Country Report of Japan

The 20th FNCA Ministerial Level Meeting

December 5, 2019

Contents

1. Restarting the Nuclear Power Plants in Japan

As of 18th, November, 2019

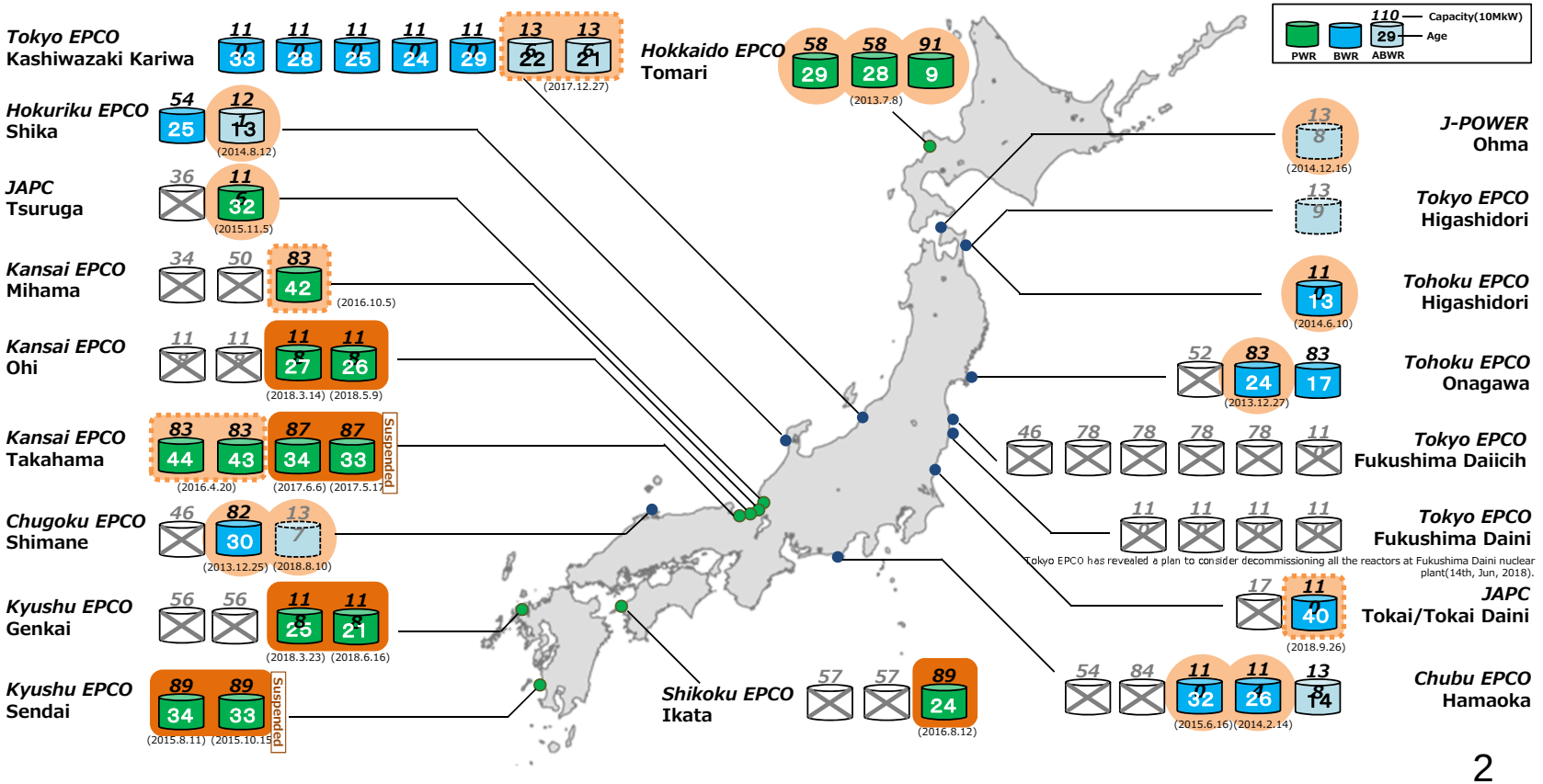
Restarted
9 reactors
In Operation : 7 reactors
Suspended : 2 reactors
(Date of Restart)

