

# Road to recovery

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GOVERNMENT OF JAPAN  
March 2012

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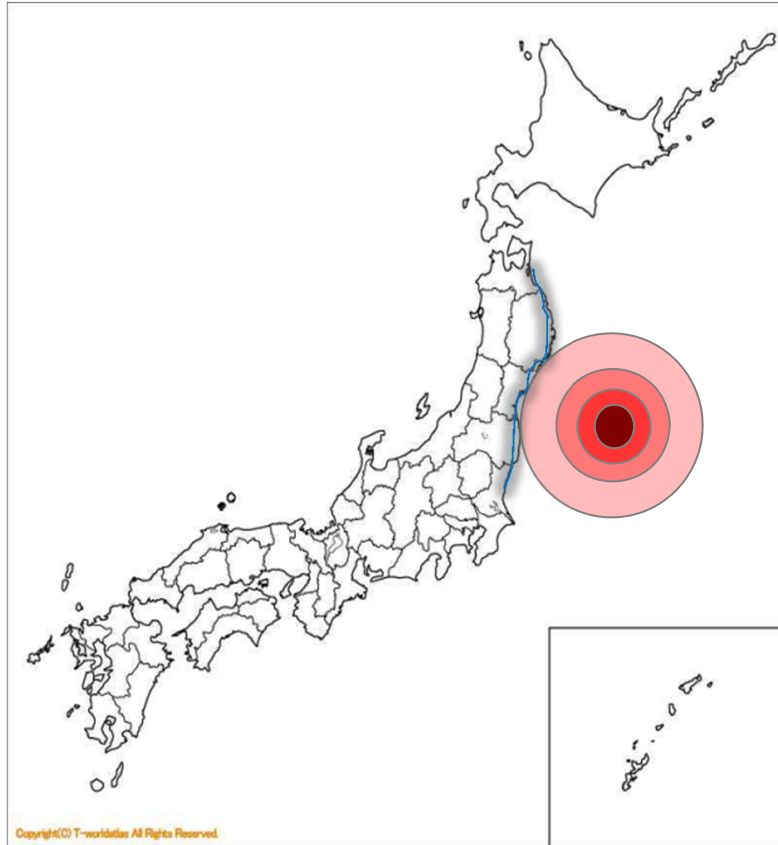
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# Unprecedented challenge for Japan

## The Great East Japan Earthquake



### Earthquakes

#### Main shock

- Magnitude : 9.0 (Mar. 11<sup>th</sup> 2011)

#### Aftershocks

- Magnitude 7 or greater : 6 times
- Magnitude 6 or greater : 97 times
- Magnitude 5 or greater : 594 times  
(As of Feb 28<sup>th</sup> 2012)

### Casualties

- **Dead : over 15,800**
- **Missing: over 3,200**
- **Injured: over 6,000** (As of Feb 21<sup>st</sup> 2012)

### Evacuees

- **Over 342,000** (As of Feb 9<sup>th</sup> 2012)

**Enormous earthquake, tsunami and nuclear accident**

# Emergency response efforts

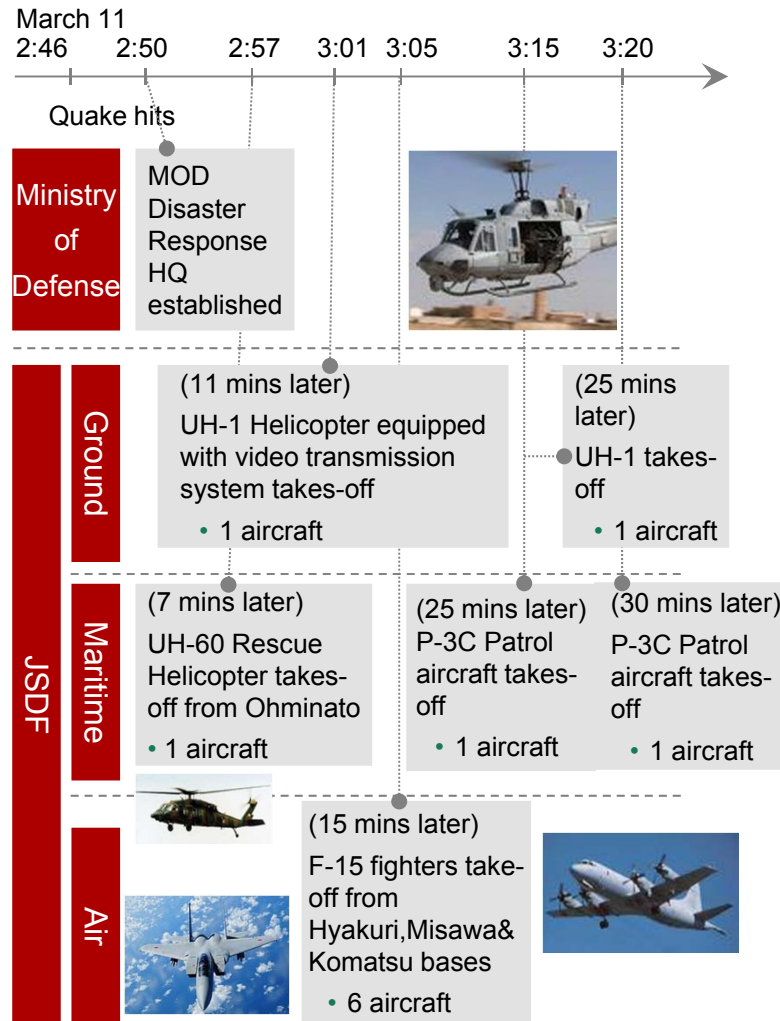
## Example1 )Self-Defense Force's immediate rescue activities

The JSDF held its largest emergency rescue drill "Michinoku ALERT 2008"

- Drill dates** Oct 31 – Nov 1, 2008
- Scenario** Quake intensity 6 upper off Miyagi Pref. coast, tsunami hits Sanriku coast
  - Drill conducted in region supposed to be badly affected by this disaster
- Participants** Total 18,000 participants in 22 towns in Iwate & Miyagi Pref., and 6 prefectures of Tohoku Region
  - 9,839 SDF personnel
- Drill Details** In cooperation with local authorities, fire dept., residents, practiced life rescue and caring support
  - After the drill, held regular meetings between the city/town/village & the unit in charge during the drill
  - Each time, they checked on communities at risk of isolation from a tsunami



11 aircraft responded within a mere 30 mins after the disaster headquarter established



Speedy expansion of rescue operations

- Ground JSDF the 21<sup>st</sup> Infantry Regiment, stationed at Camp Akita, arrived in Kamaishi City, Iwate Pref. approx. 7:30am
  - After establishing their base, they commenced rescue operations for Hakozaki Town, which was completely isolated due to roads being cut by the tsunami.
- All debris was removed 2 days later, and emergency goods were delivered twice daily to the community



# Emergency response efforts

## Example(2) Early Earthquake Detection system for Shinkansen

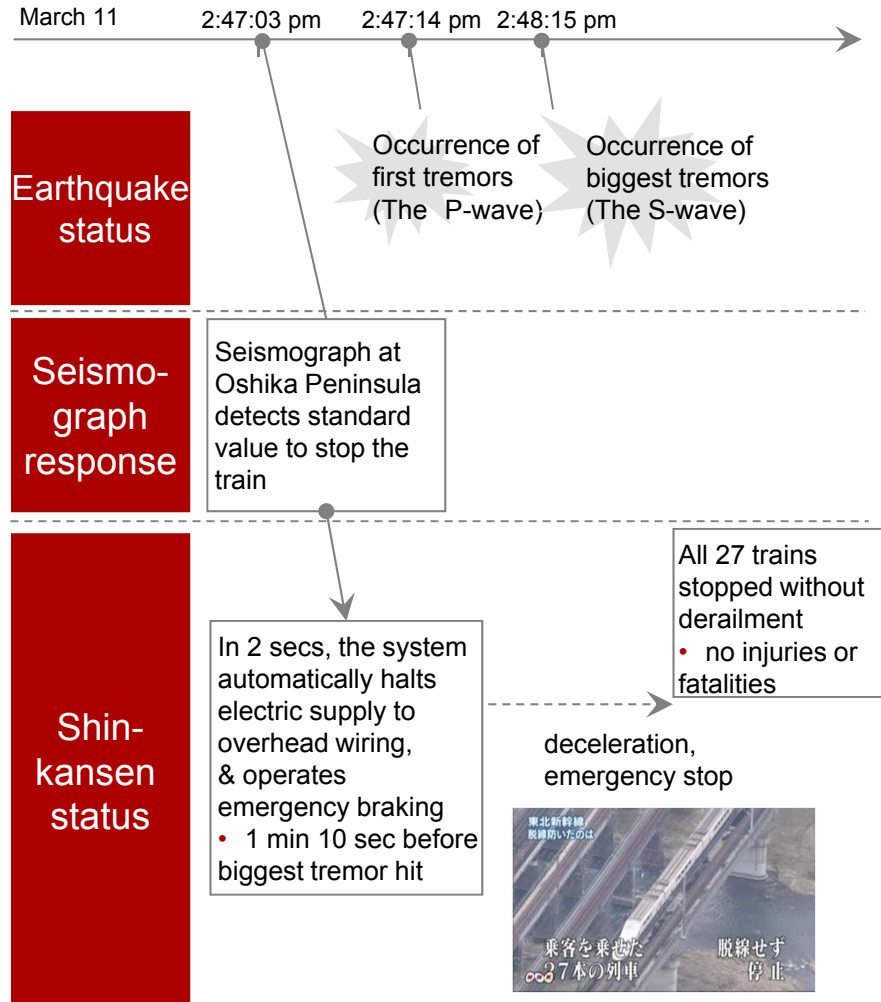
### JR East introduced early earthquake detection system

Since the 2004 Mid-Niigata Pref. Earthquake, ¥50-60B has been invested in earthquake disaster prevention measures.

- Within the JR East area, earthquake measurement equipment has been improved and increased, and the time from early tremor detection, to electric supply cut has been reduced from 3 to 2 seconds
  - Seismographs at 62 locations were upgraded to the latest models in 2005
  - New seismographs were installed at 28 coastal locations in 2006
  - 97 installed in 2010
- By 2009, all carriages of the Tohoku Shinkansen were fitted with an early earthquake detection system



### Succeed in making an emergency stop without derailing



# Foreign assistance and rescue efforts



US Navy/US Pacific Command  
(Operation Tomodachi)

Tremendous support from the international community

## Assistance offered from

- 163 countries and regions
  - 43 international organizations
- (As of October 21<sup>st</sup> 2011)

**Rescue teams were dispatched from 29 countries, regions and international organizations**

(As of October 21<sup>st</sup> 2011)



Ministry of Defence

Source: Ministry of Economy, Trade and Industry

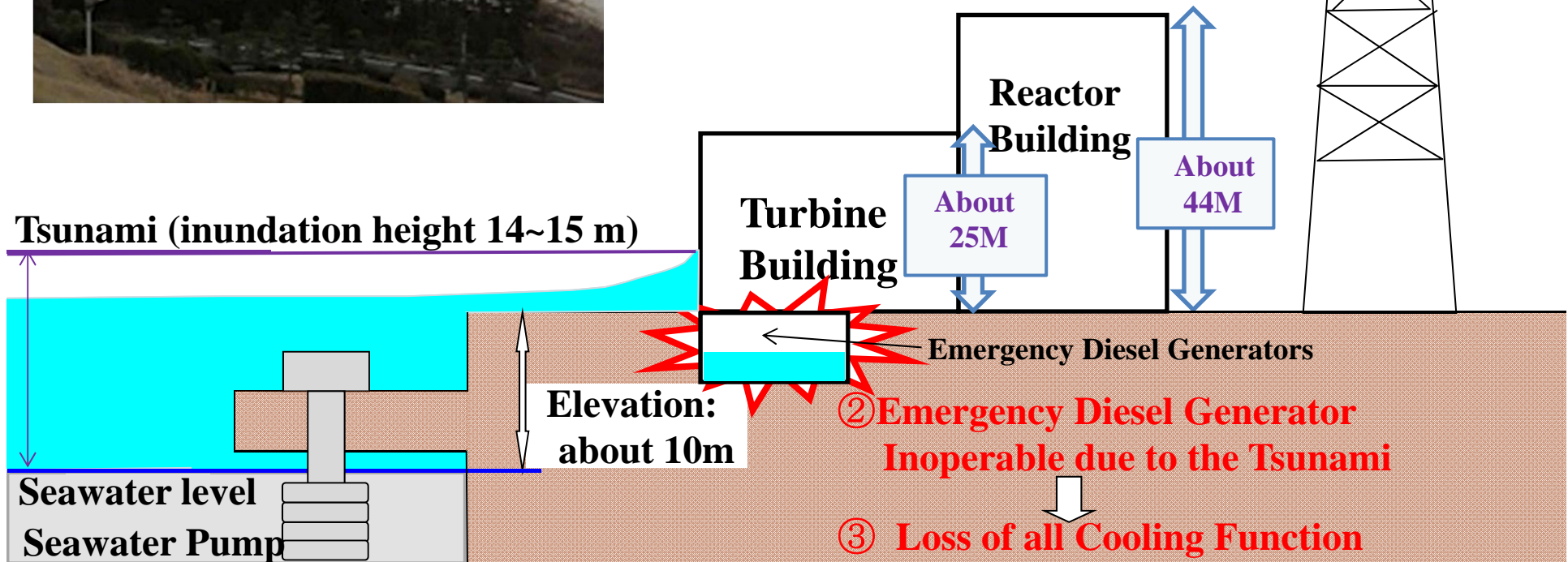
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# Cause of the Accident and Damage at Fukushima Dai-ichi Nuclear Power Station



