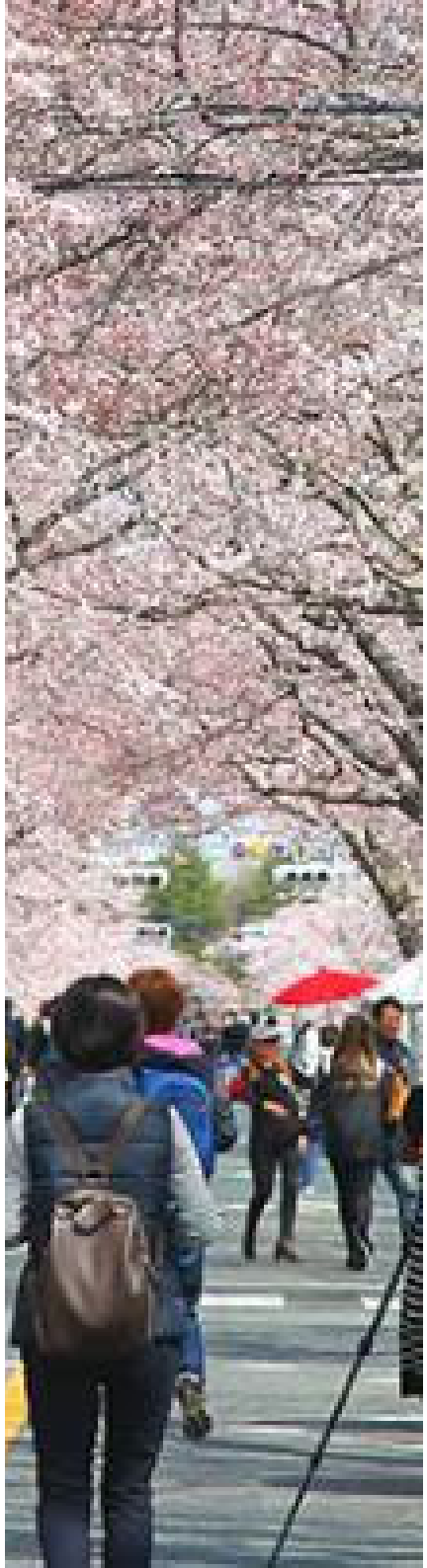
Progress of Reconstruction in FDNPS surrounding area

Ministry of Economy, Trade and Industry (METI)