Passed NRA Review
for the Permission for Changes in Reactor Installation
6 reactors
(Date of Approval)

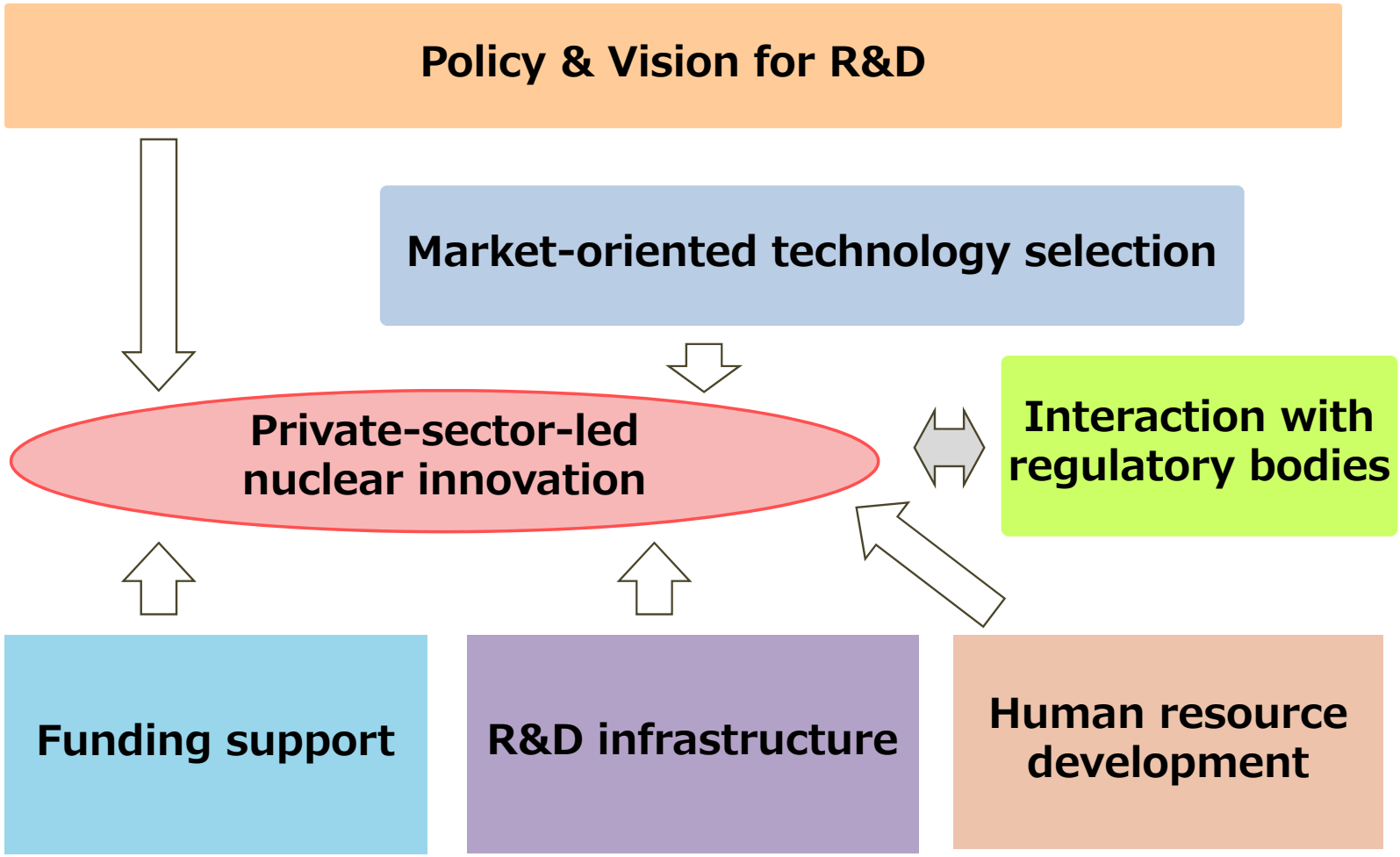
Under NRA Review
12 reactors
(Date of Application)

Not yet Applied
9 reactors

already decided/predicted to **Decommission**
24 reactors



2. Promoting the Innovation of Nuclear Technologies



3. Roundtable for Final Disposal of High-level Radioactive Waste

G20 KARUIZAWA Ministerial Meeting

Agreement:
Launching **"the International Roundtable for Final Disposal of High-Level Radioactive Waste"**

