

Hokuriku Electric Power Company | Overview

Hokuriku Electric Power Company: Transition Bond

■ Corporate Profile

Industry	Power generation and retail
Location	Japan
Business	Founded in 1951 on the foundation of several locally owned power companies, including Toyama Electric Light Co Ltd, the first power company in Hokuriku. As of FY2020, the company has 141 power stations with an output of 824.9 MW, mainly hydroelectric, thermal, nuclear and solar power.

■ Bond Outline

Issuer	Hokuriku Electric Power Company
Structuring Agency	Mizuho Securities Co., Ltd.
Evaluation Agency	DNV BUSINESS ASSURANCE JAPAN K.K.
Issue Amount	20~30 Billion Yen (Planned)
Issue Date	December 2022 (Planned)

Carbon Neutral Strategy

New Target CO2 Emission: more than 50% reduction
Ratio of non-fossil sources: 50% or higher

		2030	2050	
Decarbo-nization of Power Sources	Utilizing Renewable Energy as the Major Power Source	Expanding the introduction of various RE sources RE development: +1 mill. kW (+3 bill. kWh/y)	Expanding the introduction of RE sources to the maximum (inside/outside the region and overseas)	Carbon Neutral
	Maximum Use of Nuclear Power	Early restart and stable operation and efforts toward the world's highest level of safety. Examination and utilization of new nuclear technologies		
	Zero Emission Thermal Power	Increase in biomass fuel co-combustion for coal-fired power generation (an increase of 1.5 bill. kWh/y) Studies on using ammonia and hydrogen	Power generation using 100% biomass Fuel conversion to ammonia and hydrogen	
	CO2 Reduction	CO2 reductions through replacing turbines and other equipment; studies on introducing CCUS technologies	Introduction of CCUS technologies	
Increased Sophistication of Transmission and Distribution Networks		Establishment of resilient and smart bulk power system to support RE; Sophisticate power supply and demand control Establishment/operation of optimal distribution system, based on wider use of distributed resources, including EVs, and expansion of distributed grids		
Support for Customers' and the Region's Decarbonization	Promotion of Electrification	Electrification of air conditioning, industrial production processes etc. Expanded use of EVs	Further promotion of electrification through the application of new technologies	
	Zero Emission Support for Customers and the Region	Providing electricity rate plan options to comply with RE100, and various solution services, such as support for ZEHs and ZEBs Development of distributed RE sources, and establishment of infrastructure to support the practical use of storage batteries and expanded introduction of RE (utilization of VPP and DR) , in collaboration with customers and local communities	Achievement of zero emissions in the region and management of regional energy, using distributed renewable energy sources, hydrogen, and other resources	

Targets

2030

CO2 Emission :
 • more than 50% reduction
 (compared to FY 2013, retail base)

Non-Fossil Fuel Sources :
 • 50% or higher

Renewable Energy :
 • more than 1 Million kW increase
 (compared to FY2018)

2050

Carbon Neutrality

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Potential Use of Proceeds

- **Zero emission thermal power:**
Increase in biomass fuel co-combustion for coal-fired power generation
- **Transmission and distribution network:**
Establishment and operation of a resilient and smart bulk power system to support the utilization of renewable energy as the major power source

Alignment with the Four Elements in the Guideline*

Element 1

- Strategy: to achieve carbon neutrality in 2050, the strategy sets out to decarbonize power sources, upgrade transmission and distribution networks, and support customer and regional decarbonization. It also considers just transition by maintaining technology and employment through the use of existing facilities.
- Governance: in addition to the Carbon Neutral Challenge Promotion Council, a new Carbon Neutral Promotion Team has been established.

Element 3

- Aligned with 46% CO2 emission reduction (baseline: 2013) stated in the "Strategic Energy Plan" and "Green Growth Strategy". Additionally, CO2 reduction targets relate to the reduction of Hokuriku Electric Power Company's major emissions.
- Various initiatives to achieve the targets are consistent with METI's roadmap for the electric power sector.

Element 2

- Based on TCFD recommendations and multiple scenarios (IEA, IPCC, etc.,) including the 1.5 degree scenario, initiatives related to ESG (including climate change) are reflected into management plans.
- Aims to achieve 2050 carbon neutrality and sets out specific initiatives, including the use of funds

Element 4

- Over 200 billion yen of growth-related investments which includes those related to decarbonization, and approximately 800 billion yen on investments including maintenance and renewal of power generation and distribution facilities, and safety measures for restarting nuclear power plant announced as the assumed cumulative cash flow for FY 2019~2030.
- The potential use of the proceeds are consistent with the achievement of Hokuriku Electric Power Company's carbon neutrality strategy and related goals and are expected to have significant results and impact.

