

Business Segments

Transmission and Distribution Business

Yoshihiro Doi

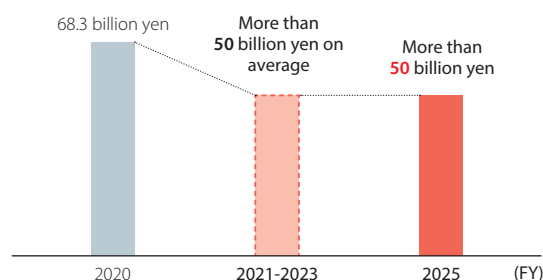
President and Director
Kansai Transmission and Distribution, Inc.

Overview

Following the revision of the Electricity Business Act to make the transmission and distribution business more neutral, Kansai Transmission and Distribution, Inc. was incorporated in April 2020, taking the general power transmission and distribution business of the Kansai Electric Power Co., Inc. At Kansai Transmission and Distribution, Inc., we manage power grids while planning and constructing transmission, transformation and distribution facilities to deliver electricity to customers. Specifically, committed to being neutral and fair, we are delivering safe, stable and low-cost electricity to all customers and providing reliable and secure power grid services, which contributes to the development of local communities.

Medium-term Management Plan Targets

Ordinary income



Business environment

- The introduction of a new wheeling pricing system has a significant impact on the management of the transmission and distribution business.
- Environmental consciousness (shift to zero carbon, etc.), changing lifestyles post COVID-19, and technical innovations and environmental changes corresponding to diversifying social needs provide both opportunities and risks to the Kansai Electric Power Group.
- Transmission and distribution facilities are aging, among many other problems surfacing.

Opportunities

- Investment to respond to a new wheeling pricing system
- Electrification promoted by the zero carbon movement
- Increased use of wide area power grids
- Customers' diversified needs for the use of power grids, etc.
- Advancement in digital technologies (AI, IoT, etc.)

Risks

- Decreased power grid demand due to power and energy saving
- Intensified natural disasters and possible earthquakes in the Nankai Trough
- Changing social needs (lifestyles, etc.) post COVID-19

Business strategies

The three business areas will be developed in Kansai Transmission and Distribution, Inc., involving transmission and distribution, growth promotion and business foundations, with a positive growth cycle created between them to turn ourselves into "what we aspire to be."

Transmission and distribution

Create one of the best cost structures in the industry and produce results exceeding public expectations, with a new wheeling pricing system in place.

Growth promotion

Develop new businesses, promote global investment operations and increase external sales of Kansai Transmission and Distribution Group to dramatically expand the overall business.

Business foundations

Promote safety and compliance, improve the organization culture through the Toyota Production System (Kaizen), etc., contribute to local communities, and increase productivity through DX and workstyle innovation to build a stronger business foundation.



What we aspire to be as Kansai Transmission and Distribution Group

Leveraging our advanced technology to develop and provide attractive services that support customers and society, we aim to be a corporate group spearheading development of the transmission and distribution business at home and abroad.

5-year Efforts

① Transmission and distribution

1. Ensuring stable supply

- ① Upgrade asset management.
- ② Respond to intensified natural disasters.

② Growth promotion

1. Further expanding new and overseas business operations

- ① Develop new areas in new businesses.
- ② Develop investment operations in overseas businesses.

③ Business foundations

1. Building a robust safety and health culture 2. Steadily implementing business improvement plans 3. Reforming the organization culture

- ① Promote a customer-oriented organization culture.
- ② Foster an open organization culture.
- ③ Foster an organization culture that pursues genuine work.

2. Contributing to zero carbon initiatives

3. Reforming cost structures and promoting measures to expand earnings

2. Developing new services leveraging new technologies

3. Expanding operations through cooperation among three group companies of Kansai Transmission and Distribution Inc.

4. Contributing to development of local communities

5. Improving productivity through drastic operational reforms

- ① Upgrade systems and push forward with DX.
- ② Further promote workstyle innovation.

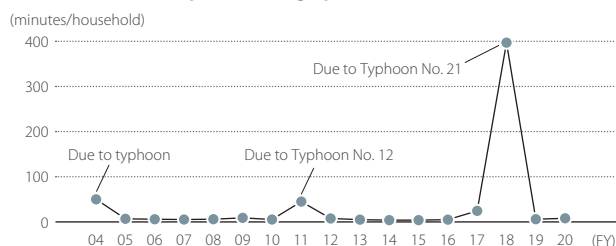
Initiatives in fiscal 2020

① Transmission and distribution

To provide high-quality electric power

We at Kansai Transmission and Distribution, Inc. work to operate power systems that provide a reliable link between power plants and consumers and optimize the configuration of facilities. We are also making thorough efforts to prevent failure recurrence. As a result of our efforts, with the exception of major natural disasters, we are maintaining one of the world's highest power quality levels in the transmission and distribution business.

