

- Fukushima Today - Steps for Reconstruction and Revitalization in Fukushima Prefecture



「Kawamata Anthurium」 (Kawamata Town)

A cultivation test of anthurium started in Kawamata Town after the Great East Japan Earthquake as part of the reconstruction support project by Kindai University. A partnership was later established and "Kawamata Anthurium" cultivation has expanded to a larger scale with twelve farmers currently shipping 320,000 plants annually. The anthurium is grown on polyester fibre soil made from recycled clothes instead of ground soil using liquid fertilizer. Gouki Taniguchi, Representative Director of Smile Farm (above left) started the production of "Kawamata Anthurium" in 2018 and currently runs a strawberry farm as well as an hands-on activity farm, promoting initiatives that help boost related population and starting farmers in addition to anthurium production. He was honoured with the New Tohoku Award for Stars of Reconstruction and Revitalization of Reconstruction Agency on February 12, 2023.

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Towards achieving revitalization

As 12 years have passed since the Great East Japan Earthquake and nuclear disaster, revitalization in Fukushima has been making steady progress thanks to the great efforts made by the residents of Fukushima and the warm support from within Japan and other countries around the world. This includes the lifting of evacuation orders including the Special Zones for Reconstruction and Revitalization (SZRR) of Katsurao Village and the towns of Okuma and Futaba, the re-establishment of the living environment and the resumption of full operations of JR Tadami line for the first time in 11 years.

On the other hand, about 27,000 residents of the prefecture are still living as evacuees (as of Mar. 2023). In addition, the Prefecture is faced with a pile of unique issues such as rebuilding the livelihoods of disaster affected residents, population recovery through the return and relocation of residents, revitalization of local industries, fighting deeply rooted harmful rumours and fading memories of the disaster, measures for the contaminated/treated water and decommissioning of the reactors etc.

Prerequisite measures for revitalization

- Promoting safe and steady initiatives for decommissioning
- Responsibly dealing with work related to the disposal of ALPS-treated water



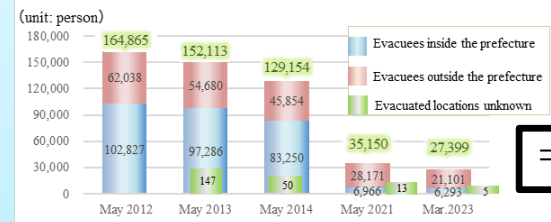
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Revitalization efforts still in progress

- About 27,000 people remain in a state of evacuation
- Final disposal of contaminated soil outside the Prefecture within 30 years after launching the Interim Storage Facility



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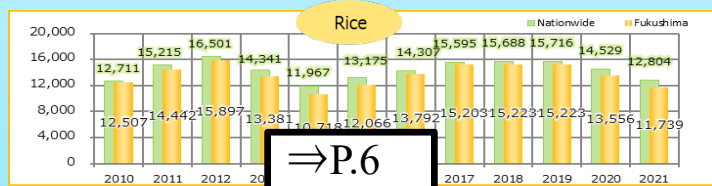


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- Measures against deeply rooted harmful rumours and fading memories of the disaster
- The disparity between the price of Fukushima's agricultural, forestry and fisheries products and the national average price still remains



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⇒P.6

Revitalization efforts that have shown great progress

- Atmospheric radiation levels have significantly dropped
- Promotion of tourism



⇒P.1



⇒P.7

- Development of transportation networks such as roads
- Promotion of the Fukushima Innovation Coast Framework initiatives



⇒P.5



⇒P.9



- Export promotion for produce grown in Fukushima
- Passing down the records and lessons of the complex disasters to future generations



⇒P.6



⇒P.10

It is necessary to flexibly and carefully respond to new challenges which arise as revitalization progresses as well as the different issues faced in different areas according to their revitalization progress, and to realize them one at a time.

Promoting the reconstruction and revitalization of Fukushima to transform it from a "disaster affected area" to a "revitalization area"

1. Revitalization efforts and challenges

(1) Decontamination

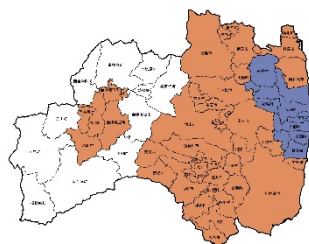
Decontamination of prefectural land has been completed in all areas except for the Difficult-to-return Zone. Atmospheric radiation levels in the Prefecture have significantly dropped, and are the same as other major cities throughout the world.

○ Municipality led decontamination

Completed in Mar. 2018

Area the national government conducts decontamination (Blue)

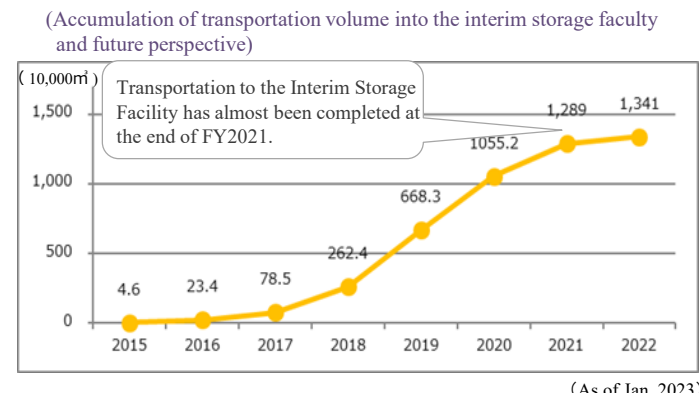
Area each municipality conducts decontamination (Orange)



(Flow of decontamination: Diagram)

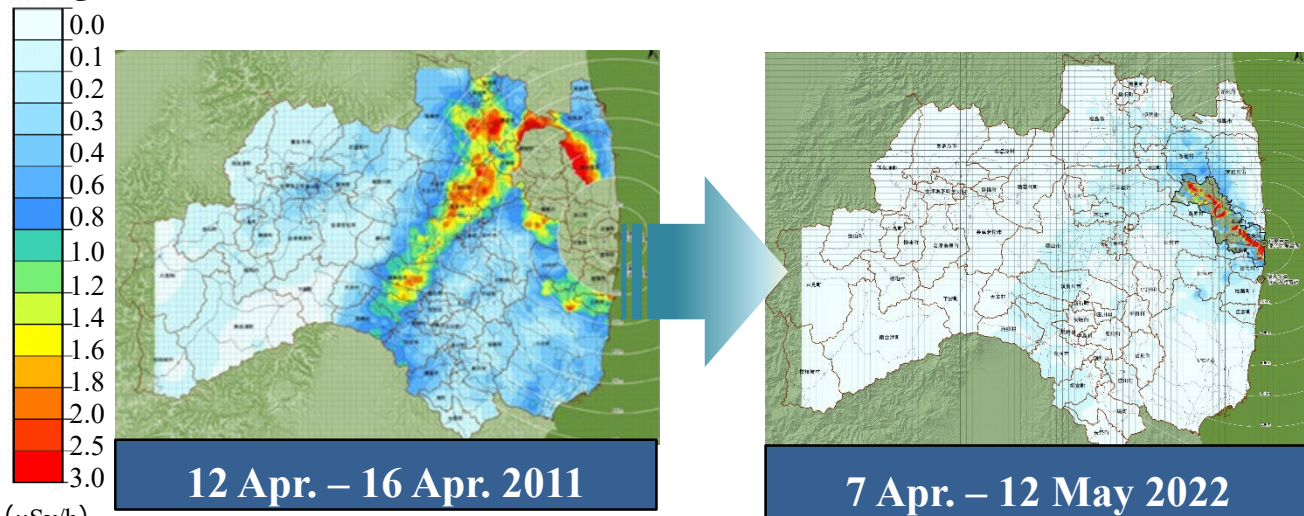


Location of the Interim Storage Facility
Okuma Town, Futaba Town



Removed soil and waste are stored in the Interim Storage Facility for a certain period. The final disposal is required by law to be completed outside of the Prefecture within 30 years since the commencement of the Interim Storage Facility (By Mar. 2045).

○ Air radiation dose in Fukushima Prefecture

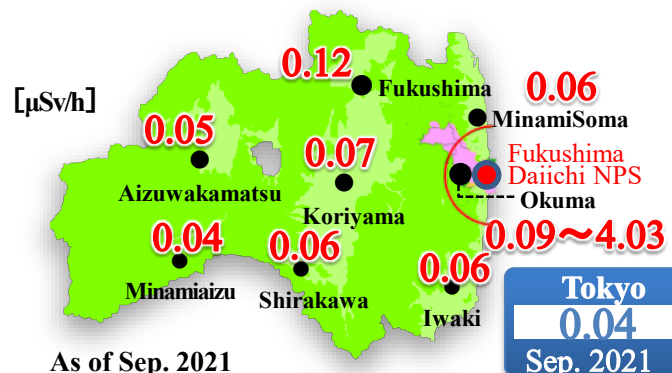


Bases for comprehensive efforts towards environmental recovery and creation



Environmental monitoring, research information release education, training, exchanges

Environmental monitoring around the NPS



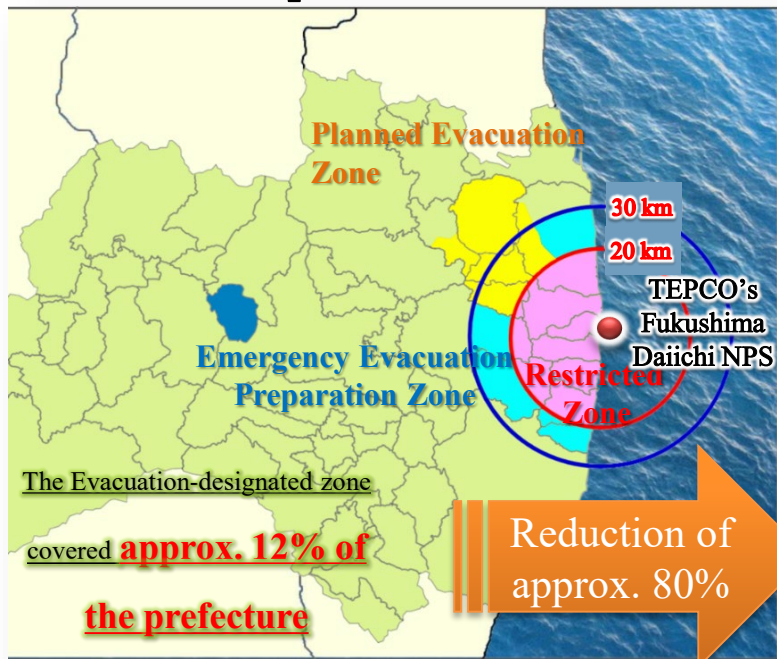
【Challenges and Responses】

- Restoration of the land used for Temporary Storage Sites and returning back the land
- Safe maintenance and operation of the Interim Storage Facility as well as safe and secure transportation of contaminated soil
- Final disposal of contaminated soil outside of Fukushima Prefecture
- Decontamination and demolition of houses in the Difficult-to return Zone (except for Special Zones for Reconstruction and Revitalization)