September 2022



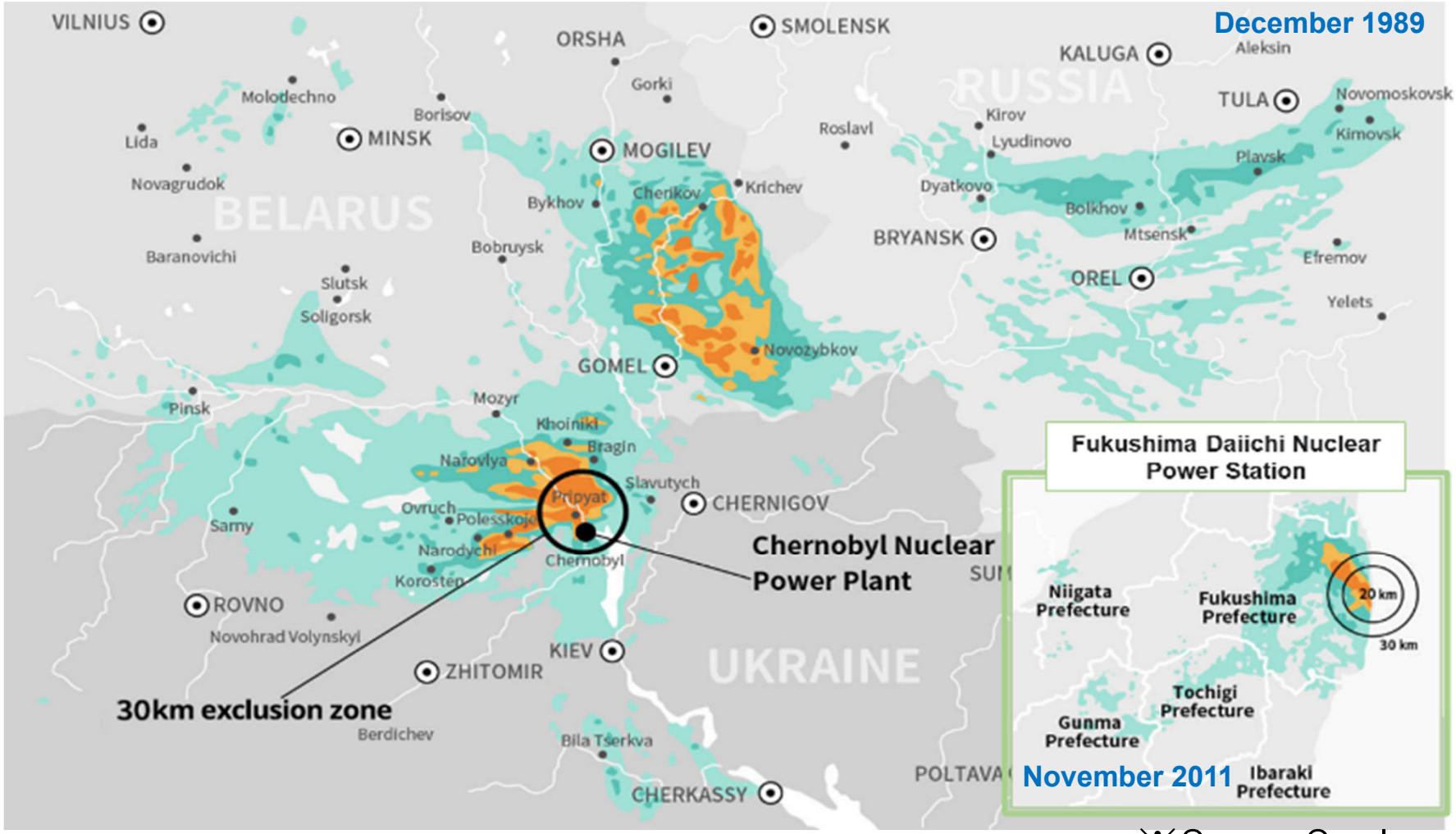
Agenda

1. Current Status of Fukushima Daiichi NPS Surrounding Area
2. Progress of Reconstruction
3. Next Step

1. Current Status of Fukushima Daiichi NPS Surrounding Area

Comparison of the Scale of Nuclear Power Plant Accidents Between Chernobyl & Fukushima Daiichi NPS

- The amount of cesium and iodine released at Fukushima Daiichi were around 10–40% of Chernobyl. Radionuclides with long half-lives such as plutonium were only around 0.02–0.1%.
- Compared to the Chernobyl, the Fukushima Daiichi has a small-scale high-concentration contaminated area.



