CHUBU
Electric Power

Chubu Electric Power TNFD Report 2024

August 2024

Taskforce on Nature-related Financial Disclosures

Forum Member

Chubu Electric Power endorsed the philosophy of the TNFD and joined the TNFD forum in June 2024.

CONTENTS

Message

The Chubu region features dynamic and richly diverse nature. This includes the majestic Japan Alps and the large rivers that originate in these mountains as well as Ise Bay and Mikawa Bay, which retain an abundance of natural environments despite being situated in urban areas. As a business operator with its base in this region, the Chubu Electric Power Group undertakes business activities that consider coexistence with nature in keeping with the Chubu Electric Power Group Basic Environmental Policy.

In accordance with the TNFD Framework (v1.0) announced in September 2023, the Chubu Electric Power Group has now begun analyzing the relationship between its business and nature as well as the risks and opportunities arising from the electric power businesses of three Group companies that include Chubu Electric Power, Chubu Electric Power Grid, and Chubu Electric Power Miraiz.

Chubu Electric Power possesses numerous renewable energy power generation facilities. Through its analyses to the present, Chubu Electric Power has reaffirmed its awareness that it depends on the "supply services" of ecosystems, such as the provision of water and biomass fuels, and given that the Company has numerous facilities in mountainous areas, that it also benefits from "regulating services" such as the prevention of local natural disasters and the curbing of soil erosion.

The electric power business is an industry that relies on and may have a major impact on natural capital such as land and water to provide electricity essential to daily life. To operate a sustainable electric power business, we believe it is important to continue to improve our relationship with this natural capital. To reduce our impact on nature, we appropriately manage this impact by complying with relevant laws and regulations, environmental assessments, and our own independent standards.

The Chubu Electric Power Group currently aims to realize a carbon-neutral society and is actively working to implement climate change countermeasures. Besides balancing climate change countermeasures with biodiversity, we are taking an integrated approach that will enable us to solve environmental issues in general, including resource circulation.

Furthermore, in conjunction with the move toward a national biodiversity strategy, we will also work to set specific strategies and targets for realizing a "nature positive" society.

We have also published a separate Environmental Communication Book that describes our environmental initiatives and would be appreciative if you take the time to read this publication as well.

Link Environmental Communication Book (Japanese version only)

1 Overview of the Chubu Electric Power Group

Following the full integration of the thermal power generation businesses into JERA in 2019, the power transmission/distribution division and sales division were split off into Chubu Electric Power Grid Co., Inc. and Chubu Electric Power Miraiz Co., Inc. in April 2020, respectively, with Chubu Electric Power Co., Inc. now solely engaging in the power generation business.

Power generation facilities (Chubu Electric Power) As of March 31, 2024

Renewable energy	General hydroelectric power	Approx. **2,150** MW
	Pumped storage power	Approx. **3,320** MW
	Wind power	Approx. **30** MW
	Solar power	Approx. **20** MW
	Biomass	Approx. **50** MW
	Nuclear	**3,617** MW

Power transmission/distribution facilities (Chubu Electric Power Grid) As of March 31, 2024

Transmission line length	**11,928** km
Number of supporting structures (iron tower, etc.)	**34,732** units
Number of substations	**999** locations
Distribution line length	**136,350** km
Number of supporting structures (utility poles, etc.)	**2,877,484** units

Sales results, etc. (Chubu Electric Power Miraiz) FY2023

Electrical energy sold	**103.8** Twh (Group total:**111.1** Twh)
Gas and LNG sold	**1,330** thousand tons (Group total:**1,560** thousand tons)
CO_2 emissions in electrical energy sales	**40.81** million t-CO_2
CO_2 emission intensity	**0.393** kg-CO_2/kWh*

* This is the emission factor for Chubu Electric Miraiz as a whole, and is different from the emission factor for each menu.

Financial/Corporate Data (Consolidated) FY2023 results

Operating Revenues	**3,610.4 billion yen**	Net (Loss) Income attributable to owners of parent	**403.1 billion yen**
Operating (Loss) Income	**343.3 billion yen**	Shareholders' Equity Ratio	**36.4 %**
Ordinary (Loss) Income	**509.2 billion yen**	Number of consolidated subsidiaries	**73 companies**

Number of employees As of March 31, 2024

Consolidated	**28,374 persons**	Main business companies: Chubu Electric Power	**3,180 persons**
		Chubu Electric Power Grid	**9,925 persons**
		Chubu Electric Power Miraiz	**1,673 persons**

2 Chubu Electric Power Group CSR Declaration and Basic Environmental Policy

The Chubu Electric Power Group, which operates businesses with a high public interest, including ensuring the stable supply of energy, will contribute to the medium-to-long-term sustainable development of society (sustainability) together with stakeholders by fulfilling CSR (Corporate Social Responsibility) through its business activities. We have formulated the Chubu Electric Power Group CSR Declaration to convey to all stakeholders the Group's CSR philosophy in the form of an easy-to-understand and clear message.

