

# Post-earthquake reconstruction —building sustainability

## Progress of reconstruction efforts

### Introduction

On March 11, 2011, a magnitude 9.0 earthquake struck Japan. It was the largest earthquake ever recorded in and/or around Japan, which triggered an enormous tsunami that caused immense, widespread damage, primarily along the Pacific coast of the Tohoku region. A variety of groups continue to be involved with the massive restoration efforts with the goal of helping the affected areas recover.

### Handling of contaminated pollution

The Act on Special Measures concerning the Handling of Radioactive Pollution was enacted to address the environmental pollution caused by radioactive substances released during the post-earthquake accident at Tokyo Electric Power Fukushima Daiichi Nuclear Power Plant. The Act comprises a number of special measures concerning disposal of waste contaminated with radioactive substances and decontamination of soil, vegetation, structures, and other contaminated materials. It also sets forth the responsibilities of the government, local public entities, and other parties as well as a framework for cooperation among them as they work toward reconstruction.

### Disposal of radioactive waste

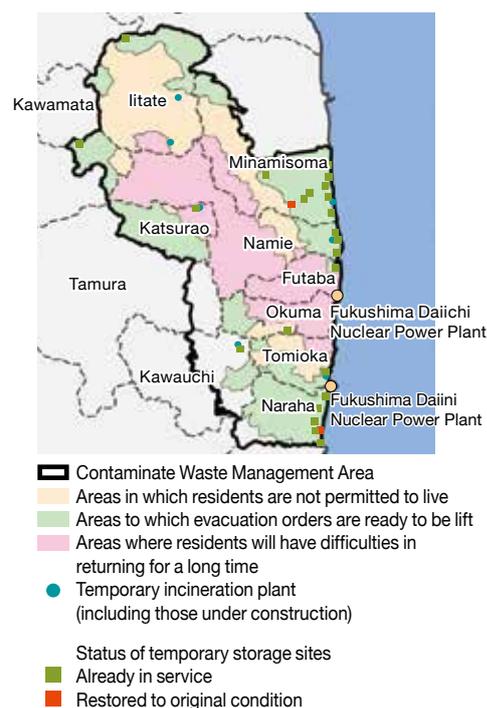
The Act sets forth standards for the disposal of waste material contaminated with radioactive substances. Of the contaminated waste material generated by the accident, the government is responsible for collection, transport, and storage of what the Act refers to as “Specified waste,” consisting of “Waste within the management area” and “Designated waste.”

#### *Waste within the management area*

The government estimates that there was, as of the end of March 2015, approximately 802,000 tons of disaster-related waste in a region encompassing 11 municipalities within Fukushima Prefecture. As of the end of February 2015, approximately 54% of that waste, or 430,000 tons, was being stored at temporary storage sites.

Going forward, there is a need to ensure the safety of workers responsible for disposing of waste from the disaster, which is scattered throughout areas where residents will have difficulties in returning for a long time. The government will review its disposal policies as it carefully assesses the outlook for lower exposure doses.

**Status of Waste within the Management Area (as of the end of March, 2015)**



Source: Ministry of the Environment

### Designated waste

As of the end of December 2014, approximately 157,000 tons of waste has been declared “Designated waste,” including incinerator ash and sewage sludge, rice straw, and compost. Currently, this waste is being temporarily stored at waste incineration and sewage treatment facilities in accordance with established guidelines.

Within Fukushima Prefecture, waste under 100,000 bq/kg is scheduled to be stored at the existing managed waste disposal site in Tomioka, while waste exceeding 100,000 bq/kg will be taken to an interim storage facility. For waste outside of Fukushima Prefecture, municipal heads from five relevant prefectures are holding meetings in an effort to share understanding regarding the safety of these facilities and how to select candidate sites to host them. The government will continue to focus attention on these initiatives, with an emphasis on constructive exchanges of opinion with prefectural and municipal governments.

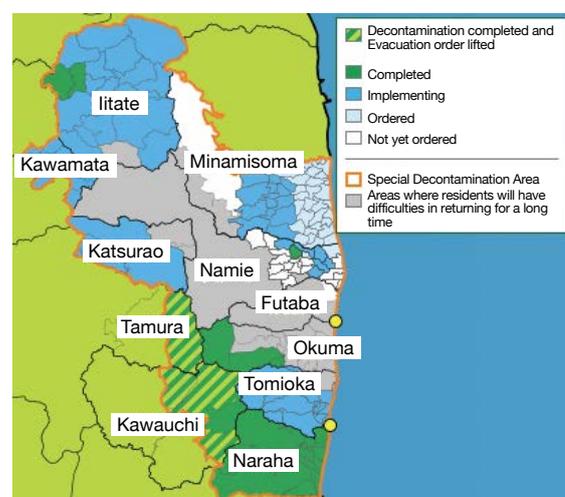
### Decontamination of soil and other material

As the areas for decontamination, the Act on Special Measures concerning the Handling of Radioactive Pollution specifies two categories, the Special Decontamination Area and the Intensive Contamination Survey Area. In the Special Decontamination Areas, the government undertakes decontamination work on the basis of the decontamination implementation plans. In the Intensive Contamination Survey Area, designated municipalities establish and carry out decontamination implementation plans.

