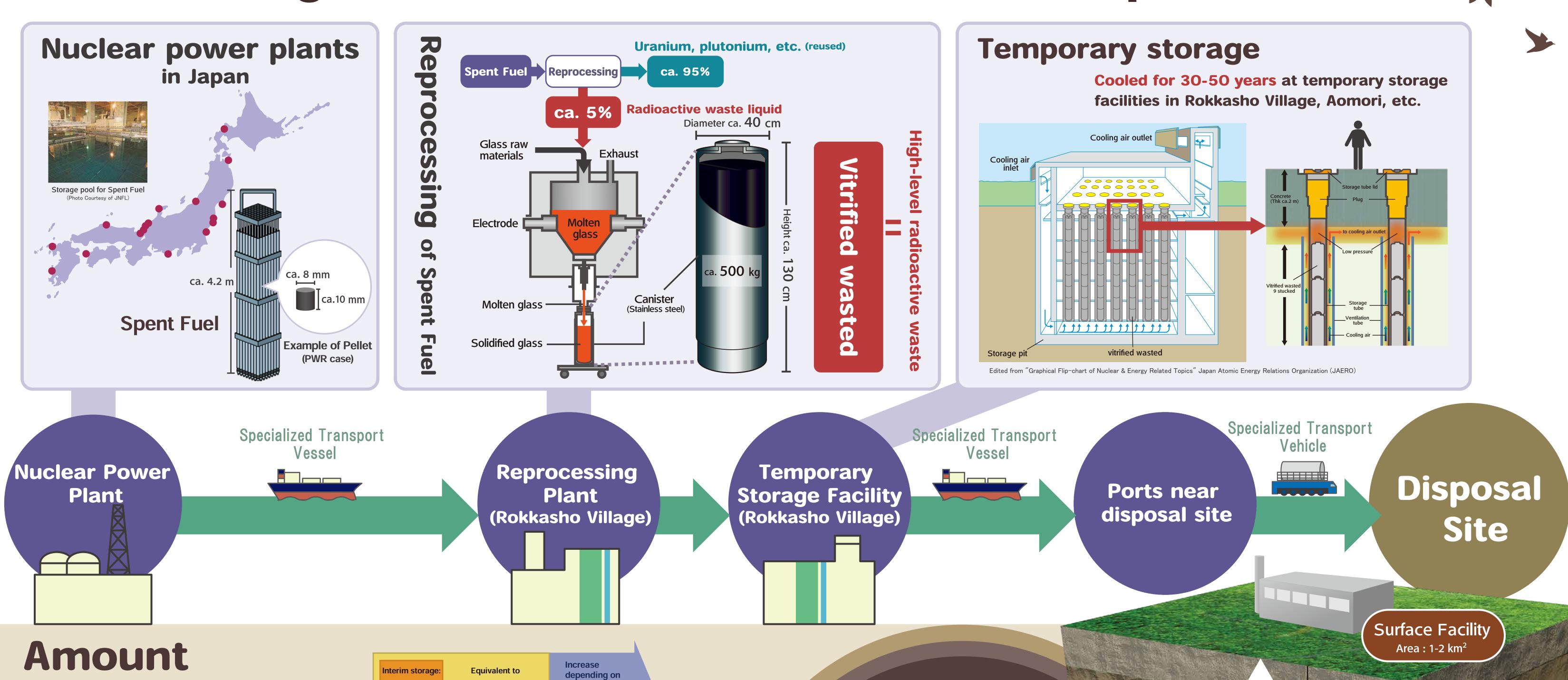
# Overview of the geological disposal project of high-level radioactive waste in Japan



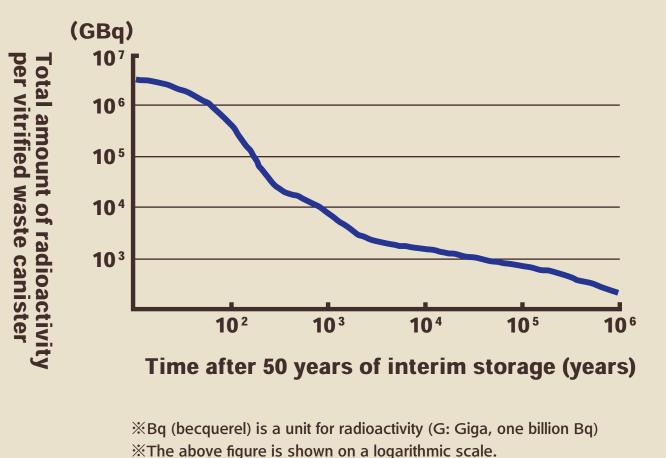


### of vitrified waste

If over 19,000 tons of spent fuel is reprocessed, the amount of vitrified waste, including that already reprocessed is equivalent to c.a. 27,000 vitrified waste canisters.

