経済産業省
Ministry of Economy, Trade and Industry (METI)

Japan's Energy Policy and the Role of Nuclear Power

November 13, 2026

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Agency for Natural Resources and Energy

1. Japan’s Current Energy Situation

Japan's Current Energy Situation

- Japan faces significant geographical constraints, such as a scarcity of readily accessible resources, mountainous terrain, and surrounding deep oceans, resulting in **a low energy self-sufficiency rate and a heavy reliance on fossil fuels and thermal power generation**, thereby rendering our energy supply vulnerable.
- While the situation improved following the oil crises, it deteriorated drastically in the wake of the Great East Japan Earthquake. Reliance on fossil fuels and thermal power exposes the economy to **(1) geopolitical risks, and (2) risks related to resource prices and exchange rates**.

Energy self-sufficiency rate	**16.3%** in 2024 * **The second-lowest among the 38 OECD member countries**	15.3% in 1970 ⇒ 20.2% in 2010 ⇒ 6.3% in 2014
Reliance on thermal power (power mix)	**68%** in 2024 ***The highest level among G7 nations**	72% in 1970 ⇒ 65% in 2010 ⇒ 89% in 2012
Fossil fuel imports (trade balance)	**Approx. 21 trillion yen** in 2025 * Most of the foreign currency earned from high-value-added exports (approximately 26 trillion yen) is spent on importing fossil fuels.	

Source: Agency for Natural Resources and Energy (ANRE), "FY2024 Energy Supply and Demand Results (Final Report)"; IEA, "World Energy Balances"; Trade Statistics

Excerpts from the 7th Strategic Energy Plan (Cabinet Decision on February 18, 2025)

4. Policy Direction for 2040

- As **demand for electricity is expected to increase due to advances in DX and GX, Japan's industries and economy depend on whether we can supply sufficient decarbonized electricity to meet demand at competitive prices**. **Toward FY2040, this plan and the "GX2040 Vision" will be implemented in an integrated manner.**

- Given Japan's unique circumstances, such as a lack of readily accessible natural resources, mountainous terrain and surrounding deep oceans, from **the perspective of achieving both a stable energy supply and decarbonization,** we will **maximize the use of renewable energy as a major source of electricity** and **we will aim for a balanced power generation mix that does not depend excessively on specific power or fuel sources.**

- In order to promote a transition to a resilient energy supply-demand structure that can withstand energy crises, we will **maximize the use of renewable energy, nuclear energy, and other power sources that contribute to energy security and have significant decarbonization effects,** while promoting **comprehensive improvements in energy efficiency and fuel switching within the manufacturing sector**.

- Looking toward 2040, it is essential **to prioritize the introduction of economically rational measures**. Based on **the principle of S+3E**, we will work to **minimize cost increases associated with decarbonization** to the greatest extent possible.

Outlook for Energy Supply and Demand in FY2040

- From the perspective of **maximizing the use of power sources that contribute to energy security and have significant decarbonization effects**, such as renewable energy and nuclear power, the projected power generation mix for FY2040 is represented by **approximately 40–50% for renewable energy and 20% for nuclear power**.

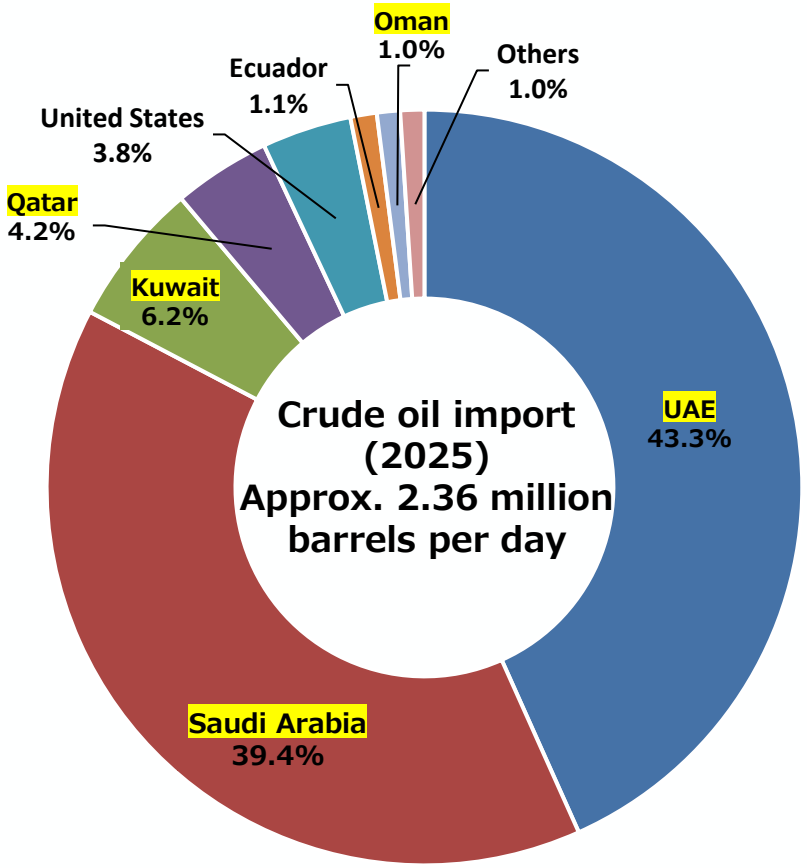
		FY2024	FY2040 (Forecast)
Energy self-sufficiency rate		**16.3%**	**Approx. 30-40%**
Electricity generated		**991.1 billion kWh**	**Approx. 1.1-1.2 trillion kWh**
Power generation mix	**Renewables**	**23.1%**	**Approx. 40-50%**
	Solar power	9.9%	Approx. 23-29%
	Wind power	1.2%	Approx. 4-8%
	Hydro	7.4%	Approx. 8-10%
	Geothermal	0.4%	Approx. 1-2%
	Biomass	4.2%	Approx. 5-6%
	Nuclear	**9.4%**	**Approx. 20%**
	Thermal	**67.5%**	**Approx. 30-40%**
Final energy consumption		**290 million kL**	**Approx. 260-270 million kL**
Greenhouse gas reduction rate (relative to FY2013)		**28.7%**	**73%**

(Reference) The new energy supply and demand outlook presents not only a scenario in which a 73% reduction in greenhouse gas emissions is achieved by FY2040, but also a scenario in which the target is not achieved (a 61% reduction), as a reference figure. Under the scenario achieving a 73% reduction, the primary energy supply from natural gas in FY2040 is projected to be approximately 53–61 million tonnes, whereas the 61% reduction scenario projects approximately 74 million tonnes.

Sources of Japan's Fossil Fuel Imports

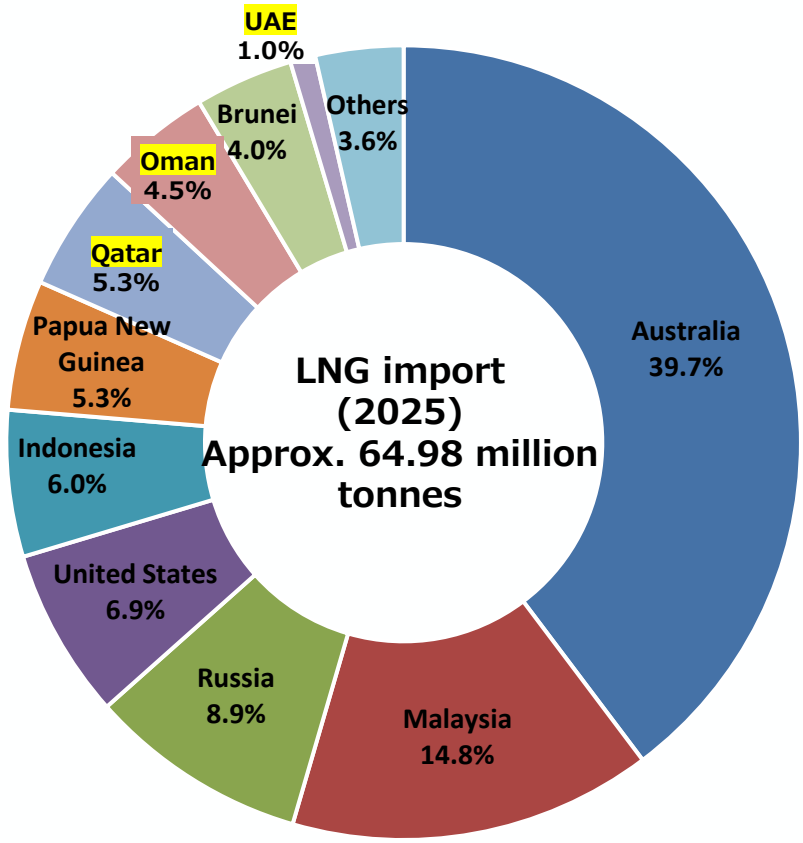
- Japan imports almost all of its fossil fuels from abroad. Over 90% of its crude oil comes from the Middle East.
- In contrast, the sources of LNG are more diversified, with only about 10% coming from the Middle East.

Crude oil import sources and volumes



Dependence on the Middle East: 94.0%
Dependence on the Strait of Hormuz: 93.0%

LNG import sources and volumes

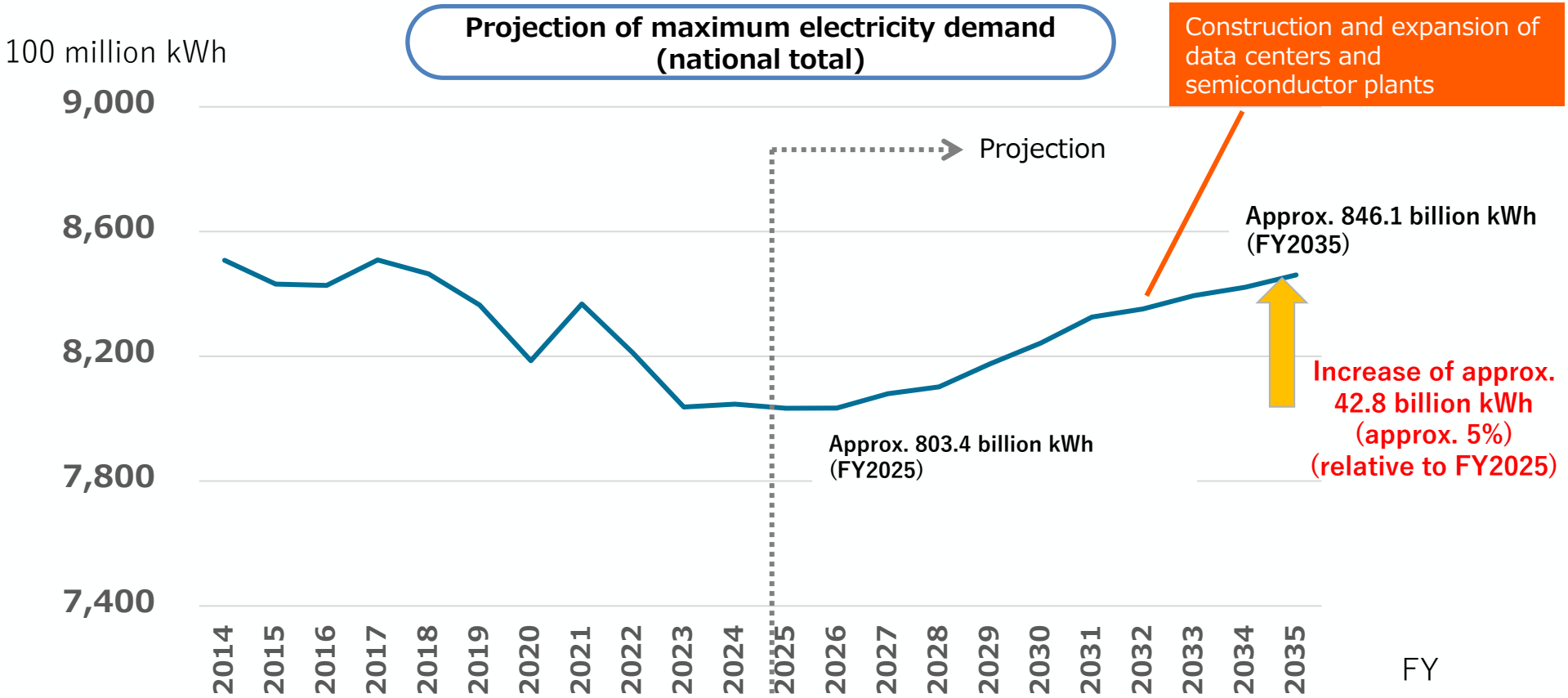


Dependence on the Middle East: 10.8%
Dependence on the Strait of Hormuz: 6.3%

Source: Trade Statistics of Japan (Ministry of Finance)

Power Demand Outlook Over the Next 10 Years (Power Consumption)

- Every year, the Organization for Cross-regional Coordination of Transmission Operators (OCCTO) compiles and publishes electricity demand projections submitted by general transmission and distribution utilities.
- According to the projections published on January 21 this year, while factors such as population decline and energy conservation may have some effect, **overall electricity demand is on an upward trend due to increased demand driven by the construction and expansion of data centers and semiconductor plants.**



Source: OCCTO website, FY2026 Electricity Demand Projections Nationwide and by Supply Area

Growing Demand for Decarbonized Electricity

- **Securing an abundant supply of decarbonized electricity is essential for domestically hosting facilities such as data centers, which underpin next-generation competitiveness and materials industries** in which Japan holds a competitive advantage. U.S. IT companies have announced their intent to decarbonize their entire supply chains. **The ability to secure decarbonized power sources will be a key factor determining the competitiveness of semiconductor plants and other facilities in Japan.**

[World-leading companies prioritize decarbonized power sources]

Amazon

[Utilization of existing reactors]

- In March 2024, Amazon Web Services (AWS) acquired a data center directly connected to a nuclear power plant in eastern Pennsylvania from Talen Energy, a U.S. energy company headquartered in Houston, Texas.
- The data center is located in northeastern Pennsylvania, and the purchase price was $650 million (approximately 97.5 billion yen). **The facility receives electricity directly from the adjacent Susquehanna Nuclear Power Plant (two BWRs, each with a capacity of 1.3 GW).**

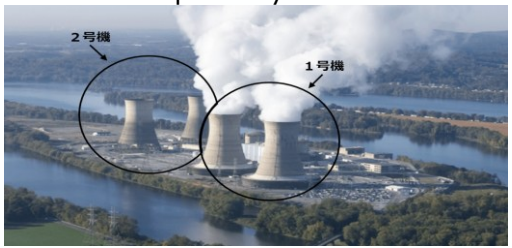


Sources: Amazon's official website and *the Nuclear Industry News*, among others.

