

Basic Concept for Safe Use of Removed Soil Processed into Recycled Materials

- The Ministry of the Environment (MOE) released "Basic Concept" in June 2016 to realize the **use of the removed soil under proper management** after volume reduction and recycling materialization on the premise of securing radiation safety.
- According to a policy of Basic Concept, MOE implements demonstration and model projects, confirms radiation safety, studies specific management systems, while fostering understandings of public all over Japan and developing an environment towards full-scale recycling.

Limited Use

- ✓ The use of contaminated soil is to be limited to public project whose management entity and responsible system are clear such as basic structure of banking, which assumed not to change shape artificially for a long time.
- E.g., coastal levees, seaside protection forests, embankment materials for roads, cover soil for waste disposal sites, landfill materials and filler for land development, and farmland for flowers and resource crops

Proper Management

- ✓ The additional exposure dose should be restricted below 1 mSv/y during the construction.
- ✓ Radioactivity concentration recycling level of Cs-137 included in the soil is below 8,000 Bq/kg as a principle, and is set separately for each use.
- ✓ Shielding is installed to cover soil and prevent the leakage and scattering. The data is also recorded.



Prepared by the Ministry of the Environment

With the aim of broadly obtaining understanding and trust of the public and local residents for recycling of the soil removed through off-site decontamination work in Fukushima Prefecture, and at the same time promoting safe use of removed soil processed into recycled soil by stage, the Ministry of the Environment (MOE) compiled the Basic Concept for Safe Use of Removed Soil Processed into Recycled Materials in June 2016. This Basic Concept imposes a limitation that processed removed soil be only used in public works, etc. where management entities and responsibility-related systems are clarified. It also sets the upper limit for radioactivity concentrations of recycled materials to limit additional exposure doses, while supposing that they are used under proper management, such as with shielding by cover soil.

At present, based on this Basic Concept, the MOE is implementing demonstration projects in Minamisoma City and Iitate Village to confirm the safety of processed removed soil. The results obtained so far through the demonstration projects have shown no significant changes in ambient dose rates or other values since commencing the projects, and measured values of radioactive cesium in seepage water through cover soil were all below the detection limit. In Minamisoma City, a trial embankment was created using recycled materials and radiation monitoring was conducted. As a result, data for over three years were obtained, and the embankment was removed in FY2021.

In Iitate Village, preparatory work for the development of farmland was commenced in June 2020 and creation of an embankment was commenced in April 2021. In the village, an experiment to grow edible crops has been conducted to confirm growth and safety. In the experiment in FY2021, measured concentrations of radioactive cesium in those edible crops were judged to be below the detection limit (The method of measuring radioactive cesium concentrations in foods specified by the Ministry of Health, Labour and Welfare sets the detection limit as less than 20 Bq/kg. As a result of continuing measurements until Cs was detected, all values were 0.1 to 2.5 Bq/kg, far below the standard limit for general foods (100 Bq/kg)). Additionally, since FY2021, a test to check functions of paddy fields has also been conducted.

For achieving final disposal outside Fukushima Prefecture, the national government has been holding dialogue forums nationwide since FY2021 or has otherwise been fundamentally strengthening activities to obtain public understanding for the need and the safety of volume reduction and recycling of waste.

MOE's website, "Interim Storage Facility": Demonstration Project for Recycling in Minamisoma City
<http://josen.env.go.jp/chukanchouzou/facility/effort/recycling/minamisoma.html> (in Japanese)

MOE's website, "Interim Storage Facility": Demonstration Project for Recycling in Iitate Village
<http://josen.env.go.jp/chukanchouzou/facility/effort/recycling/itate.html> (in Japanese)

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