Annual duration of power outage per household



Cross-regional supply and demand adjustment

"Cross-regional supply and demand adjustment," where regulated power supply is leveraged nationwide in ascending order according to price, started in March 2021 to further reduce the cost of supply and demand adjustment, which was previously conducted by area. We will work on the services for further expansion in fiscal 2023.

Cross-regional supply and demand adjustment timetable

	FY 2020	FY 2021	FY 2022	FY 2023
Test operations, expansion of service areas	Implemented in the Kansai, Chubu and Hokuriku areas			
Commercial operations (equivalent to Replacement Reserve and Replacement Reserve for FIT*)		Implemented in nine areas nationwide, excluding Okinawa		
Expanded services (equivalent to Frequency Restoration Reserve*)				

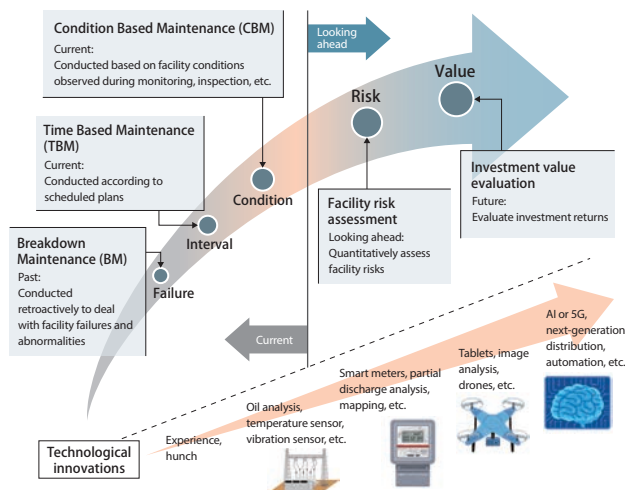
* These refer to services provided in the supply-demand adjustment market.

Transmission and Distribution Business

Advanced asset management

As our facilities age, the focus of our renovation plan is shifting from condition based maintenance to facility risk assessment to efficiently and cost-effectively implement renovations, the need for which is on the rise.

In addition, we started developing a system in fiscal 2020 for investment value evaluation to upgrade asset management. This system will be fully introduced to identify optimal renovation plans with high investment returns.



Disaster response system

We are enhancing our response systems to prepare for rapid initial response upon the occurrence of disasters. This includes the designation of individuals who arrive at the workplace early and night watches by initial response supervisors, along with the implementation of special training for individuals and supervisors in charge of initial response several times a year.

Moreover, with the President of the Kansai Electric Power Co., Inc. serving as Chief of the Emergency Headquarters, group-wide comprehensive emergency response drills are conducted every year and these drills see full collaboration between the Kansai Electric Power Co., Inc. and Kansai Transmission and Distribution, Inc. We are committed to improving our disaster response skills and raising disaster awareness, not only to prepare for the occurrence of the Nankai Trough Earthquake but also with consideration for severe incidents such as the simultaneous occurrence of a nuclear power disaster or during occasions when the balance of power supply and demand is tight.



Group-wide comprehensive emergency response drills

Number of participants in group-wide comprehensive emergency response drills (fiscal 2020)

1,175

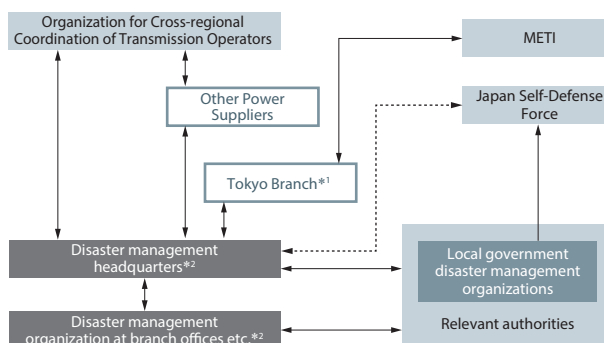
In the event of a major disaster, employees will be notified of any information pertaining to the disaster at the same time. We also have established action standards so that we can build a response system promptly after a disaster occurs, even on holidays or during the night.

Strengthening collaborative ties with concerned external organizations

Even in times without disasters, we are working to build relationships with governments, police, fire departments, the Japan Self-Defense Forces and other concerned external organizations as well as other electric power companies in order to enable smooth mutual cooperation during times of emergency and restore electric and gas service as quickly as possible.

