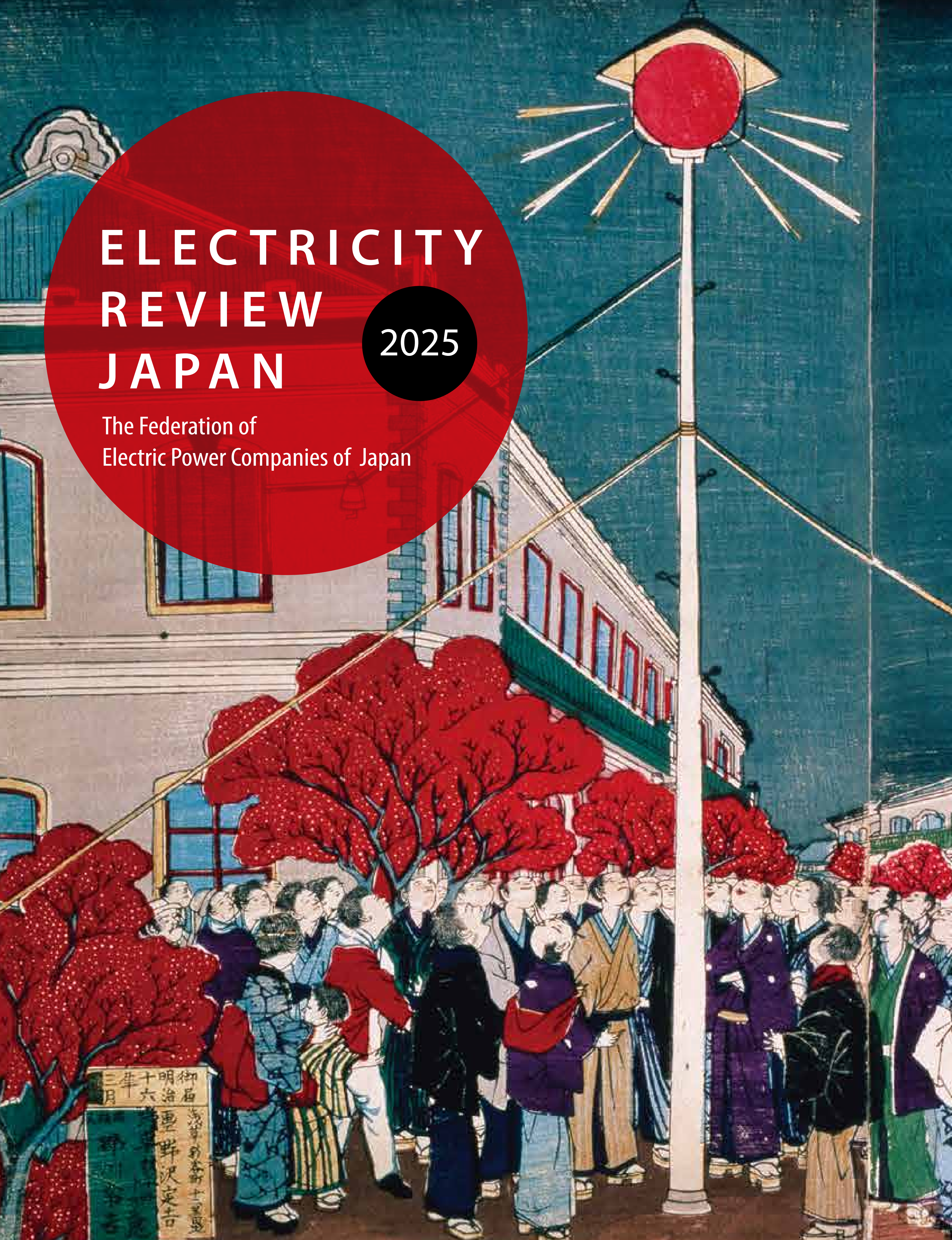

ELECTRICITY REVIEW JAPAN

2025

The Federation of
Electric Power Companies of Japan

History of Japan's Electric Utility Industry

The Dawn of the Electric Power Industry

Electricity was first used in Japan on March 25, 1878. An arc lamp was lit for the first time during the inauguration ceremony of the Central Telegraph Bureau held at the Engineering College in Toranomon, Tokyo. At that time, electricity was a rare novelty not only in Japan but also in Western countries, as it had not yet become widely available. In 1886, Tokyo Electric Light Co., Ltd., the first private electric utility in Japan, began operations, and by the following year, 1887, it started supplying electricity to the general public.

Initially, electricity gained popularity as a lighting source due to its safety and cleanliness, and its use gradually expanded as a replacement for steam engines as a power source. Electric companies were established one after another across the country, reaching 33 companies by 1896. At the dawn of the 20th century, the advent of long-distance transmission technology enabled the construction of larger-scale thermal and hydroelectric power generation facilities. This led to reduced generation costs, further accelerating the spread of electricity nationwide, making it an indispensable energy source for daily life and industry.

Integration and Nationalization

As Japan continued to modernize and its industries developed, the electric power industry also grew. After World War I, the number of electric companies, which had exceeded 700, was reduced through dissolutions and mergers, leading to the formation of five major power companies. During World War II, the electric power industry was placed under state control, and all generation and transmission operations were integrated into the state-owned Japan Electric Generation and Transmission Company, along with nine distribution companies.

Postwar Reorganization

Following the end of World War II in 1945, Japan faced a prolonged period of electricity supply shortages. As part of economic democratization measures, the electric power industry underwent reorganization. In 1951, nine privately-owned general electric utilities—Hokkaido, Tohoku, Tokyo, Chubu, Hokuriku, Kansai, Chugoku, Shikoku, and Kyushu—were established, each responsible for supplying electricity to their respective regions. Later, Okinawa Electric Power Company was added following Okinawa's reversion to Japanese sovereignty in 1972.

Progress in Electricity Deregulation

Toward the end of the 20th century, deregulation and market competition became major trends across society, and the electric power industry was no exception. In 1995, the Electricity Business Act was revised to allow new entrants into the power generation market, and deregulation was gradually expanded in stages thereafter.

The Great East Japan Earthquake and Power System Reforms

The Great East Japan Earthquake in March 2011, along with the accident at the Fukushima Daiichi Nuclear Power Plant and subsequent electricity supply shortages, prompted a shift in energy policy. In 2013, a three-phase power system reform plan was adopted with the goals of ensuring a stable electricity supply, minimizing electricity costs, and expanding both consumer choices and business opportunities for utilities.

The first phase, establishing the Organization for Cross-regional Coordination of Transmission Operators, occurred in 2015. The second phase, full liberalization of the retail electricity market, was implemented in 2016. The third phase, the legal unbundling of transmission and distribution sectors, was completed in April 2020.

While the power system reforms achieved certain successes, they also revealed various challenges. A review of the reforms, published in March 2025, highlighted significant achievements, such as the expansion of consumer choices and business opportunities for utilities. However, it also identified issues regarding the stable supply of electricity, such as recent supply-demand imbalances and concerns about future supply capacity shortages. Efforts to redesign systems and address these challenges will continue to create a more robust and reliable power system.

"The Illustration of Civilization and Enlightenment: Construction of Electric Streetlights on Ginza Street, Tokyo" by Sadakichi Nozawa

Developing a robust electricity business
Growing Japan's economy
Improving people's quality of life

On March 25, 1878, the first electric light was lit in Japan.
Ever since then, electricity has spread rapidly throughout the country.
Now, anyone is able to use electricity no matter where they are and no matter what time it is.
Since our establishment, we at the Federation of Electric Power Companies have dedicated ourselves to the mission of providing a stable supply of electricity to create a prosperous society.
We have also squarely confronted domestic and international challenges such as oil crises and the urgent need for environmental conservation globally.
Our mission is even more crucial in a world plagued by turmoil with heightened global tensions, economic stagnation, and intensifying natural disasters.
We are committed to ensuring that Japan, a country with scarce energy resources, remains a society where electricity is available to anyone, anytime, and anywhere.
We will continue to strive to develop Japan's economy and improve people's lives through sound development of the electricity business with the aims of providing a stable supply of electric power and achieving carbon neutrality.

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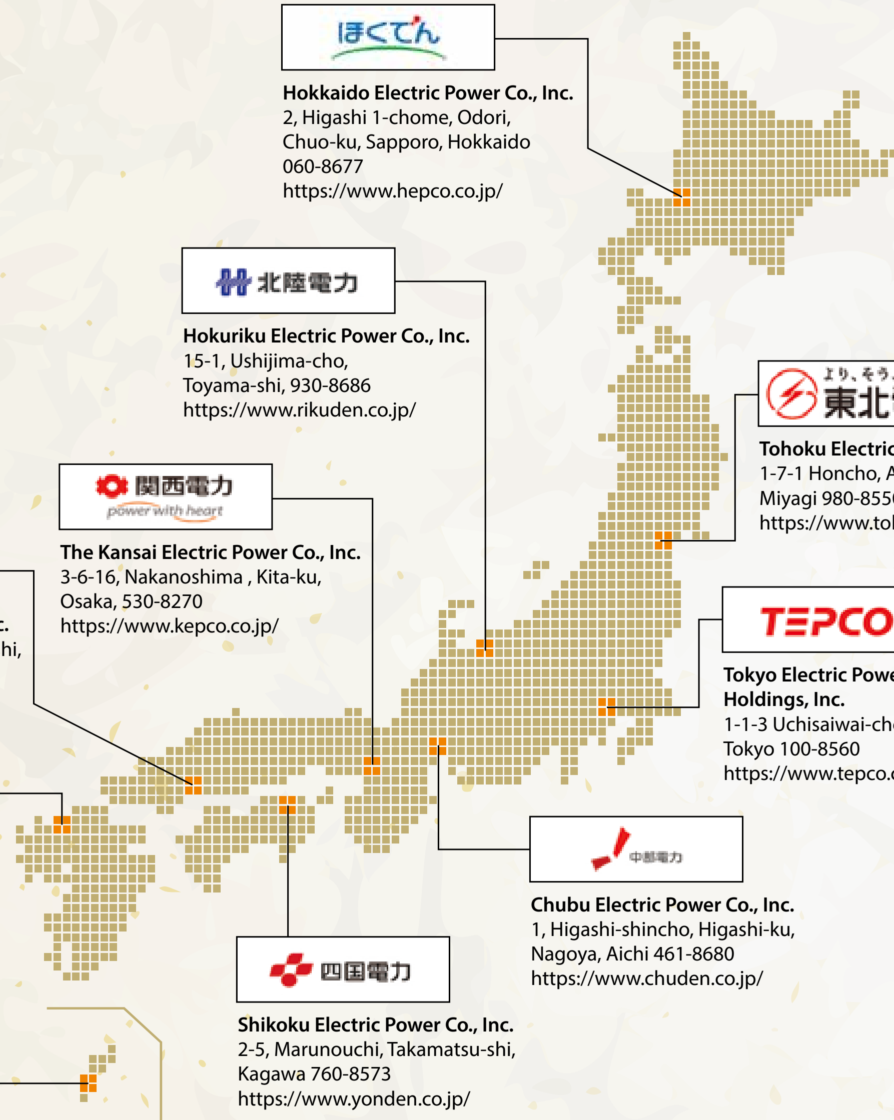
The Federation of Electric Power Companies of Japan

The Federation of Electric Power Companies of Japan (FEPC) was established in November 1952 under the guiding principle of facilitating the smooth operation of Japan's electric power industry through the unified efforts of electric power companies nationwide. Since its inception, FEPC has served as a platform for close communication among power companies and as a forum for exploring and creating new energy environments. Through its various activities, FEPC aims to promote the sound development of Japan's electric power industry, thereby contributing to the growth of the national economy and the improvement of citizens' quality of life.

Member Companies of FEPC



Hokkaido Electric Power Co., Inc.
2, Higashi 1-chome, Odori,
Chuo-ku, Sapporo, Hokkaido
060-8677
https://www.hepco.co.jp/

Hokuriku Electric Power Co., Inc.
15-1, Ushijima-cho,
Toyama-shi, 930-8686
https://www.rikuden.co.jp/

Tohoku Electric Power Co., Inc.
1-7-1 Honcho, Aoba-ku, Sendai,
Miyagi 980-8550
https://www.tohoku-epco.co.jp/

The Kansai Electric Power Co., Inc.
3-6-16, Nakanoshima , Kita-ku,
Osaka, 530-8270
https://www.kepco.co.jp/

The Chugoku Electric Power Co., Inc.
4-33, Komachi, Naka-ku, Hiroshima-shi,
Hiroshima 730-8701
https://www.energia.co.jp/

Tokyo Electric Power Company Holdings, Inc.
1-1-3 Uchisaiwai-cho, Chiyoda-ku,
Tokyo 100-8560
https://www.tepco.co.jp/

Kyushu Electric Power Co., Inc.
2-1-82, Watanabe-dori, Chuo-ku,
Fukuoka 810-8720
https://www.kyuden.co.jp/

Chubu Electric Power Co., Inc.
1, Higashi-shincho, Higashi-ku,
Nagoya, Aichi 461-8680
https://www.chuden.co.jp/

Shikoku Electric Power Co., Inc.
2-5, Marunouchi, Takamatsu-shi,
Kagawa 760-8573
https://www.yonden.co.jp/

The Okinawa Electric Power Co., Inc.
2-1, Makiminato 5-chome, Urasoe,
Okinawa 901-2602
https://www.okiden.co.jp/

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As of July, 2025

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Vice Chairman
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Vice Chairman
Nozomu Mori