Partly damaged

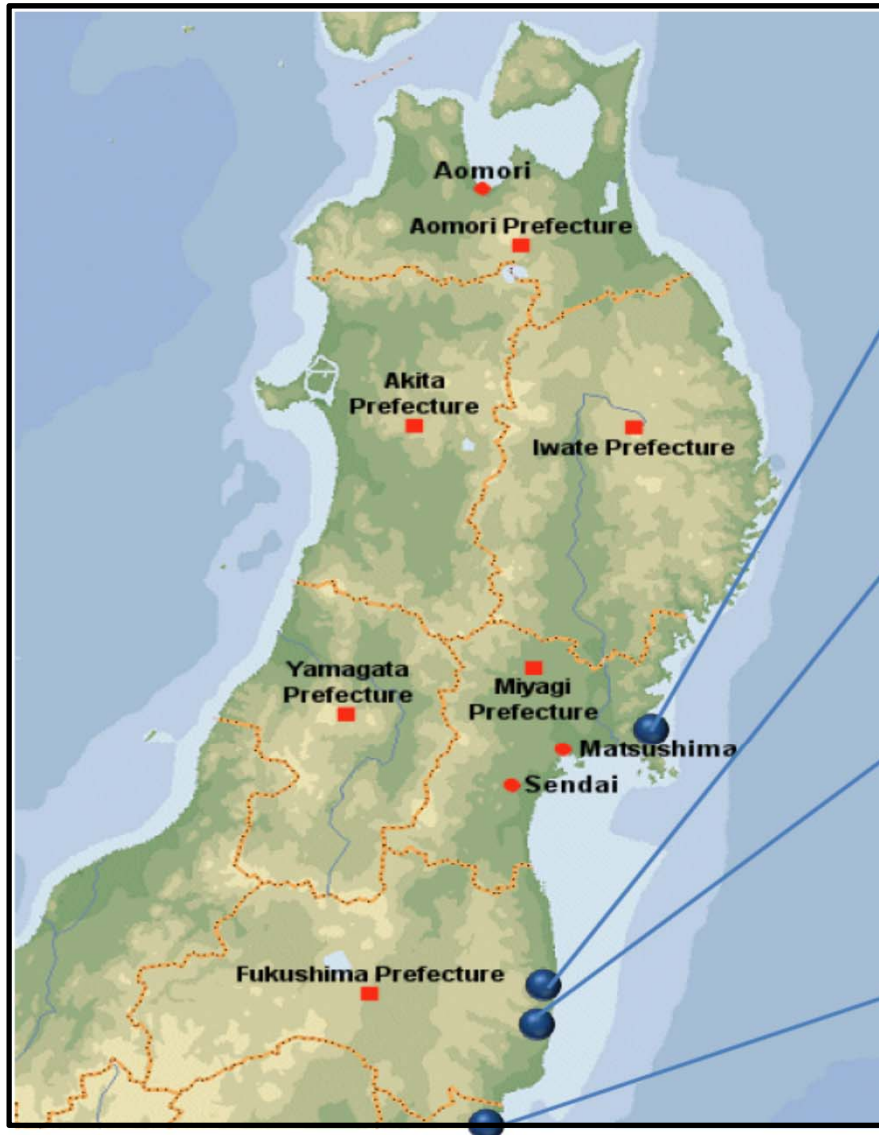
① Loss of Off-site Power due to the Earthquake



# Nuclear Power Stations

## Nuclear Reactors near Epicenter of the Earthquake

### 4 Nuclear Power Stations with 14 Units

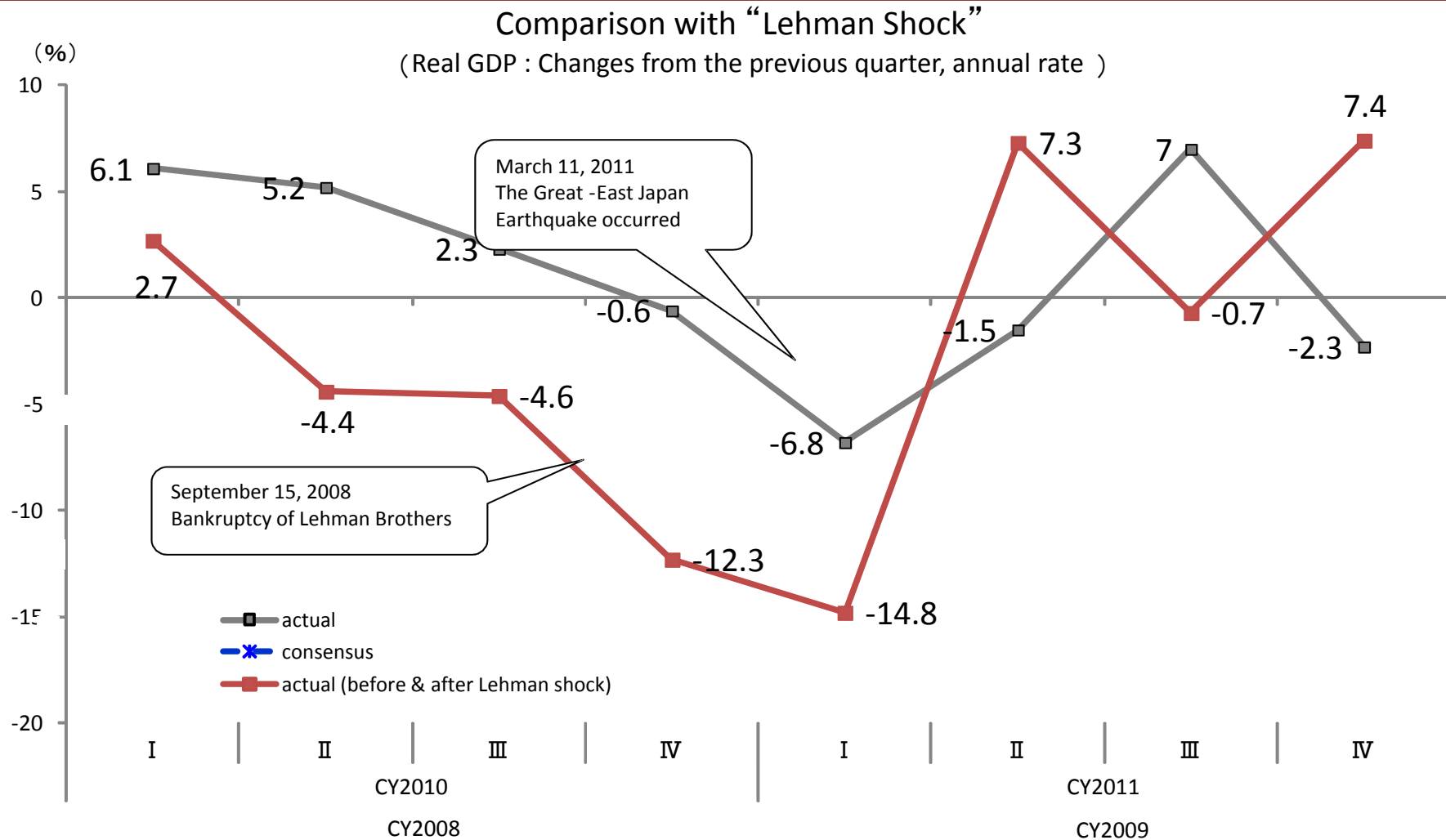


		automatic shut down	cold shut down
Onagawa			
Unit 1	524 MW, 1984-	✓	✓
Unit 2	825 MW, 1995-	✓	✓
Unit 3	825 MW, 2002-	✓	✓
Fukushima Dai-ichi			
Unit 1	460 MW, 1971-	✓	✓
Unit 2	784 MW, 1974-	✓	✓
Unit 3	784 MW, 1976-	✓	✓
Unit 4※	784 MW, 1978-		—
Unit 5	784 MW, 1978-	Periodical inspection	✓
Unit 6	1,100 MW, 1979-		✓
Fukushima Dai-ni			
Unit 1	1,100 MW, 1982-	✓	✓
Unit 2	1,100 MW, 1984-	✓	✓
Unit 3	1,100 MW, 1985-	✓	✓
Unit 4	1,100 MW, 1987-	✓	✓
Tokai Dai-ni			
Unit 1	1,100 MW, 1978-	✓	✓

※ Reactor Unit 4 had been defueled for maintenance.



# Macroeconomic impact



According to private sector forecasts, Japan's economy will grow in Q3 and Q4 2011 after slowing down in the Q1 and Q2. The degree of the slowdown is expected to be much less than after the "Lehman Shock."

Source: "National Accounts" (Cabinet Office )  
 METI(Ministry of Economy, Trade and Industry) "Economic Impact of the Great East Japan Earthquake and Current Status of Japan"

# Estimated Economic Damage of the Great East Japan Earthquake

## Damaged Stocks in Disaster Areas

\*estimated by the Cabinet Office of Japan(June 24,2011)

<b>Buildings, etc.</b> (housing, offices, plants, machinery, etc.)	approx. 10.4 trillion yen
<b>Lifeline utilities</b> (water service, gas, electricity, and communication and broadcasting facilities)	approx. 1.3 trillion yen
<b>Social infrastructure</b> (river, road, harbors, drainage, and airport, etc)	approx. 2.2 trillion yen
<b>Others</b> (including agriculture, forestry and fisheries)	approx. 3.0 trillion yen
<b>Total</b>	approx. 16.9 trillion yen

## Current situations of evacuees in the aftermath of the Earthquake

1. Approximately 580 people live in evacuation centers (community hall, school, etc.)in 2 Prefectures.  
(Decreased more than 40,000 people compared to the first survey on June 2, 2011)
2. Approximately 325,000 people live in houses and other residential facilities
3. Total number of evacuees nationwide is 343,000
4. Evacuated people are currently living in more than 1,200 municipalities located in 47 Prefectures.

(Number of people)*1	<i>June 2, 2011</i>		<i>Feb 9, 2012</i>
Evacuation center	41,143	▶	584
Hotel and other similar facilities	28,014	▶	97
Others (Houses of relatives, friends, etc)	32,483	▶	16,901
Houses*2 (Temporary housings, public housings, hospitals, etc.)	22,954*3	▶	324,927

\*1: The above figures show the sum of evacuees as of February 9, 2012, with the cooperation of relevant local governments.

\*2: Houses for Miyagi and Fukushima Prefecture does not include hospitals.

\*3: The figure does not include evacuees in Miyagi, Fukushima and Iwate Prefectures.

Source: Reconstruction Agency

# Speedy reconstruction of infrastructure

## The Tohoku Express Way



- transport and commercial artery which connects Tohoku and Kanto regions.
- 347 km out of 675 km of the expressway was damaged in the earthquake on March 11, but traffic restriction was lifted on March 24th, following the completion of emergency restoration measures.

## Sendai Airport



- The reconstruction of Sendai Airport which was badly damaged by the tsunami showed surprisingly rapid progress thanks to the cooperation between the US Armed Forces and Japanese Self-Defense Forces. The entire runway was restored and became useable by March 29th.

## Basic Utilities and Services (lifeline)

Items (Maximum Damage Caused)	Recovered Infrastructure / Maximum Damage	Rate of Recovery
<b>Electricity Supply</b> Maximum number of households without supply (in 3 Prefectures: Iwate, Miyagi and Fukushima Prefectures) : Approx. 2,580,000 (2011.3.11)	Households without supply: approx. 111,000	<b>approx. 96%</b> Remaining households consist of those in areas where house owners are missing, buildings were destroyed by the tsunami or in the restricted area designated due to the nuclear accident (hereinafter "the restricted area") and therefore difficult to restore.
<b>Town Gas Supply</b> Maximum number of households without gas supply (in the 3 Prefectures): Approx. 420,000 (2011.3.11)	Households without gas supply: approx. 60,000	<b>approx. 86%</b> Remaining 60,000 households are located in areas where houses were destroyed by the tsunami.
<b>Liquefied Petroleum Gas Supply</b> Maximum number of households without LP Gas supply (in the 3 pref.): Approx. 1,660,000 (2011.3.11)	Households without LP gas supply : approx. 80,000	<b>approx. 95 %</b> Remaining 80,000 households are located in areas where houses were destroyed by the tsunami.
<b>Water Supply</b> Maximum number of households where water supply was interrupted (nationwide): Approx. 2,300,000 (2011.7.23)	Households without water supply : approx. 45,000	<b>approx. 98%</b> Remaining 45,000 households are located in areas where houses were destroyed by the tsunami (excluding the restricted area).

Source: METI (Ministry of Economy, Trade and Industry) "Economic Impact of the Great East Japan Earthquake and Current Status of Japan" (May 30, 2011)

Source: Reconstruction Agency "Recovery Status of Major Infrastructures" (November 30<sup>th</sup>, 2011)

# Electricity Supply-Demand Measures in last Summer (2011)

## East Japan

(Tokyo/Tohoku Electric Power Company, Inc. areas)

### (1) Implementation of Rolling Blackouts

: Unavoidable urgent measures

(implemented for ten weekdays during the period from March 14 to 28)

- (1) Adversely affect the people's daily living and industrial activities
- (2) **Not implemented in principle on and after April 8**

### (2) Supply-demand measures for summer

: To suppress the electricity-consumption peaks systematically, **restriction on use of electricity** was imposed on large-volume-electricity customers.

- (1) **Demand restriction target was set at 15% reduction**

for all large-volume customers, small-volume customers and households (effective until September 30)

(Reserve rate\*:

Tokyo Electric Power Company, Inc. (TEPCO): -10.3%

Tohoku Electric Power Company, Inc. (Tohoku EPCO): -7.4%)

- (2) For large-volume-electricity customers (enterprises with contract for supply of 500kW or more), **use of electricity was restricted**.

(Tohoku: until September 9, Tokyo: until September 22).

Thanks to cooperation in electricity saving and the relatively low temperature, reduction of over 15% was realized

(-15.8% in Tohoku and -18.0% in Tokyo at the peak).

\* Restriction on the use of electricity in the earthquake-affected area was lifted. (from September 5)

\* Restriction on the use of electricity in TEPCO area was lifted earlier than scheduled (September 22 was changed to September 9).

## Midland and West Japan

(Chubu/Kansai/Hokuriku/Chugoku/Shikoku/ Kyushu Electric Power Company, Inc. areas)

### (1) Tight supply-demand balance of electricity

: Since electricity utilities were not able to restart nuclear power stations, the supply-demand balance became tight for the entire zone covered by six electricity utilities in Midland and West Japan with a reserve rate of -0.0% (-6.2% for The Kansai Electric Power Company, Inc. (KEPCO) in particular).

### (2) Measures for balancing supply and demand in summer

: Since the call for electricity saving and active interchange of electricity among these utilities were sufficient, **electricity-use restriction was not applied**.

- (1) KEPCO area: Electricity saving by reduction of **at least 10%** in total was requested (until September 22).

