WHITE PAPER ON NUCLEAR ENERGY 2025

Published in June 2026

EXECUTIVE SUMMARY

JAPAN ATOMIC ENERGY COMMISSION (JAEC)

Provisional Translation, September 2026

Abbreviations

Abbreviation	Full term
Ac	Actinium
ALPS	Advanced Liquid Processing System
approx.	approximately
At	Astatine
EU	European Union
FEPC	Federation of Electric Power Companies of Japan
FY	Fiscal Year (April - March in Japan)
GW	Gigawatt
HLW	High-Level Radioactive Waste
IAEA	International Atomic Energy Agency
IRRS	Integrated Regulatory Review Service
JAEC	Japan Atomic Energy Commission
JAERO	Japan Atomic Energy Relations Organization
JAEA	Japan Atomic Energy Agency
JASRI	Japan Synchrotron Radiation Research Institute
JNFL	Japan Nuclear Fuel Limited
JPY	Japanese Yen
kWh	Kilowatt-hour
LCOE	Levelized Cost of Electricity
LWR	Light Water Reactor

Abbreviation	Full term
METI	Ministry of Economy, Trade and Industry
MEXT	Ministry of Education, Culture, Sports, Science and Technology
MHI	Mitsubishi Heavy Industries, Ltd.
Mo	Molybdenum
MOE	Ministry of the Environment
MOX	Uranium and Plutonium Mixed Oxide Fuel
NDF	Nuclear Damage Compensation and Decommissioning Facilitation Corporation
NEA	Nuclear Energy Agency
NPP	Nuclear Power Plant
NPS	Nuclear Power Station
NRA	Nuclear Regulation Authority
NUMO	Nuclear Waste Management Organization of Japan
OECD	Organisation for Economic Co-operation and Development
PCV	Primary Containment Vessel
Pu	Plutonium
R&D	Research and Development
RPV	Reactor Pressure Vessel
SMR	Small Modular Reactor
TEPCO	Tokyo Electric Power Company Holdings, Inc.
U	Uranium

ABOUT THE WHITE PAPER ON NUCLEAR ENERGY

The White Paper on Nuclear Energy, published by the Japan Atomic Energy Commission (JAEC), is intended to fulfill the government's accountability to the public by providing a comprehensive overview of the current status and initiatives regarding nuclear energy utilization.

SPECIAL REPORT

Outlook for the Nuclear Fuel Cycle toward the Next Generation

The special topic presents the significance, technologies, and domestic and international developments of the nuclear fuel cycle.

MAIN CHAPTERS

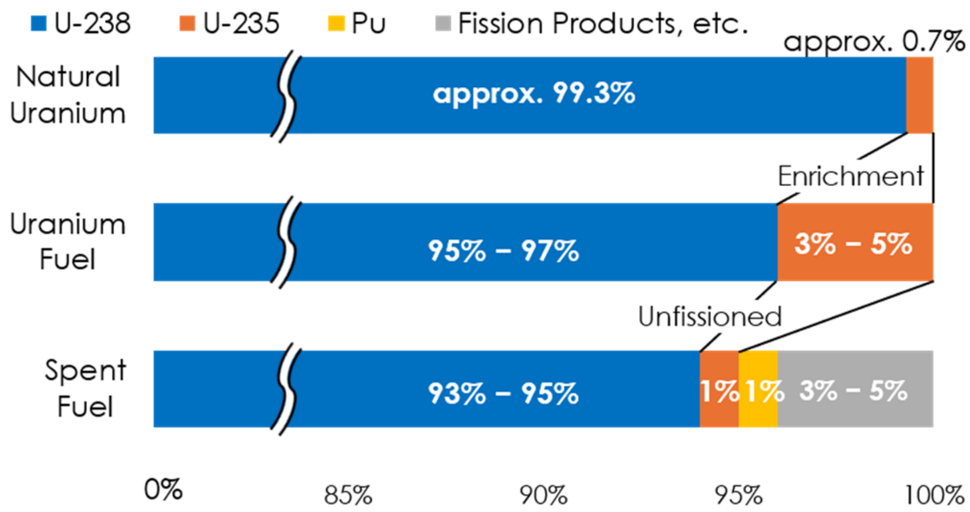
1. Lessons Learned from the TEPCO Fukushima Daiichi Nuclear Power Plant Accident and Efforts toward Reconstruction and Revitalization
2. Nuclear Energy Utilization
3. Global Trends and International Collaboration
4. Peaceful Use of Nuclear Energy, Non-proliferation, and Nuclear Security
5. Rebuilding Public Trust in Nuclear Energy
6. Decommissioning and Radioactive Wastes Management
7. Advances in Application of Radiation and Radioisotope Technologies
8. Innovation in Nuclear Energy Utilization
9. Human Resource Development and Strengthening of Supply Chain

BACKGROUND

- With limited domestic energy resources, Japan positions nuclear power as an important source of energy that contributes to energy security, and Japan promotes a closed nuclear fuel cycle as a basic policy.
- The importance of promoting the nuclear fuel cycle has increased in light of recent international developments.

OVERVIEW OF THE NUCLEAR FUEL CYCLE

- A closed nuclear fuel cycle involves the reuse of uranium and plutonium recovered from spent fuel through reprocessing. It contributes to the efficient resource utilization, as well as to the reduction in the volume and radiotoxicity of high-level radioactive waste.
- Under the Atomic Energy Basic Act, Japan limits the use of nuclear energy to peaceful purposes. All nuclear material in Japan is subject to stringent IAEA safeguards, and the IAEA has been drawing conclusion that such material remains in peaceful activities.



Example composition of natural uranium and LWR Fuel

Source: Cabinet Office, based on Japan Atomic Energy Relations Organization (JAERO), Nuclear fission inside Light Water Reactors, Graphical Flip-chart of Nuclear & Energy Related Topics(2016)

OVERVIEW OF THE NUCLEAR FUEL CYCLE

- The light water reactor (LWR) fuel cycle, the nuclear fuel cycle based on light water reactors, consists of the following stages:

Front-end

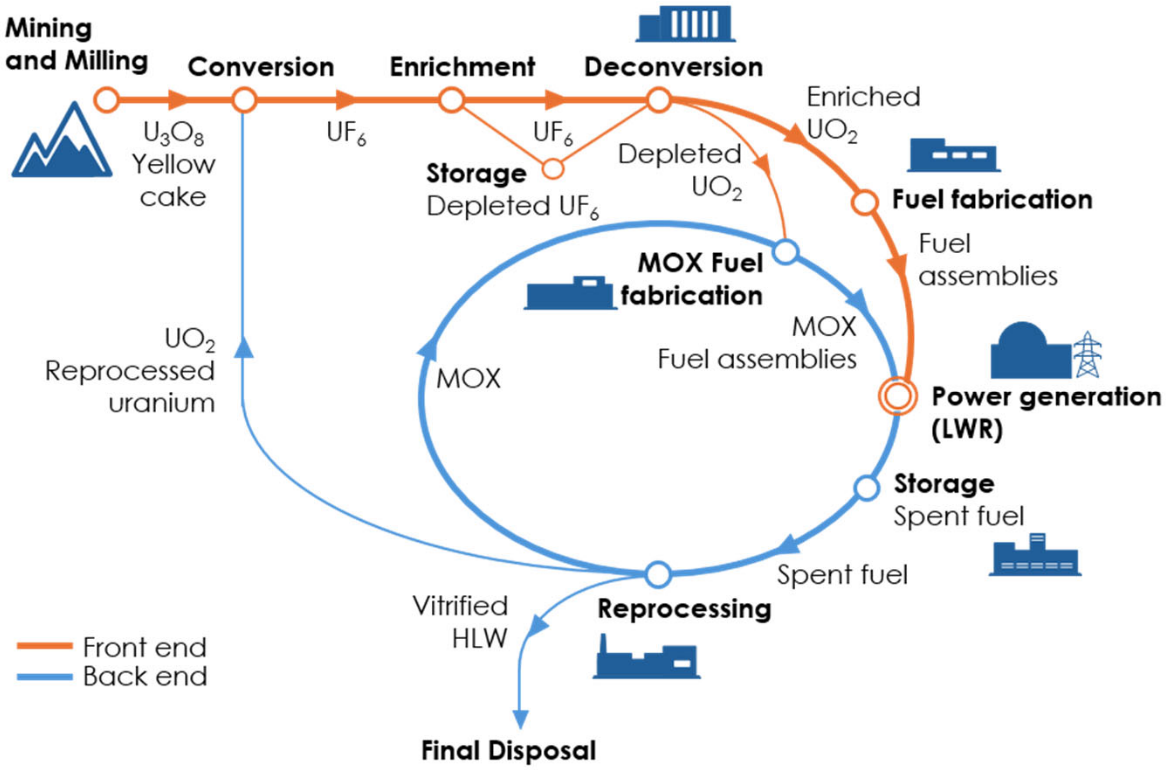
- Uranium is processed into fuel assemblies through the stages of mining, milling, conversion, enrichment, reconversion and fuel fabrication.