Vice Chairman
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Head of Compliance Promotion Headquarters
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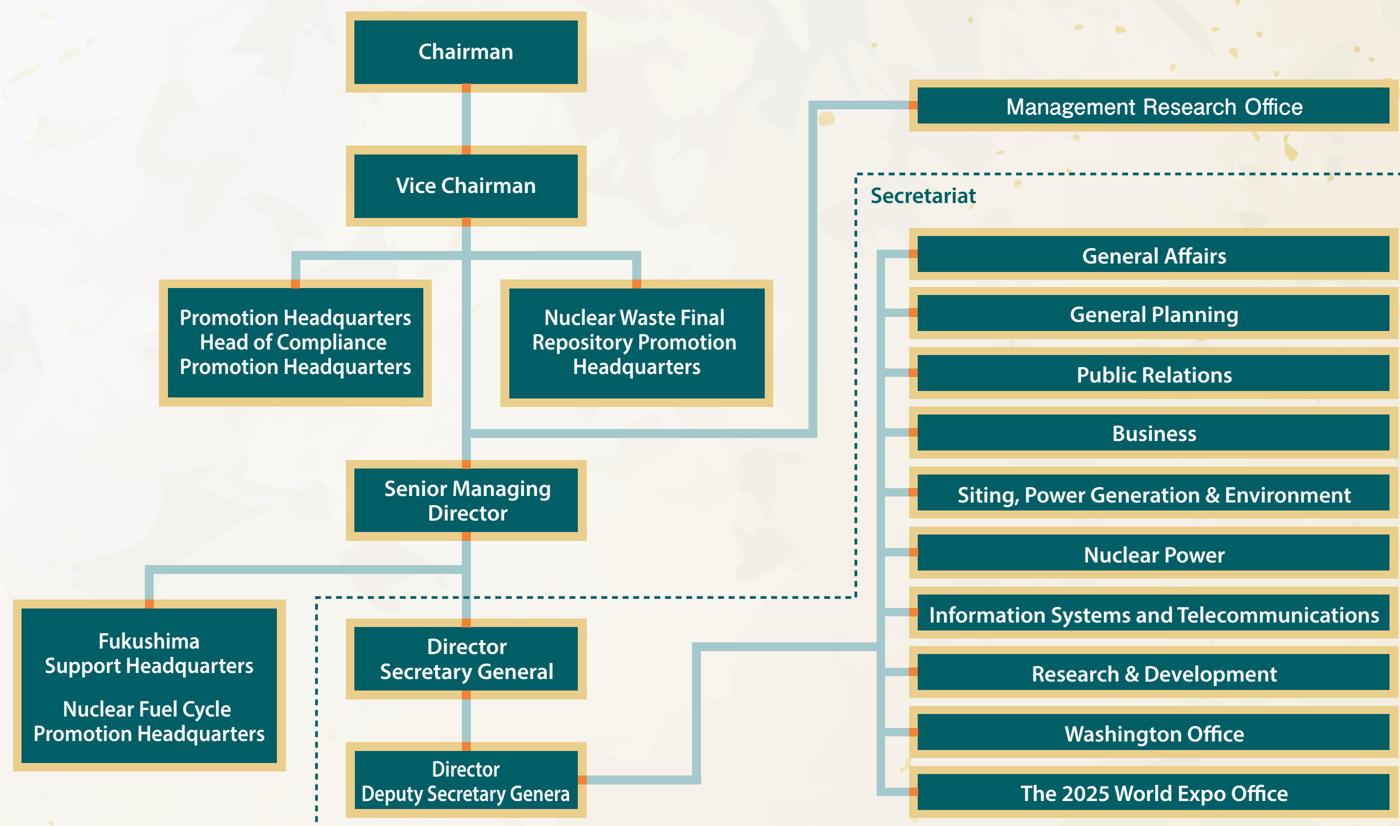
Director
Secretary General
Akihiko Kimura

Director
Deputy Secretary General
Akira Taguma

Organization

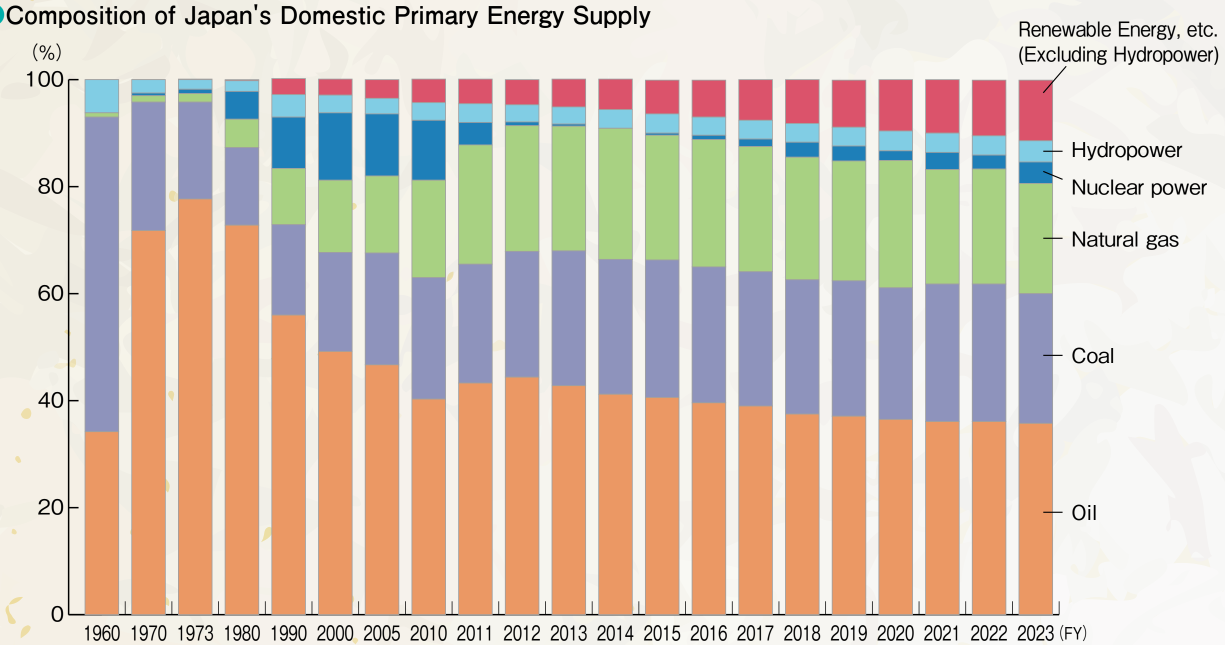


Japan's Energy Supply Structure

Resource-poor Japan relies on imports for approximately 80% of its energy supply. Since the two oil crises of the 1970s, Japan has worked to diversify its energy sources by introducing nuclear power, natural gas, and coal, as well as promoting energy conservation. However, oil still accounts for about 40% of Japan's primary energy supply, with nearly 90% of that oil coming from the Middle East. Furthermore, as an island nation with no transmission lines connecting it to neighboring countries, Japan is unable to import electricity from overseas.

In addition, as countries around the world, including Japan, strive for carbon neutrality to combat climate change, the importance of energy security has become increasingly apparent due to Russia's invasion of Ukraine and rising tensions in the Middle East. In Japan, achieving both a stable energy supply and carbon neutrality has emerged as an urgent and critical challenge.

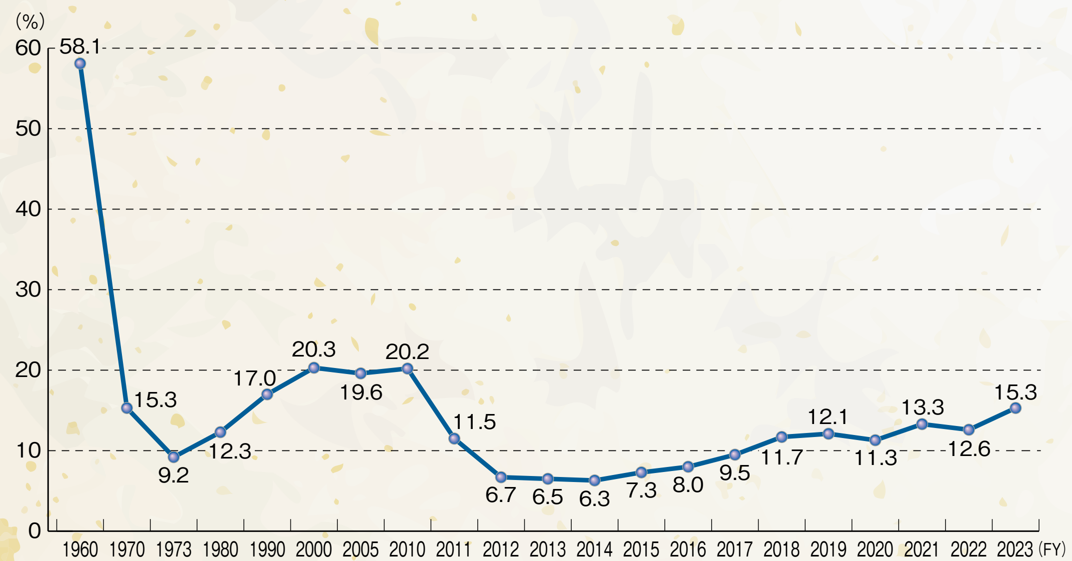
●Composition of Japan's Domestic Primary Energy Supply



Note: The IEA counts nuclear power as domestically produced energy.

Source: METI "Energy White Paper"

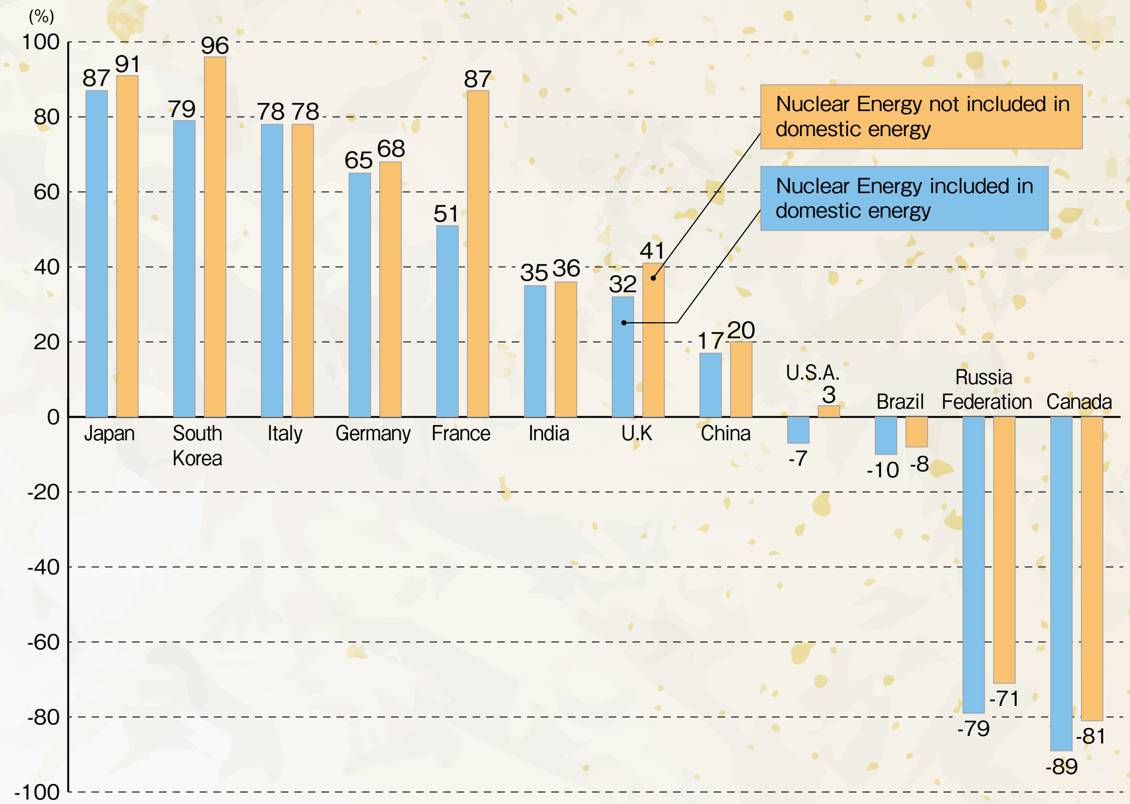
●Trends in Japan's Energy Self-Sufficiency Rate



Note: Energy Self-Sufficiency Rate (%) = Domestic Production / Primary Energy Supply × 100

Source: METI "Energy White Paper"

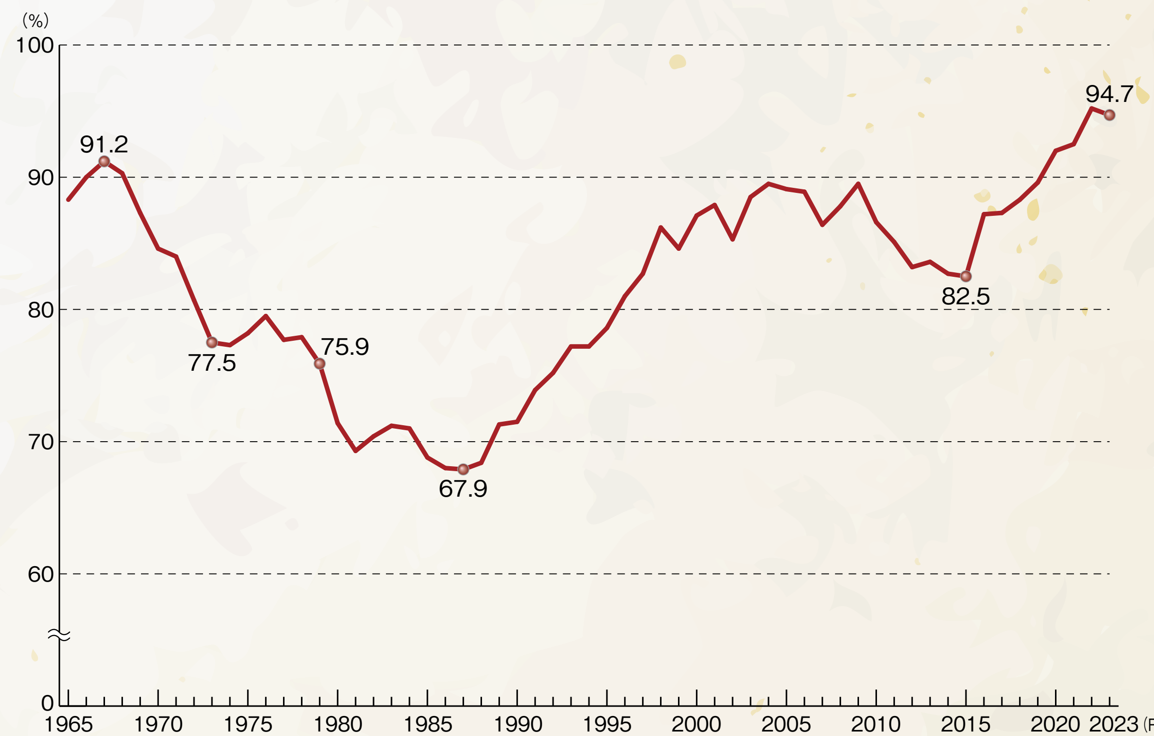
●Dependence on Imported Energy Sources by Major Countries (2022)



Note: A downward-facing graph indicates exports.

Source: IEA "World Energy Balances"

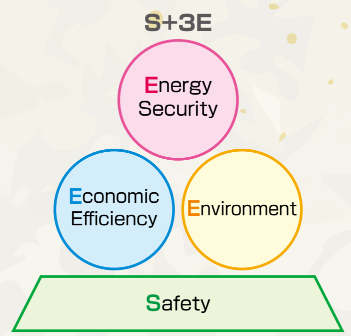
●Japan's Reliance on Middle East Crude Oil of Total Imports



Source: Agency for Natural Resources and Energy, "Annual Report on Resource and Energy Statistics"

In resource-scarce Japan, electric power companies have been striving to deliver electricity—an essential part of modern life—stably and as affordably as possible. To achieve this, they have adopted an energy mix that combines various energy sources, including hydropower, thermal power, nuclear power, and renewable energy, based on the "S + 3E" perspective (Safety, Energy Security, Economic Efficiency, and Environment).

Additionally, since electricity is difficult to store in large quantities at low cost, power companies continuously adjust their power generation to match the ever-changing demand. They carefully consider the characteristics of each energy source to optimize the combination of power generation methods.



1. Transition of Power Generation Mix

Before the 1960s

From the post-war reconstruction period to the early stages of Japan's rapid economic growth, hydropower and coal-fired power were the primary sources of electricity. However, in the 1960s, oil-fired power generation, fueled by inexpensive crude oil from the Middle East, became the dominant energy source.

