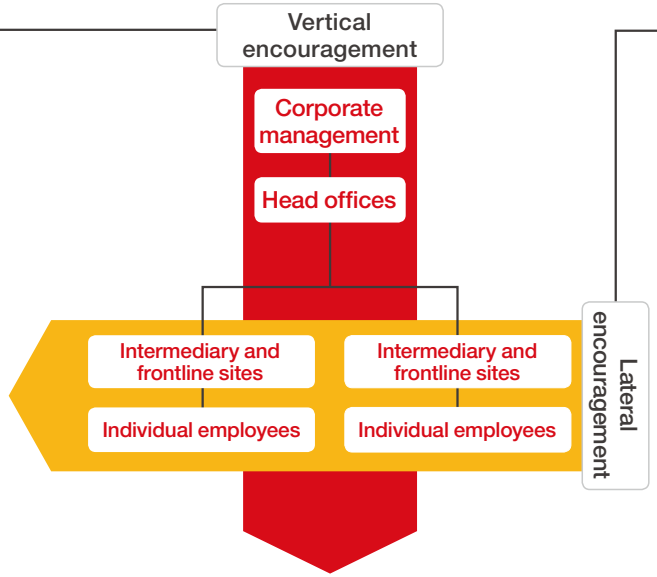
Follow-up by corporate management and site managers

- Explanation by corporate management of the importance of embodying the Yori, Sou, Chikara (The Strength to Work Alongside) slogan in dialogue with frontline sites
- Follow-up by managers, through dialogue and other means, of the status of implementation the Yori, Sou, Chikara (The Strength to Work Alongside) slogan in business operations

Holding discussions and training at individual levels

Discussions and training are held for personnel at individual levels, on subjects such as how to implement Yori, Sou, Chikara (The Strength to Work Alongside) and related issues.

Subject	Theme
Corporate management (executive committee)	Vision of Yori, Sou, Chikara (The Strength to Work Alongside) under the Tohoku Electric Power Group Medium-/Long-Term Vision
Office and branch general managers	Issues in practicing the Yori, Sou, Chikara (The Strength to Work Alongside) slogan at intermediary and frontline sites
General managers of frontline sites	Roles of site general managers in embodying the Yori, Sou, Chikara (The Strength to Work Alongside) slogan
Newly appointed managers	Roles of managers in embodying the Yori, Sou, Chikara (The Strength to Work Alongside) slogan
New employees	About the Group slogan, Yori, Sou, Chikara (The Strength to Work Alongside)



Yori, Sou, Chikara
(The Strength to Work Alongside)

Getting closer to customers
Working alongside communities

Embodying this philosophy in the everyday activities of all Group employees

Improving everyday initiatives by encouraging cooperation among sections and sites

Deploying supporters for the Yori, Sou, Chikara (The Strength to Work Alongside) slogan

- While section and site general managers are responsible for promoting the Yori, Sou, Chikara (The Strength to Work Alongside) slogan, supporters are assigned to all sites to stimulate site initiatives in support of the general managers' efforts.
- Meetings are held among these supporters to discuss issues related to the promotion of initiatives and to share information across the organization on topics like successful case studies and concerns at individual sites.



Our Brand

In our business operations, as the implementation of initiatives grows based on awareness of the Yori, Sou, Chikara (The Strength to Work Alongside) slogan, we're seeking to establish an attitude that emphasizes working alongside customers and communities based on shared perspectives, deploying Yori, Sou initiatives to provide services that meet customer needs while growing and advancing alongside the community. Through further pursuit of the value only the Tohoku Electric Power Group can deliver and based on stable supply and everyday operations, we will offer not just new services and rate plans, but transform ourselves into an organization that proposes to our customers more comfortable lives and lifestyles, as well as methods of regional and community development that will function as the infrastructure to make this possible.

Together with our customers

Providing services more closely reflecting customer needs

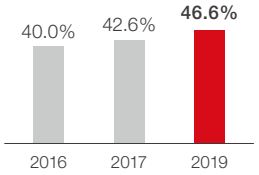
Providing comprehensive services for living

We offer electricity rate plans suited to the particulars of customers' changing lifestyles, family structures, etc., as well as services to support daily living for customers.

Rate plans	○ A choice of rate plans suited to individual lifestyles
Web services	○ Various Web-based services that let users earn loyalty points
Services related to daily life	○ Yorisou Kokocchi service to check location of children using smartphones ○ Kokodenka services to support comfortable modes of daily life using electric appliances ○ Yorisou Bocco communication bot connecting family members with each other

Trend in rate of use of Yori, Sou activities

Internal surveys assess the extent to which employees implement in their everyday business activities initiatives that reflect the Yori, Sou, Chikara (The Strength to Work Alongside) slogan at Tohoku Electric Power and Tohoku Electric Power Network. While the rate is growing steadily, activities to further stimulate these initiatives continue.



Alongside the community

Advancing initiatives to grow and advance with Tohoku and Niigata

Initiatives to secure a stable supply of electricity

In addition to doing all we can to ensure a stable supply of electricity, the foundations for community recovery and growth, we contribute to areas such as stimulating regional economic activity by developing and providing new services.

Support for attractive community development

We support unique activities in areas such as urban and community development and vitalization. We also engage in initiatives that involve support for community cultural and athletic activities.



Business execution under the Yori, Sou approach

Yori, Sou telephone services



To improve the quality of telephone service, which accounts for most customer contact, our Sendai-Minami branch has formulated integrated implementation targets. Starting with proposed items submitted by branch staff based on items gleaned from e-learning and telephone service videos, employee voting and discussions with the general manager were held to formulate these targets. Card stands describing them are installed on all staff desks so that employees can review them while providing service on the telephone.

A workshop on employing the Yori, Sou approach in responding to power failures



The Tohoku Electric Power Network Aizu-Wakamatsu Power Center held a workshop led by staff from the Power Distribution Planning Department, which is in charge of duties including power grid management, to allow Customer Service Department staff to respond in easily understandable ways when dealing with customer inquiries during power failures.
With multiple sections besides the Customer Service Department participating, the workshop served as an opportunity to learn about the work of power distribution sections and deepen cooperation among departments at the branch.

Human Resources (Our Employees Are Valuable Assets)

Creating Workplaces with Respect for Diversity

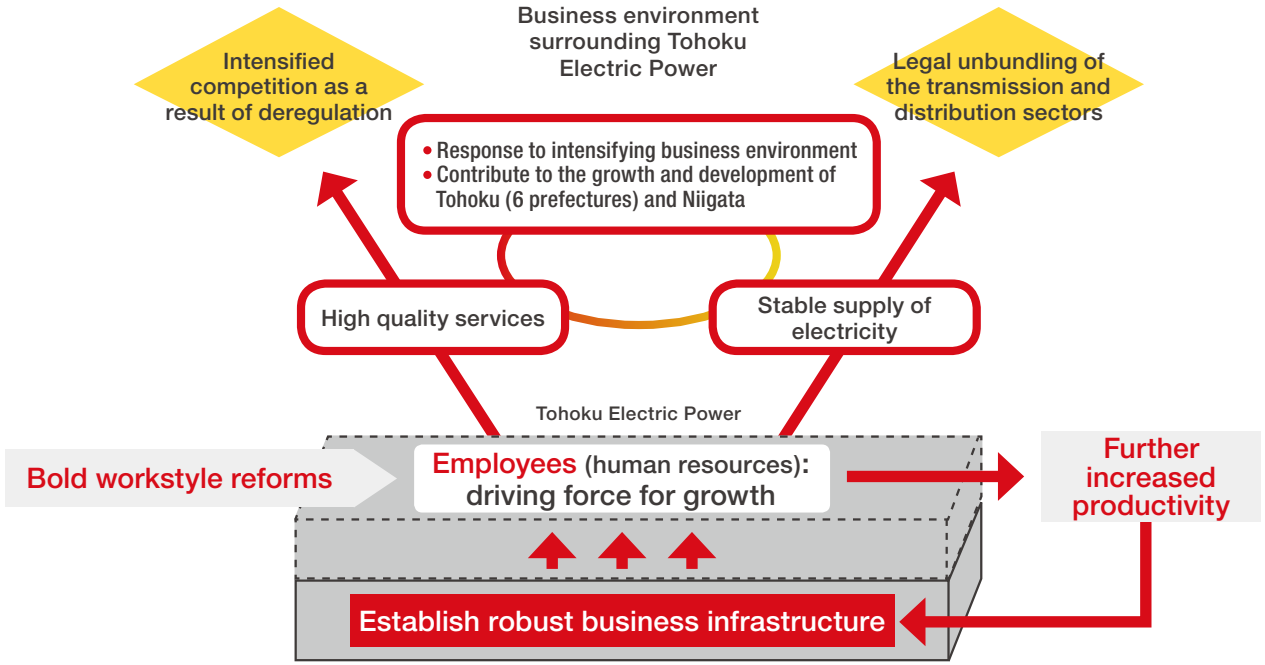
In order to respond flexibly to changes in the business environment, Tohoku Electric Power believes that it is important to draw out the abilities and qualities of individual employees with a diverse range of emotional sensibilities and values, and linking this to the creation of new value. Moreover, in order for the company to be chosen by customers and to be trusted by local communities, we believe that it is important for our employees—who are the key people in our electric power business—to engage in their jobs with a sense of duty. For this reason, we are working to create workplaces that offer each employee a sense of job satisfaction.

Raising awareness of human rights

Since FY1994, to create workplaces in which diverse human resources can thrive, we have held lectures and group education to raise human rights awareness. In December 2019, we held a lecture meeting on the theme of harassment in which about 350 persons, chiefly managers of the Company and affiliates learned how to improve awareness of issues that help create workplace environments free of harassment. We're committed to striving to raise the human rights awareness of each and every employee.

▶ See p. 25, ESG Data Book.

Establishing a robust business infrastructure with growth powered by human resources



Promoting Diversity

The Tohoku Electric Power Group believes that in order to enhance its ability to respond to the diversifying needs of customers and continue to grow as a company, it is important to create a working environment in which diverse human resources can make maximum effective use of their abilities irrespective of their gender, age or job responsibilities.

▶See p. 26, ESG Data Book.

Creating workplaces in which diverse human resources can thrive, regardless of gender or age

We provide training for male and female employees of child-rearing age to foster awareness of career development and to strengthen motivation in preparation for coming life events. We also provide training to support achieving a balance of work and home life for women employees who have returned from childcare leave.
In training for management personnel, we strive to encourage skills acquisition and understanding on appropriate ways of providing support and communicating expectations, based on an understanding of individual differences in values among subordinates, regardless of gender or age.



Number of female employees

Year	FY2017	FY2018	FY2019
Number of people (percentage of female employees)	828(6.7%)	839(6.9%)	879(7.2%)
Number of female employees hired	29	36	37

Employing People with Disabilities

The Tohoku Electric Power Group has established a new company, Tohoku Electric Power Friendly Partners on July 2018 in order to further promote the employment of persons with disabilities.
In May 2019, the company was certified as a special subsidiary. Moving forward, we will continue making efforts to develop working environments that are easy for people with disabilities to work in, and actively promoting the employment of people with disabilities.

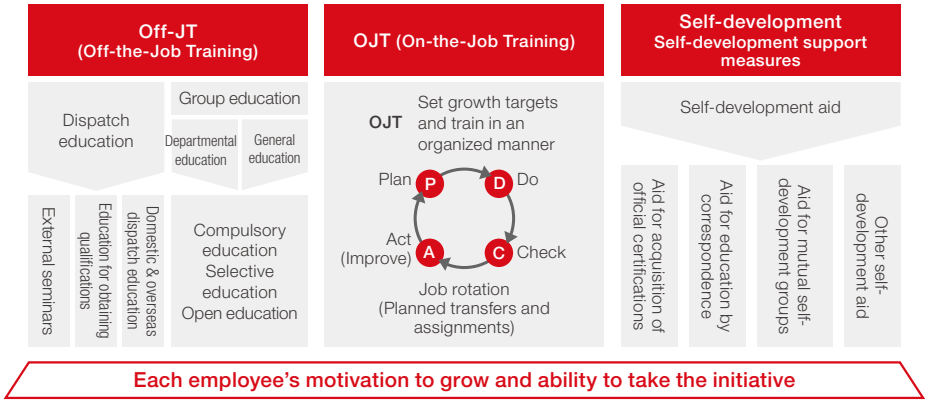
Human Resources (Our Employees Are Valuable Assets)

Developing Human Resources

Developing Human Resources Who Can Take On the Challenge of Transformation Towards New Opportunities for Growth, and Passing on Technology and Skills

The Tohoku Electric Power Group develops human resources from a medium to long-term perspective with a view to pursuing new opportunities for growth.
In FY2020, we identified key items to be implemented, including "fostering awareness of transformation and motivation for challenge," "sure passing on of knowledge, technology and skills and improving quality of work," and "enhancing the management capabilities of managerial personnel," and are working to enhance the development of each individual employee while at the same time seeking to achieve organic, mutual collaborations, based on the three key pillars of (1) OJT (On-the-Job Training), (2) Off-JT (Off-the-Job Training) and (3) Self-Development.

Our skill development support system



Each employee's motivation to grow and ability to take the initiative


Education of new employees


Open education

▶See "Developing human resources to drive growth", p. 28, ESG Data Book.

Workstyle Reform

Creating a Healthy Company Where Everyone Works Energetically

In April 2018, we formulated the slogan "Mina, Osu, Chikara" (literally, "The Strength to Review and Push Ahead"), incorporating the wish that everyone in the company should work together as one to review workstyles and push ahead with reforms. We have implemented various initiatives from the perspectives of "reducing workloads and improving work efficiency," "improving the quality of work," and "achieving work-life balance." In the future, we will aim to carry out work-style reforms based mainly on information and communication technologies (ICT), while putting systems such as flextime and working from home to further use, based on measures currently underway in response to the COVID-19 pandemic.

"Mina, Osu, Chikara" – "Yori, Sou, Chikara" (Workstyle Reform Version)
(Reviewing workstyles and pushing ahead with reforms)

By advancing workstyle reform as a major movement throughout the company as a whole, we will link it to the realization of "Yori, Sou, Chikara".

Through a positive cycle of "reducing workloads and improving work efficiency," "achieving work-life balance" and "improving the quality of work" …

A healthy company where everyone works energetically

Aim to become a company that is trusted and chosen by customers and people in the local community.

Every employee in the company works to reduce workloads and improve work efficiency, achieve a healthy work-life balance and improve the quality of their work, while at the same time never forgetting that they are a good member of a family, and of the local community.

By helping all employees to work healthily and energetically, we will aim to become a company that is trusted and chosen by customers and people in the local community. At the same time, we will seek to increase productivity and win against the competition.

▶ See "Work-life balance", p. 27, ESG Data Book.

Promoting Health and Productivity Management

Implementing Health and Productivity Management to Build the Mental and Physical Health of Each Employee

The Tohoku Electric Power Group is engaged in health and productivity management, with the aim of becoming a healthy company where everyone works energetically, by seeking to improve and enhance early response capabilities for preventing illness and improving health. Specifically, we formulate a Basic Policy for Health Promotion on an annual basis. Based on this policy, our head office, branch offices, and front-line business locations cooperate and seek to ensure good communication between management personnel, industrial physicians, health promotion staff and employees; and work to promote and build both the mental and physical health of each individual employee.
In addition to these and other ongoing health improvement efforts, the prohibition of smoking throughout the head office site starting in April 2020 has been well received, leading to our recognition as one of the 2020 "White 500" firms implementing outstanding health management (in the large firms category), a joint initiative of the Ministry of Economy, Trade and Industry and the Nippon Kenko Kaigi.
Through continuing health management initiatives, we will continue striving to stimulate the organization, including raising the vitality of employees and boosting productivity.

