



Progress in Off-site Environmental Remediation in Japan

Japan Side Event
The 70th IAEA General Conference



September 2026

Progress of off-site decontamination

- Radioactive materials were released into the environment due to the accident at TEPCO's Fukushima Daiichi Nuclear Power Station, causing environmental contamination.
- Full-scale decontamination was completed in 100 municipalities of 8 prefectures both in the Special Decontamination Areas (SDA), and the Intensive Contamination Survey Areas (ICSA), by March 19, 2018, except for the Restricted Areas. In the Restricted Area, decontamination continues.

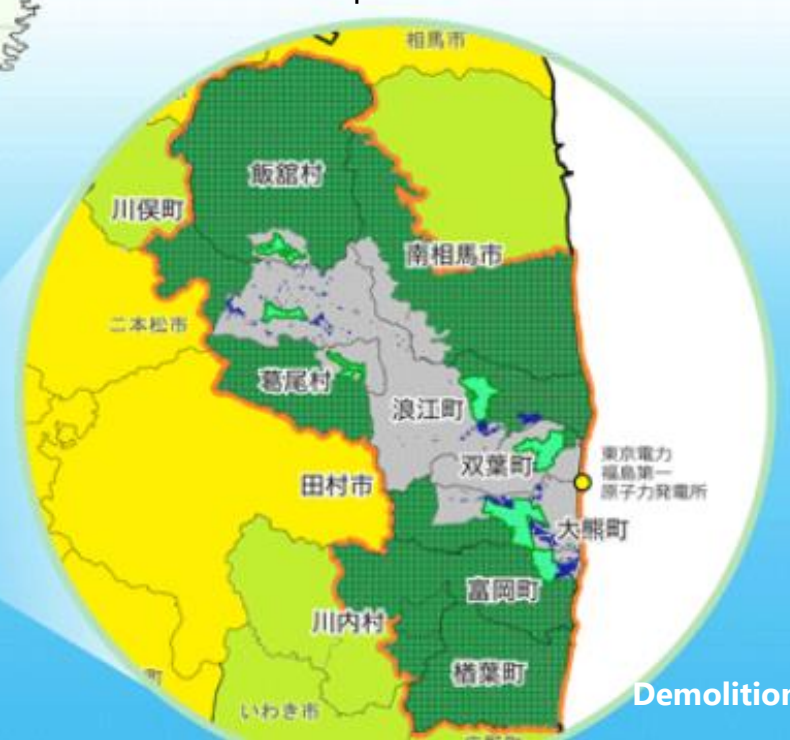
Intensive Contamination Survey Areas (decontamination implemented by municipalities)

Completed in March 2018



Special Decontamination Areas (decontamination implemented by the national gov.)

Completed in March 2017



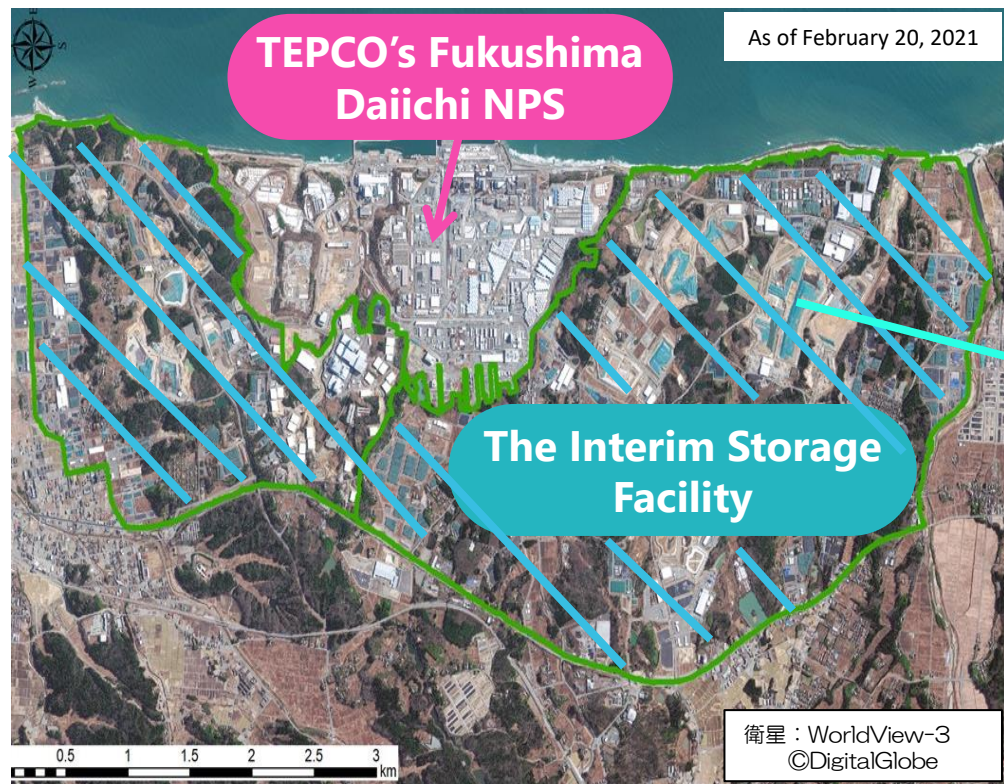
Decontamination operations

- Decontamination is the process of reducing radiation levels in living environments by removing soil, vegetation, and other materials contaminated with radioactive substances, or by covering them with clean soil.



Overview of Initiatives for Environmental Restoration after the Accident of the Nuclear Power Station

- The Interim Storage Facility covers a vast area of approximately 1,600 hectares in Okuma Town and Futaba Town, and land acquisition is being carried out while providing careful explanations to landowners.
- The law stipulates that necessary measures shall be taken to complete the final disposal of removed soil and waste generated in Fukushima Prefecture outside Fukushima Prefecture within 30 years (by March 2045) after the start of interim storage.