- (2) Other electric-power company areas: Electricity saving was requested as far as people's daily living and economic activities are not hampered (until September 22)

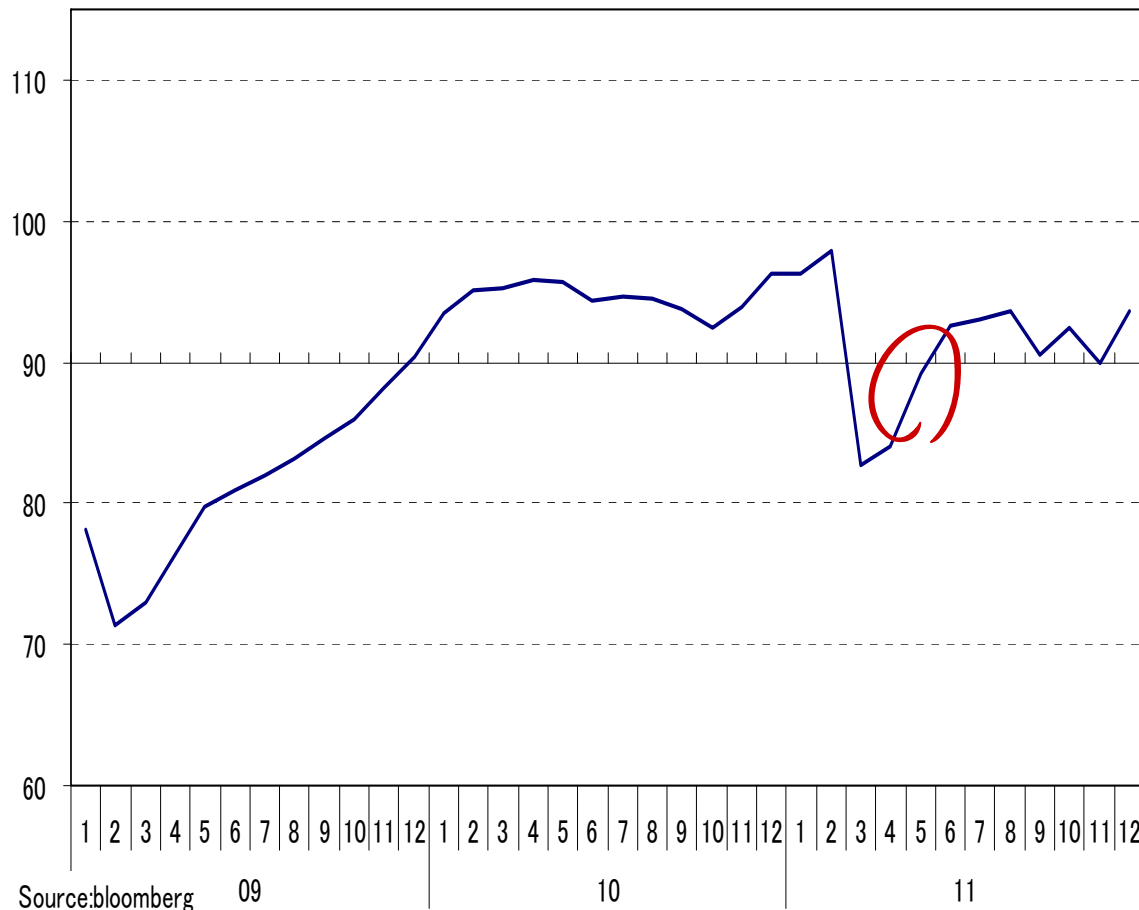
Thanks to the cooperation in electricity saving and to the relatively low temperature, reduction of about 10% was realized.

\* Reserve rate: Index to show how the supply capacity is in excess of the demand. At least 3% and usually 8% or more is required.

# Speedy recovery of supply chain beyond expectation

## Production Index of mining and manufacturing industry

(Index, Y2005=100)



### Month-over-month growth rate of mining and manufacturing industry production was 5.7% in May 2011

- the largest ever since recorded

### Orders for machinery (Month-over-Month)

- 2011 November 14.7%
- 2011 December -7.2%

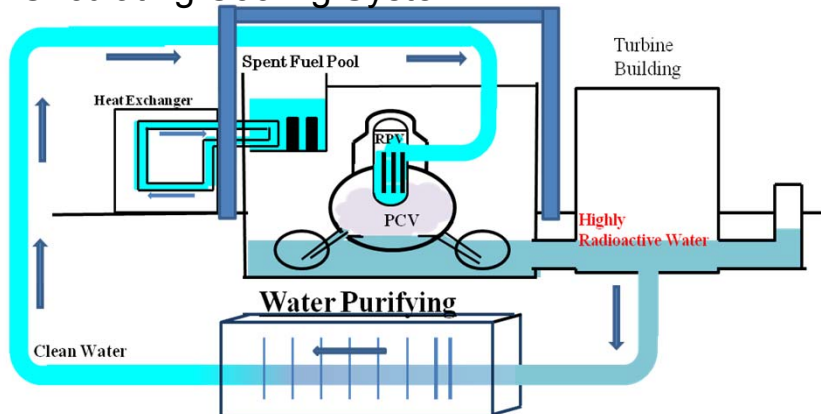
### Real GDP Growth (an annual rate)

- 2011 3Q 7.0%
- 2011 4Q -2.3%

# Utmost effort to settle Fukushima Dai-ichi NPS accident

Various effort to cool down the reactor and prevent radioactive substances dispersion

Circulating Cooling System



Spraying synthetic materials on the surface of the ground and debris to prevent radioactive substances dispersion



## Contain the spread of radioactive substances

Apr. 2

- Highly contaminated water discovered leaking into the sea.

Apr. 6

- Leak of contaminated water into the sea was stopped.

Apr. 12

- Transfer of stagnant water in the trench of Unit2 to the condenser started.

Apr. 14

- Silt fence was installed to block the spread of contaminated water.

Apr. 19

- Transfer of stagnant water in the trench of Unit 2 to the radioactive waste treatment facilities started.

May 21

- Mega float arrived at Fukushima Dai-ichi NPS

July 1

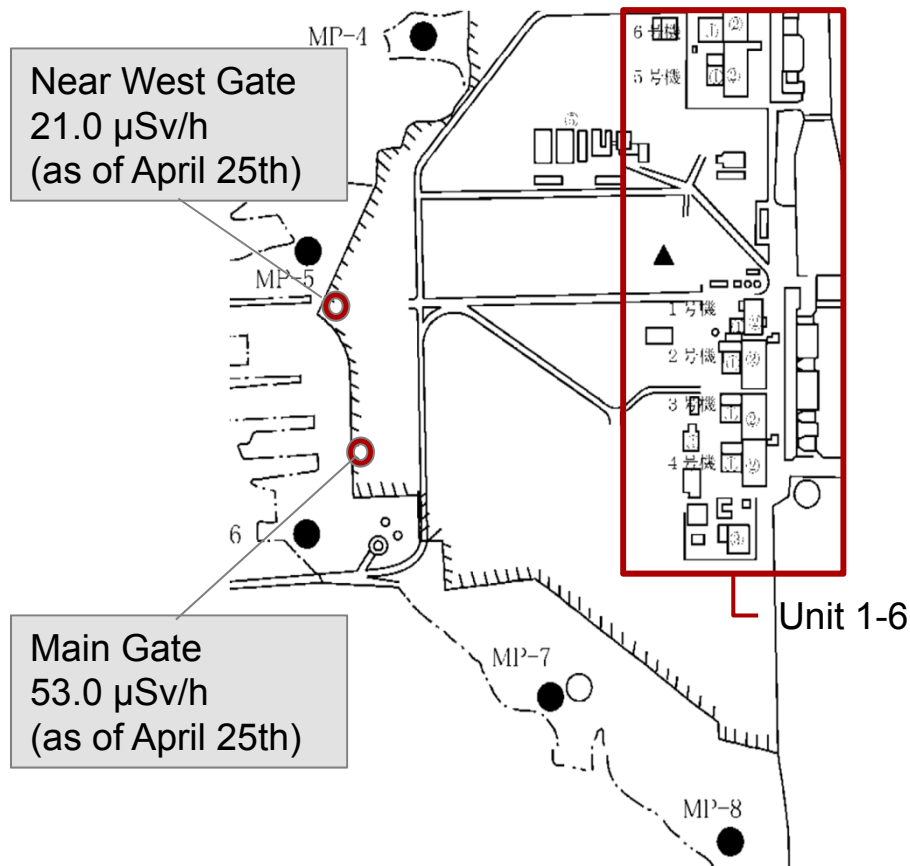
- Transfer of low radioactive accumulated water to Mega Float started

July 2

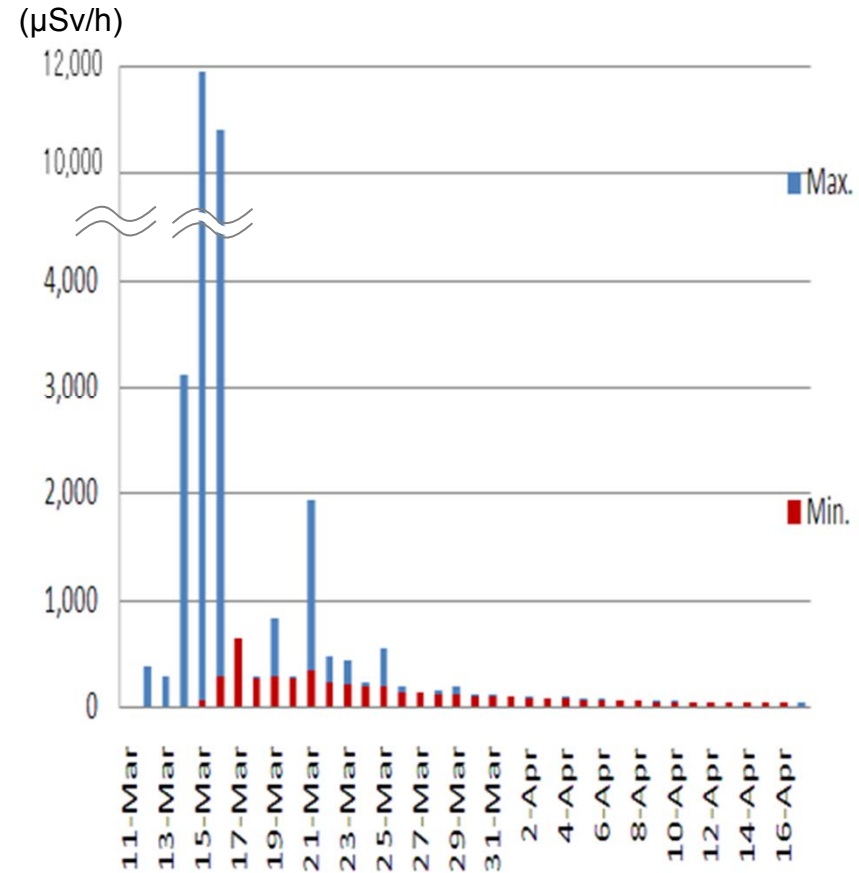
- Full scale operation of circulating injecting cooling started

# Rigorous and intensive monitoring

Monitoring posts and the readings at the Fukushima Dai-ichi NPS



Environmental Radioactivity Level at the Fukushima Dai-ichi NPS



Source: METI(Ministry of Economy, Trade and Industry) "Japan's Challenges Towards Recovery" (July,2011)



# Current Status of “Roadmap towards Restoration from the Accident at Fukushima Daiichi Nuclear Power Station, TEPCO” (Step2 completion)

December 16, 2011 Nuclear Emergency Response Headquarters, Government-TEPCO Integrated Response Office  
 ☆: already reported to the government. Green colored shading: achieved target

Issues	As of Apr. 17	Step 1 (around 3 months)		Step 2 (through the end of this year) current status (as of Dec. 16)		Mid-term issues (around 3 years)		
<b>I. Cooling</b>	(1) Reactor	Fresh water injection	Cooling by minimum injection rate (injection cooling)	Circulating water cooling ☆ (start)	Stable cooling	Cold shutdown condition		
			Consideration and preparation of reuse of accumulated water	Nitrogen gas injection ☆			Circulating water cooling (continued)	Nitrogen gas injection (continued)
	(2) Spent Fuel Pool	Fresh water injection	Improvement of working environment ☆	Reliability improvement in injection operation / remote-controlled operation *ahead of schedule	Remote-controlled injection operation	Stable cooling	More stable cooling	
			Installation of storage / processing facilities ☆	Circulation cooling system (installation of heat exchanger) ☆ *partially ahead of schedule	Consideration / installation of heat exchanging function			Start of removal work of fuels
			Transferring water with high radiation level	Installation of storage facilities / decontamination processing	Expansion ☆ / consideration of full-fledged processing facilities			Reduction of total amount of accumulated water
<b>II. Mitigation</b>	(3) Accumulated Water	Storing water with low radiation level	Storage ☆ / management of sludge waste etc.	Decontamination ☆ / desalination processing (reuse), etc	Secure storage place	Mitigation of total amount of accumulated water		
			Mitigation of contamination in the ocean	Storage ☆ / management of sludge waste etc.			Research on processing of sludge waste etc.	
	(4) Ground water		Mitigation of contamination in groundwater	Mitigation of contamination in the ocean	Mitigation of ocean contamination (continued)	Mitigate ocean contamination	Mitigate ocean contamination (continued)	
			Consideration of method of ground water shielding wall	Design / implementation of ground water shielding wall	Establishment of ground water shielding wall			
(5) Atmosphere / Soil		Dispersion of inhibitor	Dispersion of inhibitor (continued)	Dispersion of inhibitor (continued)	Mitigate scattering	Mitigate scattering (continued)		
		Removal / management of debris	Removal / management of debris (continued)	Removal / management of debris (continued)			Removal / management of debris	
		Installation of reactor building cover (Unit 1) ☆	Installation of reactor building cover (Unit 1) ☆	Removal of debris (top of Units 3&4 R/B)			Removal of debris / installation of reactor building cover (Units 3&4)	
			Consideration of reactor building container	Installation of PCV gas control system		Start of installation work of reactor building container		
			Installation of PCV gas control system			Installation of PCV gas control system		

# Current Status of “Roadmap towards Restoration from the Accident at Fukushima Daiichi Nuclear Power Station, TEPCO” (Step2 completion)

December 16, 2011 Nuclear Emergency Response Headquarters Government-TEPCO Integrated Response Office  
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Issues	As of Apr. 17	Step 1 (around 3 months)	Step 2 (through the end of this year) current status (as of Dec. 16)		Mid-term issues (around 3 years)
III. Monitoring/ Decontamination	(9) Measurement, Reduction and Disclosure	Expansion, enhancement and disclosure of radiation dose monitoring in and out of the power station		Decontamination	Continuous environmental monitoring
			Consideration/start of full-fledged decontamination		Continuous decontamination
IV. Countermeasures against aftershocks, etc	(7) Tsunami, Reinforcement, etc	Enhancement of countermeasures against aftershocks and tsunami, preparation for various countermeasures for radiation shielding		Mitigate disasters	Continue various countermeasures for radiation shielding
		(Unit 4 spent fuel pool) Installation of supporting structure ☆	Consideration of reinforcement work of each Unit ☆		Reinforcement work of each Unit
V. Environment improvement	(8) Living/working environment	Improvement of workers' living / working environment		Enhancement of environment improvement	Improvement of workers' living / working environment
	(9) Radiation control / Medical care	Improvement of radiation control / medical system		Enhancement of Healthcare	Improvement of radiation control / medical system
	(10) Staff Training / personnel allocation	Systematic implementation of staff training / personnel allocation		Exhaustive radiation dose control	Systematic implementation of staff training / personnel allocation
Action plan for mid and long term issues			Concept of mid-term safety		
			Establishing plant operation plan based on mid-term safety		Response based on the plant operation plan
			Formulating a mid and long term roadmap		