<Discussion issues>

1) **Sharing the experience and knowledge on how to gain public understanding in each country**

2) **Research cooperation and personnel exchange by using underground research facilities**

<Purpose of the roundtable>

1) To formulate "the basic strategy for intergovernmental cooperation in final disposal"

2) To collect "the best practices of public dialogue activities of participating countries"

<The first roundtable>

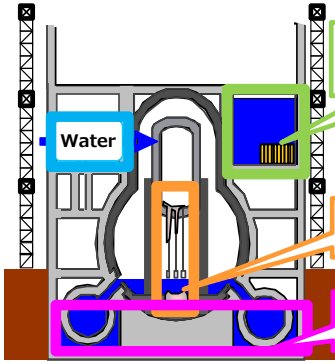
Date: October 14, 2019
Place: Paris
Hosted by Japan in Cooperation with the OECD/NEA

4. Decommissioning of TEPCO's Fukushima Daiichi NPS (1)
-Engineering Process-

◇ **Fukushima Daiichi Decommissioning is a continuous risk reduction activity** to protect the people and the environment from the risks associated with radioactive substances by:

- ✓ Removing spent fuel and fuel debris from the Reactor Building
- ✓ Reducing the risks associated with contaminated water and radioactive waste

◇ **Safe and steady decommissioning is a prerequisite for reconstruction of Fukushima**

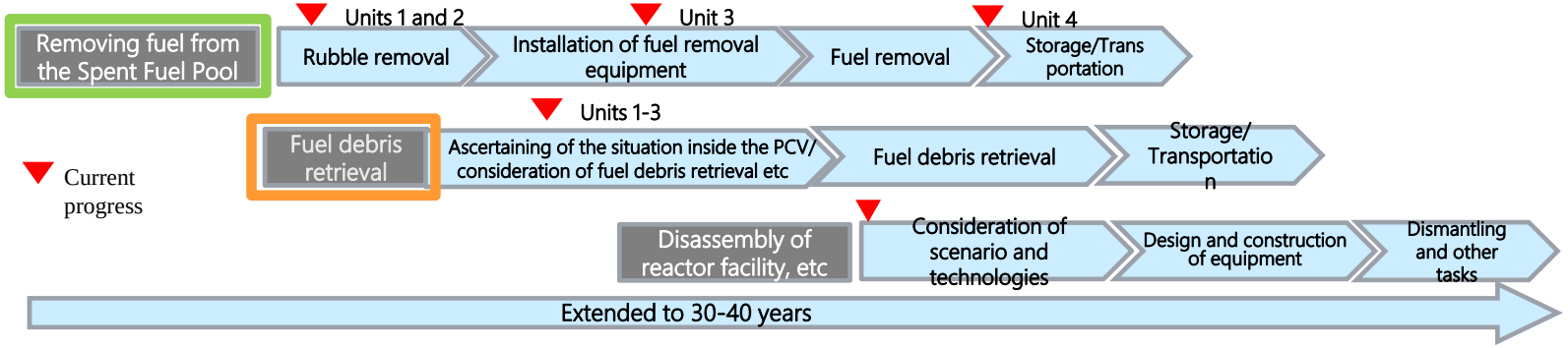


Spent fuel (Spent fuel pool) — Fuel that remains after its usage for power generation. Continuous cooling is needed to suppress the heat

Fuel Debris — Fuel that has melted and solidified by the accident. Continuous cooling is needed to suppress the heat