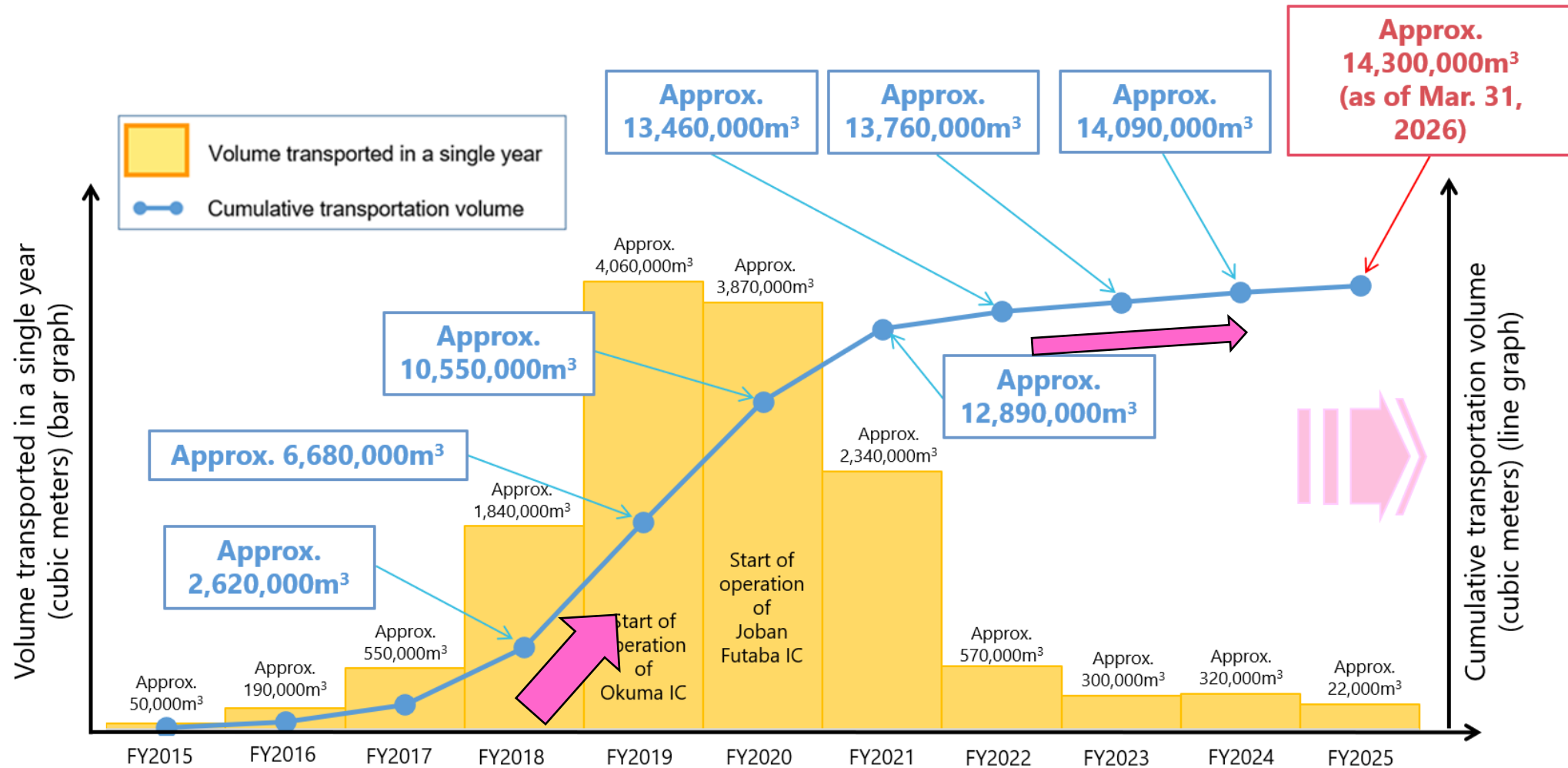
The Interim Storage Facility



Removed Soil stored
at the Interim Storage Facility

Transportation to the Interim Storage Facility

- Transportation of removed soil and waste to the ISF has been implemented from the end of FY2014 and **almost all the removed soil and waste have been transported to the ISF, by Mar. 2022** other than the Restricted Areas.
- **Approximately 14.30 million m³ of removed soil and waste** (including those in the Restricted Areas) **have been transported to the ISF** (as of the end of March 2026).



Necessity of Managed Recycling of Removed Soil

Amount of removed soil and waste transported to the ISF:
Equivalent in volume to about 11 Tokyo Domes (Indoor Baseball Stadium)