Power generation

- Electricity is generated using the energy released by the fission of uranium.

Back-end

- Uranium and plutonium contained in spent fuel are recovered through reprocessing to fabricate MOX fuel.
- MOX fuel is then reused for power generation in reactors.
- High-level radioactive waste generated during reprocessing is disposed of after vitrification.



Overview of nuclear fuel cycle (LWR fuel cycle)

Source: Cabinet Office

IMPORTANCE OF THE LWR FUEL CYCLE

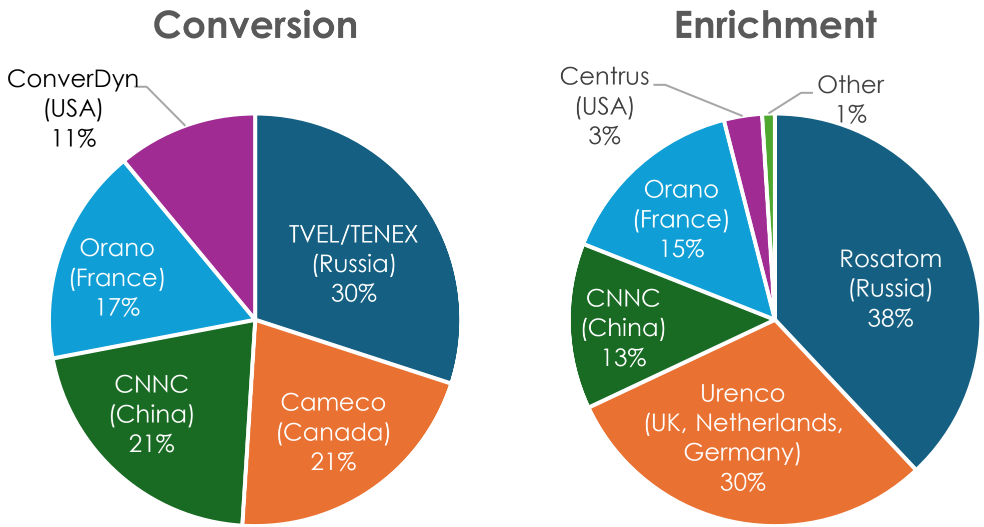
- The establishment of the LWR fuel cycle enhances energy security through the efficient resource utilization and reduces the burden on future generations through the reduction in the volume and radiotoxicity of high-level radioactive waste.
- The costs associated with reprocessing and MOX fuel fabrication are estimated to account for approximately 5% of total nuclear power generation costs.

Note: Levelized Cost of Electricity (LCOE) for nuclear power in Japan: JPY12.6/kWh or higher

Efficient resource utilization

- The global trend toward the expanded use of nuclear energy is accelerating, and demand for uranium is expected to increase in the future.
- Japan depends on overseas sources for the majority of front-end services, while the number of countries capable of providing uranium conversion and enrichment services is limited.
- Reprocessing spent fuel to recover and reuse uranium and plutonium enables more efficient use of resources.

Note: It is estimated that 1,000kg of spent fuel can yield approx. 100kg of MOX fuel and approx. 130kg of reprocessed uranium fuel.



World market share in the front-end of the nuclear fuel cycle (as of 2022)

Source: Cabinet Office, based on Ministry of Economy, Trade and Industry (METI), Trends, issues, and discussion points concerning nuclear energy, Material 1, 42nd Meeting of the Nuclear Energy Subcommittee(2024)

IMPORTANCE OF THE LWR FUEL CYCLE

Reduction in the volume and radiotoxicity of high-level radioactive waste

- Reprocessing enables the recovery of uranium and plutonium from spent fuel, reducing waste volume to approx. 1/4 in terms of volume ratio.
- The time required for the hazard level of the resulting high-level radioactive waste to decrease to that of natural uranium is expected to be reduced from approx. 100,000 years to approx. 8,000 years.

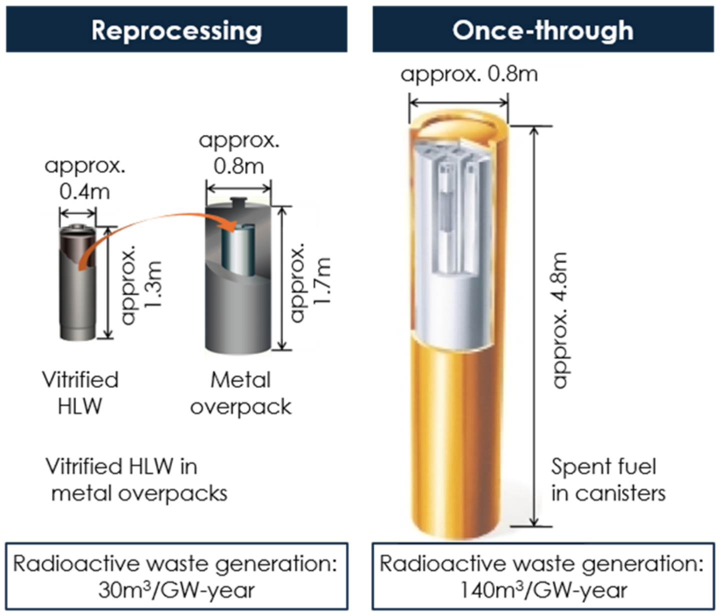
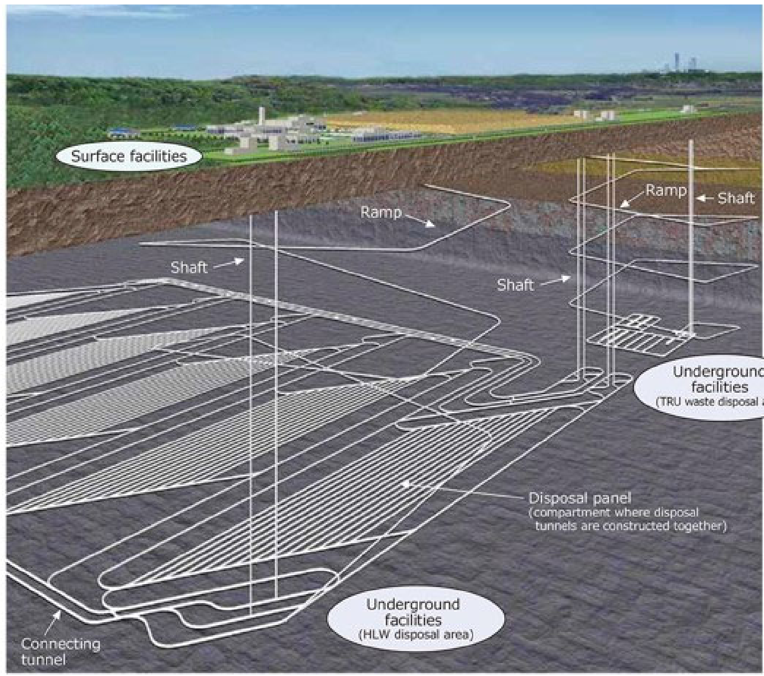