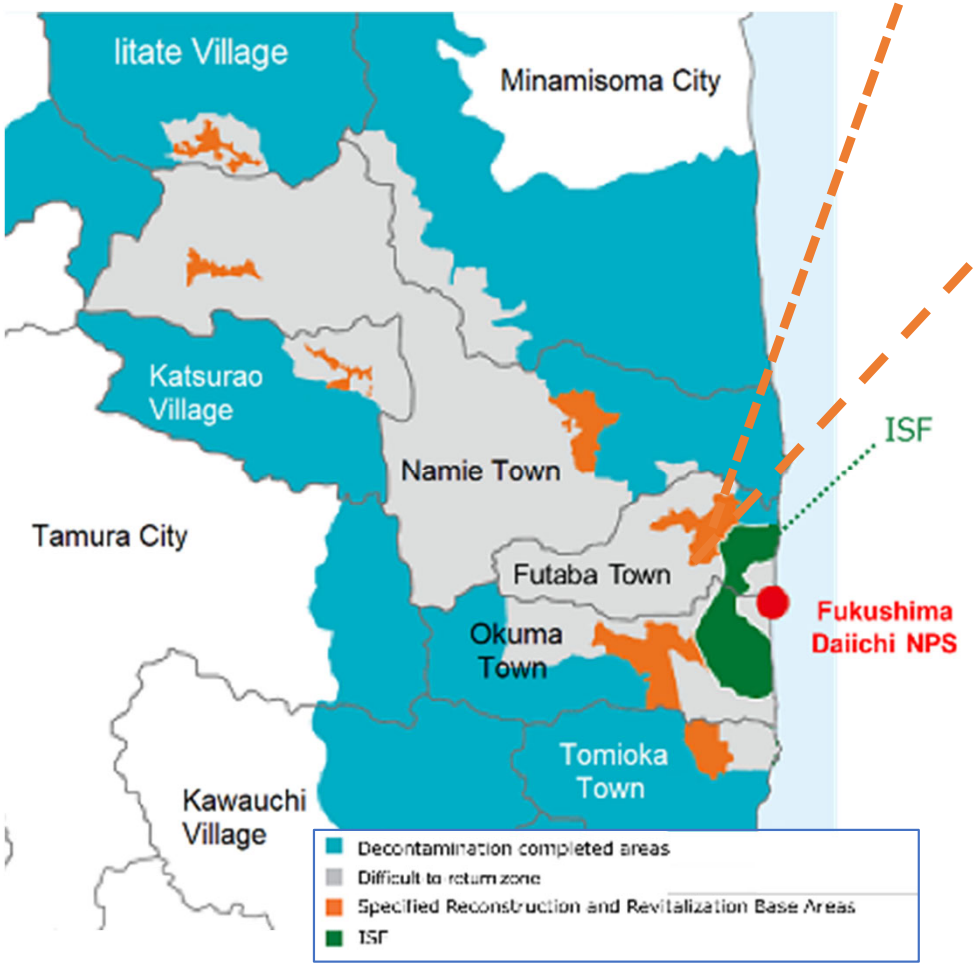
※Same Scale

Referenced from: Reconstruction Agency website
https://fukushima-updates.reconstruction.go.jp/en/faq/fk_200.html

Progress of Disaster Recovery

Decontamination Work and Construction of interim storage facility(ISF)

- ISF is installed to manage and store the soil and waste generated from off site decontamination work as well as the specified waste (> 100,000 Bq /kg) intensively and safely until the final disposal.



Development of Specified Reconstruction and Revitalization Base Areas

The Base area in Futaba Town where the Fukushima Daiichi NPS is located

- As radiation doses have decreased in some Restricted Areas, the GOJ has developed "Specified Reconstruction and Revitalization Base Areas" with the aim of lifting evacuation orders and permitting inhabitation.

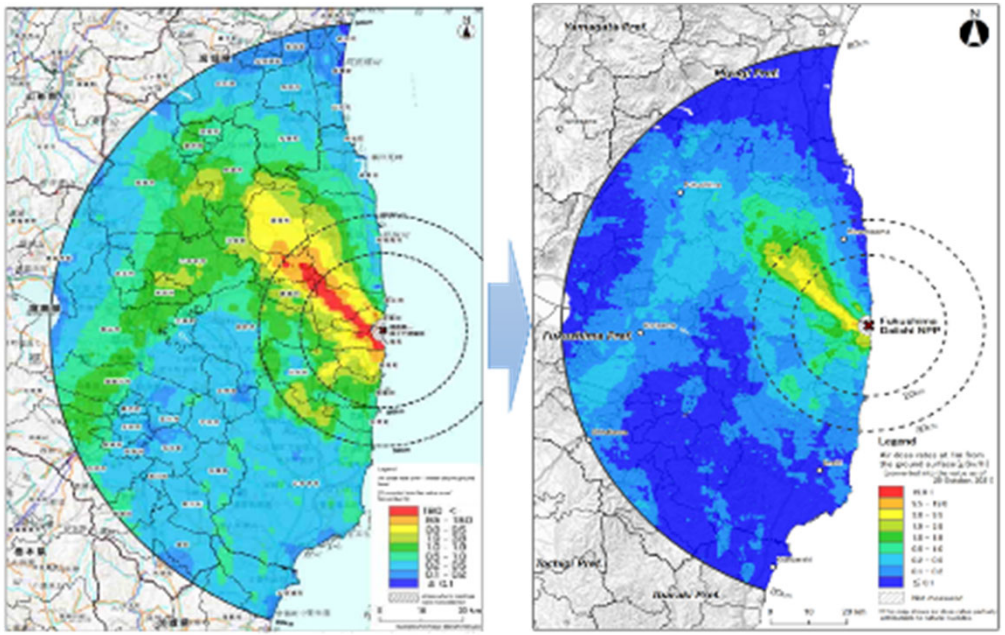
< 2022 >
Katsurao Village, Okuma Town, Futaba Town