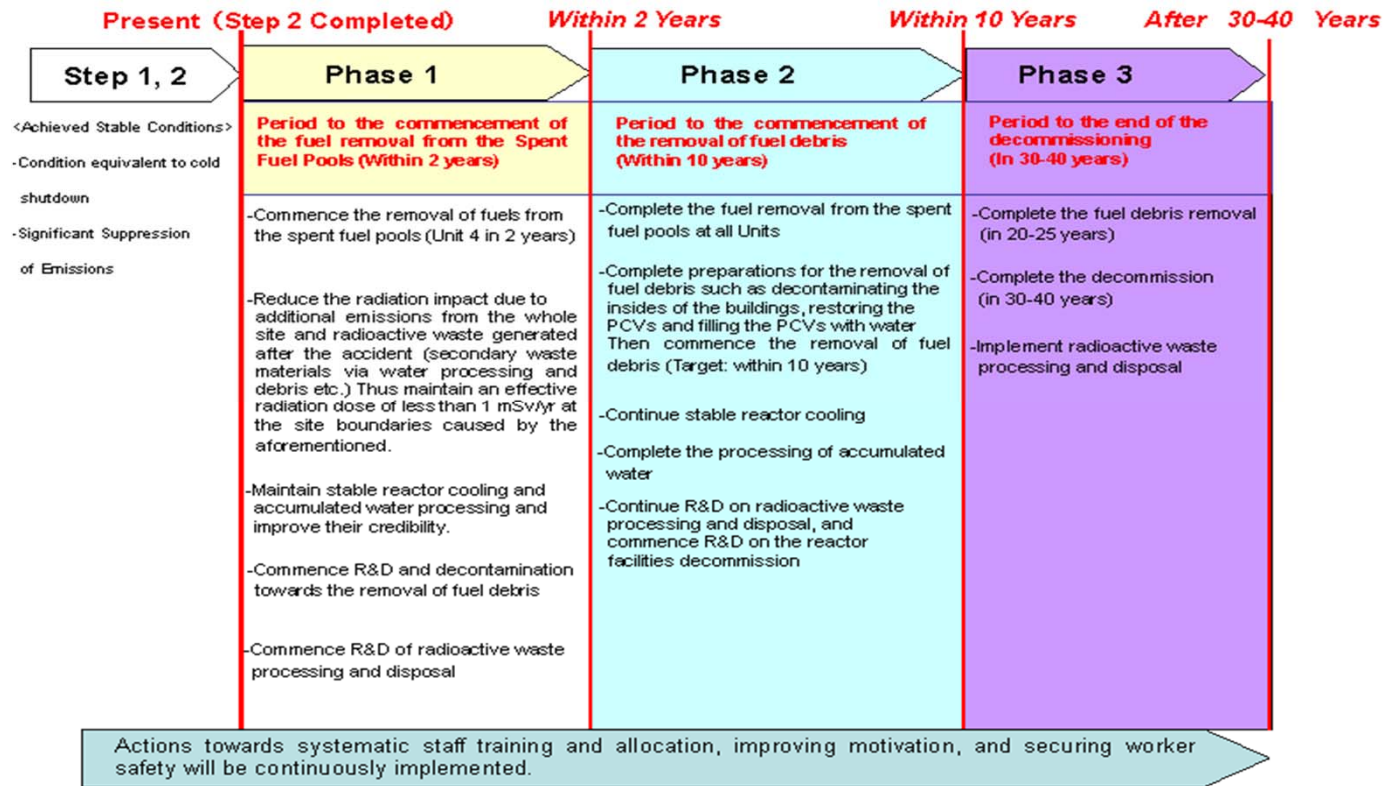
# Summary of Mid-and-long-Term Roadmap towards the Decommissioning of Fukushima Daiichi Nuclear Power Units 1-4, TEPCO.”

## Basic Policy towards Addressing the Mid-and-long Term Issues

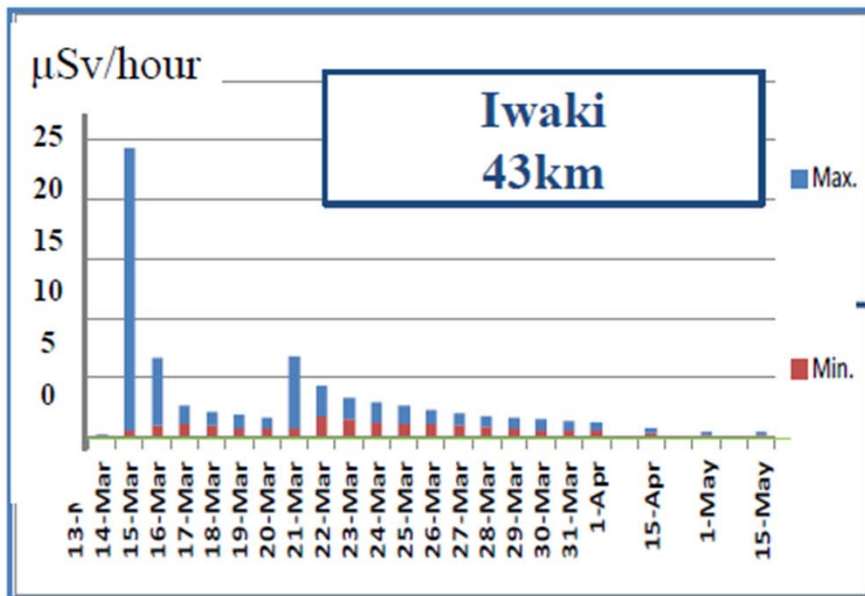
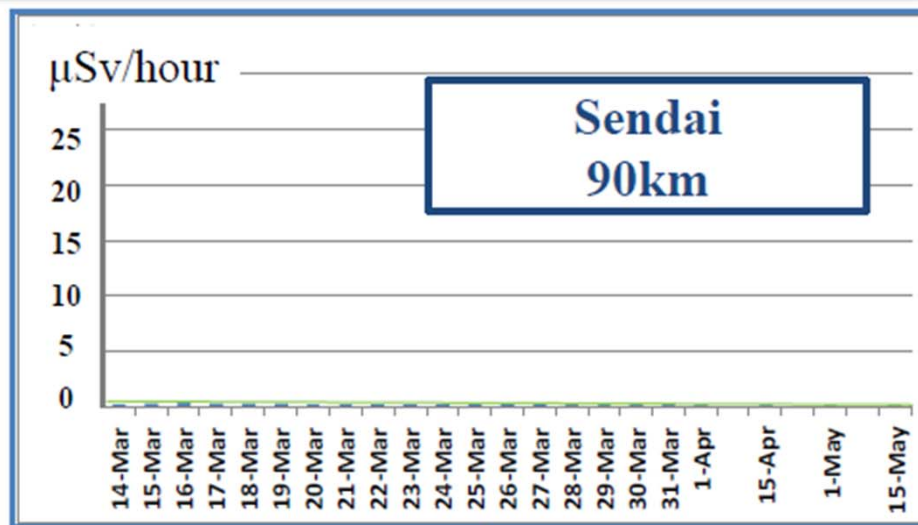
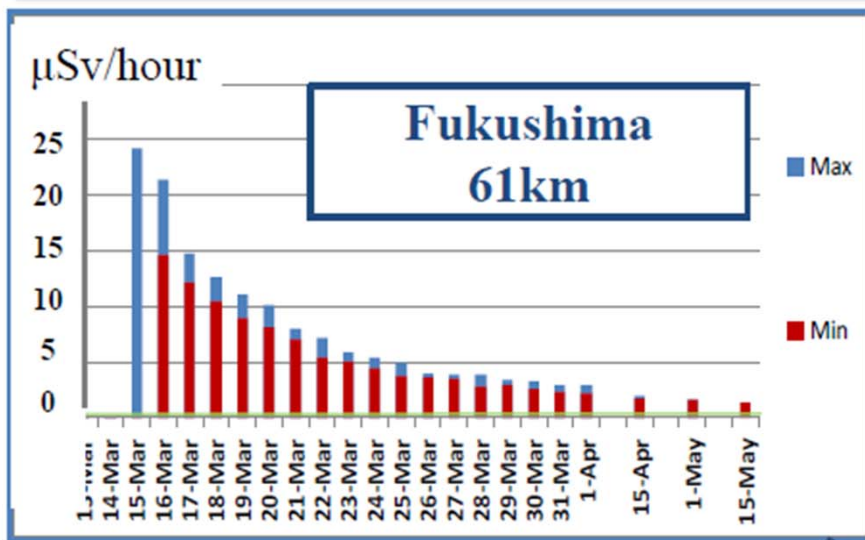
- [Policy 1] Systematically tackle the issues while placing top priority on the safety of local citizens and workers.
- [Policy 2] Move forward while maintaining transparent communications with local and national citizens to gain their understanding and respect.
- [Policy 3] Continually update this roadmap in consideration of the on-site situation and the latest R&D results etc.
- [Policy 4] Harmonize the individual efforts of TEPCO, ANRE, and NISA to achieve our goal.

## Mid-and-long-Term Roadmap Primary Targets

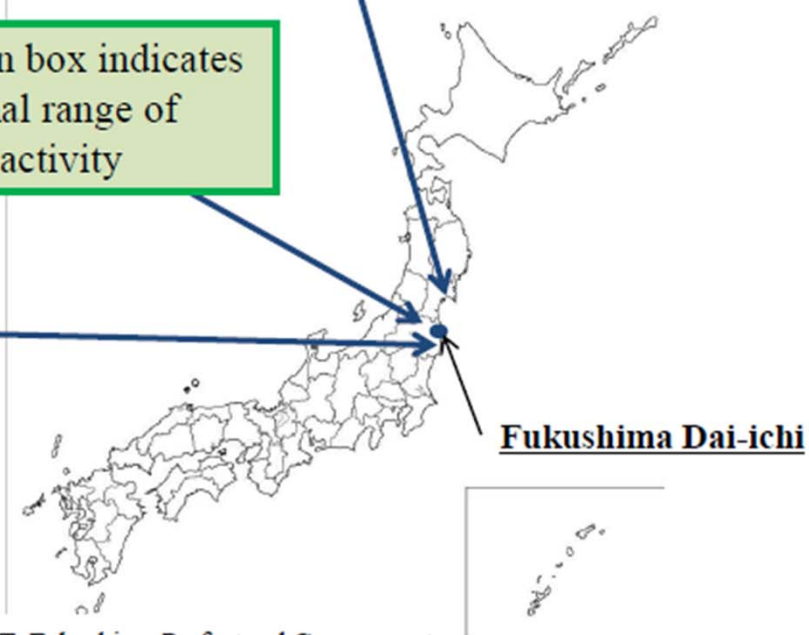
This roadmap divides the term of decommissioning into the following three phases and will detail the main onsite work and R&D schedule to be implemented as effectively as possible hereafter.



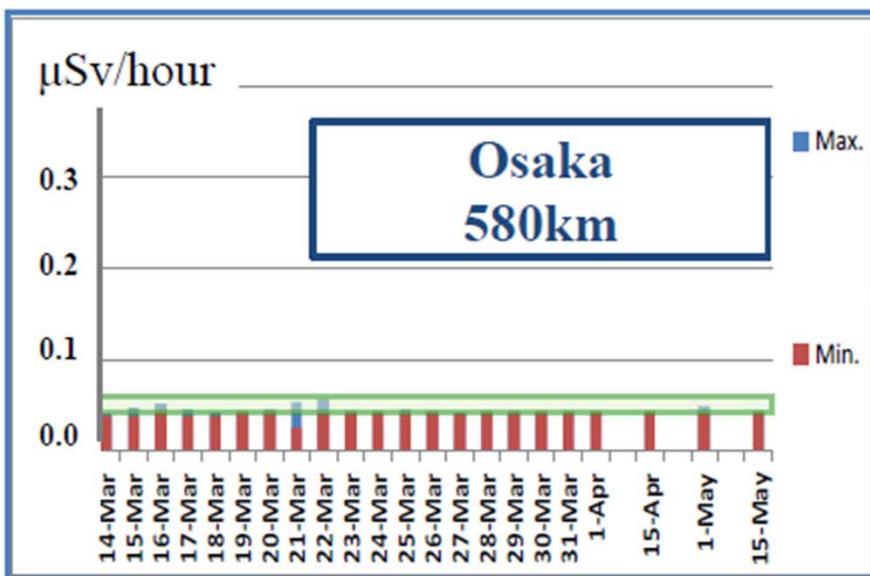
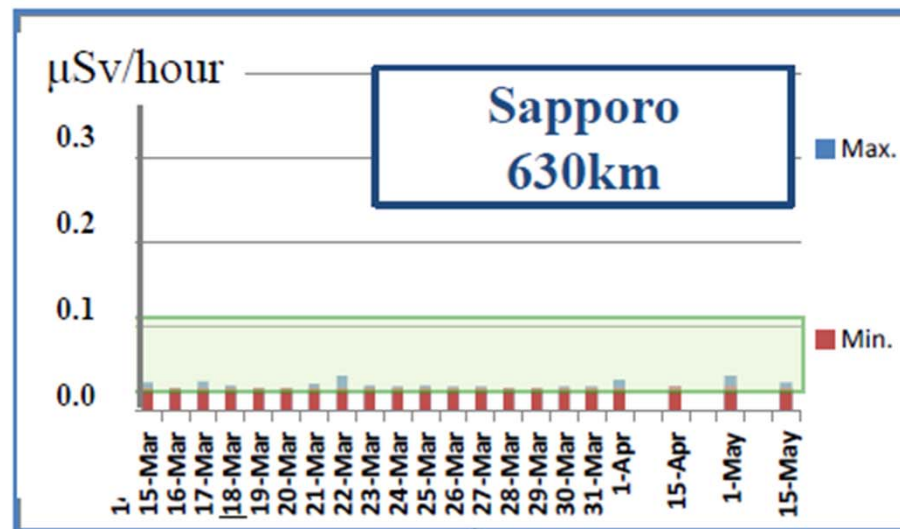
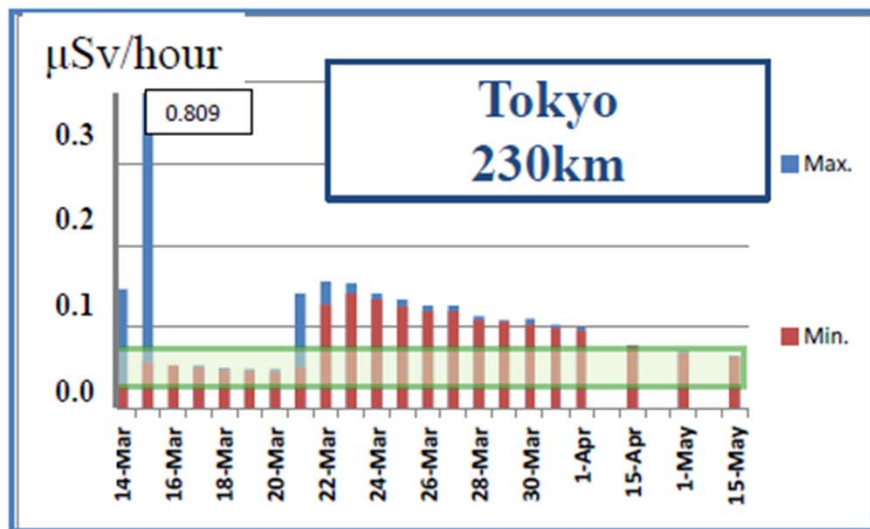
# Atmospheric Readings within 100km