Microsoft

[Restarting a reactor previously decided to be decommissioned]

- On September 20, 2024, U.S. power company Constellation Energy announced plans to restart Unit 1 of the Three Mile Island Nuclear Power Station, which had been shut down since 2019 for economic reasons, and to supply all of its electricity output to Microsoft over a 20-year period. The company aims to restart the plant by 2028.



Source: U.S. Department of Energy website

Google

[Investment in next-generation reactors]

- In October 2024, **Google announced that it had signed an agreement with the U.S.-based Kairos Power, a company developing advanced nuclear reactors (molten salt reactors), to purchase nuclear-generated electr**icity.
- Kairos Power **aims to operate its first reactor by 2030**, with plans for further construction to follow. The agreement announced is **expected to provide up to 500 MW of electricity**.

Dow Chemical

[Investment in next-generation reactors]

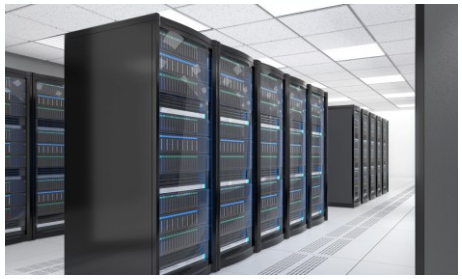
- Dow and X-energy announced plans to deploy the first advanced small modular reactor at an industrial site in Texas.
- The project will feature four Xe-100 high-temperature gas-cooled reactors (80 MWe each). Construction is scheduled to begin in 2026, with the goal of supplying carbon-free electricity and steam by 2030.

Decarbonized Power Sources Are Essential for Future Industries

- **Key industries such as data centers, semiconductors, and materials manufacturing**, which are expected to grow with the emergence of generative AI, **are all vital to Japan's economic growth, regional revitalization, and citizens' daily lives**.
- As decarbonization across entire supply chains becomes a requirement, **securing a stable supply of decarbonized power is an urgent priority for attracting domestic investment in these industries. A shortage of decarbonized power could deter necessary investments**, potentially making it difficult to **secure employment and achieve wage increases**.

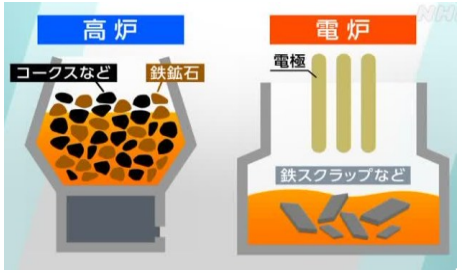
Increasing demand for a stable supply of decarbonized power

Data Center



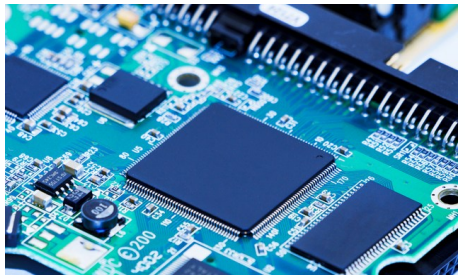
Generative AI is driving an increase in power demand for data centers. **Without domestic data centers, the nation's digital trade balance would also deteriorate.**
(e.g., Hokkaido, Chiba)

Steel



The shift from coal-based blast furnace production to electric-furnace-based production leads to an increase in power demand.
(e.g., Kitakyushu, Kurashiki)

Semiconductor



Semiconductor **manufacturing requires a tremendous amount of electricity**. With **growing demand for semiconductors**, power consumption will increase even further.
(e.g., Kumamoto, Hokkaido)

Mobility



The rise in electric vehicles and advancements in autonomous driving are boosting electricity demand.
(e.g., Fukui)

Global Trends Toward the Use of Nuclear Energy

- There are global **signs of movement toward the use of nuclear energy**, as seen in countries that previously decided to ban the construction of new nuclear reactors and those that have not yet introduced nuclear power.

Trends in various countries (examples)

Sweden

- In 2022, the government reversed its policy of banning the construction of new nuclear reactors.
- **In August 2025, the government enacted legislation on public support for the construction of new nuclear reactors.**
- That month, the state-owned Vattenfall announced plans to deploy SMRs.

Switzerland

- **In August 2025, the government presented a policy to lift the ban on the construction of new nuclear reactors.**
- In March 2026, the Swiss Council of States passed a legislative amendment to lift the ban on the construction of new nuclear plants. In June 2026, the National Council also approved the amendment.

Canada

- **In May 2025, the Ontario provincial government approved the commencement of construction in Darlington for the first unit (FOAK) of SMR manufactured by GE Vernova-Hitachi. In March 2026, Ontario Power Generation (OPG) applied for an operating license.**
- Plans also call for the construction of a total of four BWRX-300 units, with three additional units to follow the FOAK (which is targeted for commissioning in 2030).

UK

- In June 2025, the government selected Rolls-Royce SMR as the preferred bidder for the construction of the country's first SMR.

Indonesia

- In May 2025, the government published its National Electricity Development Plan, setting a target for introducing the FOAK in 2032.

United States

- In May 2025, the government issued an executive order on nuclear energy, which included a provision to begin the construction of 10 large-scale reactors by 2030.
- In July 2025, Westinghouse executives announced a plan to start constructing 10 large-scale reactors by 2030.
- In September 2026, a construction permit was approved for the FOAK at the Clinch River site in Tennessee.

Belgium

- In 2003, legislation was enacted requiring the closure of 7 domestic reactors by 2025.
- **In May 2025, the Federal Chamber of Representatives passed a bill allowing the construction of new reactors.**
- In March 2026, it became a new signatory to the Declaration to Triple Nuclear Energy.

Malaysia

- In July 2025, during parliamentary proceedings, the government announced that it would consider the use of nuclear energy as an option. A separate document indicated plans to begin nuclear plant operations by **2031**.

Philippines

- In June 2024, the government released its Philippine Energy Plan (PEP 2023–2050). The plan aims to introduce at least 1.2 GW of nuclear power capacity by **2032**, with **a gradual increase to 4.8 GW by 2050**.

(Source) Prepared by ANRE based on government documents, media reports, etc.

Europe: Speech by European Commission President von der Leyen (Nuclear Energy Summit 2026)

On Tuesday, March 10, 2026, European Commission President von der Leyen **emphasized the promotion of nuclear energy** in her speech at the Nuclear Energy Summit 2026, held in Paris, France.

[Overview] Key points of the speech

● **Electricity prices in Europe are structurally high, threatening industrial competitiveness.**

・Electricity prices are a decisive factor in industrial competitiveness. Europe relies on imported fuels, which are expensive and highly volatile in price.

・**Europe possesses low-carbon energy sources that can be produced domestically: nuclear power and renewables.**

・**The share of nuclear power in the energy mix has fallen from one-third in 1990 to approximately 15% today. This choice was a "strategic mistake."**

・Renewable energy is low-cost but unstable. Nuclear power is a reliable energy source capable of providing a stable, 24-hour supply.

・**A combination of nuclear power and renewable energy is the most efficient system.**

・**Europe is a pioneer in nuclear technology**, and next-generation reactors could become high-value-added, high-tech exports originating from Europe.

● **Europe wishes to play a role in the global resurgence of nuclear energy.**

・The European Commission is expanding support for nuclear power and fuel.

・The world's first **Industrial Alliance on SMRs** was launched.

・An investment of **over €5 billion** in nuclear fusion research, including the ITER project was proposed.



● **A new SMR strategy for Europe was announced.**

Goal: To bring SMRs into practical use in Europe by the early 2030s

<Three measures>

① Simplified regulations ② Improved investment environment ③ Cooperation across Europe

Reference: Prepared by ANRE based on information released by the European Commission

German Chancellor Merz Criticizes Nuclear Phaseout as a “Major Mistake” Electricity Prices Remain High, Fueling Ongoing Discontent Within the Industrial Sector (Sankei Shimbun, January 16, 2026)



- On January 14, 2026, at a meeting in Halle, eastern Germany, **German Chancellor Friedrich Merz criticized Germany’s policy of phasing out nuclear power, pursued following the 2011 accident at TEPCO’s Fukushima Daiichi nuclear plant, as a “major strategic mistake.”** This was reported by German media on January 15. **Electricity prices in Germany remain high, and dissatisfaction with high energy costs continues to run deep in the industrial sector.**

- While concerns about safety were raised following nuclear accidents, some countries view nuclear power as a promising means of reducing greenhouse gas emissions. **In May 2025, Belgium announced that it would abandon its nuclear phaseout policy. Merz’s remarks could further strengthen the momentum toward reconsidering nuclear power.**

- Merz pointed out, “We want to produce energy again at affordable prices, but that is impossible.” He lamented the shutdown of Germany’s last three nuclear reactors in 2023, saying, “We should have kept them operating. Had we done it, we could have maintained the same power generation capacity as we had at the time.”

- He further emphasized, “Germany is undertaking the costliest energy transition in the world. I know of no other country undertaking an effort as difficult and expensive as Germany’s.” Citing a shortage of energy production capacity, Merz indicated his intention to accelerate the development of power generation facilities.

2. Developments in Japan’s Nuclear Policy

Excerpts from the 7th Strategic Energy Plan (Cabinet Decision on February 18, 2025)

Expansion of Decarbonized Power Sources and Grid Infrastructure <Nuclear power>

- We will advance policies to promote coexistence with host communities, deepen and enhance communication with people from all segments of society, and accelerate back-end processes, including the nuclear fuel cycle, decommissioning, and final disposal.

- Regarding the restart of nuclear power plants, the public and private sectors will work together, with safety as the overriding priority, to **accelerate the process for restarts**, including collaboration within the industry, government-led promotion of public understanding, and measures to strengthen nuclear emergency preparedness.

- **Regarding the development and deployment of next-generation advanced reactors** with built-in new safety mechanisms, the Government will make concrete progress **targeting the building of next-generation innovative reactors within the sites of operators with nuclear power plants that have been determined to be decommissioned**, as long as it contributes to the maintenance and development of local industries and employment with the understanding of host communities, taking into account the progress in addressing back-end issues, such as the completion of the Rokkasho Reprocessing Plant. Other developments will be considered in the future based on the status of restart operations in each region, progress in securing local understanding, and other factors.

- In addition, **Japan's nuclear industry and human resource base boast a high rate of domestic production and sophisticated technology and contribute significantly to the domestic economy and employment. This industrial foundation is also essential for restarting existing reactors and developing and installing next-generation innovative reactors such as innovative light water reactors and small modular reactors**. Since the loss of new construction projects following the Great East Japan Earthquake, this foundation is being threatened. **It is necessary to avoid prolonged construction periods and cost increases in the future, disruption of industrial infrastructure and technologies including equipment, materials, fuel fabrication, and decommissioning, and a shortage of nuclear human resources**, including those responsible for dealing with regulatory issues. For this purpose, through the Nuclear Supply Chain Platform, in which industry and government agencies collaborate, support for business succession, including the commercial grade dedication, measures against supply disruptions of parts and materials, and **support for human resource development and recruitment should be expanded**. **While utilizing the cooperative framework with related organizations such as the "Advanced Nuclear Education Consortium for the Future Society" (ANEC), related ministries and agencies will work together to promote human resource development measures, such as the introduction of skill standards, and exchanges between industry, academia, and government**

- Research and development of the next-generation advanced reactors, such as innovative light water reactors and small modular, high-temperature engineering test reactors, and nuclear fusion, will be advanced.

Revision of the ”Future Nuclear Energy Policy Direction and Action Guidelines”

- In April 2023, based on discussions under the Sixth Strategic Energy Plan and at the GX Implementation Council, the Ministerial Meeting on Nuclear Energy approved the **”Future Nuclear Energy Policy Direction and Action Guidelines”**. The document **outlines the key challenges facing Japan’s nuclear energy policy, the direction for addressing them, and action guidelines for the government, utilities, and other stakeholders**.
- **In light of the formulation of the Seventh Strategic Energy Plan (approved by the Cabinet in February 2025), and changes in the circumstances surrounding nuclear energy, these guidelines were revised at the 14th Ministerial Meeting on Nuclear Energy on July 31, 2026, to further elaborate on the direction of Japan’s nuclear energy policy.**

Overview of the Revised Guidelines

0 Outlook and Future Vision for Nuclear Power Generation

Approximately 2-5 units will need to be replaced by the 2040s, and a total of approximately 11-14 units by the 2050s.