< 2023 spring >
Tomioka Town, Namie Town, Iitate Village

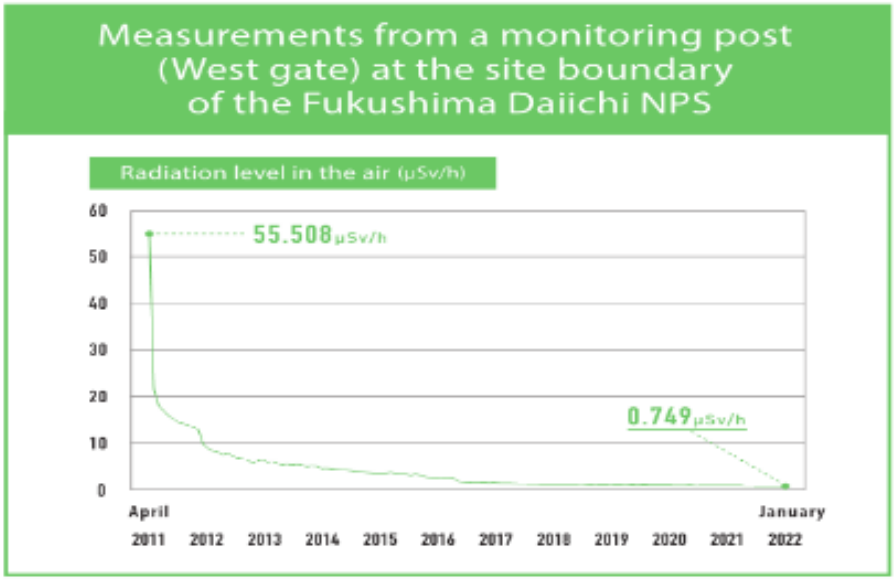
Referenced from: http://josen.env.go.jp/chukanchozou/facility/effort/

Referenced from: https://www.town.fukushima-futaba.lg.jp/item/14202.htm#pagetop

Changing Air Dose Rate and Lifting Evacuation Order



November 2011　　October 2021



※ Changes in monthly average levels measured at a monitoring post (MP.5) at the site boundary of the Fukushima Daiichi NPS

- Average air dose rate decreased by 80% compared to in November 2011. (within 80km from Fukushima Daiichi NPS)
- Radiation levels at the site boundary have sufficiently decreased compared to levels immediately after the accident.

	maximum figures	Current status
Areas under evacuation orders	1,150 km^2 August 2013	327 km^2(28%) As of June 2022
The number of evacuees in Fukushima Prefecture	164,865 May 2012	30,231 As of May 2022

Referenced from :https://www.reconstruction.go.jp/english/topics/Progress_to_date/English_August_2022_genjoutorikumi.pdf

2. Progress of Reconstruction
- In Parallel with Decommissioning -

Progress of Reconstruction (2012～2013)

Decommissioning Roadmap

Period up to start of fuel removal → Period up to start of fuel debris retrieval → Period up to start of end of decommissioning

2012 — 2013

- Unit 4: Removal of rubble on reactor building roof completed (Oct)

- Unit 4: Fuel removal from spent fuel pool and transfer to common pool started (Nov)
- Test operation of multi-nuclide removal equipment (ALPS) started (Mar)

➢ First commercial fishing resumed in Fukushima offshore

Snow crab

Yanagi octopus

Japanese flying squid

➢ First normal rice growing resumed in previously restricted areas

Photo: Paddy fields in Tamura City
(Shooting date: June 4, 2013)

Referenced from: https://www.meti.go.jp/earthquake/nuclear/osensuitaisaku/committtee/takakusyu/pdf/003_04_00.pdf

Referenced from: https://www.pref.fukushima.lg.jp/uploaded/attachment/266089.pdf

Referenced from:
https://www.mext.go.jp/b_menu/shingi/chousa/kaihatu/016/shiryo/__icsFiles/afieldfile/2013/09/10/1339417_1_2.pdf

Progress of Reconstruction (2014～2015)

Decommissioning Roadmap

Period up to start of fuel removal → Period up to start of fuel debris retrieval → Period up to start of end of decommissioning

2014 — 2015

- Unit 4: Fuel removal (1,535 assemblies) from spent fuel pool completed (Dec)

- Sub-drain pumping and discharge started (Sep)
- Sea-side impermeable wall closed (Oct)
- Unit 3: Removal of large rubble (fuel handling machine) from spent fuel pools completed (Aug)

➢ Evacuation order lifted for the first time in some areas (Tamura City)