2020 健康経営優良法人 Health and productivity ホワイト500

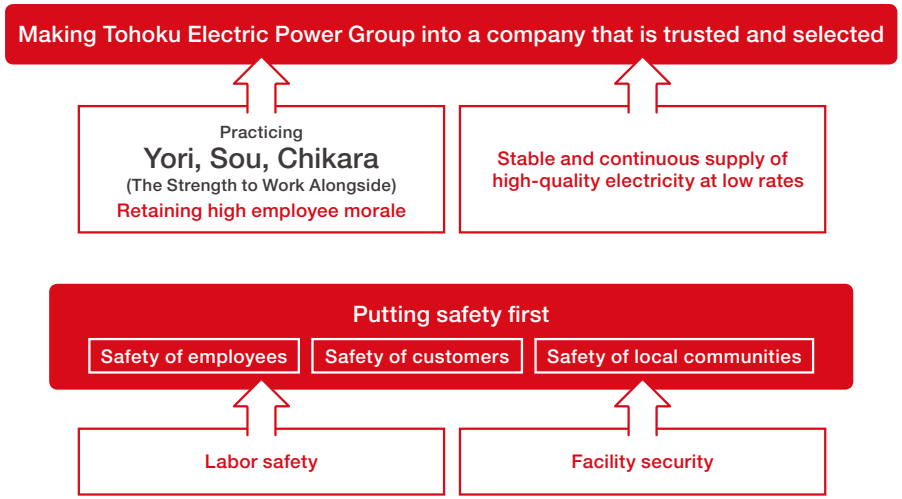
▶ See "Actions for health management", p. 30, ESG Data Book.

Safety

Actions for safety that lead to continuous growth and to a medium- and long-term improvement in corporate value

Occupational safety and equipment security are the foundations of the Tohoku Electric Power Group's business activities. We consider securing the safety of our customers and our communities to be the first steps in earning trust in order to fulfill our unchanging mission to deliver stable supplies of low-cost, high-quality electricity to customers.
We will create an environment that allows employees, as our driving force, to fully display their strengths without risk and practice our slogan of Yori, Sou, Chikara (The Strength to Work Alongside) in a bid to become a company that is trusted and selected.
In accordance with our safety-related policies, we will continue our efforts to build a corporate culture that puts safety first and to increase corporate value.

Relationship between actions for safety and corporate value enhancement



Building a corporate culture that puts safety first

Initiatives to ensure thorough safety and improving business quality

Aiming to firmly establish a corporate culture that ensures thorough safety and boosts business quality, we're striving to improve safety and security groupwide and the quality management system for nuclear power.
Based on our recognition that securing safety is the top priority in all business activities, a key goal is to build a corporate culture that puts safety first through even greater coordination groupwide. In April 2020 we established the Tohoku Electric Power Group Safety and Security Policy, under which we strive to enhance initiatives related to occupational safety and equipment security.

Actions on safety management towards the achievement of zero accidents

For the purpose of reducing industrial accidents, we have introduced the safety and health management system to independently and continuously improve safety management. It is an international standard method of safety and health management. Each office will independently perform management and remove and reduce latent risks and harmful factors in advance to prevent industrial accidents.
If any industrial accident occurs, we will probe into the fundamental cause and background to develop effective measures for the prevention of recurrence and share information within the Company to prevent any similar accident from happening.

Initiatives to ensure equipment security

To avoid the recurrence of improprieties that have occurred before, the status of autonomous security activities in each section is reported to the Safety and Security Promotion Conference, the Nuclear Safety Promotion Conference, and the Committee on Corporate Ethics and Compliance, thereby confirming that they are being implemented according to plan; that systems are in place for identifying and correcting any issues ourselves; and that active communication occurs through dialogue and other measures. In these and other ways, we seek to ensure that autonomous security activities are even more firmly established within the organization.
In addition, through autonomous security activities, we strive to ensure the safety of customers and our communities by ensuring the security of equipment.

▶ See "Actions for entrenching voluntary security activities", p. 33, ESG Data Book.

Safety

Enhancing resilience

The Tohoku Electric Power Network does business based on the recognition that its most important mission is to deliver a stable supply of low-cost electricity to customers amid the broad geographical area and challenging natural conditions within its service area—the six Tohoku prefectures and Niigata Prefecture, which account for about 20% of Japan's land mass.

The Tohoku Electric Power Network has been able to accumulate expertise and technological capabilities through its experience with numerous natural disasters, including the Great East Japan Earthquake, as well as Typhoon Hagibis last year. Based on the lessons from these disasters, it has enhanced its structures to ensure preparedness for future disasters.

Tohoku Electric Power Network will continue to balance efficient development, maintenance, and management of facilities in addition to securing stable supplies through tangible and intangible measures reflecting the lessons learned from past natural disasters.

Major initiatives to enhance a stable supply of electric power and disaster resilience

Drills on restoring external power supply in the event of a disaster affecting a nuclear power plant



Drills simulating the restoration of external power supplies while wearing safety gear, to ensure preparedness for a disaster at a nuclear power plant, are carried out to strengthen skills for restoring external power supplies at a nuclear power plant in assumed scenarios.

Utilizing drones and IoT devices such as smart glasses



In restoration work following power failures and the other consequences of Typhoon Hagibis, we used drones and IoT devices such as smart glasses to ascertain the extent of damage to facilities and to share information between sites and offices in real-time, helping to restore power quickly through appropriate instruction and restoration work.

Everyday drills, patrols, inspections of power distribution equipment

To deliver a stable supply of electricity to customers, we carry out maintenance and management through everyday patrols and inspections of power distribution facilities, repair work, and other activities, striving to minimize system downtime and power failures. In addition, to raise the level of technological abilities and pass skills along to the next generation, we hold group training for new employees every year as well as power-distribution section skills competitions to enable employees to improve in the technologies and skills needed for recovery from an emergency and learn from each other.



Major disasters since FY2010 and related initiatives

2011 Recovery from power failures and other consequences of the Great East Japan Earthquake

This massive earthquake, with a magnitude of 9.0—the largest ever observed—struck at 2:46 pm on March 11, 2011, causing power failures affecting a total of 4.86 million households in our service area. Despite the vast reach of the area affected, based on a sense of mission and determination, we were able to restore power to about 94% of these within the following eight days.



2016 Dispatching aid in response to the Kumamoto Earthquake

As requested by Kyushu Electric Power, we dispatched 122 employees and five mobile generators to provide emergency power supplies to JR Aso Station and other locations in the city of Aso.



2018 Dispatching aid in response to the Hokkaido Eastern Iburi Earthquake

As requested by Hokkaido Electric Power, we dispatched a total of 745 employees and 32 mobile generators to assist toward rapid recovery from power failures. In cooperation with the Japan Self-Defense Forces, we transported mobile generators and cranes via ships arranged for by the Self-Defense Forces.



2019 Dispatching aid in response to Typhoon Faxai

As requested by Tokyo Electric Power, during the period September 9–27, we dispatched aid, including 1,684 Company employees and 1,981 employees from construction contractors, as well as 43 mobile generators, the largest team ever dispatched to aid another company. The aid team worked to advance recovery from the disaster.



2019 Restoration work in response to power failures and other consequences of Typhoon Hagibis

At its peak, damage to facilities caused by wind and rain and loss of facilities due to river bank breaches resulted in power failures for 57,834 households. A cumulative total of 144,700 households suffered power failures as a result of this storm. We dispatched a total of 613 personnel from branches on the Japan Sea side of Japan to branches in Iwate, Miyagi, and Fukushima, all seriously damaged, to work toward rapid recovery.



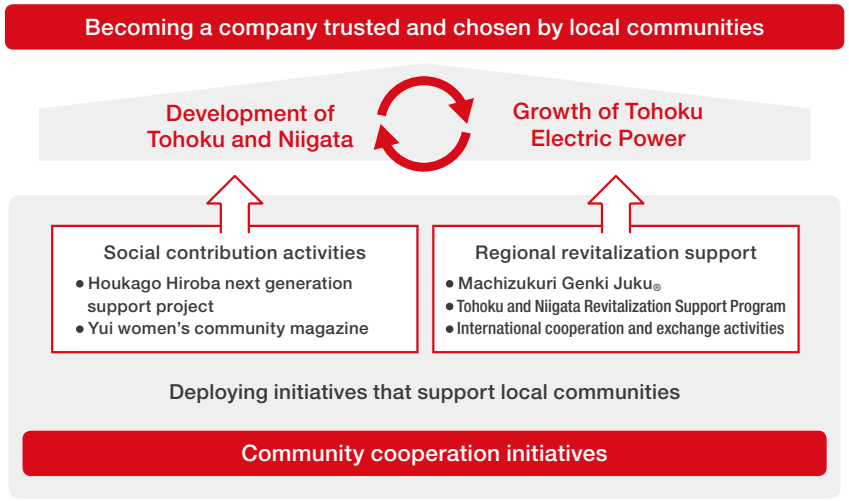
Contributing to Communities

Community Contribution Activities that Contribute to Sustainable Growth and Improve Corporate Value in the Medium to Long-Term

Deploying groupwide measures alongside the community

To be trusted and chosen by customers in this age of intense competition, in addition to offering rate levels, plans and services that truly match the needs of customers, Tohoku Electric Power also considers it important to deploy initiatives that strongly support the growth and development of the six Tohoku prefectures and Niigata Prefecture.
Based on our management philosophy of prosperity in partnership with the community and our Group slogan Yori, Sou, Chikara (The Strength to Work Alongside) and through our business activities, as a true contributor to the region, the entire Tohoku Electric Power Group works to advance initiatives that deliver solutions to challenges facing our communities and society. We do so by working alongside communities to achieve their sustained progress and cooperating and coordinating with local communities to build relationships of trust grounded in mutual understanding.
Based on this thinking, in addition to activities to help revitalize local communities, the Company deploys a wide range of measures such as community contribution activities, including after school programs, that support the healthy growth of the children who represent the future of our communities. Activities under this heading include Machizukuri Genki Juku® training courses designed to stimulate community development and the Tohoku-Niigata support program, both of which provide support for solutions to community challenges. In these and other ways, we seek to increase Tohoku Electric Power's corporate value as a company trusted and chosen by the local community.





Examples of results achieved in these initiatives

Social contribution activities

• FY2019 social contribution activities

Actions implemented: around **160**

Number of participants (external): around **68,000**

Regional revitalization support

• Machizukuri Genki Juku® support organizations

Between FY2006 and FY2019: **40** organizations

• Tohoku and Niigata Revitalization Support Program aid organizations

Between FY2017 and FY2019: **21** organizations

Community cooperation initiatives

• FY2019 community cooperation initiatives

Number of actions: **1,130**

Number of participating employees (counting multiple participations by the same employee): **16,658**

Contributing to Communities

Community activities around business sites

At each of Tohoku Electric Power Group site, employees participate in various initiatives as members of the local community, seeking to build relationships of trust with local residents.

* Activities implemented in FY2019

Participation in the portable shrine festival

Offices in the city of Mutsu and the Higashidori Nuclear Power Plant



Some 180 members of the Tohoku Electric Power Group Mikoshi-matsuri support association participated in the Mikoshi-matsuri portable shrine festival held during the Tanabumachi Festival (August 18–20).

Green Curtain Activities using hops

Tono Power Network Center



The Tono Power Network Center takes part in Green Curtain Activities by installing planters with hops, a major crop in the Tono area, at commercial sites within the city, stores in the city center, and locations such as train stations and sightseeing facilities.

Support for Regional Revitalization

Tohoku Electric Power engages in various initiatives that contribute to the revitalization and development of local communities, including initiatives to support urban planning in local areas and support for activities to resolve issues in local communities.

Machizukuri Genki Juku®



Tohoku Electric Power supports community-led urban planning activities by dispatching urban planning experts to organizations working to resolve issues, based on the ultimate goal of revitalizing communities and enabling greater autonomy and independence.

Tohoku and Niigata Revitalization Support Program



Through subsidies granted under this program, we support organizations engaged in voluntary activities to resolve issues in the local community: local industry promotion, local community restoration and revitalization, and expanding the numbers of non-residents.

Social Contribution Activities

Tohoku Electric Power engages in numerous initiatives that contribute to society, including activities that promote the growth of the children who will play key roles in the future of the region, active roles for women who are residents of local communities, and cooperation with local community events.

After School Plaza project to support the next generation



Through various activities, we're striving to build an environment in which children can grow to their full potential. These include essay contests for junior high school students, participating in the Tohoku Electric Power mini-basketball tournament, and holding touring classes on energy issues.

Issuing Yui women's community magazine



Yui, a community magazine is issued three times a year as a tool for communicating with women across a wide range of ages. It conveys the appeal and attractions of the six Tohoku prefectures and Niigata Prefecture.

Promoting International Cooperation and Exchange Activities

Tohoku Electric Power believes international exchange boosts the development of local communities. Based on this idea, we're engaged in various international cooperation and exchange activities, including accepting technical trainees from various ASEAN countries and helping to operate the Tohoku Canada-Japan Society.

Cooperation with ASEAN trainee programs operated by Japan Electric Power Information Center, Inc. (JEPIC)



Tohoku Electric Power supports this cooperative program and its objectives: developing the electric power infrastructure and training human resources in ASEAN member countries. In addition to accepting trainees, we dispatch our own employees as experts to lecture at seminars on location.

Running the Tohoku Canada-Japan Society and cooperation with international exchanges



In addition to furthering mutual understanding, friendship, and goodwill between Japan and Canada through the activities of the Tohoku Canada-Japan Society administrative office, we work with organizations seeking to promote exchange between the Tohoku Region and various overseas countries.

Contributing to Communities

Companies in the Tohoku Electric Power Group take part in numerous social contribution activities as members of their local communities.

Yurtec Corporation

Volunteer activities in an area affected by Typhoon Hagibis



Local employees of Yurtec Corporation took part in volunteer activities in the city of Miyako, Iwate Prefecture, an area damaged by Typhoon Hagibis in October 2019. They had previously belonged to a construction site office located near the Taro roadside station. Inspired by the desire to give back to those in local communities who contributed to Yurtec's construction projects on a daily basis, these efforts included cleaning and sterilizing tables, chairs, and other fixtures in the rest area and transporting waste from the disaster in cooperation with city employees and local residents.

Tohoku Electric Power Engineering & Construction Co., Inc.

Presenting the Tohoku Electric Power Engineering & Construction Awards



As a means of expressing its support for the goals of local nonprofit Art to You—motivating those with disabilities by publicizing and promoting their artistic activities—Tohoku Electric Power Engineering & Construction donates to the organization as part of its social contribution activities. The fifth Art to You! National Disability Arts Exhibition in Tohoku was held October 17–20, 2019 at Sendai Mediatheque in the city of Sendai.

Kitanihon Electric Cable Co., Ltd.

Kitanihon Electric Cable School Concerts



Each year, Kitanihon Electric Cable sponsors touring concerts by the Sendai Philharmonic Orchestra, an ensemble based in the city of Sendai, Miyagi Prefecture. Scheduled each year for two of the six elementary schools in the town of Shibata, Miyagi Prefecture, where Kitanihon Electric Cable operates two manufacturing facilities, this roving concert visits all six schools every three years. During FY2019, some 800 students attended these recitals to hear nonet performances with a repertoire including favorite pieces among children.

HNK Co., Inc.

EcoCap Activities



Since June 2018, with the cooperation of Group member companies and other tenants in the Denryoku Building, HNK Co. has helped deliver vaccines to children in developing countries through proceeds generated from collecting and selling plastic bottle caps. This initiative also promotes cap recycling and environmental protection, and supports the employment of those with disabilities by subcontracting cap washing and other activities. HNK plans to continue the activity.