1 Fundamental prerequisites for the long-term utilization of nuclear power

- Continuous improvement of safety
- Coexistence with local communities
- Communication with each segment of the public

2 Accelerating the restart of reactors and maximizing the use of existing units

- Accelerating restart, etc.
- Improvement of capacity factor
- Steady implementation of licensing system for extending service life

3 Development and Construction of Next-generation Innovative Reactors

- Policy for development and deployment
- Promoting the development of next-generation innovative reactors
- Development of foundational infrastructure

4 Acceleration of back-end processes

- Promotion of nuclear fuel cycle
- Facilitating decommissioning
- Initiatives to realize the future vision

5 Improvement of the business environment Maintaining and strengthening supply chains and human resource foundations

- Improving the investment environment
- Maintaining and strengthening supply chains and human resource foundations

6 Contribution to the resolution of common international challenges

- Promoting research and development and building supply chains through international collaboration
- Ensuring nuclear safety and nuclear security

Key Points of the Prime Minister's Remarks at the 14th Ministerial Meeting on Nuclear Energy



■ Held at the Prime Minister's Official Residence on July 31, 2026

Agenda: "Future Nuclear Energy Policy"

■ Key Attendees

Takaichi, Prime Minister
Kihara, Chief Cabinet Secretary
Matsumoto, Minister of Education, Culture, Sports, Science and Technology
Akazawa, Minister of Economy, Trade and Industry
Ishihara, Minister of the Environment / Minister of State for Nuclear Emergency Preparedness
Onoda, Minister of State for Science and Technology Policy
Eiri, Parliamentary Vice-Minister for Foreign Affairs

Yamanaka, Chairman of the Nuclear Regulation Authority
Uesaka, Chairman of the Atomic Energy Commission
Murase, Commissioner of the Agency for Natural Resources and Energy

- **Securing energy supplies that do not rely on particular regions,** while also taking the situation in the Middle East into account, **and ensuring a stable power supply to meet the growing demand driven by AI and technologies are essential for Japan's growth.**
- **The government adopted the Action Guidelines to maximize the use of nuclear energy,** which contributes to energy security and decarbonization.
- **In light of the future replacement of nuclear reactors, the Takaichi Cabinet will advance Japan's nuclear energy policy to ensure steady investments in nuclear power generation.**

1. Outlook for the replacement of nuclear power plants

- **2 to 5 reactors** will need to be replaced by **the 2040s, and 11 to 14 reactors by the 2050s.**

2. Strengthening initiatives toward social implementation of next-generation innovative reactors

- Developing concrete measures to enhance operators' "predictability", thereby **accelerating "research and development" and "investment decision-making"** Expanding the role of **NEDO** to encompass "decarbonized energy in its entirety," and **fundamentally strengthening NEDO's funding capabilities for nuclear and fusion energy research and development**
- **Accelerating development by Japanese companies to facilitate the domestic deployment of SMRs Strengthening the capabilities of the JAEA**, including promoting safety research.
- Supporting **strengthened manufacturing capabilities among companies dealing with nuclear-related components Preparing a roadmap for human resource development** to enable stronger collaboration among industry, government, and academia for the training of nuclear sector personnel

3. Accelerating efforts on back-end processes

- **Revising the "Basic Policy" regarding final disposal of radioactive waste to reduce the burden on municipalities that agree to host surveys**, taking into account the nature of each survey.

4. Strengthening and enhancing the regulatory framework

- **Strengthening and enhancing the regulatory framework to support initiatives** including:
  1) **Streamlining regulatory reviews, such as conducting preliminary assessments of a site's compliance** with seismic and other safety standards.
  2) **Establishing an independent administrative agency to respond to inspections and related activities** in anticipation of the completion of the Rokkasho Reprocessing Plant.

Summary of the Discussion on the Use of Nuclear Power with Safety as a Top Priority

Nuclear-related ministerial meeting
July 31, 2026

1. Presentation of future construction prospects for nuclear power plants

➢ By 2040s, approx. 2.2- 5.5 million kW (Approx. 2–5 units)
By 2050s, approx. 12.7- 16.0 million kW (Approx. 11–14 units) *including those projected for 2040s

2. Enhancing initiatives for social implementation of the next generation innovative reactor

○ Frameworks and support measures to accelerate research and development and investment decision-making

➢ Strengthening NEDO's funding capacity for fusion and next-generation reactors

○ Accelerating research and development aiming to introduce SMR (small modular reactor)

➢ Developing SMR suited to Japan's natural conditions, participating in international projects, and enhancement of JAEA's capabilities

○ Strengthening industrial base

➢ Reinforcing the nuclear supply chain, creating a coordinating body for human resource development and formulating a roadmap

3. Accelerating initiatives for the nuclear back-end

○ Completion of Rokkasho Reprocessing Plant

➢ Managing progress across the entire process, including pilot operations, and securing related human resources

○ Expanding investigation sites and advancing investigations for the final disposal site

➢ Alleviating the burden on local governments during the site selection process through revisions to the Basic Policy on Final Disposal

3. Enhancing and strengthening the regulatory framework

○ Strengthening safety regulatory framework

➢ Enhancing the organizational framework for effective reviews and inspections, in light of the increasing number of operating reactors and the development of next-generation innovative reactors

○ Strengthening the safeguards regime

➢ Strengthening safeguards through public-private collaboration and examining the enhancement of the inspection system through the establishment of an independent administrative institution

0) Outlook and Future Vision for Nuclear Power Generation –Key Revisions–

Excerpt from Document 1, 14th Ministerial Meeting on Nuclear Energy, July 31, 2026

[Background]

- **From 2040 onward, Japan will suffer a substantial loss in supply capacity from existing nuclear reactors.**
- The loss of construction opportunities and other factors are **increasingly threatening the industrial foundations, including the nuclear supply chain and workforce.**
- **Securing a stable supply of decarbonized power sources is necessary** to attract investment from domestic and international energy consumers.

⇒ The government will **present its outlook for future nuclear power generation** aiming to enhance **business predictability for stakeholders**, including electric utilities, suppliers, domestic and international energy consumers, and the next generation of talent.

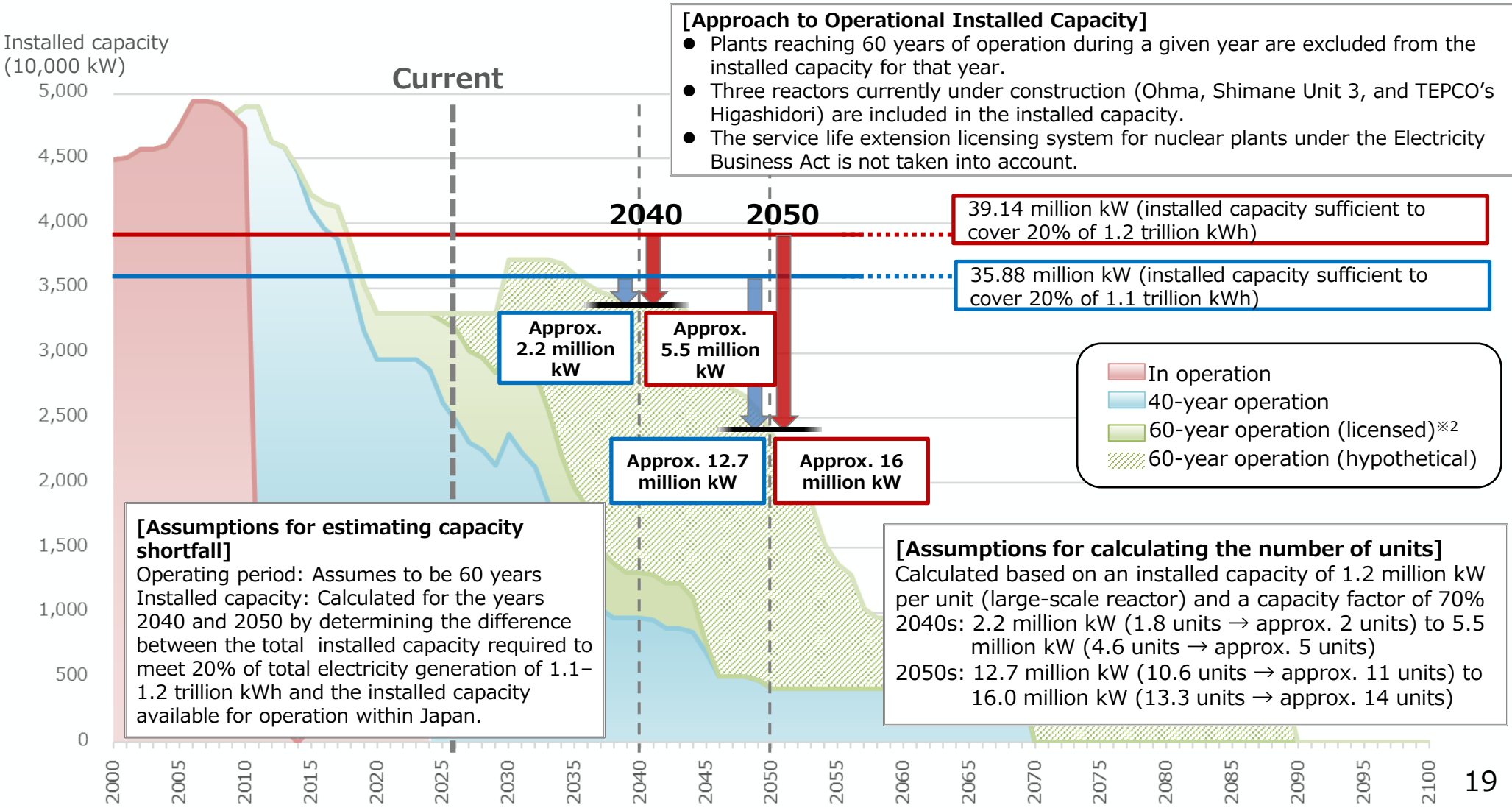
[Outlook for Future Construction]

- **By the 2040s: Approximately 2.2–5.5 million kW (approximately 2–5 reactors)**
- **By the 2050s: Approximately 12.7–16.0 million kW (approximately 11–14 reactors)** *Including those projected for the 2040s
- **Given that installed capacity is expected to decline at a similar pace from the 2060s onward, and that future electricity demand may increase beyond current projections, the government will promote efforts with a view to replacing at least this amount of capacity.**

* Calculated based on FY2040 energy mix, assuming that nuclear power generation accounts for 20% of total electricity of 1.1–1.2 trillion kWh, and that this share will be maintained throughout the 2040s and 2050s.

[Reference: Future Installed Capacity of Nuclear Power Generation]

- **Assuming that nuclear power will account for 20% of total electricity generation of 1.1–1.2 trillion kWh throughout the 2040s and 2050s,** estimates indicate that the installed capacity required to meet this demand will **fall short by approximately 2.2–5.5 million kW (equivalent to about 2–5 reactors) by the 2040s, and by a cumulative total of approximately 12.7–16.0 million kW (equivalent to about 11–14 reactors) by the 2050s.**



[Approach to Operational Installed Capacity]

- Plants reaching 60 years of operation during a given year are excluded from the installed capacity for that year.
- Three reactors currently under construction (Ohma, Shimane Unit 3, and TEPCO's Higashidori) are included in the installed capacity.
- The service life extension licensing system for nuclear plants under the Electricity Business Act is not taken into account.

[Assumptions for estimating capacity shortfall]
Operating period: Assumes to be 60 years
Installed capacity: Calculated for the years 2040 and 2050 by determining the difference between the total installed capacity required to meet 20% of total electricity generation of 1.1–1.2 trillion kWh and the installed capacity available for operation within Japan.

[Assumptions for calculating the number of units]
Calculated based on an installed capacity of 1.2 million kW per unit (large-scale reactor) and a capacity factor of 70%
2040s: 2.2 million kW (1.8 units → approx. 2 units) to 5.5 million kW (4.6 units → approx. 5 units)
2050s: 12.7 million kW (10.6 units → approx. 11 units) to 16.0 million kW (13.3 units → approx. 14 units)

1) Fundamental Prerequisites for the Long-Term Utilization of Nuclear Power –Key Revisions–

- **Improving quality assurance activities across the entire industry and reaffirming the fundamental principle of prioritizing safety above all else**, in light of inappropriate practices by operators during reviews of compliance with the new regulatory requirements.
- Implementing initiatives in which host municipalities, the national government, and operators collaborate to envision the future economic and social development of local communities, strengthening support for initiatives to realize that vision, and **enhancing efforts aimed at the development of regions hosting decarbonized power sources.**

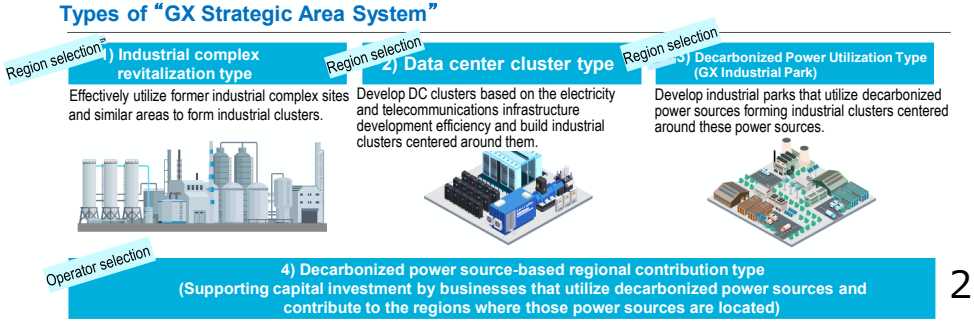
Inappropriate cases involving business operators

- In January 2026, Chubu Electric Power announced that, **in evaluating seismic ground motions at the Hamaoka Nuclear Power Station, it had selected the representative waveforms for the design-based ground motion using different methods from those explained at regulatory review meetings, or through intentional selection processes**.
- The Ministry of Economy, Trade and Industry (METI) issued an order to submit a report under the Electricity Business Act.
- The Nuclear Regulation Authority (NRA) decided to take actions including requiring reports under the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors, conducting a nuclear regulatory inspection, and suspending its review of the Hamaoka Nuclear Power Station, among other measures.
- Chubu Electric Power published the investigation committee's report in September 2026 and withdrew its application for permission for changes of the reactor installation license for Units 3 and 4 of the Hamaoka Power Station.

Enhanced efforts aimed at the development of regions hosting decarbonized power sources

- **The GX Strategic Region System** was established in August 2025 to promote the creation of **new industrial clusters** centered on **former industrial complex sites**, as well as **regionally concentrated decarbonized power sources**.
- For Categories 1)–3), local governments and businesses are to develop plans and participate in the initiative, after which the national government selects candidate regions and provides integrated support measures and implements regulatory and institutional reforms (**in coordination with the National Strategic Special Zones**). **On April 24, 2026, the government selected promising regions.** For Category 4, support is provided to business operators that utilize decarbonized power sources.