The Oil crises and Energy Source Diversification

After experiencing two oil crises, Japan pursued diversification in its energy sources. During this period, nuclear power generation gained attention as an alternative to oil, and the use of natural gas began in earnest. As a result, the share of oil-fired power significantly declined, while the shares of nuclear power, coal-fired power, and LNG-fired power increased.

Up to the 2000s

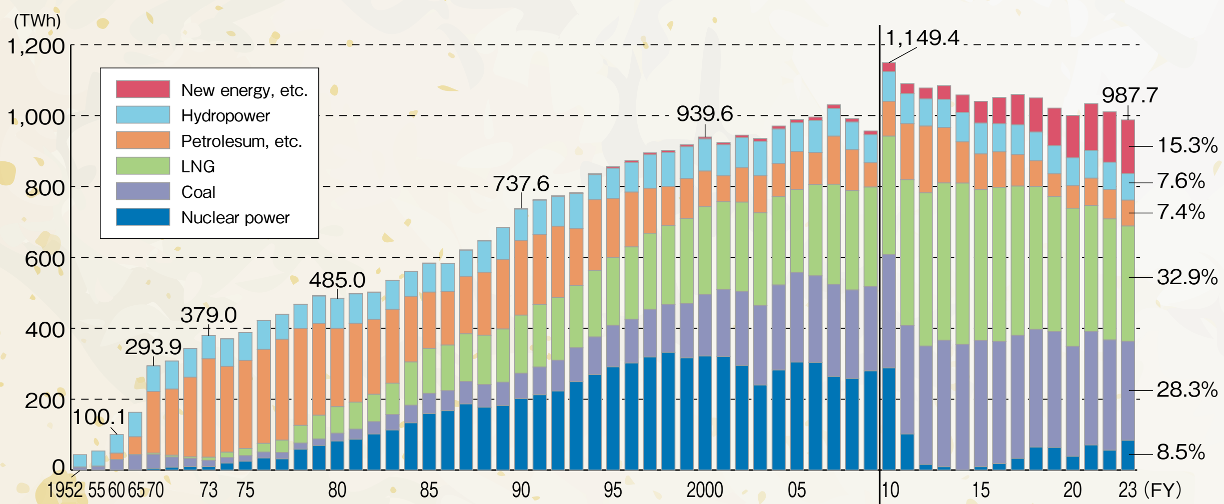
By the late 1990s, approximately 30% of Japan's electricity was generated from nuclear power, while around 40% came from coal-fired and LNG-fired power combined. In the 2000s, heightened environmental awareness, driven by efforts to address global warming, led to the increased adoption of new energy sources such as wind and solar power.

After the Great East Japan Earthquake

Following the Great East Japan Earthquake in 2011, all nuclear power plants in Japan were shut down, leading to a temporary surge in the share of LNG-fired power, which accounted for nearly 50% of total power generation. This sharp increase in fossil fuel reliance resulted in Japan's highest-ever CO_2 emissions in fiscal year 2013.

Subsequently, the expansion of renewable energy, particularly solar power, and the gradual restart of nuclear power plants with enhanced safety measures have reshaped Japan's energy mix. As of fiscal year 2023, thermal power accounts for approximately 68%, nuclear power for about 9%, and renewable energy (including hydropower) for around 23% of the total power generation.

● Trends in Electricity Generation



Prepared based on the Agency for Natural Resources and Energy's "Overview of Power Source Development" and "Overview of Electricity Supply Plans."

Prepared based on the Agency for Natural Resources and Energy's Comprehensive Energy Statistics

Source: METI "Energy White Paper"

2. The 7th Strategic Energy Plan

The Strategic Energy Plan is a mid- to long-term policy determined by the government based on the Basic Act on Energy Policy. Reflecting the changes in circumstances since the formulation of the 6th Strategic Energy Plan in 2021, the 7th Strategic Energy Plan was approved by the Cabinet in February 2025.

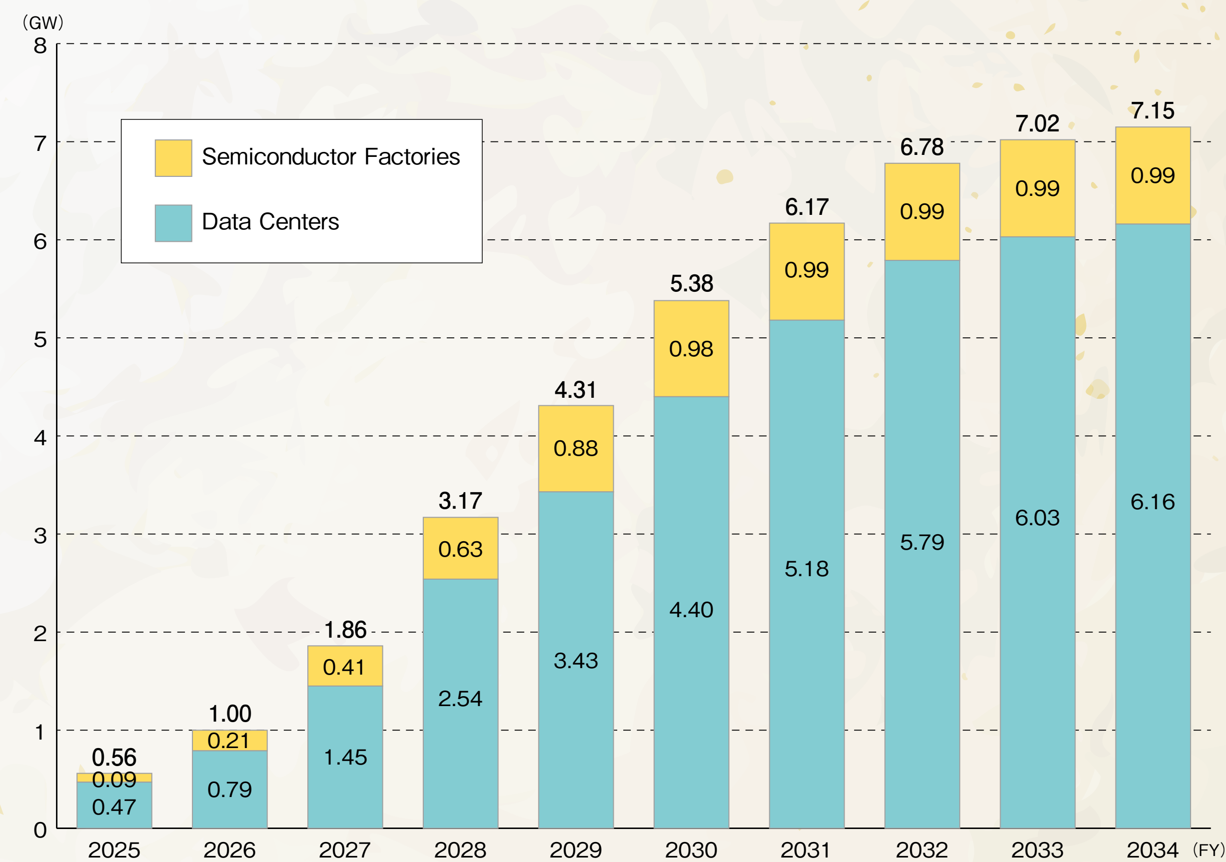
The 7th Strategic Energy Plan addresses economic security challenges posed by Russia's invasion of Ukraine and tensions in the Middle East, as well as the anticipated increase in electricity demand driven by advancements in digital transformation (DX) and green transformation (GX). Like the 6th plan, the 7th plan upholds the "S + 3E" principles (Safety, Energy Security, Economic Efficiency, and Environmental Sustainability). However, it places top priority on the stable supply of energy while committing to maximize efforts to improve both economic efficiency and environmental compatibility.

Previously, electricity demand was expected to decline due to population decreases and progress in energy conservation. However, with the advancement of DX and GX, domestically-based data centers and semiconductor factories are projected to grow, leading to increased electricity demand.

The power generation mix outlined in the Strategic Energy Plan targets fiscal year 2040. As this year lies on the path toward achieving carbon neutrality by 2050, the plan assumes the widespread adoption of innovative technologies that have not yet been fully implemented in society. However, given the significant difficulty in predicting technological trends, multiple scenarios were examined.

As a result, electricity demand was estimated to range between 0.9 trillion and 1.1 trillion kWh, with total power generation projected at 1.1 trillion to 1.2 trillion kWh. The target power generation mix was set with flexibility: 40–50% renewable energy, 30–40% thermal power, and 20% nuclear power. Additionally, a risk scenario was presented to address the possibility of insufficient cost reductions for innovative technologies.

● Estimated Maximum Demand Power Associated with New and Expanded Data Centers and Semiconductor Factories



Source: METI "Energy White Paper"

Positioning of Each Power Source in the 7th Strategic Energy Plan

Renewable Energy

To position renewable energy as a primary power source, the plan focuses on "minimizing the total social integration cost associated with grid development and securing balancing capabilities." While the expansion of renewable energy adoption has so far been supported by mechanisms like the Feed-in Tariff (FIT) system, efforts will now be made to integrate renewable energy into the electricity market to reduce social costs.

The plan also emphasizes the strategic promotion of innovation and the development of supply chains to improve Japan's "technological self-sufficiency rate." Specific initiatives include the early implementation of lightweight and flexible perovskite solar cells and the establishment of optimal offshore construction methods for floating offshore wind power generation.

For hydropower, efforts will be made to promote its utilization by reducing development risks and ensuring proper reinvestment, maintenance, and management. Power source investments will be encouraged through mechanisms such as long-term decarbonization power auctions and capacity markets.

Nuclear Power

In the 7th Strategic Energy Plan, the statement from the 6th plan, which aimed to "reduce dependence on nuclear power as much as possible," was removed. Nuclear power, alongside renewable energy, is now recognized as a "highly effective power source for energy security and decarbonization." Under the premise of ensuring safety, the plan outlines a policy of "maximizing its utilization."

In addition, the plan allow nuclear operators who have decided to decommission their plants to replace them within the site of the power plants they own, which had not been allowed in the GX basic policy. Future developments in nuclear power will also be considered based on evolving circumstances.

The plan emphasizes the need to ensure predictability for operators to enable the continuous operation of nuclear businesses. It also calls for continued efforts to examine necessary measures to achieve this goal.

However, specific development and construction targets, which are vital from the perspective of maintaining the nuclear supply chain, were not included in the plan. Additionally, the construction of entirely new nuclear plants in areas without site constraints was not incorporated.

Thermal Power

Currently, thermal power accounts for approximately 70% of Japan's energy mix and plays a significant role in ensuring a stable energy supply. It also serves an important function by providing balancing capacity for renewable energy and contributing to grid stability through inertia and synchronization forces. ※

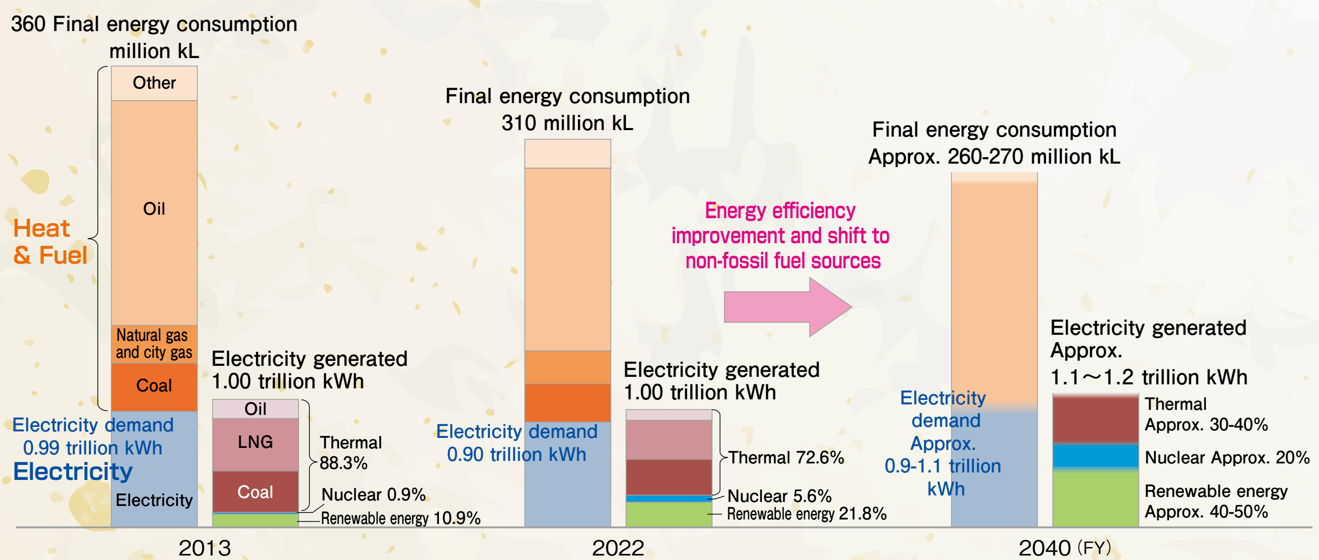
Thermal power is positioned as a transitional energy source on the path toward decarbonization. The plan outlines a policy to maintain the total generation capacity (kW) required for stable supply while gradually reducing the generated electricity output (kWh), particularly from inefficient facilities.

Specifically, the plan promotes securing LNG thermal power facilities as a transitional source, alongside the necessary fuel supply. It also aims to advance decarbonization through technologies such as hydrogen, ammonia, and carbon capture, utilization, and storage (CCUS). These efforts will take into account factors like technological development, costs, timelines, and emissions, while ensuring predictability for operators. Additionally, the phase-out of inefficient coal-fired power plants will be accelerated.

As a measure to maintain supply capacity during periods of high demand, the plan emphasizes preserving generation facilities and fuel supply chains. It also calls for continuous examination of institutional measures needed to preserve low-utilization generation capacity (kW) and to establish backup power systems for emergencies.

※ Inertia refers to the ability of the grid to maintain its original frequency for a short time when the balance between power consumption and generation is disrupted. Synchronization refers to the tendency of generators within the same grid system to operate at the same frequency

●Outlook for Energy Supply and Demand (Image)



Source: METI "Summary of the 7th Strategic Energy Plan"

3. Hydro power

Hydropower, a domestically sourced renewable energy that emits no CO_2 during generation, has a history spanning over 100 years. To address the growing disparity between daytime and nighttime electricity demand, the development of pumped-storage hydropower has advanced, and its share within hydropower facilities has steadily increased. Today, pumped-storage hydropower also plays a crucial role in balancing the fluctuating output of other renewable energy sources.

While further steady development of hydropower is anticipated, most large-scale hydropower sites in Japan have already been developed, leading to a trend toward smaller-scale projects.

Okumino Hydroelectric Power Station (Chubu Electric Power)

Takami Hydroelectric Power Station (Hokkaido Electric Power)

4. Thermal Power

Thermal power generation using fossil fuels such as coal, oil, and LNG accounts for approximately 70% of Japan's electricity supply, playing a critical role in the energy system. In recent years, LNG-fired power, which emits relatively less CO_2, has taken on important functions such as providing balancing capacity, inertia, and synchronization—capabilities essential for the large-scale integration of renewable energy.

Furthermore, efforts toward the decarbonization of thermal power generation are progressing, including the implementation of carbon capture, utilization, and storage (CCUS) technologies, as well as the co-firing of ammonia and hydrogen.