Illustration of waste forms for HLW under reprocessing scenario and once-through scenario

Source: Cabinet Office, based on Japan Atomic Energy Agency (JAEA), R&D to be conducted using Monju and other facilities for waste volume reduction and radiotoxicity reduction, Monju Research planning working group, MEXT(2012)



Example of repository layout

Source: The Nuclear Waste Management Organization of Japan (NUMO), Geological disposal concepts, NUMO website(2026)

OVERVIEW OF THE FAST REACTOR FUEL CYCLE

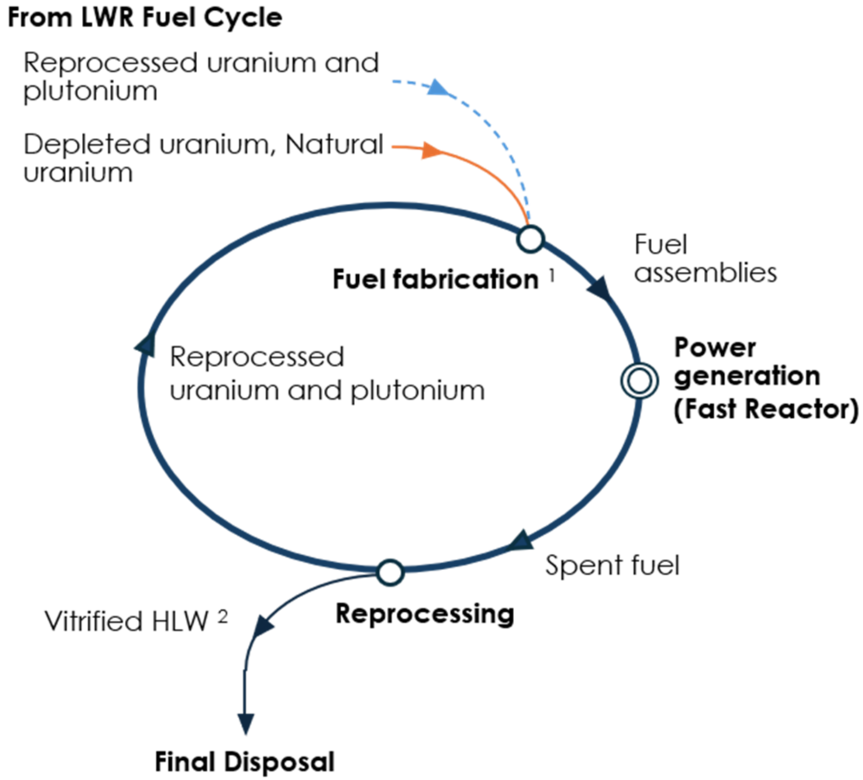
- While LWRs sustain the nuclear fission chain reaction with thermal neutrons, fast reactor sustains it with fast neutrons.
- Fuel for fast reactors is fabricated from uranium and plutonium recovered through the reprocessing of spent fuel from fast reactors or LWRs.
- The fuel is loaded into fast reactors and used to produce energy while simultaneously enabling the production of plutonium.

IMPORTANCE OF THE FAST REACTOR FUEL CYCLE

- The fast reactor fuel cycle further enhances the benefits of efficient resource utilization and the reduction in the volume and radiotoxicity of high-level radioactive waste.

Note: The figure includes research results from the project commissioned by METI.

Illustration of a demonstration fast reactor
Source: Mitsubishi Heavy Industries, Ltd.(MHI), Press information 2023, MHI Website(2026)



Note 1: The recovery and transmutation (burning) of minor actinides from high-level radioactive waste are also under consideration.

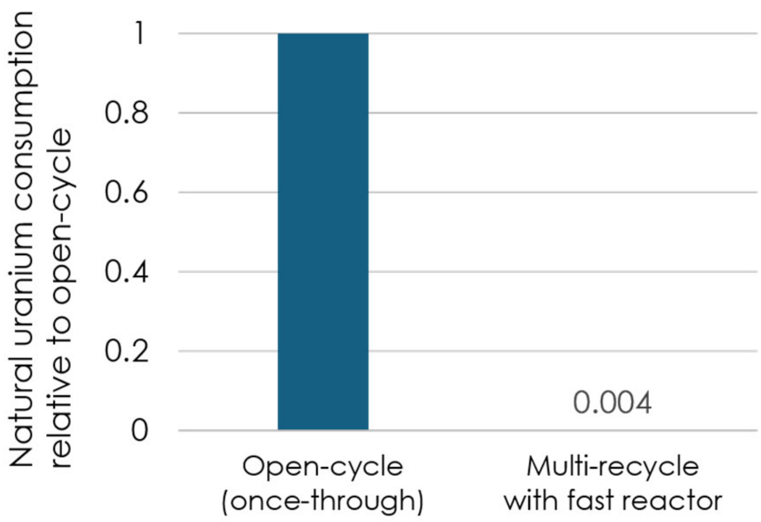
Note 2: Further reductions in radioactive waste volume and radiotoxicity are expected compared to the LWR fuel cycle.

Overview of nuclear fuel cycle (Fast reactor fuel cycle)
Source: Cabinet Office

IMPORTANCE OF THE FAST REACTOR FUEL CYCLE

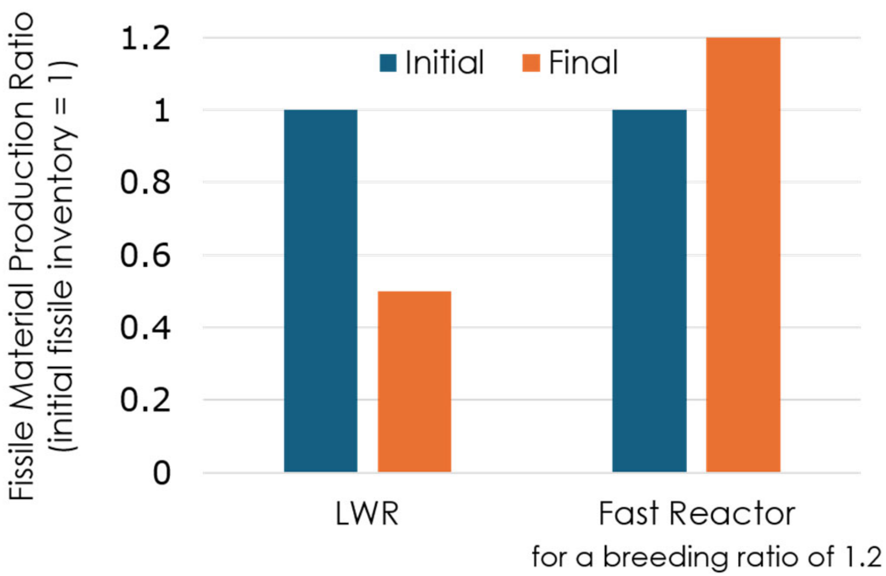
Efficient resource utilization

- Fast reactors can efficiently convert U-238, which accounts for approx. 99.3% of natural uranium, into Pu-239 for use as fuel.
- The reactor core can be designed to produce more fissile material than they consume as fuel. This means that the utilization efficiency of natural uranium becomes significantly higher than in the light water reactor fuel cycle.