Types of "GX Strategic Area System"

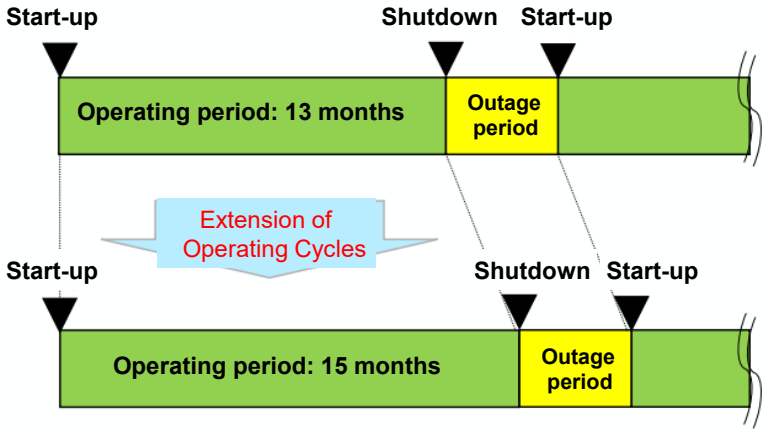


2) Accelerating the Restart of Reactors and Maximizing the Use of Existing Units –Key Revisions–

- Technical studies for the implementation of 15-month operating cycles at PWR plants and **further extensions of operating cycles**
- **Introduction of in-service maintenance, identification of issues** by relevant stakeholders to expand the scope of applicable equipment, and discussions with the regulatory authority, among other matters

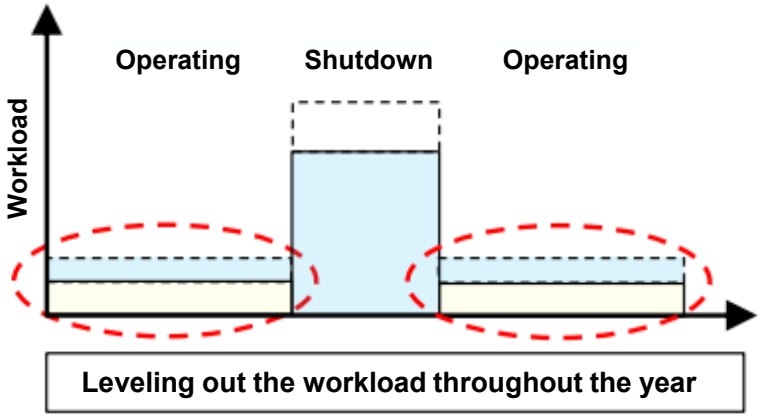
Extension of Operating Cycles

- The introduction of longer operating cycles allows greater flexibility in scheduling periodic inspections, **making it possible to avoid conducting inspections during peak electricity demand periods in summer and winter, as well as preventing the overlap of inspection schedules across power plants, which is also expected to improve plant capacity factors**.
- Currently, **various safety assessments as well as technical studies on the impact on equipment integrity are underway, with the objective of extending the PWR operating cycle to a maximum of 15 months (up from the current 13 months)**.



On-Line Maintenance

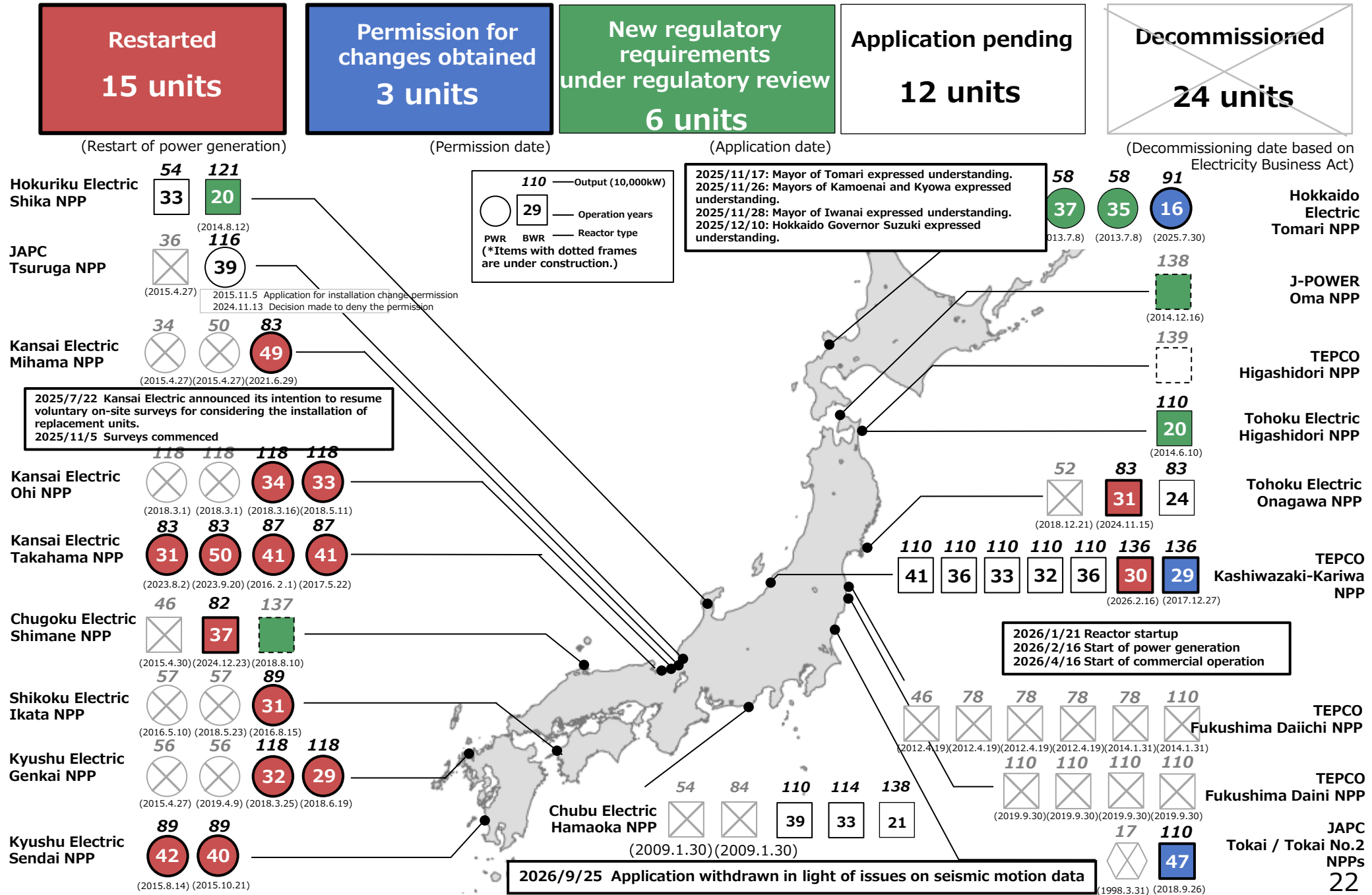
- Implementing on-line maintenance **helps improve plant safety and prevent unplanned shutdowns due to equipment failures, by avoiding work congestion during periodic inspections and by leveling workloads throughout the year to ensure the appropriate deployment of skilled workers**.
- Towards the introduction of OLM, **on-site demonstrations are being conducted at Shikoku Electric's Ikata Nuclear Power Plant and Kansai Electric's Ohi Nuclear Power Plant,** followed by **discussions with the NRA**, based on the results of these demonstrations.



Current Operating Status of Nuclear Power Plants in Japan

As of November 13, 2026

Restarted	Permission for changes obtained	New regulatory requirements under regulatory review	Application pending	Decommissioned
15 units	3 units	6 units	12 units	24 units
(Restart of power generation)	(Permission date)	(Application date)		(Decommissioning date based on Electricity Business Act)



Current Operating Status of Nuclear Power Plants in Japan (2)

As of November 13, 2026

Reactors Already Restarted

Reactors already restarted: 15 units
(Kashiwazaki-Kariwa #6, Onagawa #2, Shimane #2, Mihama #3, Ohi #3, #4,
Takahama #1, #2, #3, #4, Ikata #3, Genkai #3, #4, Sendai #1, #2)

Reactors with Approved Installation Change Permission

Reactors whose permission for changes obtained: 3 units
(Kashiwazaki-Kariwa #7, Tokai No.2, Tomari #3)

- **For Kashiwazaki-Kariwa Unit 7, the deadline for the installation of a specialized safety facility was reached in October 2025. Completion of the construction is scheduled for August 2029.**
- **Tokai No. 2** is undergoing safety improvement construction. Details regarding the design, including design modifications to the seawall, are currently under review by the NRA.
- **Tomari Unit 3 obtained the installation change permission in July 2025.** Reviews of the design and construction plans, safety improvement construction, and other related work are underway.

Reactors under Review for Installation Change Permission

Reactors under review regarding faults, earthquakes, tsunamis, and plant equipment: 6 units
(Tomari #1, #2, Oma, Higashidori #1, Shika #2, Shimane #3)

- **Shimane Unit 3** completed its overall series of review presentations in September 2026.
- **Oma** began reviews of plant equipment in June 2025.

* **Hamaoka Units 3 and 4 announced** on January 5, 2026, **an issue involving inappropriate cases in the process of establishing the design-based ground motion**.
On September 25, Chubu Electric **withdrew its application for installation change permission** from the NRA.

* Regarding **Tsuruga Unit 2**, the NRA decided in November 2024, **not to grant** JAPC's application for installation change permission.
JAPC **announced a plan for additional investigations for resubmission** in August 2025, and began on-site investigations in September.

3) Development and deployment of next-generation innovative reactors –Key revisions–

- **Promoting research and development (R&D) based on the "Next-Generation Innovative Reactor Development Roadmap."**
- **Fostering a common understanding between operators/ATENA and the regulatory authority.**
- **Conducting technical studies on regulatory requirements by strengthening JAEA's foundational capabilities, and fundamentally reinforcing the R&D framework, with NEDO in mind,** among other measures.

Background of Revisions

- The Innovative Reactor Working Group (WG) formulated the "**Next-Generation Innovative Reactor Development Roadmap**," specifying the projected development timelines for each reactor type, as well as identifying challenges and outlining directions for addressing them, not only from a technical perspective at each development stage, but also in terms of practical implementation.
  Going forward, it is important for **industry, academia, and government to work together to advance these initiatives in accordance with the roadmap**.

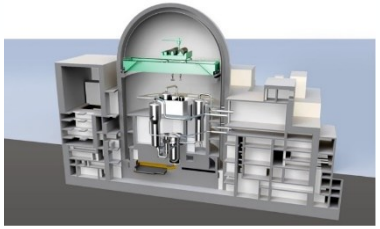
- **Discussions with the regulatory authority** on the development of next-generation innovative reactors **are an important initiative that helps improve regulatory predictability.**

- To accelerate R&D of next-generation innovative reactors and advance technical studies underpinning regulatory standards, it is important to **strengthen the R&D infrastructure, while also addressing the challenges facing JAEA, including aging facilities and personnel shortages**.

- Given the growing role of private-sector development of next-generation innovative reactors in the United States and elsewhere, as well as the increasing importance of cross-disciplinary collaboration, it is important to **consider the measures needed to strengthen the government's funding mechanisms for R&D activities undertaken by various stakeholders**.

Next-Generation Innovative Reactors

Innovative Light Water Reactor



◆ Mitsubishi Heavy Industries (MHI) (SRZ-1200)

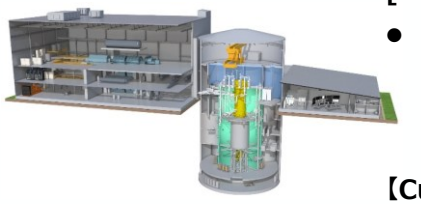
[Key Features]

- By incorporating new safety mechanisms from the design stage, these reactors aim to restrain the risk of accidents and enhance their ability to prevent or mitigate radioactive releases in the event of an accident.

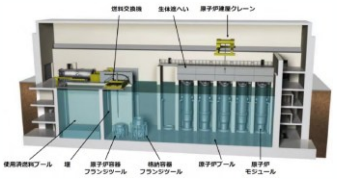
【Current Status】

- Standard design development is almost complete. The Atomic Energy Association (ATENA) and the NRA are currently exchanging opinions to clarify regulatory requirements.
- METI is providing budgetary support for R&D activities and demonstration testing to advance the maturity of new, core technologies.

SMR (Small Modular Reactor)



◆ GE Vernova Hitachi (BWRX-300)



◆ NuScale（NuScale SMR)

[Key Features]

- A small light-water reactor with an output of 300 MW or less. Natural circulation enables core cooling without cooling pumps or an external power supply.

【Current Status】

- Development is underway in the U.S. and Canada, with the aim of commencing operation before 2030, for applications such as power supply to data centers.
- Support is provided for Japanese companies participating in overseas projects and for their R&D activities

Fast Reactor



◆ MHI (demonstration reactor)

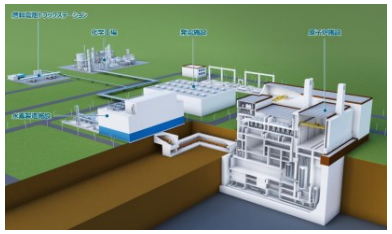
[Key Features]

- Using sodium as a coolant enables efficient plutonium burning.
- This enhances the effects of the nuclear fuel cycle, such as reduced volume and toxicity of waste and effective use of resources.

【Current Status】

- A demonstration reactor development program utilizing GX Economy Transition Bonds was launched in 2023. It also involves collaboration with the U.S. and France.
- In July 2024, an organization was established within JAEA to provide integrated management of the entire R&D activities on reactors and fuel cycle. Its members include representatives from electric utilities, manufacturers, and JAEA.

High Temperature Engineering Test Reactor (HTTR)



◆ MHI (demonstration reactor)

[Key Features]

- Uses high-temperature heat not only for electricity generation but also for hydrogen production.
- Uses chemically stable helium as the coolant. Uses graphite as the moderator, which offers excellent heat resistance and heat storage capacity, enabling natural cold shutdown even in the event of a loss of cooling function.