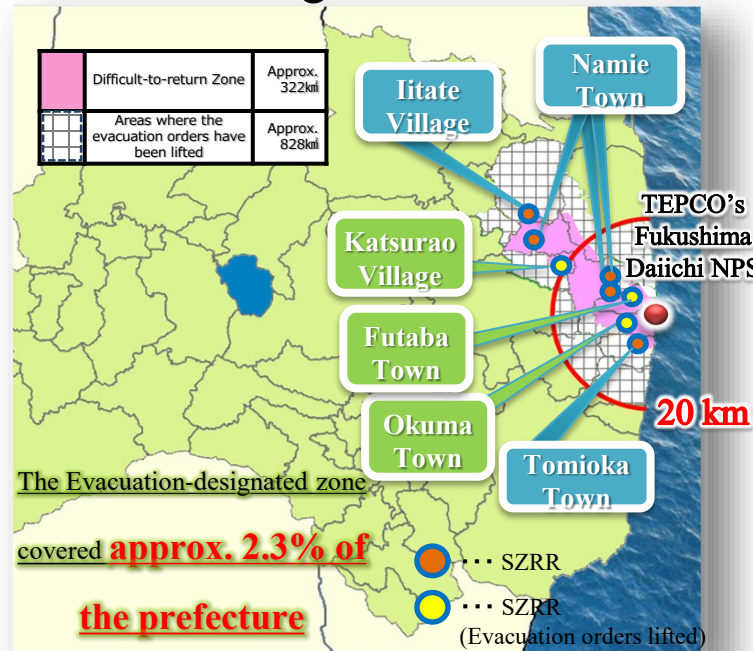
(2) State of Designated Evacuation Zones and Changes in Number of Evacuees

Progress is being made on the lifting of evacuation orders in accordance with the creation of an environment which people can return to. The proportion of the area of the prefecture under evacuation orders has reduced from approx. 12% to approx. 2.3%.

○ As of 23 Apr. 2011

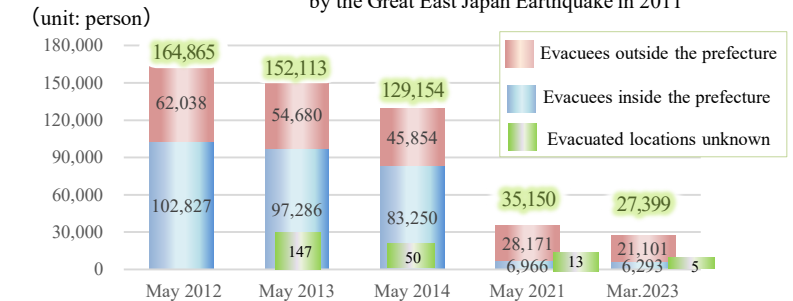


○ As of 30 Aug. 2022 - Present



◆ Transition of evacuees: Earthquake, Tsunami, NPS accident

Source: Fukushima Prefectural Disaster Response Headquarters
- Immediate report on the damage situation caused by the Great East Japan Earthquake in 2011



(Reference) Change in the population of Fukushima Prefecture

	No. of households	Population (persons)
Mar. 2011	721,535	2,024,401
Nov. 2022	748,196	1,788,873
Change	26,661	△ 235,528

(Source) Estimated population of Fukushima Prefecture (Monthly report from a survey on resident population)

*The area of the Evacuation-Designated Zone includes the former Emergency Evacuation Preparation Zone.

【Special Zones for Reconstruction and Revitalization (SZRR)】

Areas within the Difficult-to-return Zone where residence would have been restricted into the future but was made possible when evacuation orders were lifted.

In 2022, evacuation orders were lifted at SZRRs in Katsurao Village, Okuma Town and Futaba Town. Another orders are scheduled to be lifted at SZRR in Namie Town, Tomioka Town and Iitate Village in 2023.

	Total area	Target for lifting evacuation orders	Start of preparatory accommodations
Futaba Town	approx.555ha	30 Aug. 2022 (lifted)	-
Okuma Town	approx.860ha	30 Jun. 2022 (lifted)	-
Namie Town	approx.661ha	31 Mar. 2023 (scheduled)	Sep. 2022
Tomioka Town	approx.390ha	1 Apr. 2023 (scheduled)	Apr. 2022
Iitate Village	approx.186ha	Around Spring 2023	Sep.2022
Katsurao Village	approx.95ha	12 Jun. 2022 (lifted)	-

【Specified Living Areas for Returnees (SLAR)】

Zones established outside of SZRR in Difficult-to-return Zone to help former residents return to their homes and rebuild their lives. In February 2023, the Cabinet approved a draft amendment of Act on Special Measures for the Reconstruction and Revitalization of Fukushima which is currently under deliberation in the Diet.

Proportion of residents in the 12 municipalities of the evacuation areas (Jan. 2023)

Period when orders were lifted	Category	Municipalities	Rate of residents
—	—	Hirono Town	90.3%
2014	Lifted for whole area	Tamura City (Miyakoji District)	85.7%
2015	Lifted for whole area	Naraha Town	64.9%
2016	Partially lifted	Katsurao Village	35.6%
2016	Lifted for whole area	Kawauchi Village	83.1%
	Partially lifted	Minamisoma City (Odaka District)	61.0%
2017	Lifted for whole area	Kawamata Town (Yamakiya District)	49.3%
	Partially lifted	Namie Town	12.6%
	Partially lifted	Iitate Village	31.3%
2019	Partially lifted	Tomioka Town	17.8%
	Partially lifted (SZRR)	Okuma Town	4.2%
2020	Partially lifted		
2022	Partially lifted (SZRR)	Futaba Town	About 1.1%

*The rate of residents is calculated using figures from municipal websites.

【Challenges and Responses】

- Decontamination and demolition of houses and restoration of public infrastructure in the Special Zones for Reconstruction and Revitalization
- Lifting of evacuation orders to the whole area of the Difficult-to-return Zone
- Maintaining a support system and consultation services for evacuees
- Creation of an environment for people to return that includes shopping, healthcare and welfare, education, transportation, and wildlife damage control

(3) Health of Fukushima residents

The Prefecture is aiming to become one of the longest-living and healthiest prefectures in Japan by implementing the Fukushima Health Management Survey and projects for healthy life expectancy.

○ The Fukushima Health Management Survey

◆ Basic Survey (As of 31 Mar. 2022)

- External exposure doses were estimated for a 4-month period immediately after the nuclear accident to 11 Jul. 2011, based on a self-administered questionnaire.
- Results of estimate on external exposure dose (All citizens surveyed)
Ratio of dose from 0 to 2mSv accounts for 93.8% of all.

◆ Detailed Survey (Thyroid Ultrasound Examination)

- It covers residents of Fukushima Prefecture aged 18 years and younger at the time of the disaster.
- *Preliminary Baseline Screening: FY2011-FY2013
Full-scale Thyroid Screening: FY2014-
- (Primary Examination) Ultrasonography
(Confirmatory Examination) Advanced ultrasonography, blood test, etc.



○ Development of a hub for cutting-edge radiological research and medical care & fostering of human resources in medical fields

Fukushima Global Medical Science Center

Fukushima

Base for supporting the revitalization of Fukushima on the medical front

School of Health Sciences Fukushima Medical University

Fukushima

Training medical professionals responsible for local medical care.

Fukushima Medical Device Development Support Centre

Koriyama

Promotion of the domestic medical equipment industry and improving medical skills through training.



○ The Projects for a Long and Healthy Life

Health indices in Fukushima have been lower than the national average since the disaster; as such, the Prefecture will take measures to promote the health of residents focusing on the three pillars of food, exercise, and social participation. This is so that everyone can review their lifestyle and improve their physical fitness while getting to know and understand their health.

健康ふくしまポータルサイト

Created a web portal site to present information about health promotion in Apr. 2021.



【Challenges and Responses】

- Reducing the residents' concerns about the health effects of radiation
- Securing nursing personnel and support the operation of caregiving facilities.
- The number (or rate) of people with metabolic syndrome, child obesity is high, compared with the national average
- Extending people's healthy life expectancy by encouraging a healthy lifestyle
→The number of people who died from lifestyle diseases: Fukushima ranked the tenth-worst prefecture in Japan. (706.9 per 100,000 people (as of Feb. 2020))
- Educating the next generation through child health promotion programs.
- Increasing cancer screening rates

(4) Re-establishing the living environment for people to return and relocate

Re-establishment of the living environment has been progressing for people to return and relocate with the development of facilities such as public housing, commercial facilities and medical and caregiving services.