Contaminated Water Management

Radioactive Solid Waste Management



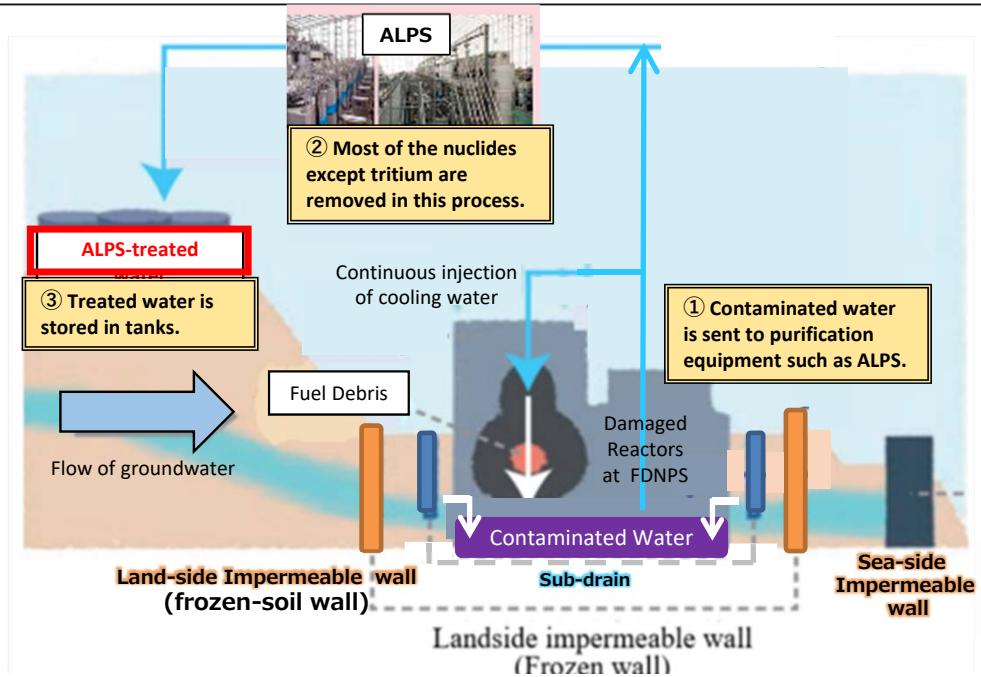
4. Decommissioning of TEPCO Fukushima Daiichi NPS (2)
-Measures against the Contaminated Water-

◇ **Water gets contaminated when it touches the damaged reactors and fuel debris in buildings.**

- **The level of groundwater outside is controlled to be higher** than that of contaminated water inside the buildings to prevent the water flowing out of the building.
  - **Groundwater keeps flowing into the buildings**

◇ **TEPCO has been successful in removing most of radionuclides except tritium** from contaminated water.

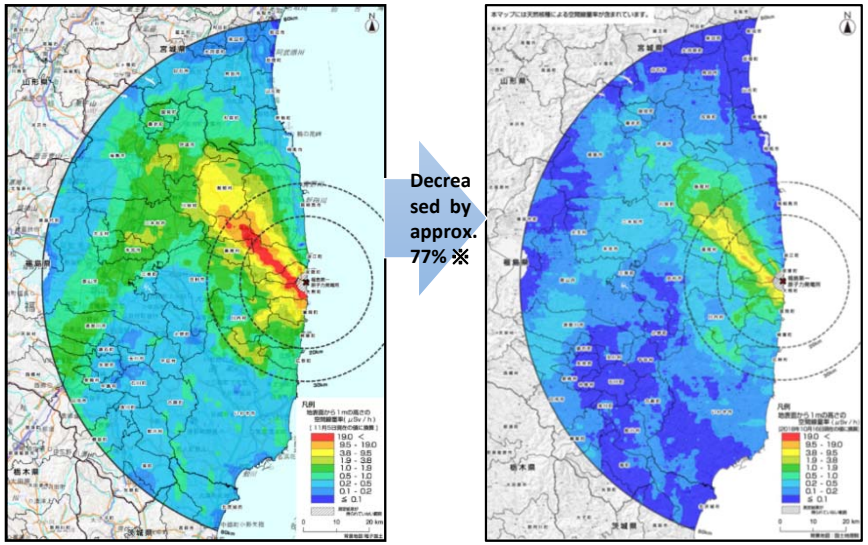
- **It is ALPS treated water, NOT -contaminated water, that is stored in the tanks.**
- **Radioactive materials in ALPS treated water are reduced to about 1/1,000,000 (One millionth)**



5. Reconstruction and Regeneration of Fukushima (1)
–Environment Radiation–

【Transition of air radiation dose rate】

The average air radiation dose rate of 1m from the ground within 80km from TEPCO's Fukushima Daiichi NPS is decreased by approx. 77% since November 2011.