[Chubu Electric Power Group CSR Declaration]

Fulfilling our responsibilities and meeting society's expectations

Chubu Electric Power Group, as a corporate group that continues to achieve growth with customers and society, is committed to:

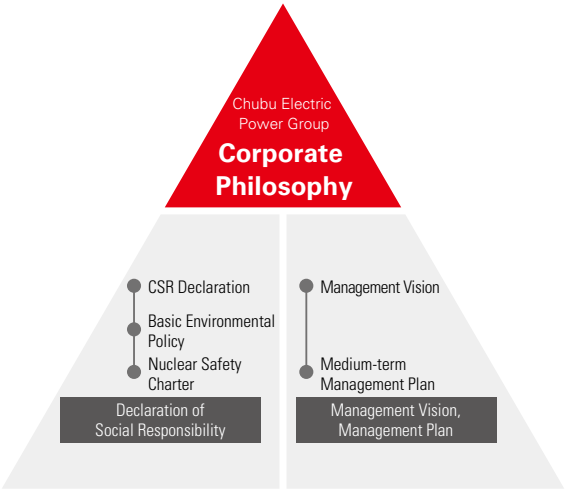
Contributing to the development of a sustainable society by demonstrating total strengths in our businesses centered on energy while leveraging individualities of our group companies, giving top priority to safety and striving to both provide a stable supply of energy and protect the global environment;

Managing our businesses in a fair and sincere manner by observing national and international laws, regulations and social rules and by respecting corporate ethics; and

Respecting the human rights of all people involved in our business activities, giving priority to dialogue with all our stakeholders and maintaining high levels of transparency and openness in our corporate activities.

Customers	Shareholders and Investors	Local Communities	Business Partners	Employees
We are committed to providing our customers with safe, reliable, convenient, and affordable energy services, as well as other services of value that meet their needs.	We are striving to maintain and increase profits for our shareholders and investors through efficient management and effective investment.	We are determined to contribute to sustainable local development in partnership with local communities.	We promise to deal fairly with our suppliers as equal business partners and work together to increase the transparency and soundness of the entire supply chain.	We respect individuals and are endeavoring to create a cheerful and motivating workplace in which diverse human resources take active roles.

[System of Declaration and Policy Regarding Social Responsibility]



Link Chubu Electric Power Group CSR Declaration (Japanese version only)

In order to attain both environmental conservation and the Chubu Electric Power Group's sustainable growth, we have formulated the Chubu Electric Power Group Basic Environmental Policy based on the CSR Declaration and have been practicing environmental management toward the "realization of a carbon-free society," "coexistence with nature" and "realization of a recycling-oriented society."

[Chubu Electric Power Group Basic Environmental Policy]

Our basic policy for environmental conservation, which is based on the Chubu Electric Power Group CSR Declaration, is stated below.

The Chubu Electric Power Group will deliver high-quality electricity in a safe, affordable, and stable manner, and provide "new forms of community" through creation of the Community Support Infrastructure, and we will aim to grow sustainably as a total energy service corporate group that is one step ahead.

With the aim of realizing these goals, we will practice appropriate environmental management, and each and every one of our employees shall exercise discipline and act in an environmentally conscious manner. We will contribute to the sustainable development of society through implementation of initiatives in all aspects of energy value chain aiming to achieve a carbon-free and recycling-oriented society that is in harmony with nature.

Realization of a carbon-free society

We Will Aim to Realize a Carbon-Free Society

<Toward achieving "Zero Emissions Challenge 2050">

- We will promote the utilization of nuclear power generation by prioritizing safety improvements and winning the trust of the local community.
- In addition to hydroelectric power, solar power, land-based wind power and biomass, we will proactively promote the renewable energy business, including new areas such as offshore wind power and geothermal power generation.
- We will promote initiatives to ensure electric power of a quality that allows for effective utilization of renewable energy power sources and storage batteries.
- We will strive to construct and operate electric facilities in a rational manner with digital technology that will enable optimal energy use. We will create a customer-centered community support infrastructure to meet society's needs, thereby contributing to electrification and decarbonization of energy use in cooperation with communities and customers.

Coexistence with nature

We Will Strive to Coexist with Nature

- To protect our rich natural environment, we will take into account ecosystem biodiversity and water resources sustainability as we conduct our business activities.

Realization of a recycling-oriented society

We Will Aim to Create a Recycling Society

- We will work to reduce our consumption of resources and strive to minimize disposal volume by reducing waste as well as reusing and recycling resources.

Increased environmental awareness

We Will Endeavor to Raise Environmental Awareness

- We will enhance communication about the environment and energy with members of the community.
- We will train personnel so that they take the initiative to act in an environmentally-conscious manner and contribute to society.

The Chubu Electric Power Group will continuously strive to improve our environmental initiatives and disclose information about them in a timely and appropriate manner. (Revised in March 2021)

Link Chubu Electric Power Group Basic Environmental Policy

3 TNFD General Requirements

The general requirements apply to all four pillars of the recommended disclosures, namely, governance, strategy, risk and impact management as well as metrics and targets. The following shows our disclosures concerning the general requirements.

❶ Application of materiality

- In the analysis we have conducted based on the TNFD recommendations, we have organized the information we disclose based on two approaches. One is the financial materiality approach advocated by the International Sustainability Standards Board (ISSB). It requires companies to disclose material information on sustainability-related risks and opportunities that can reasonably impact corporate outlooks of financial performance. The other is the impact materiality approach used by the Global Reporting Initiative (GRI), requiring organizations to give priority to reporting their most significant impacts on the economy, environment and people, including human rights.

❷ Scope of disclosures

- We have conducted analysis on the electricity business, a major business in our business portfolio, of Chubu Electric Power, Chubu Electric Power Grid and Chubu Electric Power Miraiz. More specifically, the analysis covered the three businesses of nuclear power generation, renewable energy and power transmission and transformation, disclosures of which are recommended in the electric utilities sector.
- Our analysis on biomass power generation included fuel procurement, while that on nuclear power generation assumed the current non-operating state of our facilities and did not include evaluation of fuel procurement.
- Going ahead, we will make efforts to expand the acquisition of data and increase their usability and will promote further analysis based on the data. By doing so, we intend to expand the scope of our disclosures gradually.