◆ Revitalization Public Housing



Iwaki City:
Iwasaki housing complex

◆ Shopping facilities



Namie Town:
Roadside-Station "Namie"

◆ Medical and caregiving services

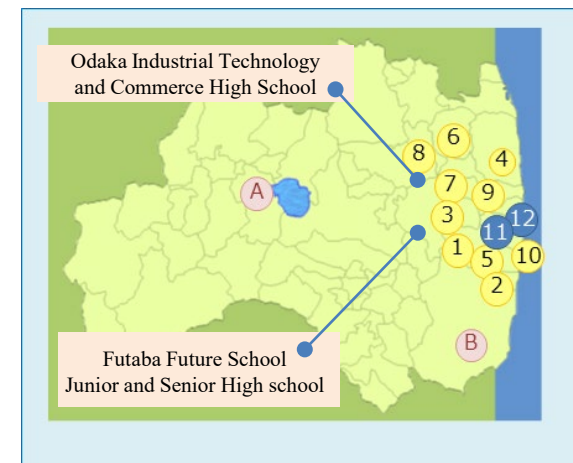


Tomioka Town: Futaba Medical
Center-affiliated Hospital

◆ Educational facilities



Odaka Industrial Technology and
Commerce High School



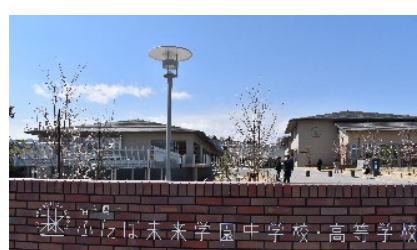
Okuma Town:
Disaster public housing



Okuma Town: Okumart, Hot Okuma,
and Linkru Okuma complex facilities



Multi-purpose
medical helicopter



Futaba Future School
Junior and Senior High school

1. Locally reopened schools			
1	Kawauchi Village	Apr. 2012-	
2	Hirono Town	Aug. 2012-	
3	Miyakoji District Tamura City	Apr. 2014-	
4	Odaka District Minamisoma City	Apr. 2017-	
5	Naraha Town	Apr. 2017-	
6	Iitate Village	Apr. 2018-	
7	Katsurao Village	Apr. 2018-	
8	Yamakiya District Kawamata Town	Apr. 2018-	
9	Namie Town		*Jun. 2021 A temporary school in Nihonmatsu closed
10	Tomioka Town		*Mar. 2022. A temporary school in Miharu Town closed

2. Schools moved to evacuation sites (Remain at the sites)	
11	Okuma Town → A Aizuwakamatsu City
12	Futaba Town → B Iwaki City

◆ Efforts in evacuation areas to promote relocation

Fukushima Prefecture's Relocation Support Centre for 12 Municipalities

In Jul. 2021, a support centre was established in the Prefectural Tomioka Branch Office to promote relocation and settling down in the former evacuated 12 municipalities, and to support projects with effective wide-area collaboration and measures to help relocation. While focusing on the efforts to have people return which we have promoted so far, we are working to encourage people from outside the Prefecture to relocate and increase the number of people visiting the area. Also, the "Future Work Fukushima" website, which gathers information about jobs, housing, support systems, etc., has been created to increase information sharing to people in their 20s and 30s who are interested in revitalization. We are working to accelerate efforts towards revitalization in the Prefecture by inviting mainly young people across the country to support revitalization.



【Relocation Seminar at Future Work Fukushima】

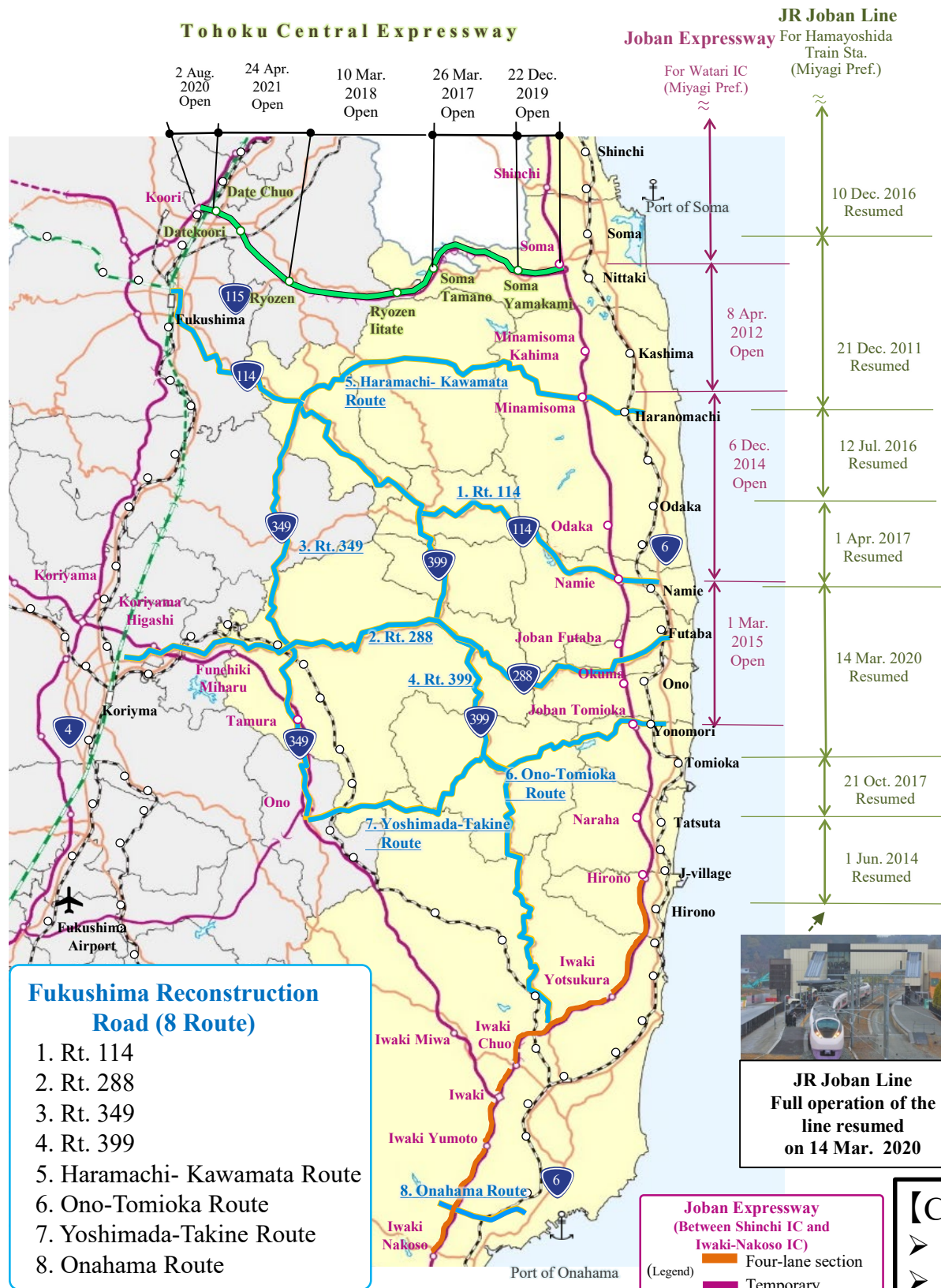
【Challenges and Responses】

- Continuing to provide consultation regarding housing and rebuilding of livelihoods, as well as looking after residents, providing support for everyday life and, and community building
- Providing a comprehensive medical and caregiving system based on the needs of residents
- Resumption rate of medical institutions: 41.6% (as of Mar. 2023)
- Further promotion of distinctive and engaging education
- Encouraging people from outside the Prefecture to relocate and settle down as well as increasing the number of people visiting the Prefecture

(5) Basic infrastructure

99% of reconstruction work has been completed, while the Fukushima Reconstruction Roads and other projects are underway.

◆ Transportation networks such as roads



Reconstruction work 【 As of 28 Feb. 2023 】

Starting construction work 100%
Completion 99%

The regions

Aizu	26	Completion 100.0%
Central	535	Completion 100.0%
Coastal	1,597	Completion 99.6%
		0% Under construction (6 sites, 0.4%) 50% 100%

The Areas Percentage of completion

100% ... Port and harbors, Fishing port, Sewage, Park, Public housing, Bridge, Sand erosion control, Road
About 99% ... River
About 98% ... Coast

Evacuation-designated Zones

There are 372 disaster recovery projects that were determined through assessment. Constructions of 372 (100%) sites were begun and 366 sites (98%) were completed. Construction plans in the Difficult-to-Return Zone will be adjusted with the progress of the decontamination work conducted by the national government.



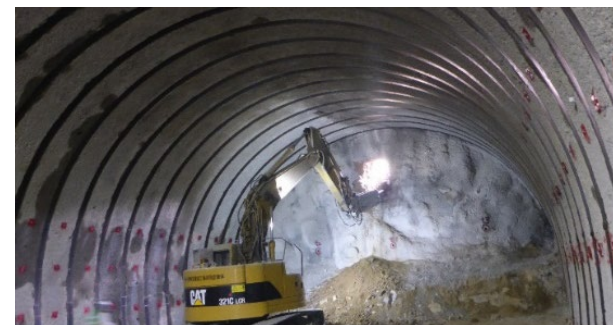
Tohoku Chuo Expressway (Soma-Fukushima)
Entire section was opened on 24 Apr. 2021



Ukedo Fishing Port completion ceremony was held on 20 Nov. 2021
Restoration of 10 fishing ports in affected areas has been completed



Joban Expressway (Iwaki Chuo IC- Hirono IC)
A four-lane operation started on 13 Jun. 2021



The Sekiba Tunnel in the Kawamata Town section on the National Road Route 114 was opened on 2 Mar. 2022



The National Road Route 288 (located on Nogamikotsuka section within Okuma Town) was opened on 16 Jul. 2022



JR Joban Line
Full operation of the line resumed on 14 Mar. 2020

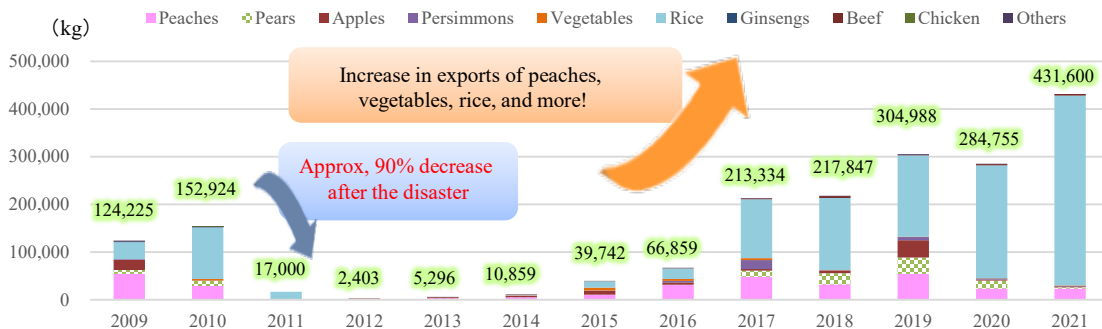
【Challenges and Responses】

- Reconstruction of public works facilities and coasts in the Difficult-to-return Zone
- Development of the Fukushima Reconstruction and Revitalization road, Development of roads in the 12 municipalities where evacuation orders had been issued

(6) Industry 1. Agriculture

Although the prices of Fukushima products are on a recovery trend, some items have not recovered to pre-disaster levels. On the other hand, compared to the period before the disaster, the export volume is increasing, hitting a record high in FY2021.