NUMO is planning a disposal facility with the capacity to be able to dispose of more than 40,000 vitrified waste canisters.

## Radioactivity decay of Vitrified waste

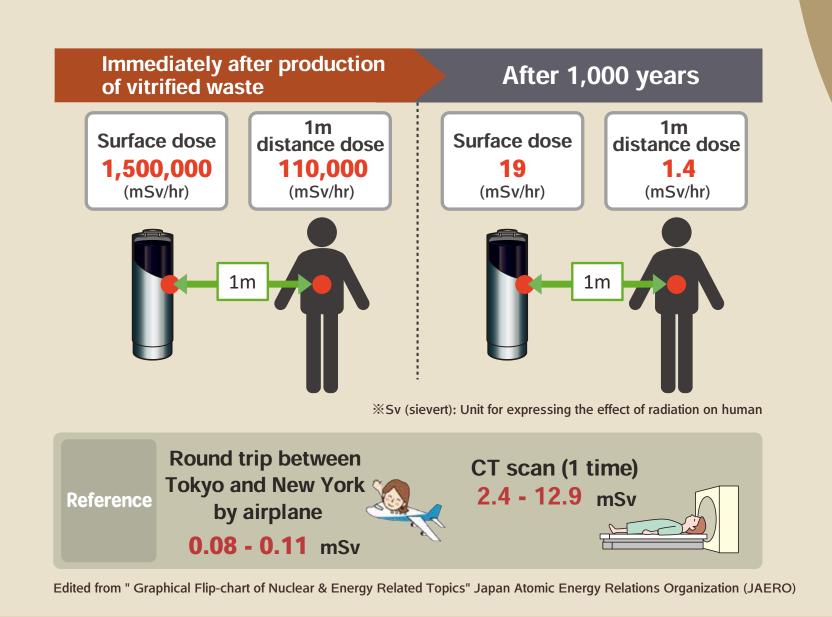


 2,530
 c.a. 27,000
 operation of Nuclear Power Plants

 (As of April 2024)
 Plants

= 100 Vitrified Waste Canisters

The radioactivity of vitrified waste decreases rapidly over time (more than 99.9% decay in 1,000 years.)

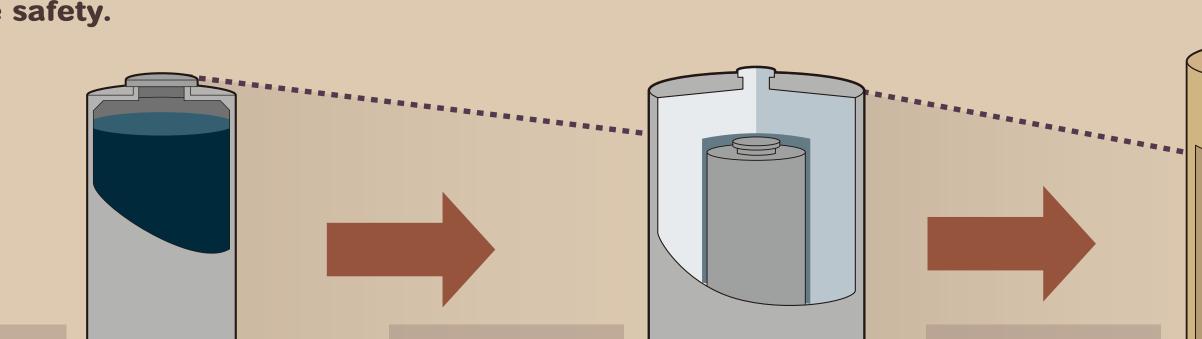


Engineered Barrier

System

## Method of Geological Disposal

The multiple barriers are constructed in deep underground rock mass (Natural Barriers), which has an isolation and containment function, with Engineered Barrier Systems (EBS) applied to increase safety.