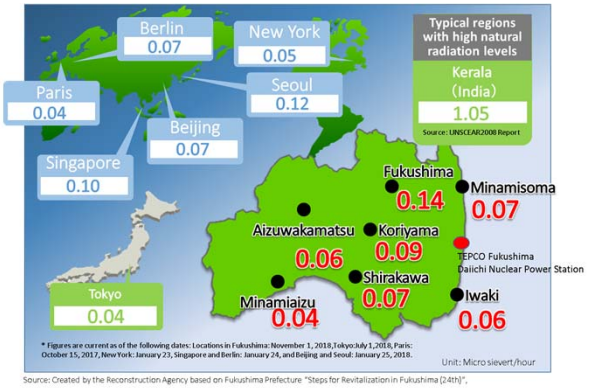


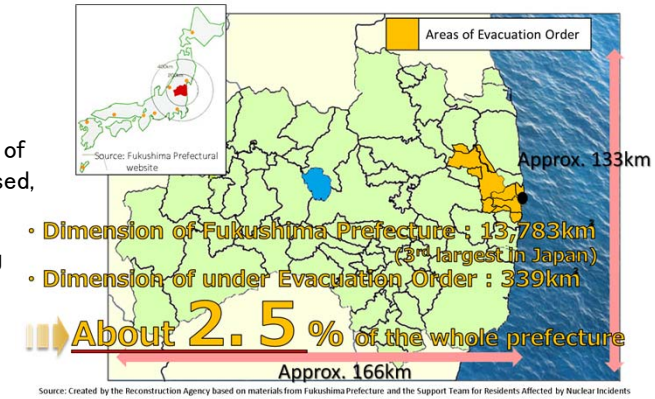
November 2011

October 2018

【Evacuation order cancellation status】

- **The air radiation dose rate of major cities in Fukushima Prefecture are almost the same level as those of major overseas cities .**
- **At present, evacuation orders are given to approximately 2.5% of areas in Fukushima Prefecture.**
- **People can live normally in other areas.**





*This value is calculated from the ratio of the measurement results of the center point of each area, dividing the target area into 250m areas. If other comparison methods are used, the reduction rate may be different.

Source: Adapted from "About measurement result of aircraft monitoring in Fukushima and neighboring prefectures" by Nuclear Regulation Authority

Click here for the latest data
http://radioactivity.nsr.go.jp/map/ja/

5. Reconstruction and Regeneration of Fukushima (2)
-Food Safety-

Japan has the strictest level of standards in the world for managing radioactive contamination of food. Foods exceeding the standards are not allowed to be distributed.

	Japan Food Sanitation Act	Codex (CAC) CODEX STAN 193-1995	E U Council Regulation (Euratom) 2016/52	USA Guidance Levels for Radionuclides in Domestic and Imported Foods (CPG7119.14)
Derived intervention levels(DIL) for radioactive cesium(unit Bq/kg)	Drinking water 10 Milk 50 Infant foods 50 General foods 100	Infant foods 1,000 General foods 1,000	Drinking water 1,000 Milk 1,000 Infant foods 400 General foods 1,250	Food 1,200
Upper limit for radiation dosage from food per year	1mSv	1mSv	1mSv	5mSv
Assumption on the proportion of food supply that is contaminated with radiation per year	50%	10%	10%	30%

- Announcement of results of thorough monitoring of agriculture, forestry, and fishery products prior to shipment.
- Very few foods have exceeded the upper limit (100 Bq/kg).
- No rice has exceeded the upper limit since the 2015 harvest.
- Necessary measures are in place to ensure that foods are not distributed in the market if found to exceed the upper limit.

◆Testing of all rice produced (August 21, 2018 to October 31, 2018)