❸ Location of nature-related issues

- As the Chubu Electric Power Group deals with diverse nature, we have conducted macroscopic surveys on related issues. Specifically, we performed desk checking on the local critical biodiversity*1 and water stress*2 at our power generation plants (nuclear, hydro, solar, wind and biomass) and 500 kV substations in Aichi, Gifu, Nagano, Shizuoka and Mie Prefectures (a total of 233 locations).

  *1 Survey using the Integrated Biodiversity Assessment Tool (IBAT) (protected areas, key biodiversity areas, etc.); *2 Survey using the Aqueduct tools

- As one example, certain watershed areas of the Kisogawa and Yahagigawa river systems are habitats for multiple endangered aquatic species and are designated as key biodiversity areas (KBAs). We have hydroelectric power generation plants in these areas and need to pay special attention given the characteristics of the hydroelectric power generation business. (Indigenous aquatic species that are on the International Union for Conservation of Nature (IUCN) Red List include Andrias japonicus, Acheilognathus cyanostigma, Acheilognathus longipinnis, Pseudobagrus ichikawai and Pseudorasbora pumila pumila.)

Facility category	No. surveyed	KBA Alliance for Zero Extinction Sites	KBA Important Bird and Biodiversity Areas	KBA Other	IUCN Ia – Strict nature reserve	IUCN Ib – Wilderness area	IUCN II – National park
Nuclear	1			1			
Hydro	211		12	36			7
Solar	8						
Wind	2			1			
Biomass	1						
500 kV substation	10			1			
Total	233		12	39			7

❹ Integration with other sustainability-related disclosures

- Please refer to the table below for additional, relevant nature-related disclosures, other than those disclosed in this Report.

Disclosure	Disclosure means	URL
Response to the TCFD recommendations	Chubu Electric Power website	https://www.chuden.co.jp/english/esg/environment/initiatives/tcfd/
CDP scorings (A- for both climate change and water security)	Chubu Electric Power website	https://www.chuden.co.jp/english/esg/environment/initiatives/cdp/
Chubu Electric Power Environmental Communication Book	Chubu Electric Power website (Japanese only)	https://www.chuden.co.jp/csr/environment/kohyo/env_report/
ESG-related performance data	Chubu Electric Power website	https://www.chuden.co.jp/english/corporate/annualreport/

❺ Time horizons considered

- As in the case of disclosures based on the TCFD recommendations, we conduct analysis over a short term (one year), medium term (five years) and long term (six to 10 years).