Misumi Power Station (Chugoku Electric Power)

Yoshinoura Thermal Power Station (Okinawa Electric Power)

5. Nuclear Power

Nuclear power generation produces electricity by using the heat energy generated from the nuclear fission of uranium fuel to create steam. It is characterized by its high output capacity, ranging from several hundred thousand kW to over one million kW per reactor. Its ability to operate continuously 24 hours a day makes it a valuable baseload power source.

Nuclear power has an extremely high energy density per unit of fuel, requiring infrequent fuel replenishment, which contributes to a stable energy supply. Additionally, it does not emit CO_2 during operation, making it an environmentally friendly option in terms of greenhouse gas emissions.

However, nuclear power carries the risk of catastrophic damage in the event of an accident, necessitating rigorous safety measures. It also faces challenges related to the management and disposal of radioactive waste.


Ohi Nuclear Power Station (Kansai Electric Power)

❶ Safety Measures

Following the accident at the Fukushima Daiichi Nuclear Power Plant, the Nuclear Regulation Authority (NRA) established new regulatory standards in 2013.

The new standards significantly strengthened measures against natural disasters such as earthquakes and tsunamis. Additionally, new requirements were introduced for severe accident (SA) countermeasures and anti-terrorism measures. These include provisions to prevent core damage and containment vessel failure, limit the spread of radioactive materials, and address intentional aircraft collisions.

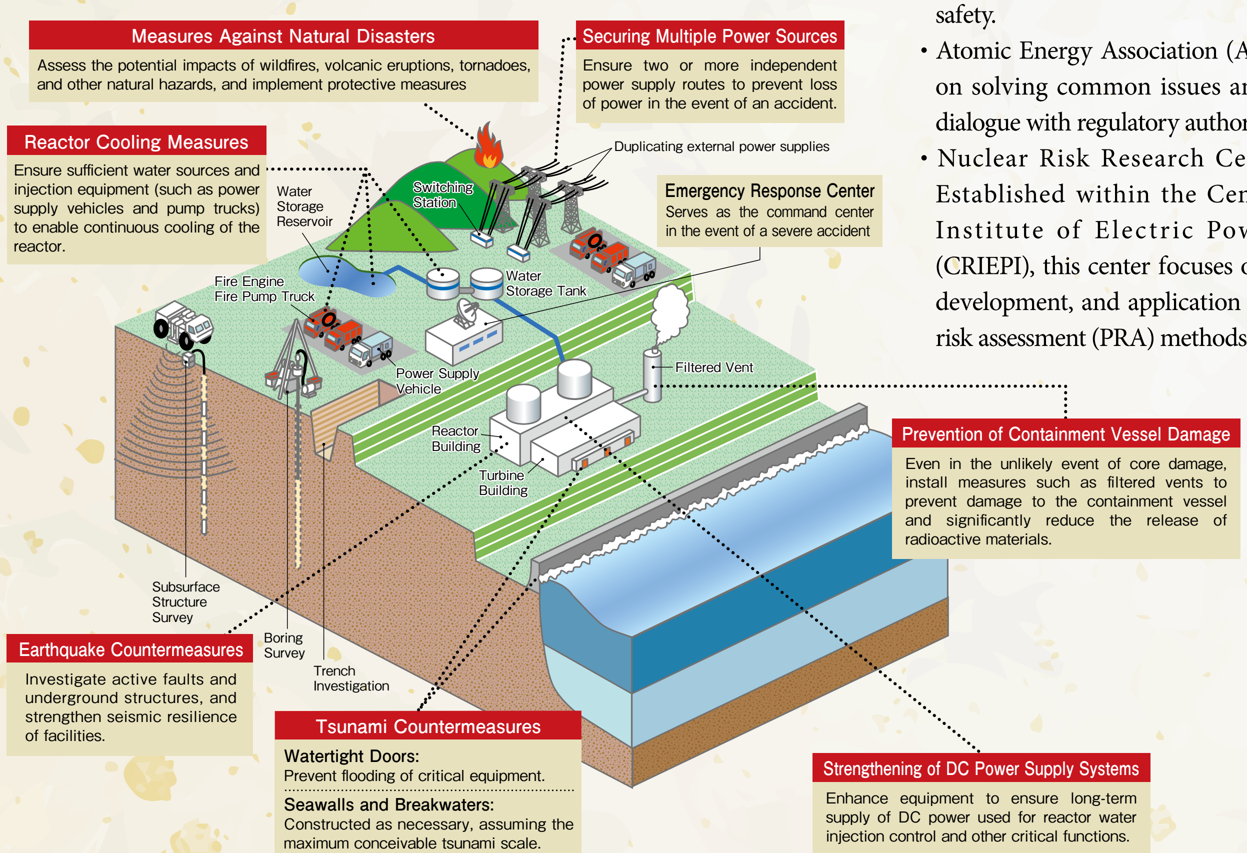
As of July 2025, 26 reactors at 15 power plants have applied for compliance assessments under the new regulatory standards. Among them, 18 reactors have passed the assessments, and 14 have resumed commercial operation.

With a strong commitment to ensuring that an accident like the one at Fukushima Daiichi never happens again, nuclear operators are striving not only to comply with the new regulatory standards but also to voluntarily and continuously improve safety.

To enhance safety across the entire nuclear industry, several organizations have been established:

- Japan Nuclear Safety Institute (JANSI): Focuses on evaluating and supporting nuclear operators from a third-party perspective to improve safety.
- Atomic Energy Association (ATENA): Works on solving common issues and engaging in dialogue with regulatory authorities.
- Nuclear Risk Research Center (NRRC): Established within the Central Research Institute of Electric Power Industry (CRIEPI), this center focuses on the research, development, and application of probabilistic risk assessment (PRA) methods.

Nuclear Power Plant Safety Measures



❷ Nuclear Fuel Cycle

The nuclear fuel cycle refers to the process of recovering usable uranium and plutonium from spent fuel used in nuclear power plants and reusing them as nuclear fuel.

The nuclear fuel cycle offers significant advantages, including reducing Japan's reliance on imported energy resources and enhancing long-term energy security. Additionally, it conserves uranium resources and reduces the volume of high-level radioactive waste that needs to be disposed of.

For these reasons, Japan has pursued a nuclear fuel cycle policy since the early stages of nuclear power development. Given Japan's lack of sufficient natural resources, the country aims to recycle spent fuel domestically, positioning nuclear power as a quasi-domestic energy source.

The plutonium recovered from spent fuel is processed into uranium-plutonium mixed oxide (MOX) fuel, which is reused in nuclear power plants. Japanese nuclear operators adhere to the principle of not possessing plutonium without a designated use and are actively working to utilize recovered plutonium as MOX fuel as quickly as possible.

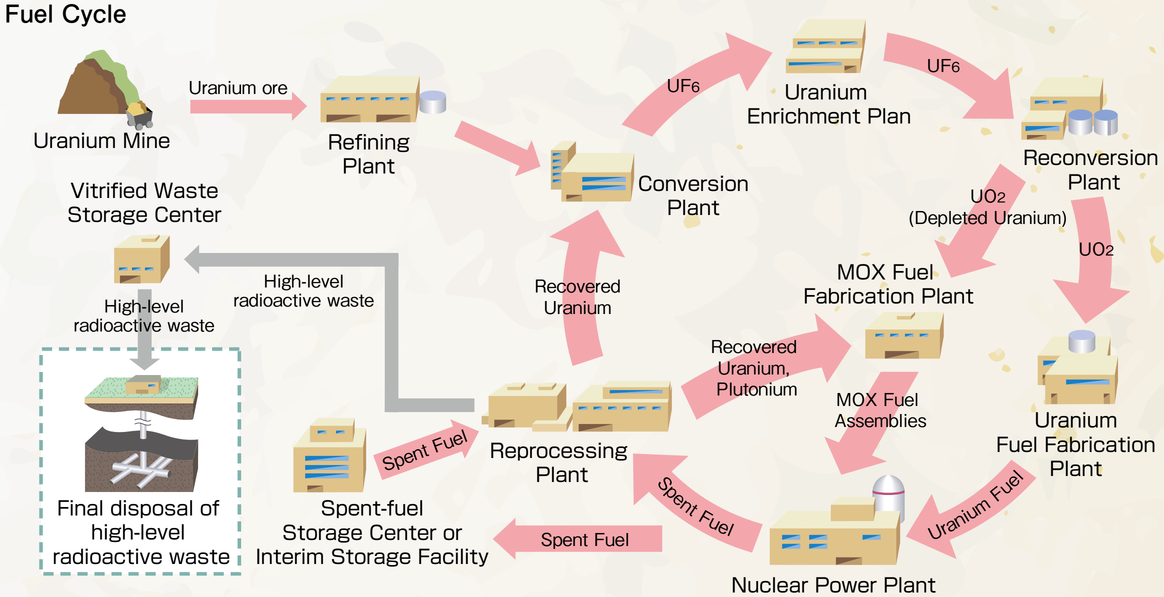
In December 2020, the "New Pluthermal Plan" was announced. With the understanding and cooperation of local communities, the plan seeks to progressively implement pluthermal (MOX fuel utilization) at as many operational reactors as possible in the medium to long term. The goal is to achieve implementation at least 12 reactors by fiscal year 2030.

To date, 26 plants have applied for safety compliance assessments under the new regulatory standards. Of these, 9 plants have received the necessary permits and local consent for pluthermal adoption, and 4 reactors have resumed power generation using pluthermal as of now.

Historically, Japan has outsourced spent fuel reprocessing to the United Kingdom and France. However, to establish a more robust domestic nuclear fuel cycle, Japan Nuclear Fuel Limited (JNFL) is preparing to start operations at a reprocessing plant in Rokkasho Village, Aomori Prefecture. In July 2020, the spent fuel reprocessing plant passed the Nuclear Regulation Authority's safety compliance review and is scheduled for completion by fiscal year 2026 (as of July 2025).

In addition to reprocessing, JNFL is engaged in uranium enrichment, interim storage of high-level radioactive waste, and disposal of low-level radioactive waste. The company is also constructing a MOX fuel fabrication plant. This facility passed the Nuclear Regulation Authority's safety compliance review in December 2020, with completion targeted for fiscal year 2027.

Nuclear Fuel Cycle



Outline of JNFL's Nuclear Fuel Cycle Facilities (as of February, 2025)

Facility	Reprocessing Plant	MOX fuel fabrication plant	Vitrified waste storage center	Uranium enrichment plant	Low-level radioactive waste disposal center
Site	Iyasakatai, Rokkasho, Kamikita-gun, Aomori Prefecture			Ooishitai, Rokkasho, Kamikita-gun, Aomori Prefecture	
Capacity	Maximum capacity : 800 ton-U/year Storage capacity for spent fuel : 3,000 ton-U	Maximum capacity : 130 ton-HM/year※	Storage capacity for wastes returned from overseas plants : 2,880 canisters of vitrified waste	Design capacity : 1,500 ton-SWU/year※	Planned to be expanded to 600,000m³ (equivalent to 3 million of waste drums)
Current Status	Under construction	Under construction	Cumulative number of received canisters: 1,830	In operation using the new centrifuge	Cumulative number of received drums : about 334,235
Schedule	Start of construction : 1993 Completion of construction : By the end of FY2026	Start of construction : 2010 Completion of construction : By the end of FY2027	Start of construction : 1992 Start of storage : 1995	Start of construction : 1988 Start of operation : 1992	Start of construction : 1990 Start of operation : 1992

※ "ton-HM" stands for "tons of heavy metal" which indicates the weight of plutonium and uranium metallic content in MOX. "SWU" stands for "Separative Work Unit" which is a measure of the work expended during an enrichment process of uranium.

Sources: JNFL's website and others

❸ The Peaceful Use of Nuclear Energy

Japanese electric power companies have been fully committed to implementing the nuclear fuel cycle and utilizing plutonium in accordance with domestic laws and international standards. Since 1955, domestic laws have stipulated that all nuclear-related activities, including those for commercial purposes, must be conducted exclusively for peaceful purposes. Moreover, since 1968, Japan has adhered to its "Three Non-Nuclear Principles," which state that Japan shall not possess, produce, or allow the introduction of nuclear weapons into the country.

In 1976, the Japanese government ratified the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), committing as a national policy not to produce or acquire nuclear weapons. To ensure broader safeguards, Japan signed the International Atomic Energy Agency (IAEA) Additional Protocol in 1998, allowing the IAEA to implement a wider range of additional inspection measures.

Under domestic laws, Japanese electric power companies are required to submit reports on the quantity of nuclear materials and safeguard activities to the Nuclear Regulation Authority (formerly the Ministry of Education, Culture, Sports, Science, and Technology). These reports are inspected by both the IAEA and designated domestic inspection agencies.

The effectiveness of Japan's efforts was recognized in June 2004, when the IAEA concluded that "all nuclear materials in Japan are under safeguards and not diverted for nuclear weapon purposes." As a result, integrated safeguards, a more effective and efficient system, were introduced in Japan starting in September 2004.

Regarding plutonium, the Strategic Energy Plan underscores Japan's commitment to peaceful use, contributing to nuclear non-proliferation, and gaining international trust. The plan maintains the principle of not possessing plutonium without a specified use and ensures that plutonium stockpiles are properly managed and reduced.

Moving forward, the plan aims to secure the stable operation of nuclear power plants, as well as the Rokkasho Reprocessing Plant and MOX fuel fabrication facility. Efforts will be made to promote the steady utilization of plutonium recovered at Rokkasho, in addition to plutonium stored overseas, to operate the nuclear fuel cycle effectively. To achieve these goals, the government will enhance its involvement in coordination among operators regarding plutonium utilization and the transport of spent fuel to the Rokkasho Reprocessing Plant. A framework to strengthen these functions will be developed, and necessary measures will be implemented.

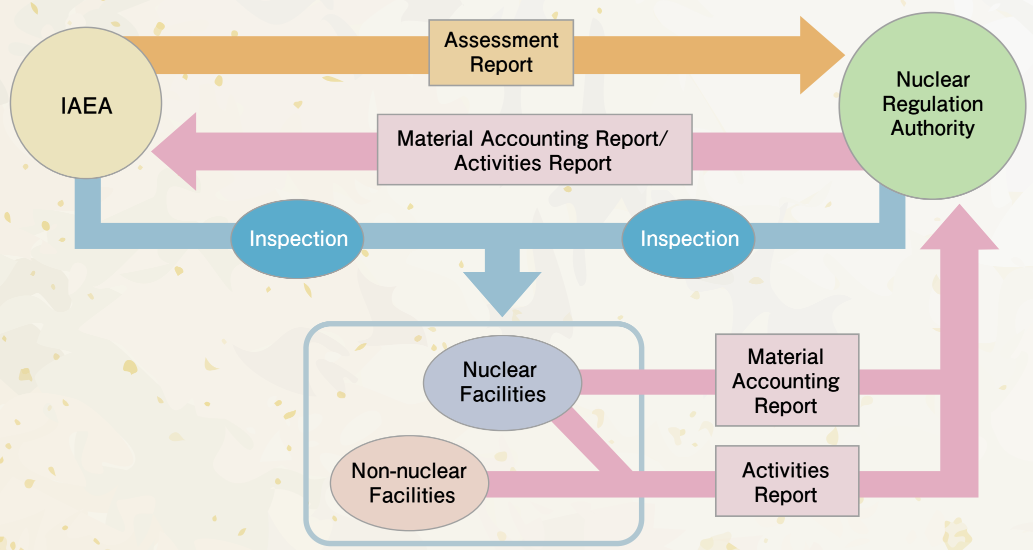
❹ Disposal of Radioactive Waste

Waste generated by nuclear power plants is rigorously classified, strictly managed, and handled appropriately based on the principle of generator responsibility. The classification depends on factors such as radiation levels, physical properties, and the types of radioactive materials. Rational methods for treatment and disposal are applied accordingly.