Reopening of school

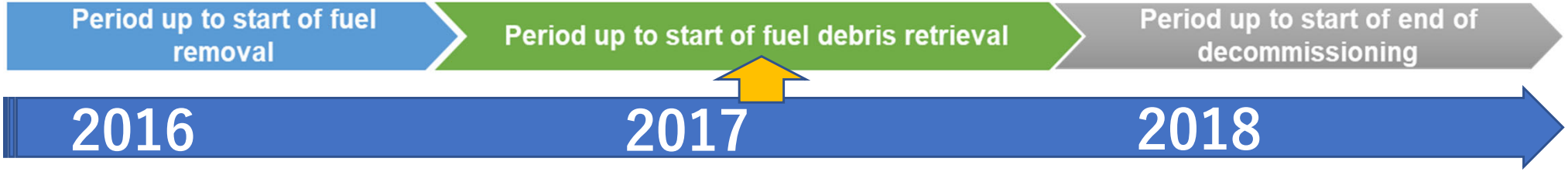
Referenced from:
https://www.reconstruction.go.jp/portal/chiiki/2014/20140421100603.html?index_no=0

➢ Joban Expressway is fully reopened (major arterial road in the disaster area)

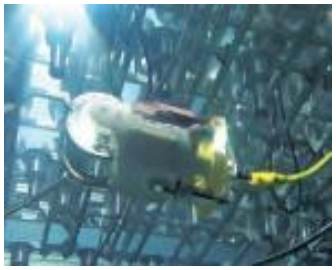
Referenced from:
https://www.reconstruction.go.jp/portal/chiiki/2015/20150319152955.html?index_no=0

Progress of Reconstruction (2016～2018)

Decommissioning Roadmap



- Unit 1: Removal of wall panels of the building cover completed



- Unit3:Lower part of RPV surveyed (Jul)

- Frozen-soil land-side impermeable wall Completed. 5–6 m gap in groundwater level created on the mountain side
- Generation of contaminated water reduced to one-third of the amount before (from 540 m3 to 170 m3/day)

➢ Fukushima Robot Test Field in service

(fully opened in 2020 after a phase-in)

➢ J-Village reopened

(fully opened in 2019)

Referenced from: https://www.facebook.com/robottestfield/photos/pb.100063135885143.-2207520000../335919594999936/?type=3

Progress of Reconstruction (2019～2021)

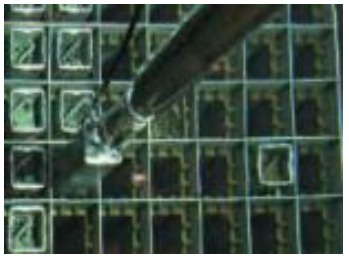
Decommissioning Roadmap

Period up to start of fuel removal | Period up to start of fuel debris retrieval | Period up to start of end of decommissioning

2019 2020 2021

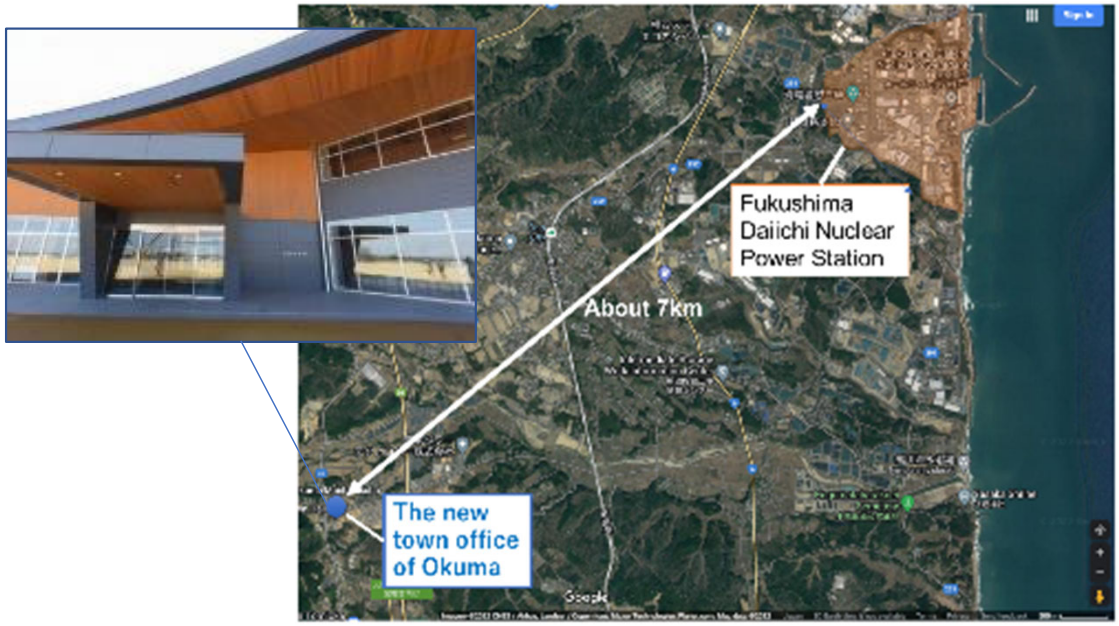
- Unit 3: Fuel removal from spent fuel pool started (Apr)