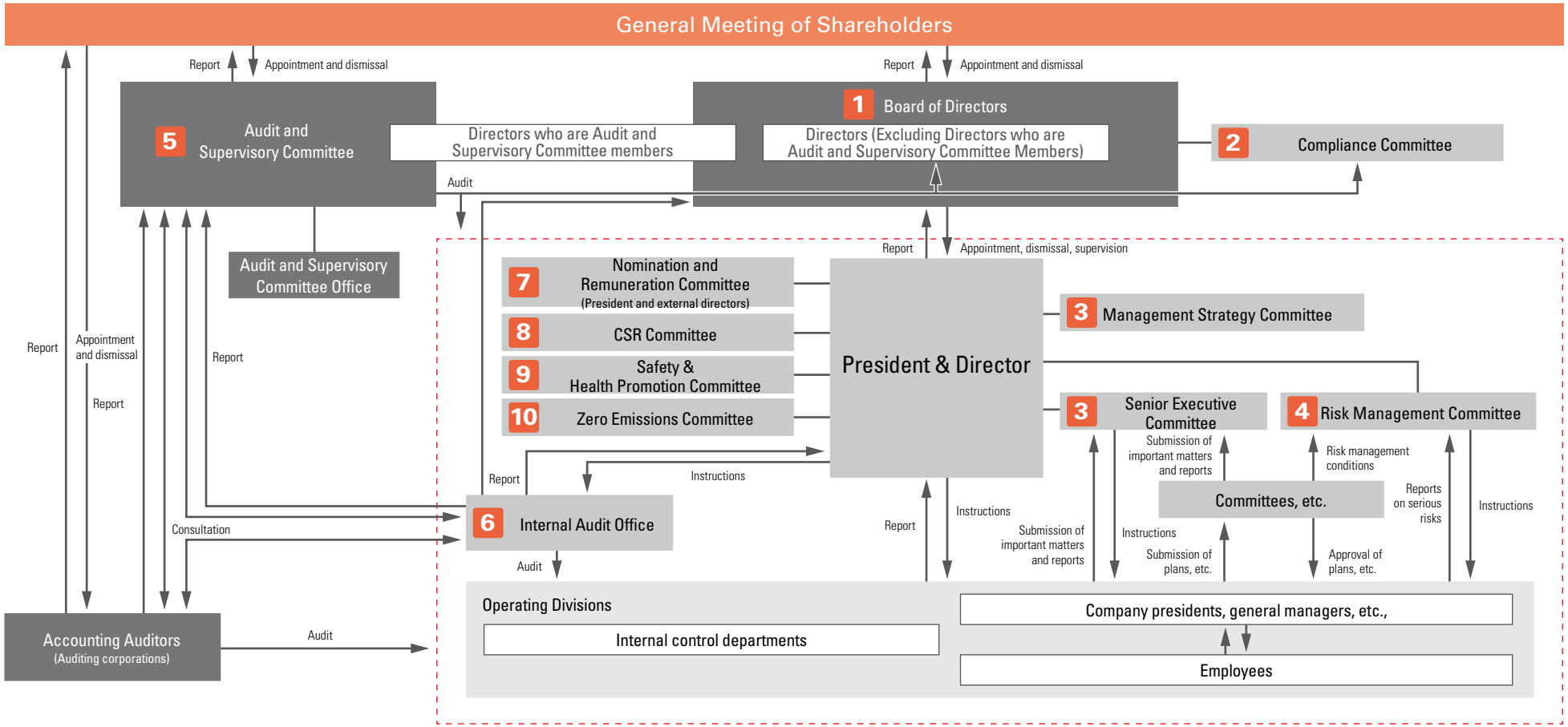
❻ Engagement of affected stakeholders

- We have formulated the Chubu Electric Power Group Basic Human Rights Policy and undertake business while supporting and respecting international norms related to human rights, including the International Bill of Human Rights and the International Labour Organization (ILO) Declaration on Fundamental Principles and the Rights at Work.
- As for the Hamaoka Nuclear Power Station, we are working to gain the trust of local communities and society by communicating efforts undertaken at the power station through various means, including power station tours, information dissemination using leaflets and briefing sessions and through activities to listen to the opinions and requests of local residents and respond to each in a sincere manner.

4 Governance/Risk and Impact Management

❶ Governance/risk management structure

- The Board of Directors deliberates and makes decisions on key management matters related to climate change and the environment in general and receives reports from each director on the status of execution of his or her duties in order to monitor the execution of duties by directors.
- In formulating a management plan, risk owners identify and assess key risks associated with climate change and nature in general and report them to the risk management department, where they are assessed in a comprehensive manner. These key risks are also discussed at the Risk Management Committee chaired by the President & Director and reflected in management plans. Appropriate measures are being implemented after passing the corresponding resolutions at the Board of Directors.



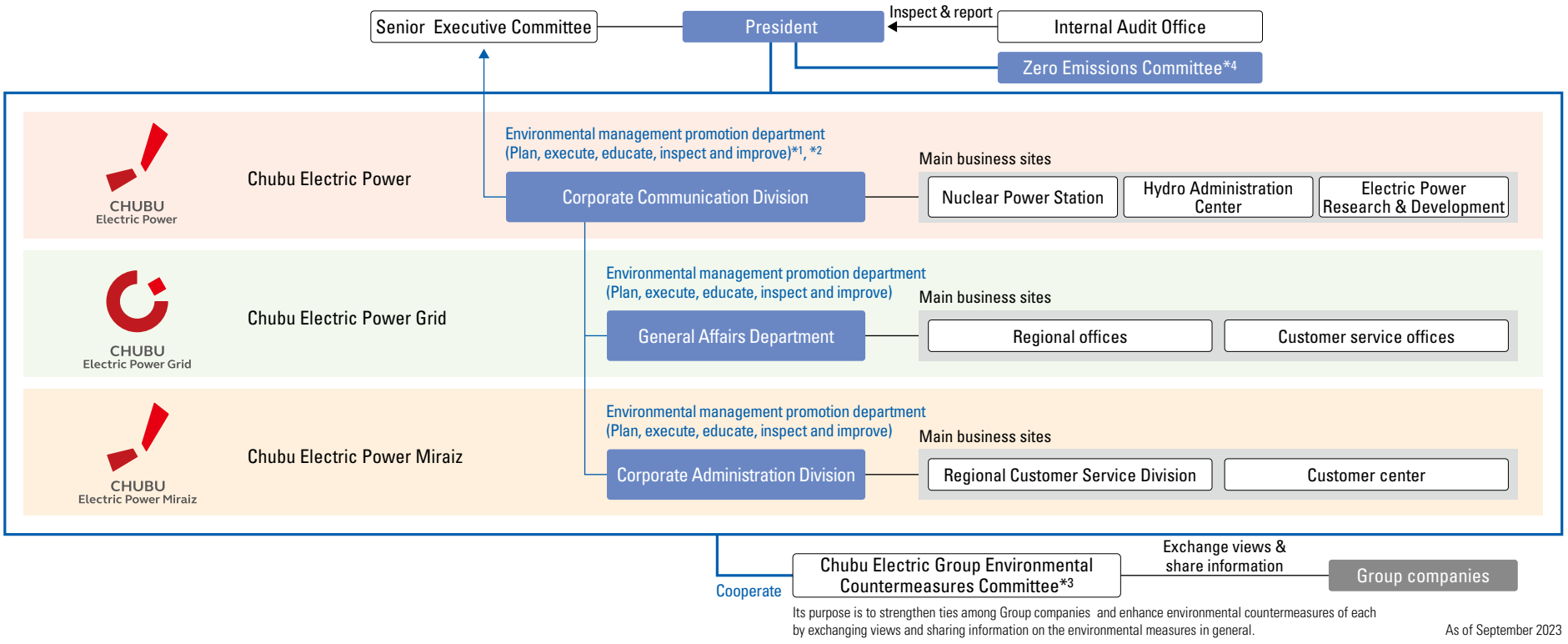
❷ Structure to promote environmental activities

- Separate from the governance structure encompassing risk management, Chubu Electric Power's General Affairs, Corporate Communication and Coexistence with Local Communities Division serves as an environmental management promotion department and monitors the management targets defined based on the Basic Environmental Policy. Important matters are submitted to the Senior Executive Committee for discussion.