• Low-Level Radioactive Waste

The majority of radioactive waste produced by nuclear power plants is classified as low-level radioactive waste. Most of the radioactive materials in this category experience a significant reduction in radioactivity, decreasing to less than half their original level after a few decades of management. In Japan, low-level radioactive waste is disposed of by burial in land-based facilities.

The Safeguards Program



• High-Level Radioactive Waste

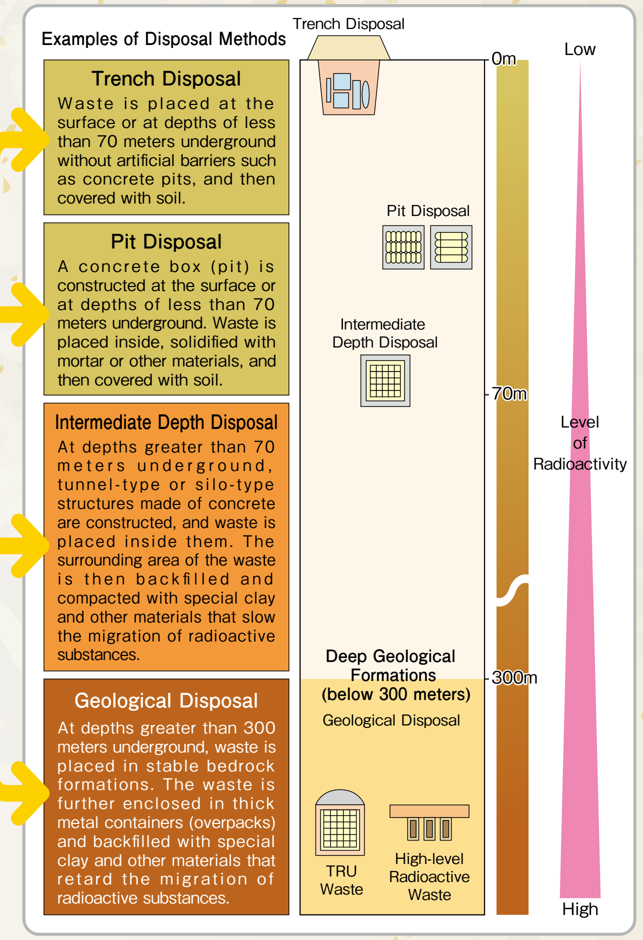
High-level radioactive waste emits strong radiation and takes an extremely long time for its radioactivity to diminish to sufficiently low levels. Therefore, it must be disposed of in locations isolated from human living environments for tens of thousands of years.

Since the 1960s, when nuclear power generation first began, various disposal methods for high-level radioactive waste have been examined, including disposal in space, dumping into oceans, and surface storage. After extensive studies, the global consensus today is that "geological disposal" is the safest and most feasible method. This approach is being pursued not only in Japan but also in other countries utilizing nuclear power.

Types and Disposal Methods of Radioactive Solid Waste

Place of Generation	Type of Waste		Examples of Waste	Examples of Treatment	Examples of Disposal Methods
Nuclear Power Plant	Low-level Radioactive Waste / Power Plant Waste	Very Low-level Waste	Concrete, metals, etc.	Cutting, compaction, etc.	Trench Disposal
Nuclear Power Plant	Low-level Radioactive Waste / Power Plant Waste	Low-level Waste	Paper, cloth, liquid waste, metals, etc.	Solidification, or cutting and compaction, etc.	Pit Disposal
Nuclear Power Plant	Low-level Radioactive Waste / Power Plant Waste	Intermediate-level Waste	Spent control rods and in-core reactor structures	Solidification, or cutting and compaction, etc.	Intermediate Depth Disposal
Uranium Enrichment Plant Uranium Fuel Fabrication Plant	Low-level Radioactive Waste	Uranium Waste	Paper, cloth, liquid waste, metals, etc.	Solidification, or cutting and compaction, etc.	Trench Disposal, Pit Disposal Intermediate Depth Disposal Geological Disposal (where applicable)
MOX Fuel Fabrication Plant Reprocessing Plant	Low-level Radioactive Waste	Transuranic Waste (TRU※1 Waste)	Paper, cloth, liquid waste, metals, etc.	Solidification, or cutting and compaction, etc.	Pit Disposal Intermediate Depth Disposal Geological Disposal
Reprocessing Plant	High-level Radioactive Waste		Liquid waste generated from the reprocessing of spent fuel	Solidification	Geological Disposal
All of the Above Sources of Generation	Materials Not Requiring Treatment as Radioactive Waste※2		Waste generated from the dismantling and operation of nuclear power facilities	Cutting and compaction, etc.	Reused as Resources
All of the Above Sources of Generation	Non-radioactive Waste		Waste generated from the dismantling and operation of nuclear power facilities	Cutting and compaction, etc.	Treated and Disposed of in the Same Manner as Industrial Waste

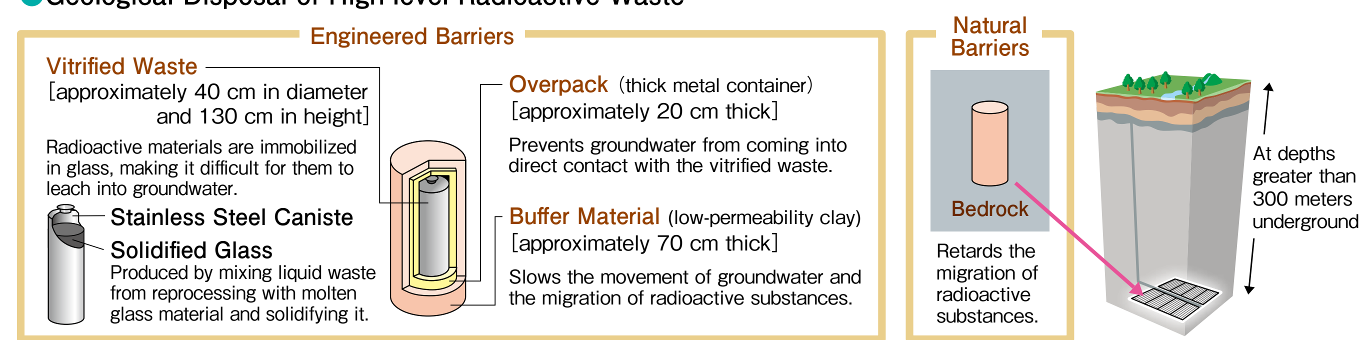
Image of Radioactive Solid Waste Disposal



※1 These are nuclides with atomic numbers greater than that of uranium (92). Examples include neptunium (Np), plutonium (Pu), americium (Am), and curium (Cm). They do not occur naturally, but are artificially produced through the use of nuclear reactors or accelerators, and some of them have half-lives of tens of thousands of years or longer.

※2 Clearance materials: The "Clearance System" is a framework that allows materials which, from a safety standpoint, do not need to be treated as radioactive waste to be reused or disposed of.

Geological Disposal of High-level Radioactive Waste



• Disposal Method and Challenges for High-Level Radioactive Waste

High-level radioactive waste, separated from spent fuel during the reprocessing process, consists of highly radioactive liquid. This liquid is mixed with molten glass inside a vitrification furnace and poured into stainless steel containers called canisters, which are then cooled and solidified.

Immediately after production, these vitrified waste forms emit intense radiation, and their surface temperature exceeds 200°C. For cooling, they are stored in dedicated facilities for 30 to 50 years. After this cooling period, they are transported and disposed of at depths greater than 300 meters underground in stable geological formations.

• Selection Process for Disposal Sites

The process of selecting a final disposal site for high-level radioactive waste involves several stages, including:

- Proposal from the Government or applications from municipalities.
- Literature Survey.
- Preliminary Investigation (e.g., drilling surveys).
- Detailed Investigation (e.g., research and testing in underground facilities).

In Japan, in October 2020, the towns of Suttsu and Kamoenai in Hokkaido applied for the Literature Survey or accepted the government's proposal after holding local explanatory meetings and gathering public opinions. In response, NUMO (Nuclear Waste Management Organization of Japan) began the Literature Survey in November of the same year. In November 2024, NUMO submitted reports summarizing the survey results to both towns and the Hokkaido government. Subsequently, NUMO held explanatory meetings across Hokkaido, including in the two towns, to present the findings.

Additionally, in June 2024, the town of Genkai in Saga Prefecture also began the Literature Survey.

However, at each stage of the selection process, if the consent of the governor and the mayors of the municipalities is not obtained, the process cannot proceed to the next phase.

5 Decommissioning of Nuclear Power Plants

The process of dismantling and removing a nuclear power plant after it has ceased operations is referred to as decommissioning. The decommissioning process is carried out in stages:

Removal of Nuclear Fuel: The first step involves safely removing the nuclear fuel from the reactor.

Decontamination of Radioactive Materials: Efforts are made to clean and remove radioactive substances from the plant.

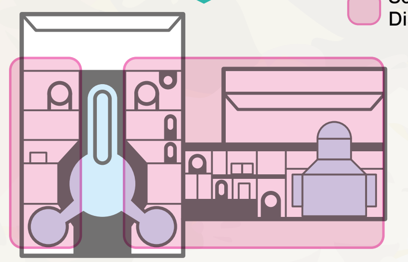
Dismantling of Equipment and Structures: Once decontamination is complete, the plant's equipment and structural components are dismantled.

Site Restoration: Finally, the site is returned to a safe, uncontaminated condition, ensuring it can be safely repurposed or left as is.

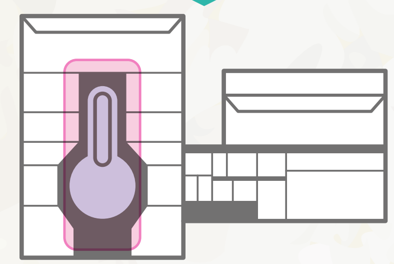
● Main Steps in the Decommissioning of a Boiling Water Reactor (BWR)

Approval of the Decommissioning Plan

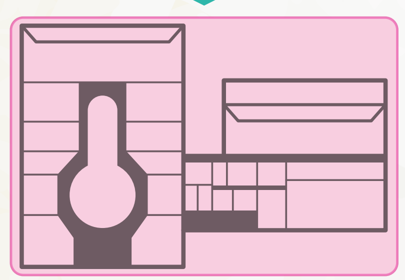
Scope of Dismantling



This involves the removal of fuel, safe storage, decontamination, and dismantling of surrounding facilities.※1



This involves dismantling of reactors and other facilities containing large amounts of radioactive materials.



After removing significant contamination, dismantling of buildings and other structures is carried out.※2

confirmation of decommissioning completion

※1 In some cases, dismantling of surrounding facilities is not carried out during the safe storage period.
※2 Before the confirmation of decommissioning completion, the transfer of nuclear fuel materials and the disposal of items contaminated by nuclear fuel materials shall be carried out.

6. Renewable Energy

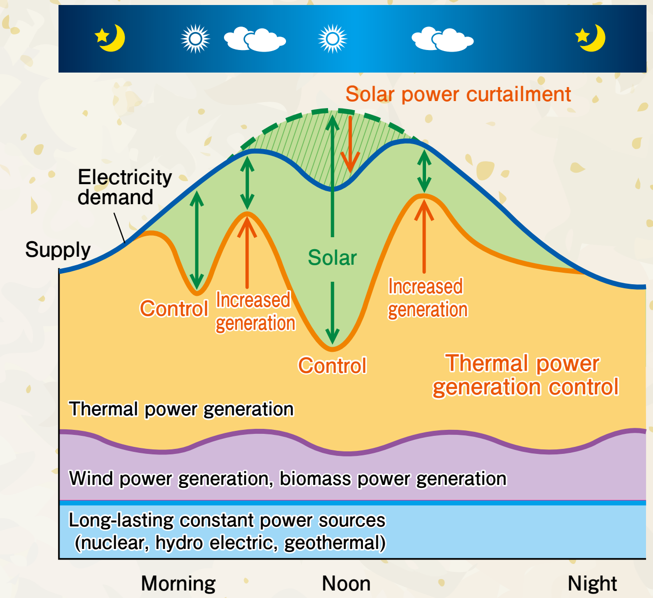
Renewable energy sources include solar, wind, geothermal, and biomass. These utilize inexhaustible natural energy and are clean power sources that emit no CO_2 during generation. Additionally, as domestic energy sources, they contribute to improving energy self-sufficiency. However, solar and wind power generation are highly dependent on weather conditions, leading to significant fluctuations in output.

For solar power generation, the "Feed-in Tariff (FIT) system," which guarantees the purchase of generated electricity at a fixed price, was introduced in 2012, leading to rapid expansion. Currently, it is transitioning to the price-variable "Feed-in Premium (FIP) system" to promote more autonomous growth.

For wind power generation, in addition to onshore wind, the introduction of offshore wind power is gaining attention, and nationwide efforts are being made to promote its adoption.

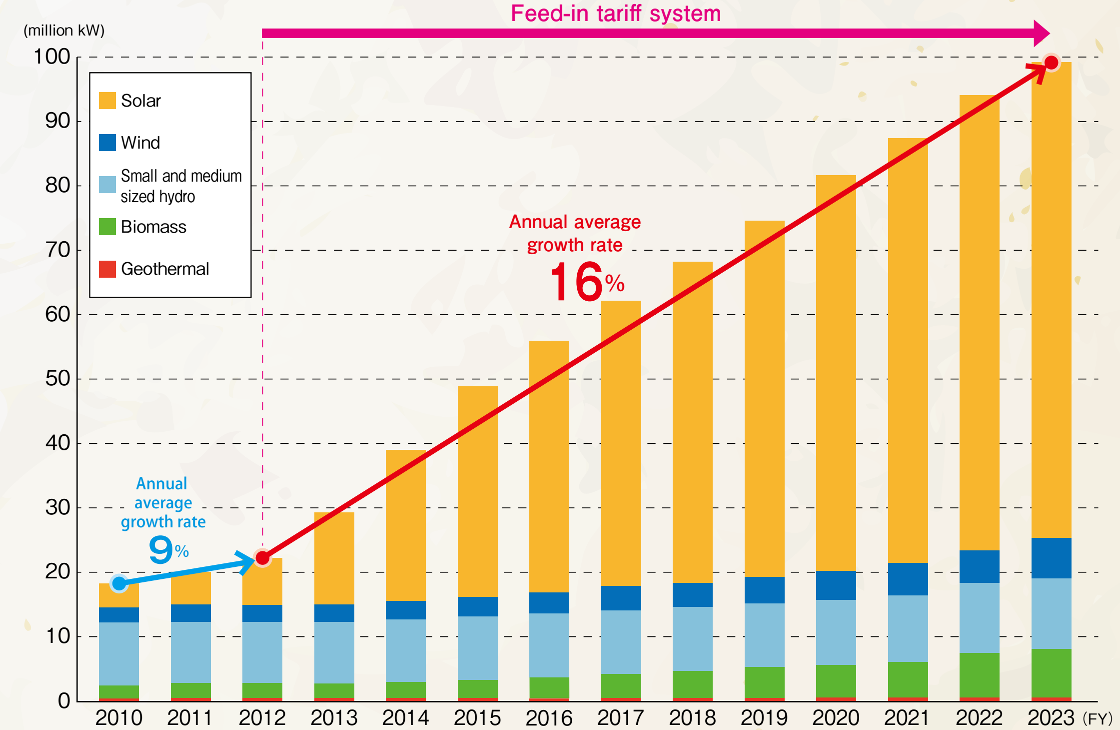
Mikuni Solar Power Station (Hokuriku Electric Power)

● Supply/Demand Situation on the Lowest Demand Day (such as a sunny day in May)



Source: METI "JAPAN'S ENERGY"

● Introduction Amount of Generating Capacity (Renewable Energy)※



※ Excludes large-scale hydroelectric power generation

Source: METI "JAPAN'S ENERGY"

1. 2050 Carbon Neutrality

The Paris Agreement and Carbon Neutrality

At the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC), held in December 2015, the Paris Agreement—a new international framework for addressing climate change beyond 2020—was adopted. The agreement came into effect in November 2016.