【Current Status】

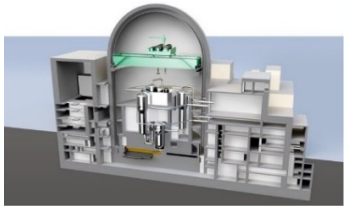
- A demonstration reactor development program utilizing GX Economy Transition Bonds was launched in 2023. The program also collaborates with the UK. Parallel efforts are underway to conduct hydrogen production tests using the HTTR (High Temperature Engineering Test Reactor).
- In March 2025, an application for installation change permission was submitted to connect a hydrogen production facility to the HTTR.

Next-Generation Innovative Reactor Development Roadmap (Innovative Light Water Reactor/SMR)

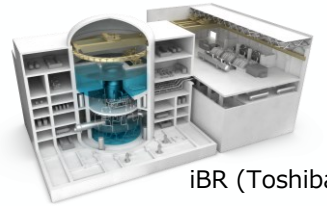
- At the 48th Nuclear Energy Subcommittee meeting held on March 31, 2026, **the Roadmap for the Development of Next-Generation Innovative Reactors** was finalized, taking into account not only technical aspects but also challenges for their practical implementation.

Innovative Light Water Reactor

It is essentially at **the stage of societal implementation** from a technical standpoint (with operations beginning around 2040 at the earliest).



SRZ-1200 (MHI)



iBR (Toshiba)



HI-ABWR (Hitachi GE Vernova)

【Key considerations for social implementation】

[Presenting the outlook and future vision for nuclear power] : Intensive discussions are underway within the relevant council to provide a certain degree of quantitative outlook.

[Improving the business environment and securing the understanding of host communities]

- Efforts have been made to explore measures to alleviate financing burdens and to utilize and improve the Long-Term Decarbonization Auction.
  Further deliberations will continue as necessary.
- The government will also take a leading role in securing the understanding and cooperation of stakeholders in hosting communities.

[Dialogue with the Regulatory Authority]

- Based on the outcomes of technical discussions with the regulatory authority, operators will assess the need for additional measures followed by preparations for an application for reactor installation permission.
- The government will provide budgetary support for R&D activities by operators, including the acquisition of demonstration data.

SMR (Small Modular Reactor)

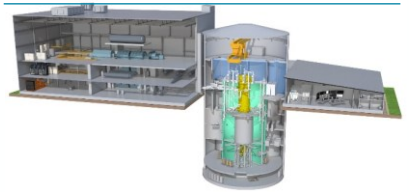
Essentially at **the stage of societal implementation** from a technical standpoint (with operations beginning around 2040 at the earliest).

【Key considerations for social implementation】

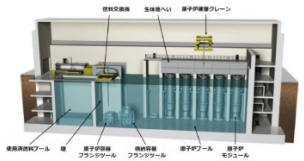
[Presenting the outlook and future vision for nuclear power] [Improving the business environment and securing the understanding of host communities] The same as those for innovative LWRs.

[Adapting to Japan's unique natural conditions and developing regulatory requirements for new technologies specific to SMRs]

- Operators will conduct further assessments on the conformity of reactor designs with Japan-specific natural conditions, such as earthquakes and tsunamis, and implement design modifications and element technology development as necessary, with government budgetary support.
- In parallel, studies will be advanced toward discussions with the regulatory authority on the development of regulatory requirements for SMRs.



BWRX-300
GE Vernova Hitachi (U.S.)
GE Vernova Hitachi (Japan)



NuScale SMR
(NuScale U.S.) (IHI・JGC)

[Common Points]

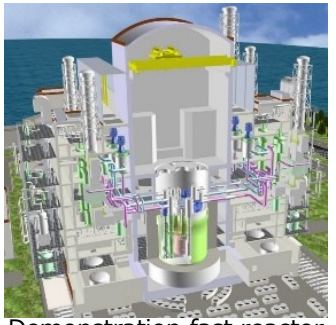
Supply Chain: Succession of skills and business operations, use of new technologies (e.g., 3D printers, AI), and support for participation in overseas projects

Human Resources: Establishing the Council for Nuclear Human Resource Development and Strengthening while fostering and securing talent through coordinated efforts among industry, government, and academia.

Next-Generation Innovative Reactor Development Roadmap (Fast Reactors/High Temperature Engineering Test Reactor (HTTR)/Fusion Energy)

Fast Reactor

Development of a demonstration reactor—the stage preceding practical implementation (operation to begin as early as the mid-2040s)
FY2028: Milestone decision for transitioning to basic design

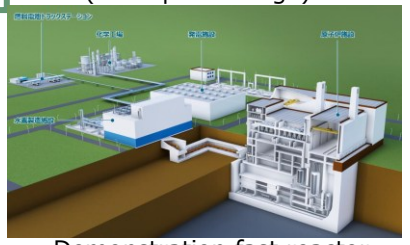

Demonstration fast reactor (conceptual image)

【Key considerations for realizing the demonstration reactor】

[2028 Milestone] In addition to development progress, examine the medium- to long-term direction of the project, including the entities responsible for the demonstration reactor and fuel manufacturing, future technology transfer to the private sector, approaches to securing development funds, supply chains (SC), and human resource development.
[Improving Regulatory Predictability] Cooperate with the NRA in its information-gathering efforts and engage in dialogue toward establishing regulatory requirements for the demonstration reactor.
[Public Outreach for the Demonstration Reactor Development Project] Conduct public outreach targeting a broad audience at key junctures in the development process.

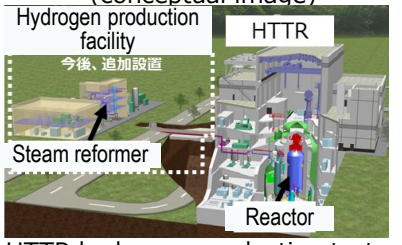
High Temperature Engineering Test Reactor (HTTR)

- **Development of a demonstration reactor**—the stage preceding practical implementation (operation to begin as early as the mid-2040s)
  FY2029: Milestone decision for transitioning to basic design
- **Hydrogen production tests** using the HTTR (from FY2028)


Demonstration fast reactor (conceptual image)

【Key considerations for realizing the demonstration reactor】

[2029 Milestone] In addition to development progress, examine the medium- to long-term direction of the project, including the entities responsible for the demonstration reactor, fuel supply, future technology transfer to the private sector, approaches to securing development funds, SCs, and human resource development.
[Exploring diverse applications] Refine hydrogen cost estimates and broaden the range of potential users interested in utilizing hydrogen, heat, and other outputs.
[Regulatory Compliance] Address regulatory reviews for hydrogen production tests using the HTTR and engage in dialogue toward developing regulatory requirements for demonstration reactors
[Public Outreach for the Demonstration Reactor Development Project] Conduct public outreach targeting a broad audience at key junctures in the development process.



HTTR hydrogen production test (conceptual image)

Fusion Energy

Power **generation demonstration** to prove the technical viability of the power generation system (government target: 2030s).
In a few years: The fusion power generation system to receive intensive national support will be selected.



【Key considerations for realizing the demonstration reactor】

[Immediate Initiatives] Strongly promote the development of common element technologies while providing broad support for the technological development of fusion power generation systems deemed to have a reasonably high likelihood of success.

[Concentrating Support] In the coming years, the government will select the fusion power generation system to receive intensive national support, taking into account technological progress, market viability upon technological maturity, the status of organizational arrangements involving the private sector, and international trends.


Fusion power generation demonstration plant (conceptual image)

4) Back-End (Cycle) –Key Revisions–

- **Completion and operational readiness of the Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant**
- **Strengthening the promotion of "pluthermal" power generation and establishing reprocessing technologies for spent MOX fuel**
- **Promoting the construction and utilization of interim storage facilities, and strengthening coordination among nuclear operators on spent fuel management.**
- **Public outreach and understanding-building efforts** led by the national government, etc.

Background of Revisions

- To bring **the Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant to completion**, it is important for the entire nuclear industry to work together to **strengthen personnel support according to the progress of regulatory reviews and inspections**, while **fundamentally strengthening the safeguards regime, including through the establishment of an independent administrative agency**, to ensure plant operations while maintaining international confidence. Furthermore, to **ensure the safe, stable, and long-term operation** of these facilities, efforts should be made toward **assessing equipment and operational procedures for the reuse of MOX powde**r, **advancing technical development** such as in maintenance, and **securing and developing the necessary human resources**.
- To **promote "pluthermal" power generation**, each nuclear operator should review its reactors targeted for "pluthermal" use in light of the latest developments, including the status of reactor restarts. It is also important to pursue **technological development toward establishing reprocessing methods for spent MOX fuel**, including demonstration research through international collaboration, and to ensure the **appropriate implementation of pluthermal-related grant programs**.
- It is essential **to promote the construction and utilization of interim storage and related facilities**—key components of the nuclear fuel cycle policy, which serve to temporarily store spent fuel (a valuable, recyclable resource) and contribute to the stable supply of electricity generated by nuclear power. It is also important to further strengthen **coordination among nuclear operators** on spent fuel management.
- Regarding outreach activities concerning nuclear energy and nuclear fuel cycle policy, it is important that the national government, **in coordination with the operators, takes a proactive and leading role, while also considering the views of the host municipalities**.
- These issues are discussed in forums such as the Working Group on Examining Frameworks for Enhancing the Effectiveness of the Nuclear Fuel Cycle.

Initiatives for Establishing a Nuclear Fuel Cycle

- **The nuclear fuel cycle** has consistently been positioned as a fundamental national policy, in view of **(1) reducing the volume of high-level radioactive waste, (2) lowering the radiotoxicity, and (3) achieving effective use of resources**.
- To ensure the stable use of nuclear power generation, **it is important to continue promoting the nuclear fuel cycle** while gaining the understanding of relevant local governments and the international community.

○ Promoting the effective use of plutonium/ Ensuring a plutonium balance

- Pluthermal program: To implement the use of MOX fuel in at least 12 units by FY2030
- Manage the balance between the recovery and use of plutonium
- Accelerate the development of reprocessing technology for spent MOX fuel

(July 2018: The Basic Principles on Japan's Utilization of Plutonium)
(Dec. 2020: Pluthermal program)
(Feb. 2026 : Plutonium Utilization Plan updated)

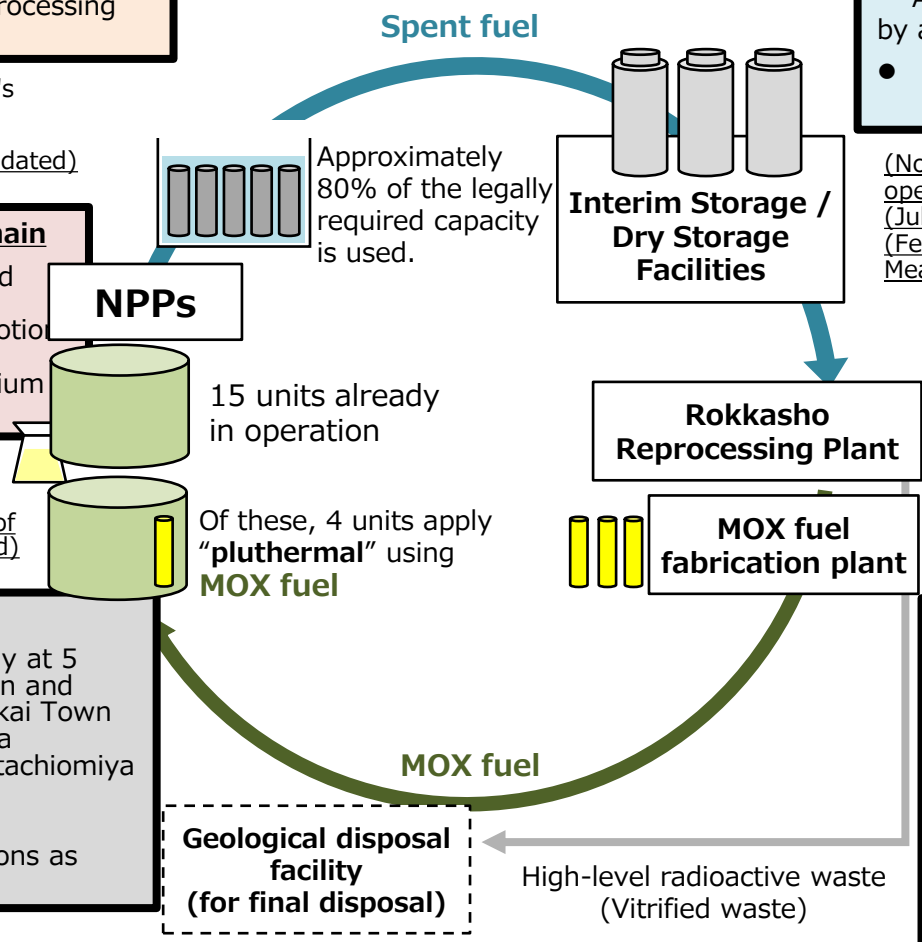
○ Uranium fuel Securing supply chain

- Uranium designated as a "Specified Critical Material" under the Economic Security Promotion Act
- Support decided for domestic uranium enrichment

(Feb. 2024: Uranium designated as a "Specified Critical Material")
(Dec. 2024: JNFL's Supply assurance plan of Japan Nuclear Fuel Limited (JNFL) approved)

○Achieving final disposal

- Literature survey process underway at 5 locations across Japan: Suttsu Town and Kamoenai Village in Hokkaido, Genkai Town in Saga Prefecture, Minamitorishima (Ogasawara Village, Tokyo) and Hitachiomiya in Ibaraki Prefecture
- Engage in dialogue across Japan to encourage interest in as many regions as possible



○ Promoting measures for spent fuel

- Promote the expansion of storage capacity across the industry

Aim for a capacity of approx. 30,000 tonnes by around 2030

- Fostering collaboration and cooperation among operators

(Nov. 2024: Mutsu Interim Storage Facility began operations)
(July 2025: Ikata NPP began dry storage)
(Feb. 2026: Revision of the Plan for Promoting Measures for Spent Fuel)