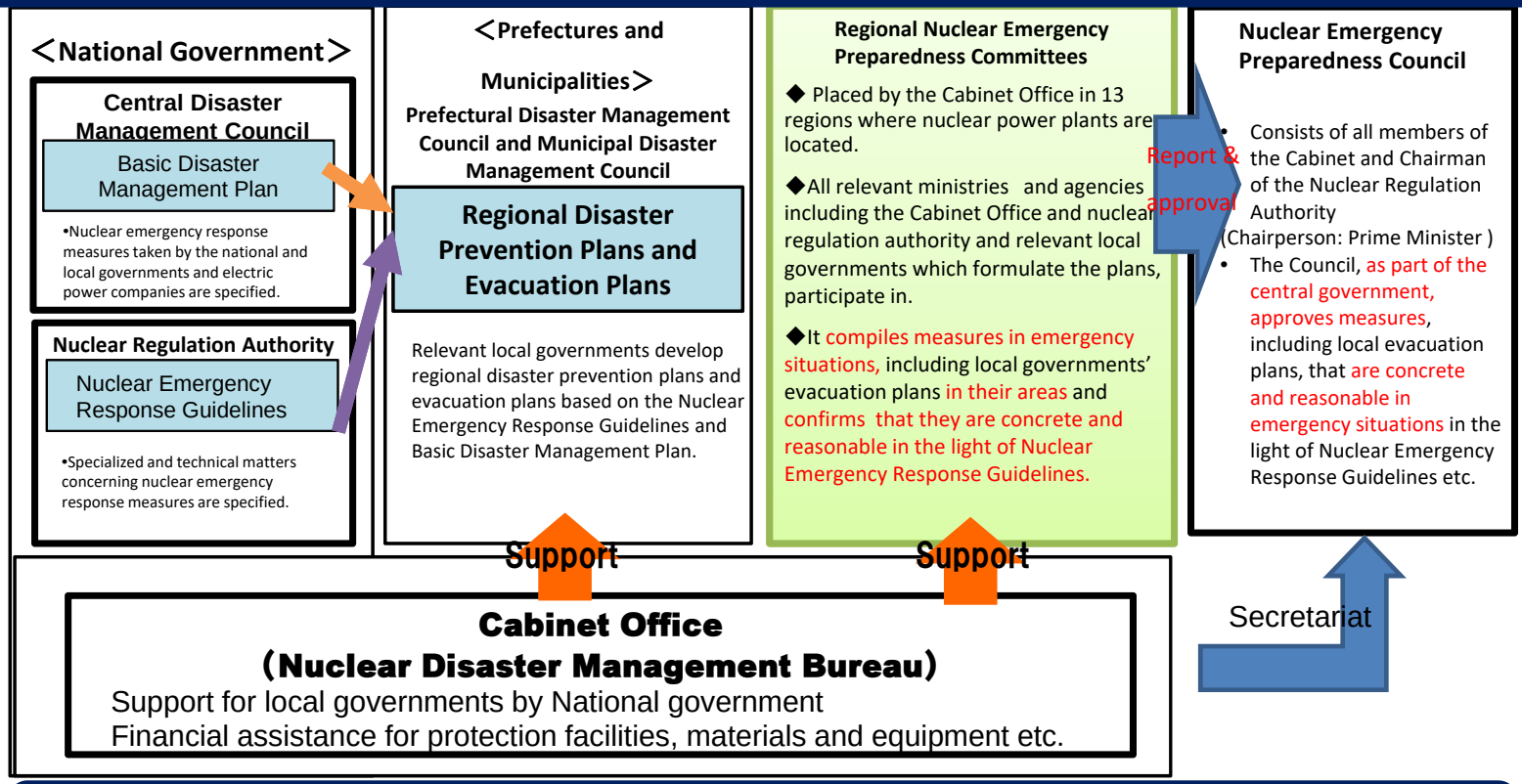
Brown rice (produced 2018)	Total No. samples	No. of samples exceeding standard limit	Proportion of samples exceeding standard limit
	All bags of rice produced	0	0.00%

○IAEA recognize that the measures to monitor and respond to issues regarding the radionuclide contamination of food are appropriate.

◆State of monitoring by Fukushima Prefecture of agricultural, forestry and fishery products (April 1, 2018 to October 31, 2018)

Classification	Total No. samples	No. of samples exceeding standard limit	Proportion of samples exceeding standard limit
Vegetables & Fruits	2,051	0	0.00%
Livestock products	2,531	0	0.00%
Cultivated edible plants & Mushrooms	699	0	0.00%
Marine Fishery products	3,422	0	0.00%
Inner water-cultivated Fish	34	0	0.00%
Wild edible plants & Mushrooms	683	1	0.15%
Inland water Fishery Products	724	3	8 0.41%

