Development of International Education and Research Center

[Decision by the Reconstruction Promotion Council on Dec 18, 2020]

Background considerations

○ **Promotion of the Fukushima International Research and Industry Development Project (Fukushima Innovation Coast Framework)**

The development of an international academic-industrial collaborative center was proposed (Report by the Study Group on the Fukushima Innovation Coast Framework, June 23, 2014) to create innovation and build a new industrial foundation in the Fukushima Hamadori area. To date, key projects, including the Fukushima Robot Test Field (fully opened in March 2020) and other related centers, have taken shape and activities for industrial clusters are being promoted in succession.

○ **Expert Meeting on International Education and Research Centers in Fukushima Hamadori Area: Final Summary (June 8, 2020)**

Specific proposals were presented on the functions, research fields, organizational structure and human resources development for the international educational and research center based on the eighth proposal by the LDP and Komeito (August 5, 2019) and the "Basic Guidelines for Reconstruction in Response to the Great East Japan Earthquake After the Reconstruction and Revitalization Period" (Cabinet decision, December 20, 2019).

○ **Basic Policy on Economic and Fiscal Management and Reform 2020 (July 17, 2020), 9th proposal by the LDP and Komeito (September 9, 2020)**

The government confirmed its plan to have a draft proposal for an international education and research center by the end of the year in the Basic Policy 2020. The ninth proposal by the LDP and Komeito recommended the new establishment of an international education and research center as a priority policy issue.

1. Purpose of establishing an international education and research center

In light of the provisions for the Fukushima Innovation Coast Framework positioned in the Act on Special Measures for the Reconstruction and Revitalization of Fukushima, the international education and research center will **conduct research and develop human resources that are essential for innovative reconstruction** as a **"core center for creative reconstruction"**, such as the restoration of the environment and creation of new industries, by concentrating knowledge from around Japan and abroad in the Fukushima Hamadori area, which suffered extensive damage from the nuclear disaster. The center will also **disseminate and share its experiences and achievements with the world** as part of Japan's responsibility to the international community as a country that has experienced disaster. Based on the knowledge gained through these activities, the center will be used to **strengthen Japan's industrial competitiveness** and **create innovation** to help find solutions to common problems in Japan and around the world.

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2. Functions of the new center

The new center will have the following research and development functions and human resources development functions of its own and its operations will be integrated with research facilities already in place (hereinafter referred to as “existing facilities”).

(1) Research and development functions

○ Conduct research that is essential for the creative reconstruction of Fukushima and will lead to the creation of innovation based on the knowledge gained through these activities. In addition to basic research, the center will address **issues that have been difficult to resolve in the conventional style of vertically-divided research at existing facilities** by newly **integrating technologies and methods in an interdisciplinary way, implementing research results in society and developing industries, which will lead to a transformation in industrial structures and social systems.**

○ The key research areas are expected to include (1) robotics, (2) agriculture, forestry and fisheries, (3) energy, (4) radiation science, and (5) collection and dissemination of data and knowledge related to the nuclear disaster. Research areas will be further shaped in alignment with the government’s overall scientific, technological and innovation policies.

(2) Human resources development functions

○ Promote human resources development for **graduate students**, etc. (use of graduate school collaborative system, other)

○ Promote **human resources development for primary, middle, and high school students and local companies, other**

○ **Gather and develop human resources responsible for R&D and verification** by utilizing the world’s most advanced human resources in other research institutions.

3. Organizational structure of the new center

○**The government will be responsible for establishing a new corporate body,** which will be **considered based on the structure of a national research and development agency.**

○The content of research at the new center will be shaped by a **system with the participation of the Reconstruction Agency and other related ministries and agencies**. The **structure of the new corporate body will be decided by the fall of 2021** with the arrangement of existing facilities in accordance with the following policies.

- Consider existing facilities without providing sanctuary. Seek synergistic effects and pursue integration to the extent possible based on arrangements for research content between the new center and existing facilities.
- Establish command tower functions to coordinate with and provide instruction to existing facilities that will not be integrated with the new center.
- Establish systems to promote collaboration with universities, local governments and private companies, etc.
- Consider ways to ensure long-term and stable operation of the new center in terms of budget, staff, etc.

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4. Development of research environment, collaboration with the local community

○Promote effective research by **maximizing the use** of the Fukushima Robot Test Field and **other demonstration fields**. Promote the **development of special regulatory measures** to enable demonstrations that cannot be performed in other regions, when necessary.

○Create an environment to promote **data-oriented research**, including the accumulation of research and verified data, and develop systems to **support digital transformation**.

○Promote the development of an appealing research environment where promising **young and female researchers** can easily play an active role and build human resource development systems that will be advantageous to them in their **future career paths**.

○Promote **active investment** from industries and related **private companies**. Develop **organizations to collaborate closely with local companies, local governments and a variety of other groups**.

○Promote **urban development in relation to the new center** and a **research environment linked to this** in order to concentrate human resources from universities, research institutes and companies from Japan and abroad.

5. Location of the new center

○Select site for the new center from the areas where evacuation orders had been issued, and based on linkages with existing facilities, living environment, transportation access, and the intentions of participating universities and companies and in respect to the opinions of local governments.

6. Future timetable

○Formulate **basic plan for the new center in fiscal 2021.**

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＜Examples of potential research content＞

【Robotics】

- Research on the development, demonstration, and collection of data for remotely-operated robots and disaster robots that can be deployed not only at decommissioned sites, but also in a variety of harsh environments (space, deep sea, etc.), as well as sites experiencing labor shortages.
- Research on standardizing safety standards and operational systems for drones and other devices utilizing the demonstration environment of the Fukushima Robot Test Field, other

【Agriculture, forestry and fisheries】

- Empirical research on smart agriculture for large-scale tracts of land using robot technologies at the new center in a demonstration-oriented environment under various unconventional conditions in line with policies and measures to consolidate and largely partition farmland, as well as research on the development of ICT for the entire food chain to dispel harmful rumors.
- Research on the cultivation and processing of crops that can simultaneously restore the environment and produce raw materials for bio-products, etc., as well as research on production technologies for bio-products, other.

【Energy】

- Research for the social implementation of innovative technologies, including those using hydrogen and for recycling storage batteries, which will result in the achievement of carbon neutrality and serve as the basis for new urban development and energy systems.
- Research on the cultivation and processing of crops that can simultaneously restore the environment and produce raw materials for bio-products, etc., as well as research on production technologies for bio-products (also listed under “agricultural, forestry and fisheries”), other.

【Radiation science】

- Research on the production of useful radioisotopes from radioactive waste for use in medical science, including diagnoses and drug developments, by utilizing radioactive material analytical technologies, and research on the application of radiation imaging technology to diagnostic imaging technology, other.

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

- Social science research on the integrated and long-term collection of various types of data, knowledge and lessons learned from the national and local governments, universities, companies and other organizations on the accident at TEPCO’s Fukushima Daiichi Nuclear Power Station, decommissioning, environmental impacts, reconstruction and other issues, effective methods of disseminating information to dispel harmful rumors, and risk communication, other.