(July 2020: Permission obtained)
(Dec. 2022: The 1st design/ construction approval obtained)

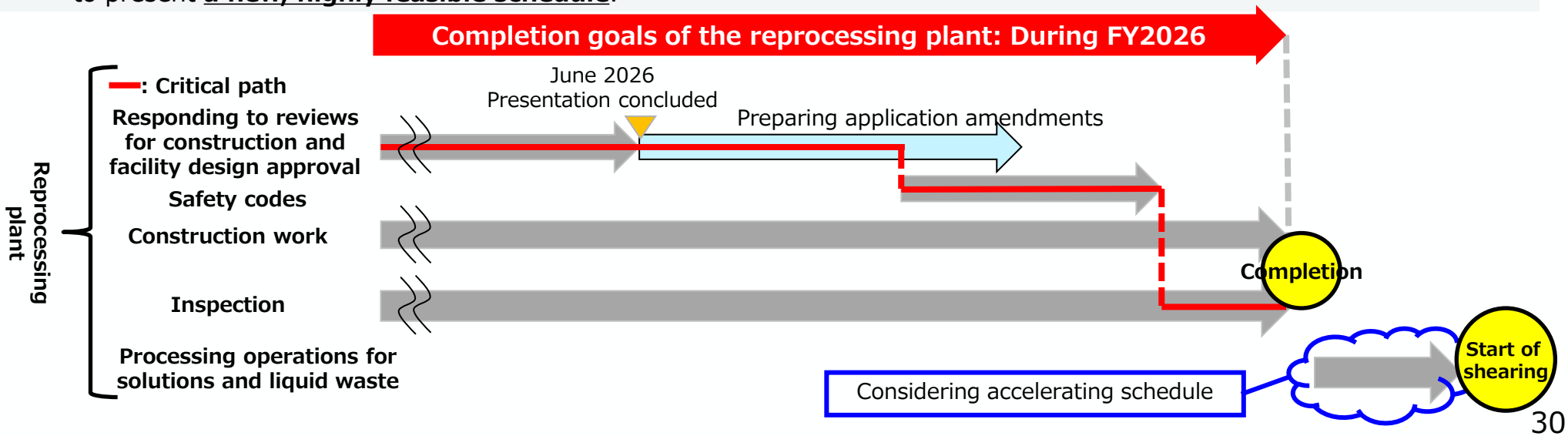
(Dec. 2020: Permission obtained)
(May 2026: The 3rd design/construction approval obtained)

○ Completion of the reprocessing plant and MOX fuel fabrication plant; their stable, long-term operation with safety ensured

- Managing progress and securing talent through public-private collaboration
  Reprocessing plant: During FY 2026
  MOX fuel fabrication plant: During FY2027
- Maintenance, supply chain, preservation of technical expertise

Completion and operational readiness of the Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant

- JNFL's **Rokkasho Reprocessing Plant and MOX Fuel Fabrication Plant** are undergoing regulatory review of their design and construction plans (detailed designs). Through initiatives such as **the dispatch of personnel** from utilities and manufacturers **with experience in reactor restart reviews**, JNFL **completed its explanations** for the Rokkasho Reprocessing Plant at **the review meeting held on June 8**. This marks a significant step toward completing the facilities.
- In response, **the Council for Promoting Measures for Spent Fuel Management** was convened on June 18, with the Minister of Economy, Trade and Industry, the presidents of power companies, and the president of JNFL in attendance. At the council meeting,
  - JNFL explained that, responding to comments raised by members of the NRA, it would begin **the trial treatment of solutions and liquid waste**—originally scheduled to **take place after completion of the plant—before completion**, with the aim of enhancing the reliability of the facility as a whole. The company also stated that it would **discuss the specific implementation with the regulatory authority**.
  - **The government** outlined its **policy of monitoring progress across the entire schedule** toward completion and requested the fullest possible cooperation from all operators, including **flexible coordination to secure the necessary personnel.**
- The council's **steering committee meets monthly to oversee progress**. At the committee meeting on August 10, JNFL was **urged to accelerate its reviews**, including detailed examination of measures to enhance reliability, in order to present **a new, highly feasible schedule**.

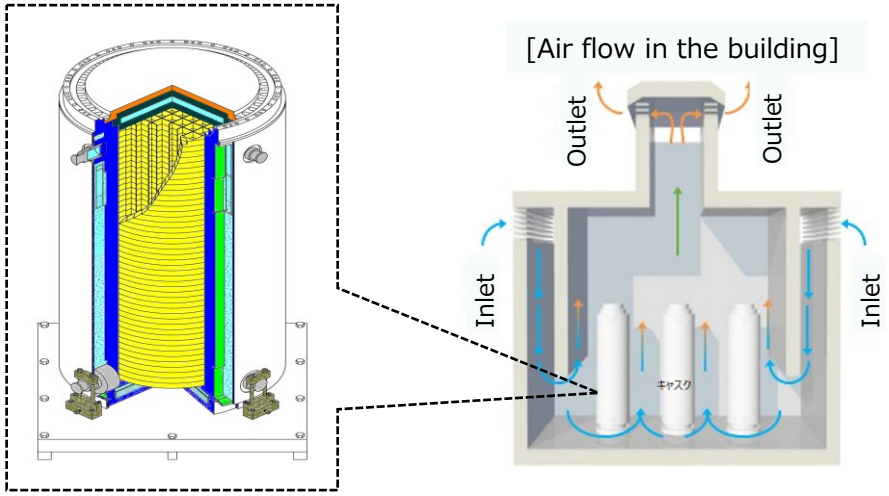


Outline of Mutsu Interim Storage Facility

- In **November 2024**, the **Mutsu Interim Storage Facility**, located in Mutsu City, Aomori Prefecture, **commenced operations** as **Japan's first interim storage facility** for spent nuclear fuel. (*The facility stores spent fuel from TEPCO and JAPC).

- In December 2025, the two companies informed Aomori Prefecture and Mutsu City of their **intention to explore approaches, including cooperation between operators**, to achieve the 5,000-tonne storage capacity requested by Mutsu City. **On August 7, 2026, Mutsu City requested that the two companies reconsider their plans**, including the possibility of collaboration between operators, and review their spent fuel delivery plans accordingly. **On September 18, the two companies** presented Mutsu City with **a spent fuel delivery plan to achieve a total storage capacity of 5,000 tonnes, including the participation of Kansai Electric and Tohoku Electric**.
  Meanwhile, Aomori Prefecture stated that the presentation of a revised schedule for the Rokkasho Reprocessing Plant was a prerequisite for the delivery of spent nuclear fuel to the Mutsu Interim Storage Facility.

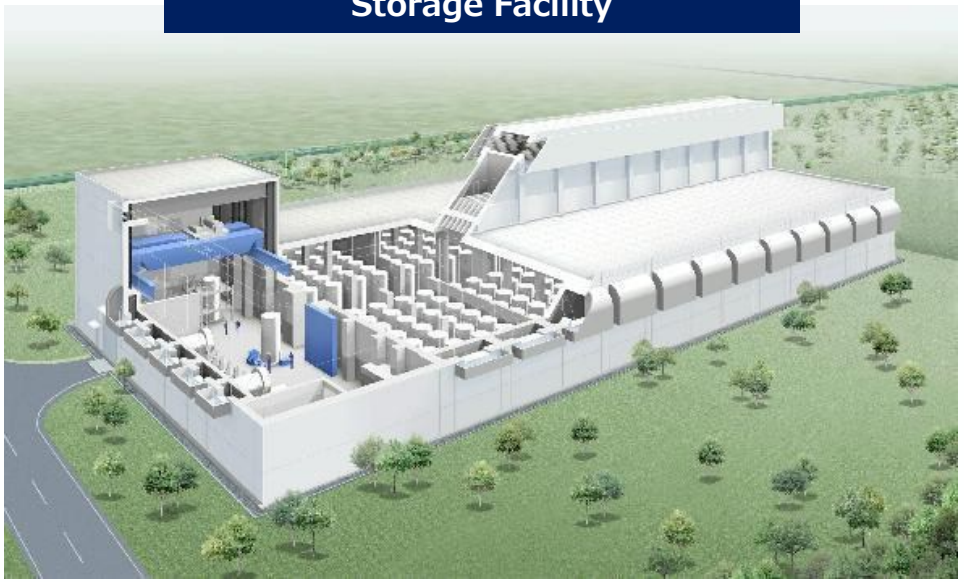
Illustration of a storage container (metal cask)



Natural cooling using ambient air

At the interim storage facility, **heat generated by spent fuel is removed through natural cooling by ambient air**, without using water or electricity.

Exterior view of the Mutsu Interim Storage Facility



Facility dimensions: approx. 131 m (depth) × 62 m (width) × 28 m (height)
Maximum storage capacity: 3,000 tonnes (first building; 288 casks)
(*The planned total capacity of 5,000 tonnes is stored in two buildings.)
Operator: Recyclable-Fuel Storage Company (*jointly funded by TEPCO and JAPC)

4) Back-End (Final Disposal) –Key Revisions–

- To **expand the areas subject to literature surveys, the national government will take responsibility for approaching local communities to propose surveys for selecting a final disposal site, rather than relying solely on locally initiated processes.**

- To **foster public understanding nationwide**, the government will **organize interactive public briefings across Japan and conduct public outreach**, while also working to build understanding and seek **cooperation from local governments throughout the country, including prefectural governments**.

Request for Cooperation from the Governor

Minister of Economy, Trade and Industry Akazawa conveyed to all prefectural governors the view that "**existing literature alone provides limited geological information on deep underground formations, making it difficult to assess their scientific suitability. It is therefore necessary to conduct new surveys to obtain additional geological data from deep underground and compare and evaluate the findings**." He also emphasized that "**regarding siting surveys for the final disposal site, the government will take responsibility for seeking the cooperation of local communities, rather than leaving the matter entirely to the regions themselves**."

(Excerpt from "Request for Cooperation in Addressing Challenges Associated with the Use of Nuclear Energy," January 2026)
Conducting surveys is essential to selecting the most scientifically suitable site. Existing literature alone provides limited geological information on deep underground geology, making it difficult to assess their scientific suitability. It is therefore necessary to conduct new surveys to obtain additional geological data from deep underground for comparative assessment. Literature surveys and preliminary investigations are conducted at multiple locations across Japan for this purpose and do not directly determine the final disposal site. (Omitted)
… **The national government will take a more proactive role in promoting public understanding nationwide. In addition, regarding the surveys for selecting a final disposal site, the government will take responsibility for requesting the cooperation of local communities, rather than leaving the matter entirely to the regions themselves. I ask all prefectural governors to understand these efforts by the government and to cooperate in addressing energy policy challenges, while respecting the intentions of each municipality.**

Key developments on literature surveys on Minamitorishima Island

In March 2026, the government formally requested to Ogasawara Village Mayor Shibuya that a literature survey be conducted on Minamitorishima. Subsequently, public briefing sessions were held in Chichijima and Hahajima in Ogasawara Village; **more than 300 people attended a total of four sessions.**

On April 20, **the national government received a written response from Mayor Shibuya stating that the decision should be made by the national government, taking various opinions into account.** The following day, April 21, the Minister of Economy, Trade and Industry met with Mayor Shibuya, who **accepted the government's decision to proceed with the literature survey on Minamitorishima.**

On May 20, **the Minister approved a revision to the business plan of NUMO, the entity responsible for conducting the survey, to begin the survey on Minamitorishima (making it the fourth location nationwide to undergo such a survey).**

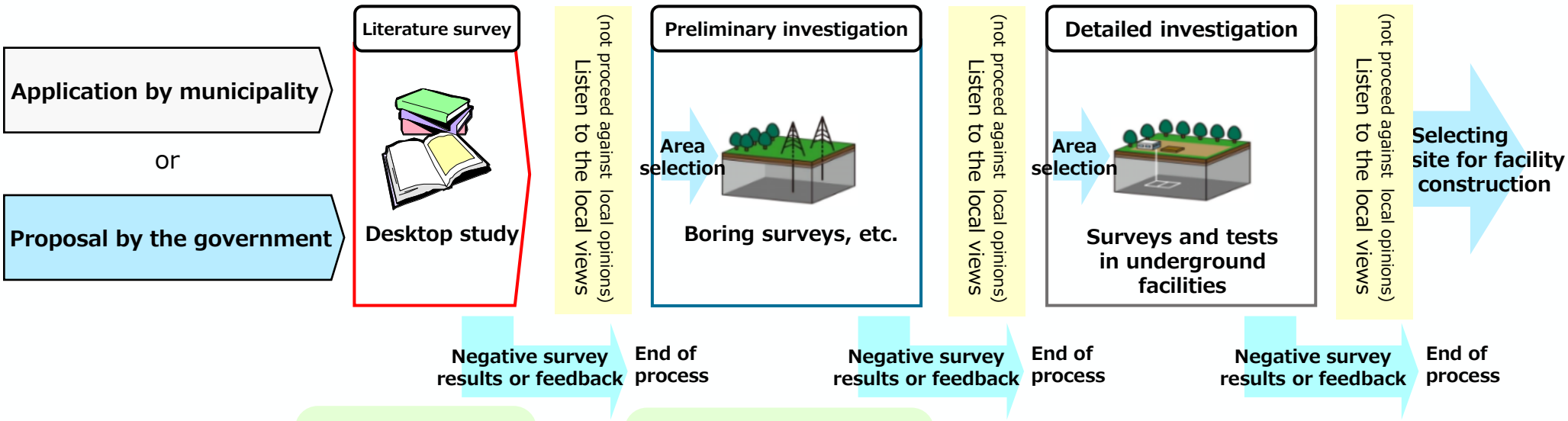


On the scientific characteristics map
Green coastal zone
(Dark green)

Site Selection Process under the Designated Radioactive Waste Final Disposal Act

- The Final Disposal Act stipulates that a final disposal site is to be selected through a three-stage survey process: a literature survey, a preliminary investigation, and a detailed investigation. **No radioactive waste will be brought into the site during the survey period.**
- **The initial stage, the literature survey, is essentially part of the dialogue process**, aiming to deepen discussions on the project by examining and analyzing existing literature and data on local geology and providing the findings to municipalities that have expressed an interest. **It does not directly determine the final disposal site.**
- Before proceeding to the next stage, the opinions of the prefectural governor and municipal mayor will be sought and given due consideration; **the process will not proceed to the next stage against the views of either the prefectural governor or the municipal mayor.**

No radioactive waste will be brought into the site during the survey period.