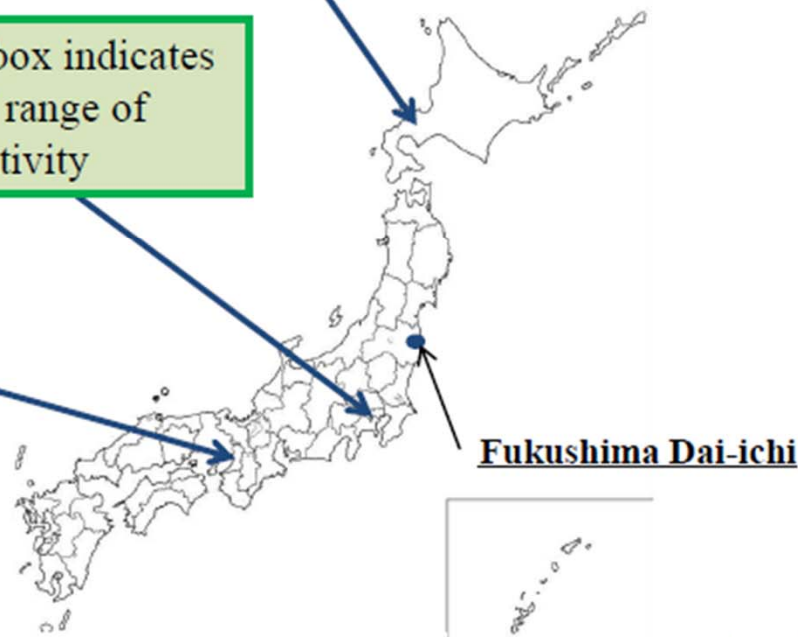
Green box indicates normal range of radioactivity



# Atmospheric Readings in Tokyo, Osaka and Sapporo



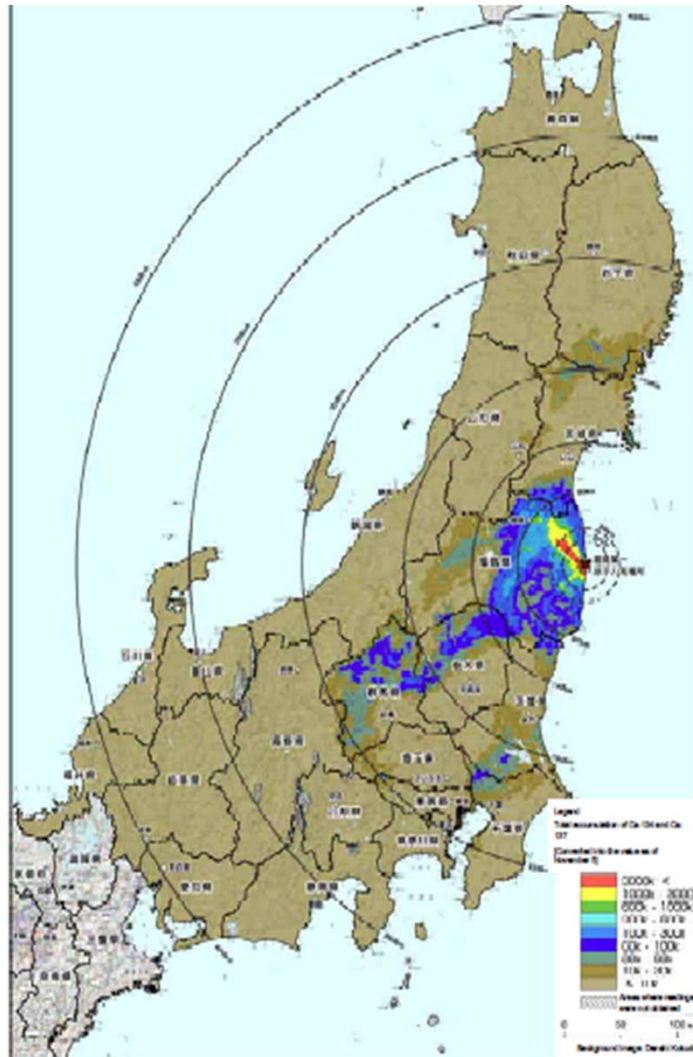
Green box indicates normal range of radioactivity



Source: MEXT  
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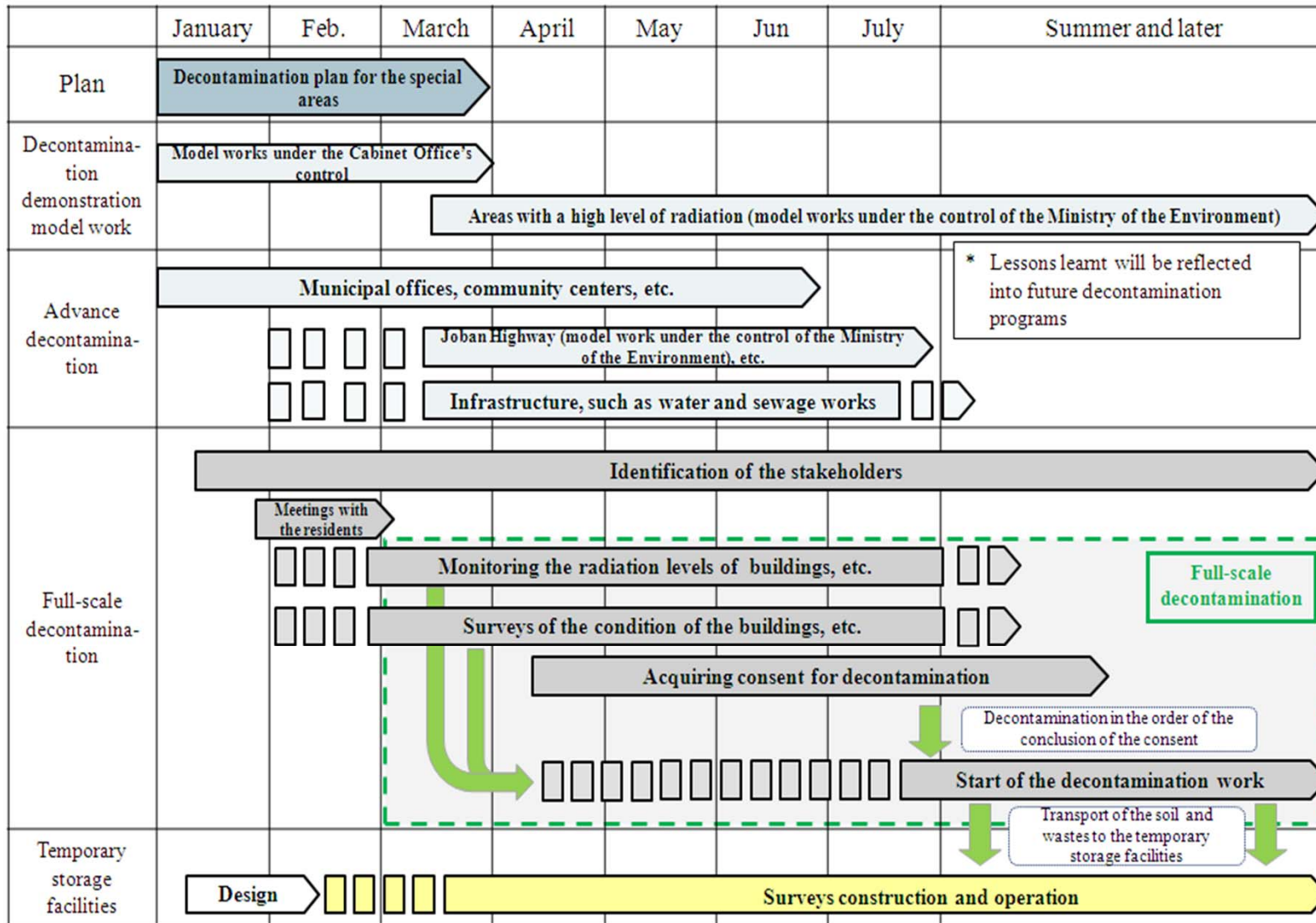
# The total deposition of Cs-134 and Cs-137 on the ground surface

The total deposition of Cs-134 and Cs-137(as of December 16,2011)



The total deposition of Cs-134 and Cs-137 on the ground surface throughout all of East Japan, reflecting the results of the fourth airborne monitoring

# Short-term Decontamination Roadmap for Special Area



\* The concrete decontamination procedures will be determined according to feature of each municipality.

# Ensure the safety of food and products

## Food

**Inspects radioactive materials in food every day, and restricts distribution of food that fails to meet provisional regulation values taking into consideration the spread of contamination.**

## Fishery Products

**Intensive inspections over a wide range of samples.**

- Inspections are conducted on a weekly basis at each major port under the cooperation between prefectural governments, the Fisheries Agency and fishing industries.

**Ensuring the safety of fishery products on the market.**

- Weekly exploratory operations should be conducted in principle, and fishing operation should resume only under strict condition(e.g. after the levels of radioactive substances detected remain below the provisional regulatory values three times in a row.)

## Industrial products

**Inspection institutions and industry associations provide testing service of the radiation levels of export products**

- Ex. The tests implemented by JAMA — which are conducted directly on various designated areas of the surface of vehicles — are showing results that fall within the range designated by the Nuclear Safety Commission of Japan as being unthreatening to human health, based on the daily readings performed by the Ministry of Education, Culture, Sports, Science and Technology in every prefecture since March25.

— Comments on Radiation Testing Related to the Fukushima Nuclear Power Plant Situation on JAMA website (April 18,2011)



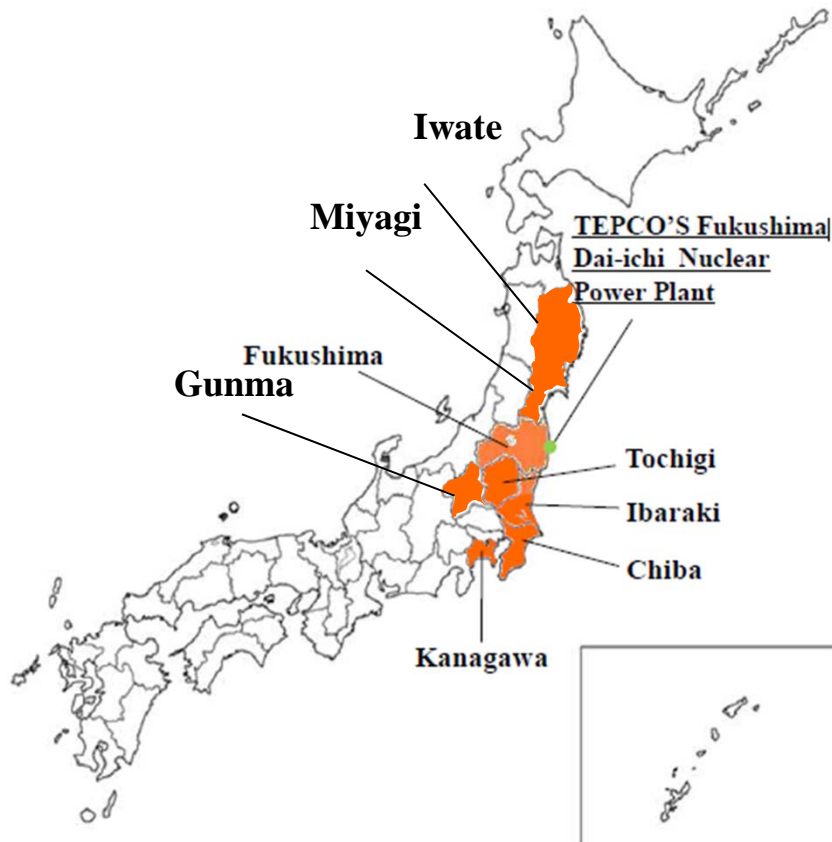
Note: JAMA = Japan Automobile Manufacturers Association)

Source: METI(Ministry of Economy, Trade and Industry) "Japan's Challenges Towards Recovery" (July,2011), JAMA website



# Safety of Food

Japan inspects radioactive materials in food every day, and restricts distribution of food that fails to meet provisional regulation values taking into consideration the spread of contamination.



## Instructions (as of 9 December 2011)

... To suspend the distribution of the following items.  
*\* Instructions are applied to specific areas.*

### Fukushima Prefecture

- Raw milk \*, Non-head type leafy vegetables (e.g. spinach) \*, Head type leafy vegetables (e.g. cabbage) \*, Flowerhead \*, Turnip \*,
- Log grown shiitake (grown outdoor, hothouse cultivation)\*, Log-grown pholiota nameko\*, Wild mushroom\*, Bamboo shoot\*, Ostrich fern\*, Ume\*, Yuzu\*, Chestnut\*, Kiwi fruit\*, Rice(produced in 2011)\*, Sand lance (juvenile), yamame-Cherry salmon (excluding farmed fish) \*, Japanese dace \*, Ayu(excluding farmed fish)\*, Boar meat\*, Bear meat\*

### Ibaraki, Tochigi, Gunma, Chiba and Kanagawa Prefecture

- Tea leaf \*

### Chiba Prefecture

- Log grown shiitake (outdoor) \*

### Ibaraki Prefecture

- Log grown (outdoor, hothouse cultivation) \*, Boar meat

### Tochigi Prefecture

- Log-grown brick cap (outdoor) \*, Log-grown pholiota nameko \*, Boar meat \*, Deer meat