○ Agricultural product exports

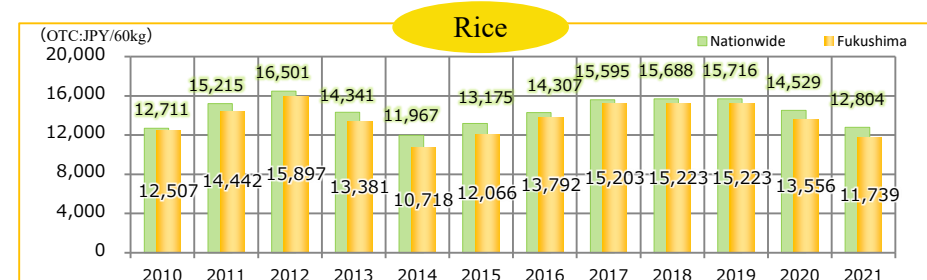


Exports of agricultural products to Southeast Asia are on the rise!

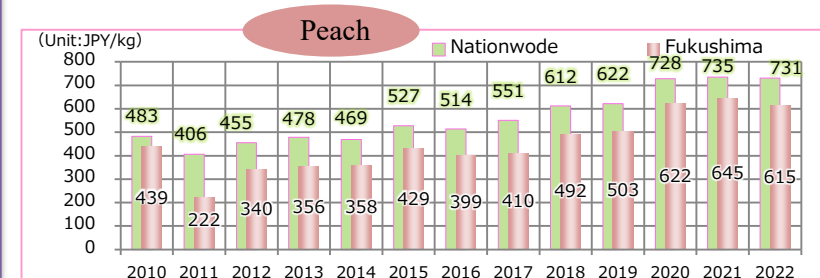


○ Transition of the price for most Fukushima agricultural products

The disparity between the price: 1,065JPY



The disparity between the price: 116JPY



~ Import restrictions on food products from Fukushima ~ (As of 26 July . 2022)

- Countries and regions imposing an import ban on a wide range of products produced in Fukushima (3) China, Hong Kong, Macao
- Countries and regions imposing an import ban on some of the products produced in Fukushima (2) Korea, Taiwan
- Countries and regions allowing import of foods only when inspection certificates are attached (7) French Polynesia, EU, Iceland, Norway, Switzerland, Russia, Liechtenstein

The number of countries and regions imposing import restrictions on food products from Fukushima

- Immediately after the nuclear accident 55
- As of 26 July 2022 12
- *Restrictions lifted in 43 countries and regions

Debut of a new rice brand "Fuku Warai"



- The top brand of sweet, fragrant, and plump rice developed over the course of 14 years in an attempt to create the best rice in Japan
- Making "Fuku Warai" a driving force to improve the image of all the rice produced in Fukushima and to increase sales prices.

Fostering human resources for the fisheries industry



Fostering human resources for the forestry industry



Total sales of the online store reached a record 3 billion yen in FY2021

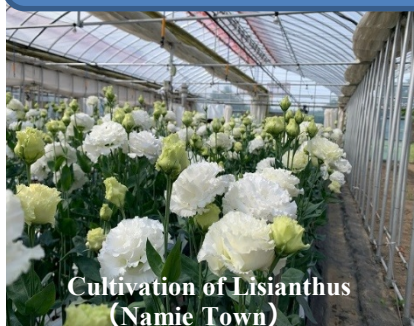
Buy seasonal Fukushima products online! Fukushima Pride Delivery Service

Just look for "Fukushima's agricultural, forestry, and fisheries products and specialty products" at the shopping sites available.



<https://fukushima-pride.com/?lang=en>

Farming has resumed in the affected areas



Wildlife Damage



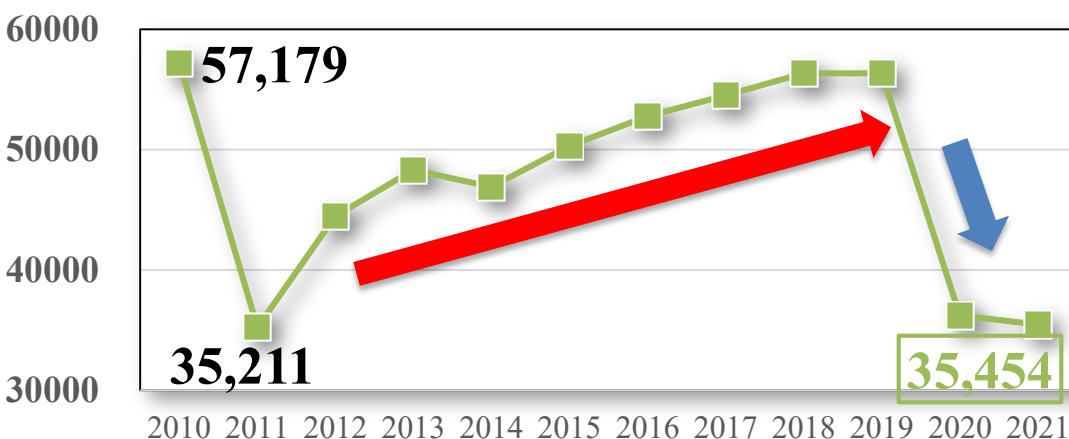
【Challenges and Responses】

- Regaining the price of agricultural products to the national average (Promoting branding of Fukushima products)
- Further accelerating the resumption of farming, developing and demonstrating advanced technology, securing new manpower
- ➔ Progress rate of resumption of farming in cultivable areas of 12 disaster affected municipalities: 49.0% (Mar. 2022)
- Countermeasures against damages on agricultural crops caused by wildlife such as wild boar, etc.
- Promoting measures against radioactive materials necessary for the maintenance of forests as well as revitalizing the forest areas for logs and minor forest products
- Resumption of coastal fishery, support for expanding market channels, securing and fostering human resources for fishery operators and management entities

The effects of COVID-19 and the Fukushima-oki (offshore) Earthquake, which occurred in February 2021, has caused the number of tourists visiting Fukushima to plummet. On the other hand, educational tour inflows are increasing mainly due to visits from neighboring prefectures.

○ Tourists from outside Fukushima

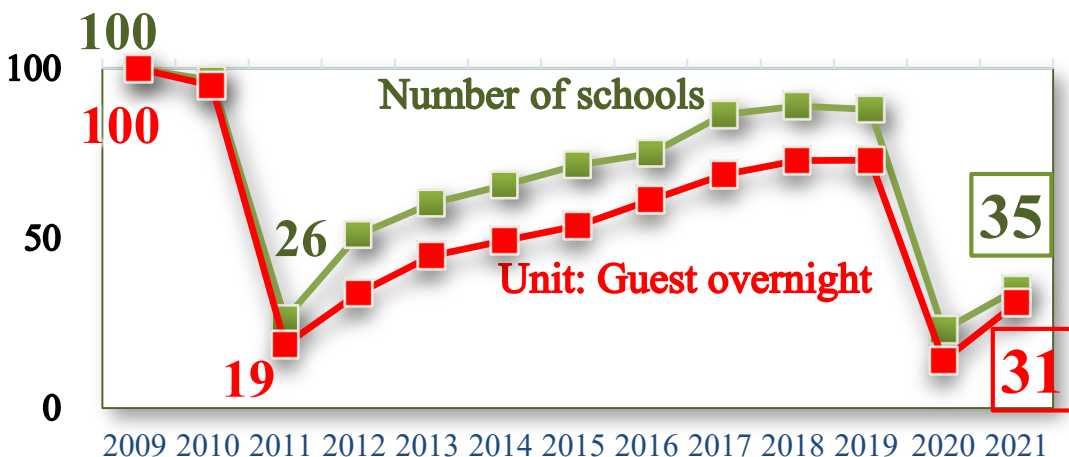
(Unit: Thousand people)



○ Educational Tour

(Ratios of Educational Tour compared to 2009 set as 100%)

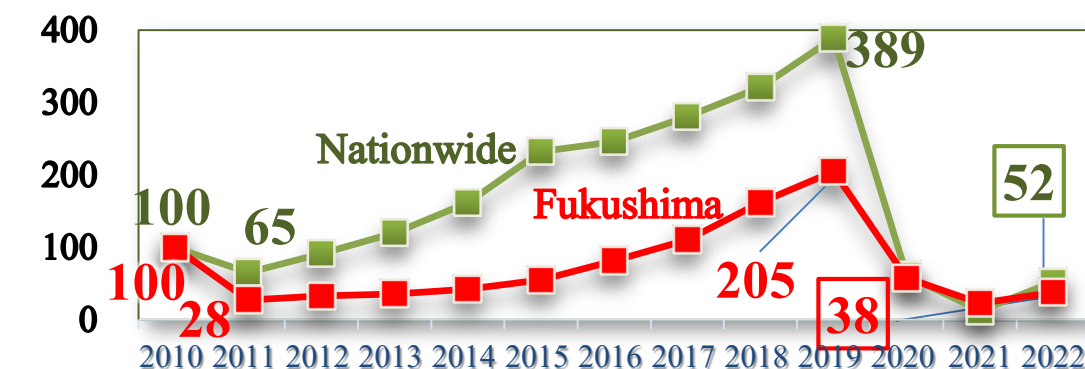
(Unit: %)



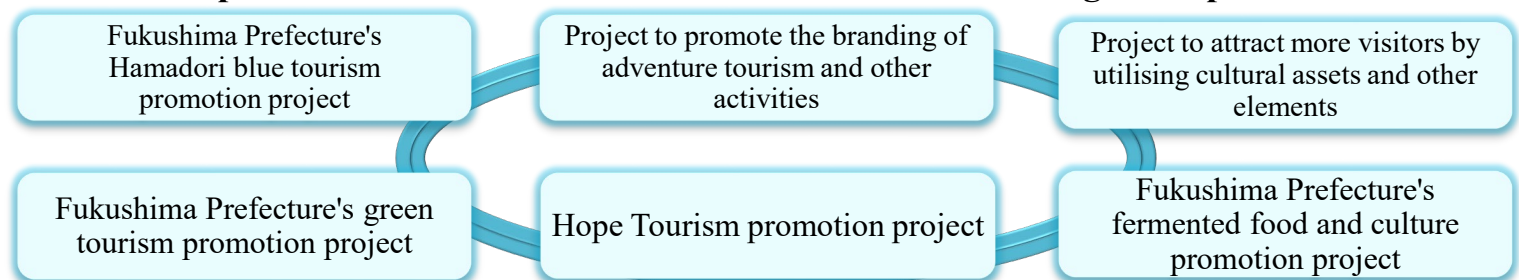
○ Total number of international guests

(Ratios of International Guests compared to 2010 set as 100%)

(Unit: %)



Implementation of the Fukushima SDGs Tourism focusing on Hope Tourism



Hamadori blue tourism



Adventure tourism



Tadami Line railway facilities



Green tourism



Hope tourism



The Great East Japan Earthquake and Nuclear Disaster Memorial Museum

J-Village



Fermentation tourism

Tokyo 2020 Olympic Game: Games to commence with a softball game in the Prefecture

Japan won all the games held in Fukushima!