Sakata Kyodo Power Co., Ltd.

The Sakata Port Zero-Waste Project



With the participation of some 170 people from Tohoku Electric Power Group member companies, related government agencies, and others in the city of Sakata, Yamagata Prefecture, Sakata Kyodo Power Co. contributes to the Sakata Port Zero-Waste Project cleanup activities near Sakata Port. Held twice annually—in spring (end of May) and in autumn (end of October)—this cleanup project was recognized in April 2015 by a Green Ribbon Medal from the Japanese government.

Tohoku Intelligent Telecommunication Co., Inc.

Securing naming rights



Since FY2017, Tohoku Intelligent Telecommunication has owned the naming rights to the Sendai community hall, known by local residents as TOHKnet Hall Sendai. The company has added various conveniences to the hall—for example, free public Wi-Fi for visitors, an initiative befitting its status as a leading information telecommunications company. It remains committed to providing the support needed to ensure the hall remains a vibrant center for cultural communication within the community.

Joban Joint Power Co., Ltd.

Nakoso Dream illumination activities



In cooperation with local government and related organizations, Joban Joint Power helps make possible the Nakoso Dream illumination activities, wherein a group of smoke stacks are lit up at night. A wide range of illumination activities takes place in cooperation with local residents to highlight monthly activities and seasonal events, including having high school students design the illuminations. In April and May 2020, the illumination theme was Blue Light Up, expressing gratitude for healthcare workers who work day and night amid the challenges posed by the COVID-19 pandemic.

Soma Kyodo Power Co., Ltd.

Participation in the Soma Nomaoi parade



Every year since FY2008, at least 60 people from Soma Kyodo Power and other companies working at the Shinchi Power Plant site have taken part in the Soma Nomaoi festival, which dates back over 1,000 years and is designated as an important cultural event by the Japanese government. Walking in a procession from Nakamura Shrine in Soma, participants help pass on this traditional Japanese cultural event and promote tourism in the local Soso region. In FY2019, a total of 67 people took part in the event over the course of two days, carrying historical flags, firearms, and other artefacts as they marched alongside 400 warriors on horseback.

Corporate Governance

Corporate governance
https://www.tohoku-epco.co.jp/ir/policy/governance/index.html

Basic concepts of corporate governance

The Tohoku Electric Power Board of Directors establishes basic corporate governance policies to clarify our basic corporate governance concepts and related practical initiatives. Under our management philosophy of prosperity in partnership with the community, as identified in the Tohoku Electric Power Group Medium-/Long-Term Vision and the Group slogan Yori, Sou, Chikara (The Strength to Work Alongside), we seek to grow in step with sustained progress within society by helping to establish a smart society in various ways: providing services centered on energy, working alongside customers, and engaging in sustained dialogue with stakeholders.

To ensure appropriate management consistent with this heading, the Company implements initiatives that enhance corporate governance, including those that ensure exhaustive compliance with corporate ethical standards and laws and regulations, promoting fair, honest, and transparent business administration, and improving internal control and risk management.

The Company sees strengthening and improving corporate governance as one of its priority management issues. Based on this perspective, the Company will advance initiatives to ensure sustained growth and enhanced corporate value on a medium- and long-term basis to meet the expectations of its stakeholders. Company initiatives will include activities that make management more flexible, sound, and transparent.

1 Guarantee of shareholder rights and equitable standing

The Company handles all matters based on laws and regulations, thereby guaranteeing shareholder rights and equality in real terms. At the same time, the Company advances efforts to prepare conditions that permit shareholders to exercise their rights, with due regard for minority and foreign shareholders.

2 Appropriate joint efforts with stakeholders beyond shareholders

Based on safety, consideration for the environment, and compliance with corporate ethical standards, laws, and regulations, we stress activities based on two-way dialogue with a diverse array of stakeholders. The Company targets sustained growth and medium- to long-term growth in corporate value.

3 Appropriate information disclosure and transparency

(1) In addition to the appropriate disclosure of information pursuant to laws and regulations, we engage in the timely disclosure of accurate and highly useful information through our website and various other media, in addition to press conferences and, as necessary, briefings, held by the representative director.

(2) We disclose financial, non-financial, and other information through fair, detailed, and simple methods, in accordance with the Companies Act, the Financial Instruments and Exchange Act, and other laws and regulations, as well as our own Disclosure Policy and other policies.

(3) To the extent feasible, we also strive to disclose this information in English.

4 Responsibilities of the Board of Directors

(1) The roles and responsibilities of the Board of Directors include measures to achieve the sustained growth of the Company and increasing corporate value over the medium to long term while soliciting diverse neutral and objective opinions from independent outside Directors, in light of the duties entrusted to them by shareholders and associated accountability and responsibilities. The Board of Directors also strives to foster a culture that encourages free and constructive debate and exchange of opinions and welcomes issues raised by outside Directors.

(2) In addition to its important role as a Company supervisory body, the Audit and Supervisory Committee serves as a statutory independent body charged with auditing the discharge of management responsibilities on behalf of shareholders by the Representative Director and other Executive Directors. By fulfilling these responsibilities, it contributes to a sound corporate governance structure commensurate with society's trust in the Company and promotes sound, sustained growth and medium- to long-term value creation.

(See p. 65 for more information on the management structure.)

5 Shareholder dialogue

To further sustained growth and medium- to long-term growth in corporate value, the Company establishes opportunities for dialogue with shareholders beyond the General Meetings of Shareholders, while Directors and other members of top management strive to explain clearly in management policies and elsewhere matters such as the Company business environment and initiatives. The ultimate goal is to ensure understanding, and to promote constructive dialogue with shareholders.

Corporate Governance

Internal Control and Corporate Governance Diagram Tohoku Electric Power

1 Board of Directors

The Board of Directors consists of 15 Directors, including six independent outside Directors unimpeded by potential conflicts of interest that may arise with general shareholders.
In principle, the Board meets once a month to decide on important matters related to management and matters and essential for Company operations. The Directors also report on the status of business execution to the meetings of the Board of Directors and monitor these reports and business implementation carried out by other Directors.
The Board of Directors delegates certain important decisions on business execution to the Directors through a system whereby the Representative Director & President, Representative Directors & Executive Vice Presidents, and Managing Executive Officers (collectively referred to as “Executive Officers with titles”) take charge of business execution.

2 Nomination and Compensation Advisory Committee

The Company has established a Nomination and Compensation Advisory Committee (chaired by Tsutomu Kamijo) comprised of two internal Directors (Representative Director & Chairman of the Board Makoto Kaiwa and Representative Director & President Kojiro Higuchi) and four independent outside Directors (Directors Shiro Kondo, Tsutomu Kamijo, and Osamu Kawanobe who do not sit on the Audit and Supervisory Committee, and Director Chiharu Baba, a Committee member). This body advises the Board of Directors on matters related to securing objectivity, timeliness, and transparency. The Nomination and Compensation Advisory Committee fulfills the functions of both a voluntary committee equivalent in function to a nomination committee and a voluntary committee equivalent in function to a compensation committee.

3 Management Committee

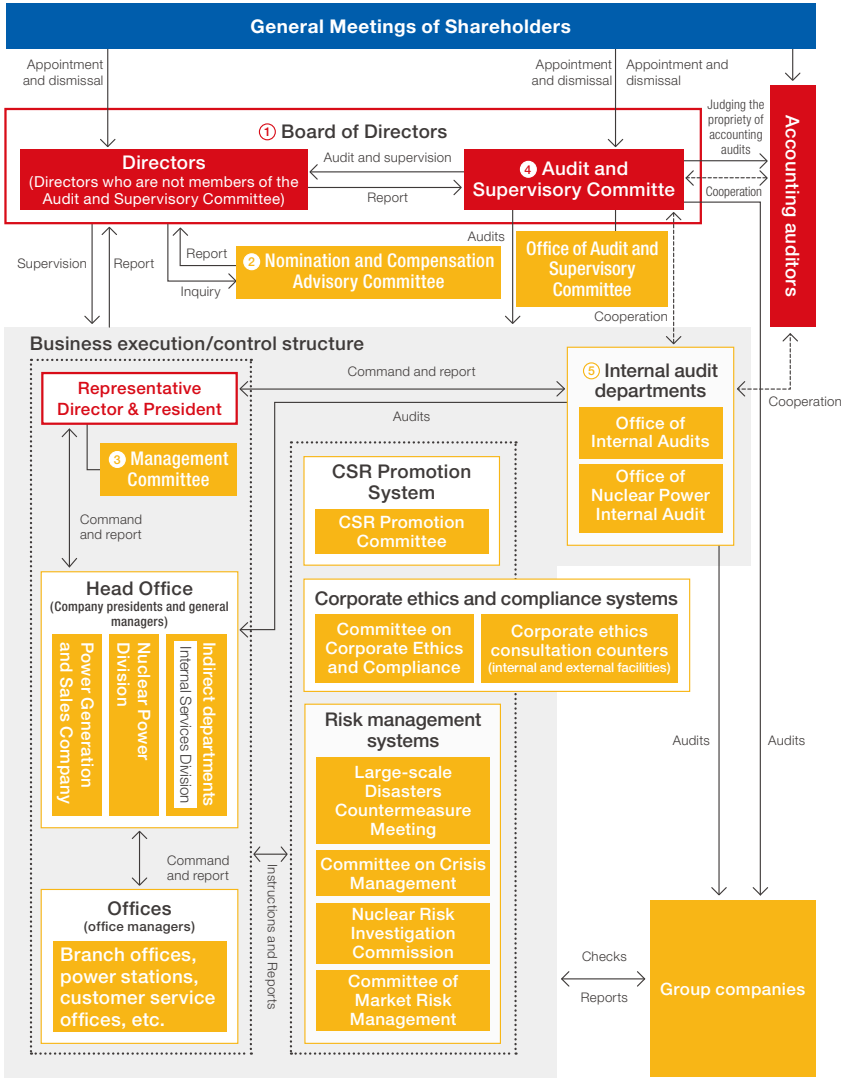
Consisting of Executive Officers with titles, the Management Committee meets weekly to discuss overall business administration policies and plans and the execution of important business based on basic management policies set by the Board of Directors. The Management Committee also promotes the development of effective, efficient business processes through an in-house company system, in which the Power Generation and Sales Company, the Nuclear Power Division and the Internal Services Division independently explore autonomous business expansion.

4 Audit and Supervisory Committee

To ensure objectivity and neutrality in management supervision functions, three of the four members of the Audit and Supervisory Committee are outside members. One full-time member of the Committee is appointed to carry out, on a daily basis, activities such as attending important meetings of the Executive Committee and other bodies, inquiring with business execution sections concerning the state of business execution, inspecting sites, and joint efforts with internal audit sections, thereby making auditing and supervisory functions more effective. In addition to meeting monthly, the Audit and Supervisory Committee meets at other times when necessary to deliberate and report on matters relevant to its functions as an auditing and supervisory body.
In addition to attending meetings of the Board of Directors, the Executive Committee, and other important meetings, the full-time member also inquires with business execution sections concerning the state of business execution, reviews important documents, inspects the state of business and finances at business sites, and otherwise strives to ensure that auditing of matters such as the performance of Directors’ duties and the maintenance and operation of internal control systems is fully addressed. He or she also strives to improve audit results by attending discussions with the Representative Director and engaging in the periodic exchange of viewpoints with the internal audit sections and the accounting auditors, as well as enhancing cooperation with the statutory auditors of affiliate companies. In particular, in the area of enhancing cooperation with internal audit sections and accounting auditors, tripartite auditing meetings are held among the full-time member, the Director with responsibility for internal auditing, and the accounting auditors. By providing information obtained through auditing activities and other activities, the full-time member helps ensure full and effective cooperation with outside members.
The outside members of the Audit and Supervisory Committee attend discussions of the Board of Directors and Representative Directors, asking questions and presenting views based on a wide range of perspectives and drawing on their wealth of personal experience, as well as touring facilities to inspect the state of operations. Member Baba attends the voluntary Nomination and Remuneration Advisory Committee as a member.
In addition to the assignment of specially appointed auditing officers responsible for assisting in the duties of the Audit and Supervisory Committee, the Audit and Supervisory Committee Office functions as an organization charged with supporting the Committee in its duties.

5 Internal audit departments

At the Company, the Office of Internal Audits conducts internal audits on businesses from various perspectives, including the effectiveness and appropriateness of organizations and management systems, the economy and efficiency of business administration, and the effectiveness and efficiency of facility preservation activities. The Office of Nuclear Power Internal Audit performs internal audits associated with safety guarantees and reliability enhancements for nuclear power generation within the Company. These internal audit departments perform internal audits through interviews with the individuals concerned at the Company, its subsidiaries, and principal affiliates, documentary research, and on-site confirmation. The internal audit departments report their internal audit findings to the Representative Director & President, the Management Committee, the Board of Directors, and the Audit and Supervisory Committee. In addition, the departments urge the divisions concerned to resolve problems and issues that require improvement or correction. The departments also seek to raise the effectiveness of internal audits in cooperation with the Audit and Supervisory Committee and accounting auditors.
The internal audit departments are independent from the respective executive bodies. The Office of Internal Audits and the Office of Nuclear Power Internal Audit fall under the direct control of the Representative Director & President.



Corporate Governance

Changes in corporate governance systems

Commencement of initiatives to strengthen governance and achieve flexible business administration

- Reducing the numbers of Directors and terms of office
- Introducing the Executive Officer system
- Introducing the system of stock options for stock-based compensation

Promoting governance reforms based on corporate governance codes

- Appointing two or more outside Directors
- Initiating assessments of the Board of Directors' effectiveness
- Establishing the voluntary Nomination and Compensation Advisory Committee

Strengthening governance to account for rapidly changing management environment

- Establishing Executive Officers with titles
- Changes in status to a company with an audit and supervisory committee
- Appointment of female Directors
- Adopting a stock-based compensation program linked to business performance

	April 2005 to March 2015	April 2015 to March 2018	April 2018 to the present
Governance system	● Company with audit and supervisory board	● Company with an audit and supervisory board	**June 2018** ● Changes in status to company with an audit and supervisory committee
Committee		**January 2017** ● Establishing the voluntary Nomination and Compensation Advisory Committee (consisting of two members from the Company and two additional members from outside the Company)	**June 2018** ● Increase in the number of Nomination and Compensation Advisory Committee members from outside the Company (to change the numbers of members from the Company and those from outside the Company to two and four, respectively) **January 2020** ● Outside Director chosen as Chair of the Nomination and Compensation Advisory Committee
Chairman of the Board of Directors	● Representative Director & Chairman of the Board	● Representative Director & Chairman of the Board	● Representative Director & Chairman of the Board
Separation of supervision and execution	**June 2005** ● Introducing the Executive Officer system ● Decrease in the number of Directors specified in the Articles of Incorporation from 25 or fewer to 18 or fewer		**April 2018** ● Establishing Executive Officers with titles **June 2018** ● Delegation of a portion of the Board of Directors' authorities to Directors **April 2020** ● Expanding the authority delegated by the Board of Directors to Directors
Nomination of Directors	**June 2007** ● Reducing the term of office for Directors from two years to one year	**November 2015** ● Establishing criteria for judging the independence of outside Directors ● Establishing policies for nominating Directors	
Compensation for Directors	**June 2007** ● Abolishing Retirement Benefits for Directors **June 2010** ● Introducing the system of stock options for stock-based compensation	**November 2015** ● Establishing policies for determining compensation for Directors	**June 2020** ● Adopting stock-based compensation program linked to business performance ● Stock option compensation program abolished
Assessment of the Board of Directors' effectiveness		**February 2016** ● Start of the assessment of the Board of Directors' effectiveness (using a questionnaire survey)	
Basic policies regarding corporate governance		**November 2015** ● Establishment	**March 2020** ● Basic Policy on Corporate Governance established
Number of outside Directors * Figures in are the ratios of outside Directors to total number of Directors.		From June 2013 1 outside Director 6% → From June 2016 2 outside Directors 13%	From June 2018 6 outside Directors 35% [Including three outside Directors serving as members of the Audit and Supervisory Committee] → From June 2019 6 outside Directors 35% [Including three outside Directors (one female Outside Director) serving as members of the Audit and Supervisory Committee] → Since June 2020 6 outside Directors 40% (Including three outside Directors (one female outside Director) serving as members of the Audit and Supervisory Committee)
Number of Outside Statutory Auditors	3 Outside Statutory Auditors		

Corporate Governance

Policies and procedures for appointing and dismissing executive team members and nominating candidates for Directors by the Board of Directors

The Company seeks to administer businesses to reshape their value alongside local communities by adapting to anticipated changes in the management environment and engaging in sustained dialogue with stakeholders, thereby maintaining the role of Tohoku Electric Power Group a group of companies that grow alongside and provide essential functions within communities. The Company has adopted the following policies and procedures for nominating and dismissing Directors to administer its businesses appropriately.