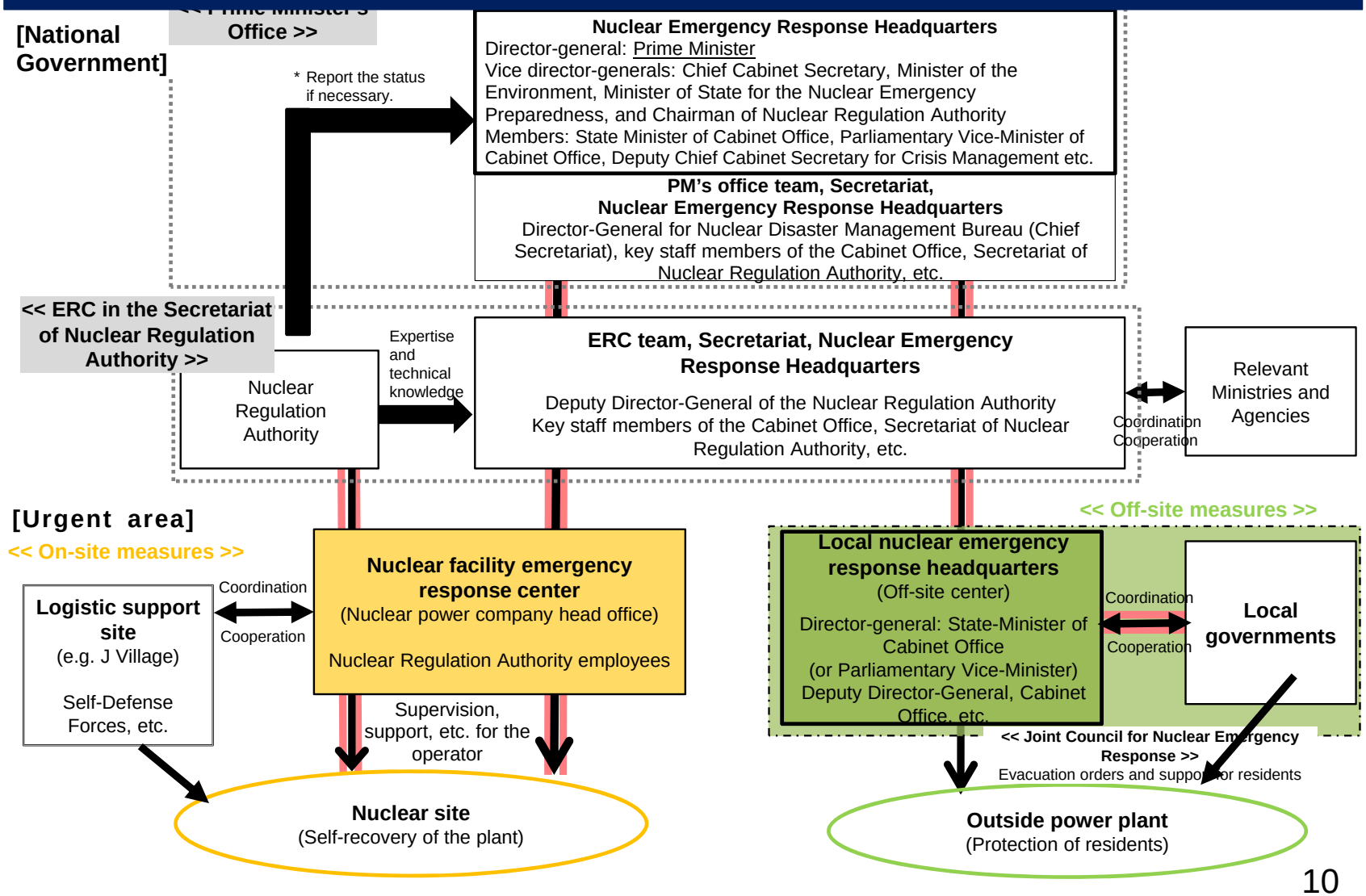
6. Formulation of Regional Emergency Preparedness and Response (EPR) Plan