## Geological disposal

Vitrified waste is disposed of in a stable deep underground, isolated from human life environment and radionuclides are contained.

**Natural Barrier** 

(Rock mass)

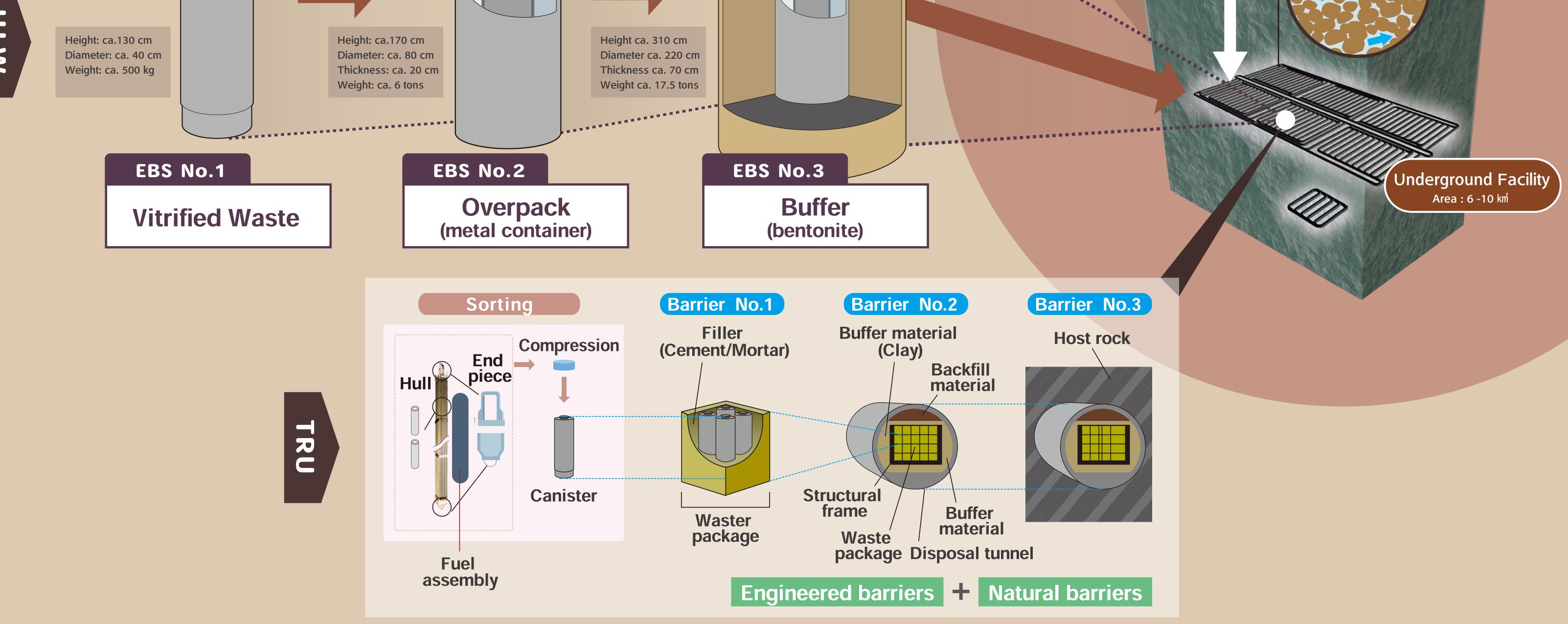
More than 300 m



Near the ground surface

Large pore spaces, faster ground water flow

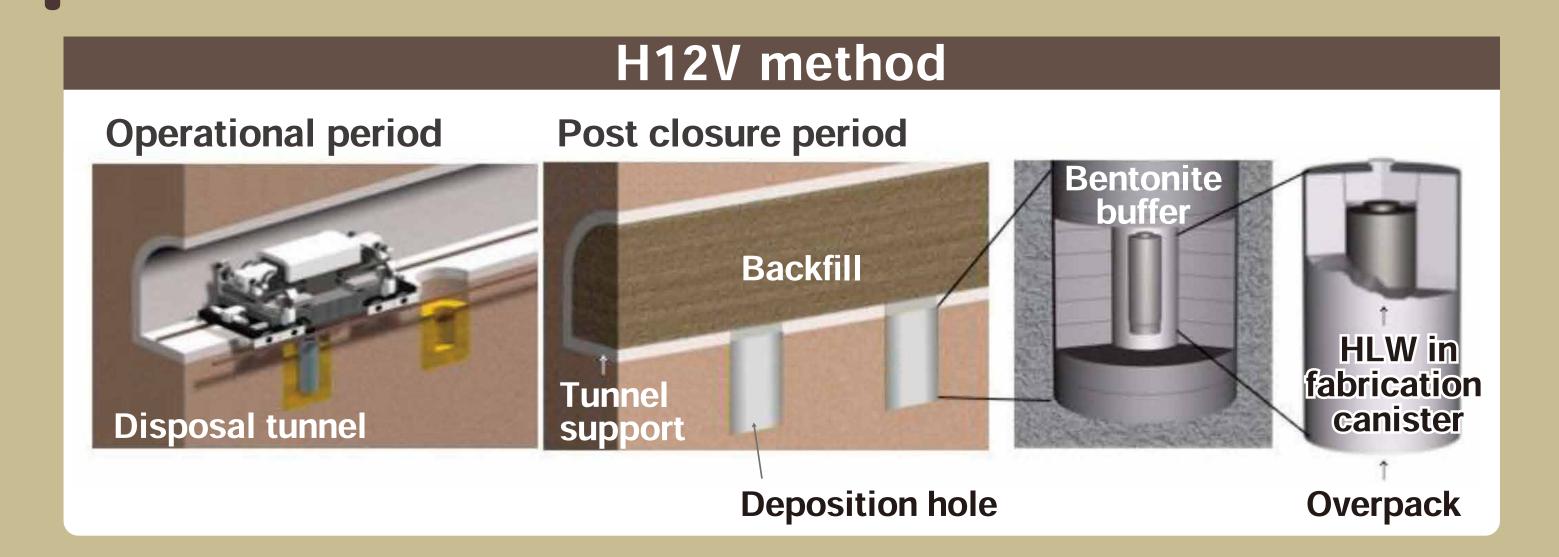
Deep underground - Isolated from biosphere Isolation Isolati