#### Special Decontamination Area

For all of the 11 municipalities in Fukushima Prefecture designated as the Special Decontamination Area, Ministry of the Environment (MOE) has developed decontamination plans and implemented decontamination. In the municipalities where area-wide decontamination has been completed, MOE conducts follow-up of decontamination including post-decontamination monitoring. The decontamination measures led to the lifting of evacuation orders in Tamura and parts of Kawauchi in 2014. As for the remaining area, decontamination is planned to be completed within FY 2016.

Status of progress in Special Decontamination Area (as of March, 2015)



Source: Ministry of the Environment

#### Progress of decontamination efforts undertaken by the national government in Special Decontamination Area

E=Executing ratio O=Ordering ratio <Unit: %>

As of February 20, 2015	Tamura		Naraha		Kawauchi		Iitate		Kawamata		Katsurao		Okuma		Minamisoma		Tomioka		Namie	
	E	O	E	O	E	O	E	O	E	O	E	O	E	O	E	O	E	O	E	O
Residential	100	100	100	100	100	100	96	100	100	100	100	100	100	100	7	99.9	17	100	11	48
Farmland	100	100	100	100	100	100	25	100	18	100	68	100	100	100	8	65	5	100	13	35
Forest	100	100	100	100	100	100	38	100	56	100	99.9	100	100	100	34	79	28	100	14	43
Road	100	100	100	100	100	100	24	100	4	100	32	100	100	100	2	65	61	100	20	46

Notes 1: Executing ratio is calculated as follows: (1) Areas in which decontamination work (weeding, removal of sediment, and cleaning, etc.) is completed / (2) All areas to be decontaminated  
2: Ordering ratio is calculated as follows: (3) Areas for which MOE has given decontamination contracts to JVs (Joint Ventures) / (2) All areas to be decontaminated  
3: (1), (2), (3) might be modified with further review

Source: Ministry of the Environment

## Intensive Contamination Survey Area

As of the end of February 2015, 99 municipalities in eight prefectures have been designated as the Intensive Contamination Survey Area. Ninety-four of those entities have established decontamination plans and have implemented decontamination. Significant progress has been made, with more than 80% of the planned decontamination work both in and outside of Fukushima Prefecture completed, with priority on public facilities and other locales that are part of children's everyday environment. The rest of the scheduled decontamination work is also nearing completion. More than 70% of the planned decontamination work for houses, farmlands, pastures, and roads both in and outside of Fukushima Prefecture has been commissioned, and decontamination efforts are steadily moving forward.

### Status of decontamination progress in Intensive Contamination Survey Area

Within Fukushima Prefecture (As of the end of February, 2015)	Ordering Ratio (Number of ordering/ Number of planning)	Executing Ratio (Number of actual achievement/ Number of planning)
Public facilities, etc.	Almost on order	Approx. 80%
Residential houses	Almost on order	Approx. 70%
Roads	Approx. 70%	Approx. 40%
Farmland and meadows	Almost on order	Approx. 80%
Forests (living areas)	Approx. 80%	Approx. 50%

Notes 1: The table is based on the investigation result conducted by Fukushima prefecture.  
2: The number of planning is the total number until the end of FY2014, which might be increased in future depending on each municipality's status.

Source: Ministry of the Environment

Outside Fukushima Prefecture (As of the end of December, 2014)	Ordering Ratio (Number of ordering/ Number of planning)	Executing Ratio (Number of actual achievement/ Number of planning)
Schools and nurseries	Ordered	Almost completed
Parks, sports facilities	Almost on order	Approx. 90%
Residential houses	Approx. 90%	Approx. 90%
Other facilities	Approx. 90%	Approx. 90%
Roads	Approx. 90%	Approx. 90%
Farmland and meadows	Ordered	Almost completed
Forests (living areas)	Almost on order	Approx. 70%

Note: The number of planning is the total number including future plan as of the end of 2014, and might be increased aftertime.