Natural uranium consumption relative to open-cycle

Source: Cabinet Office, modified from OECD/NEA, Strategies and considerations for the back end of the fuel cycle(2021)



Initial and final fissile material inventories

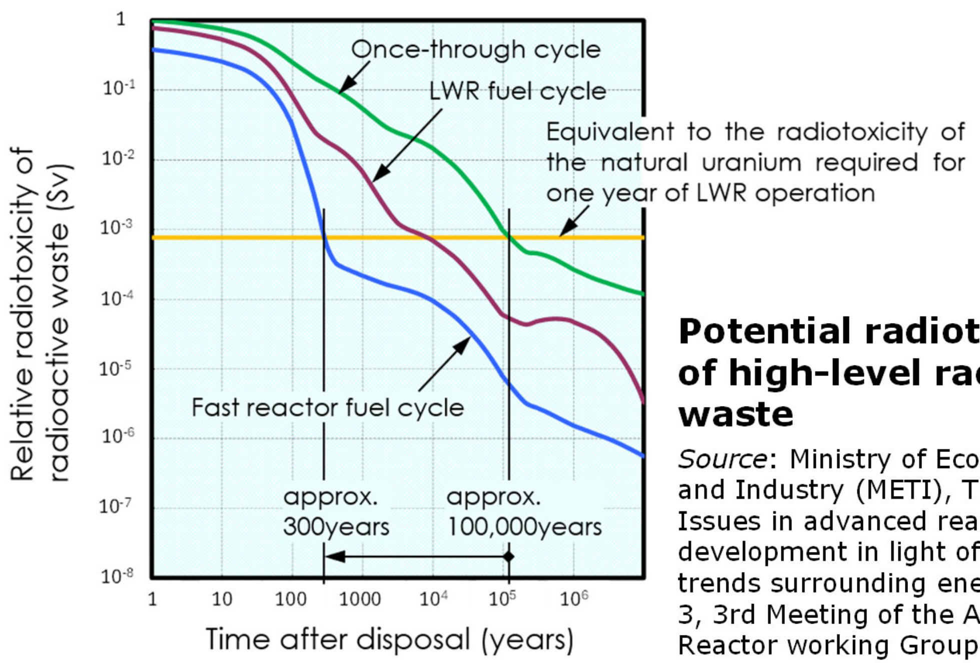
Source: Cabinet Office

IMPORTANCE OF THE FAST REACTOR FUEL CYCLE

Reduction in the volume and radiotoxicity of high-level radioactive waste

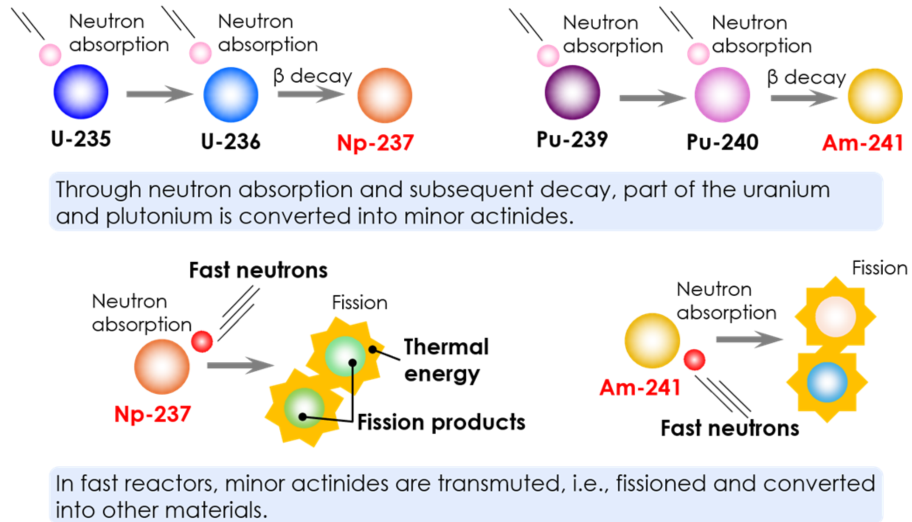
- The volume of high-level radioactive waste generated by fast reactors per unit of electricity production is estimated to be approx. 1/7 of that of the once-through cycle.
- By recovering minor actinides from spent fuel and utilizing them as fuel in fast reactors, the time required for the radiotoxicity of high-level radioactive waste to decrease to the level of natural uranium can be reduced to about 300 years.

Note: The above values are theoretical assuming the realization of technologies for the recovery and utilization of minor actinides currently under development in Japan and abroad.



Potential radiotoxicity of high-level radioactive waste

Source: Ministry of Economy, Trade and Industry (METI), Trends, Issues in advanced reactor development in light of social trends surrounding energy, Material 3, 3rd Meeting of the Advanced Reactor working Group (2022).



Illustrations of the generation and transmutation of minor actinides

Source: Cabinet Office

INITIATIVES RELATED TO THE LWR FUEL CYCLE IN JAPAN

Front-end

- The government and private sector will work together to maintain technologies for uranium enrichment and fuel fabrication, and to ensure a sustainable fuel supply system. Japan Nuclear Fuel Limited is working to expand the scale of enriched uranium production based on its uranium supply assurance plan.

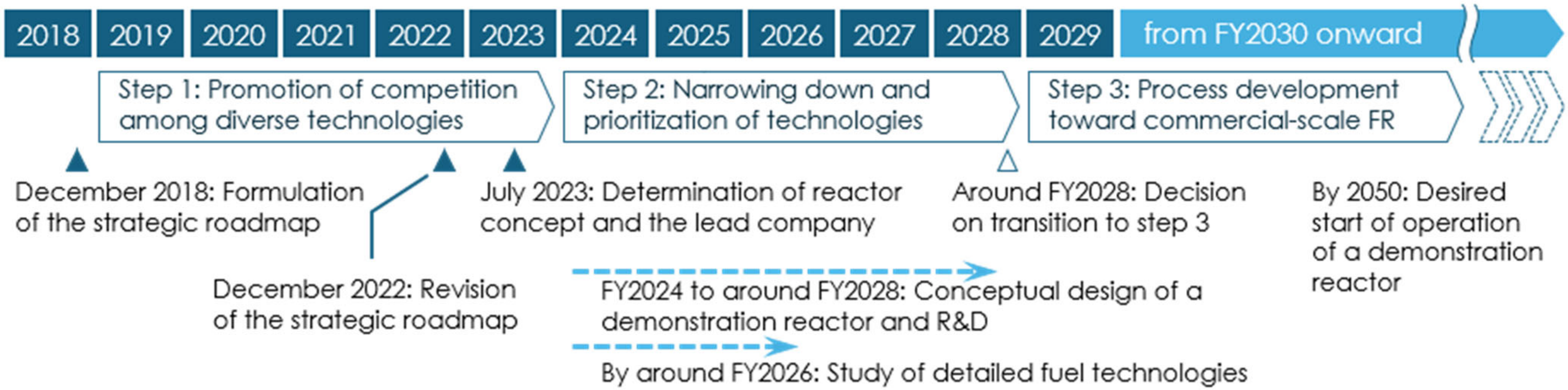
Back-end

- Activities are underway toward the completion of Japan Nuclear Fuel Ltd.'s Rokkasho Reprocessing Plant (scheduled for FY2026) and MOX Fuel Fabrication Plant (scheduled for FY2027).
- Electric utilities aim to expand the use of MOX fuel in at least 12 commercial reactors by FY2030, subject to obtaining the understanding of local communities.
- To achieve final disposal, the Literature Surveys are being conducted at three locations in Japan. In March 2026, the government submitted a request for the initiation of the Literature Survey on Minamitorishima Island, Ogasawara Village, Tokyo, and the survey commenced in May 2026.

Overview of the Rokkasho Reprocessing Plant
Source: Japan Nuclear Fuel Ltd.(JNFL), Our business-Reprocessing, JNFL website(2026)

INITIATIVES RELATED TO THE FAST REACTOR FUEL CYCLE IN JAPAN

- Fast reactor development is being promoted to further enhance the benefits of the nuclear fuel cycle.
- The Japan Atomic Energy Agency plans to conduct testing and research to support fast reactor development at the experimental fast reactor “Joyo” and the large-scale sodium test facility “AtheNa”.
- The Strategic Roadmap (revised 2022 Edition) for fast reactor development indicates that the reactor concept should be established by around 2030, and that a demonstration reactor is expected to begin operation by 2050.
- METI launched the Fast Reactor Demonstration Project in FY2023 and, in April 2026, published the Roadmap for the Development of Next-Generation Innovative Reactors toward the realization of a demonstration fast reactor.