Softball games 21 Jul. Japan vs. Australia
22 Jul. Japan vs. Mexico

Baseball game 28 Jul. Japan vs. Dominican Republic

Azuma Baseball Stadium

World-renowned Fukushima peaches

Coaches and players of teams participating in the baseball and softball games praised these peaches, saying, "Fukushima's peaches are delicious" and "I've never tasted anything so good!"



TOKYO 2020 Games Memorial

Passing down the Tokyo 2020 legacy to future generations

【Challenges and Responses】

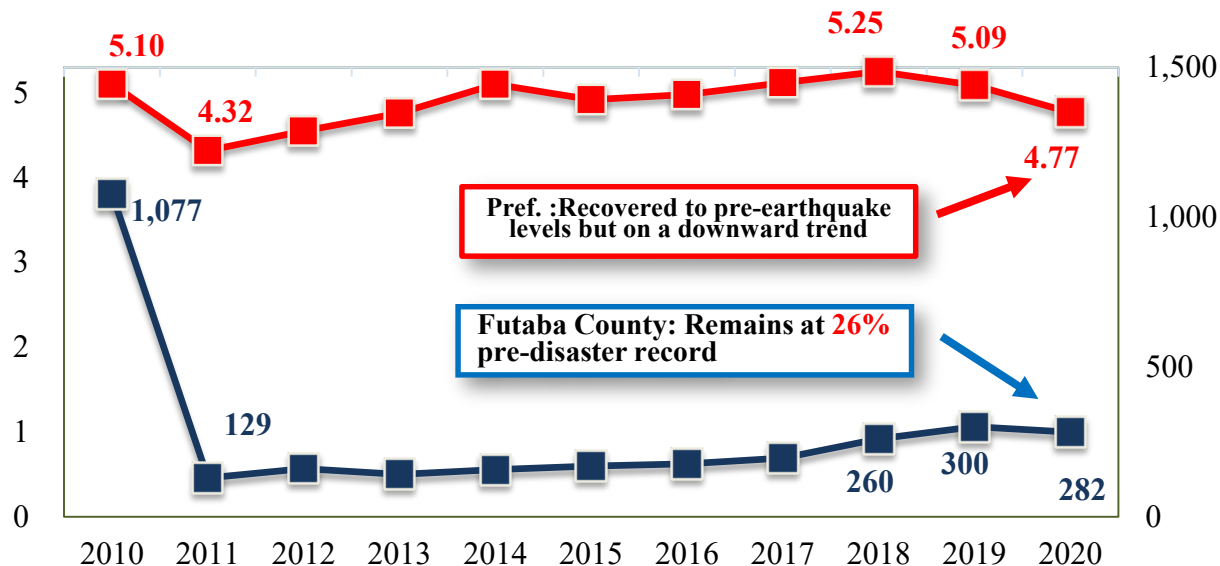
- Attracting more visitors to Fukushima through the Fukushima SDGs Tourism in order to accelerate the revitalization of Fukushima, which was set as the 18th goal of the SDGs
- Recovering educational tours by inquiry-based learning programmes focusing on Hope Tourism as well as by continuously spreading information and marketing
- Spreading information to attract more foreign tourists in a post-pandemic world
- Spreading information about places related to the Olympics to promote them as part of the legacy of the Recovery Olympics

(6) Industry 3. Business investment and employment creation

The Prefecture's product shipment has come back to pre-earthquake level, but is currently stagnant due to an impact of COVID-19. The product shipment in the Futaba County stays as low as around 30% of pre-earthquake.

○ The shipment value of products (Fukushima Pref.) (Unit: Trillion JPY)

○ The shipment value of products (Futaba County) (Unit: 100 million JPY)



○ Business investment support utilising special provisions for taxation (preferential tax system)

Cases	Special provisions for taxation on businesses investment in the revitalization of industries in the special zones	Special provisions for taxation on business investment in the revitalization of tourism in the special zones	Special provisions for taxation concerning the Act on Special Measures for the Reconstruction and Revitalization of Fukushima
Zones and business fields	Manufacturing, etc. Industrial parks in the 15 municipalities	Agriculture, etc. Agricultural promotion areas in the 15 municipalities (excluding some areas) and areas which promote clusters of the fishing industry with fishing ports as the core	Tourism Tourism and other related facilities at hot spring resorts in 8 municipalities
Purposes	Promoting industries and business investment	Revitalization of farming and fishing villages	Revitalization of tourism
Details	1. Corporate tax for newly established companies in the zones will be reduced. (They are allowed to include deductible expenses as a reserve for reinvestment for five years.) Special depreciation for reinvestment will be provided. 2. Special depreciation and tax credits will be provided when acquiring machines, devices, instruments, equipment and buildings, etc. 3. 10 percent tax credit for salary payments will be given if evacuees are hired. 4. Special depreciation and tax deduction for depreciable assets acquired, manufactured or constructed for R&D will be provided. 5. Tax exemption from business tax, real estate acquisition tax or property tax and other measures on building new or adding factories or equipment will be provided. (*Only for those businesses eligible for 1 - 4)	1. Special depreciation and tax credits will be provided when acquiring machines, devices, instruments, equipment and buildings, etc. 2. 20 percent tax credit for salary payments will be given if evacuees are hired. 3. Tax exemption from business tax, real estate acquisition tax or property tax and other measures on building new or adding factories or equipment will be provided. 4. Tax deferral for up to three years will be permitted for businesses preparing for resuming operations in the future.	Supporting the resumption or continuation of business operations and promoting new business in the zones
Approvals	31 Mar. 2022/2,678 No. of people to be employed: 63,079	31 Mar. 2022/248 No. of people to be employed: 1,462	31 May 2022/113 No. of people to be employed: 2,430

○ Business investment support utilising the Fukushima business investment subsidy

○ Fukushima business investment subsidy for industrial vitalization (FY2020-)

Creating employment and industry expansion in the Prefecture through supporting companies that aim to start new or expand the number of factories and other facilities in the Prefecture.

Allotted to 27 entities
303 jobs created (projection)
(As of 27 Dec. 2022)

○ Fukushima business investment subsidy for revitalization of industries (FY2012-FY2021)

Creating employment and industry expansion in the Prefecture through supporting companies looking to start new or expand the number of factories and other facilities in the Prefecture.

Allotted to 601 entities
7,405 jobs created (projection)
(As of 31 May 2021)

○ Subsidy to business investment for employment creation in the tsunami and nuclear disaster-affected areas (FY2013-)

We support companies that set up new factory or additional factory inside the prefecture. Those activate business and create jobs.

202 entities
2,672 jobs created (projection)
(As of 16 Sep. 2022)

○ Subsidy for investment promotion for the support of self-help and return and the employment creation (FY2016-)

In order to secure jobs for disaster-affected people and accelerate support for their independence and ability to return to the areas they evacuated from, we will support companies that are planning to newly or additionally build plants in the evacuation-ordered areas, and make efforts to create employment and cluster industries.

131 entities
1,298 Jobs created (projection)
(As of 7 Oct. 2022)

【Challenges and Responses】

- Recovery of the industrial bases in Futaba County and the Coastal Region. Accelerating the Fukushima Innovation Coast Framework to develop self-sustaining and continuous industry growth
- Creation of new industries through technological development support and attracting new businesses to the region. Promoting participation of local companies
- Supporting disaster affected companies in Futaba County and other businesses to resume operations and promoting expansion of business from outside of the Prefecture

For the initiative to take shape, efforts are fully underway in the development of industry hubs, clustering of industries, fostering human resources, and expanding the non-resident population.

The Fukushima Innovation Coast Framework

The Fukushima Innovation Coast Framework is a national project that aims to revitalize industries in the coastal region affected by the Great East Japan Earthquake and the nuclear disaster through the establishment of a new industrial base in the region. Based on the 3 core pillars, the project is being put into shape in the coastal region in the priority fields of decommissioning, robotics, drones, energy, environment, recycling, agriculture, forestry and fisheries, and healthcare-related industries as well as aerospace industries. It also includes various infrastructure development initiatives to achieve these plans, such as clustering of industries, fostering human resources, increasing people visiting the region, spreading information, and re-establishing the living environment.

3 core pillars to realise the initiatives

- 1. A region where people can take on any challenge** We aim to develop the coastal region to be a place where new challenges are taken up in various fields.
- 2. Local companies are major players** In order to encourage not only cutting-edge companies but various local companies to actively participate in the initiative, we will promote wide-area cooperation between local businesses and incoming companies to the region.
- 3. Fostering human resources who will play a major role in the initiative** We will foster innovators in the region and professionals who will support the industrial cluster.

◆ Hubs for research and main projects

Decommissioning

Developing technology by gathering wisdom from Japan and around the world

- Demonstration tests necessary for decommissioning, etc. are carried out at Naraha Center for Remote Control Technology Development (Naraha Town)



- Okuma Analysis and Research Center (Okuma Town)
- Collaborative Laboratories for Advanced Decommissioning Science (CLADS) (Tomioka Town)



Robots and Drones

Clustering of industries with the Fukushima Robot Test Field as the core

- A major R&D hub for land, sea, and air robots and drones (Minamisoma City, Namie Town)



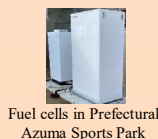
- Demonstration tests of a bridge inspection service using a drone by DENSO Corporation



Energy, the Environment and Recycling

Establishment of advanced renewable energy and recycling technologies

- Fukushima Hydrogen Energy Research Field (FH2R) (Namie Town) is one of the world's largest hydrogen production bases from renewable energy sources. Hydrogen produced at FH2R is used in fuel cells installed in refectory Azuma Sports Park and J-Village. Electricity is supplied to both of these facilities.