[Environmental management at the Chubu Electric Power Group]

The Chubu Electric Power Group undertakes environmental management activities, in which we apply a plan-do-check-act (PDCA) cycle to the management targets defined based on the Chubu Electric Power Group Basic Environmental Policy and related initiatives of each.

We achieve conformance with ISO 14001 through self-declaration and conduct environmental management activities accordingly.



Its purpose is to strengthen ties among Group companies and enhance environmental countermeasures of each by exchanging views and sharing information on the environmental measures in general.

As of September 2023

*1 General managers in charge of various offices at Chubu Electric Power, Chubu Electric Power Grid and Chubu Electric Power Miraiz, who are appointed by the General Manager of the Corporate Communication Division (executive officer in charge of the environment), deliberate on and coordinate environmental policies, action targets and other related matters of the Chubu Electric Power Group. Important matters are submitted to the Senior Executive Committee for discussion.

*2 In order to implement environmental management activities based on the PDCA cycle, we have formulated internal rules that apply to Chubu Electric Power, Chubu Electric Power Grid and Chubu Electric Power Miraiz. The internal rules stipulate that a periodic check (operational survey) is performed on the status of compliance with environmental laws and regulations at business sites of Chubu Electric Power and Chubu Electric Power Grid as an effort to ensure legal compliance.

*3 This committee, comprising 28 Group companies (excluding Chubu Electric Power Grid and Chubu Electric Power Miraiz), shares information and holds sessions to exchange views on a periodic basis and promotes effective environmental management activities matched to the type of business of each company.

*4 This committee, newly established in March 2021, is a body placed under the direct control of the President & Director. It defines super long-term as well as medium- to long-term climate change-related goals of Chubu Electric Power, Chubu Electric Power Grid, Chubu Electric Power Miraiz and other Group companies and formulates and evaluates action plans for achieving these goals.

❸ Environmental assessment (environmental impacts assessment) system

- Upon facility formation, including the construction of new power plants, we investigate, estimate and assess the impacts of our business on the environment in accordance with relevant laws and regulations and the latest guidelines and implement appropriate ecosystem-related environmental conservation measures while listening to the opinions of local community members.

  Significant legal violations related to the environment have not occurred in Chubu Electric Power in recent years.

5 Strategy

❶ Evaluation of impacts and dependencies on natural capital

In order to explore our nature-positive strategy, we have identified trends in each type of power generation. We intend to perform multiple scenario-based impact analyses while also considering future natural capital-related targets as well as advances in legal regulations, both in Japan and overseas.

(a) Evaluation of impacts and dependencies of the subject businesses

Based on our business environment and risks, we have evaluated the impacts and dependencies on nature for the subject businesses, using the ENCORE analysis tool recommended by the TNFD.

[Evaluation of impacts]

Type of power generation	Process	Impacts										
		Land use change			Direct extraction		Climate change	Pollution				Other
		Land	Freshwater	Ocean	Water	Non-water	GHGs	Air	Water	Soil	Waste	Noise/ light pollution
Nuclear	Power generation	–	Low	Low	Low	–	Very Low	Low	Low	Low	Low	Very Low
Hydro (general)	Power generation	Low	Low	–	Low	–	Very Low	–	Low	Low	–	–
Hydro (pumped storage)	Power generation	Very Low	Very Low	–	Very Low	–	Very Low	–	Very Low	Very Low	–	–
Solar	Power generation	Low	–	–	–	–	–	–	Low	Low	–	–
Wind	Power generation	Low	Low	–	–	–	–	–	Low	Low	–	Low
Biomass	Fuel procurement	Low	–	–	–	–	Low	–	Low	Low	–	–
	Power generation	–	–	–	Very Low	–	Very Low	Low	Low	Low	Low	–
Power transmission and transformation		Low	–	–	–	–	Very Low	–	Low	–	–	–

[Evaluation of dependencies]

Type of power generation	Process	Dependencies									
		Provisioning services			Regulating services					Maintenance services	
		Surface water	Ground water	Fibers and other materials	Bio-remediation	Climate regulation	Filtration	Flood protection	Erosion control	Water flow maintenance	Water quality
Nuclear	Power generation	Low	–	–	Very Low	Very Low	Low	Very Low	Low	Low	Low
Hydro (general)	Power generation	Very High	–	–	Very Low	Very Low	Very Low	High	High	Very High	Low
Hydro (pumped storage)	Power generation	Very Low	–	–	Very Low	Very Low	Very Low	High	High	Very Low	Low
Solar	Power generation	–	–	–	–	Very Low	–	Low	Low	–	–
Wind	Power generation	–	–	–	–	Very Low	–	Low	Very Low	–	–
Biomass	Fuel procurement	Very Low	–	–	–	–	–	Middle	Low	Middle	–
	Power generation	Middle	–	High	Very Low	Very Low	Very Low	Low	Low	Middle	Low
Power transmission and transformation		–	–	–	–	Very Low	–	Middle	Middle	–	–

A) Nuclear power generation

Impacts

In accordance with all laws and regulations, we thoroughly manage radioactive materials and other chemical substances to ensure that these have no impact on the surrounding areas. We work to reduce the impact of radioactive materials as well as warm water discharge by selecting discharge methods that have minimal impact on the environment.

Dependencies

We also use fresh water from rivers in addition to seawater. However, our level of dependence on fresh water is less than seawater and we have established a system that can operate without impediments even when the volume of river water is low. We also recognize that our level of dependence on other natural environments is small.