Timeline presented in the strategic roadmap for a demonstration fast reactor

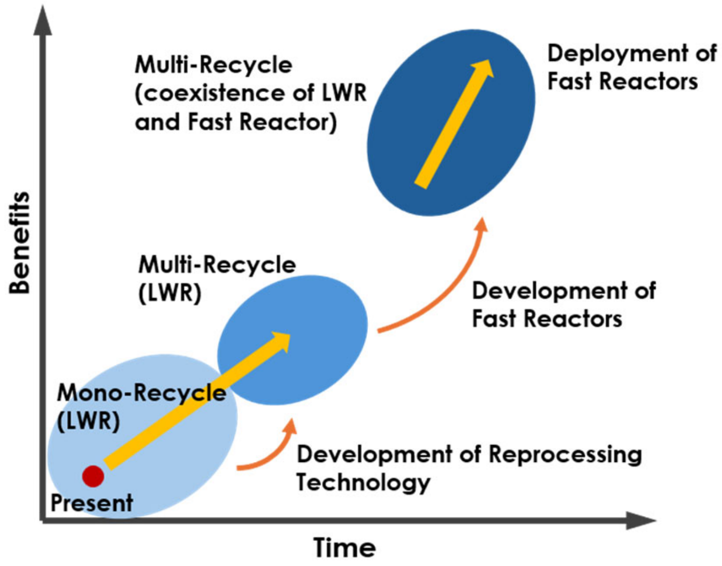
Source: Cabinet Office, based on Ministerial Council on Nuclear Energy, the Strategic Roadmap (2022 Revised Edition)

DEVELOPMENTS IN NUCLEAR FUEL CYCLE PROGRAMS IN OTHER COUNTRIES

- In France, Russia, China, and India, fast reactor development is being continuously pursued under government leadership.
- In the United States and Canada, development of small fast reactors is advancing, supported by government initiatives for advanced reactor development.

SUMMARY

- It is important to steadily advance efforts related to the light water reactor fuel cycle.
- Ensuring international confidence through stringent implementation of IAEA safeguards is essential.
- At present, a mono-recycle approach using LWRs is being pursued. Going forward, it is expected that establishing reprocessing technologies for spent MOX fuel and achieving multi-recycle will further enhance the benefits, including more efficient use of resources.
- Fast reactors are being developed in stages, with the goal of commencing operation of a demonstration reactor by 2050.
- Even limited deployment of commercial fast reactors is expected to significantly enhance the benefits of the nuclear fuel cycle.



Note: The vertical axis represents effective resource utilization and the reduction in the volume and radiotoxicity of high-level radioactive waste.

Illustration of the development of nuclear fuel cycle

Source: Cabinet Office

MESSAGE FROM THE JAPAN ATOMIC ENERGY COMMISSION

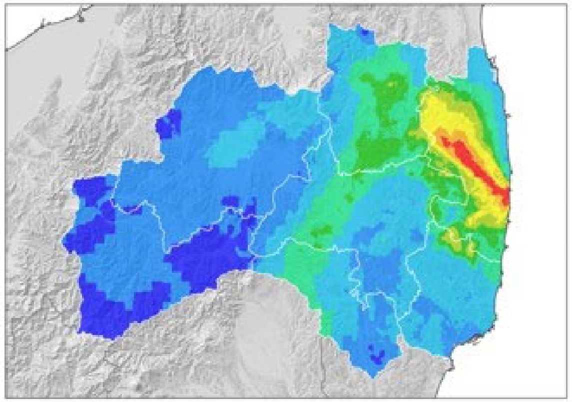
- ✓ Establishing a comprehensive nuclear fuel cycle is crucial for sustainable use of nuclear energy. This process must be pursued under international cooperation while maintaining the fundamental principle of the peaceful use of nuclear energy and fulfilling accountability to the international community.
- ✓ It is necessary to advance R&D and related initiatives based on the future vision of the nuclear fuel cycle and flexible long-term strategies.
- ✓ It is crucial to work toward maintaining and developing Japan's technological foundation through initiatives such as cultivating next-generation talent.
- ✓ Establishing a comprehensive nuclear fuel cycle requires sustained long-term efforts. It is crucial to provide clear and understandable explanations to the public.

Reconstruction and Revitalization of Affected Areas in Fukushima

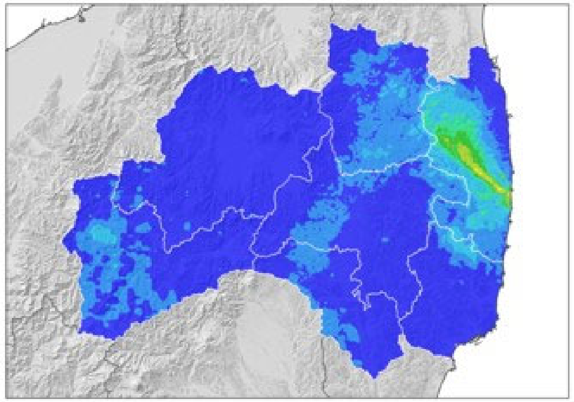
- By the end of March 2026, the Reconstruction and Revitalization Plans for Specified Living Areas for Returnees had been approved for six municipalities. In accordance with these plans, decontamination and infrastructure development efforts are being carried out toward the lifting of evacuation orders.
- In August 2025, the Ministerial Council compiled the Roadmap on Promotion of Managed Recycling of Removed Soil and Other Initiatives for Realization of Final Disposal outside Fukushima Prefecture.
- The Blueprint for Industrial Development Based on the Fukushima Innovation Coast Framework was revised in June 2025.

Managed recycling of removed soil in the front garden of the Prime Minister's office

Source: Cabinet Office, based on Ministry of the Environment (MOE), MOE Initiatives for reconstruction and revitalization following the Great East Japan Earthquake, Material 4, 13th JAEC Meeting (2026)



as of July 2011



as of December 2025

Environmental radiation monitoring in Fukushima Prefecture

Note: Ambient dose rate at a height of 1 m above ground level (μSv/h)

19.0 <	0.5 - 1.0
9.5 - 19.0	0.2 - 0.5
3.8 - 9.5	0.1 - 0.2
1.9 - 3.8	≤ 0.1
1.0 - 1.9	

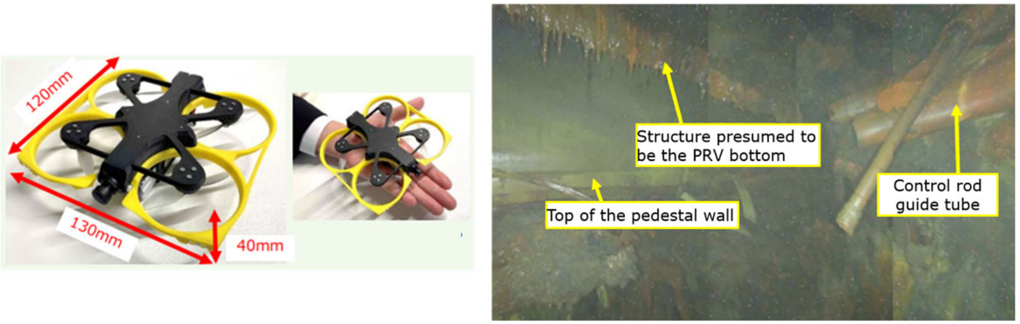
Source: The Secretariat of Nuclear Regulation Authority (NRA), Environmental radiation monitoring in Fukushima prefecture during the 15 years following the accident at TEPCO's Fukushima Daiichi NPP, Material 2, 12th NRA Meeting (2026)

Continuous Safety Improvement and Nuclear Emergency Preparedness

- The NRA Guide for Emergency Preparedness and Response was revised in October 2025, stipulating that the continuation of sheltering in place should be assessed around the third day and that residents may temporarily go out when necessary to maintain their daily lives.
- In January 2026, Chubu Electric Power disclosed misconduct related to the development of the design basis ground motion for Hamaoka Units 3 and 4. The NRA suspended the licensing review and is undertaking efforts to ascertain the facts.