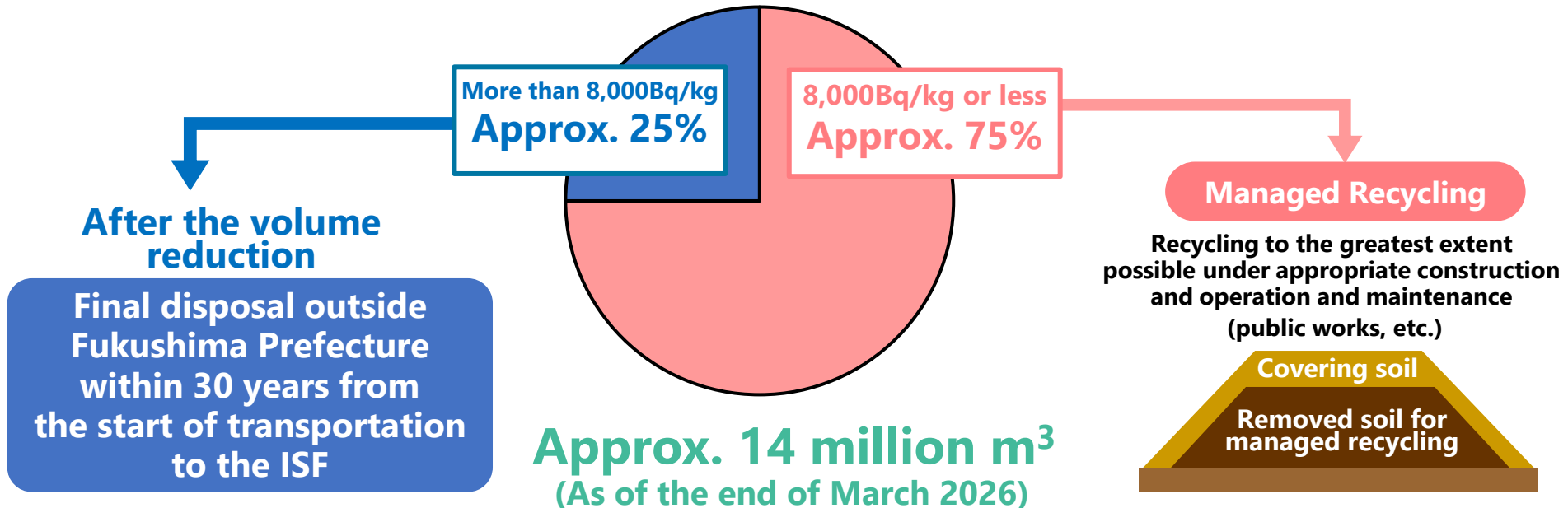
× approx.
11 Baseball stadiums



Towards final disposal outside Fukushima prefecture:

In order to reduce the amount of soil for final disposal, it is necessary to recycle the soil, originally a valuable resource, on the premise of ensuring safety.

Distribution of radioactivity concentration in removed soil



Options for Final Disposal Outside Fukushima Prefecture (Draft)

	Scenario (1)	Scenario (2)	Scenario (3)	Scenario (4)
Combination of Volume Reduction Technologies	No volume reduction technology applied	Classification	Classification + Heat treatment	Classification + Heat treatment + Fly ash cleaning
Final disposal volume ¹	Approx 2.1 to 3.1 million m ³ <Breakdown> Removed soil: 2 to 3 million m ³ Waste: 0.1 million m ³	Approx 1.5 to 2.2 million m ³ <Breakdown> Removed soil: 1.4 to 2.1 million m ³ Waste: 0.1 million m ³	Approx 0.3 to 0.5 million m ³ <Breakdown> All waste	Approx. 0.05 to 0.1 million m ³ <Breakdown> All waste
Radioactivity concentration (Soil derived)	Several ten thousand Bq/kg	Several ten thousand Bq/kg	Several hundred thousand Bq/kg -	- Several ten million Bq/kg
Structure (Type of disposal site)	<(1) Removed soil> <Waste(0.1million Bq/kg or less)> <(3) Waste (more than 0.1 million Bq/kg)>			
Required space ^{*2}	Approx. 30 – 50 hectares	Approx. 30 – 40 hectares	Approx. 20 – 30 hectares	Approx. 2 – 3 hectares
Volume reduction cost ^{*3}				

^{*1} Based on the results of the technical demonstration projects that have been carried out to date, the volume reduction rate was set and calculated, and then converted to bulk density at the time of compaction. The quantities are rounded off for ease of comparison between scenarios.

^{*2} The thickness of the landfill for types (1) and (2) is 10m, and for type (3) it is 5m. The evaluation is based on the area required for the landfill only, and does not take into account factors such as the distance between the landfill and other facilities.

^{*3} In scenario (1), the cost of volume reduction treatment is zero because volume reduction technology is not applied, but the cost of volume reduction treatment increases as the application of volume reduction technology increases.

The IAEA Experts Meeting on Volume Reduction and Recycling of Removed Soil Arising from Decontamination Activities

- This meeting was held by the IAEA, aiming at providing international assessment and advice from technical and social perspectives, concerning the measures taken by MOE to the managed recycling and the final disposal in the future. In total three meetings were held in FY2023.
- Achievements of the three meetings were compiled as the Final Report by the IAEA, which was submitted to Minister ITO and published on September 10th, 2024.
- Executive Summary of the Final Report states the following conclusions:
 - Approach and activities implemented by the MOEJ to date for the managed recycling and the final disposal are consistent with the IAEA Safety Standards.
 - Looking ahead, with continuous efforts to meet fully the advice provided by the team of experts, the MOEJ's evolving approach will be consistent with the IAEA Safety Standards. This can be confirmed by future follow-up assessments.



3rd Experts Meeting
(February 2024)



Handover of the Final Report
(September 2024)

IAEA Deputy Director General Herviou's Courtesy Visit

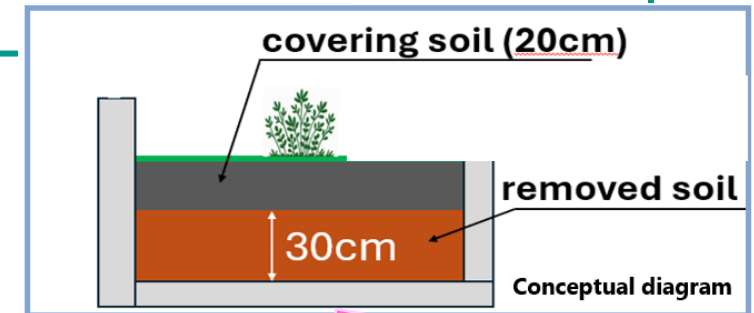
- On February 10, Ms. Karine Herviou, Deputy Director General for Nuclear Safety and Security of the International Atomic Energy Agency (IAEA), visited Japan.
- The IAEA expressed its understanding of the Ministry of the Environment's efforts to utilize removed soil for managed recycling, and confirmed its continued cooperation with the Ministry of the Environment in accordance with the Terms of Reference (TOR) signed last year.
- Following the exchange of view, the IAEA inspected the flower bed at the MOE building, confirming that the soil is being safely and appropriately utilized.