Policies

- The Board of Directors shall have members whose numbers are necessary and appropriate for building effective management systems in a company active in the electricity business and for monitoring substantive discussions and business execution. The Board of Directors shall consist of an appropriate number of members, totaling 18 or fewer, as specified in the Articles of Incorporation.
- In selecting and dismissing Directors, the Nomination and Compensation Advisory Committee, including two or more independent outside Directors, shall convene discussions to secure the objectivity, timeliness, and transparency of their selection and dismissal.
- Candidates for internal Directors (not including candidates for Directors serving as members of the Audit and Supervisory Committee) are chosen from individuals with a wealth of experience in each field, based on a consideration of a sound balance among technical expertise and a wealth of business experience with the distinguishing features of the electric power industry, which involves high specialization and a broad range of business domains, knowledge concerning the experiences of the electricity business in general, and new business fields, among other matters, thereby helping to achieve the Tohoku Electric Power Group Medium-/Long-Term Vision.
- Candidates for Directors from outside the Company (excluding candidates serving as members of the Audit and Supervisory Committee) shall be selected by evaluating whether candidates can work to realize proper decision-making and management supervision by the Board of Directors, based on practical experience grounded in corporate management and other factors and insights into social, economic, and other trends.
- Candidates for Directors serving as members of the Audit and Supervisory Committee shall be selected by evaluating whether the candidates can apply their respective experience and insights to the proper execution of their duties as Audit and Supervisory Committee members and to the audit and supervision of job execution by Directors. Candidates for Directors from outside the Company serving as members of the Audit and Supervisory Committee shall be selected by evaluating whether the candidates can perform audits and supervision from an objective and neutral perspective.
- Whether candidates for Directors from outside the Company are independent or not shall be judged on the basis of the Independence Criteria for Outside Directors set by the Company.

Procedures

- Based on the above policies, to enable more objective, timely, and transparent decision-making, the Nomination and Remuneration Advisory Committee, whose members include multiple independent outside Directors, including the chair, deliberates on the appointment. A decision is made by the Board of Directors. For candidates for Directors serving as members of the Audit and Supervisory Committee, the consent of that Committee is obtained before submission to the Board of Directors. The Audit and Supervisory Committee may also present opinions on candidate Directors (not including candidates for Directors serving as members of the Audit and Supervisory Committee) and submit them to the General Meeting of Shareholders.

Policies and procedures for determining compensation for Directors

Policies and procedures for determining compensation for Directors (excluding Directors serving as members of the Audit and Supervisory Committee) are as follows:

Policy

To help realize the Tohoku Electric Power Group Medium-/Long-Term Vision, decisions are made on the remuneration of Directors (not including Directors serving as members of the Audit and Supervisory Committee) in accordance with the following policy, intended to strengthen motivation among Directors to improve business performance and contribute to improvements in business performance over the medium to long term, by clarifying the relationship between remuneration and business performance and stock prices.

- The remuneration structure consists of fixed remuneration, short-term performance-linked remuneration, and medium-/long-term performance-linked remuneration.
- The percentages of total compensation accounted for by fixed remuneration and performance-linked remuneration (short-term performance-linked remuneration and medium-/long-term performance-linked remuneration) are set to roughly 70% and 30%, respectively, at the time of achievement of goals.
- Fixed remuneration is set to appropriate levels based on business performance, business conditions, and other factors, but not to exceed the total approved by the General Meeting of Shareholders.
- Short-term performance-linked remuneration is set to appropriate levels after considering business performance, business conditions, and other factors, but not to exceed the total approved by the General Meeting of Shareholders.
- Medium-/long-term performance-linked remuneration is paid by awarding one share of Company common stock per point earned during the time of service, at the time of retirement or resignation through an investment-trust-based remuneration system. It too is not to exceed the total approved by the General Meeting of Shareholders. Points are awarded in the forms of fixed points and variable performance-linked points awarded in accordance with the extent of achievement of business-performance objectives.
- The indicator used in performance-linked remuneration is the financial target of returns on consolidated cash flow (not including factors such as time-lag effects of the fuel-cost adjustment system, an external variable factor) identified in the Tohoku Electric Power Group Medium-/Long-Term Vision. The target value is set to 320 billion yen for each fiscal year. Amounts paid and other matters vary with the extent of achievement of this target and other factors.
- Remuneration of outside Directors, whose perspectives are independent of business execution, consists of fixed remuneration only.
- Allotments for the respective Directors shall be decided in accordance with the sizes of the roles assigned to the respective title holders, the details of deskwork and duties assigned to the respective Directors and their respective scopes of responsibility.

Procedures

- The Board of Directors formulates proposed remuneration for Directors (not including Directors serving as members of the Audit and Supervisory Committee) based on the above policies. These proposals are deliberated on by the Nomination and Remuneration Advisory Committee, whose members include multiple independent outside Directors, including the chair, to ensure objectivity and transparency, after which the amount and other remuneration for each individual Director is determined by the resolution of the Board.
- The Audit and Supervisory Committee may state its decided opinion on compensation for Directors (excluding Directors serving as members of the Audit and Supervisory Committee) at a General Meeting of Shareholders.

Policies and procedures for determining compensation for Directors serving as members of the Audit and Supervisory Committee are as follows:

- Remuneration for Directors serving as members of the Audit and Supervisory Committee consists of monthly remuneration only. The total amount is determined by the resolution of the Regular General Meeting of Shareholders. The amount paid to each Director is determined through negotiation among the Directors serving as members of the Audit and Supervisory Committee, but not to exceed the total amount determined by the resolution of the Regular General Meeting of Shareholders.

Corporate Governance

Compensation for Directors, etc.

(FY2019)

Classifications for Directors	Sum of compensation, etc. (millions of yen)	Sum of compensation for each type					
		Compensation		Bonuses		Stock options for stock-based compensation	
		Number of compensation recipients	Amount paid (millions of yen)	Number of compensation recipients	Amount paid (millions of yen)	Number of compensation recipients	Amount paid (millions of yen)
Directors (excluding Directors serving as members of the Audit and Supervisory Committee and Outside Directors)	384	12	292	-	-	10	92
Members of the Audit and Supervisory Committee (excluding outside Directors)	26	1	26	-	-	-	-
Outside Directors	72	7	72	-	-	-	-

(Notes)
1. As of March 31, 2020, there were 13 Directors (including three outside Directors), excluding those serving as members of the Audit and Supervisory Committee. The Company has four additional Directors serving as members of the Audit and Supervisory Committee (including three outside Directors). Compensation for the Directors specified above includes compensation for two Directors and one Corporate Auditor who stepped down at the end of the 95th Ordinary General Meeting of Shareholders held on June 26, 2019.
2. The ratio of monthly compensation paid as fixed compensation and the ratio of stock options for stock-based compensation paid as compensation linked to medium- and long-term business results are about 80% and 20%, respectively. The Company has not paid a bonus, which is compensation linked with short-term business results.
3. In allotting share acquisition rights, which are stock options for stock-based compensation, the Company adopts fair values based on share prices and the like as indicators.
4. Compensation limits based on a General Meeting of Shareholders' resolution (a resolution reached at the 94th Ordinary General Meeting of Shareholders held on June 27, 2018) are as follows. Compensation shall be paid to the number of Directors prescribed in the Articles of Incorporation (18 or less, including five or less Directors who serve as members of the Audit and Supervisory Committee).

Compensation

Directors (excluding Directors serving as members of the Audit and Supervisory Committee): 43 million yen or fewer per month
Directors serving as members of the Audit and Supervisory Committee: 12 million yen or fewer per month

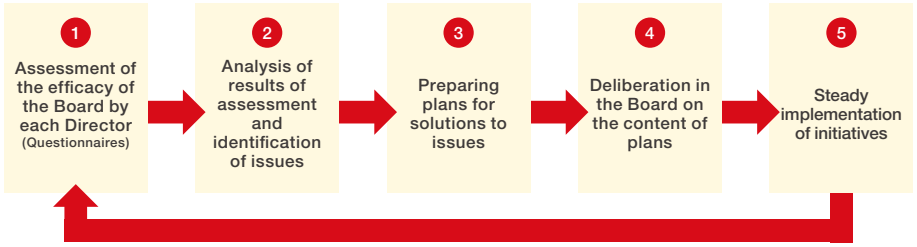
Stock options for stock-based compensation

Directors (excluding Directors serving as members of the Audit and Supervisory Committee): 180 million yen or fewer per business year

Assessment of the Board of Directors' effectiveness

The Company undertakes a questionnaire survey of Directors to assess the Board of Directors' effectiveness and reports the findings of the survey to the Board of Directors annually. Based on the survey findings, the Board of Directors shares its understanding of the existing conditions and opinions for bettering the conditions and the like, assesses the effectiveness of the Board of Directors as a whole, and confirms initiatives for improving the Board's effectiveness, among other things.
In FY2019, regular discussions were held with the Board of Directors and outside Directors to enhance deliberations on management policies and strategies. In addition to expanding the range of duties delegated from the Board to individual Directors, a structure was developed to enhance supervision of Group companies, including the power transmission and distribution company spun off as an independent entity in April 2020. To enhance deliberations still further and to train the next generation of candidates for Director positions, measures were implemented such as having persons other than Directors attend meetings of the Board of Directors.
Taking such initiatives into account, the Company assessed that the latest questionnaire survey findings show the Board of Directors' generally guaranteed overall effectiveness, but initiatives for further improvement must be continued to make the Board more effective at a Board of Directors' meeting held in March 2020.
Having positioned FY2020 as a year for assessing the validity of measures implemented to date and intended to improve efficacy, efforts this year focused on revising the structure of related materials to clarify the key points of deliberations in the Board of Directors and to follow up on developing structures to improve supervision of Group member companies, including the power transmission and distribution company. Efforts will also continue in areas such as enhancing support for outside Directors by providing opportunities for touring Company facilities and business sites.

Process of assessing the efficacy of the Board



Corporate Governance

Directors (as of July 2020)

*Actual attendance is shown for FY2019.
*Attendance for Hirohisa Yashiro and Hirohiko Ito is for meetings of the Board held since June 26, 2019.



Makoto Kaiwa
Representative Director & Chairman of the Board

State of attendance Board of Directors ·····12/12(100%)

Reasons for appointment

Since joining the Company, Kaiwa has worked in businesses centered on those assigned to planning divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as a Director and the General Manager of the Corporate Planning Department, and as a Senior Executive Officer and the General Manager of the Niigata Branch Office. Kaiwa served as Executive Vice President from June 2009, as the President from June 2010, and as a Representative Director and the Chairman of the Board from June 2015. The Company reappointed him as Director based on his extensive business experience within the Company and general knowledge of electricity business management.



Kojiro Higuchi
Representative Director & President

State of attendance Board of Directors ·····12/12(100%)

Reasons for appointment

Since joining the Company, Higuchi has worked in businesses centered on those assigned to the thermal power divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as the General Manager of the Haramachi Thermal Power Station and as an Executive Officer and General Manager of the Thermal Power Department. He has served as Managing Director from June 2016, as a Director and Managing Executive Officer from April 2018, as a Representative Director and Executive Vice President from June 2019, and as a Representative Director and President since April 2020, in light of his extensive business experience within the Company and general knowledge of electricity business management.



Shinichi Okanobu
Representative Director & Executive Vice President

State of attendance Board of Directors ·····12/12(100%)

Reasons for appointment

Since joining the Company, Okanobu has worked in businesses centered on those assigned to planning divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as the General Manager of the Group Business Department and as Executive Officer and General Manager of the Corporate Planning Department. Okanobu served as Managing Director from June 2013, as an Executive Vice President from June 2015 and as a Representative Director and Executive Vice President from April 2018. The Company reappointed him as Director in light of his extensive business experience within the Company and general knowledge of electricity business management.



Jiro Masuko
Representative Director & Executive Vice President

State of attendance Board of Directors ·····12/12(100%)

Reasons for appointment

Since joining the Company, Masuko has worked in businesses centered on those assigned to the nuclear power divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as an Executive Officer and the General Manager of the Aomori Branch Office, and as Executive Officer and General Manager of the Nuclear Power Department. Masuko has served as Managing Director since June 2015, and as a Representative Director and Executive Vice President since April 2018. The Company reappointed him as Director in light of his extensive business experience within the Company and general knowledge of electricity business management.



Shunji Yamamoto
Representative Director & Executive Vice President

State of attendance Board of Directors ·····12/12(100%)

Reasons for appointment

Since joining the Company, Yamamoto has primarily been involved in activities assigned to the accounting divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as Executive Officer and General Manager of the Accounting and Finance Department and as Executive Officer and General Manager of the Yamagata Branch Office. Yamamoto served as Managing Director from June 2013 and as Director and a Managing Executive Officer from April 2018. The Company reappointed him as Director based on his extensive business experience within the Company and general knowledge of electricity business management.



Toshinori Abe
Director & Managing Executive Officer

State of attendance Board of Directors ·····12/12(100%)

Reasons for appointment

Since joining the Company, Abe has primarily been involved in activities assigned to the human resources divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as General Manager of the Human Capital Department and as Executive Officer and General Manager of the Tokyo Branch Office. Abe served as Managing Director from June 2017 and as Director and a Managing Executive Officer from April 2018. The Company reappointed him as Director based on his extensive business experience within the Company and general knowledge of electricity business management.



Hirohisa Yashiro
Director & Managing Executive Officer

State of attendance Board of Directors ·····10/10(100%)

Reasons for appointment

Since joining the Company, Yashiro has primarily been involved in activities assigned to the planning divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as the General Manager of the Corporate Planning Department and as a Managing Executive Officer. Yashiro served as Director and a Managing Executive Officer from June 2019. The Company reappointed him as Director based on his extensive business experience within the Company and general knowledge of electricity business management.



Hirohiko Ito
Director & Managing Executive Officer

State of attendance Board of Directors ·····10/10(100%)

Reasons for appointment

Since joining the Company, Ito has primarily been involved in activities assigned to the sales divisions. He is familiar with the Company's businesses in general, as demonstrated by past service as Executive Officer and General Manager of the Sales Department and as Managing Executive Officer. Ito served as Director and a Managing Executive Officer from June 2019. The Company reappointed him as Director based on his extensive business experience within the Company and general knowledge of electricity business management.