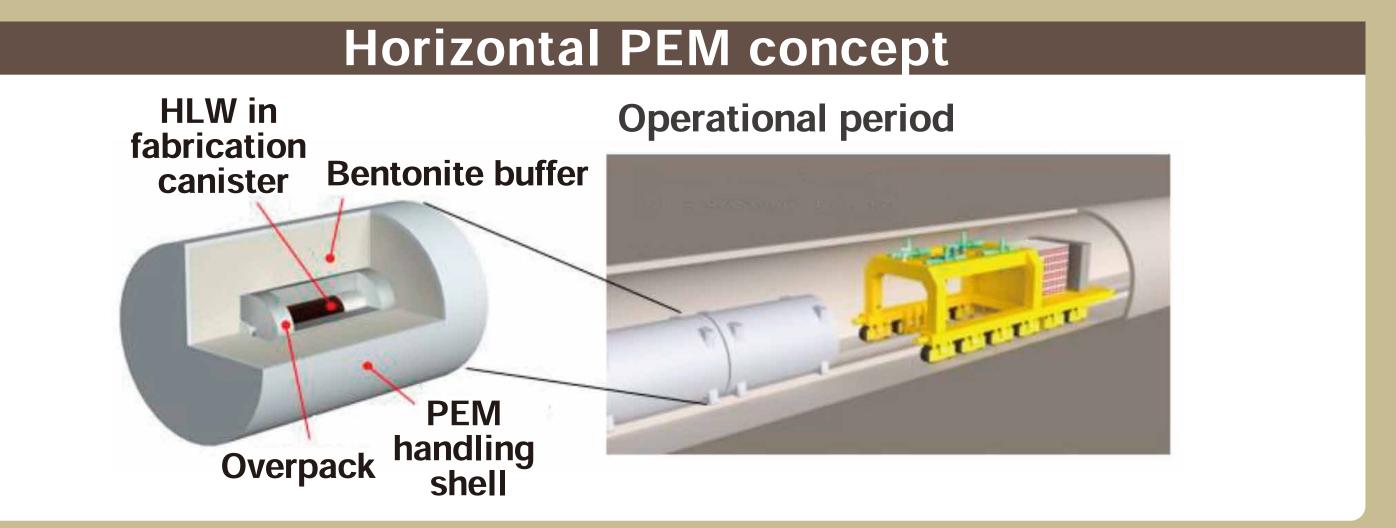


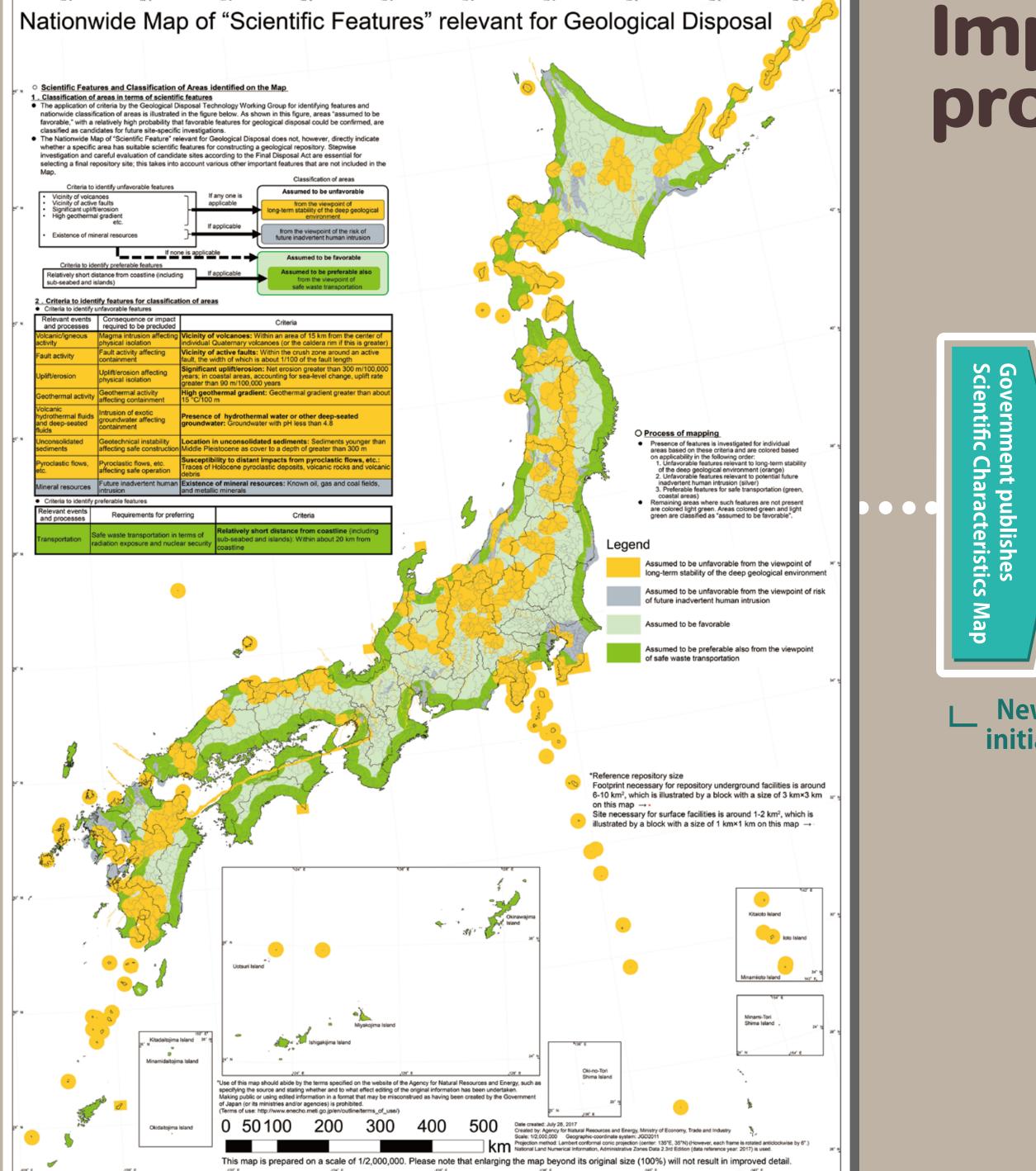
Multiple barrier system

+

## **Options** for disposal

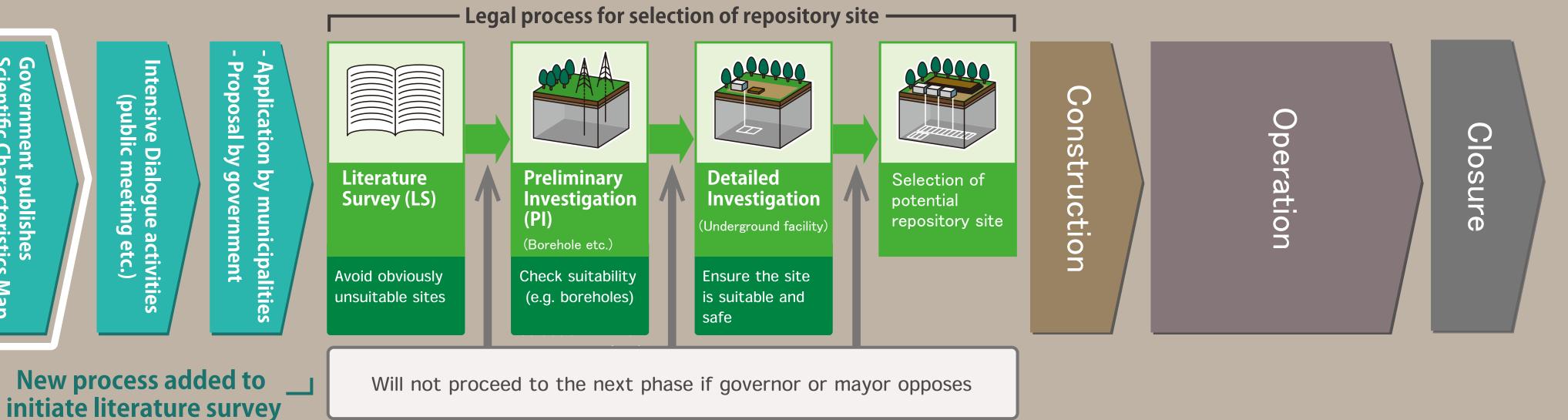


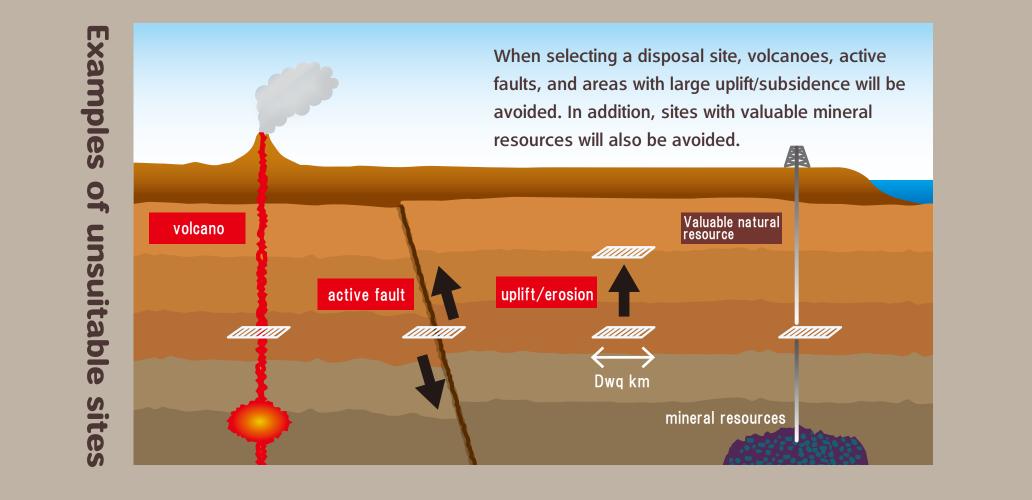




## Implementation process

Geological disposal will be implemented based on the Final Disposal Act, and a disposal site will be selected after a step-wise investigations processes. The site investigation and selection will take about 20 years, and more than 100 years is required if the construction, operation, and closure of the repository are also included. It is the responsibility of the current generation to proceed geological disposal so as not to postpone the burden to future generations. In July 2017, "Scientific Characteristics Map" was published by the Agency for Natural Resources (ANRE) of Energy Ministry of Economy, Revised April 2024





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#### NUMO Web Page

https://www.numo.or.jp/

Project overview and technological development related to geological disposal, etc. are introduced. You can also view the latest information on events and other activities.