Exchange of Opinions
on the Use of Removed Soil
for Managed Recycling



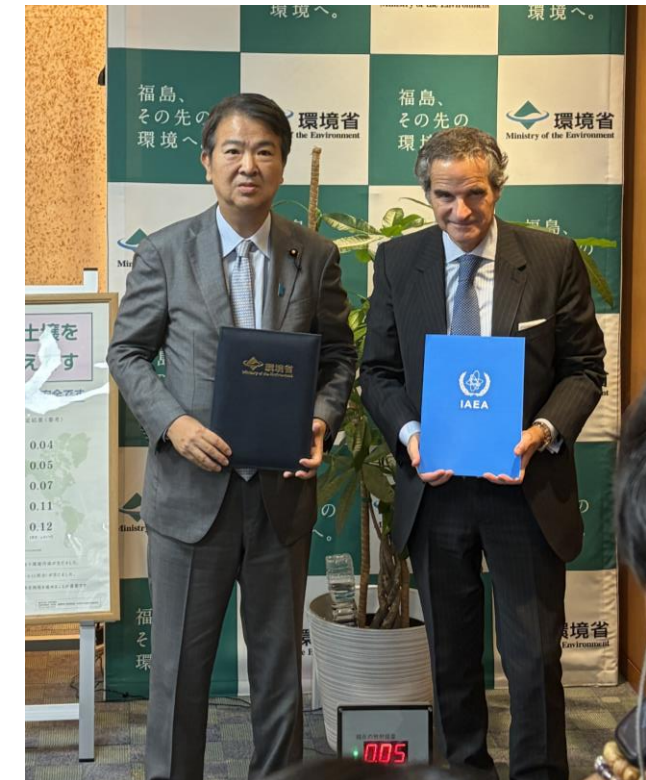
Courtesy Visit by DDG Herviou



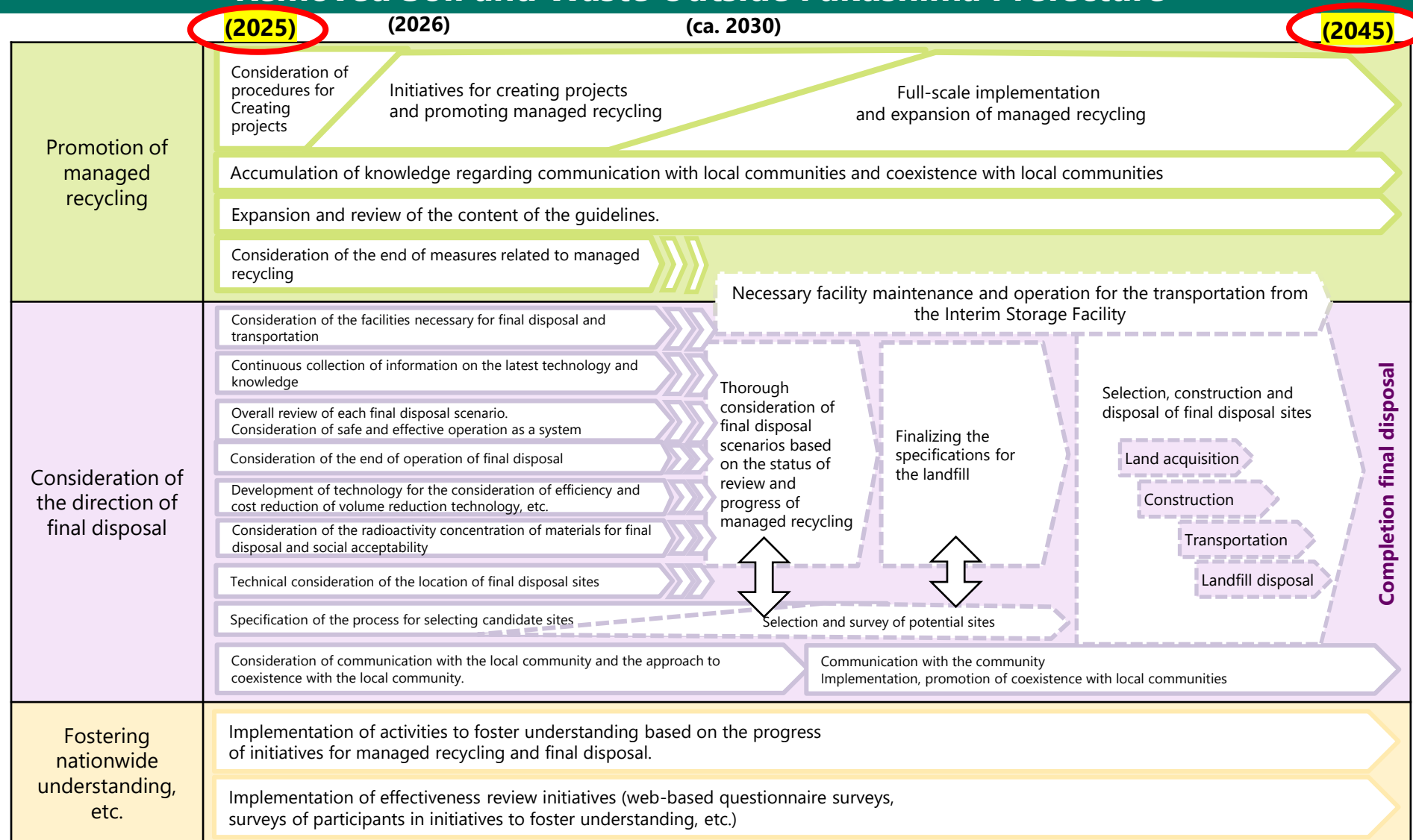
Introducing MOE's Flower Bed
(Managed Recycling)