*Basic Guidelines on Climate Transition Finance

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Science Based Targets and Pathways (Element 3)

The Hokuriku Electric Power Group's Roadmap toward Achieving Carbon Neutrality

		Specific Initiatives (up through 2030)	Specific Initiatives (up through 2050)
Decarbonization of Power Sources	Utilizing Renewable Energy as the Major Power Source	Expanding the introduction of hydropower, wind power, photovoltaic power, and other sources, to increase renewable energy power generation by 2.0 billion kWh/year (compared to FY 2018) as described in our long-term vision <ul style="list-style-type: none"> Construction and operation of Shin-Himekawa No. 6 Hydroelectric Power Station (a new power station) Studies on the development of offshore wind power generation projects off the coast of Awa, Fukui Prefecture, and in other locations Studies on the development of onshore wind power generation and other projects through alliances with other companies Strengthening of the organizational structure and utilization of alliances with other energy companies, to promote development projects with a sense of speed 	<ul style="list-style-type: none"> Expanding the introduction of renewable energy sources to the maximum (Inside and outside the region, overseas)
	Maximum Use of Nuclear Power	<ul style="list-style-type: none"> Early restart of Shika Nuclear Power Station and stable operation as a base load generation source Efforts toward the world's highest level of safety Examination and utilization of new nuclear technologies 	
	Zero Emission Thermal Power	<ul style="list-style-type: none"> Increase in biomass co-combustion (an increase of 1.5 billion kWh/year) at coal-fired power stations (Tsuruga Unit 2, Ninoo Onita Unit 2) Studies on power generation exclusively using biomass at coal-fired power stations Studies on using ammonia and hydrogen 	<ul style="list-style-type: none"> Power generation using 100% biomass Fuel conversion to ammonia and hydrogen
Increased Sophistication of Transmission and Distribution Networks	CO ₂ Reductions	<ul style="list-style-type: none"> Reduction of CO₂ emissions in coal-fired power generation, through replacement of turbines and other equipment Studies on equipment for carbon dioxide capture, utilization, and storage (CCUS) Studies on converting coal-fired generation to LNG-fired, and on introducing next-generation thermal power generation, such as the integrated coal gasification combined cycle (IGCC) and the integrated coal gasification fuel cell combined cycle (IGFC) 	<ul style="list-style-type: none"> Construction of CO₂ capture systems, such as carbon dioxide capture, utilization, and storage (CCUS) Improvements to inefficient thermal power sources, including replacements
	Promotion of Electrification	<ul style="list-style-type: none"> Establishment of a smart, resilient bulk power system to support the utilization of renewable energy as the major power source Future infrastructure development for more sophisticated forecasts and observations of renewable energy conditions, and for increased sophistication of and efficiency improvements to supply and demand control, taking into consideration the utilization of renewable energy as the major power source and distributed resources such as EVs, which are expected to be utilized more and more Optimal distribution system measures, equipment arrangement, and increased sophistication of operations (such as infrastructure development related to remote power control), taking into consideration the increased use of distributed resources such as EVs Study and operation of smart grids that make use of new technologies and systems 	<ul style="list-style-type: none"> Further promotion of electrification through the application of new technologies
Support for Customers and the Region's Decarbonization	Zero Emission Support for Customers and the Region	<ul style="list-style-type: none"> Electrification of heat sources for air conditioning, hot water supply, and kitchens, through the use of high-efficiency heat pump equipment and other means, as well as of production processes in industrial fields Promotion of use of EVs (including leasing of EV charging equipment and car sharing services) Providing electricity rate plan options to comply with RE100; invitation of RE100 companies Consulting services to enable ZEHs and ZEBs Expansion of sales of the photovoltaic power equipment third-party possession model¹⁴⁾ Development of renewable energy sources in collaboration with customers and local communities Promotion of renewable energy aggregation¹⁵⁾ and services for local consumption of locally produced renewable energy Energy management through the utilization of energy data Support for P2P trading of electricity from distributed energy resources, utilizing blockchain technology¹⁶⁾ Establishment of infrastructure to support the practical use of storage batteries and expanded introduction of renewable energy (verification and implementation of VPP, establishment of DR for demand control) 	<ul style="list-style-type: none"> Achievement of zero emissions in the region and management of regional energy, using distributed renewable energy sources, and other resources Support for utilization of hydrogen and other resources