Power source siting grant

(Amount varies by location)

Literature survey
Up to ¥2 billion over the survey period
(up to ¥1 billion per fiscal year)

Preliminary investigation
Up to ¥7 billion over the survey period
(up to ¥2 billion per fiscal year)

After the detailed investigation stage, formalization of the framework is being considered.

Background Regarding Final Disposal (High-Level Radioactive Waste)

2000	**Enactment of the "Final Disposal Act" and establishment of NUMO*** → Launch of a nationwide call for candidate sites (voluntary application process) *__Nu__clear Waste __M__anagement __O__rganization
2007	Application and subsequent withdrawal by Toyo Town, Kochi Prefecture
2015	Revision of the "Basic Policy" under the Final Disposal Act With the government taking the lead: • Proposing areas considered scientifically more suitable; • Requests from the government to local municipalities, taking into account their level of understanding, etc.
2017	Publication of the **"scientific characteristics map"** → Briefing sessions currently being held nationwide
2020	"**Literature surveys" initiated in two municipalities in Hokkaido (Suttsu Town and Kamoenai Village)**
2023	Revision of the "**Basic Policy**" under the Final Disposal Act → Strengthened efforts to expand the areas for literature surveys
2024	**"Literature surveys" initiated in Genkai Town, Saga Prefecture** **Statutory processes** (public notification, public inspection, information sessions, etc.) **commenced regarding draft literature survey reports for two municipalities in Hokkaido**
2026	**Proposal submitted for conducting literature surveys on Minamitorishima Island (Tokyo) (March 3)** **Approval granted for changes to the NUMO's business plan; literature surveys initiated (May 20)** **Proposal submitted for conducting literature surveys on Hitachiomiya City (Ibaraki Pref.) (August 31)** **Approval granted for changes to the NUMO's business plan; literature surveys initiated (October 15)**

(Reference) Examples of Site Selection Processes in Other Countries: Approximately 10 interested communities initially come forward, followed by a gradual narrowing down of candidate sites.



Request for Cooperation in Addressing Challenges Associated with the Use of Nuclear Energy (January 2026)

- At the end of 2025, statements expressing understanding of the restart of TEPCO's Kashiwazaki-Kariwa NPP and Hokkaido Electric's Tomari NPP were issued. In response, **host communities voiced concerns, including the need for electricity-consuming regions to better understand the significance of restarting nuclear power plants and the importance of addressing back-end issues**, such as spent fuel management and radioactive waste disposal.
- Taking these views into account, on January 16, 2026, **Minister of Economy, Trade and Industry Akazawa sent a letter to all prefectural governors requesting their cooperation in addressing challenges associated with the use of nuclear energy**. The letter sought: (1) **the understanding of burdens borne by communities hosting nuclear power plants and the need for collaboration with them**; and (2) **the understanding of the government's efforts to expand the areas undertaking literature surveys**.

(Excerpt from a letter (regarding final disposal and literature surveys))

Furthermore, **the final disposal of high-level radioactive waste generated by nuclear power generation is an unavoidable national challenge** if Japan is to continue using nuclear energy sustainably. Given that a substantial amount of radioactive waste has already been generated through past nuclear power operations, it is essential to move forward with the selection of a final disposal site **without passing this challenge on to future generations**.

With a commitment to contributing to the resolution of this national challenge, three municipalities in Hokkaido and Saga Prefecture, both of which host nuclear power plants, have agreed to undergo literature surveys. However**, the selection of a final disposal site is not an issue that concerns only hosting communities. This is an issue that concerns the entire nation and it is necessary to expand the scope of potential research areas, including power consuming regions**.

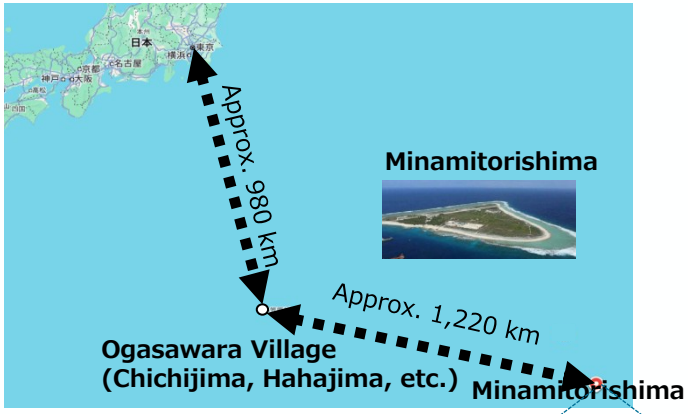
Conducting surveys is essential to selecting the most scientifically suitable site. Existing literature alone provides limited geological information on deep underground geology, making it difficult to assess their scientific suitability. It is therefore necessary to conduct new surveys to obtain additional geological data from deep underground for comparative assessment**. Literature surveys and preliminary investigations are conducted at multiple locations across Japan for this purpose and do not directly determine the final disposal site**.

In light of these circumstances, **the national government will take a more proactive role in promoting public understanding nationwide. In addition, regarding the surveys for selecting a final disposal site, the government will take responsibility for requesting the cooperation of local communities, rather than leaving the matter entirely to the regions themselves. I ask all prefectural governors to understand these efforts by the government and to cooperate in addressing energy policy challenges, while respecting the intentions of each municipality.**

For my part, I will continue to make further efforts toward the selection of a disposal site.

Literature Survey on Minamitorishima (Ogasawara Village, Tokyo)

- **According to the Scientific Characteristics Map,** Minamitorishima is **an area with a relatively high possibility of identifying favorable geological characteristics.** It also **contains unused land that could potentially accommodate surface facilities.** In addition, the entire island is state-owned, and the local community **has long cooperated with national government initiatives.**
- Taking these factors into account, on March 3, 2026, **the national government formally requested that Ogasawara Village Mayor Shibuya agree to a literature survey being conducted on Minamitorishima**.
- Following the request, **public briefing sessions were held in Chichijima and Hahajima in Ogasawara Village** in March 2026, with **more than 300 people attending a total of four sessions.**
- On April 20**, the national government received a written response from Mayor Shibuya stating that the decision should be made by the national government, taking various opinions into account.** The following day, April 21, the Minister of Economy, Trade and Industry met with Mayor Shibuya, who **accepted the government's decision to proceed with the literature survey on Minamitorishima.**
- On May 20, approval was granted for changes to the NUMO's business plan; literature surveys were initiated.



On the scientific characteristics map
Green coastal zone
(Dark green)



March 14: Scenes from the briefing session on Chichijima Island
(The ANRE providing an overview of the project)

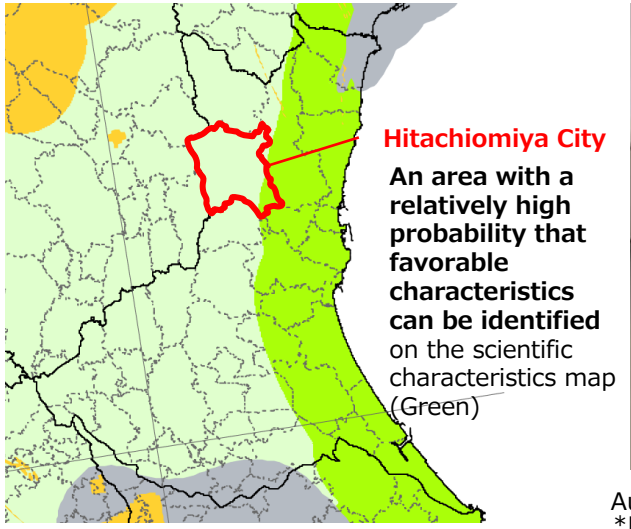


April 21:
Meeting between Ogasawara Village Mayor Shibuya and Minister Akazawa

Request to Conduct a Literature Survey in Hitachiomiya City (Ibaraki Prefecture)

- Hitachiomiya City is **an area with a relatively high likelihood of identifying favorable characteristics, according to the Scientific Characteristics Map**, and where **unused land exists that could potentially accommodate the surface facilities of a final disposal site**. In addition, **a series of nationwide visits to local governments across Japan has led to several study sessions held in the city**, **while local volunteers in Hitachiomiya City have expressed their desire for a literature survey, with a view to both contributing to national policy and promoting the city's sustainable development**.

- Taking all these factors into account, **the government formally requested Mayor Suzuki of Hitachiomiya City on Monday, August 31 of this year, to conduct a literature survey**.
- Following a request from the national government, Hitachiomiya City engaged in extensive discussions, and **on Tuesday, September 29, Mayor Suzuki of Hitachiomiya City met with Minister Akazawa. Minister Akazawa pledged that the government would properly address the opinions and other input received from city council members and citizens.**
- On Wednesday, September 30, Mayor Suzuki held a press conference and **announced the acceptance of the literature survey.**
- On Thursday, October 15, the revision to NUMO's business plan was approved, and **the literature survey commenced**.



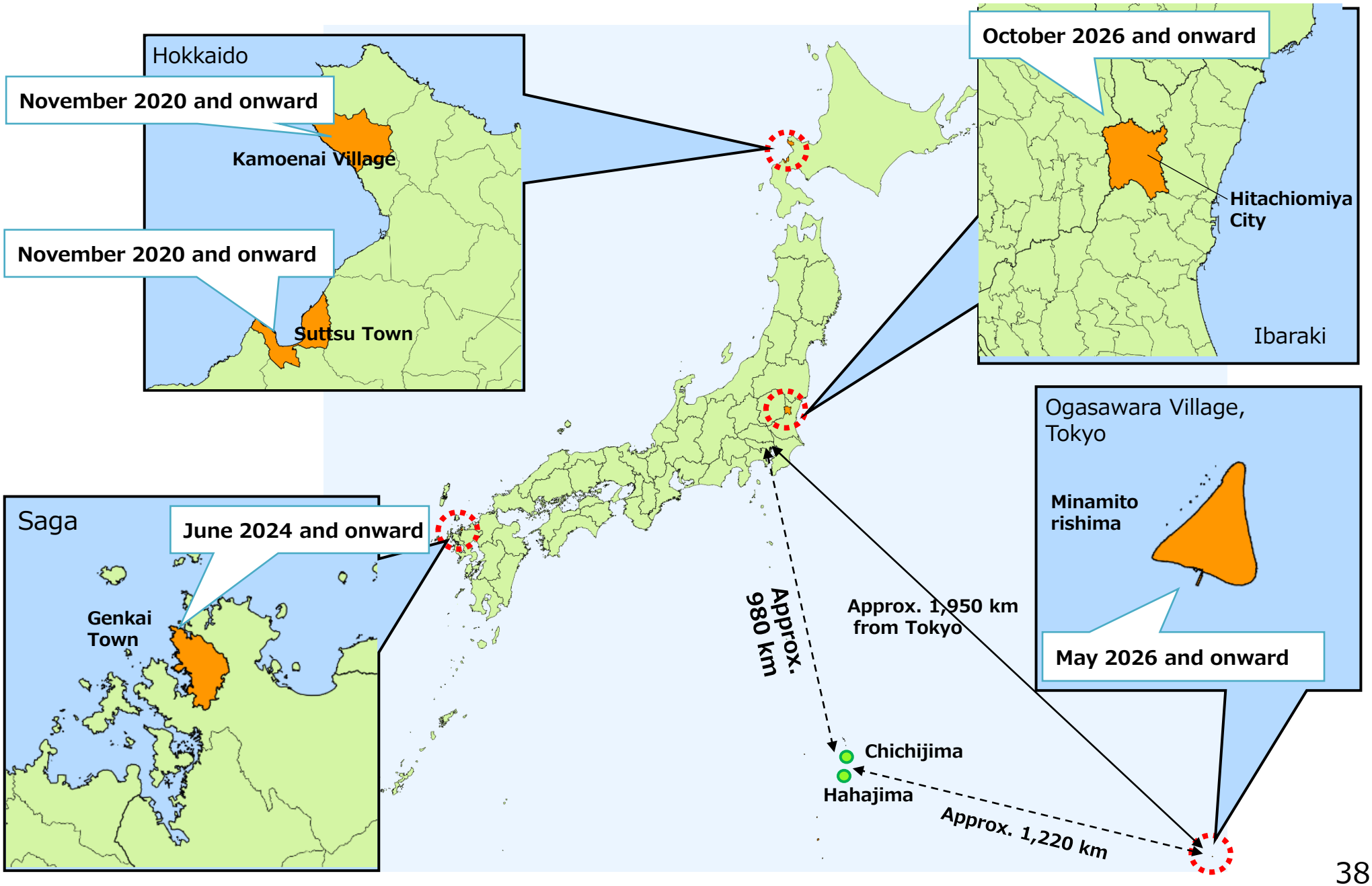


August 31: Submission of a request for a literature review
*Mayor Suzuki is on the left; the Deputy Commissioner of the ANRE on the right.



September 29: Meeting between Mayor Suzuki and Minister Akazawa

(Reference) Areas Where Literature Surveys Are Conducted in Japan



5) Supply Chain and Human Resources –Key Revisions–

- Promoting human resource development initiatives based on discussions held by the Council on Strengthening the Development and Securing of Nuclear Energy Human Resources, including **the transfer and evolution of** accumulated **technical skills**, **the establishment of** world-leading **research and technological infrastructure**, **the enhancement of mechanisms to attract future generations**, and **the creation of a cross-sectoral coordinating body** spanning industry, government, and academia, as well as the development of a medium- to long-term roadmap based on an analysis of supply-demand gaps.

- Government support for technology and business succession, measures to prevent supply disruptions, and **the development of production systems geared toward delivering actual equipment** to overseas construction and other projects.