Specifically, we proactively participated in disaster response training sessions and programs held by municipalities and designated public corporations; moreover, we conducted joint training with the Self-Defense Forces and the Japan Coast Guard according to a cooperative system to respond to disasters.

Emergency system for communicating with relevant authorities



*1 Kansai Electric Power Co., Inc.

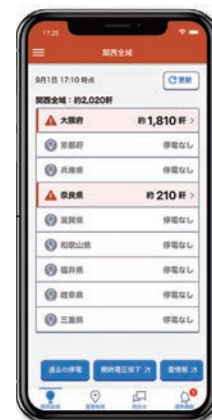
*2 Kansai Electric Power Co., Inc. and Kansai Transmission and Distribution, Inc.

Refer to page 78 of the ESG Report 2021 for details about our Group's disaster mitigation efforts.

Expanding power outage information app services

Information app services were launched in July 2019 to disseminate information about power outages in the Kansai area, specifically about the number of outages, prospects of restoration, previous outages, etc. in the areas served by Kansai Transmission and Distribution, Inc. A maximum of 10 locations can be registered, with an automatic push notification notifying power outages in the areas registered.

An additional push notification feature for momentary voltage drops, was added in September 2021, the first of its kind provided by general power transmission and distribution utilities.



Power outage information app GUI

Improving customer services through diversified information channels

Transmission and distribution contact centers were established in Aomori city (Aomori) and Sapporo city (Hokkaido) to provide customers with a sense of security where customers' calls in times of disasters are answered by personnel including those of other general power transmission and distribution utilities.

An additional center was established in Kanazawa city (Ishikawa) to offer chat-based inquiry handling services. We will continue to improve these services to provide electricity users with reliable support.

Transmission and distribution contact center personnel responding to phone calls



2 Growth promotion

Services to prevent fraudulent account creation, leveraging information on electrical power facilities

While financial infrastructure is often abused for crimes and money laundering, with suspicious transactions becoming a social problem, we provide services to prevent fraudulent account creation, the first of their kind in Japan, incorporating a new verification system, where Caulis Inc's system to detect fraudulent access (by spoofing, etc.) is combined with Kansai Transmission and Distribution, Inc.'s information on electrical power facilities.

Overview of services leveraging information on electrical power facilities to prevent fraudulent account creation

New account creation



Banks, credit card companies, etc.

Spoofing or not?



Aha!



Authentication of the person creating an account



Authentication results (API automated response)

CAULIS

Kansai Transmission and Distribution

Developing and providing fraudulent access detection services



Spoofing detection services leveraging information on electrical power facilities

Database



Data extraction

Expanding overseas operations

We have participated in 17 projects in 14 countries according to three themes: expansion of earnings, technological contribution and feedback to Japan. In fiscal 2020, we carried out consulting businesses to countries like Guyana and Nepal. Kansai Transmission and Distribution, Inc., meanwhile, is looking at investing independently in overseas projects to further boost its earnings.

Completion ceremony with Guyana Power and Light Incorporated



3 Business foundations

Promoting cost structure reforms

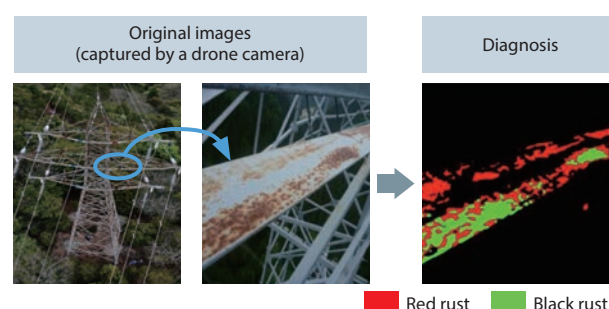
While electricity demand declines, we set a challenging efficiency target of 30 billion yen for connection of renewable energy to the power grid and for renovation and replacement of aging facilities owned by Kansai Transmission and Distribution, Inc. The President of Kansai Transmission and Distribution, Inc. spearheads this project, resorting to bold, unconventional measures.

Introducing Kaizen

We introduced the Toyota Production System (Kaizen) in October 2020 to strengthen a business foundation that can accommodate changes in the business environment; the trials and achievements made in fiscal 2020 will be promoted across the board to further improve productivity for fiscal 2021 and beyond.

DX activity (image analysis of corrosion on the surfaces of transmission towers)

While conventional visual inspection of corrosion on the surfaces of transmission towers by operators produces inconsistent results, an automated system has been developed where corrosion images captured by a drone camera are analyzed with AI for an efficient and precise diagnosis.



Red rust Black rust