Decommissioning of the TEPCO Fukushima Daiichi Nuclear Power Plant

- In April 2025, the second retrieval of fuel debris from Unit 2 was successfully completed. Analysis of the retrieved fuel debris is currently underway.
- At Unit 3, a survey using micro-drone technology was conducted in March 2026. The survey provided, for the first time since the accident, video footage essential for studying fuel debris retrieval methods.
- By March 2026, a total of 18 discharges of ALPS treated water had been carried out. Monitoring results and IAEA assessments have confirmed the safety of the discharges.

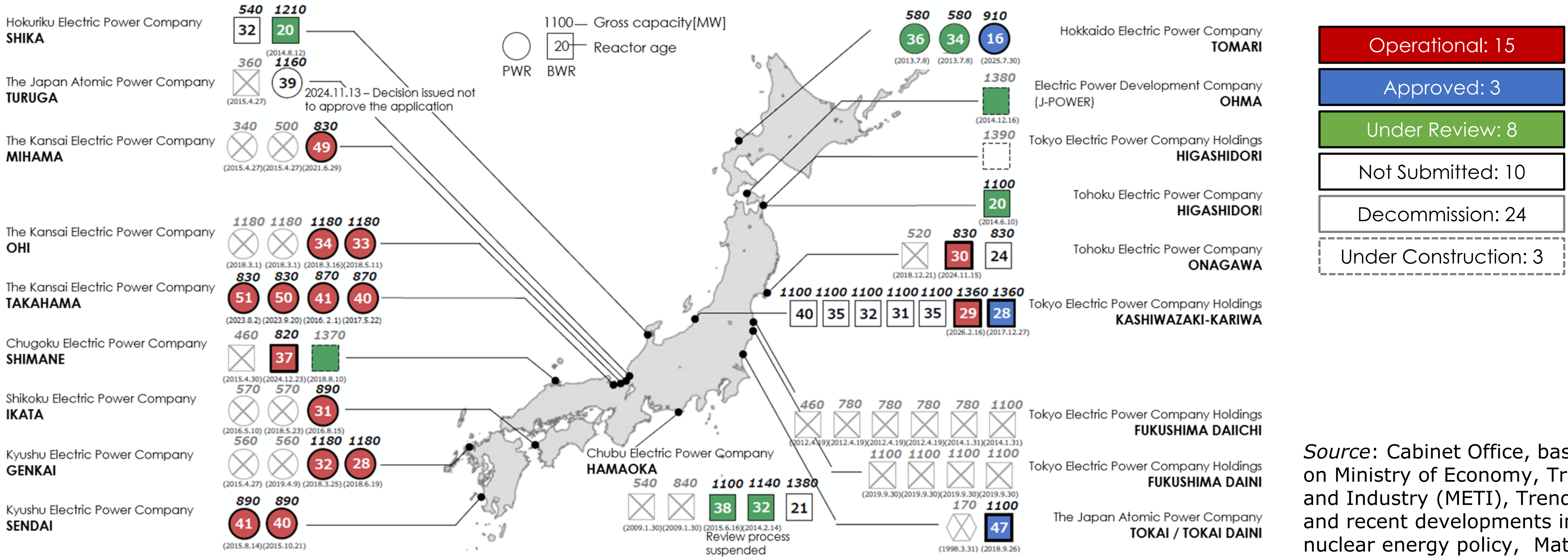


Micro-drone used in the internal investigation of the unit 3 PCV and the image captured

Source: Courtesy of Ministry of Economy, Trade and Industry (METI) (2026)

Promotion of the Use of Nuclear Energy

- In July 2025, Tomari Unit 3 received regulatory approval for facility modifications required to meet the post-Fukushima safety requirements. In February 2026, Kashiwazaki-Kariwa Unit 6 resumed operation.
- A new system governing the operating period of commercial nuclear reactors came into effect in June 2025. Under the system, periods during which a plant was unable to operate due to factors beyond the control of the operator may be excluded when calculating the maximum operating period of 60 years.



Status of nuclear power plants in Japan (as of March 31, 2026)

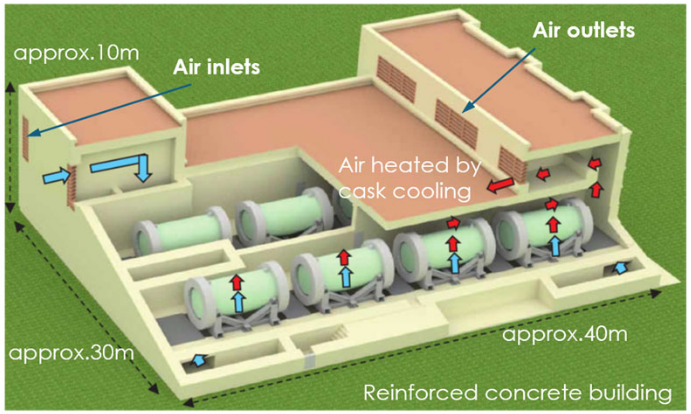
Source: Cabinet Office, based on Ministry of Economy, Trade and Industry (METI), Trends and recent developments in nuclear energy policy, Material 1, 48th Nuclear Energy Subcommittee (2026)

Initiatives Related to the Nuclear Fuel Cycle

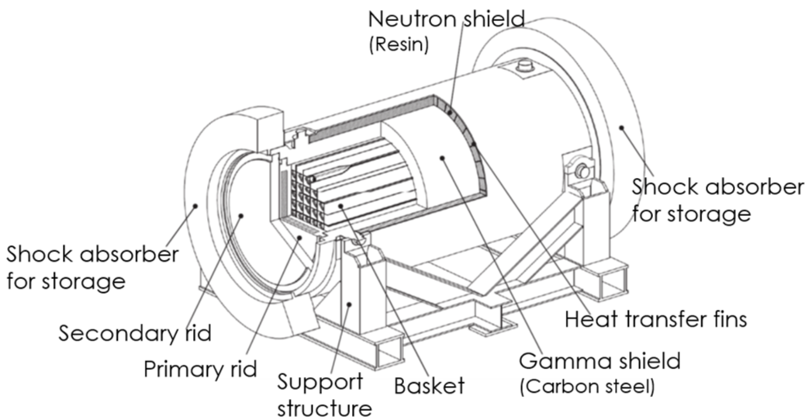
- Under the government-approved Uranium Supply Assurance Plan, Japan Nuclear Fuel Limited increased the capacity of its uranium enrichment facilities in November 2025.
- The NRA approved the changes of reactor installation of spent fuel dry storage facilities at Takahama NPS, Onagawa Unit 2, and Mihama Unit 3. In July 2025, operation of a spent fuel dry storage facility commenced at Ikata NPS.

Partnership with Host Communities

- In Fukui Prefecture and Aomori Prefecture, which host major nuclear facilities, follow-up reviews were conducted on roadmaps for achieving regional development visions through regional councils bringing together local governments, the national government, and nuclear industry stakeholders.