Under the Paris Agreement, the global long-term goal is to keep the rise in the global average temperature well below 2°C above pre-industrial levels and to pursue efforts to limit it to 1.5°C. To achieve this, all signatory countries are required to set emission reduction targets and take action toward meeting them.

As countries worldwide set carbon neutrality as a goal, Japan declared in October 2020 its commitment to achieving carbon neutrality by 2050. Subsequently, in April 2021, Japan announced a target to reduce greenhouse gas emissions by 46% by fiscal year 2030, compared to fiscal year 2013 levels, with aspirations to further challenge a 50% reduction.

In February 2025, the Global Warming Countermeasure Plan, approved by the Cabinet, introduced new interim targets. These include a 60% reduction in greenhouse gas emissions by fiscal year 2035 and a 73% reduction by fiscal year 2040, compared to fiscal year 2013 levels.

Initiatives in the Electric Power Sector

Even before Japan's declaration of carbon neutrality, the electric power industry had been working toward the realization of a low-carbon society. In July 2015, 35 electric power companies voluntarily established a framework and formulated the "Low-Carbon Society Action Plan", detailing specific initiatives. To ensure steady progress toward achieving these goals, The Electric Power Council for a Low Carbon Society was established in February 2016, and as of June 2025, it includes 61 member companies.

In May 2021, the Federation of Electric Power Companies of Japan (FEPC) announced its initiatives to realize carbon neutrality by 2050. Achieving carbon neutrality requires the decarbonization of power generation, as the electric power sector accounts for approximately 40% of Japan's CO_2 emissions. Key measures include:

Establishing renewable energy as a primary power source.

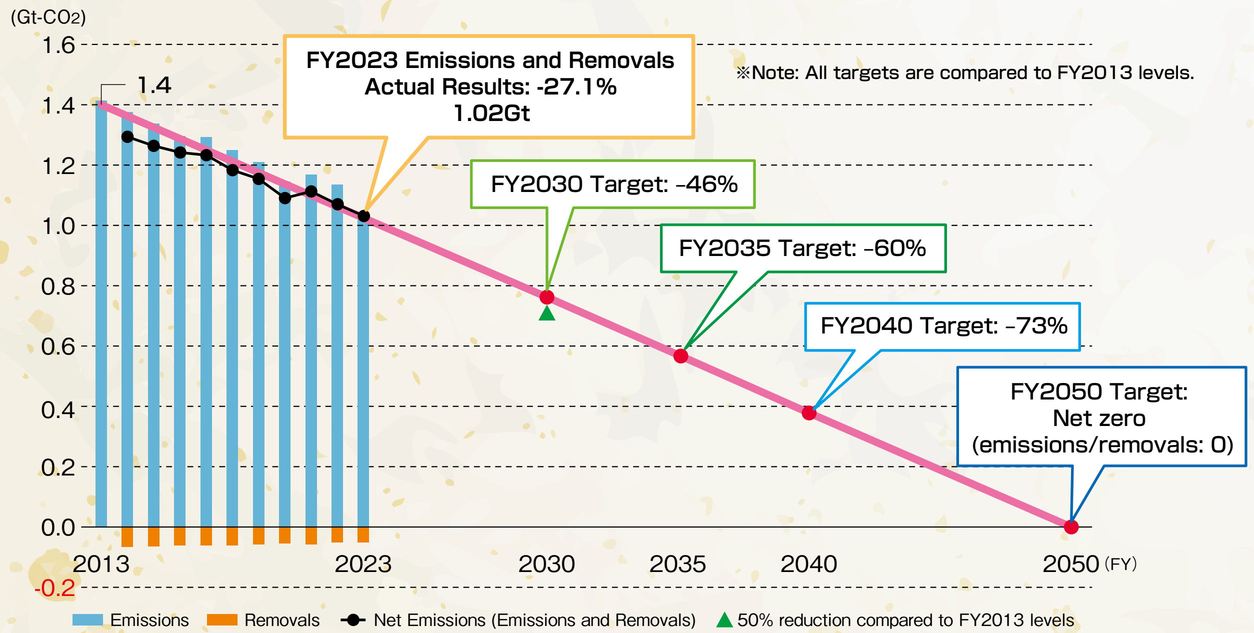
Maximizing the use of nuclear power.

Decarbonizing and reducing emissions from thermal power generation.

These efforts are guided by the "S + 3E" principles: ensuring Safety (S) while achieving the simultaneous goals of Energy Security, Economic Efficiency, and Environmental Sustainability (3E).

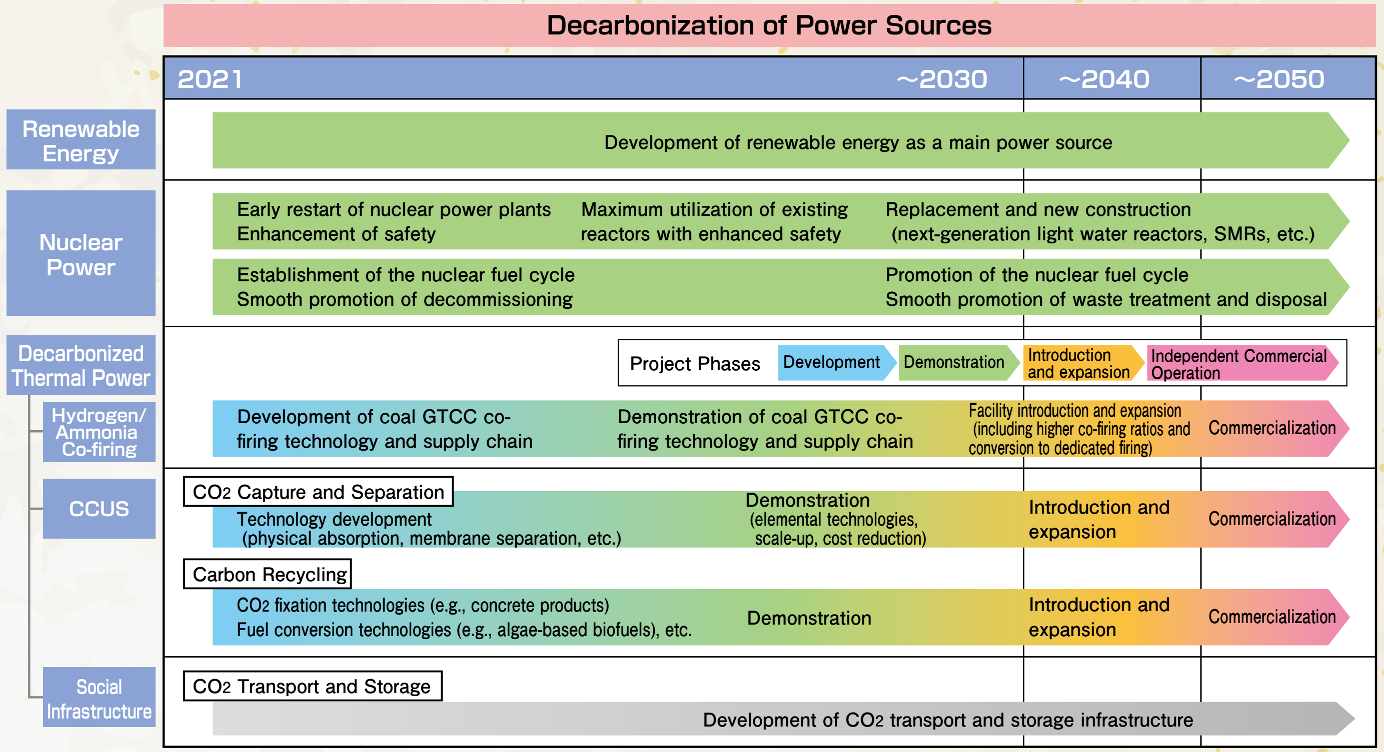
The electric power industry is committed to decarbonizing power sources on the supply side while also promoting electrification to the fullest extent on the demand side. By leveraging its technologies and expertise, the industry is actively taking on the challenge of achieving these ambitious goals.

●Greenhouse Gas Reduction Targets under the Global Warming Countermeasures Plan (February 2025)



Source: METI "Energy White Paper"

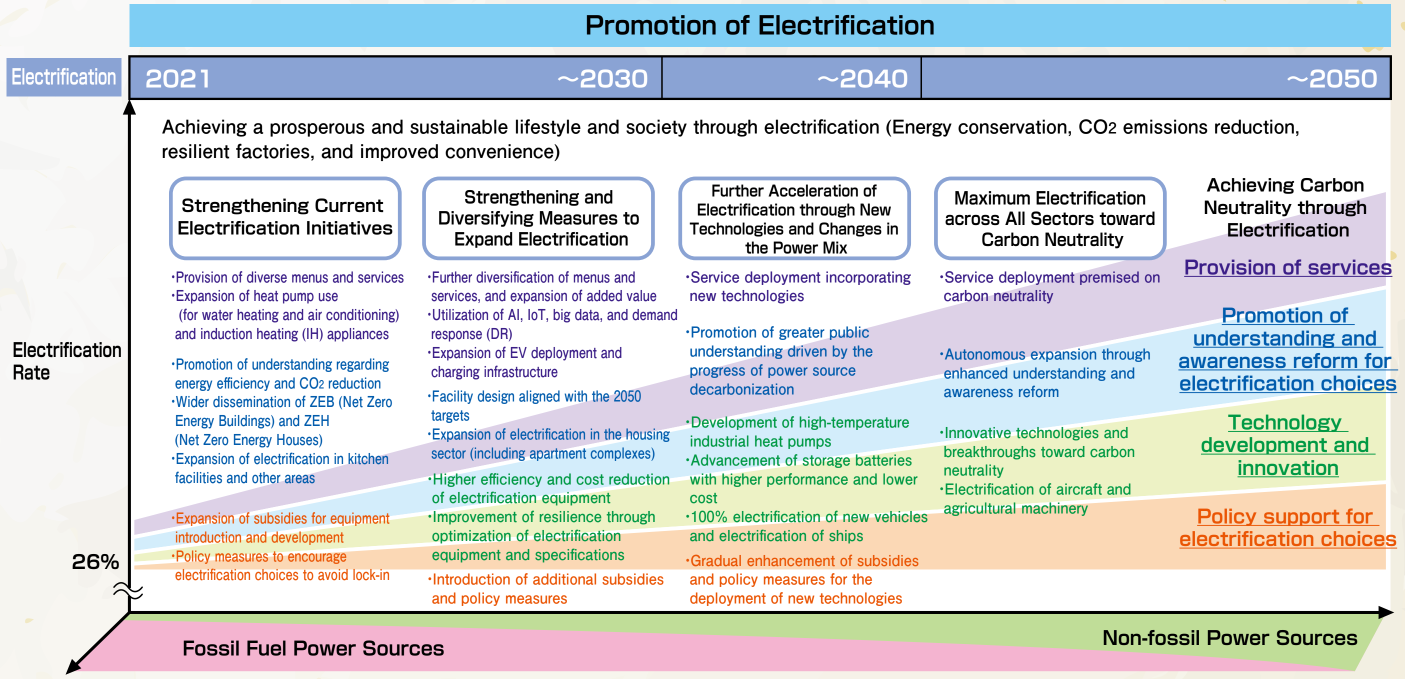
●Roadmap toward Achieving Carbon Neutrality by 2050 (Supply Side)



Note: The roadmap is premised on the simultaneous achievement of S+3E and will be reviewed as appropriate in line with national global warming countermeasures, energy policies, and progress in technological development.

Source: The Federation of Electric Power Companies of Japan, "Efforts and Challenges toward Achieving Carbon Neutrality in the Electric Power Industry by 2050 (September 2024)"

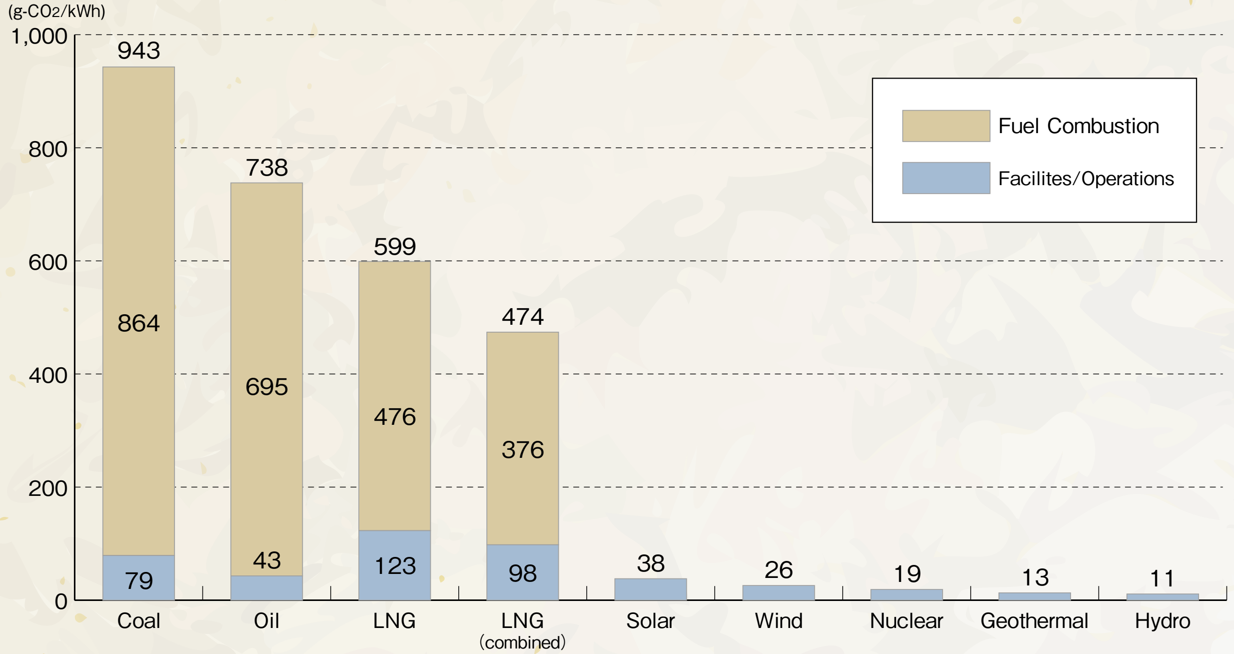
●Roadmap toward Achieving Carbon Neutrality by 2050 (Demand Side)



Note: The roadmap is premised on the simultaneous achievement of S+3E and will be reviewed as appropriate in line with national global warming countermeasures, energy policies, and progress in technological development.