Corporate Governance

Directors (as of July 2020)

*Actual attendance is shown for FY2019. Osamu Kawanobe and Kazuo Kobayashi were appointed on June 25, 2020.
*Attendance for Ikuko Miyahara is for meetings of the Board and the Audit and Supervisory Committee held since June 26, 2019.
*The independence of independent Directors is judged based on the standards for independence established by the financial instruments exchange on which Company shares are listed.



Shiro Kondo
Director (Outside Director) (Independent Director)

State of attendance: Board of Directors ····· 12/12(100%)

Reasons for appointment

Kondo has served in positions including that of Representative Director and Chairman of Ricoh Co., Ltd. and brings experience in managing a company that manufactures optical devices, office machines, and other products. The Company appointed Kondo as an Outside Director based on expectations that he will apply his extensive experience and rare insights to the management of the Company based on his past career and performance record.



Tsutomu Kamijo
Director (Outside Director) (Independent Director)

State of attendance: Board of Directors ····· 12/12(100%)

Reasons for appointment

Kamijo has served in positions including Chairman and Director of Sapporo Holdings Ltd. and brings experience in managing a company that manufactures and sells beverages, foods and other products. The Company appointed Kamijo as an Outside Director based on expectations that he will apply his extensive experience and rare insights to the management of the Company based on his past career and performance record.



Osamu Kawanobe
Director (Outside Director) (Independent Director)

State of attendance: Board of Directors ····· -/-(-%)

Reasons for appointment

Kawanobe is Representative Director and President of JR East Mechatronics Co. Previously held positions include those of Representative Director and Vice President of the East Japan Railway Company. He brings a wealth of experience in managing public-interest businesses and in other areas. The Company appointed Kawanobe as an Outside Director based on expectations that he will apply his extensive experience and rare insights to the management of the Company based on his past career and performance record.



Koki Kato
Director & Audit and Supervisory Committee Member

State of attendance: Board of Directors ····· 12/12(100%)
Audit and Supervisory Committee ··· 12/12(100%)

Reasons for appointment

Since joining the Company, Kato has primarily been involved in activities assigned to the planning divisions. He is well-versed in the Company's overall activities, experience gained in service as Executive Officer and General Manager of the Aomori Branch Office and as Director and General Manager of the Corporate Planning Department. The Company appointed him Director and Audit and Supervisory Committee Member in June 2018 in light of his extensive business experience within the Company, where he served as a corporate auditor from June 2012, as well as his knowledge of electricity business management and audits.



Chiharu Baba
Director and Audit and Supervisory Committee Member (Outside Director) (Independent Director)

State of attendance: Board of Directors ····· 12/12(100%)
Audit and Supervisory Committee ··· 12/12(100%)

Reasons for appointment

Baba has served in various successive posts, including Representative Director and Deputy President of Mizuho Trust & Banking Co. He brings with him considerable knowledge of financial affairs and accounting. The Company appointed him as an Outside Director and an Audit and Supervisory Committee Member based on expectations that he will apply his extensive experience and rare insights toward the objective of providing impartial audits and supervision of the Company based on his past career and performance record.



Ikuko Miyahara
Director & Audit and Supervisory Committee Member (Outside Director) (Independent Director)

State of attendance: Board of Directors ····· 10/10(100%)
Audit and Supervisory Committee ··· 10/10(100%)

Reasons for appointment

As university professor, Miyahara has experience in the real-world use of regional resources, research on support for reconstruction following major earthquakes, and joint industry, government, and academic projects. The Company appointed Miyahara as Outside Director and Audit and Supervisory Committee Member based on expectations she will apply her extensive experience and rare insights gained in her academic career toward the objective of providing impartial audits and supervision, drawing on her past career and performance record.



Kazuo Kobayashi
Director & Audit and Supervisory Committee Member (Outside Director) (Independent Director)

State of attendance: Board of Directors ····· -/-(-%)
Audit and Supervisory Committee ····· -/-(-%)

Reasons for appointment

Kobayashi is a Standing Statutory Auditor of the Nippon Life Insurance Company. He has considerable knowledge of financial affairs and accounting. The Company appointed him as an Outside Director and an Audit and Supervisory Committee Member based on expectations that he will apply his extensive experience and rare insights toward the objective of providing impartial audits and supervision of the Company based on his past career and performance record.

Corporate Governance

Messages from outside Directors

Shiro Kondo
Director (Outside Director)



The business environment in which the Company operates is growing increasingly harsh for various reasons, including the deregulation of the electric power industry, the statutory separation of the power generation and distribution businesses, and issues related to resumption of nuclear power generation, in addition to ever more rigorous regulations on CO_2 emissions and coal-fired thermal power generation. In addition, the population of the Tohoku region is shrinking and aging at an ever-accelerating pace due to low birth rates, creating still greater challenges for Tohoku Electric Power than facing power companies in the greater Tokyo area or other major metropolitan markets. Under such conditions, achieving sustained growth even with extraordinary effort would be a major challenge.
At the same time, the Company's Medium-/Long-Term Vision calls for "Prosperity in Partnership with the Community." Our vision of realizing a smart society while working alongside the community to support the economy and living involves the lifeline of the six Tohoku prefectures and Niigata Prefecture. Today, we stand at a major turning point that also poses the opportunity for rebirth—from a company specializing in power generation, transmission and distribution, and sales to one focused on services. In deploying service businesses, we must secure the proactive participation of local residents, work together with local governments, and realize industry-academic cooperation. We have a wealth of experience and a solid track record in cooperation with our communities to overcome numerous difficulties such as those caused by earthquakes and water damage.
Henceforth, our true abilities will be tested as we strive to achieve the goals of our Yori, Sou, Chikara (The Strength to Work Alongside)" slogan. I'm confident this vision will help us generate a smart society and new services here in the Tohoku region. Surely it is in times of major challenge when we must find the strength and power needed to generate new industries and new innovations.

Tsutomo Kamijo
Director (Outside Director)



The essence of our governance is found in nothing less than how well we demonstrate and put into practice our slogan, Yori, Sou, Chikara (The Strength to Work Alongside).
From a long-term perspective, our business strategy based on the safe, reliable, stable supply of electricity through our business execution, is reflected in the Medium-/Long-Term Vision announced in February 2020. Proactive contributions to the realization of a carbon-free society, a subject of increasing demands in society, will also be contribute significantly to enhancing the power of our corporate brand. For this reason, I believe it is vital to avoid being unduly affected by factors impacting financial results in a single year alone, like the effects of growing competition in the market, with the deregulation of the electric power industry and the effects of time lags in the fuel cost adjustment system. Instead, we must strive to carry out management that will enable the sustained growth of our community and society. It is also essential to explain, with care and accuracy, to our diverse stakeholders matters related to the state of implementation of such management. Timely and appropriate provision of information is the foundation of trust. The essence of practicing good governance is the effort to build up a brand reputation based on the trust we have earned from the community through now.

Osamu Kawanobe
Director (Outside Director)



We play an important role as a company involved in the social infrastructure. I have worked in the social infrastructure of railroads for 40 years with JR East, including its time as the Japan National Railways. Of this time, I spent 10 years in public relations and crisis management, 30 years in work related to goals such as safe and stable transport in the railway business and enhancements of rail networks, and, for my last five years with JR East, in rail safety management as the person responsible for all aspects of society, in the post of safety coordination manager. To make JR East a railway customers could depend on with peace of mind, I advanced various initiatives, in terms of both tangibles and intangibles, targeting the goal of "ultimate safety." Safety involves taking on a succession of challenges without compromise, with the goal of protecting human life.
As an Outside Director, I will play a role in enhancing corporate governance by improving management transparency through participation in management from diverse perspectives. While these are times of dramatic changes in the business environment, as seen in the lifestyle changes brought about by the COVID-19 pandemic, I intend to put to use my experience through now in making various recommendations to help increase corporate value, to enable the sustained growth of the Company even under such circumstances. Despite the ongoing difficulties in business conditions, I will seek to make it possible for us to take on the challenges of creating value by turning crises into opportunities.

Corporate Governance

Messages from outside Director/Audit and Supervisory Committee Members

Chiharu Baba
Director/Audit and Supervisory Committee Member (Outside)



The deregulation of the electric power system has brought on what could be called the second starting point for the power industry. Amid dramatic change, it is vital to maintain an appropriate corporate governance system and to solidify management foundations. In consideration of the strongly public nature of the power business and its deep ties to communities and the economy in particular, I believe it is significantly more important than an ordinary business enterprise. In recognition of this fact, in 2018 Tohoku Electric Power shifted to a company structure with an Audit and Supervisory Committee and established a Nomination and Remuneration Advisory Committee, among other measures intended to improve its governance structure. In addition, it also reviewed the operation of the Board of Directors, to intensify further its deliberation on key management topics such as strategy, and is holding dynamic discussions between outside Directors and the Representative Director. These discussions are highly frank and broad-minded, and they are considered to be a sign of the efficacy of corporate governance.
Turning toward future prospects for the business environment, as a business grows more multifaceted and diverse, and use of not only the Company itself but also its subsidiaries and other partners in taking on business challenges broadens, I believe developing an appropriate Group management structure to handle these changes will emerge as an important issue. I intend to continue fulfilling my responsibilities as an outside Director based on these perspectives.

Ikuko Miyahara
Director/Audit and Supervisory Committee Member (Outside)



One full year has passed since I assumed office as Tohoku Electric Power's first female outside Director in 2019. During this year, as a member of the Audit and Supervisory Committee, I've worked in the area of auditing by attending monthly meetings of the Audit and Supervisory Committee and Board of Directors meetings. Last year saw many major developments, including the final review in preparation for resumption of operations at the Onagawa Nuclear Power Plant, adjustments during the final stage of spinning off the power transmission and distribution segment as a separate entity, and the formulation of the Medium-/Long-Term Vision. It is clear to me that decisions of the Board of Directors were made with support from various related sections and repeated careful investigations and deliberations. We also needed to participate in urgent investigations in response to problems that arose at other power companies. I got a true feel for how daily activities are conducted and an awareness of compliance and governance issues.
Last year, I was able to deepen my understanding of how power is generated from diverse sources by touring sites like the Onagawa Nuclear Power Plant, hydroelectric power plants in the Aizu area, and thermal power plants in the Niigata area. In addition, as a female outside Director, I had numerous opportunities to engage in dialogue with female employees and to participate in seminars for Group company employees, among other activities in what proved to be a truly enriching year. I intend to help create an environment at Tohoku Electric Power in which diverse human resources can thrive and in which the activities of women in the organization will advance still further.

Kazuo Kobayashi
Director/Audit and Supervisory Committee Member (Outside)



I was appointed an outside Director/Audit and Supervisory Committee Member in June 2020. I believe the roles of the power generation and transmission/distribution business as part of the social infrastructure will continue to grow in importance by ensuring safety and reliability in the processes of creation, distribution, and utilization of electric power, which is transformed through various devices and machinery into light, heat, and driving power.
The understanding and support from the customers of the Tohoku Electric Power Group, as well as its shareholders, partners, members of the local community, employees, and various other stakeholders will make it possible to fulfill this role. Today we face wide-ranging transformation and changes in society, the economy, and the natural environment. In the face of such structural changes, it is my hope that I will be able to contribute by drawing on my own perspectives as an outsider to the Tohoku Electric Power Group and to increase its corporate value and meet the expectations of stakeholders.

Corporate Governance

Crisis management standards

Based on prior anticipation of various crises with potential serious impacts on company management, Tohoku Electric Power and Tohoku Electric Power Network have each established crisis management standards intended to prevent crises from occurring and to minimize damage in the event that they arise.

Crisis Management Committees

We have also established individual Crisis Management Committees (chaired by the respective Vice Presidents) to promote crisis management activities and to run through the corresponding plan-do-check-act (PDCA) cycles. Meeting twice annually, these Crisis Management Committees carry out activities such as assessing activities during the fiscal year and sharing risk information, as well as deliberating on action plans for the next fiscal year. The results are reported to the Management Committee.
In light of the need for a crisis management structure under which both Tohoku Electric Power and Tohoku Electric Power Network can work together even after the statutory division into separate entities, the Crisis Management Committees will meet jointly for both companies.

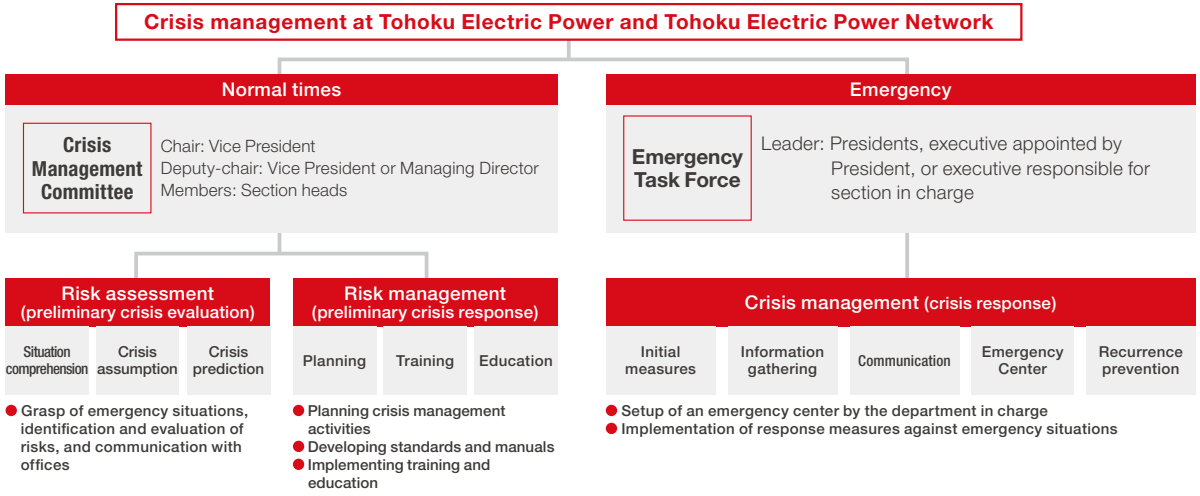
Preparedness during normal times

During normal times, each section and site strives autonomously to increase sensitivity to risks through awareness raising activities, drills, and other activities, including preventive measures such as equipment-related measures to prevent crises from occurring.
In addition, the Crisis Management Committee Secretariat follows up on the autonomous activities of each section and site through e-learning on crisis management and drills on communication of information in an emergency for all employees. Crisis risks are identified and assessed from multifaceted perspectives through considering the major risks inherent to the Company's business from the three perspectives of financial risks, business risks, and emergencies.
To promote awareness of risk management groupwide, activities seek to intensify cooperation through dialogue with individual Group member companies and drills on communicating information in the event of an emergency.

Responding to emergencies

In the event of an emergency, in addition to performing the necessary initial actions, various actions based on swift and appropriate response are taken in cooperation with related parties to minimize damage.
In the event of an emergency requiring immediate judgement and decision-making by top management, an emergency task force is set up under the leadership of the president of the relevant company or director or other person appointed by the president.
As necessary, related executives or sections of the other company will also join the emergency task force, enabling the two companies to respond to the matter as a united team (except where doing so would violate restrictions on their behavior).