B) Hydroelectric power generation (general)

Impacts

For the construction of power plants and dams, we take appropriate measures such as undertaking environmental assessment procedures to avoid significant impacts on terrestrial and freshwater ecosystems.

- ✔ In dam and conduit type power plants, long-distance water pipes and open channels can impede the movement of living creatures. However, we take innovative measures to avoid impeding the movement of living creatures such as by installing bridges above open channels to enable the movement of living creatures.
- ✔ Some of our hydroelectric power plants are located in Key Biodiversity Areas (KBAs) such as the Kiso River and Yahagi River systems. We are working to preserve the ecosystem in these areas by installing fishways suitable for fish habitats.
- ✔ We take measures against sedimentation that could have an impact on the ecosystem while aiming for harmonious coexistence with the local areas where our facilities are situated.

Dependencies

There is a high dependency on water resources because the amount of river water is directly linked to the amount of electricity generated. However, the results of a survey by Aqueduct assessed that there is a low risk of drought in our business areas caused by climate change and the risks arising from dependency on river water volume are small. Almost all hydroelectric power plants are situated in mountainous areas and thus depend on ecosystem services such as flood mitigation and landslide prevention functions provided by forests. Accordingly, we recognize that in the event of any significant destruction of surrounding nature (forests), the damage to our facilities caused by flooding, landslides, etc. could become significant.

C) Hydroelectric power generation (pumped storage)

Impacts Dependencies

When constructing electric power plants and dams, we take appropriate responses such as undertaking environmental assessment procedures to prevent significant impacts on land and freshwater ecosystems. As for pumped-storage dams, we recognize that because water is circulated between upper and lower reservoirs, our dependence on water resources (river water) is smaller than that for general hydropower. We also assess that the possibility of impacts on the amount of water available in the river basin by reducing the water flow downstream from each dam is extremely small.

D) Solar power generation

Impacts

Chubu Electric Power's solar power generation facilities are planned in a way to minimize land alteration and tree cutting and are installed only after confirming that these facilities will not damage important ecosystems. These facilities are also designed to ensure safety even in the event of a typhoon or other natural disasters.

Dependencies

Although output relies on the natural power of sunlight, we recognize that within the scope of the evaluation items, the dependency on natural capital and risks arising from this are low.

E) Wind-power generation

Impacts

Wind power generation generally faces concerns about bird strikes. However, Chubu Electric Power's wind power generation facilities implement conservation measures based on environmental assessments and the Company strives to avoid significant impacts on the ecosystem, including bird strikes, to the greatest extent possible. Chubu Electric Power plans to build onshore wind power generation facilities in the future. We will proceed with plans that enable construction and operation to be undertaken upon sufficiently considering the ecosystem encompassing terrestrial creatures as well as birds and fish.

Dependencies

Although output depends on the natural power of wind power, we recognize that within the scope of evaluation items, dependence on natural capital and the risks arising from this are small.

F) Biomass power generation

Impacts

Chubu Electric Power's biomass power plants use wood pellets procured from Vietnam and palm kernel shells procured from Indonesia and Malaysia as fuel. By procuring only items for which sustainability is assured through international certification systems, we aim to balance environmental conservation in the procurement regions with the effective use of forest resources.

For the establishment and operation of power plants, in accordance with a pollution control agreement with local communities we consider the surrounding environment by operating these plants while working to curb the emission of air pollutants, water pollutants, and other waste that has an impact on the environment.

Dependencies

We are dependent on natural supply services because we use wood pellets and palm kernel shells as fuel. However, we are working to reduce the risks arising from this dependence by building multiple supply networks through various projects.

G) Power transmission and substations

Impacts Dependencies

For transmission and substation facilities, environmental impact assessments are appropriately implemented at the time of installation and to prevent the loss of rare plants these plants are transplanted and the scope of construction is downsized. Construction processes and helicopter routes are changed to protect birds of prey.

Additionally, numerous transmission areas are in mountainous regions and depend on ecosystem services such as erosion prevention. However, upon assessing the risks of flooding and landslides at each site and reducing risks in the event of natural disasters, we have established a system that enables the supply of electricity by switching systems even if facilities are damaged by a natural disaster.

❷ Business impact assessment (risks and opportunities)

The table below shows nature-related risks and opportunities in the subject businesses, which we recognize as having high impact and frequency. We aim to improve our sustainability performance through research and development and maximize our business performance by executing environmentally conscious business and expanding our menu of services.

[Risks]