Source: The Federation of Electric Power Companies of Japan, "Efforts and Challenges toward Achieving Carbon Neutrality in the Electric Power Industry by 2050 (September 2024)"

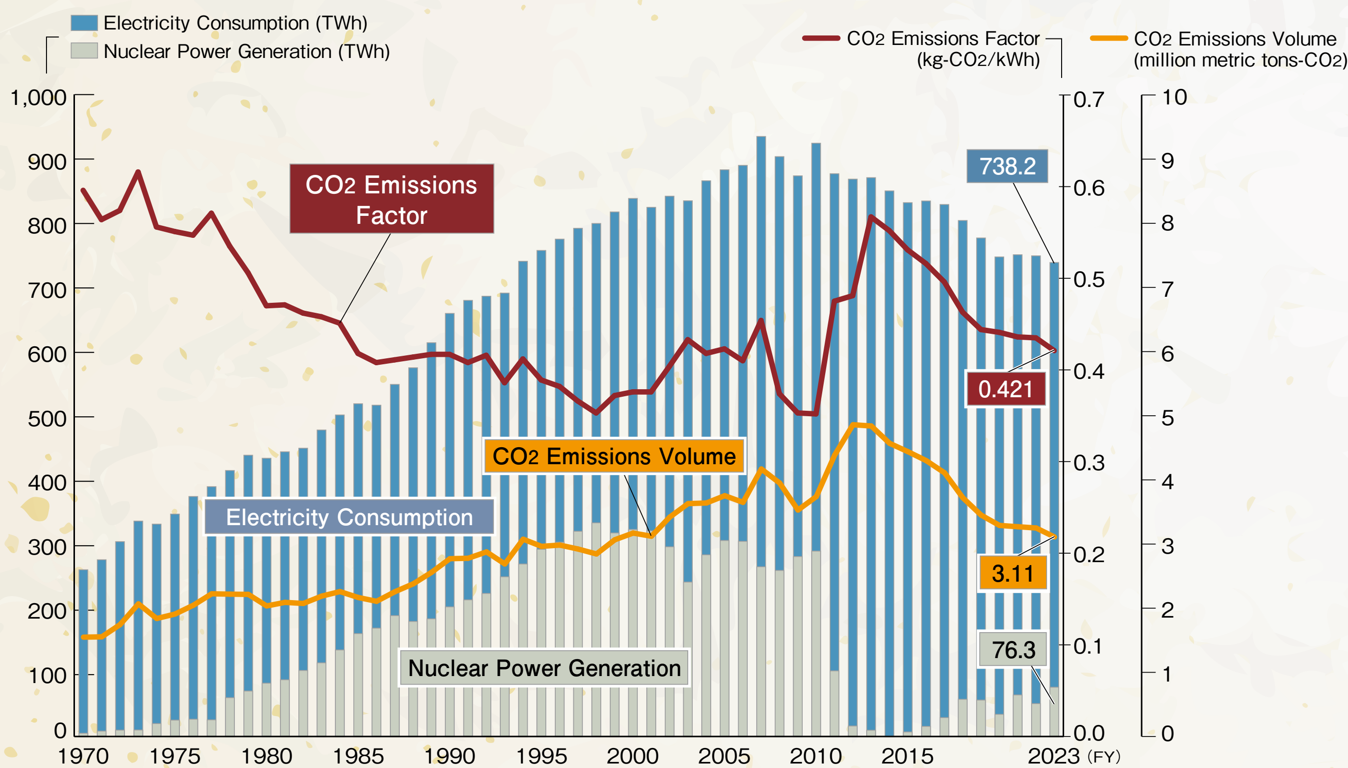
●CO_2 Emissions Intensity over the Entire Lifecycle by Source



Note: (1) Based on total CO_2 emissions from all energy consumed in energy extraction, transportation, refining, plant operation and maintenance, etc. in addition to burning of the fuel.
(2) The figure of nuclear power generation is calculated including the reprocessing of spent fuel, use of MOX fuel, and the disposal of high-level radioactive waste.

Source: Report of the Central Research Institute of Electric Power Industry, etc.

●Historical Trends in CO_2 Emissions from Power Generation



Note: Data up until 2007 is reported by FEPC.
Data from 2007 to 2014 is reported by FEPC and some PPSs.
Data from 2014 onward is reported by ELCS.
Up until 2014, the figures for nuclear power generation are on a gross-output basis as reported by FEPC, whereas the figures from 2015 onward are on a net-output basis as reported by ELCS.

2. Demand-side Measures

Importance of Electrification

Achieving carbon neutrality requires initiatives on the demand side, including thorough energy conservation and electrification across all sectors—residential, transportation, and industrial.

Overview of Heat Pumps

A key technology gaining attention in the push for electrification is the heat pump. Heat pumps efficiently extract renewable energy (such as atmospheric heat) and utilize it in everyday appliances like air conditioners, refrigerators, and EcoCute water heaters. Heat in the air, soil, or river water is a renewable energy source that can be reused repeatedly, and heat pumps harness this energy effectively.

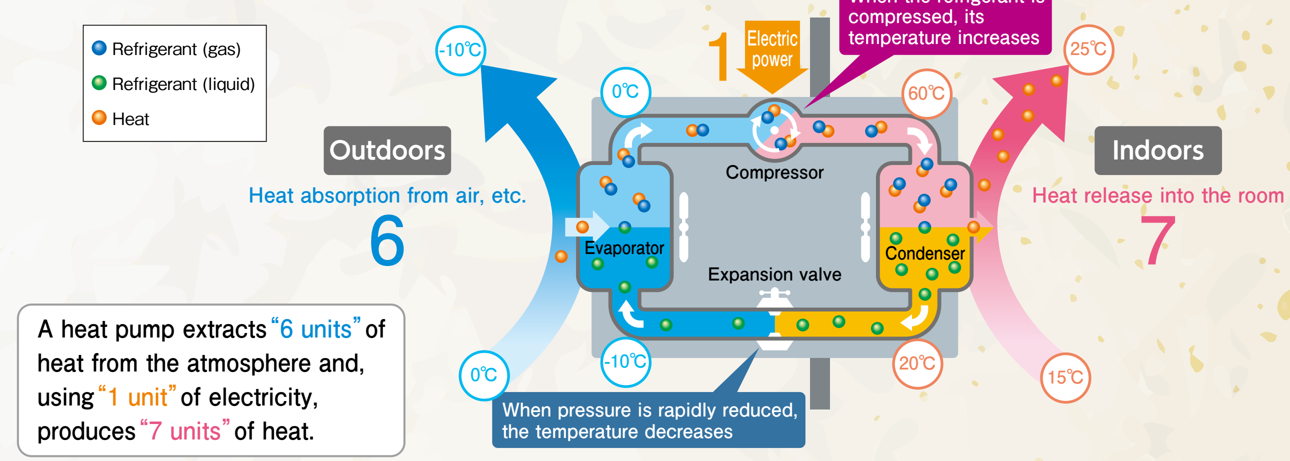
Heat pumps also have applications in demand response (DR) programs, which enhance grid flexibility. By curbing renewable energy output control, heat pumps contribute to the expansion of renewable energy adoption and the improvement of energy self-sufficiency.

Thanks to advancements in technology, the use of heat pumps is expected to expand further, not only in homes but also in offices, commercial facilities, and industrial sites.

According to estimates by the Heat Pump and Thermal Storage Technology Center of Japan, in a scenario where electrification progresses significantly to achieve carbon neutrality by 2050, heat pumps could reduce CO_2 emissions by over 100 million tons per year compared to fiscal year 2020. This reduction is equivalent to approximately 11% of the CO_2 emissions originating from energy (about 967 million tons) in fiscal year 2020.

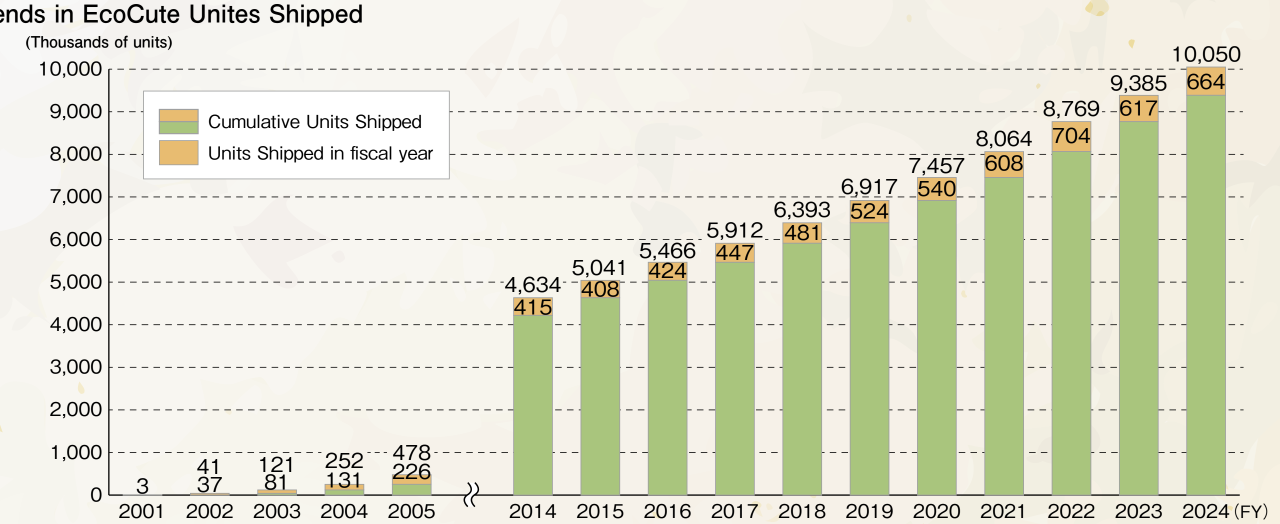
The Federation of Electric Power Companies of Japan (FEPC) is committed to promoting electrification, including the widespread adoption of heat pumps, which are considered a key solution for achieving carbon neutrality on the demand side.

●Mechanism of Heat Pump



Source: Prepared based on the website of the Heat Pump & Thermal Storage Technology Center of Japan

●Trends in EcoCute Unites Shipped



Source: The Japan Refrigeration and Air Conditioning Industry Association

1. Promotion of International Contribution

Carbon Neutral Action Plan and International Contributions

The Carbon Neutral Action Plan, published by The Electric Power Council for a Low Carbon Society, emphasizes the importance of leveraging the technological expertise and know-how of Japanese electric power companies to contribute to CO2 reductions overseas.

Specific Initiatives

Participation and Collaboration in Overseas Projects: Through involvement in international projects, Japanese power companies aim to transfer and share their advanced power technologies, such as coal-fired power plant diagnostics and CO2 reduction activities, thereby supporting the decarbonization efforts of developing countries.

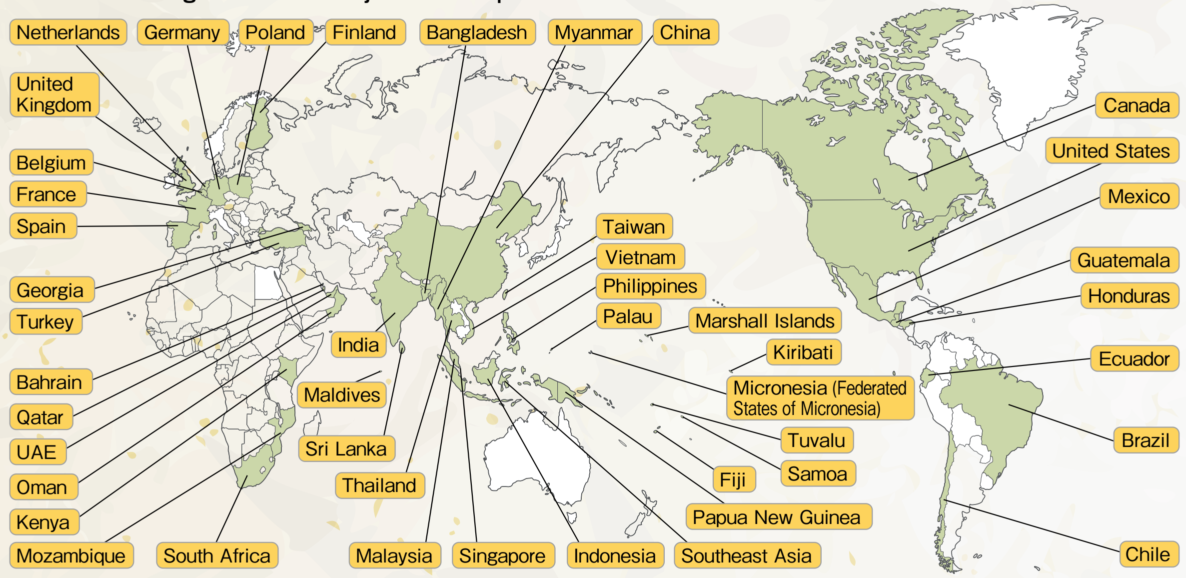
Bilateral Offset Mechanism (JCM): By considering the trends of international mechanisms like the Joint Crediting Mechanism (JCM), Japanese companies strive to achieve global decarbonization by developing and implementing advanced and feasible power technologies. As of now, 107 projects have been carried out in 47 countries and regions worldwide.

Potential for CO2 Reduction

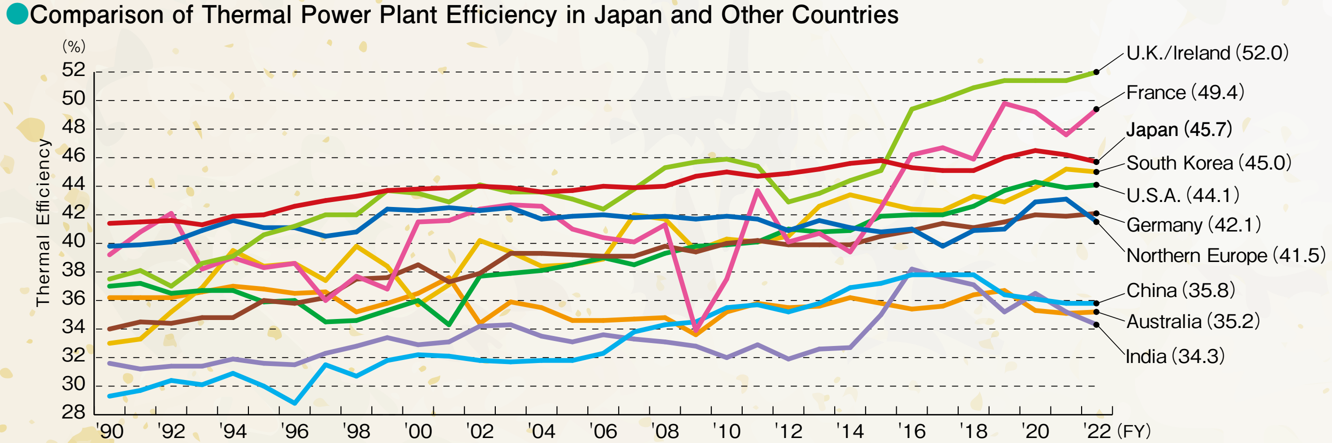
The introduction of high-efficiency plants and improvements in operational maintenance are estimated to have significant CO2 reduction potential. By fiscal year 2030, the CO2 reduction potential in OECD countries and developing nations in Asia from coal-fired power plants could reach up to 900 million t-CO2/year.