No.2 Spent fuel dry storage facility



Dry spent fuel storage cask

Planned Dry Storage Facility at the Onagawa Nuclear Power Station (Conceptual Image)

Source: Cabinet Office, based on the Secretariat of Nuclear Regulation Authority (NRA), Review policy for the installation of spent fuel dry storage facilities at Tohoku Electric Power Company Onagawa NPS and Kansai Electric Power Company Takahama NPS, Material 2, 60th NRA Meeting (2025)

Global Developments in Nuclear Power

- Major nuclear countries and regions are accelerating nuclear energy development through policy reforms and new reactor projects. The U.S. set a 400 GW target for 2050, Canada licensed its first SMR, France reaffirmed long-term nuclear use, China expanded reactor construction, and the EU advanced its SMR strategy.

Promotion of International Collaboration and Cooperation

- The IAEA conducted an Integrated Regulatory Review Service (IRRS) mission to Japan from 26 January to 6 February 2026. The mission concluded that Japan has a comprehensive and robust legal and regulatory framework, with an independent regulatory authority, the NRA, focused on safety and effective and efficient regulation, while ensuring transparent decision-making.
- During the Japan-U.S. Summit Meeting in March 2026, projects including SMR construction in Tennessee and Alabama were identified as areas for strategic investment cooperation.

BWRX-300 Conceptual Rendering
Source: Hitachi GE Vernova Nuclear Energy, Ltd.

Japan–U.S. Summit Meeting
Source: Cabinet Public Affairs Office

Ensuring the Peaceful Use of Nuclear Energy

- Under the Atomic Energy Basic Act, Japan limits the use of nuclear energy to peaceful purposes. All nuclear material in Japan is subject to stringent IAEA safeguards, and the IAEA has been drawing the conclusion that such material remain in peaceful activities.
- Japan continues to uphold the principle of "not possessing plutonium without specified purposes" and has declared the policy to reduce the amount of its plutonium stockpile. Japan secures its transparency through the publication of status report on plutonium management and confirmation of utilization plans.

Nuclear Security

- Japan continues to implement measures for the physical protection of nuclear materials, foster a strong nuclear security culture, and promote human resource development and technological innovation to strengthen nuclear security.

The Nuclear Disarmament and Non-proliferation Regime

- As the only country to have suffered atomic bombings during wartime, Japan actively promotes nuclear disarmament and non-proliferation through a variety of international frameworks.
- The deteriorating situation in the Middle East caused by concerns over Iran's nuclear issue, has put a significant impact on global energy supply chains. Japan will continue to work with the international community and pursue all necessary diplomatic efforts to achieve the early de-escalation of the situation.

Communication on the Use of Nuclear Energy

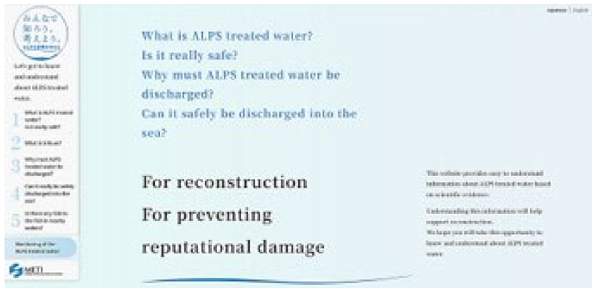
- In response to views expressed by nuclear host communities, including the need to promote understanding in electricity-consuming regions of the importance of reactor restarts and backend measures associated with the nuclear fuel cycle, METI issued a letter to all prefectural governments in January 2026 seeking their cooperation in addressing challenges related to the use of nuclear energy.
- The Nuclear Waste Management Organization of Japan (NUMO) has strengthened nationwide outreach and communication activities under the message, “Let's Think Together About Geological Disposal Across Japan”.

Communication on the Decommissioning of Fukushima Daiichi NPP

- In FY2025, Nuclear Damage Compensation and Decommissioning Facilitation Corporation (NDF) held dialogue sessions in 16 municipalities in Fukushima Prefecture to explain progress in decommissioning and respond to questions from local people.
- METI launched the website “Let’s get to know and understand about ALPS treated water” in 2022, which provides easy-to-understand explanations of information based on scientific evidence.

Nationwide public outreach activities on geological disposal by NUMO

Source: Nuclear Waste Management Organization of Japan (NUMO), “Let’s Think Together About Geological Disposal Across Japan: Information and Communication Activities for People Throughout Japan”, NUMO website (2026)



Public information materials on ALPS treated water

Source: Ministry of Economy, Trade and Industry (METI), “Let's get to know and understand about ALPS treated water”, METI website (2026)

Decommissioning of Nuclear Facilities

- As of March 2026, 18 of the 57 commercial reactors built in Japan, as well as 6 reactors at the Fukushima Daiichi Nuclear Power Station, are undergoing decommissioning.

Radioactive Waste Management and Disposal

- Literature surveys for the selection of a final disposal site for high-level radioactive waste are underway at three locations: Suttsu Town and Kamoenai Village in Hokkaido, and Genkai Town in Saga Prefecture.
- In March 2026, the Minister of Economy, Trade and Industry requested that a literature survey be conducted on Minamitorishima Island, Ogasawara Village, Tokyo, and the survey commenced on 20 May 2026.
- At the Horonobe Underground Research Center in Hokkaido, construction of the 500-meter-level research gallery was completed in January 2026.
- In FY2025, reinforcing bars manufactured from cleared metal were used in a public works project in Fukui Prefecture, marking the first such application in Japan.


Being cut


After cutting

RPV Head

Dismantling of the Reactor Pressure Vessel Head at the Hamaoka Nuclear Power Station

Source: Cabinet Office, based on Federation of Electric Power Companies of Japan (FEPC), Current Status of the nuclear fuel cycle, Material 1-1, 16th Meeting of JAEC(2026)


Streetlight


Table stand

Note: The above products are designed and produced by high school students in Fukui

Examples of metal reuse under the clearance system

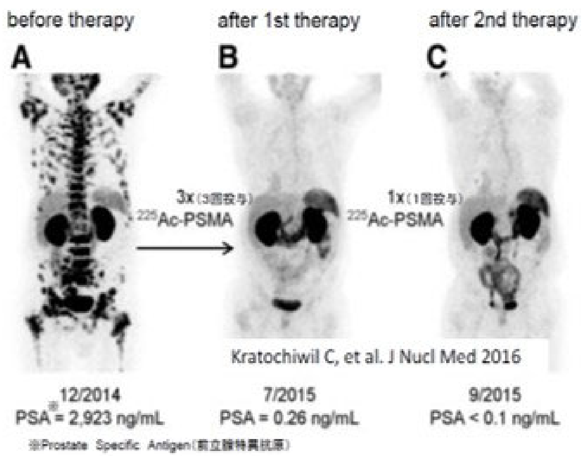
Source: Cabinet Office, based on the Federation of Electric Power Companies of Japan (FEPC), Current Status of the Nuclear Fuel Cycle, Material 1-1, 16th Meeting of JAEC(2026)

Use of Radiation and Radioisotopes in the Medical Field

- The FY2025 follow-up review of the JAEC's Action Plan for Promotion of Production and Utilization of Medical Radioisotopes reported progress in production, research and development, and feedstock procurement related to Mo-99, At-211, and Ac-225.

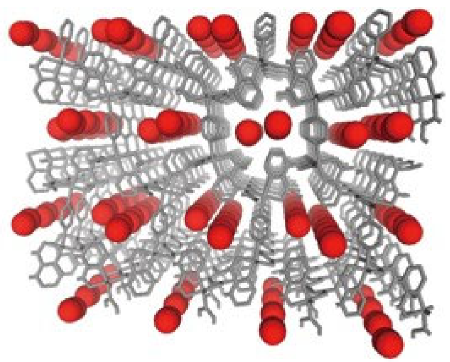
Radiation Applications in Other Fields

- Radiation is widely used in fields such as industry and agriculture and serves as an important technology supporting modern society.
- Research conducted at the SPring-8 synchrotron radiation facility contributed to the development of metal–organic frameworks, for which Dr. Susumu Kitagawa and other researchers were awarded the 2025 Nobel Prize in Chemistry.