- Complete the treatment of stagnant water in buildings
- Generation of contaminated water reduced to 140 m3/day



- Unit3: Removal of all 566 fuel assemblies completed (Feb)

- Evaluation order partially lifted in Okuma Town where the Fukushima Daiichi NPS is located, allowing municipal services to start at a new town hall building



- Fukushima Hydrogen Energy Research Field opened

Referenced from:
https://www.nedo.go.jp/news/press/AA5_101293.html

3. Next Step

Next Step ①

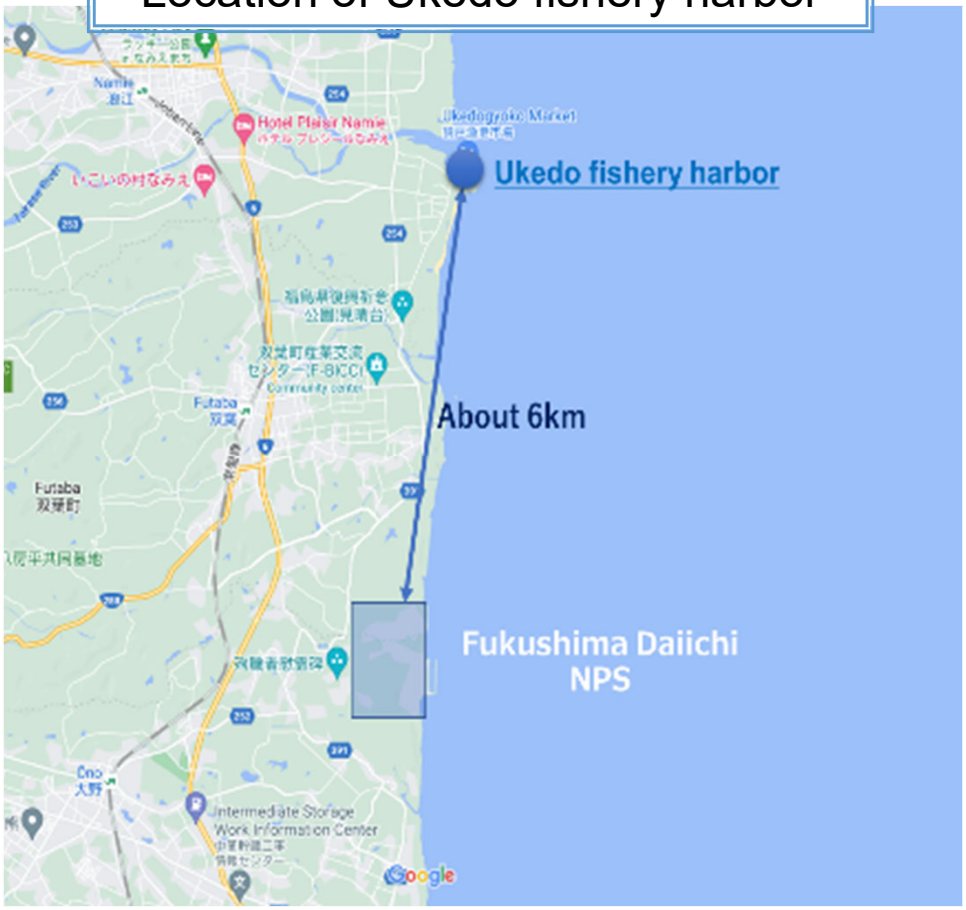
Revival of Ukedo fishery harbor

- Industries including fisheries are also revitalized. Fish auction in the Ukedo fishery harbor, 6 km far from Fukushima Daiichi NPS was resumed in April 2020.
- The restoration of the fishery harbor was completed in November 2021.