Human Resource Development

Promoting human resource development initiatives in line with the strategic direction established by the Council for Nuclear Human Resource Development and Strengthening, attended by industry, government, and academia.

① **Passing on and advancing accumulated technical skills and expertise**
(Utilizing private-sector training facilities across industry sectors; expanding public training facilities; creating sustainable working environments; and continuously recruiting and fostering personnel required for construction and other activities that support on-site operations, such as the decommissioning of TEPCO's Fukushima Daiichi NPP)

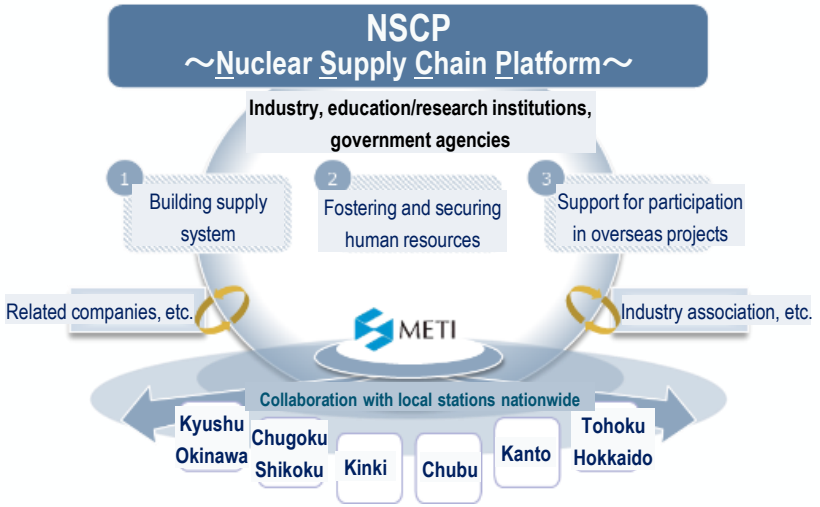
② **Establishing world-leading research and technological infrastructure**
(Enhancing and strengthening educational foundation through the Advanced Nuclear Education Consortium for the Future Society (ANEC); reinforcing research infrastructure at JAEA and other institutions; ensuring personnel mobility of NRA and making use of external Technical Support Organizations (TSOs))

③ **Strengthening mechanisms to attract future generations**
(Creating cross-industry training opportunities and academic programs for students; promoting collaboration between educational institutions and companies, including dispatching instructors to industrial high schools; and expanding outreach efforts, such as public relations and guest lectures)

④ **Establishing a cross-sectoral coordinating body spanning industry, government, and academia and developing a medium- to long-term roadmap based on an analysis of the supply-demand gap**
(Establishing a central coordinating body; developing a roadmap; and analyzing areas of labor shortages, scale and timing revealed through surveys across the industry with a target completion date during FY2026)

Supply Chain

Even if the development and deployment of next-generation innovative reactors proceed, a considerable period may elapse before suppliers have actual opportunities to procure products and engage in manufacturing. In light of this, **the public and private sectors will jointly support the maintenance of technical capabilities and human resources at related companies through measures such as enhancing manufacturing capacities, preventing supply disruptions, and facilitating participation in overseas projects.**



Cross-Sectoral Human Resource Development Across Industry, Government, and Academia (Establishment of Council for the Development and Enhancement of Nuclear Human Resources)

- Japan's nuclear industry infrastructure is supported by a large pool of personnel with expertise and skills in nuclear technology. However, **securing and fostering human resources has gradually become more difficult due to a decline in future employment prospects resulting from the loss of new-build projects following the Great East Japan Earthquake, and a decreasing number of students enrolled in nuclear-related academic programs.**

- **In addition to labor shortages in industry**, numerous challenges require coordinated efforts across industry, government, and academia. These include discussions led by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) on **restructuring the nuclear education consortium,** as well as **personnel shortages in the nuclear regulatory sector.**

- **To solve these issues, a council is convened to bring relevant stakeholders together on a regular basis to share information,** including updates on each organization's activities and reviews of practices in other countries, **and to discuss policy formulation**.

Overview of the Council

Related Institutions and Universities

- Japan Atomic Industrial Forum, Inc. (JAIF)
- The Federation of Electric Power Companies of Japan (FEPC)
- The Japan Electrical Manufacturers' Association (JEMA)
- Japan Atomic Energy Agency (JAEA)
- Kyoto University, The University of Tokyo

Related Ministries

- Cabinet Office
- Ministry of Education, Culture, Sports, Science and Technology (MEXT)
- Nuclear Regulatory Agency (NRA)
- Ministry of Economy, Trade and Industry (METI)

Schedule

1st: September 24, 2025
2nd: December 10, 2025
3rd: March 13, 2026

Key Topics of Discussion

1st Meeting

- Sharing human resource development initiatives by relevant organizations and major companies
- Aligning stakeholders' understanding of the current situation
- Challenges in human resource development (transfer of technical knowledge and skills)
- Challenges in securing human resources (recruitment)

2nd Meeting

- The need for a central coordinating body for nuclear human resource development, its required functions, and entities to fulfill this role
- Specific approaches to quantitatively assessing the nuclear workforce, including future labor supply and demand, and methods for further analysis
- Potential approaches to developing human resource development measures across industry sectors
- Current status and challenges in developing human resources for safeguards

3rd Meeting

- Consolidation of discussions

Challenges Regarding Future Measures: Nuclear Human Resources and Future Responses (Overview)

Summary
Council for the Development and Enhancement of Nuclear Human Resources March 31, 2026

Challenges faced

1) Weakening human resource infrastructure required for construction

- The period of stagnation in construction projects since the Great East Japan Earthquake has **led to a significant decline in the number of on-site skilled workers, which has fallen by approximately 30%**. Maintaining and passing on technical skills is an urgent priority.
- Continuous human resource development is necessary for activities such as the **Fukushima Daiichi decommissioning**.

2) Weakening infrastructure for nuclear education and research

- **The number of personnel at universities and research institutions responsible** for advanced **nuclear education and research has also declined (with faculty numbers falling by approx. 20%).**
- **The regulatory workforce is also aging, with half of the workforce aged 50 or older,** which acts as a constraint on addressing emerging issues, such as developing regulatory requirements for next-generation reactors.

3) Shrinking pool of potential human resources that sustain the future of nuclear power

- The pool of potential on-site workers for plant construction and maintenance is also shrinking due mainly to population decline, **with the number of industrial high school graduates declining by approx. 60%.**
- While individual stakeholders are pursuing initiatives, broader, more comprehensive implementation and greater quality of these efforts are needed.

4) Absence of effective framework for industry-government-academia collaboration

- **There is no common roadmap for collaboration among industry, government, and academia** in addressing the challenges outlined above.
- There is no analysis of future workforce supply and demand toward the formulation of policy.

A turning point in rebuilding the workforce structure underpinning Japan's nuclear industry into a sustainable model, amid growing necessity for nuclear power

Strategic direction

1) Pass on and evolve cultivated skills and technologies

Expand opportunities to develop human resources to support construction and related sectors [New/Enhanced]
[METI and industry]
- Cross-industry use of private-sector training facilities
- Expanding public-sector training facilities

Create an environment that enables sustainable construction, operation, and maintenance despite a declining population [New]
[METI and industry]
- Examining cross-industry measures for the modernization of nuclear power plants
- Exploring the use of AI and other new technologies

2) Construct a world-leading research and technological foundation

Enhance and strengthen educational infrastructure [Enhanced]
[MEXT, NRA and Academia]
- Accelerating inter-university collaboration through sharing educational resources
- Expanding the reach to students outside the nuclear science and engineering field

Strengthen research foundation [New] [MEXT]
- Expanding practical training opportunities by using JAEA facilities
- Developing and enhancing JAEA's test and research facilities

Secure personnel responsible for nuclear regulation [Enhanced]
[NRA and MEXT]
- Ensuring staff mobility and recruitment flexibility within NRA
- Expanding the use of external Technical Support Organizations (TSOs), such as JAEA and NMCC

3) Strengthen mechanisms to attract future generations

Create student training opportunities that span power companies, suppliers, research institutions and regulatory bodies [New]
[MEXT, NRA, METI, industry and Academia]

Create learning opportunities for students through collaboration between educational institutions and companies [New/Enhanced]
[METI, MEXT, Industry, and Academia]
- Supporting the establishment of specialized academic programs tailored to individual companies
- Dispatching instructors to industrial high schools, colleges of technology, etc.

Disseminate information to future generations [Enhanced]
[METI, MEXT, and Industry]
- Public relations, expansion of outreach classes, etc.

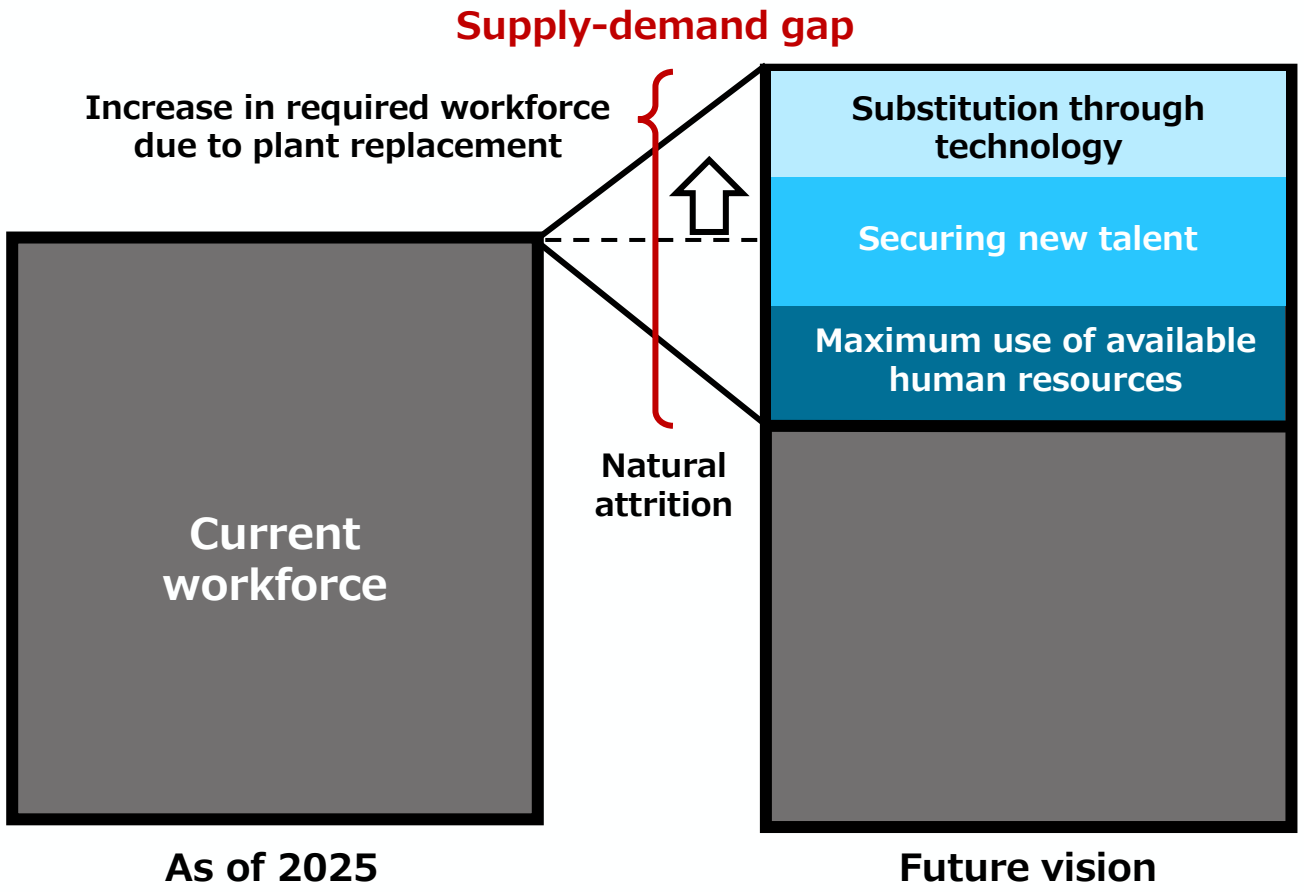
4) Create a cross-sectoral coordinating body spanning industry, government, and academia and develop a medium- to long-term roadmap based on an analysis of the supply-demand gap

Build an integrated industry–government–academia framework for implementation [New] [METI, MEXT,, NRA, Industry, Academia, etc.]
- Establishing a cross-sectoral coordinating body and formulating a future roadmap, with a target completion date during FY2026

Identify medium- to long-term gaps between workforce supply and demand [New] [METI, MEXT, NRA, Industry, and Academia]
- Conducting a survey of industry stakeholders and analyzing workforce shortages, scale, and timing, with completion targeted for FY2026, by adding questions to the JAIF survey on trends in the nuclear power industry.

Target Vision

- To establish a clear, quantitative vision shared by industry, government, and academia, **the gaps between workforce supply and demand in line with the outlook for construction will be identified.**
- Furthermore, given the anticipated population decline, it is necessary to consider how to realize the outlook for plant replacement projects by **maximizing the contributions of the existing workforce while attracting new talent**.



Establishment of the Japan Atomic Human Resources Consortium

The Japan Atomic Human Resources Consortium (J-AHRC) was established on October 7 by reorganizing the existing Nuclear Human Resource Development Network **to serve as a central coordinating hub for fostering nuclear human resources across industry, academia, and government**.
Through this consortium, efforts will be made to develop a roadmap and formulate and implement specific initiatives.

- Overview of J-AHRC

【Founding Organization】

(Industry)
- JAIF
- FEPC
- Kansai Electric
- TEPCO HD
- Chubu Electric
- MHI
- Hitachi
- Toshiba

(Academia)
- JAEA
- ANEC (Consortium for Advanced Nuclear Education for a Future Society)

(Government)
- MEXT
- NRA
- METI

【Launch event on October 7】