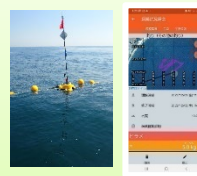
Agriculture, Forestry and Fisheries Industries

Revitalization of agriculture, forestry and fisheries industries utilizing ICT and robotic technologies

- In a Japan first, initiatives are being implemented in areas of advanced agriculture, forestry and fisheries which are employed in the development and demonstration of ICT and robotic technologies.



- Development of support technology for fishing operations using ICT, such as offshore buoys and tablet devices for collecting fishing information



Healthcare-related industries

Opening up markets for businesses by supporting technological development

- Hamadori Satellite Office of Fukushima Medical University opened in Nov. 2021 to support companies and other entities in the Coastal Region using research from the Medical-Industrial Translational Research Center. (Minamisoma City)



- Integrating support from the development through to the commercialization of medical devices (Fukushima Medical Device Development Support Centre, Koriyama City)



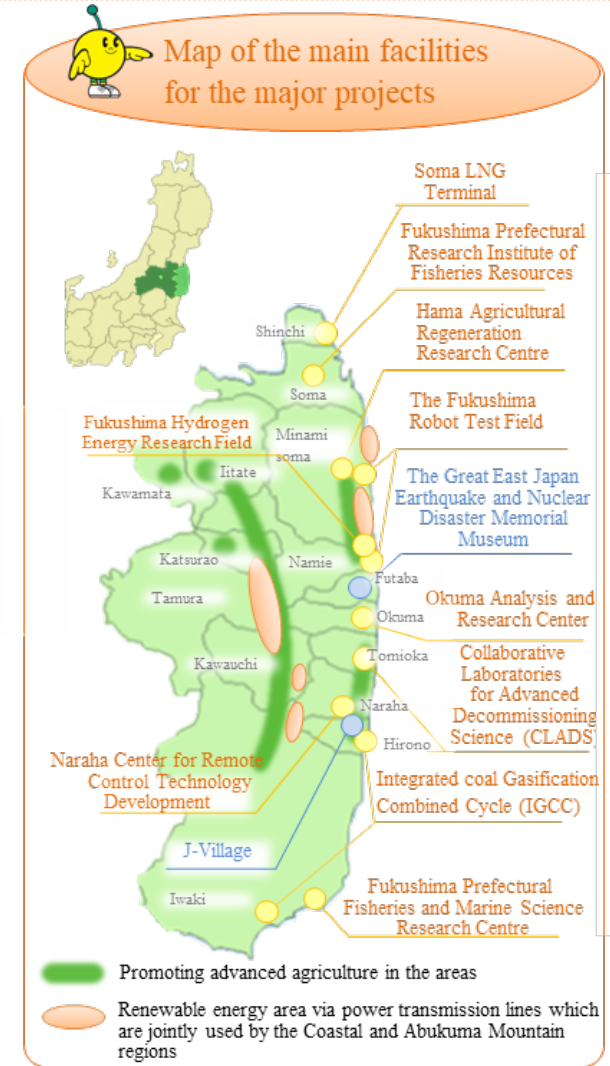
Aerospace industries

Development of Next Generation Air Mobility and expansion of business of local companies

- Development of flying cars by teTra aviation corp., which has a research room in the Fukushima Robot Test Field



- Products and technologies were introduced at the Robot and Aerospace Festa Fukushima 2022 with the aim of expanding business of local companies (Nov. 2022 Big Palette Fukushima)



【Fukushima Institute for Research, Education and Innovation (Abbreviated name : F-REI)】

F-REI is a legal entity that will be established by the Government of Japan (scheduled in Apr. 2023) as a world-class, core center for creative reconstruction to realize the revitalization of Fukushima and other parts of the Tohoku region as well as contributing to driving Japan's scientific and technological capabilities and industrial competitiveness.

Four Functions of F-REI

1. Research & Development

- Promotion of R&D in five areas that contributes to solving problems in the disaster-affected areas and the world, and that will be a source of pride at home and abroad.

2. Industrialization

- Establishment of a collaborative system between industry and academia to make investment in F-REI ventures and joint research with companies

3. Fostering human resources

- Development of research personnel by joint graduate schools through R&D activities, Collaboration with technical colleges

4. Control Tower

- Organization of a council and maximizing its functions as a command post to coordinate activities by existing facilities

Five Areas in R&D

1. Robots



Remotely-operated robots

2. Agriculture, Forestry and Fisheries Industries



Agricultural machinery control systems

3. Energy



Plant production with functions such as early growth and large CO2 absorption

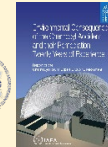
4. Radiation Science, Medicine and Drug Development & Industrial Applications for Radiation



Elimination of prostate cancer with alpha emitting radionuclides

5. Collection and Dissemination of Data and Knowledge on Nuclear Disasters

1. Research on environmental dynamics of radioactive substances
2. Collection, Analysis and Dissemination of Data and Knowledge on Nuclear Disasters
3. Research on regeneration and revitalization of disaster victims, communities, affected areas, etc.,



Inviting international conferences such as ICRU (International Commission on Radiation Units and Measurements)

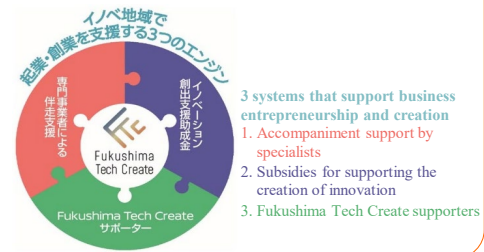
(6) Industry 4. The Fukushima Innovation Coast Framework II

◆Initiatives towards the realization of the framework

Clustering of industries

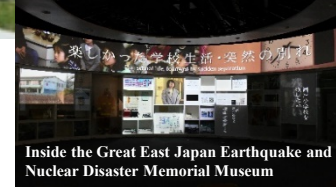
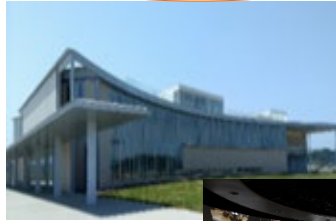
Helping to promote business investment and supporting companies inside and outside the region to start business

- Seminar on Industrial Sites for Business Establishment to publicize the most preferential system in Japan and environment of the location
- A startup pitch event was held for businesses and those who aspire to be business entrepreneurs and pioneers to make presentations about their business plans to start businesses (Fukushima Tech Create program)



Spreading information

Passing down the records and lessons learnt from the compound disaster to future generations



- In Oct. 2022, the number of visitors reached 150,000 at the Great East Japan Earthquake and Nuclear Disaster Memorial Museum, which opened in Sep. 2020. Research and study environment has been up and running with full-time researchers in position in FY 2022. We collect and archive mainly nuclear disaster related materials and use the research results for exhibitions, presentations, and training. By disseminating information, we try to prevent memories of the disaster from fading and help with disaster reduction and prevention.

Expanding the non-resident population

Expanding the non-resident population in the Coastal Region and other areas where the number of residents has decreased due to evacuation

- On-site tours were held for companies which are considering entering into agriculture in the 15 municipalities in the Coastal Region and other areas to help them understand the current situation in the region further.



- Mieruka Visible Seminars have been held for residents for them be familiar with the efforts of the Fukushima Innovation Coast Framework



Fostering human resources in education

Fostering the youth force who will carry the future of the Coastal Region

- Revitalization Knowledge Project supports activities and technical colleges nationwide in the Prefecture for local residents.



- Classes on smart agriculture are available at Soma Agricultural High School, where educational programs under the Fukushima Innovation Coast Framework are being implemented.



The entire Prefecture will work to foster highly ambitious leaders for this project as well as human resources who will serve as immediate assets in the fields of expertise of robotics, renewable energy, agriculture, forestry, fisheries, and more. Odaka Industrial Technology and Commerce High School and Futaba Future School have taken the lead in this project. The University of Aizu has also been working with local enterprises to develop robotics technology and human resources using its expertise in ICT.

Re-establishment of the living environment

Creating an environment necessary for people to safely live

- Development is progressing for public infrastructure
 - Tohoku Chuo Expressway
 - Joban Expressway
 - JR Joban Line
- Operation of a shuttle bus
 - Fukushima Robot Test Field-Fukushima station



The preferential tax system to promote the Fukushima Innovation Coast Framework

Special provision for taxation will be applied to businesses that invest in equipment, employ people affected by the disaster and carry out R&D in relation to the development of new products in the priority fields of the initiative.

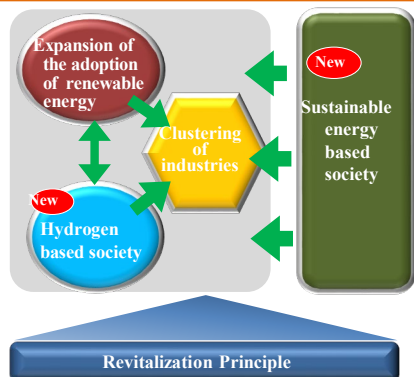
- Eligible areas
 - Areas implementing projects which promote the creation of new industries
 - *Part of the international research and industry areas in Fukushima Prefecture (15 municipalities)
- Who can apply
 - The sole proprietor or corporations who are in areas implementing projects which promote the creation of new industries and who are engaged in these projects
 - *These projects are specified by the Order of the Reconstruction Agency to play a central part in creating and activating industry clusters
- Details of special cases
 1. A 15 percent tax credit for payments such as salary will be given if evacuees are hired.
 2. Special depreciation and tax credits will be provided when acquiring machines, devices, instruments, equipment and buildings, etc.
 3. Immediate depreciation and tax depreciation for depreciable assets will be provided towards development and research
 4. Tax exemption from business tax, real estate acquisition tax or property tax and other measures on building new or adding factories or equipment will be provided.

【Challenges and Responses】

- Creating an economic ripple effect in the Prefecture by connecting businesses to the innovation projects and enhancing industrial clustering
- Putting F-REI on track and creating F-REI centric network for prompt and wide area effects of its establishment

Aiming to become a "pioneering region in renewable energy", initiatives are conducted to expand the adoption of renewable energy and promote industry cluster.