Crisis management structure



Response system and duties of offices and departments

Crisis managers (General Managers of offices and departments)
Overall control of crisis management operations, including crisis prediction and prevention
Crisis management reporters (deputy general managers of offices, departments, and others)
Overall control of reporting operations in the event of an emergency and implementation of activities to promote awareness of crisis management
Crisis management promotors (managers and equivalents)
Implementation of day-to-day crisis management operations

Corporate Governance

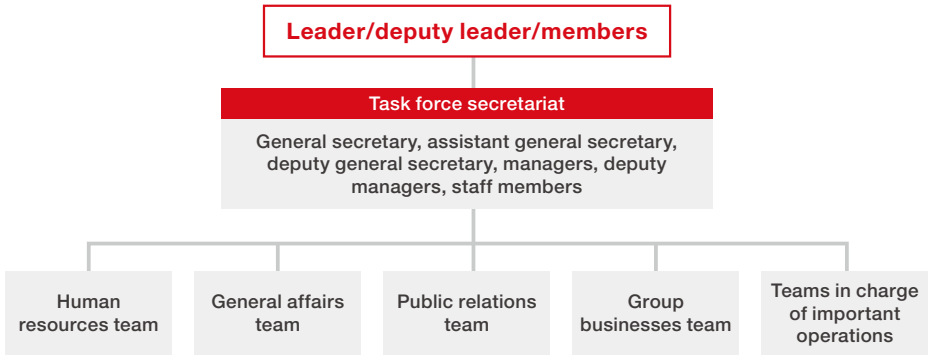
Our response to COVID-19

The Company has implemented a wide range of health management measures for both employees and their family members to counteract the spread of COVID-19. These include use of flextime and staggered working hours, working from home, decentralizing working areas, and reminding employees to wash their hands, gargle when possible, and to be careful when coughing.
At business sites involved in ensuring the stable supply of electricity, in addition to requiring employees to wear masks when entering the office and using alcohol-based disinfectant, other measures include having shift employees commute by private vehicle and defining special flow lines inside buildings to reduce personal contact with other employees. Through these and other measures, we've taken thorough measures to develop systems that prevent infection and eliminate potential impediments to the stable supply of electricity in the event of infection.

Our roles as a designated public utility

As a designated public utility under the Act on Special Measures for Pandemic Influenza and New Infectious Diseases Preparedness and Response, we are required to prepare business plans for responding to pandemic influenza and new infectious diseases.
These plans seek to contribute to the swift and appropriate implementation of measures carried out by Tohoku Electric Power and Tohoku Electric Power Network in the event of a novel influenza outbreak or a rapid nationwide epidemic of a novel infectious disease, to ensure stable supply of electricity while putting safety first.
Based on these plans, we strive to maintain internal systems and implement thorough responses in order to reliably fulfill our roles in ensuring the sable supply of electricity even in the event of such infectious diseases.

The novel influenza task force at the head office



Operations essential to business continuity are identified as priority operations. In addition to operations related to responding to an infectious disease, both are identified as important operations. Those that can be reduced or interrupted are grouped into the category of other operations. This is intended to ensure that we can fulfill our role as a key element of the social infrastructure by continuing to provide a stable supply of electricity with a priority on safety.

Category of operations		Content of operations
Important operations (Those requiring continuation)	**Operations in response to infectious diseases**	■ Operations of the infectious disease response organization
		■ Power plant and substation operations, monitoring, maintenance, inspections, and response to failures and impediments ■ Procurement and acceptance of fuel, materials, and supplies ■ Power transmission and distribution line maintenance, inspection, and responding to failures and impediments ■ Grid operation, monitoring, and responding to failures and impediments ■ Operation, monitoring, and responding to failures and impediments for information telecommunications systems and security telecommunications systems ■ Operations other than the above that need to be continued to account for societal conditions, such as those related to maintenance of stable supply of electricity and emergency responses
	Priority operations	■ External response operations other than the above (dealing with government, customers, the media, etc.) ■ Maintenance and security operations (patrols, inspections, etc.) for facilities as required by law ■ Other operations in response to social conditions or demands
Operations that can be reduced or suspended		Operations other than the above

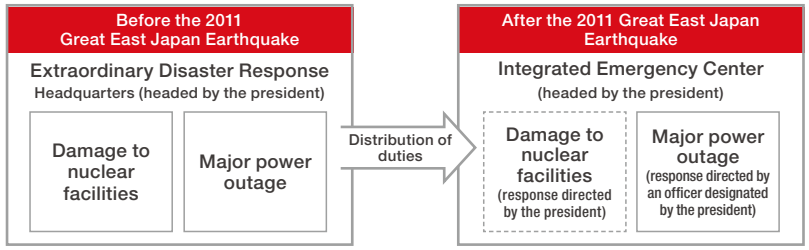
Corporate Governance

Governance structure for disasters

To deliver a stable supply of electricity to customers, Tohoku Electric Power and Tohoku Electric Power Network have developed a governance structure intended to enhance their abilities to respond to major disasters such as earthquakes and typhoons. While Tohoku Electric Power Network has succeeded to the power transmission and distribution business since its statutory separation into a separate entity in April 2020, to account for the state of damage and social impact of an emergency, both companies respond together to disasters.

Distribution of duties in the event of a complex disaster

Learning from the accident at the Fukushima Daiichi Nuclear Power Station following the Great East Japan Earthquake, Tohoku Electric Power and Tohoku Electric Power Network distribute emergency center duties to ensure an effective response at their head offices in the event of a complex disaster—for example, a nuclear disaster combined with a major power outage. Accordingly, the President of Tohoku Electric Power will prioritize actions to respond to the nuclear disaster, while officers assigned by the President will oversee measures to tackle other disasters. This system is intended to ensure the preparedness needed to respond effectively to multiple concurrent disasters.



Periodic Large-Scale Disasters Countermeasure Meetings

Because we understand the importance of minimizing the impact of any large-scale disaster and achieving early restoration, we hold periodic Large-Scale Disasters Countermeasure Meetings to strengthen the involvement of top executives. Chaired by the President, the meetings engage in companywide studies on business continuity planning (BCP) and various measures to address issues identified from recent emergency disaster training sessions, actual disaster response actions, and discussions of disaster control and management. All these measures are intended to enhance PDCA activities.
In addition, review meetings were held following the earthquake off the Yamagata coast in June 2019 and typhoons Faxai and Hagibis in September and October of the same year, to confirm results and issues in each section for lessons in future responses to disasters.

Enhancing the capacity to respond to disasters in cooperation with outside organizations

Tohoku Electric Power and Tohoku Electric Power Network have concluded agreements on cooperation with outside organizations such as the Japan Self-Defense Forces, the designated public utility East Nippon Expressway Co., Ltd., and AEON Co., Ltd. to facilitate mutual cooperation in the event of a disaster. Under these agreements, practical drills are conducted to enhance cooperation. The drills conducted to date include transport of the ToMoS* low-voltage emergency power supply vehicle designed for air transport, by sea via Japan Self-Defense Forces craft.
We have also concluded agreements on cooperation in response to disasters with local governments and maintain personal contact with related local government agencies on a regular basis to be ready for emergencies.
As an example of such cooperation with outside organizations, in response to Typhoon Hagibis in 2019, Japan Self-Defense Forces cleared about one kilometer of road through which Tohoku Electric Power Network entered devastated areas to carry out restoration work, a demonstration of how the ability to respond to disasters has been enhanced.



Loading a portable generator on a Japan Self-Defense Forces craft



Power distribution recovery work on a temporary road built by the Japan Self-Defense Forces

* The name ToMoS stands for “Tohoku,” “mobile,” and “speedy.”
This is the first low-voltage portable power supply vehicle to be developed by a power company in Japan suitable for air transport. It is expected to reduce the time required to complete recovery work by enabling mobile transmission of power more safely in isolated locations and remote islands.

Corporate Governance

Enhancement of compliance

Tohoku Electric Power and Tohoku Electric Power Network have always done business while complying with business ethics, laws, and regulations as an important precondition of all business activities. As such, we established a Committee on Corporate Ethics and Compliance chaired by the President and run through the PDCA cycle diligently to ensure that our initiatives are adequate in light of social needs and to make any improvements found necessary.

In response to the discovery of a case of executives and employees accepting money and gifts at another power company in September 2019, we conducted an internal inspection of related executives and others in October 2019. The results showed that our compliance efforts were functioning properly, with no cases of receipt of money or gifts exceeding socially acceptable levels, or of receipt of special treatment.

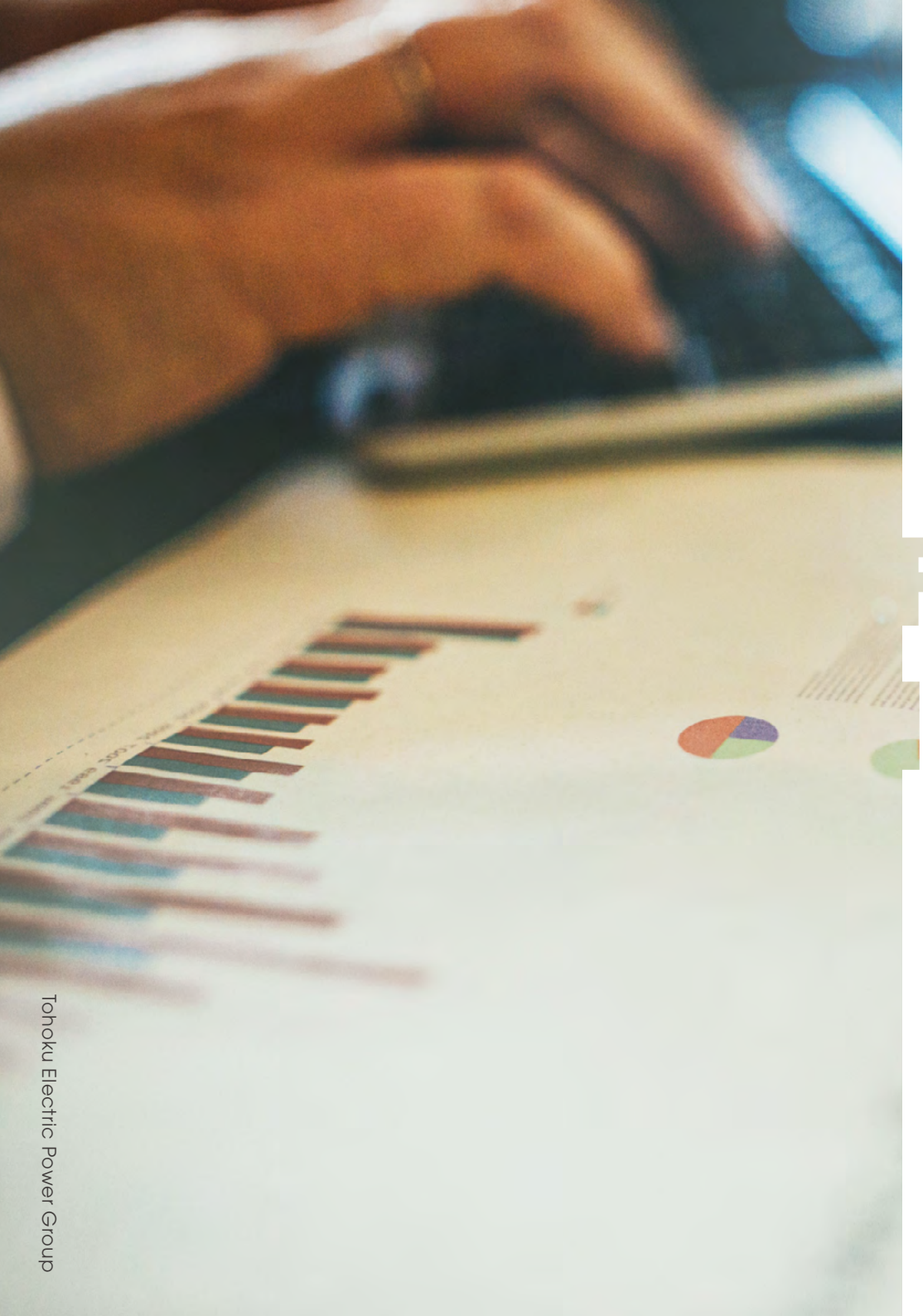
At the same time, in recognition of the fact that compliance-related issues require organizational responses, we've established contact points for consultation and procedures to notify the Company of compliance issues. We're properly operating these systems to support individuals who are unsure what to do or how to respond to other parties.

In addition, on April 6 and 21, 2020, we received a demand for reporting under Article 106, Paragraph 3 of the Electricity Business Act from the Ministry of Economy, Trade and Industry, seeking investigation and reporting on the presence or absence of any cases similar to the one described above. On April 17 and 30, we responded that no similar cases had been identified at Tohoku Electric Power or Tohoku Electric Power Network.

In the future as well, we will continue efforts to ensure that each and every employee implements thorough compliance in accordance with the Tohoku Electric Power Group Code of Conduct, keeping firmly in mind at all times the need to do business in fair and appropriate ways, paying close attention to how our customers see us, to continue to be worthy of the trust of customers in our community.

▶ See "Compliance" ESG Data Book, pp. 31–33.

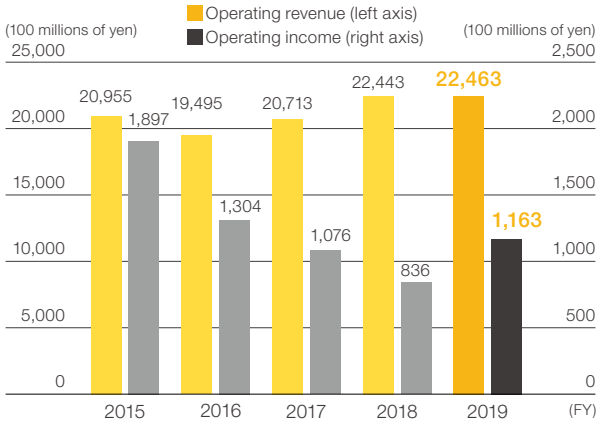




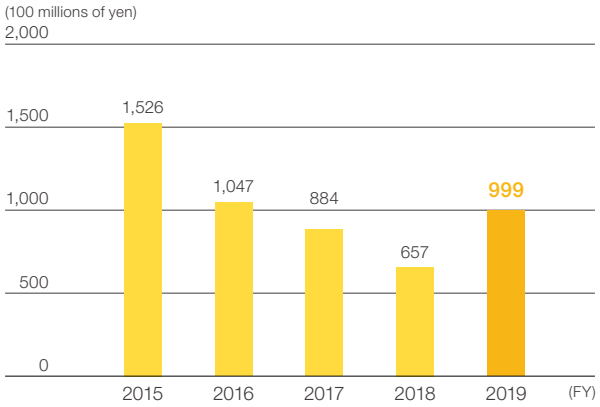
FINANCIAL INFORMATION

Financial/Non-Financial Indicators

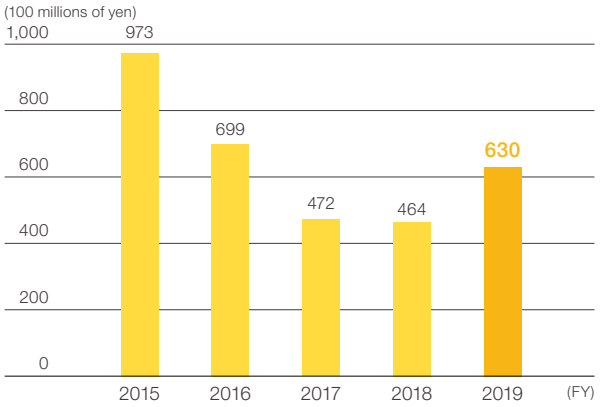
Operating revenue and operating income



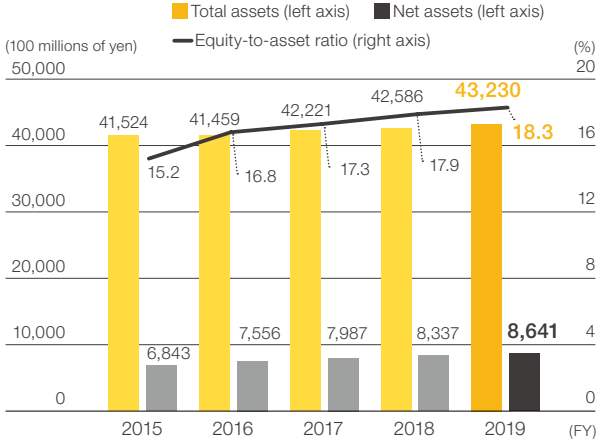
Ordinary income



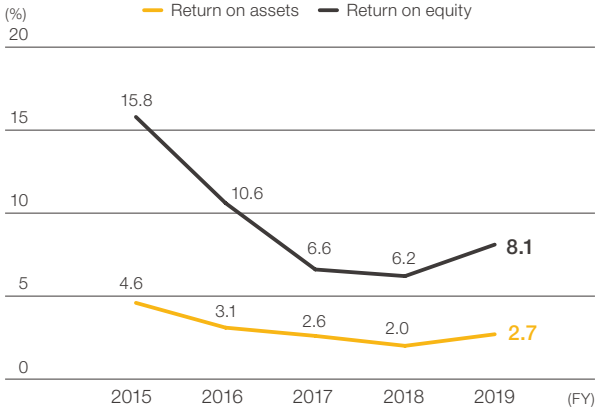
Net income attributable to owners of parent