Example of targeted alpha therapy using an alpha-emitting radioisotope (Ac-225)

Source: Cabinet Office, The promotion of the production and use of medical radioisotopes (Draft), Doc.3, 1st Meeting of the Expert Panel on the Production and Utilization of Medical Radioisotopes, JAEC(2021)



Ordered arrangement of oxygen molecules (red spheres) within a metal–organic framework (gray)

Exterior view of SPring-8

Research Achievements at SPring-8 That Contributed to the Nobel Prize in Chemistry

Source: Japan Synchrotron Radiation Research Institute (JASRI), SPring-8 Research frontiers(2014); RIKEN, SPring-8, RIKEN website(2026)

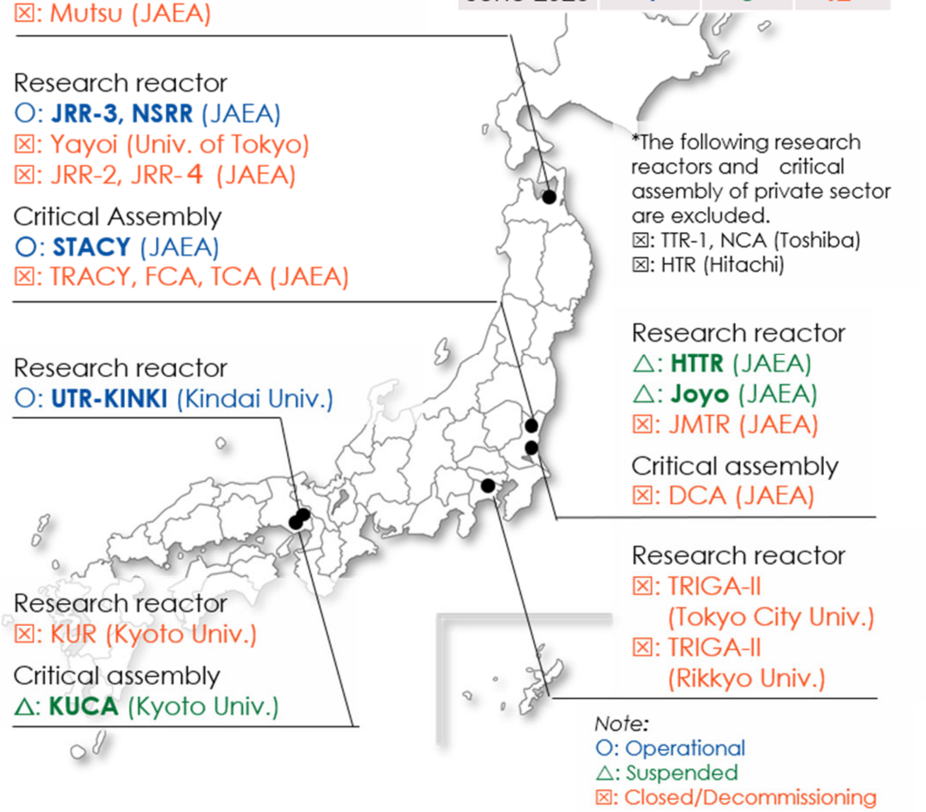
Promotion of Research, Development and Innovation

- The 7th Science, Technology, and Innovation Basic Plan, approved by the Cabinet in March 2026, points out that nuclear technology is one of the frontline fields that have an impact on national competitiveness and security.
- METI published the Roadmap for Developing Innovative Reactors in April 2026.
- The Fusion Energy Innovation Strategy was revised in June 2025. Building on this strategy, the policy framework for the societal deployment of fusion energy was formulated in April 2026.

Strengthening Research Infrastructure

- As of June 2026, only 7 research reactors and critical assemblies remain in Japan, down from a peak of approximately 20. Of these, four were in operation and three were suspended.
- Safety enhancement work is underway to support the restart of JAEA's fast reactor “Joyo”. Efforts toward restarting the Kyoto University Critical Assembly are also progressing, while the Kyoto University Research Reactor closed in April 2026.

Year	○	△	☒
1995	20	0	6
June 2026	4	3	12*



Status of Research Reactors and Critical Assemblies in Japan (As of June 2026)

Source: Cabinet Office, data from Ministry of Education, Culture, Sports, Science and Technology (MEXT) (2026)

Human Resource Development and Strengthening of the Supply Chain

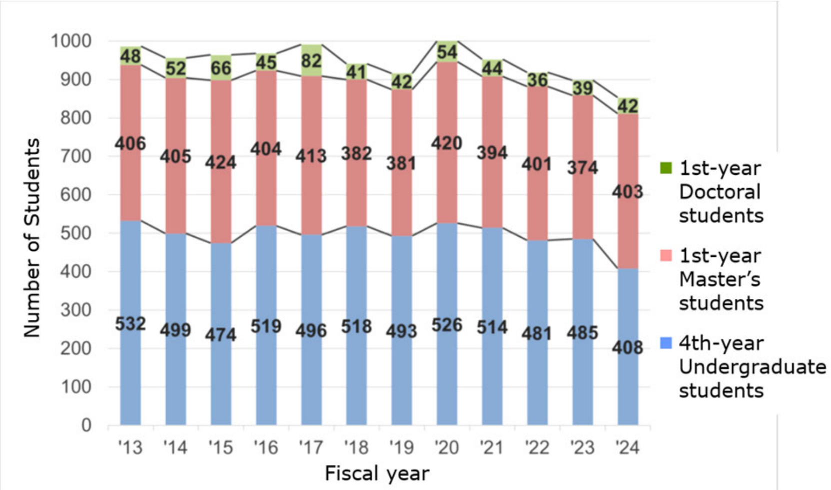
- The number of students enrolled in nuclear-related fields at universities has been declining gradually. While the number of industry professionals in these fields shows a slight increase, concerns remain about future workforce shortages and the maintenance and transfer of technical expertise.
- In September 2025, the Agency for Natural Resources and Energy established the Council for Fostering and Strengthening Nuclear Workforce. The Council met three times during FY2025 and compiled recommendations on future directions, including the establishment of a cross-sector coordinating function involving industry, government, and academia.

Diversity Initiatives

- The IAEA Lise Meitner Programme was held in Japan in June 2025, jointly organized by the IAEA and the JAEC. The programme aims to promote the career development of women professionals in the nuclear field.

IAEA Lise Meitner Programme (Japan, June 2025)

Source: Courtesy of Japan Atomic Energy Agency



Number of students in nuclear-related academic programs and research laboratories
(Survey conducted by the University Nuclear Educators Council, 2024)

Source: Japan Nuclear Human Resource Development Network, Survey results on student enrollment in nuclear-related departments and programs and recruitment by nuclear-related companies and organizations FY2024 (2025)

JAPAN ATOMIC ENERGY COMMISSION (JAEC)

as of June 2026

The Commission

Chairperson

Dr. UESAKA, Mitsuru

Commissioner

Mr. NAOI, Yosuke

Commissioner

Dr. YOSHIHASHI, Sachiko

Special Advisor

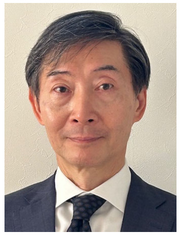
Dr. AOTO, Kazumi

Special Advisor

Dr. HATAZAWA, Jun

Special Advisor

Dr. OKAJIMA, Shigeaki



Special Advisor

Mr. OGASAWARA, Ichiro

Decisions, Statements

White Paper on Nuclear Energy 2025, June 2025
https://www.aec.go.jp/en/kettei/hakusho/

Basic Policy for Nuclear Energy, February 2023
https://www.aec.go.jp/en/kettei/kihon/

Plutonium Utilization in Japan, October 2017
https://www.aec.go.jp/kettei/kettei/20171003_e.pdf

JAEC website

https://www.aec.go.jp/en/

Japan Atomic Energy Commission (JAEC)