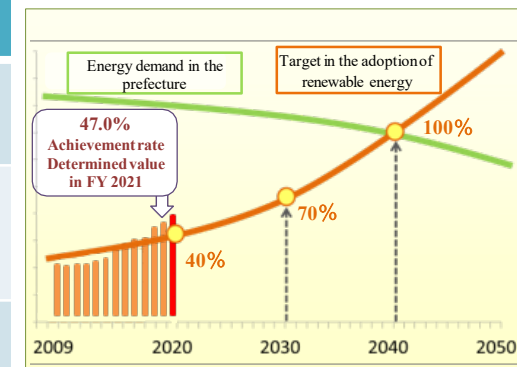
Revitalization principle and renewable energy promotion vision



- Revitalization Principle : Building a safe, secure sustainably developing society free from nuclear power
- 1. Switch to low carbon/circular society with less environmental impact
- 2. Revitalization (Promotion of local community)
- Initiatives will be conducted focusing on the four pillars under the "renewable energy promotion vision"

Targets of adoption

Index	Targets	Present state
Amount of the adoption of renewable energy in relation to the Prefecture's energy demand	100% (2040)	47.0% (2021)
Amount of the adoption of renewable energy for the amount of power consumed in the Prefecture	100% (2025)	86.8% (2021)
Number of stationary hydrogen station installed	20 Units (2030)	2 Units (2021)



◆ Hubs for renewable energy in the Prefecture

Hub for research

Fukushima Renewable Energy Institute, AIST (FREIA)

National Institute of Advanced Industrial Science and Technology built the R&D hub for renewable energy, which opened 1 Apr. 2014. Smart System Research Facility started operation 1 Apr. 2016.

Koriyama City

Biomass

Green Power Aizu Woody biomass power station

Aizuwakamatsu City

Photo provided: Green Power Aizu Co. Ltd.

Wind Power

Koriyama-Nunobiki Kogen wind farm

Koriyama City

Photo provided: J-power / Electric Power Development Co., Ltd.

Small-scale hydropower

Shinobuyama Endogataki Otama Daiichi small-scale hydropower station

Otama Village

Geothermal

Tsuchiyu Onsen Source No. 16 Binary Power Plant

Fukushima City

Solar power

Fukushima Airport Mega Solar

Sukagawa City
Tamakawa Village

◆ To realize a hydrogen based society

■ Benefits of utilising hydrogen

It can be generated from renewable energy and other resources and stored for a long period of time. It does not emit CO2 while being utilised.

Fukushima Hydrogen Energy Research Field (FH2R)

- Fukushima Hydrogen Energy Research Field was opened in Namie Town on 7 Mar. 2020. This is one of the world's largest hydrogen production bases from renewable energy sources (utilizing 20MW generated solar power). It can supply up to 1,200 Nm³ of hydrogen per hour (rated power) and fill up about 560 fuel cell vehicles a day.



- Hydrogen stations, fuel cell bus, and fuel cell vehicles were adopted in various places.



Tohoku's first FC bus



◆ Clustering of industries

- Promotion for development of technologies related to renewable energy, commercialization, expansion of market channels and overseas expansion
- Fostering and securing human resources in renewable energy related industries such as wind power O&M
- Promotion of solar power and recycle of storage batteries etc. and creation of new business model

*** Meaning of O&M**

It is an abbreviated expressions of Operation and Maintenance.



◆ Sustainable energy based society

- Utilisation of energy in local communities (Promotion of local production and consumption, Smart Community)
- Consideration of environment and landscape, etc.
- Implementation of thorough energy conservation (Energy-saving measures, renovate or build public facilities for ZEB)

*** What it means to achieve ZEB**

It is an abbreviation for Net Zero Energy Building, called ZEB. It refers to buildings that aim to achieve annual primary energy consumption balance of zero while realizing comfortable indoor condition.



The office received a certification of "Nealy ZEB" for the first time in Tohoku as a government building. It achieved to reduce 87 percent of energy consumption.

【Challenges and Responses】

- Switch to low-carbon society through efforts to save natural resources and conserve energy
- Create systems that gives back profit to the local community
- Local production for local consumption of energy
- Attract companies related to the industries. Foster new industries and create jobs

(7) Efforts towards decommissioning

Fukushima Daiichi NPS

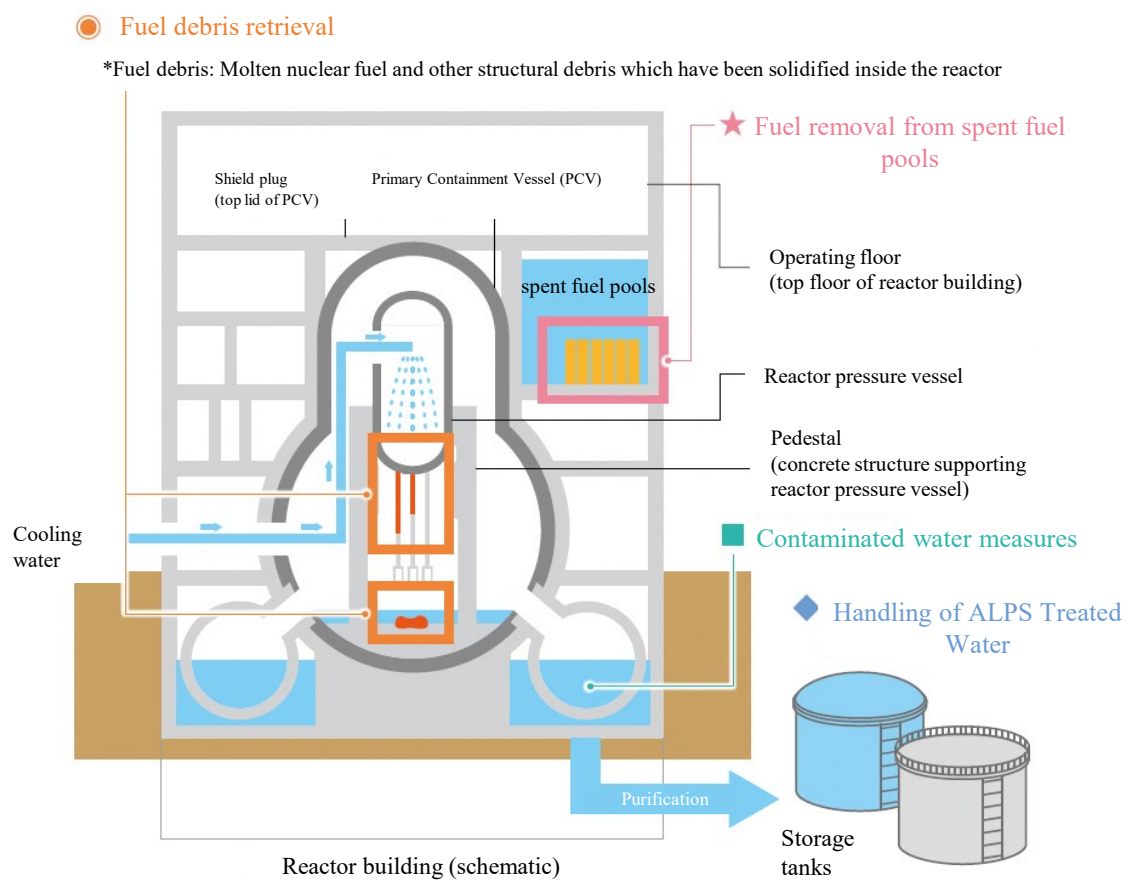
Measures being taken	Major milestones (on the Mid- to Long-Term Roadmap)	Current state of progress
Contaminated water measures	Reduction of the volume of contaminated water Reduce to about 100m ³ /day or less (within 2025)	In order to reduce the volume of contaminated water, measures have been taken to prevent groundwater from flowing in by pumping up groundwater from Subdrain and with impermeable walls of frozen soil as well as to prevent rainwater from seeping in by installing roofs of reactor buildings and other buildings.
Fuel removal from spent fuel pools	Complete fuel removal from Units 1 to 6 (within 2031) Start of fuel removal from Unit 1 (FY2027 to 2028) Start of fuel removal from Unit 2 (FY2024 to 2026)	Unit 1: Operation of installing a large cover has been in progress to remove rubble from the upper part of the pool from Apr. 2022. Unit 2: Foundation construction of stand for removal has been completed, and the steel framework has been under construction since Jan. 2023. Unit 3: Fuel removal was completed in Feb. 2021. Unit 4: Fuel removal was completed in Dec. 2014.
Fuel debris retrieval	Begin fuel debris retrieval from initial reactor (From Unit 2) (postponed from within 2021 to around 2023)	Unit 1: An additional investigation inside the primary containment vessel is being carried out using an underwater robot. Unit 2: A robot arm is being adjusted for the start of fuel debris retrieval Unit 3: An additional investigation and analysis inside the primary containment vessel are being planned.
Waste measures	Eliminating outside temporary storage areas for rubble and other waste (within FY2028)	An additional miscellaneous solid waste incineration facility to dispose waste such as rubble, fallen trees and used protective clothing has started operation and a facility for analysing low-to-medium-level radioactive waste has started operation in Oct. 2022.

Fukushima Daini NPS

- TEPCO estimates that the period to complete the decommissioning of the four reactors is to be 44 years and the complete process will be divided into 4 stages. It created a decommissioning plan to show the details which will be carried out in Stage 1. (The period to prepare for the dismantling the facilities is 10 years.)
- The Nuclear Regulation Authority (NRA) approved the plan in Apr. 2021, in accordance with the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Nuclear Reactors. Fukushima Prefecture and the towns where the power station is located (Naraha Town and Tomioka Town) also gave prior approval based on the Agreement on Ensuring the Safety of the Surrounding Communities when Decommissioning the Fukushima Daini NPS. In response to this, TEPCO started decommissioning work in June.
- At Stage 1, there is a plan to inspect the contamination status of radioactive substances, remove the contamination, dismantle and remove equipment outside of the controlled area and remove the spent fuel from the reactor buildings.
- Currently, decontamination and evaluation of the contamination status of the equipment, and dismantlement and removal of equipment outside of the radiation controlled area, etc. are being carried out.

ALPS treated water

- Contaminated water is being generated from the cooling of fuel which melted (fuel debris) due to the nuclear accident and by the rainwater and groundwater flowing into the reactor buildings.
- Water in which radionuclides, except tritium, are removed from the contaminated water below the regulatory standards by using ALPS and other equipment is referred to as ALPS treated water.
- In the basic policy on handling the multi-nuclide removal equipment (ALPS) treated water, created by the national government in Apr. 2021, ALPS treated water will be discharged into the sea after being purified and diluted to levels well below its regulation standard while ensuring its safety.
- In order to dispel concerns about further harmful rumours following the decision on the disposal policy, it is necessary for the Prefectural Government to urge the national government to thoroughly implement the release of treated water in accordance with the national government's Action Plan for the Continuous Implementation of the Basic Policy on Handling of ALPS Treated Water formulated in Dec. 2021 (revised Jan. 2023).