Note: FY2023 actual results

●Countries and Regions where Projects are Implemented　Note: FY2023 actual results



●Comparison of Thermal Power Plant Efficiency in Japan and Other Countries



Note: Values listed for heat efficiency are gross thermal efficiency values: a weighted average of the heat efficiency of coal, oil, and gas (lower heating value standard).
Subject facilities are those of operators whose main business is selling electricity to third parties.
Japan's values are fiscal year values.

Source: GUIDEHOUSE "INTERNATIONAL COMPARISON OF FOSSIL POWER EFFICIENCY AND CO2 INTENSITY (2021)" Based on IEA "World Energy Balances", 2020-2022

2. International Communication

Global Activities of Japanese Electric Power Companies

Japanese electric power companies are actively engaged in operations around the world. Addressing global warming and ensuring the safety of nuclear power plants require international cooperation, which is an essential component of their efforts.

Each Japanese electric power company collaborates with overseas counterparts to promote the exchange of information on various topics, including power generation, transmission and distribution, and high-quality grid operation.

International Engagement

Senior executives from Japanese electric power companies actively participate in international power summits and organizations such as the World Association of Nuclear Operators (WANO), where they exchange views and share expertise.

They also welcome trainees from abroad, providing opportunities for knowledge transfer and technical training to strengthen international collaboration.

Overseas offices

WASHINGTON, D.C.

●**The Federation of Electric Power Companies of Japan, Washington Office**
1707 L Street, N.W., Suite 670, Washington, D.C. 20036, U.S.A.
Tel: (202) 466-6781
Established in 1994

●**Tokyo Electric Power Company Holdings, Inc., Washington Office**
1828 L Street, N.W., Suite 403, Washington,D.C. 20036, U.S.A.
Tel: (202) 457-0790
Established in 1978

●**Chubu Electric Power Co., Inc., Washington Office**
900 17th Street, N.W., Suite 1220, Washington, D.C. 20006, U.S.A.
Tel: (202) 775-1960
Established in 1982

LONDON

●**Tokyo Electric Power Company Holdings, Inc., London Office**
4th Floor, 1 Knightrider Court, London EC4V 5BJ, U.K.
Tel: (07) 483-452261
Established in 1982

●**Chubu Electric Power Co., Inc., London Office**
2nd Floor, 210 High Holborn, London WC1V 7EP, U.K.
Tel: (020) 7409-0142
Established in 1985

PARIS

●**The Kansai Electric Power Co., Inc., Paris Office**
13-15 Boulevard de la Madeleine 75001 Paris, FRANCE
Tel: (01) 43 12 81 40
Established in 2008

DOHA

●**Chubu Elecric Power Co., Inc., Doha Office**
16th Floor, Salam Tower, Al Corniche P.O. Box 22470, Doha-QATAR
Tel: (974) 4483-6680
Established in 2007

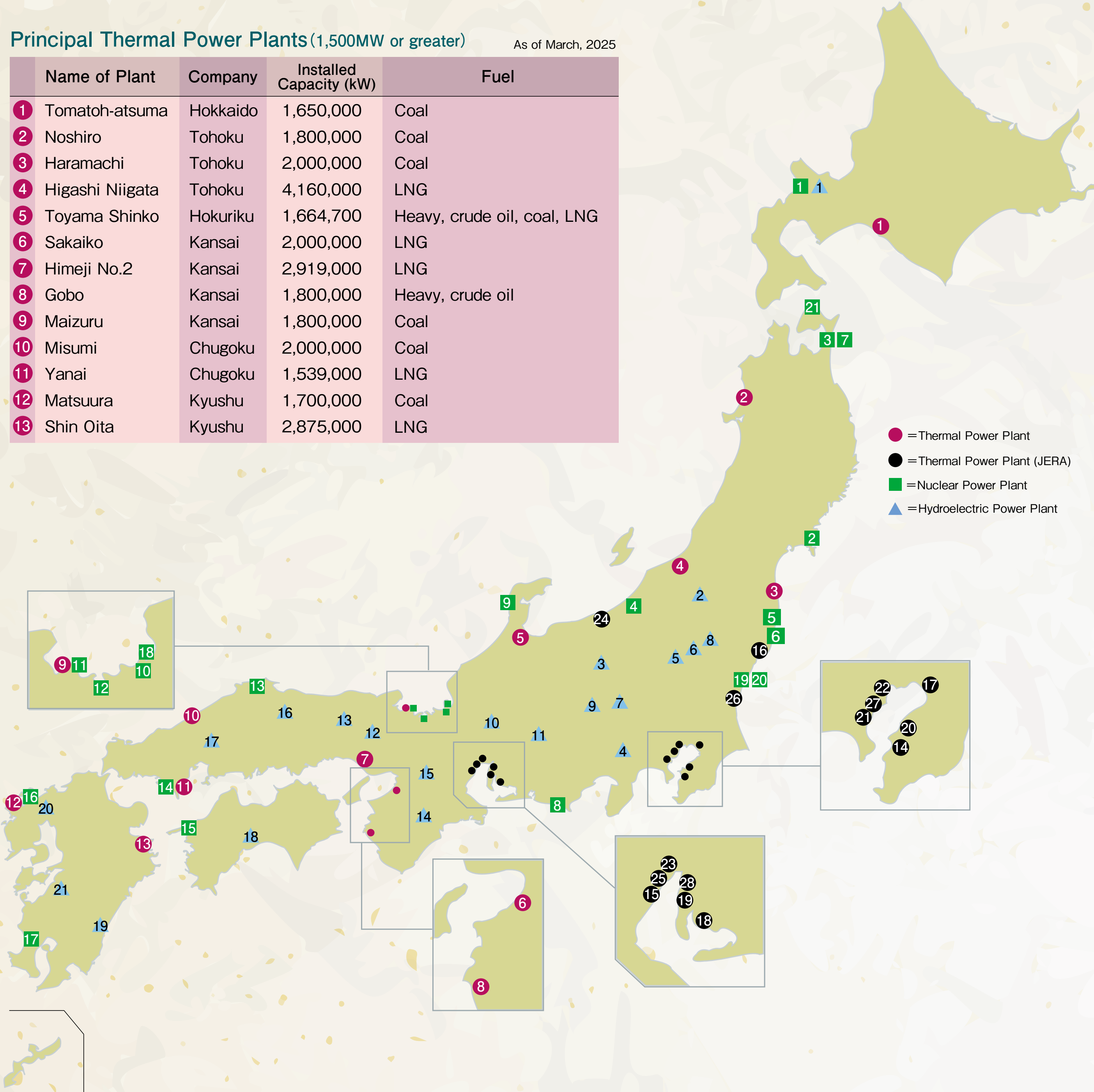
BEIJING

●**Tokyo Electric Power Company Holdings, Inc., Beijing Office**
Unit3, Level 15, Tower E1, The Towers, Oriental Plaza,
No.1 East Chang An Avenue, Dong Cheng District,Beijing 100738, China
Tel: (10) 8518-7771
Established in 2011

Principal Thermal Power Plants (1,500MW or greater)

As of March, 2025

	Name of Plant	Company	Installed Capacity (kW)	Fuel
1	Tomatoh-atsuma	Hokkaido	1,650,000	Coal
2	Noshiro	Tohoku	1,800,000	Coal
3	Haramachi	Tohoku	2,000,000	Coal
4	Higashi Niigata	Tohoku	4,160,000	LNG
5	Toyama Shinko	Hokuriku	1,664,700	Heavy, crude oil, coal, LNG
6	Sakaiko	Kansai	2,000,000	LNG
7	Himeji No.2	Kansai	2,919,000	LNG
8	Gobo	Kansai	1,800,000	Heavy, crude oil
9	Maizuru	Kansai	1,800,000	Coal
10	Misumi	Chugoku	2,000,000	Coal
11	Yanai	Chugoku	1,539,000	LNG
12	Matsuura	Kyushu	1,700,000	Coal
13	Shin Oita	Kyushu	2,875,000	LNG



JERA's Principal Thermal Power Plants※ (1,500MW or greater)

As of March, 2025

	Name of Plant	Company	Installed Capacity (kW)	Fuel
14	Futtsu	JERA	5,160,000	LNG
15	Kawagoe	JERA	4,802,000	LNG
16	Hirono	JERA	1,800,000	Heavy, crude oil, coal
17	Chiba	JERA	4,380,000	LNG
18	Hekinan	JERA	4,100,000	Coal
19	Chita	JERA	1,708,000	LNG
20	Sodegaura	JERA	3,600,000	LNG
21	Yokohama	JERA	3,016,000	LNG
22	Kawasaki	JERA	3,420,000	LNG
23	Shin Nagoya	JERA	3,058,000	LNG
24	Joetsu	JERA	2,380,000	LNG
25	Nishi Nagoya	JERA	2,376,000	LNG
26	Hitachinaka	JERA	2,000,000	Coal
27	Higashi Ohgishima	JERA	2,000,000	LNG
28	Chita Daini	JERA	1,708,000	LNG

※JERA: Related company of TEPCO HD and Chubu Electric Power,not FEPC member.

Nuclear Power Plants

As of July, 2025

	Name of Plant	Unit Number	Company	Installed Capacity (kW)	Type of Reactor	Status
1	Tomari	1	Hokkaido	579,000	PWR	Under Review
		2		579,000	PWR	Under Review
		3		912,000	PWR	Approved
2	Onagawa	1	Tohoku	524,000	BWR	Decommissioning
		2		825,000	BWR	Restarted
		3		825,000	BWR	Not Yet Applied
3	Higashidori	1	Tohoku	1,100,000	BWR	Under Review
		2		1,385,000	ABWR	Planned
4	Kashiwazaki kariwa	1	Tokyo	1,100,000	BWR	Not Yet Applied
		2		1,100,000	BWR	Not Yet Applied
		3		1,100,000	BWR	Not Yet Applied
		4		1,100,000	BWR	Not Yet Applied
		5		1,100,000	BWR	Not Yet Applied
		6		1,356,000	ABWR	Approved
		7		1,356,000	ABWR	Approved
5	Fukushima Daiichi	1	Tokyo	460,000	BWR	Decommissioning
		2		784,000	BWR	Decommissioning
		3		784,000	BWR	Decommissioning
		4		784,000	BWR	Decommissioning
		5		784,000	BWR	Decommissioning
		6		1,100,000	BWR	Decommissioning
6	Fukushima Daini	1	Tokyo	1,100,000	BWR	Decommissioning
		2		1,100,000	BWR	Decommissioning
		3		1,100,000	BWR	Decommissioning
		4		1,100,000	BWR	Decommissioning
7	Higashidori	1	Tokyo	1,385,000	ABWR	Under Construction
		2		1,385,000	ABWR	Planned
8	Hamaoka	1	Chubu	540,000	BWR	Decommissioning
		2		840,000	BWR	Decommissioning
		3		1,100,000	BWR	Under Review
		4		1,137,000	BWR	Under Review
		5		1,380,000	ABWR	Not Yet Applied
		6		1,400,000	ABWR	Planned
9	Shika	1	Hokuriku	540,000	BWR	Not Yet Applied
		2		1,206,000	ABWR	Under Review
10	Mihama	1	Kansai	340,000	PWR	Decommissioning
		2		500,000	PWR	Decommissioning
		3		826,000	PWR	Restarted
11	Takahama	1	Kansai	826,000	PWR	Restarted
		2		826,000	PWR	Restarted
		3		870,000	PWR	Restarted
		4		870,000	PWR	Restarted
12	Ohi	1	Kansai	1,175,000	PWR	Decommissioning
		2		1,175,000	PWR	Decommissioning
		3		1,180,000	PWR	Restarted
		4		1,180,000	PWR	Restarted
13	Shimane	1	Chugoku	460,000	BWR	Decommissioning
		2		820,000	BWR	Restarted
		3		1,373,000	ABWR	Under Construction・Under Review
14	Kaminoseki	1	Chugoku	1,373,000	ABWR	Planned
		2		1,373,000	ABWR	Planned
15	Ikata	1	Shikoku	566,000	PWR	Decommissioning
		2		566,000	PWR	Decommissioning
		3		890,000	PWR	Restarted
16	Genkai	1	Kyushu	559,000	PWR	Decommissioning
		2		559,000	PWR	Decommissioning
		3		1,180,000	PWR	Restarted
		4		1,180,000	PWR	Restarted
17	Sendai	1	Kyushu	890,000	PWR	Restarted
		2		890,000	PWR	Restarted
		3		1,590,000	APWR	Planned
18	Tsuruga	1	Japan Atomic Power Co.	357,000	BWR	Decommissioning
		2		1,160,000	PWR	Not Yet Applied
		3		1,538,000	APWR	Planned
		4		1,538,000	APWR	Planned
19	Tokai	-	Japan Atomic Power Co.	166,000	GCR	Decommissioning
20	Tokai Daini	-	Japan Atomic Power Co.	1,100,000	BWR	Approved
21	Ohma	-	J-Power	1,383,000	ABWR	Under Construction・Under Review

Principal Hydroelectric Power Plants (400MW or greater)

As of March, 2025

	Name of Plant	Company	Installed Capacity (kW)
1	Kyogoku	Hokkaido	400,000
2	Dai-ni Numazawa	Tohoku	460,000
3	Shin Takasegawa	Tokyo RP	1,280,000
4	Kazunogawa	Tokyo RP	1,200,000
5	Tanbara	Tokyo RP	1,200,000
6	Imaichi	Tokyo RP	1,050,000
7	Kannagawa	Tokyo RP	940,000
8	Shiobara	Tokyo RP	900,000
9	Azumi	Tokyo RP	623,000
10	Okumino	Chubu	1,500,000
11	Okuyahagi No.2	Chubu	780,000
12	Okutataragi	Kansai	1,932,000
13	Okawachi	Kansai	1,280,000
14	Okuyoshino	Kansai	1,206,000
15	Kisenyama	Kansai	466,000
16	Matanogawa	Chugoku	1,200,000
17	Nabara	Chugoku	620,000
18	Hongawa	Shikoku	615,000
19	Omarugawa	Kyushu	1,200,000
20	Tenzan	Kyushu	600,000
21	Ohira	Kyushu	500,000

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