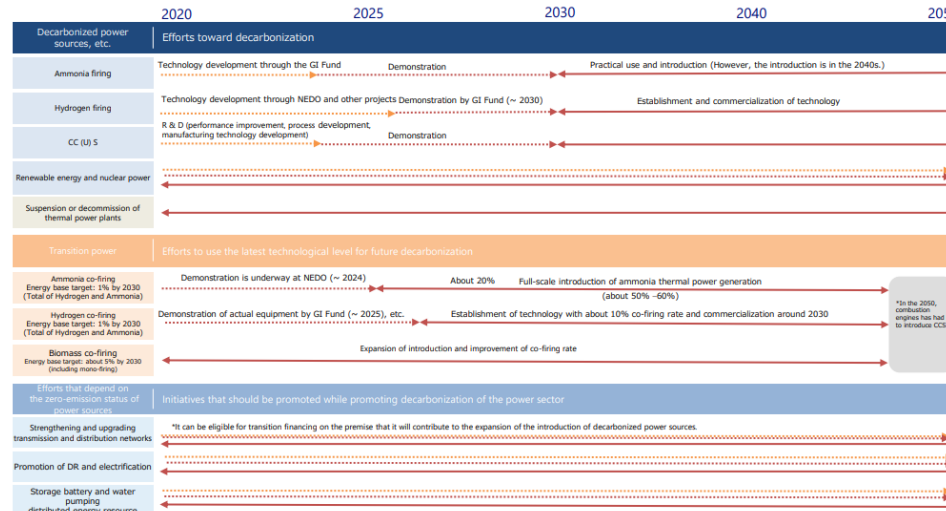
Initiatives aligned with the roadmap

- Renewable Energy/Nuclear Power
- Ammonia firing/co-firing
- Hydrogen firing/co-firing
- Biomass co-firing
- CCUS
- Suspension or decommission of thermal power plants
- Strengthening and upgrading transmission and distribution networks
- Promotion of DR and electrification
- Storage battery and water pumping distributed energy resource

Key points

- Hokuriku Electric Power's CO2 emissions reduction target for FY2030 aims for 50% reduction of adjusted CO2 emission calculated based on "Act on Promotion of Global Warming Countermeasures" and covers the majority of Scope 1, 2, and 3.
- The target refers to the 1.5°C scenario, consistent with the Paris Agreement, and is also consistent with the nation's 46% CO2 reduction target by 2030 ("Strategic Energy Plan" and "Green Growth Strategy" etc.)
- The various initiatives shown in the roadmap are consistent with METI's roadmap for the electric power sector (developed in reference to the IEA and IPCC). Their carbon neutral strategy is consistent with the 1.5°C scenario aligned with the Paris agreement, and thus holds scientific basis for achieving this scenario.

Technology Roadmap for Power Sector



METI Agency for Natural Resources and Energy

Committee | Results

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RESULTS:

Approved for Climate Innovation Finance Promotion Grants Scheme

Main Opinions

Transition Strategy

- The initiatives/use of proceeds are suited for the transition period of electric utilities company and thus appropriate for this grant scheme.
- It is rational to include the use of nuclear power in the strategy for decarbonization, however consideration for an alternative measure in the event where nuclear power cannot be restarted is to be expected.
- Obtaining CoC certification for fuels used in biomass power generation is commendable. It is desirable to obtain certification for the use stage as well, in the future.
- Although currently there is little information available, the environmental impact and health hazards of biomass fuels during production are of great concern to society, including investors. It is necessary to consider these issues in the future.

Others

- If the use of proceeds includes the expansion of the transmission and distribution facilities, expressing the overall increase in green power is to be expected.

This document focuses on the contribution of transition finance to the realization of Japan's carbon neutrality by 2050 and the Paris Agreement and does not cover any of the risks associated with transition finance as a financial instrument. It should be noted that even the approved cases of this scheme, there are credit risks and other risks (in the case of bonds, price fluctuation risks, liquidity risks, etc.) as in ordinary financing.