Auction at Ukedo fishery harbor

Ukedo fishing harbor New Year's Departure Ceremony

Location of Ukedo fishery harbor

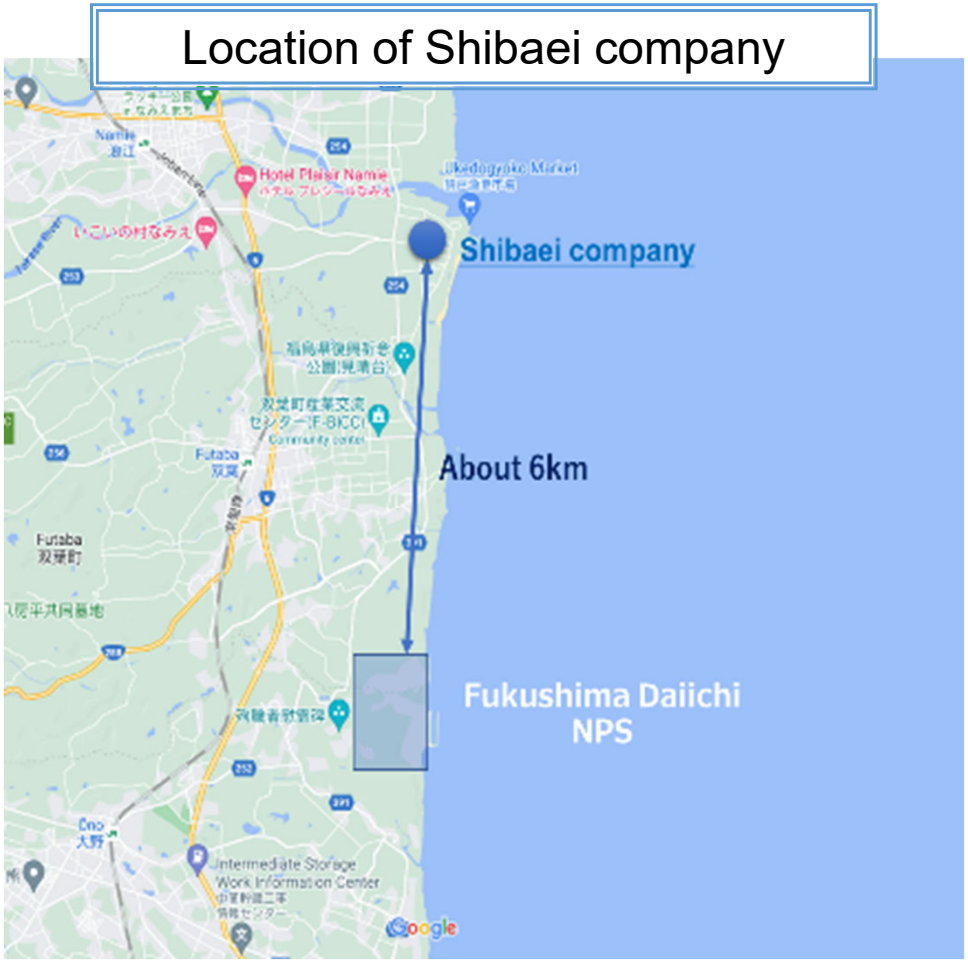


Referenced from: Namie Town Website https://www.town.namie.fukushima.jp/

Next Step ②

Marine product processing Industries

- A marine product processing company, Shibaei, resumed its business in 2020. The new factory was constructed nearby Ukedo harbor in February 2020.



Referenced from: https://www.reconstruction.go.jp/s/2022/08/20220810100705.html
Referenced from: https://www.reconstruction.go.jp/s/2020/12/20201221164938.html