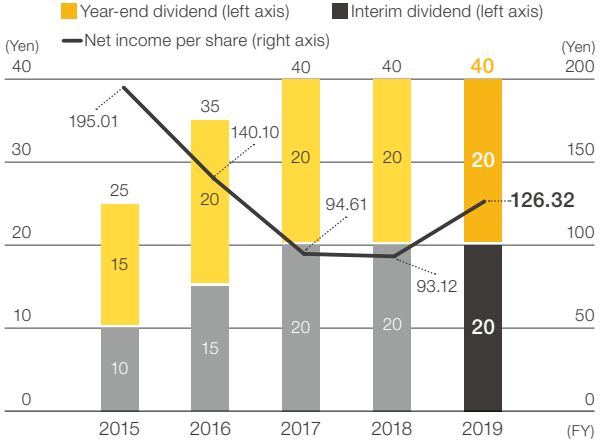
Total assets, net assets and equity-to-asset ratio



Return on assets (ROA) and return on equity (ROE)



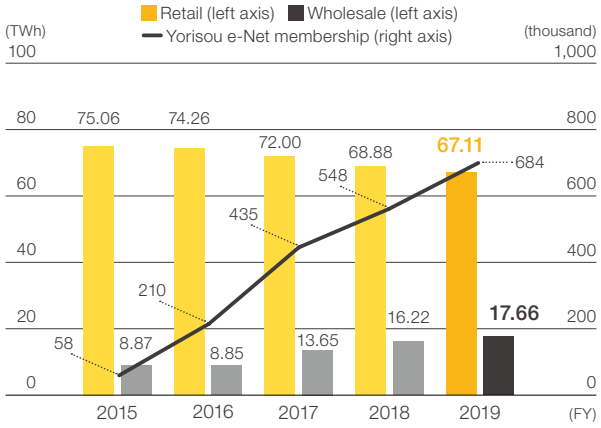
Dividends per share and net income per share



Financial/Non-Financial Indicators

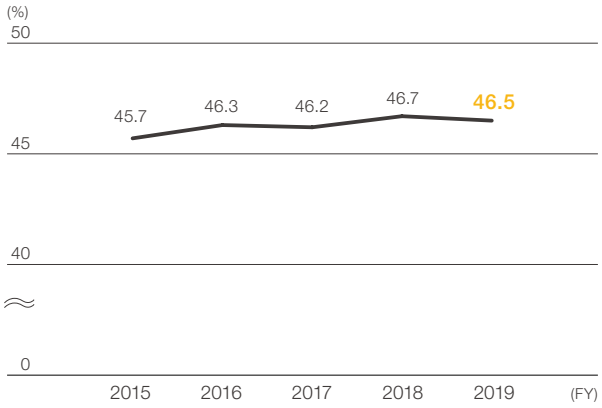
Business activities

Electric power sales and others

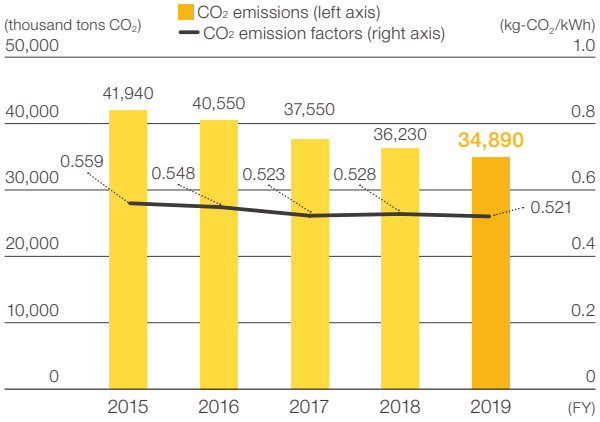


The environment

Thermal efficiency at thermal power stations
(low calorific value standard)



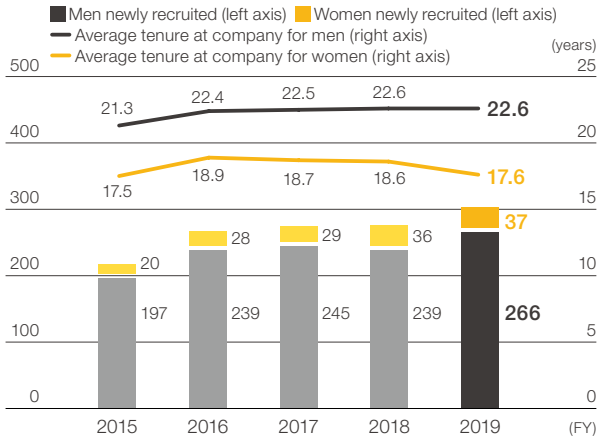
CO_2 emissions and CO_2 emission factors



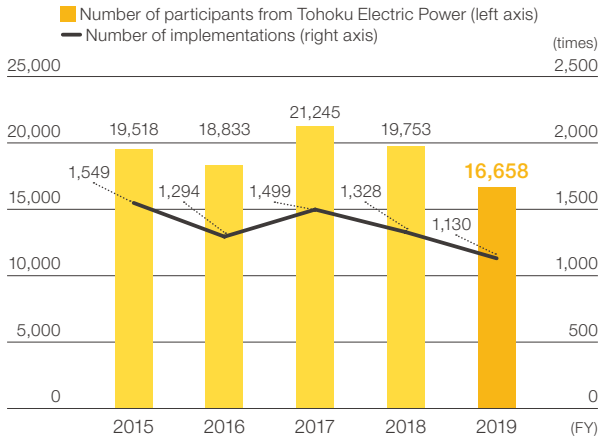
* Figures for FY2019 are provisional values as of August 2020.

Society

Number of newly recruited personnel and average tenure at company

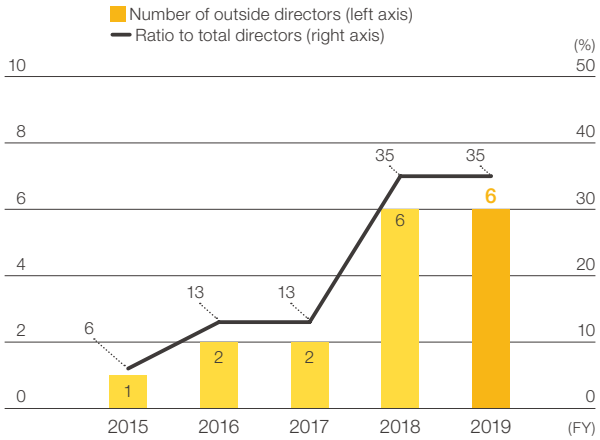


Results of joint efforts with community



Governance

Trend in ratio of outside directors
(as of the end of March 2020)



Consolidated Balance Sheets

Assets

(Millions of yen)	March 31, 2019	March 31, 2020
Property, plant, and equipment	3,620,997	3,679,082
Electric utility plant and equipment	2,468,035	2,504,659
Hydraulic power production facilities	181,091	187,035
Thermal power generation facilities	340,205	402,870
Nuclear power generation facilities	271,914	254,447
Transmission facilities	604,313	589,116
Transformation facilities	256,905	255,044
Distribution facilities	662,292	670,135
Operational facilities	122,667	118,187
Other electric utility plant and equipment	28,645	27,821
Other property, plant, and equipment	214,278	226,872
Construction in progress	398,140	403,472
Construction and retirement in progress	359,324	357,778
Special account related to nuclear power decommissioning	24,514	24,451
Special account related to reprocessing of spent nuclear fuel	14,300	21,243
Nuclear fuel	165,081	174,331
Loaded nuclear fuel	30,591	30,591
Nuclear fuel in processing	134,490	143,740
Investments and other assets	375,461	369,745
Long-term investments	102,888	99,462
Net retirement benefit asset	4,303	3,844
Deferred tax assets	162,696	159,568
Other	105,933	107,199
Allowance for doubtful accounts	(360)	(328)
Current assets	637,635	644,017
Cash and deposits	178,729	244,010
Notes and accounts receivable - trade	232,303	224,649
Inventories	78,789	67,374
Other current assets	148,275	108,450
Allowance for doubtful accounts	(462)	(466)
Assets	**4,258,633**	**4,323,099**

Liabilities and net assets

(Millions of yen)	March 31, 2019	March 31, 2020
Non-current liabilities	2,431,227	2,457,197
Bonds payable	815,120	865,000
Long-term loans payable	1,216,986	1,190,302
Reserve for restoration costs of natural disaster	4,873	5,061
Net retirement benefit liabilities	178,561	189,968
Asset retirement obligations	161,929	165,848
Deferred tax liabilities for land revaluation	1,373	1,330
Other	52,383	39,685
Current liabilities	993,693	1,001,724
Current position of non-current liabilities	321,875	372,388
Notes and accounts payable - trade	141,197	144,616
Accrued taxes	22,941	33,253
Other advances	252,430	205,984
Reserve for restoration costs of natural disaster	198	2,613
Other	255,049	242,869
Liabilities	**3,424,921**	**3,458,921**
Shareholders' equity	766,343	809,454
Capital stock	251,441	251,441
Capital surplus	22,558	22,390
Retained earnings	499,132	542,187
Treasury shares	(6,788)	(6,564)
Accumulated other comprehensive income	(4,176)	(18,332)
Valuation difference on available-for-sale securities	3,072	197
Deferred losses on hedges	(908)	(618)
Revaluation reserve for land	(854)	(895)
Foreign currency translation adjustments	179	(288)
Remeasurements of retirement benefit plans	(5,666)	(16,727)
Subscription rights to shares	1,013	1,120
Non-controlling interests	70,530	71,935
Net assets	**833,711**	**864,177**
Liabilities and net assets	**4,258,633**	**4,323,099**

Consolidated Statements of Income and Consolidated Statements of Comprehensive Income

Consolidated Statements of Income

(Millions of yen)	FY2018	FY2019
Operating revenue	2,244,314	2,246,369
Electric utility operating revenue	2,012,701	2,022,251
Other business operating revenue	231,613	224,117
Operating expenses	2,160,681	2,130,018
Electric utility operating expenses	1,943,004	1,916,492
Other business operating expenses	217,676	213,525
Operating income	83,633	116,350
Other expenses (income)	6,840	8,724
Dividend income	941	943
Interest income	223	224
Gain on sales of securities	0	3,249
Share of profit of entities accounted for by equity method	141	534
Other	5,533	3,773
Non-operating expenses	24,730	25,108
Interest expenses	18,762	17,331
Other	5,968	7,777
Ordinary revenue	2,251,155	2,255,093
Ordinary expenses	2,185,412	2,155,127
Ordinary income	65,743	99,966
Provision or reversal of reserve for fluctuating water levels	(1,100)	-
Reversal of reserve for fluctuating water levels	(1,100)	-
Extraordinary gain	7,900	-
Compensation income for damage	7,900	-
Extraordinary loss	2,145	6,198
Contingent loss on assets	-	550
Extraordinary loss on disaster	-	5,648
Loss on decommissioning of Onagawa Nuclear Power Station Unit 1	2,145	-
Income before income taxes	72,598	93,768
Income taxes - current	13,861	20,414
Income taxes - deferred	7,873	8,287
Income taxes	21,735	28,702
Net income	50,863	65,065
Net income attributable to non-controlling interests	4,379	1,991
Net income attributable to owners of parent	46,483	63,074

Consolidated Statements of Comprehensive Income

(Millions of yen)	FY2018	FY2019
Net income	50,863	65,065
Other comprehensive income		
Valuation difference on available-for-sale securities	(3,883)	(2,939)
Deferred gains or losses on hedges	363	290
Foreign currency translation adjustment	(503)	(470)
Remeasurements of retirement benefit plans	8,925	(11,019)
Share of other comprehensive income of entities accounted for by equity method	(1)	(2)
Other comprehensive income	4,900	(14,141)
Comprehensive income	55,763	50,924
Comprehensive income attributable to owners of parent	51,450	48,959
Comprehensive income attributable to non-controlling interests	4,312	1,965

Consolidated Statements of Changes in Equity

FY2018

(Millions of yen)

	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 gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasurements of retirement benefit plans	Total accumulated other comprehensive income	Subscription rights to shares	Noncontrolling interests	Total net assets
Balance at the beginning of period	251,441	22,433	472,718	(7,101)	739,490	6,861	(1,272)	(840)	684	(14,562)	(9,129)	957	67,387	798,705
Changes of items during the period														
Changes in parent ownership interests arising from transactions with non-controlling interests		125			125									125
Dividends of surplus			(19,966)		(19,966)									(19,966)
Net income attributable to owners of parent			46,483		46,483									46,483
Purchase of treasury shares				(33)	(33)									(33)
Disposal of treasury shares			(117)	347	229									229
Reversal of revaluation reserve for land			13		13									13
Net changes of items other than shareholders' equity						(3,789)	363	(13)	(504)	8,896	4,953	56	3,143	8,152
Total changes in items during the period	-	125	26,413	313	26,853	(3,789)	363	(13)	(504)	8,896	4,953	56	3,143	35,005
Balance at the end of period	**251,441**	**22,558**	**499,132**	**(6,788)**	**766,343**	**3,072**	**(908)**	**(854)**	**179**	**(5,666)**	**(4,176)**	**1,013**	**70,530**	**833,711**

FY2019

(Millions of yen)

	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 gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasurements of retirement benefit plans	Total accumulated other comprehensive income	Subscription rights to shares	Noncontrolling interests	Total net assets
Balance at the beginning of period	251,441	22,558	499,132	(6,788)	766,343	3,072	(908)	(854)	179	(5,666)	(4,176)	1,013	70,530	833,711
Changes of items during the period														
Changes in parent ownership interests arising from transactions with non-controlling interests		(168)			(168)									(168)
Dividends of surplus			(19,971)		(19,971)									(19,971)
Net income attributable to owners of parent			63,074		63,074									63,074
Purchase of treasury shares				(20)	(20)									(20)
Disposal of treasury shares			(88)	244	155									155
Reversal of revaluation reserve for land			41		41									41
Net changes of items other than shareholders' equity						(2,875)	290	(41)	(468)	(11,061)	(14,156)	107	1,404	(12,644)
Total changes in items during the period	-	(168)	43,055	223	43,110	(2,875)	290	(41)	(468)	(11,061)	(14,156)	107	1,404	30,465
Balance at the end of period	**251,441**	**22,390**	**542,187**	**(6,564)**	**809,454**	**197**	**(618)**	**(895)**	**(288)**	**(16,727)**	**(18,332)**	**1,120**	**71,935**	**864,177**