Courtesy Call from IAEA Director General Grossi to Minister of the Environment ISHIHARA

- On June 23rd, Minister Ishihara received a courtesy call from H.E. Dr. Rafael Mariano Grossi, Director General of the IAEA.
- During their meeting, they exchanged views on the managed recycling and final disposal of removed soil and confirmed their commitment to continuing cooperation on corroboration of the results of Sea area Monitoring related to ALPS-treated water.
- In addition, the Ministry of the Environment and the IAEA signed a Memorandum of Cooperation (MOC) on the managed recycling and final disposal of removed soil. In accordance with the MOC, annual follow-up assessments of the progress on managed recycling, final disposal and communications activities are being conducted through 2031.



Approach Beyond FY2025 for the Final Disposal of Removed Soil and Waste Outside Fukushima Prefecture



* The dotted line indicates that the process and period may change depending on the final disposal scenario.

* The project in the Nagadoro District of Iitate Village will be continuously monitored, etc., and will be used as a venue for fostering understanding with the cooperation of the local community.

* The implementation of projects to foster understanding will also be considered.

* The use of the site of the Interim Storage Facility, will also be considered.

* The progress of the above initiatives will be followed up by the IAEA and disseminated internationally.

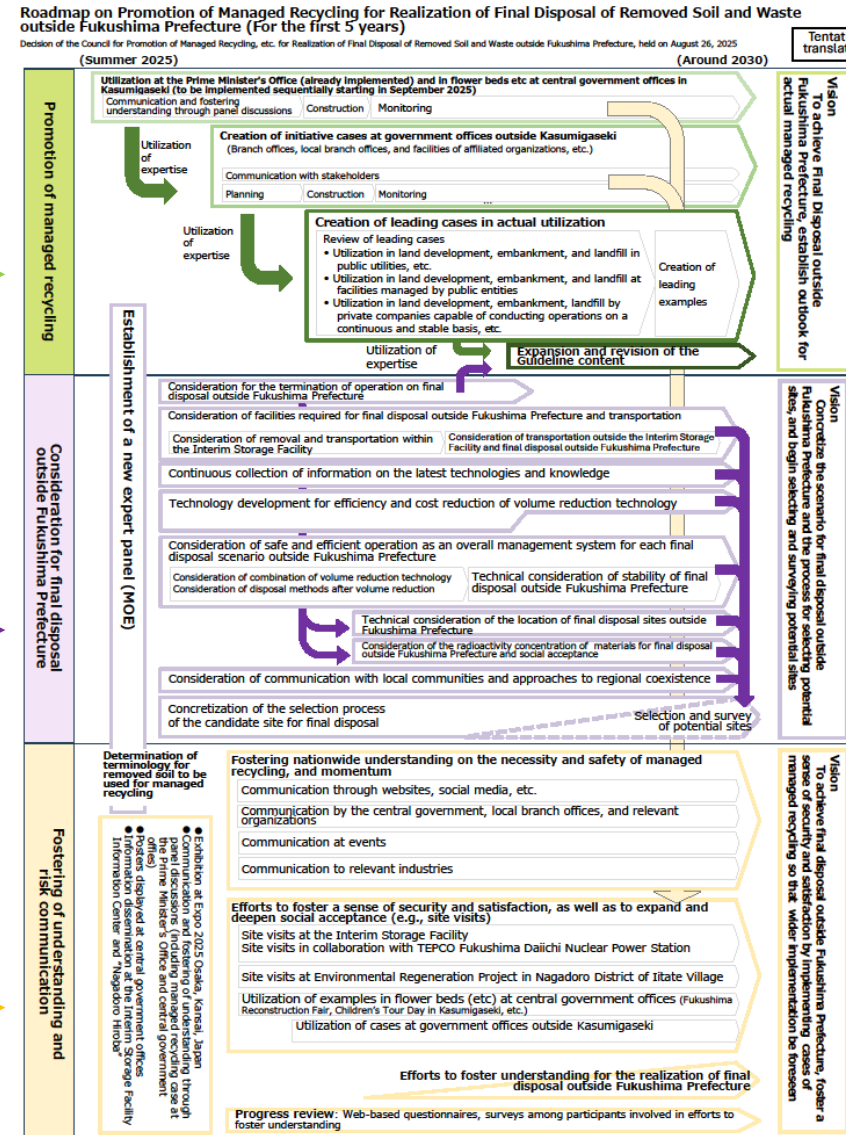
Established in March 2025

Roadmap on Promotion of Managed Recycling of Removed Soil and Other Initiatives for Realization of Final Disposal outside Fukushima Prefecture