### Fukushima, Miyagi, Iwate and Tochigi Prefecture

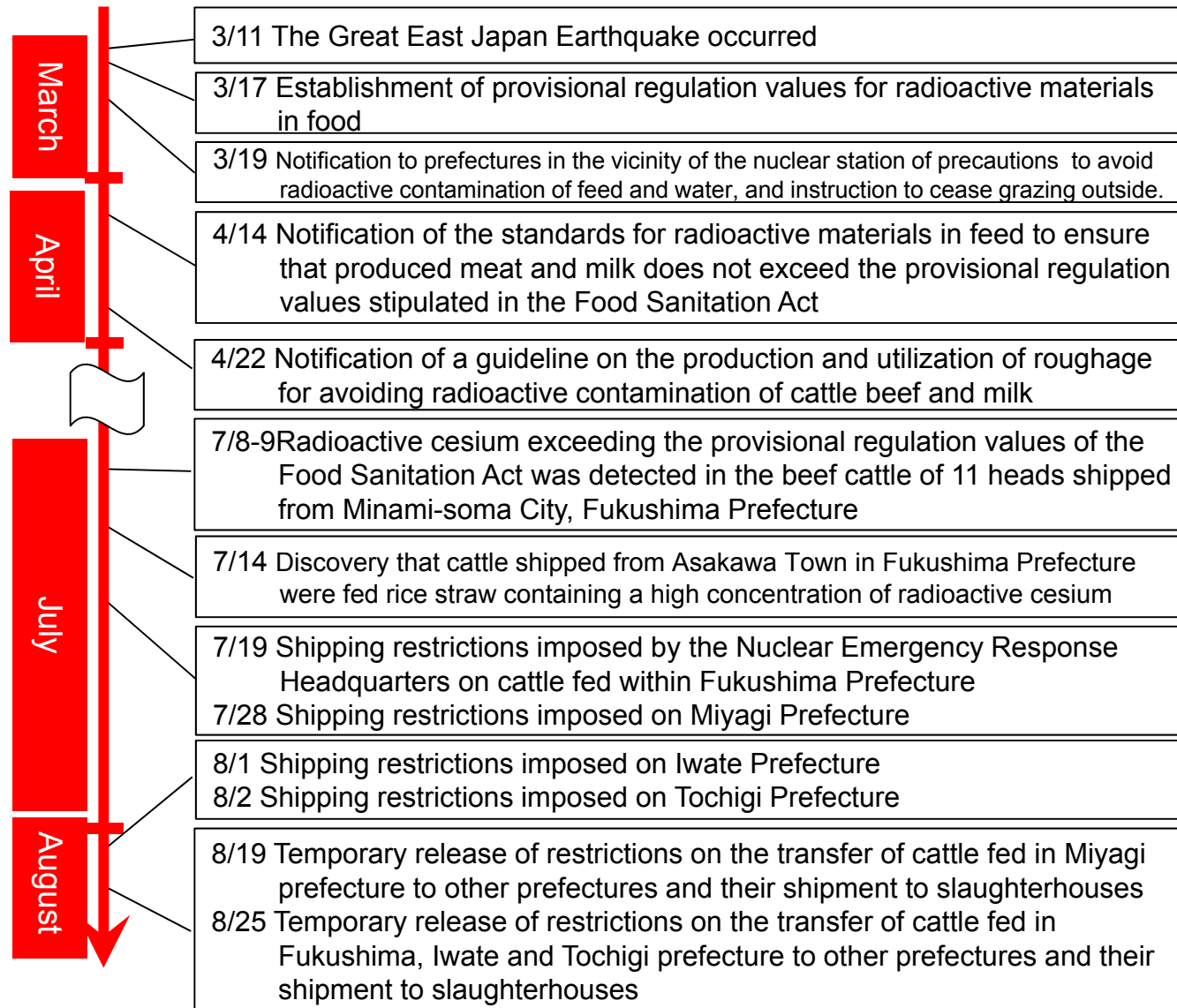
- Beef (excluding cattle which are managed based on shipment and inspection policy)

Please refer to the following URL for the details of Instructions.

<http://www.mhlw.go.jp/english/topics/2011eq/index.html>

# Government Actions to Ensure the Safety of Beef and Other Food

## 1. Overview and Background



### Thorough Guidance on Feeding

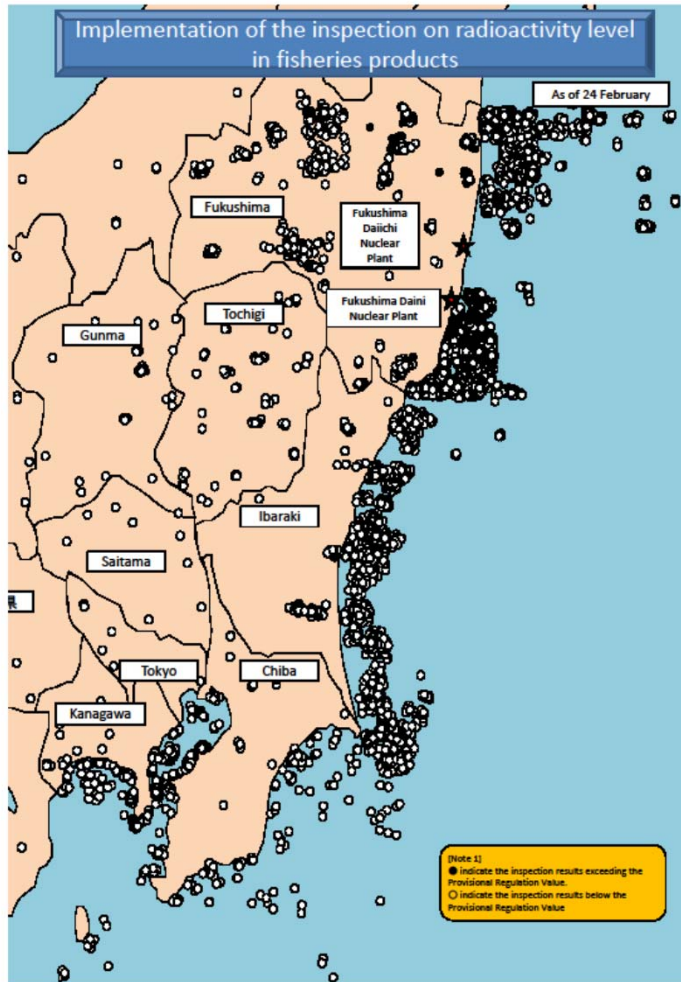
The Government has been providing:

- Notification to prefectures in the vicinity of the nuclear station of precautions to avoid radioactive contamination of feed and water, and instruction to cease grazing outside; and
- Livestock farmers with instruction to store feed in an appropriate manner

The causes of the case are:

- Rice straw left in paddy fields after the harvest was contaminated by radioactive nuclides from the TEPCO's Fukushima Daiichi Nuclear Power Plant;
- The rice straw was fed to beef cattle; and
- Radioactive cesium which exceeds the provisional regulation values provided by the Food Sanitation Act was detected in beef.

# Safety of Fishery Products



**【As of February 27th】**

Samples over provisional regulatory value:230

+○ Samples tested:6,780

Source: Ministry of Economy, Trade and Industry  
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## Intensive inspections over a wide range of samples.

Inspections on radioactive substances in fishery products are conducted on a weekly basis at each major port under the cooperation between prefectural governments, the Fisheries Agency and fishing industries.

### Variety of samples

Ranging from coastal species to migratory species, as well as from surface species to bottom water species.

### Species, some samples of which exceeded the provisional regulation value

Japanese sand lance(juvenile), Japanese anchovy(juvenile), Fat greenling, Brown hakeling, Stone flounder, Goldeye rockfish, Rockfish, Ocellate spot skate, Slime flounder, Olive flounder, Marbled flounder, Seabass, Black rockfish, Fox jacopever, Brassblotched rockfish, Sea raven, Poacher, Mediterranean mussel, Surf clam, Northern sea urchin, Japanese mitten crab, Wakame-seaweed, Hijiki-seaweed, Arame-seaweed, Cherry salmon, Japanese smelt, ayu-sweetfish, Japanese dace, White spotted char, Willow gudgeon)

(※Exceeding values are detected only in Fukushima Prefecture, except for Japanese sand lances and Brown hakeling in Ibaraki Prefecture and Japanese smelt, Japanese dace and White spotted char in a lake of Gunma Prefecture as well.)

## Ensuring the safety of fishery products on the market

Weekly exploratory operations should be conducted in principle, and fishing operation should resume only under strict condition(e.g. after the levels of radioactive substances detected remain below theprovisional regulation value three times in a row.).

(※) No fishery is currently conducted in Fukushima.

# Safety of Drinking Water

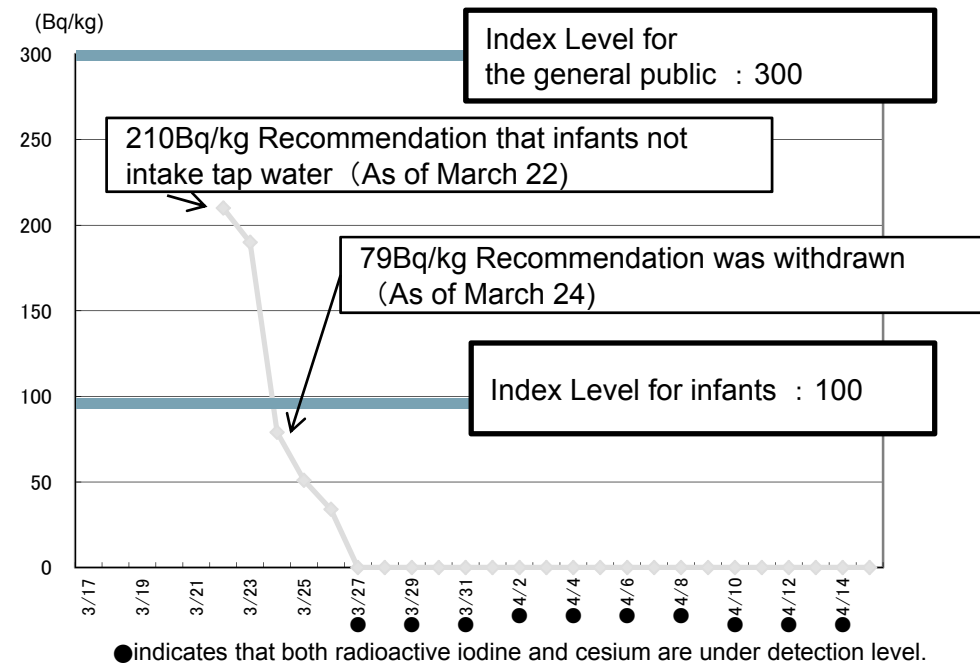
The Japanese Government has been implementing necessary measures based on its stringent criteria for radionuclides in drinking water, and monitoring radionuclide levels every day.

Index Levels for the restriction of Drinking Water intake

(Bq/kg)	Japan
radioactive Iodine(131)	300 (for infants)100
radioactive cesium	200

Ministry of Health, Labour and Welfare

Radioactive Iodine(I131) in Drinking-Water in Tokyo (Kanamachi purification plant)



Bureau of Waterworks, Metropolitan Tokyo Government

\*On March 23, Tokyo Water Utility announced that its residents should refrain from giving infants tap water. The restriction was cancelled on March 24.

# Safety of Industrial Products

Japanese manufacturing industries spare no effort to ensure the safety of their products.

Inspection institutions and industry associations provide testing service of the radiation levels of export products.

## Example of Inspection Institutions

- Nippon Kaiji Kentei Kyokai (International Inspection & Surveying Organization)
- SK (Shin Nihon Kentei Kyokai)
- ANCC (All Nippon Checkers Corporation) etc.

Reference: JETRO Homepage

[http://www.jetro.go.jp/world/shinsai/20110318\\_11.html](http://www.jetro.go.jp/world/shinsai/20110318_11.html)



## JAMA (Japan Automobile Manufacturers Association)

Comments on Radiation Testing Related to the Fukushima Nuclear Power Plant Situation (April 18, 2011)

<extracts>

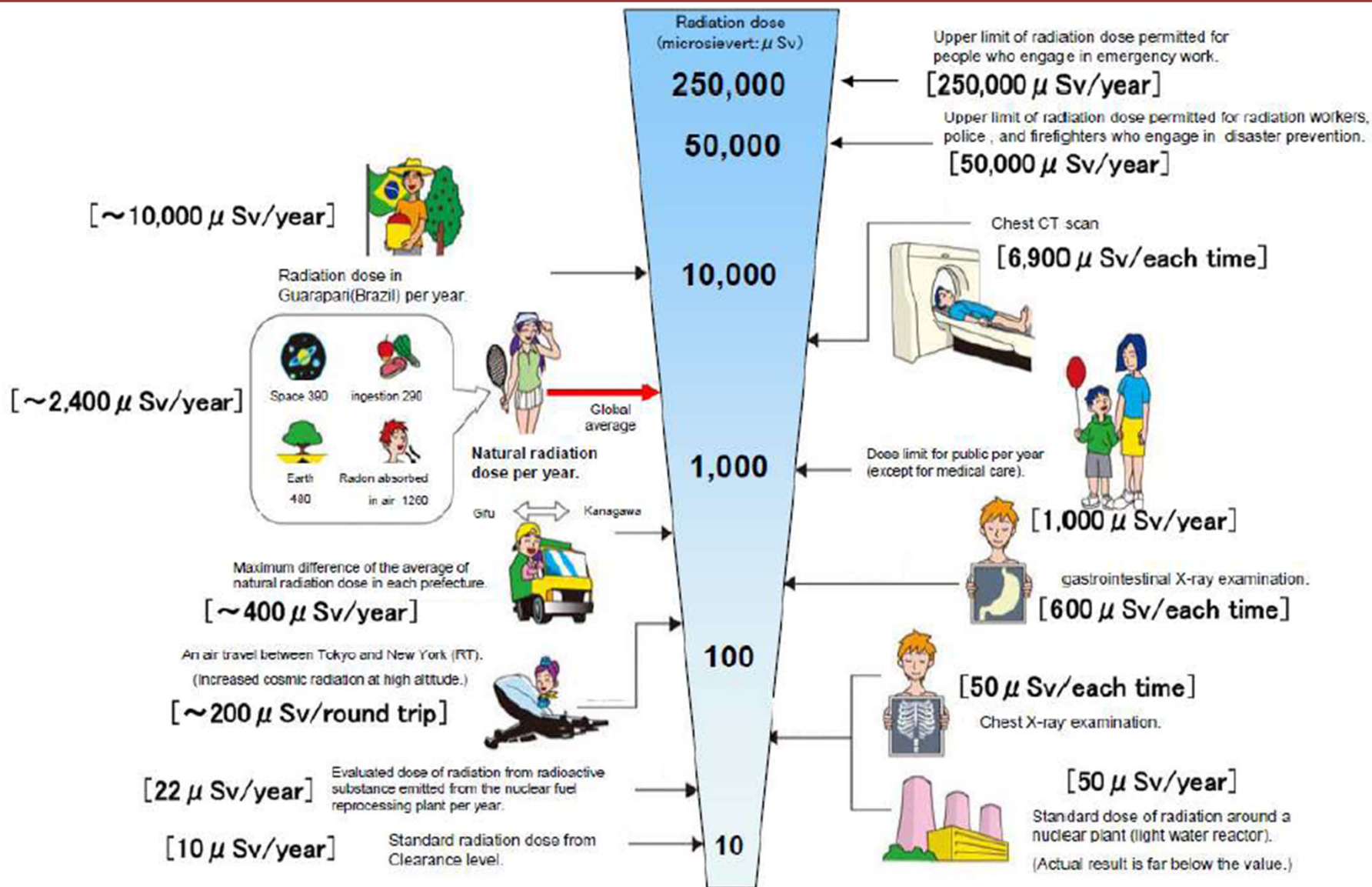
The tests implemented by JAMA — which are conducted directly on various designated areas of the surface of vehicles — are showing results that fall within the range designated by the Nuclear Safety Commission of Japan as being unthreatening to human health, based on the daily readings performed by the Ministry of Education, Culture, Sports, Science and Technology in every prefecture since March 25.

Reference : JAMA Homepage:

<http://www.jama-english.jp/release/comment/2011/110418.html>



# Radiation in Daily-life



※ Sv [Sievert] = Constant of organism effect by kind of radiation (※) × Gy [gray]

※ It is 1 in case of X ray and γ ray.

MEXT makes this, based on "Nuclear power 2002" made by Agency of Natural Resources and Energy.