Next Step ③

Revival of Tradisional Sakura Festival and Gathering People

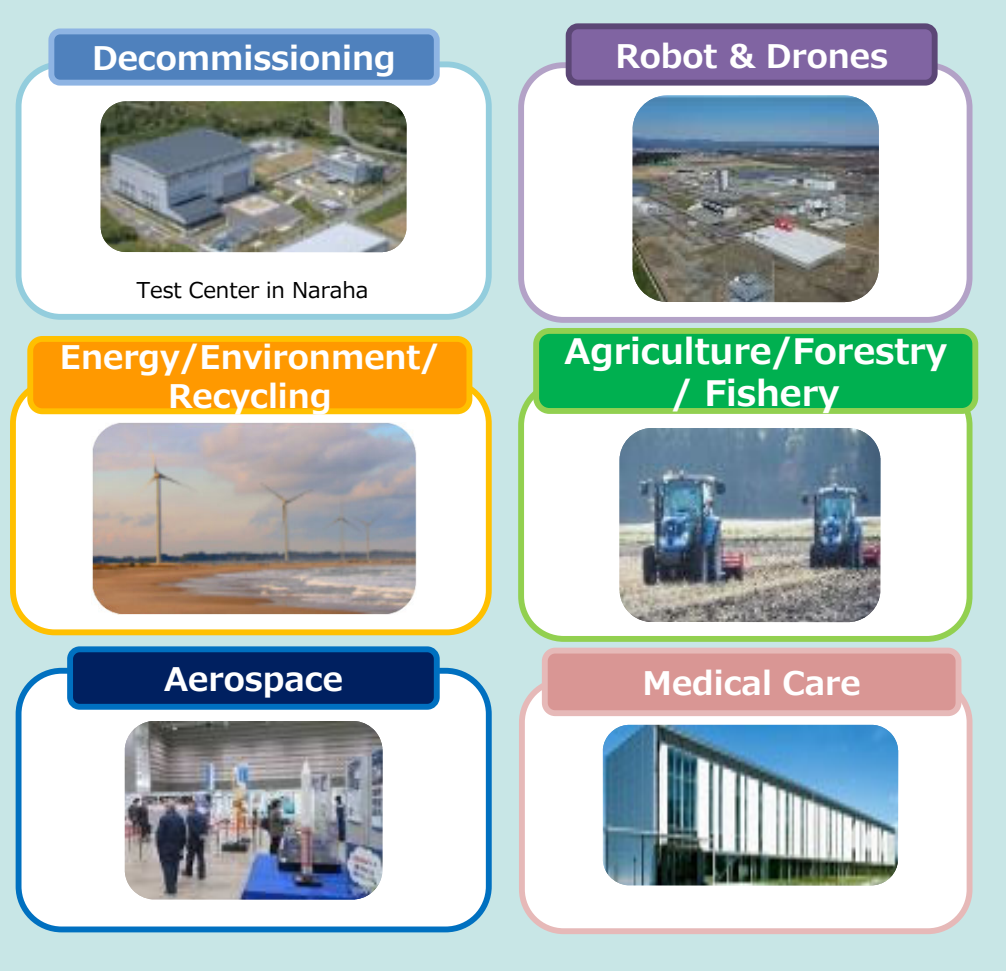
- In April 2022, Yonomori Sakura Festival was held in Tomioka, another town near the Fukushima Daiichi NPS.
- A row of beautiful cherry blossoms trees was loved by many people.

Referenced from: https://www.tomioka-town.jp/soshiki/kikaku/kochokoho/sakura/index.html

Next Step ④

Promoting New Industries and Innovation (the Fukushima Innovation Coast Framework)

- According to the new policy concept, GoJ aims to create new industries (6 areas) and innovation in the coastal Fukushima (Hamadori).
- GoJ establish new research institute in coastal Fukushima in Arpril 2023.



Fukushima Institute for Research, Education and Innovation（F-REI）

Functions

(1) Research and development

① robotics
② agriculture, forestry and fisheries
③ energy
④ radiation science
⑤ collection/dissemination of knowledge/ data related to the nuclear disaster

(2) Human resources development

- Promote human resources development for graduate students, etc.
- Cooperation with international organization

Referenced from: https://www.reconstruction.go.jp/topics/main-cat1/sub-cat1-21/20210202160535.html

Next Step ⑤

Fukushima Institute for Research, Education and Innovation (F-REI) aims to become a **world-class, core center for creative reconstruction**, embodying people's **hopes and dreams for realizing the reconstruction of Fukushima and other parts of the Tohoku region**, **driving Japan's scientific and technological capabilities and industrial competitiveness**, and contributing to **economic growth and the improvement of people's lives**.

Fukushima Institute for Research, Education and Innovation (F-REI)

Special legal entity under the Act on Special Measures for the Reconstruction and Revitalization of Fukushima

※To be established in April 2023

World-class researchers from Japan and abroad

Research Themes

【①Robotics】

Drones

Remotely operated robots

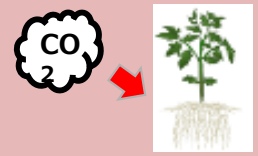
【② Agriculture, forestry and fisheries 】

Demonstrations on automated production systems

Identification and application of useful resources

【③Energy】

Development and demonstrations of hydrogen energy networks



Negative emissions technology

【④ Radiation science, medicine and drug development, industrial applications for radiation 】

Cancer treatment with new RI drugs

Ultra-large X-ray CT machine (Monozukuri DX)

【⑤ Collection and dissemination of data and knowledge on nuclear disasters 】

Research on the environmental dynamics of radioactive substances

R&D | **Industrialization** | **Human resources development** | **Command post**

urban and community development

Thank you for your support for Fukushima

More info from here

https://www.meti.go.jp/english/earthquake/index.html