Promotion of managed recycling

Consideration for final disposal outside Fukushima Prefecture

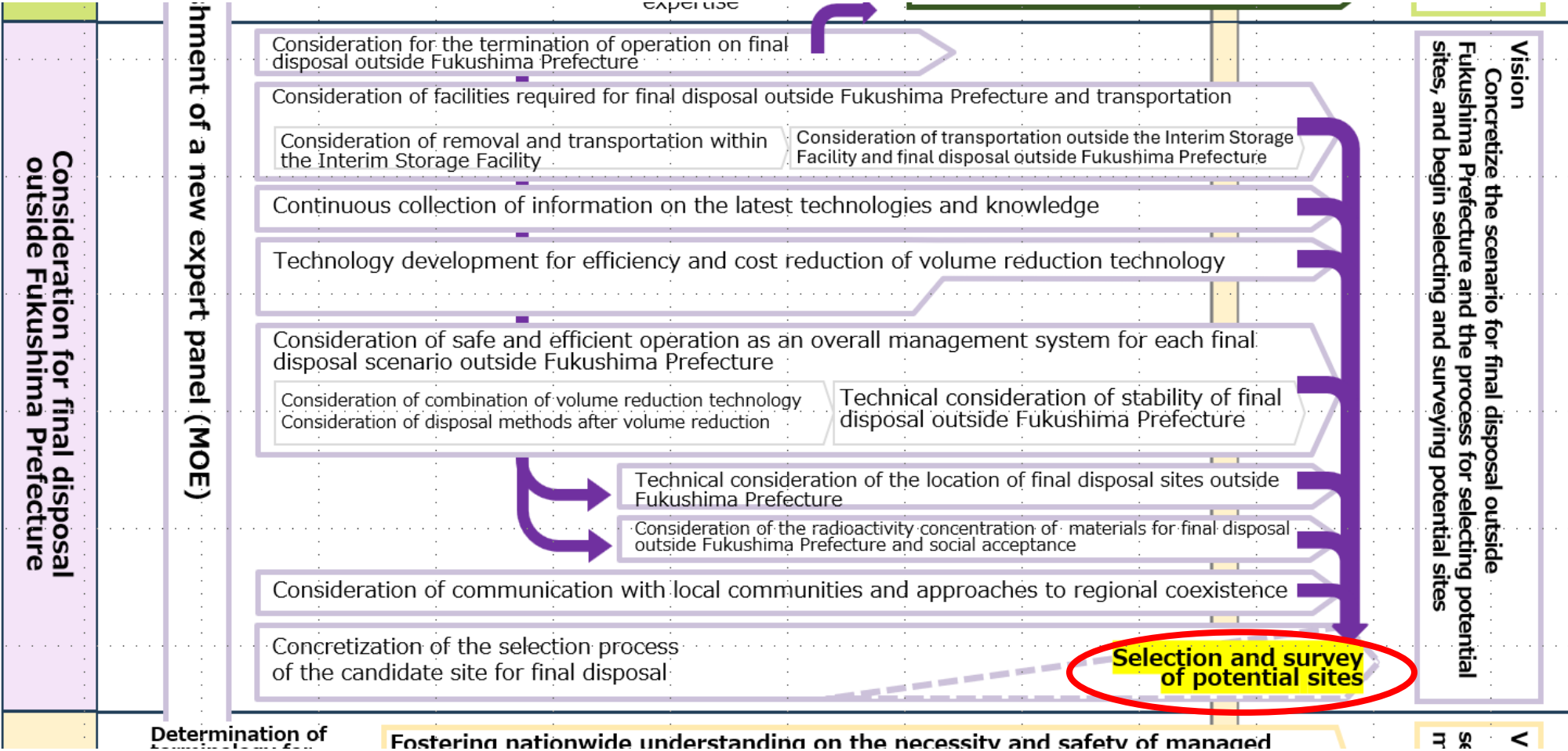
Fostering of understanding and risk communication



Roadmap on Promotion of Managed Recycling of Removed Soil and Other Initiatives for Realization of Final Disposal outside Fukushima Prefecture



Consideration for final disposal outside Fukushima Prefecture



First Implementation of the Managed Recycling, the Prime Minister's Office

- Toward the realization of the final disposal, it is important to reduce the amount of soil to be disposed of, and the key is to promote the use of soil with low radioactivity levels in public works projects (the managed recycling). It is also important to foster understanding of the necessity and safety of the final disposal and the managed recycling.
- Therefore, the Prime Minister's Office took the initiative in promoting the managed recycling efforts.

● Conceptual image



Changes in Radiation Levels

Before

0.08

$\mu\text{Sv/h}$

Above the planned area

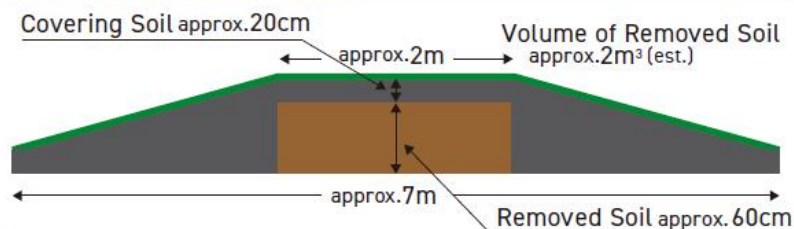
After

0.10

$\mu\text{Sv/h}$

Above the embankment

Vertical Section View



* This change in radiation levels is negligible for human health.

● Construction completed



The Prime Minister's Office, July 2025

Leading Cases of Central Government Implementing the Managed Recycling of Flower Beds and Others

- Completed projects of utilization in flowerbeds and green area at 11 central government offices in Kasumigaseki including Ministry of Finance, Ministry of the Environment, shown in "Roadmap on Promotion of Managed Recycling of Removed Soil and Other Initiatives for Realization of Final Disposal outside Fukushima Prefecture."
- Construction work for the managed recycling has been underway progressively since October 2025.



MILT, Japan Coast Guard



Reconstruction Agency, MOF,
Cabinet Office, etc.



National Police Agency, FDMA,
MIC, etc.



METI



Ministry of Justice, Public Prosecutors
Office, etc.