# Reconstruction open to the world

## Reconstruction open to the world

Based on the compassion shown by the international community, Japan must move forward strongly and quickly on reconstruction efforts, becoming an even more attractive country.

The disaster brought great damage on international supply chains, and once again raised awareness among people within and outside Japan of the deep linkage between Japan and the world. In light of this, Japan must strengthen kizuna with the international community, and aim for reconstruction not inward-looking but open to the international community.

– "Toward Reconstruction ~ Hope beyond the Disaster" (Reconstruction Design Council)

## Promoting understanding of Japan's revival within and outside Japan

## Economic revitalization open to the world

- Prevent the spread of reputational damages through the dissemination of accurate information
- Restore faith in the "Japan Brand" by putting out a call to people all over the world
  - Appealing safety, High quality of products, advanced scientific technology etc.
- Maintain and develop the links established through the crisis among people around the world
  - Promote exchanges between the affected areas and other countries
- Promote foreign direct investment
  - encourage global companies to establish research bases and Asian headquarters functions in Japan
- Develop an environment to employ and accommodate foreign nationals who possess exceptional technical skills and knowledge
  - A points-based incentive immigration system<sup>1</sup> etc.

1. A system that awards points for career and research achievements, and grants incentive measures to foreign nationals who have acquired the requisite number of points, such as allowing them to prolong their period of residency in Japan  
Source: "Toward reconstruction ~Hope beyond the Disaster" (Report to the Prime Minister of the Reconstruction Design Council in response to the Great East Japan Earthquake)

# Basic Guidelines for Reconstruction in response to the Great East Japan Earthquake (decided on July 29, 2011)

“Basic Guidelines for Reconstruction in response to the Great East Japan Earthquake” was decided by the Reconstruction Headquarters in response to the Great East Japan Earthquake on July 29, 2011. The Guidelines constitute a blueprint for the Government and other actors to tackle numerous challenges in the reconstruction process.

## BASIC CONCEPT

- Main administrative actors are municipalities.
- The central government will present guidelines for reconstruction and provide support on finance, human resources, know-how and other aspects.
- Reinforce bonds (kizuna) with the international community; “reconstruction open to the world”

## TIMEFRAME

- 10 years for the reconstruction period (the first 5 years for the “concentrated reconstruction period”)

## RESPONSE ACTIONS TO BE IMPLEMENTED

- Measures for the recovery and reconstruction of the disaster-afflicted areas and for the restoration of lives of affected people
- Measures to be taken in areas closely connected with disaster-afflicted areas;
- Measures for nationwide disaster prevention and reduction.

## BUDGET SCALE (estimation, national and local governments)

- ¥ 23 trillion in the next 10 years (¥ 19 trillion in the first 5 years)

## SUPPORT FOR RECONSTRUCTION

- Create “system of Special Zone for Reconstruction”
- Establish “easy-to-use” grant for implementation of reconstruction plans formulated by local governments
- Work towards reconstruction with the vitality of private sector

## POLICIES AND MEASURES

### Building Disaster Resilient Regions

- Build regions which respond to challenges of aging society and population decline and mobilize measures on the concept of “disaster reduction”
- Realize swift reorganization of land use

### Revival of Local Economic Activities

- Mobilize public and private funds for affected business enterprises, reduce corporate effective tax rate
- Assure quick recovery of logistic infrastructure, promote the use of renewable energy and improve energy efficiency
- Promote foreign investment to Japan and acceptance of foreign nationals with skill and knowledge.

### Nation-building incorporating lessons from the Earthquake

- Promote international cooperation to share lessons learnt as global knowledge asset
- Verify measures to be taken in case of future earthquakes and strengthen response capacity to disasters
- Conduct in-depth study on the Great Earthquake including international joint study to contribute to disaster prevention

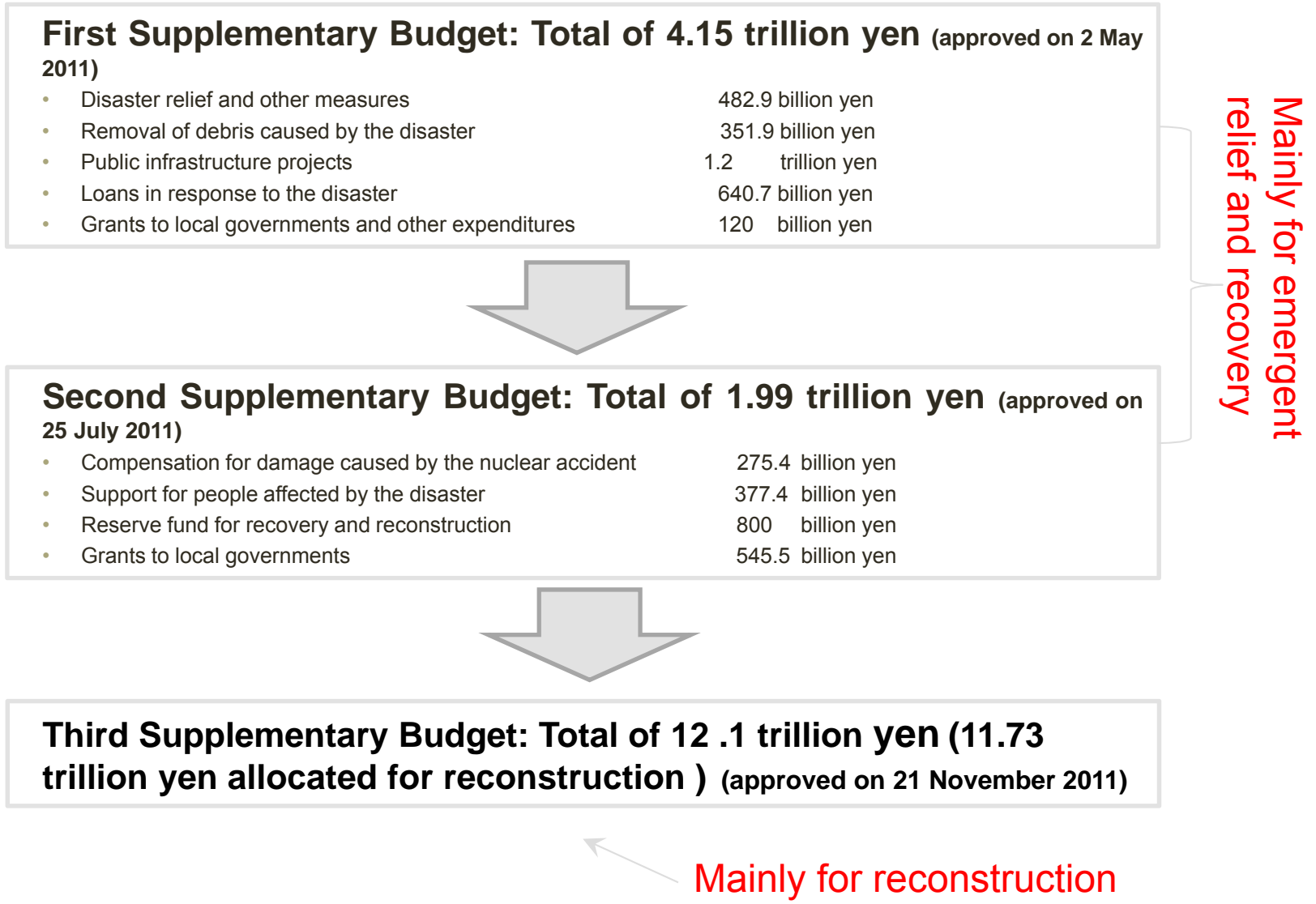
### Reconstruction from Nuclear Accident

- Implement emergency, recovery and reconstruction measures and solve the nuclear accident as soon as possible.
- Monitor and provide information on radiation dose and develop system to assist inspection to assure food safety.



# Policies and measures on track

## FY2011 Third Supplementary Budget (1)



## Policies and measures on track

### FY2011 Third Supplementary Budget (2)

#### Outline of the FY2011 Third Supplementary Budget

11.73 trillion yen allocated for reconstruction

➤ <b>Disaster relief</b>	<b>94.1 billion yen</b>
➤ <b>Removal of debris caused by the disaster</b>	<b>386 billion yen</b>
➤ <b>Additional public infrastructure projects</b>	<b>1.4 trillion yen</b>
➤ <b>Loans in response to the disaster</b>	<b>671.6 billion yen</b>
➤ <b>Grants to local governments</b>	<b>1.6 trillion yen</b>
➤ <b>Grants in response to the disaster</b>	<b>1.5 trillion yen</b>
➤ <b>Reconstruction from nuclear accident</b>	<b>355.8 billion yen</b>
➤ <b>Nation-wide disaster prevention</b>	<b>575.2 billion yen</b>
➤ <b>Other expenditures related to the disaster</b>	<b>2.4 trillion yen</b>
✓ Subsidy to locate enterprises/industries in Japan	
✓ Employment measures	
✓ Restoration and reconstruction of fishery, agriculture and forestry	
✓ Project of creating “eco-towns”	
✓ Measures to support small and medium sized enterprises	
✓ Reconstruction open to the world (youth exchange, international cooperation, etc.)	
✓ Development of disaster resilient information network	

See the detail: [www.mof.go.jp/english/budget/budget/fy2011/11sb03.pdf](http://www.mof.go.jp/english/budget/budget/fy2011/11sb03.pdf)

## Establishment of Reconstruction Agency

Established on Feb. 10, 2012 a new governmental agency, named “Reconstruction Agency”, under the Cabinet, with a view to promoting and coordinating all the policies and measures for reconstruction in an integrated manner.

### Mandate

- Planning and coordination of the national policies and measures for reconstruction
- Supporting the efforts of afflicted local governments for reconstruction and serving as “one-stop” vis-à-vis the local authorities

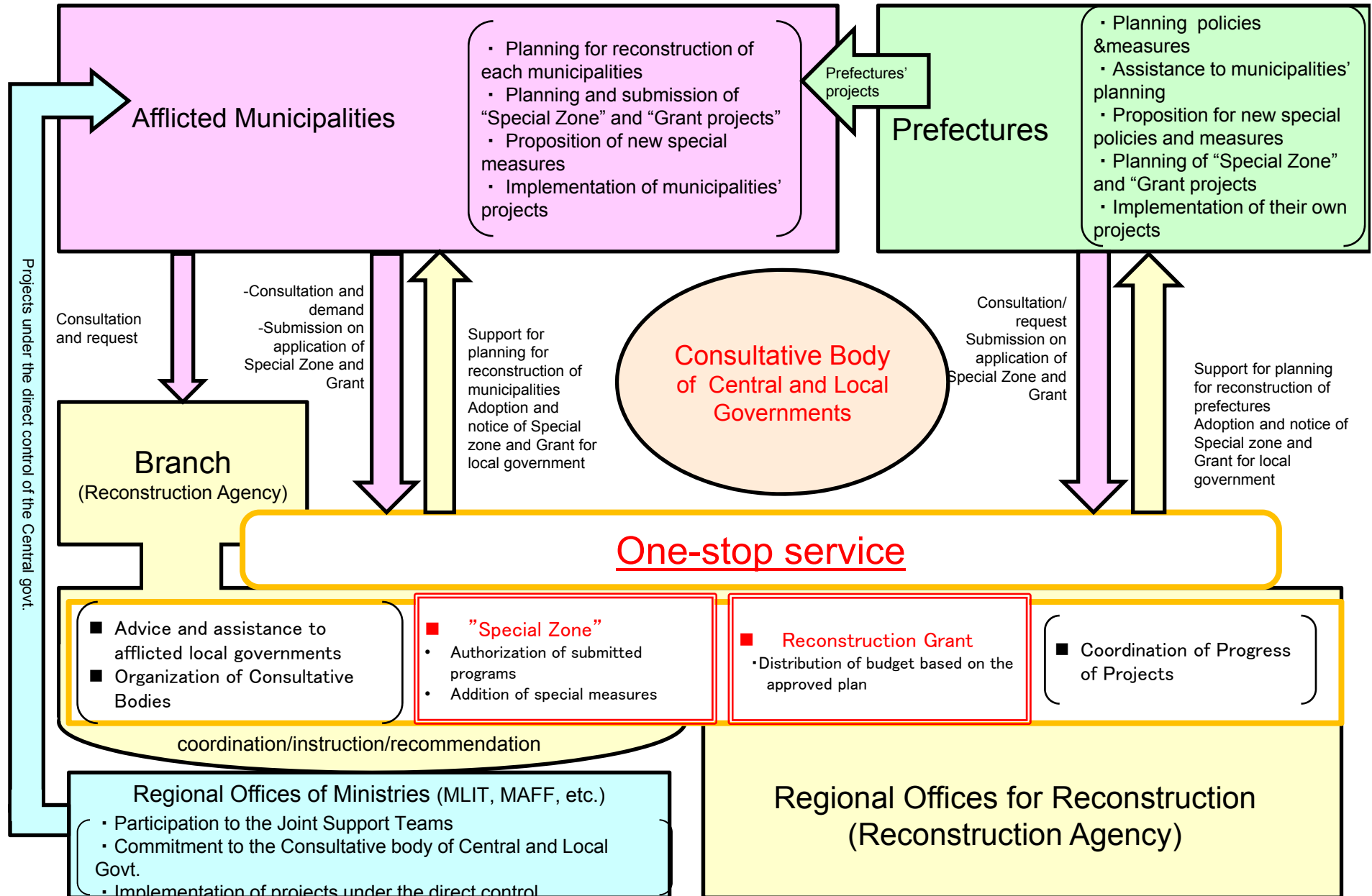
### Organization

- The Head of the agency: Prime minister
- Regional bureau to be established in the three prefectures: Iwate, Miyagi and Fukushima

### Period of formation:

- Ten years (FY2011-2020)

# General coordination and “one-stop service” in the fields



## Special Zone for reconstruction

Special arrangements for deregulation and reduced procedures as well as support in terms of tax, budget and finance in the Special Zone for Reconstruction

### Special Measures and Arrangements

- Regulations and Procedures
- Land Use Restructuring
- Tax Incentive System
- Finance

### Examples of reconstruction plan and projects

- Town-building for secured housing and employment by land use restructuring
- Regional development by promoting the introduction of renewable energy
- Development of medical industry base

**As of February 9, districts in Miyagi and Iwate prefectures were approved for some special measures applications**

# Overcoming crises and embarking on new frontiers

## -The Strategy for Rebirth of Japan (December 24, 2011)

### Overview of the Strategy for Rebirth of Japan

- Drive recovery and reconstruction from the Earthquake and control the nuclear incident
- Achieve both economic growth and fiscal health
- Implement the New Growth Strategy and revive Japan's large middle class, thereby ensuring the sustainability of the economy and society overall

### Three Key Points of the Strategy for Rebirth of Japan

#### **Pioneering examples of Japan's rebirth through the reconstruction**

- Swiftly implement the New Growth Strategy in the affected areas, based on the concept of reconstruction open to the world. Special zones for reconstruction and private funds are key tools, leading to the development of new industries.