Category	Subcategory	Business segment	Risk summary	Financial impact	Impact*	Frequency	Countermeasures
Physical risks	Acute	Hydro	●Intensifying flood disasters causing damage, destruction or immersion of facilities (embankments, the body of a dam, dam's sluice-side console panels, power generators, power distribution boards, etc.)	●Lower operating revenues due to a decline in sales of electric power ●Incurring costs of repairs, damage compensation, etc.	Small to large	Medium to high	●Executing certain functional enhancements as a measure to increase the resilience of our facilities (installing watertight doors at power plants, etc.)
		Renewables (excluding hydro)	●Large-scale natural disasters causing destruction of power generation facilities (windmills, solar panels, biomass facilities, etc.)		Medium	Medium	●Designing and executing construction work in compliance with relevant laws and regulations ●Conducting inspections and repairs in a systematic manner
		Power transmission and transformation	●Large-scale natural disasters causing damage, destruction or immersion of power transmission and transformation facilities (pylons, power cables, power transformation equipment, power distribution boards, etc.)		Large	Medium	●Implementing facility countermeasures (raising the equipment installation levels, installing waterproof barriers, etc.) ●Keeping in stock materials needed to respond to accidents (iron towers, iron pillars and others for restoration) ●Providing training to ensure early recovery
		Hydro	●Restricting power generation operations when a shortage of water is expected	●Lower operating revenues due to a decline in power generation volume	Medium	Medium	●Collecting weather information, operating dams appropriately based on rainfall prediction, etc.
	Chronic	Hydro	[Risks shown below, associated with an increase in dam sediments] ●Decline in power generation volume due to loss of water storage capability ●Power generation hindered by sedimentation in front of a water intake, etc.	●Lower operating revenues due to a decline in power generation volume ●Increase in cost of sales due to costs of countermeasures	Large	Medium	●Removing soil (dredging) or moving soil at upstream parts of reservoirs ●Continuous dam discharge to keep the required functionality of sand discharge pipes and outlet conduits
Transition risks	Reputational	Renewables in general	●Opposition movement against development due to associated environmental destruction and disaster occurrence	●Loss of business opportunities ●Increase in costs due to costs to restore to original condition and for disaster recovery	Medium	Medium	●Development plans that give consideration to the environment ●Providing detailed and clear explanations to local residents and building a good relationship with them ●Designing and executing construction work in compliance with relevant laws and regulations, etc.
	Market	Biomass	●Tight supply of biomass fuels due to such factors as an increase in biomass power generation projects worldwide and acquisition of relevant certification becoming mandatory	●Increase in procurement costs due to a rise in market prices	Medium	Medium	●Long-term, fixed price contracts to ensure stable procurement, etc.

* Impact criteria: Determined while taking into account the monetary impacts when the risks occur as well as impacts on nature, among other factors

[Opportunities]

Category	Subcategory	Business segment	Opportunity summary	Financial impact
Business performance	Markets & reputational	All renewables	●Rising needs for the use of carbon-free energy and expanding demand for electrification ●Electric power needs with a focus on protecting ecosystems	●Increased revenue through the provision of CO_2-free menus ●Increased revenue through the provision of biodiversity protection menus
		Biomass	●Growing needs for using energy from biomass power generation plants, which give consideration to materials they purchase (certified products, locally-produced biomass, etc.)	●Increased revenue
		Hydro	●User-engaging renewable energy expansion models to update the existing hydroelectric power plants	●Increased revenue by updating very aged facilities and promoting efficient water usage
	Products and services	New businesses	[New businesses for reducing water usage in the entire society] ●Automated meter reading service for water usage via an electricity smart meter communication network; business to utilize the collected data ●Development and sales of highly efficient wastewater cleaning equipment using fine bubbles	●Expanding a revenue base ●Contributing to reduction of water usage in society
Sustainability performance	Ecosystem protection, restoration and regeneration	Entire Group	●Business activities protecting rare plant species and raptorial birds	—
		Entire Group	●Development of conservation technology for endangered species	—
		Entire Group	●Development of technologies to remove invasive alien species	—
		Entire Group	●Research on greenery projects that utilize native species	—
		Entire Group	●Conducting activities to nurture forestry volunteers	—
		Entire Group	●Conducting joint research with Nagoya University to visualize forests' watershed protection capabilities	—
		Hydro	●Implementing eco-friendly measures at dams	—
		Nuclear	●Activities to improve marine ecosystems	—

❸ Initiatives related to risk countermeasures and opportunities

(1) Eco-friendly measures at dams

We conduct dam discharge to keep the required river flow volume in order to protect animals and plants that live in rivers as well as fisheries and landscapes and ensure the cleanness of river water.

We also install fish passages of the size and structure suited to the subject fish so as not to prevent the movement of fish living around our facilities.

(2) Efforts for effective use of water resources by utilizing water usage data

We provide an automated meter reading service for water usage via an electricity smart meter communication network. By utilizing the water usage data collected via the service, we have conducted verification of our new value added service for early detection and notification of water leakage and faucets left running. Through these efforts, we contribute to the effective use of water resources.

(3) Greening using native plant species and giving consideration to the local environment

In order to conduct greening by using native plant species when constructing power plant facilities, we have been engaging in research to select available native plant species and investigate their genes throughout Japan. This allows us to use seeds and seedlings from areas deemed to share the same genetic information in our greening projects and conserve ecosystems while giving consideration at a genetic level.

Greening under a pylon giving consideration to regional characteristics and using only native plant species (Growth is monitored to ensure the greening of the area under the pylon.)

(4) Creating seagrass beds

We are working to create seagrass beds with the aim of conserving and restoring the local environment around our power plants.