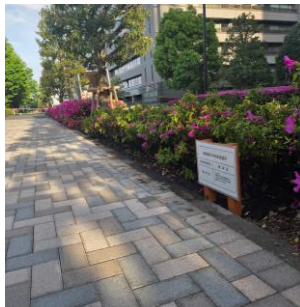
MOFA



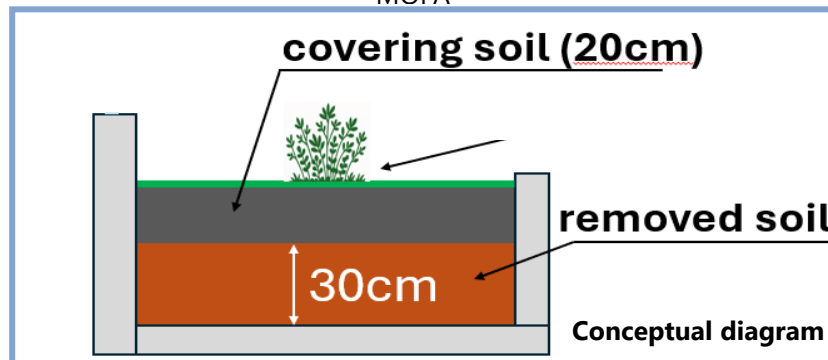
Supreme Court



MOE, MHLW



Ministry of Defense

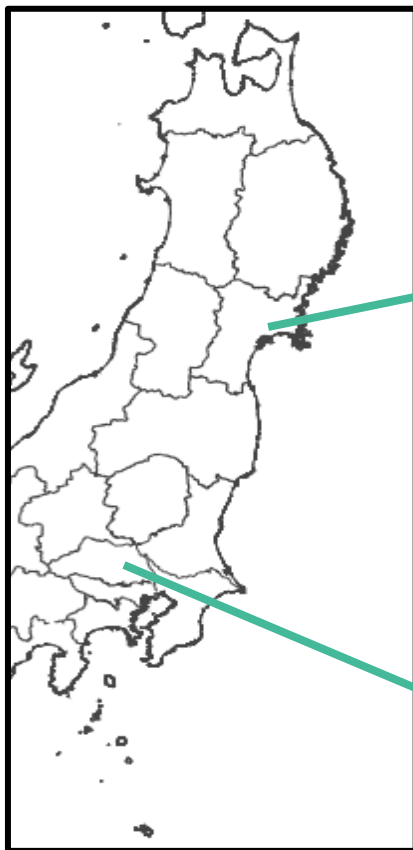


MAFF, Forestry Agency,
Fisheries Agency



Cabinet Secretariat, Cabinet Office

Managed Recycling at Flower Beds in Regional Offices of Ministries and Agencies



Source: Adapted from a blank map by the Geospatial Information Authority of Japan (GSI).

Managed recycling using removed soil will be implemented sequentially at other regional offices of ministries and agencies.



Sendai Joint Government Building



Saitama-Shintoshin National Government Building

Initiative Cases of Managed Recycling in Central Government

- About one year since the construction work was completed.
The effect on the human body is negligible.

	Before ($\mu\text{Sv/h}$)	After ($\mu\text{Sv/h}$)
MOE, MHLW	0.06	0.09
METI	0.08	0.10
Reconstruction Agency, MOF, Cabinet Office, etc.	0.05	0.10
National Police Agency, FDMA, MIC, etc.	0.09	0.12
MILT, Japan Coast Guard	0.04	0.06
Ministry of Justice, etc.	0.07	0.07
Cabinet Secretariat, Cabinet Office	0.07	0.08
MAFF, Forestry Agency, Fisheries Agency	0.06	0.06
MOFA	0.05	0.04

Efforts to Build Understanding for Managed Recycling and Final Disposal

- As part of efforts to foster understanding of Fukushima's recovery, site tours of the Interim Storage Facility have been organized, with more than 34,000 people participating cumulatively as of the end of July 2026.
- Every year, major foreign media correspondents based in Japan are invited to Fukushima to learn about and report on the progress of Fukushima's recovery and environmental regeneration, as well as future initiatives. Approximately 50 foreign press journalists have participated over the past five years.
- Since COP26 in 2021, MOEJ has participated in the Japan Pavilion at COP every year to communicate Fukushima's recovery and environmental remediation efforts to a global audience.

Site visits



Interim Storage Facility

Tours for foreign press at ISF Information Center



COP30(Belem, Brazil)