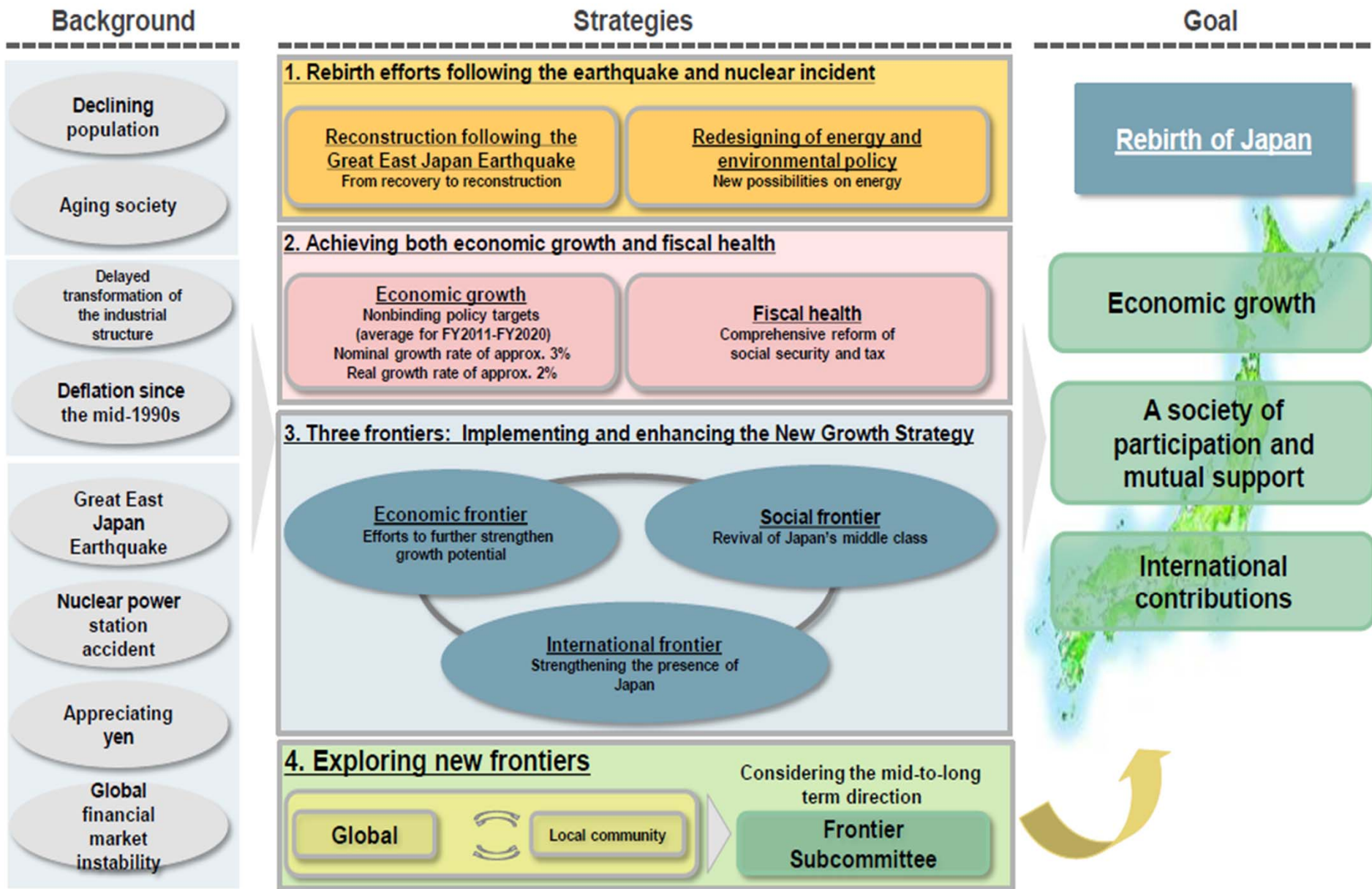
#### **Realizing growth by exploring new frontiers**

- Identify new opportunities in various areas, including the exploration of the oceans and space, the development of new ideas to advance the economy, society, science and technology, education and human resource development, international relations and the public sector.

#### **Presenting models as an advanced problem-solving nation**

- Demonstrate a new growth model to the world and make a contribution by being a leader in solving pressing issues on the global agenda, including those related to disaster risk reduction, aging society, the declining birth rate, and environmental problems.

# Overview of the Strategy for Rebirth of Japan

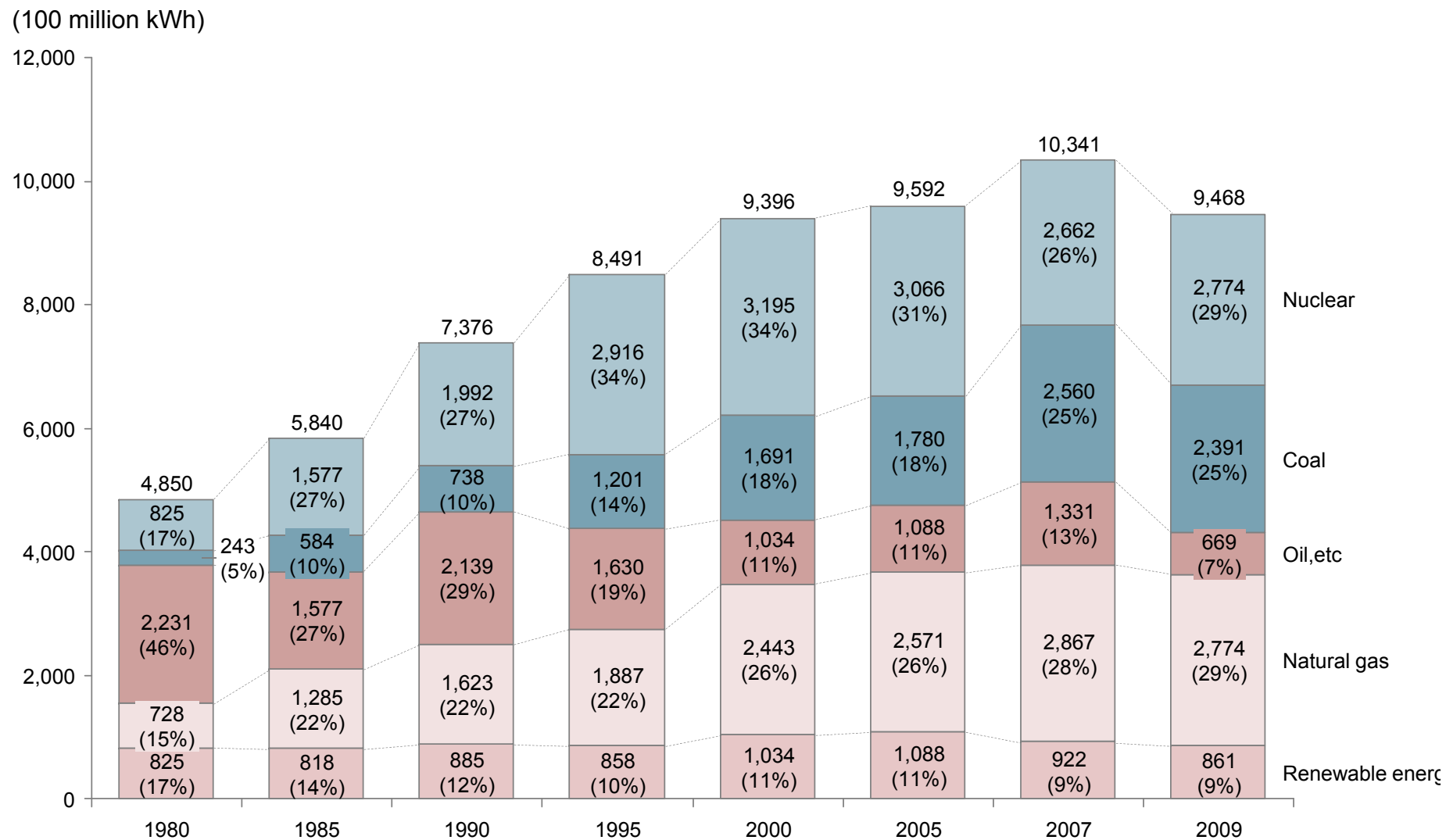


## Innovative Strategy for Energy and the Environment

- In response to the accident of the Fukushima Daiichi Nuclear Power Station, the Energy and Environment Council decided to review the energy and environment policy from scratch, and is expected to launch an “Innovative Strategy for Energy and the Environment” this summer.
- Interim Compilation toward Formulation of Innovative Strategy for Energy and the Environment (July 29, 2011)
- Basic Guideline toward Presentation of Alternatives regarding the Strategy for Energy and the Environment (December 21, 2011)
- Presentation of Alternatives regarding the Strategy for Energy and the Environment (Next spring)
- (Nation-wide discussion on desirable energy mix, etc.)
- Finalization of the Innovative Strategy for Energy and the Environment (Next summer)
  - ✓ Green Growth Strategy
  - ✓ Basic Energy Plan
  - ✓ Nuclear Energy Policy Outline
  - ✓ Global Warming Countermeasures



# Past trend of electric power generated and power source mix

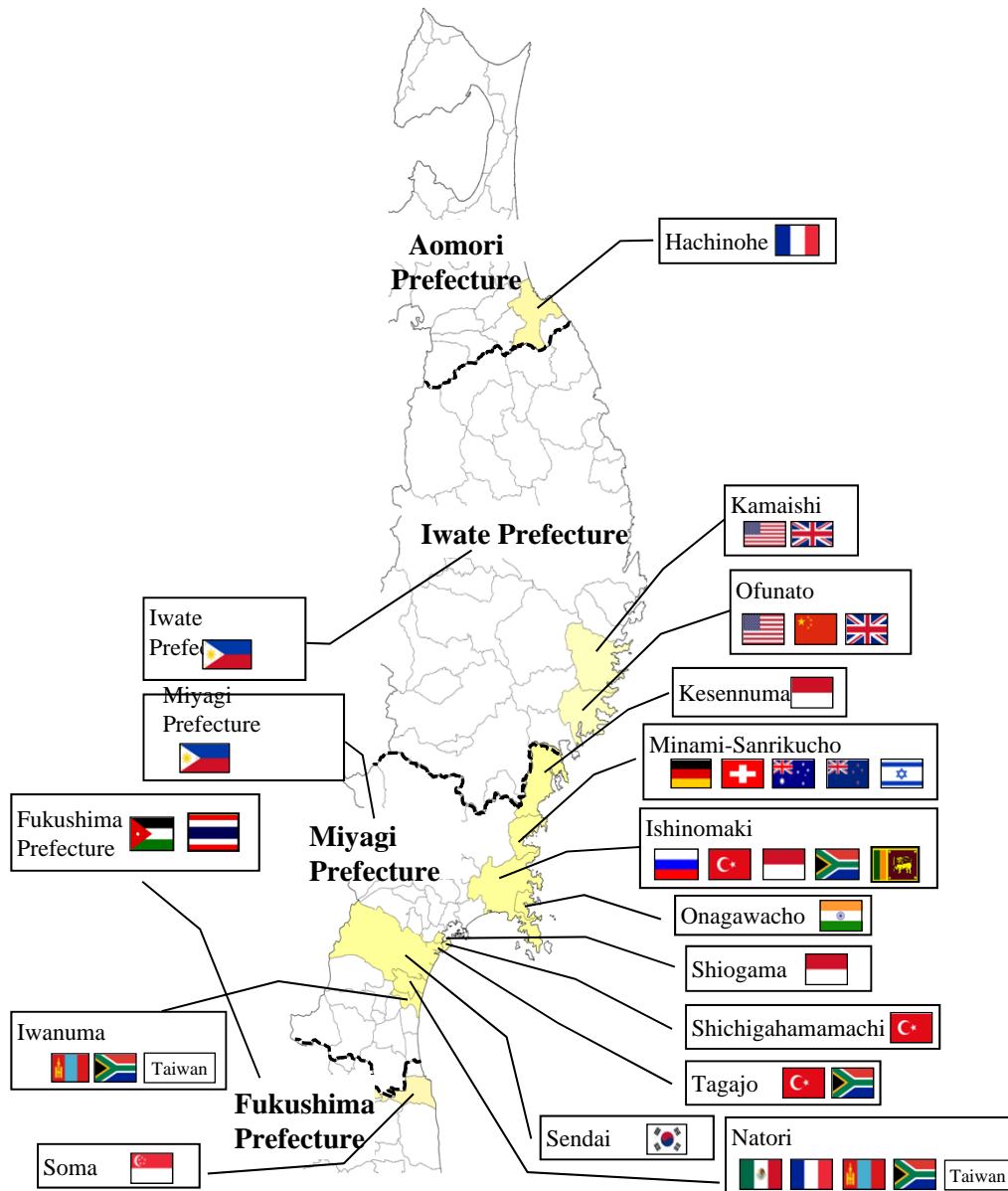


Source: Ministry of Economy, Trade and Industry

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# Map of sites where rescue teams from foreign countries and regions operated

## Outline of Operations of Rescue Teams from Foreign Countries and Regions



-  Republic of Korea (12th - 23rd March) Team of 107 rescue members, 2 rescue dogs
-  Singapore (13th - 15th March) Team of 5 rescue members, 5 rescue dogs
-  Germany (14th - 15th March) Team of 41 rescue members, 3 rescue dogs
-  Switzerland (14th - 16th March) Team of 27 rescue members, 9 rescue dogs
-  U.S. (15th - 19th March) Team of 144 rescue members (including 12 rescue dogs)
-  China (14th - 20th March) Team of 15 rescue members
-  U.K. (15th - 17th March) Team of 77 rescue members (including 8 reporters), 2 rescue dogs
-  Mexico (15th - 17th March) Team of 12 rescue members, 6 rescue dogs
-  Australia (16th - 19th March) Team of 72 rescue members, 2 rescue dogs
-  New Zealand (16th - 18th March) Team of 52 rescue workers
-  France (16th - 23rd March) Team of 134 rescue members (including 11 Monacans)
-  Taiwan (16th - 18th March) Team of 28 rescue members
-  Russia (16th - 18th March) 75 rescue members in Team 1, 80 rescue members in Team 2
-  Mongolia (17th - 19th March) Team of 12 rescue members
-  Turkey (20th March - 8th April) Team of 32 rescue members
-  Indonesia (19th - 23rd March) Team of 11 rescue members, 4 members (official and medical staff)
-  South Africa (19th - 25th March) Team of 45 rescue members
-  Israel (29th March - 10th April) Team of 53 medical staff
-  India (29th March - 6th April) Team of 46 relief members
-  Jordan (25th April - 12th May) Team of 4 medical staff
-  Thailand (8th May - 3rd June) Two teams of 2 medical staff
-  Sri Lanka (12th May - 1st June) Team of 15 recovery assistance staff (Staff of the Ministry of Disaster Management and Human Rights)
-  Philippines (28th June - 11th July) Team of 3 medical staff

Source: Ministry of Foreign Affairs  
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