## Measures to establish the Interim Storage Facility

MOE requested the local municipalities to accept the establishment of the Interim Storage Facility (ISF) for soil and wastes generated from decontamination work in Fukushima Prefecture, based on the surveys of the candidate sites and discussions of the conferences. The government also held explanatory meetings for residents and presented its proposal to local municipalities based on feedback obtained from those meetings. In September 2014, the government was informed that the governor of Fukushima Prefecture approved construction of the ISF and that the mayors of Okuma and Futaba agreed that the government would explain its proposal to the landowners. Subsequently, MOE held explanatory meetings for the landowners and began contacting residents whose contact information was available, with further efforts to explain the plan including individual, in-person visits. With the understanding of the concerned landowners, a survey of properties was conducted.

The government also revised the Japan Environmental Safety Corporation (JESCO) Law. The revision includes a change of the name of JESCO, a government-owned entity with proven expertise and experience in handling the disposal of hazardous substances, to the Japan Environmental Storage and Safety Corporation (the acronym remains the same). It stipulates that JESCO shall operate the ISF on consignment from the government until the final disposal of that waste is determined. It also prescribes the government's responsibility with regards to the ISF and stipulates that the government will take the necessary measures to complete final disposal of the waste outside of Fukushima Prefecture within 30 years from the commencement of interim storage.

Regarding the transfer of soil to the ISF, based on opinions from local and municipal governments, a plan was drawn up that drafts a pilot project lasting about a year to test transport methods in preparation for full-scale transfer of waste to the ISF. With both the towns of Okuma and Futaba indicating acceptance of construction of the ISF, in February 2015, the government explained the status of efforts concerning the five conditions that Fukushima Prefecture wanted to be met before it would accept transportation of soil to the ISF, after which Fukushima

Prefecture and Okuma and Futaba informed the government that it accepted transportation. MOE, Fukushima Prefecture, and Okuma and Futaba also entered into a safety agreement. Work began on construction of stock yards at the interim storage sites in February, and in March, MOE began pilot transportation of decontamination soil in Okuma, and then in Futaba.

The government will continue to make the utmost effort to provide the local communities with clear explanations, gain their understanding, and move forward on the establishment of the ISF and transportation of soil in the safest manner possible.

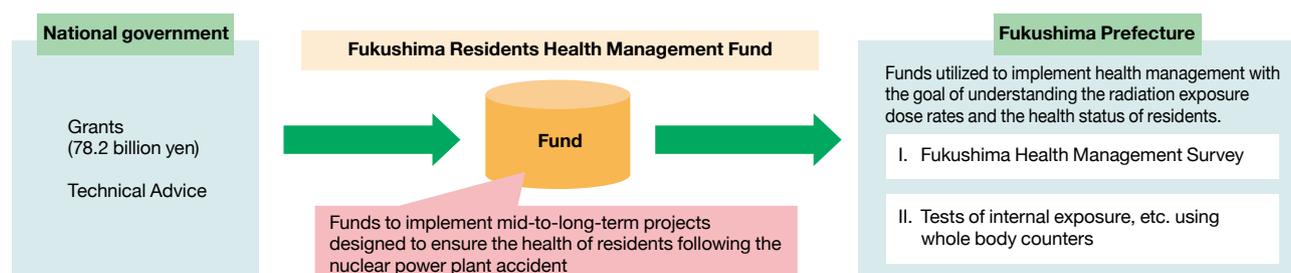
## Health concerns in Fukushima Prefecture

To ensure appropriate management of the mid-to-long-term health of Fukushima residents, the government is providing both technical and financial support to Fukushima Prefecture, including contributions to Fukushima Residents Health Management Fund, established by Fukushima Prefecture in 2011.

Fukushima Prefecture has conducted the Fukushima Health Management Survey since June 2011. The objective of the survey is to ascertain health of residents, to contribute to the prevention, early detection, and treatment of disease, and to support maintenance and improvement of health into the future. Specifically, the survey includes (1) a basic survey that plots records of individual residents' movements against a map of dose rates in order to estimate external exposure doses, and (2) a detailed survey covering four areas, including health check-ups, a survey of lifestyle habits and mental health, a thyroid examination and a survey amongst pregnant women. Fukushima Prefecture also distributes health management files to residents so that they can log and maintain records of the results of their own health status.

The government also convened an expert meeting for the health management of the public following TEPCO's Fukushima Daiichi Nuclear Power Station accident, and to review health management options both in scientific and medical terms. An interim report on those discussions was compiled in December 2014. The government is now moving forward with necessary measures based on a subsequent report on the direction of policies for the immediate future released in February 2015. It is also promoting risk communication, including efforts to develop personnel trained to ensure communication of accurate information able to alleviate public concern. Other initiatives include distribution of personal dosimeters to those residents choosing to return to their homes, providing them with information about individual exposure doses, and assigning experts to offer in-depth explanations about the results of exposure measurements.