Consolidated Statements of Cash Flows

Cash flows from operating activities

(Millions of yen)	FY2018	FY2019
Income before income taxes	72,598	93,768
Depreciation	215,628	227,019
Decommissioning costs of nuclear power units	7,664	7,269
Amortization of special account related to nuclear power decommissioning	26	63
Loss on retirement of property, plant, and equipment	12,636	13,577
Increase (decrease) in net retirement benefit liabilities	(7,266)	(6,465)
Increase (decrease) in reserve for fluctuating water levels	(1,100)	-
Interest and dividend income	(1,165)	(1,167)
Interest expenses	18,762	17,331
Decrease (increase) in notes and accounts receivable - trade	(27,154)	4,009
Decrease (increase) in inventories	(8,589)	11,022
Increase (decrease) in notes and accounts payable - trade	(3,603)	4,111
Increase (decrease) in deposits received	21,983	25,735
Other	(2,179)	4,322
Subtotal	298,240	400,597
Interest and dividend income received	1,164	1,168
Interest expenses paid	(19,550)	(17,448)
Income taxes paid	(17,050)	(12,791)
Net cash provided by (used in) operating activities	262,804	371,525

Cash flows from investing activities

(Millions of yen)	FY2018	FY2019
Purchase of property, plant, and equipment	(272,304)	(317,323)
Payments of investment and loans receivable	(11,629)	(15,191)
Collection of investment and loans receivable	9,212	16,233
Other, net	24,150	5,653
Net cash provided by (used in) investing activities	(250,570)	(310,627)

Cash flows from financing activities

(Millions of yen)	FY2018	FY2019
Proceeds from issuance of bonds	99,666	234,278
Redemption of bonds	(119,700)	(95,000)
Proceeds from long-term loans payable	194,600	150,325
Repayments of long-term loans payable	(240,196)	(218,039)
Increase in short-term loans payable	32,300	15,856
Decrease in short-term loans payable	(32,928)	(15,800)
Proceeds from issuance of commercial papers	513,000	217,000
Redemption of commercial papers	(491,000)	(257,000)
Cash dividends paid	(19,871)	(19,918)
Dividends paid to non-controlling interests	(1,0610	(1,054)
Other, net	(4,116)	(3,927)
Net cash provided by (used in) financing activities	(69,307)	6,719

(Millions of yen)	FY2018	FY2019
Effect of exchange rate changes on cash and cash equivalents	(154)	(237)
Net increase (decrease) in cash and cash equivalents	(57,228)	67,379
Cash and cash equivalents at beginning of the period	242,171	184,942
Cash and cash equivalents at end of the period	184,942	252,322

Corporate Information

Business Overview

Company Name
Tohoku Electric Power Co., Inc.

Head Office
1-7-1 Honcho, Aoba-ku, Sendai, Miyagi
980-8550, Japan

Date established
May 1, 1951

Capital
251.4 billion yen

Total Assets (as of the end of March 2020)
4,323 billion yen

Operating revenue (for fiscal 2019)
2,246.3 billion yen

Ordinary income (for fiscal 2019)
99.9 billion yen

Representatives (as of the end of June 2020)
Makoto Kaiwa, Representative Director & Chairman of the Board
Kojiro Higuchi, Representative Director & President

Number of Shareholders (as of the end of March 2020)
173,712

Service Areas
Aomori Prefecture, Iwate Prefecture, Akita Prefecture, Miyagi Prefecture, Yamagata Prefecture, Fukushima Prefecture, Niigata Prefecture and others

Number of Employees (as of the end of March 2020)
12,531

Electricity Sales (for fiscal 2019)
Lighting: 21,813 GWh
Power: 45,354 GWh
Total: 67,167 GWh

*Due to rounding, the sum of individual figures may not equal the total. Figures for capital, total assets, operating revenue and ordinary income are actual figures on a consolidated basis.

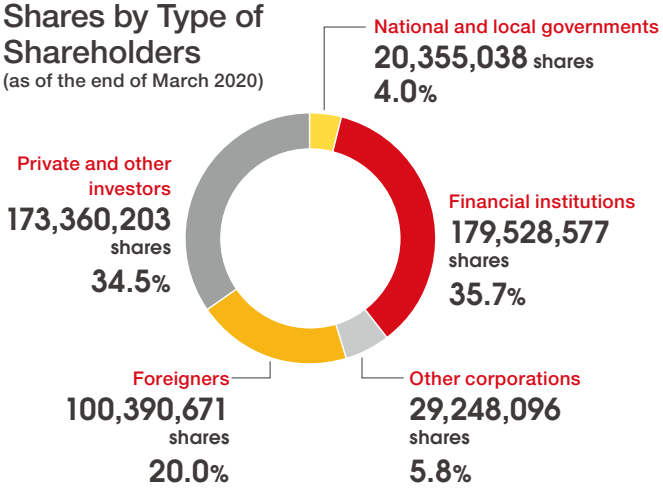
Total Number of Shares
(as of the end of March 2020)

Total Number of Issuable Shares	1,000,000,000
Total Number of Issued Shares	502,882,585

Major Shareholders
(as of the end of March 2020)

Name	Number of shares owned (thousand)	Ratio of shares owned to the total number of issued shares (%)
The Master Trust Bank of Japan, Ltd. (trust account)	33,797	6.72
Japan Trustee Services Bank, Ltd. (trust account)	29,293	5.82
Tohoku Electric Power Employee Shareholding Association	14,593	2.90
Nippon Life Insurance Company	13,727	2.72
Mizuho Bank, Ltd.	13,288	2.64
Japan Trustee Services Bank, Ltd. (trust account 5)	10,172	2.02
Kochi Shinkin Bank	9,627	1.91
JP MORGAN CHASE BANK 385151	8,374	1.66
Japan Trustee Services Bank, Ltd. (trust account 9)	7,731	1.53
STATE STREET BANK WEST CLIENT - TREATY 505234	6,677	1.32
Total	**147,279**	**29.24**

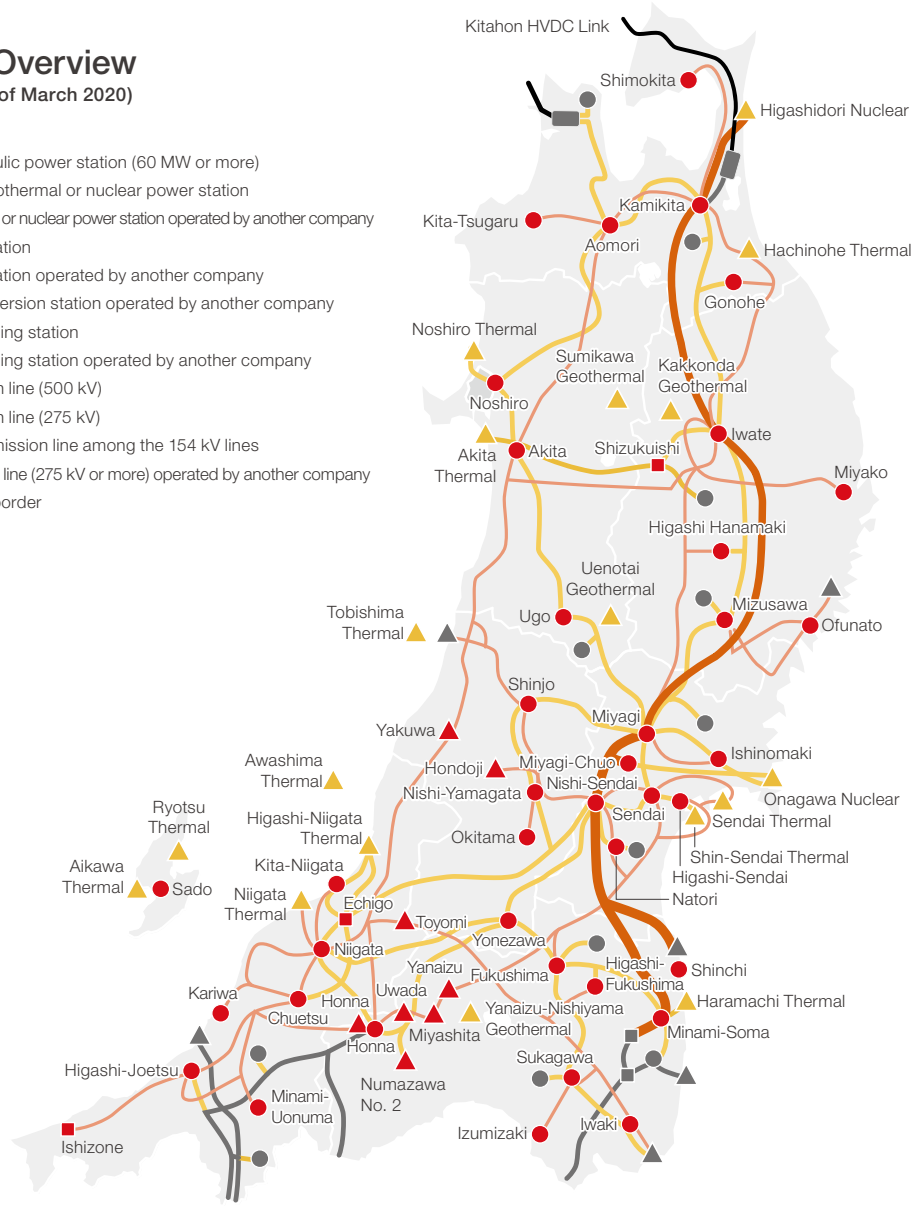
Distribution of Shares by Type of Shareholders
(as of the end of March 2020)



Corporate Information

Facility Overview
(as of the end of March 2020)

- Major hydraulic power station (60 MW or more)
- Thermal, geothermal or nuclear power station
- Major thermal or nuclear power station operated by another company
- Major substation
- Major substation operated by another company
- AC/DC conversion station operated by another company
- Major switching station
- Major switching station operated by another company
- Transmission line (500 kV)
- Transmission line (275 kV)
- Major transmission line among the 154 kV lines
- Transmission line (275 kV or more) operated by another company
- Prefectural border



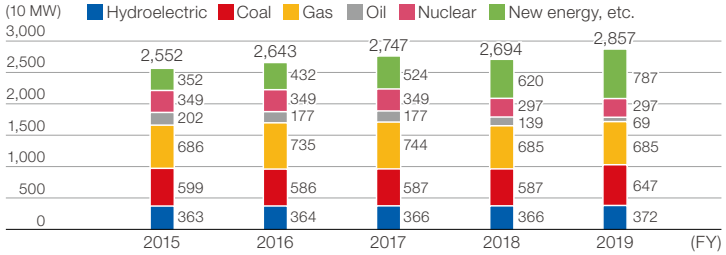
Facility Overview (as of the end of March 2020)

Power Stations	Hydraulic	209	2,450MW
	Thermal	12	11,330MW
	Geothermal	4	190MW
	Solar	4	4.8MW
	Nuclear	2	2,750MW
	Total	231	**16,720MW**

Transmission Facilities	Route distance	15,363km
	Circuit length	25,036km
	Supports	58,464
Transformation Facilities	631	79,410MVA

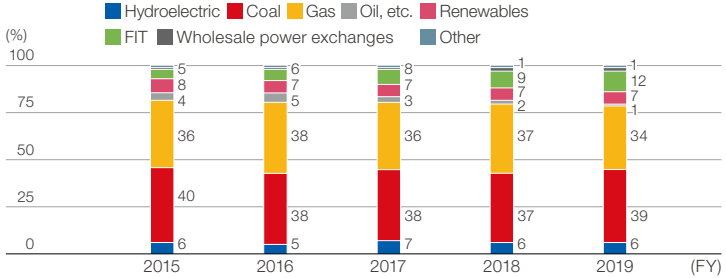
Power Distribution Facilities	Route distance	148,348km
	Extended wire distance	589,127km
	Supports	3,137,078

Annual power generation capacity (as of March 31, 2020)*



* Includes power received from other companies

Annual shares of power sources (as of March 31, 2020)*



* Includes power received from other companies

Corporate Information

Tohoku Electric Power Group
https://www.tohoku-epco.co.jp/group/

Group member companies

Seeking to realize the ideal form for the 2030s, the 63 companies that make up the Tohoku Electric Power Group will work as a united team to demonstrate their collective strengths.

A group of companies growing in step with sustained societal progress by helping to establish a smart society for a new age, starting in Tohoku

Tohoku Electric Power Group

Businesses to realize a smart society

Tohoku Electric Power Co., Inc.　Tohoku Electric Power Network Co., Inc.

Power supply business

Power generation

Joban Joint Power Co., Ltd.
Tohoku Sustainable & Renewable Energy Co., Inc.
Arakawa Hydro-Electric Power Co., Ltd.
Sakata Kyodo Power Company Ltd.
Soma Kyodo Power Company, Ltd.
Aqua Power Tohoku Co., Ltd.
Solar Power (Kuji/Ajigasawa/Shiroishi/Kuji-Edanarisawa/Ishinomaki-Ogatsu/Miyagi) Corporation
Fukushima Electric Power Corporation
Yur Solar (Tomiya/Hobara/Zao) Co., Ltd.

Overseas businesses

Tohoku Power Investment Company B.V.
Kyushu Tohoku Enrichment Investing SAS
Yurtec Vietnam Co., Ltd.
Merit Power Holdings

Construction and maintenance of facilities related to the electric power business

Yurtec Corporation
Tohoku Electric Power Engineering & Construction Co., Inc.
Tohoku Port Service Co., Inc.
Tohoku Power Transmission and Distribution Service Co., Inc.
Tohoku Development Consultant Co., Ltd.
Tohoku Air Service, Inc.
Higashi Nihon Techno Survey Corporation
YUTOS Corporation
YURTEC SERVICE Corporation
TECS FUKUSHIMA Corporation
YURTEC MIYAGI SERVICE Corporation
YURTEC HAIDEN TECHNO Corporation
YURTEC KANTO SERVICE Corporation

Retail electricity

Synergia Power Co., Ltd.
Tokyu Power Supply Co., Ltd.

Trading

Tohoku EPCO Energy Trading Co., Inc.

Manufacture of equipment related to the electric power business

Kitanihon Electric Cable Co., Ltd.
Kitanihon Densen Service Co., Ltd.
AIZU-GAISI Co., Inc.
Tohoku Pole Corporation
Tohoku Pole Transport Corporation
Tsuken Electric Ind Co., Ltd.
Tohoku Electric Manufacturing Co., Ltd.
Tohoku Electric Meter Industry Co., Inc.

Information and telecommunications

Tohoku Intelligent Telecommunication Co., Inc.
Tohoku Information Systems Company, Inc.

Environmental preservation and recycling

Tohoku Ryokka Kankyohozen Co., Ltd.
Noshiro Yoshino Gypsum Co., Ltd.
Tohoku Eco Techno Corporation
GREENRECYCLE Corporation

Gas and energy solutions

Nihonkai LNG Co., Ltd.
Tohoku Natural Gas Co., Inc.
Tohoku Energy Service Co., Inc.

Life and business support

HNK Co., Inc.
E life Partners Co., Ltd.
Eltas Tohoku Inc.
Tohcs Corporation
TDG Business Support Corporation
New Lease Corporation
Aquaclara Tohoku Corporation
Tohoku-Electric Power Friendly Partners Co., Inc.

Corporate Information

Organization chart (as of July 1, 2020)

In April 2020, as a result of the amendment of the Electricity Business Act, Tohoku Electric Power's power transmission and distribution business was spun off to form Tohoku Electric Power Network Co., an independent company. The power generating and retail sales businesses will continue to be operated by Tohoku Electric Power.