Source: Ministry of Economy, Trade and Industry

【Challenges and Responses】

- It is necessary to have continuous surveillance carried out by the Association for Monitoring the Safety in Decommissioning to ensure the decommissioning progresses safely and steadily
- Taking all possible measures such as explaining to all the persons involved with the decision on the disposal policy of the ALPS-treated water and gaining their understanding while spreading accurate information

Strengthen the countermeasures against harmful rumours and the fading awareness of the disaster by means of effective publicity within Japan and abroad, developing sales channels for local products as well as establishing brands unique to Fukushima

Fukushima Prefecture's strategies to strengthen measures to fight harmful rumours and fading public interest

◆ Policies to strengthen countermeasures

1. Continuing persistent initiatives and taking on new challenges

- Achieve in rebranding of Fukushima by fusing ongoing initiatives into new ones

2. Spreading the latest and accurate information to have further updated information

- Achieve in replacing fixed negative information about Fukushima

3. Build trusting relations thorough collaboration and co-creation

- Achieve in creating new values by replying to many people while taking measures against COVID-19 and progressing digitalisation

◆ Policies in each sector (Direction and Main Initiatives for Strengthening Measures)

Agricultural, forestry, and fisheries products and Fukushima products

- ◆ Strengthen measures for distribution and sales.
 - Measures promoting Fukushima brand products, etc.
- ◆ Improve the brand power and expand exports
 - Projects strengthening competitiveness of Fukushima farm products, etc.
- ◆ Increase consumer confidence
 - Strategic information dissemination of the agricultural, forestry, and fisheries products, etc.

Spreading information (cooperation, co-creation, etc.)

- ◆ Spread information in cooperation with each department
 - Fukushima Prefecture's strategic information dissemination project to meet challenges, etc.
- ◆ Spread information about the current situation and the charms of Fukushima
 - Projects promoting the use of J-Village
- ◆ Expand the collaboration and co-creation
 - Projects supporting municipalities and local communities, etc.

Tourism

- ◆ Create tourism models clarifying the strengths and features of the region
 - Projects promoting Hope Tourism, etc.
- ◆ Continue to spread information using overseas contacts, including virtually, etc.
 - Projects recovering inbound tourists, etc.

Underlying measures

- ◆ Thoroughly inspect the food
 - Projects dealing with radioactive materials in food products, etc.
- ◆ Have risk communication concerning radiation
 - Projects promoting food security and safety
- ◆ Spread information about the progress in restoring the environment
 - Projects managing and operating the Fukushima Prefectural Centre for Environmental Creation (main building), etc.

Priority measures

Promoting understanding at home and abroad

- ◆ Spread accurate information
 - Strategic information dissemination project about the charms of the Soso District, project to pass down the information about the disaster to the next generation, etc.
- ◆ Spread the charms
 - An all-Fukushima promotion week project in central Tokyo, information dissemination project to dispel harmful rumors overseas, etc.
- ◆ Spread information using bonds
 - Project to promote the Prefecture using the legacy of the Tokyo 2020 Olympic and Paralympic Games, etc.

Strong support for businesses

- ◆ Strengthen measures for fisheries industry
 - Project to foster next generation human resources for the fisheries industry, etc.
- ◆ Promote production and consumption of local food
 - Project to support the development of areas producing flowers unique to Fukushima
- ◆ Enhancing the local charms, brand power and expanding exports
 - Project to attract more visitors utilising cultural assets and other elements

The preferential tax system for measures against harmful rumours

A preferential tax system is in place for businesses that combat harmful rumours about industries such as agriculture, forestry, fishery and tourism.

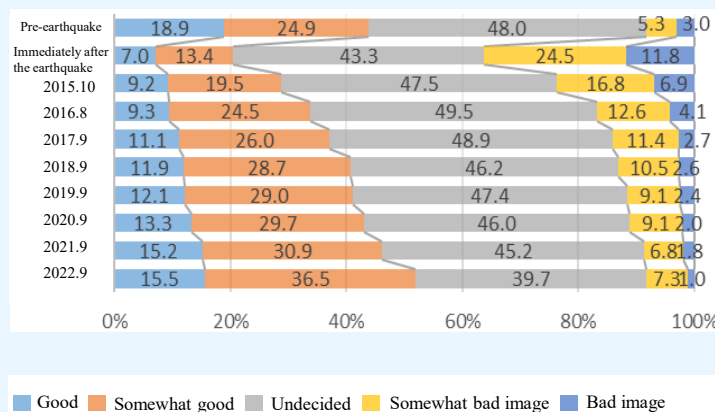


Achievements and Current Status of Countermeasures against Harmful Rumours and Fading Awareness

■ Analysis of Social Recognition related to Rumours and Fading Awareness (Sep.2022)

“Percentage of people with a good image of Fukushima”

- As of Sep. 2022, “Good image” group (“Good” and “Somewhat good” combined) climbed up to **52.0%**.



■ Export Shipment of Products of Fukushima (2021)

“Export Shipment of Products of Fukushima” has reached to a record high of over JPY 1 billion as a result of campaigns by the Governor and other efforts. On the other hand, the “price of the Prefecture's agricultural products” has remained low while harmful rumours persist, and the “number of tourists” and “number of foreign visitors staying overnight” have been affected by the pandemic.

Recovery of Agricultural Product Prices (Rice) *Relative price of Prefectural products to national averages(Rice)	Current price (2021)	92.03
	Target price (2030)	100
Recovery of Agricultural Product Prices (Peach) * Relative price of Prefectural products to national averages(Peach)	Current price (2022)	84.25
	Target price (2030)	100
Recovery of Agricultural Product Prices (Beef Cattle (Wagyu)) * Relative price of Prefectural products to national averages(Beef)	Current price (2022)	90.65
	Target price (2030)	100
Export Amount of Prefectural Products	Current price (2021)	1,375,000,000
	Target price (2030)	2,000,000,000
Number of tourists	Current price (2021)	35,454,000
	Target price (2030)	60,000,000
Number of foreign visitors staying overnight	Current price (2021)	20,390
	Target price (2030)	300,000

■ Field Survey on Consumer Awareness Related to Harmful Rumors (Consumer Affairs Agency 3 Mar. 2023)

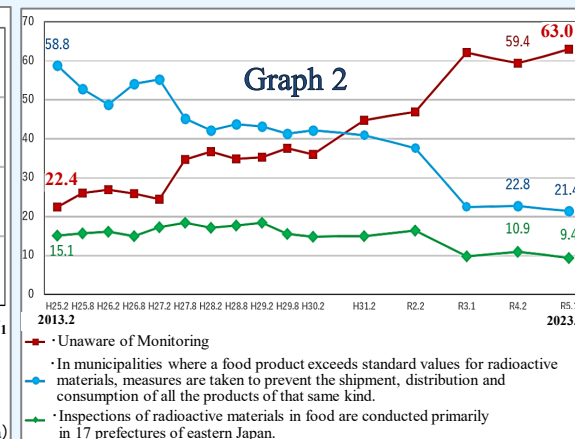
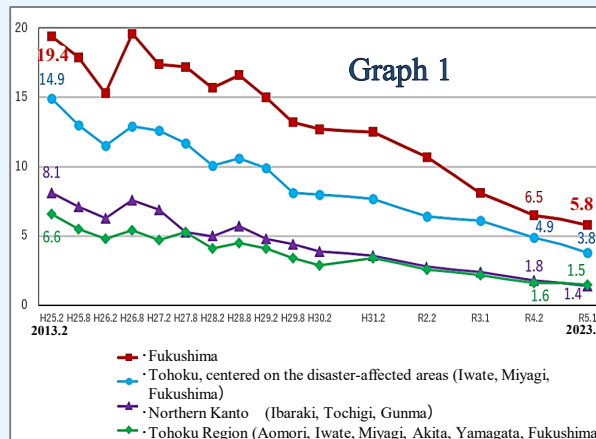
“Place of food production consumers are reluctant to purchase because of radioactive materials” (Graph 1)

“Reluctant to purchase products from Fukushima” (Of those concerned about radioactive materials in food products) **5.8%**

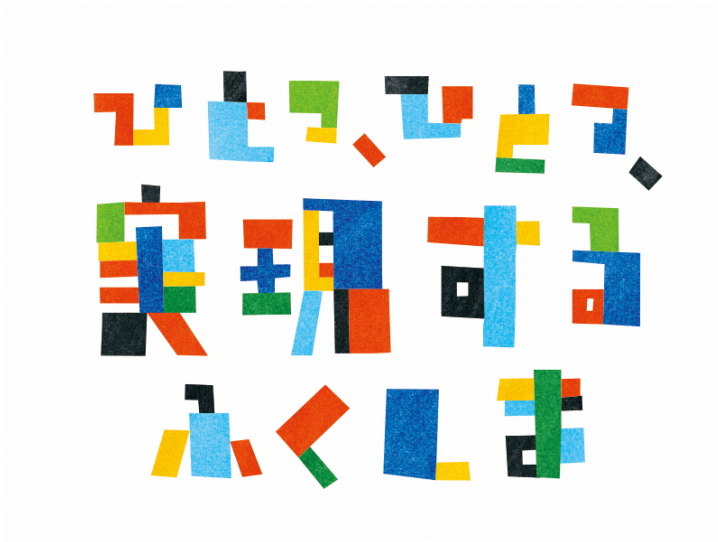
“Inspection of radioactive materials in food products” (Graph 2)

“Do not know that inspection is conducted” **63.0%**

- When asked what they thought should be done to prevent harmful rumours and to make people feel safe eating the food in the market, the most common responses were **providing information on food safety and the charms of the production areas as well as the products, and scientific explanations on radioactive materials contained in food products.**



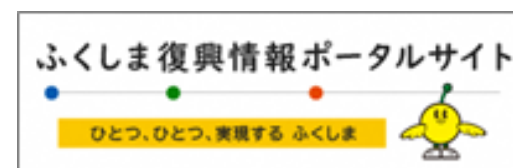
【Challenges and Responses】 ○ Deeply rooted harmful rumours and fading of memories related to the disaster over time
○ Prevent harmful rumours and fading awareness through publicity, expanding sales channels, and establishing brands



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*Please feel free to contact us if you have any questions about this publication.

Fukushima Prefecture website



Please visit this website for other updates and recovery-related information.