### National government's support for initiatives in Fukushima Prefecture (overview)



Source: Ministry of the Environment

## Redevelopment with the environment

### Introduction

In the areas affected by the Great East Japan Earthquake, environmental measures are part of integrated efforts to overcome a variety of issues from economic ones to revitalization of aging communities. Numerous examples can be found of regional redevelopment aimed at effective utilization of each region's unique characteristics to encourage recovery and provide residents with hope for their future life.

### Promoting renewable energy for affected areas

The use of renewable energy to spur rebuilding in areas affected by the Great East Japan Earthquake is the focus of significant attention in Japan. Through Green New Deal funding designed to promote adoption of renewable and other clean energy sources, Japan is supporting rebuilding of the affected areas through adoption of independent, distributed energy resources. In FY 2014, 463 renewable energy facilities were introduced in the Tohoku region.

In July 2012, the Cabinet approved the Basic Guidelines for Fukushima Reconstruction and Revitalization, intended in part to promote the introduction of renewable energy in Fukushima Prefecture. The government of Fukushima Prefecture has advanced its own vision for renewable energy, with the goal to meet 100% of the prefecture's energy needs through renewable energy by 2040.

The government of Japan has designated Fukushima Prefecture in its project to promote adoption of renewable energy through citizen-based exchanges. This project provides subsidies not only for power generation equipment, but also for the establishment of facilities and spaces where citizens can learn about and observe firsthand power generation using renewable energy. Fourteen locations were selected for the project in FY 2014 with the goal of promoting revitalization and making Fukushima Prefecture a leader in renewable energy. In parts of Fukushima Prefecture where evacuation orders have been lifted, the government is conducting a project to support rebuilding through subsidies for installing renewable power generation facilities. The goal of this project is to utilize a portion of the profits from the electric power generation to help residents return home and contribute to the rebuilding of local communities. The project is now underway in 20 locations throughout Fukushima Prefecture.

In January 2015, Japan announced three special measures in support of these efforts in Fukushima Prefecture, including (1) reuse of TEPCO transmission lines in Fukushima Prefecture; (2) support for installation of renewable energy power generation equipment; and (3) securing of priority access to renewable energy sources in areas where evacuation orders have been lifted. Through these measures, Japan will continue to provide backing to promote renewable energy power generation.

## Hand-in-hand with Tohoku's Michinoku Coastal Trail

The Pacific coast of Japan's Tohoku (northeastern) region was devastated by the Great East Japan Earthquake. To contribute to the region's restoration, the national government is working to utilize Tohoku's rich natural environment to promote green reconstruction projects based around Sanriku Fukko (reconstruction) National Park. On March 31, 2015, the park was enlarged through incorporation of Minami Sanriku Kinkasan Quasi-National Park.

In addition, the Michinoku Coastal Trail project established a natural hiking attraction that stretches from Hachinohe, Aomori Prefecture, almost 700 km to Soma, Fukushima Prefecture, to take advantage of the appeal of the region's natural environment, primarily the national park. About 150 km of the trail's full length is now open. By offering visitors a new way to enjoy the natural beauty of the Tohoku region at a walking pace, the trail will encourage overnight sightseeing and generate other exchanges between visitors and local residents. The government believes this project will greatly contribute to regional rebuilding and revitalization.

Between July 2014 and March 2015, a total of 1,022 people enjoyed hiking on the trail. Locally, voluntary efforts to welcome visitors have begun to spread, including greetings, descriptions of local attractions, restrooms made available to visitors, and discounted services for trail hikers. Looking at the change in the number of overnight visitors in Hachinohe, the figure rose from about 490,000 visitors in FY 2012 to about 510,000 in FY 2013. The rise is attributed to synergistic effects from the extension of Sanriku Fukko National Park. According to a survey of trail users, the rich natural environment of the Tohoku coastline and the warm hospitality of local residents garner high marks, and exchanges between trail visitors and local residents are beginning to increase, which is one of the goals of the project.

The national government is working with residents to explore optional routes for the trail. For example, in the section between Hachinohe and Kuji, a route was established to make it easy for visitors to stop at local shops and other facilities. Efforts have also been implemented to offer visitors certificates and souvenirs of their walk, with shops acting as resting points between sections of the trail. Work will continue toward the early completion of the entire trail, and by encouraging local, independent initiatives toward ongoing revitalization even after regional construction is completed.

### Trail completion progress



Source: Ministry of the Environment

### Souvenirs certifying trail walk



Photo: Ministry of the Environment