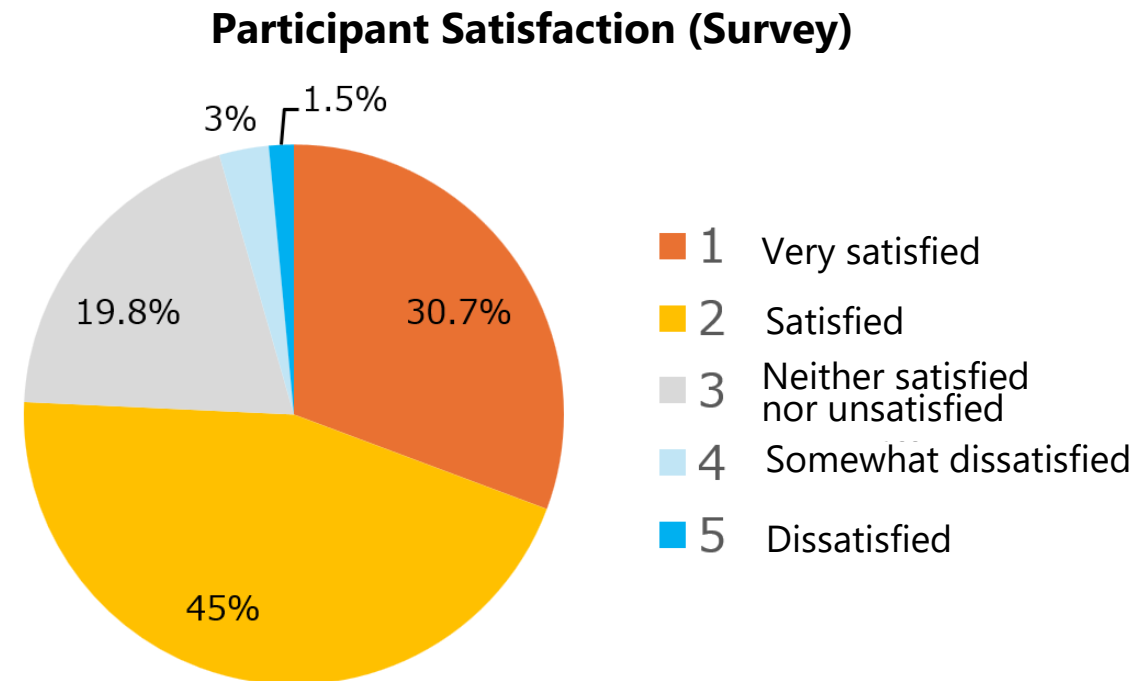
Panel Discussions

- **Seven panel discussions were held both inside and outside Fukushima Prefecture** to promote understanding of final disposal outside Fukushima Prefecture and the managed recycling of removed soil, with **311 participants** in total.
- To better understand and address participants' questions and concerns, **questions and comments are collected in advance**, and **an interactive dialogue** is conducted in which panelists, including academic experts, provide clear explanations while engaging in open discussion.
- In **the participant survey**, **75% of respondents were satisfied**, and **95% responded positively** when neutral responses were included.



Panel discussion on 16 July

Panelists: Academic Expert, TV Personality, Member of the Public, and Ministry of the Environment Representative



Public relations activities to foster understanding of Fukushima and environmental restoration

- Fostering understanding among younger generations nationwide is essential, and intensive outreach activities are being carried out through collaborations with media organizations and other communication channels.
- To date, outreach efforts have included YouTube advertisements with over 6 million views and transit advertising campaigns across all major subway lines in the Tokyo metropolitan area.

Advertising Campaigns



Information Outreach in Collaboration with Influencers (YouTubers)



Information Outreach in Collaboration with Local TV Stations



In-Train Video Advertising



Award Program to Promote Public Understanding



Challenge Award Ceremony

Timeline of IAEA Assistance to MOE on Managed Recycling and Final Disposal of Removed Soil

May 2023 – Feb. 2024	IAEA International Experts Meetings (3 Sessions)
Sep. 2024	Final Report on the IAEA Experts Meeting
Mar. 2025	<MOE> “Enforcement Regulations for the Act” was amended <MOE> “Guidelines for Managed Recycling were announced
May 2025	<MOE> “Basic Policy on Promotion of Managed Recycling for the Realization of Final Disposal” was announced
Jul. – Sep. 2025	<MOE> Initiative cases of managed recycling at 10 government offices including Prime Minister’s Office
Aug. 2025	<MOE> “Roadmap on Promotion of Managed Recycling of Removed Soil and Other Initiatives for Realization of Final Disposal outside Fukushima Prefecture” was announced
<IAEA & MOE> A contract for follow-up evaluation through 2031 is in the process of being concluded. (the Ministry of the Environment and the IAEA signed a Memorandum of Cooperation (MOC))	

(Decontamination)

- **Full-scale decontamination activities were completed by March 2018, other than the Restricted Areas (RA).** Evacuation orders were lifted by March 2020, other than the RA.
- Evacuation orders in the Specified Reconstruction and Revitalization Base Areas (SRRBA) in 6 municipalities were lifted by the end of November 2023. **In the RA, decontamination activities are still in progress,** and in December 2023, decontamination activities in the Specified Living Area for Returnees (SLAR) started.

(Transportation, Storage of generated soil and waste)

- Soil and waste arising from the decontamination activities in Fukushima Prefecture have been transported into the Interim Storage Facility (ISF), and **almost all of the removed soil and waste had been transported into the ISF by March 2022, other than the RA.**
- **More than 14 million m³ of soil and waste have been transported into the ISF, and soil stored in the ISF is supposed to be recycled or finally disposed of outside Fukushima Prefecture by March 2045.**

(Promotion of volume reduction and recycling)

- Taking account of the difficulties to find out the place to accommodate all of the removed soil and waste, volume reduction and recycling of removed soil have been promoted.
- **Based on the Strategy, technology development and demonstration projects have been promoted, development of necessary basic technologies was completed by March 2025.**
- **Standard for the managed recycling and landfill disposal of removed soil were formulated in March 2025 based on the achievements of initiatives to date. In addition, the Ministerial Council compiled the basic policy for the realization of final disposal outside Fukushima Prefecture in May 2025, and the “Roadmap on Promotion of Managed Recycling of Removed Soil and Other Initiatives for Realization of Final Disposal outside Fukushima Prefecture” in August 2025.**
- **To promote managed recycling, as a leading example, it is being implemented in 12 central government offices, including the Prime Minister's Office.**

(Cooperation with international community)

- **The MOEJ has shared a wide range of experience and lessons obtained through more than 15-year off-site remediation activities. These efforts will be continued, for example, through cooperation with the IAEA, international meetings and conferences. The MOEJ and the IAEA signed a Memorandum of Cooperation (MOC) valid through 2031. Under the MOC, the MOEJ will continue to receive evaluations from the IAEA on the progress of final disposal and managed recycling.**

Thank you



For more information:
<http://josen.env.go.jp/en/>