Ecklonia cava, for which we are creating beds

6 Metrics and targets

i. Disclosure metrics recommended by the TNFD

FY2023 results/As of the end of FY2023

No.	Driver of nature change	Metric	Disclosure
–	Climate change	GHG emissions * Scope of calculation : Chubu Electric Power Co., Inc., Chubu Electric Power Grid Co., Inc. and Chubu Electric Power Miraiz Co., Inc.	Scope 1: 0.05 million t-CO_2; Scope 2: 2.82 million t-CO_2; Scope 3 (total of all categories): 55.08 million t-CO_2
C1.0	Land/ freshwater/ ocean-use change	Total spatial footprint	[Chubu Electric Power] Hydro: 56,332,000 m^2; Nuclear: 1,794,000 m^2; New energy and others: 182,000 m^2; and Operation-related facilities: 955,000 m^2 [Chubu Electric Power Grid] Power transmission facilities: 8,629,000 m^2; Power transformation facilities: 7,792,000 m^2; Power distribution facilities: 3,000 m^2; and Operation-related facilities: 22,000 m^2
C1.1		Extent of land/freshwater/ocean-use change	Total water withdrawal: 50,824 million m^3
C2.0	Pollution/ pollution removal	Pollutants released to soil split by type	None
C2.1		Wastewater discharged	Wastewater from biomass and nuclear: 70,000 m^3
C2.2		Waste generation and disposal	Industrial waste generated: 50,000 t
C2.3		Plastic pollution	Waste plastics included in industrial waste: 2,000 t
C2.4		Non-GHG air pollutants	SOx emissions: 2 t; NOx emissions: 84 t
C3.0	Resource use/ replenishment	Water withdrawal and consumption from areas of water scarcity	None
C3.1		Quantity of high-risk natural commodities sourced from land/ocean/ freshwater	Operation data of Yokkaichi Biomass Power Plant: Wood pellets of approx. 150,000 t; Palm tree coconut shells of approx. 60,000 t
C4.0	Invasive alien species and other	Measures against unintentional introduction of invasive alien species (IAS)	We implement necessary quarantine measures for fuels used in biomass power generation, which are procured from overseas.
C5.0	State of nature	Ecosystem condition, Species extinction risk	(Disclosure to be enhanced in the future)
C7.0	Risk	Value of assets, liabilities, revenue and expenses that are assessed as vulnerable to nature-related transition risks	We have concluded that we have no assets that are assessed as particularly vulnerable to transition risks in the businesses analyzed.
C7.1		Value of assets, liabilities, revenue and expenses that are assessed as vulnerable to nature-related physical risks	We have recognized that hydroelectric power plants are more vulnerable to flood risks than other assets due to their locations. Book value of hydroelectric power plants: 271.1 billion yen (excluding land)
C7.2		Description and value of significant fines, etc. in the year due to negative nature-related impacts	None
C7.3	Opportunity	Amount of capital expenditure, financing or investment deployed towards nature-related opportunities, by type of opportunity	(Disclosure to be enhanced in the future)
C7.4		Increase and proportion of revenue from products and services producing demonstrable positive impacts on nature with a description of impacts	(Disclosure to be enhanced in the future)

ii. Targets

We have set targets related to nature, excluding climate change, from the three perspectives of biodiversity, water resources and recycling-oriented society.
Going ahead, we will consider setting additional, more focused targets toward the realization of a nature-positive society.

Biodiversity

We are committed to the conservation of biodiversity through consideration of ecosystems in our business activities and efforts in technological development and research.

Goal Ensure ongoing efforts to conserve ecosystems

- **Environmental assessment:** When executing a project, we investigate, estimate and assess its impact on the environment in accordance with relevant laws and regulations and implement appropriate ecosystem-related environmental conservation measures while listening to the opinions of local community members.
- **Protection of rare plant species and raptorial birds:** During construction projects involving power transmission lines, power generation plants and substations, we implement strategies to prevent the loss of rare plant species. This includes relocating plants and reducing the construction footprint. Furthermore, we modify construction procedures and helicopter flight paths to protect raptorial birds. Upon project completion, our efforts extend to rejuvenating the natural environment in the vicinity, with the goal of minimizing the impact on ecosystems.
- **Development of conservation technology for endangered species:** We have taken measures to protect endangered species such as the Aconitum kiyomiense, a flowering plant found on our company-owned lands and in the vicinity of power facilities. Our efforts include gaining insights into their physiology and ecology, developing propagation techniques and implementing active conservation measures.
- **Control of invasive alien species:** We have established a chemical spraying program to gradually reduce and eradicate the specific invasive alien species known as burr cucumber. Additionally, we participate annually in the removal of invasive Phyllostachys edulis bamboo at green spaces owned by the city of Nagoya.

Kiyomi-torikabuto
(Aconitum kiyomiense)

Water resources

We are committed to the sustainable management and efficient utilization of water resources.

Goal Minimize water usage in our offices

- **Water conservation in offices and increased employee awareness of water conservation:** We work to raise water-saving awareness of employees and reduce water use by proactively introducing water-saving sanitary equipment as a measure to save water and by calculating and visualizing the amount of water used by each employee.

Goal Minimize environmental impact through responsible water resource utilization

- **Forest preservation activities including the protection of watershed protection forest:** We are engaged in activities to preserve Uchigatani Forest and other forests.
- **Appropriate use of water in dam operations:** We conduct dam discharge to keep the required river flow volume in order to protect animals and plants as well as fisheries and landscapes and ensure the cleanness of river water.

Recycling-oriented society

We promote resource conservation, waste reduction and the reuse/recycling of resources to minimize disposal.

Goal Achieve a recycling rate of over 95% for industrial and other waste

- **Recycling rate of industrial and other waste:** 98.3% (FY2023 result)
- **Recycling clearance metals*:** We are recycling clearance metals generated as a result of the decommissioning of Units 1 and 2 of the Hamaoka Nuclear Power Station. Currently, we are working with a local company to create metal covers for gutters by using clearance metals.

* Among the radioactive waste generated when decommissioning or operating nuclear power plants, metal scraps that have been checked and confirmed by the national government as having low radioactive concentration and a negligible effect on human health are called clearance metals. Clearance metals can be reused, recycled or disposed of just like ordinary waste.

Recycling clearance metals