＜Support for Local Governments by National Government＞

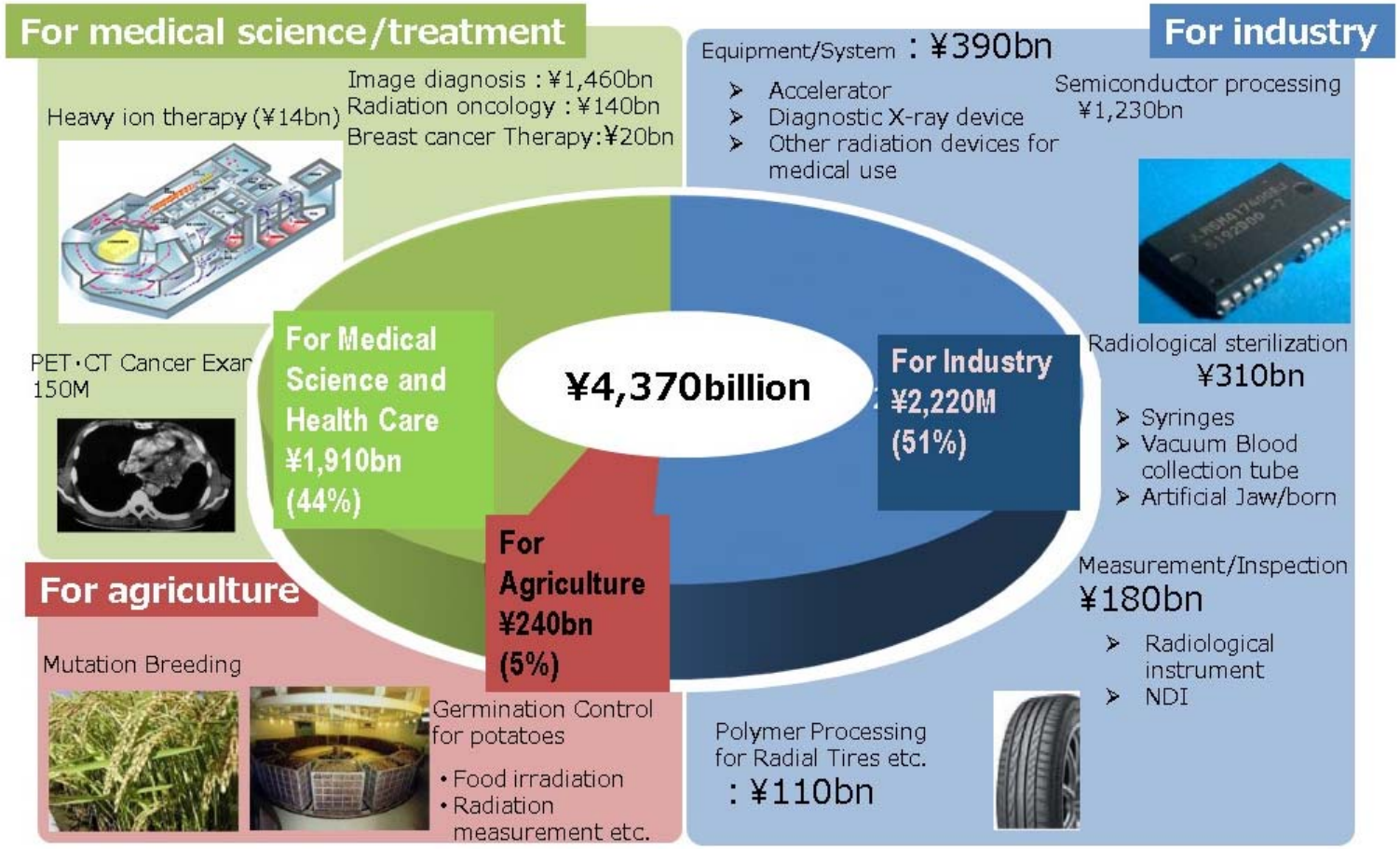
- National government is involved in the formulation of plans from the very beginning. The national government soundly supports local governments. For instance, it resolves problems regarding provincial areas together, such as support for people requiring assistance and securing of evacuation destination, evacuation means, and evacuation routes, etc.
- National government supports local governments to acquire materials and equipment needed in case of emergency situations with subsidies from the national government.
- Support for relevant private bodies on a national level, such as cooperation requests, is implemented.
- The Plans are confirmed and supported continuously, and are improved and strengthened based on results of exercises.

7. Crisis Management Organization in Nuclear Emergency



8. Promoting the Utilization of Radiation

- The commercial applications of radiation have been increasing over the past 10 years, especially in healthcare and medical science.



Source :created by Japan Atomic Energy Commission “White Paper on Nuclear Energy 2018”


Thank you