

# Current Status and Issues on Radioactive Waste Disposal in Republic of Korea

- I. Milestones of Radioactive Waste Management
- II. Status and Issues on LILW Disposal
- III. Status and Issues on HLW Disposal

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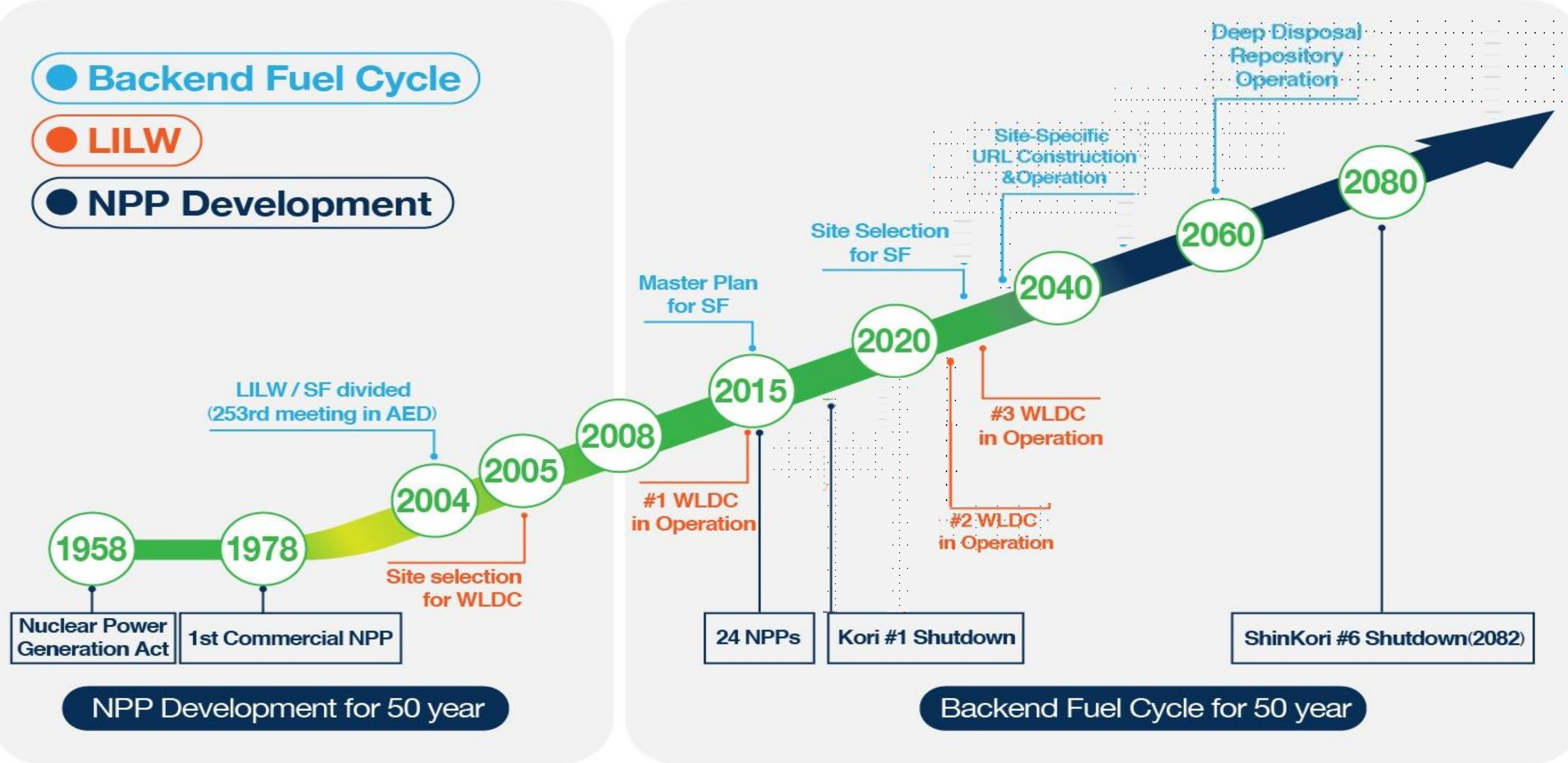


# I. Milestone of Radioactive Waste Management

● Backend Fuel Cycle

● LILW

● NPP Development



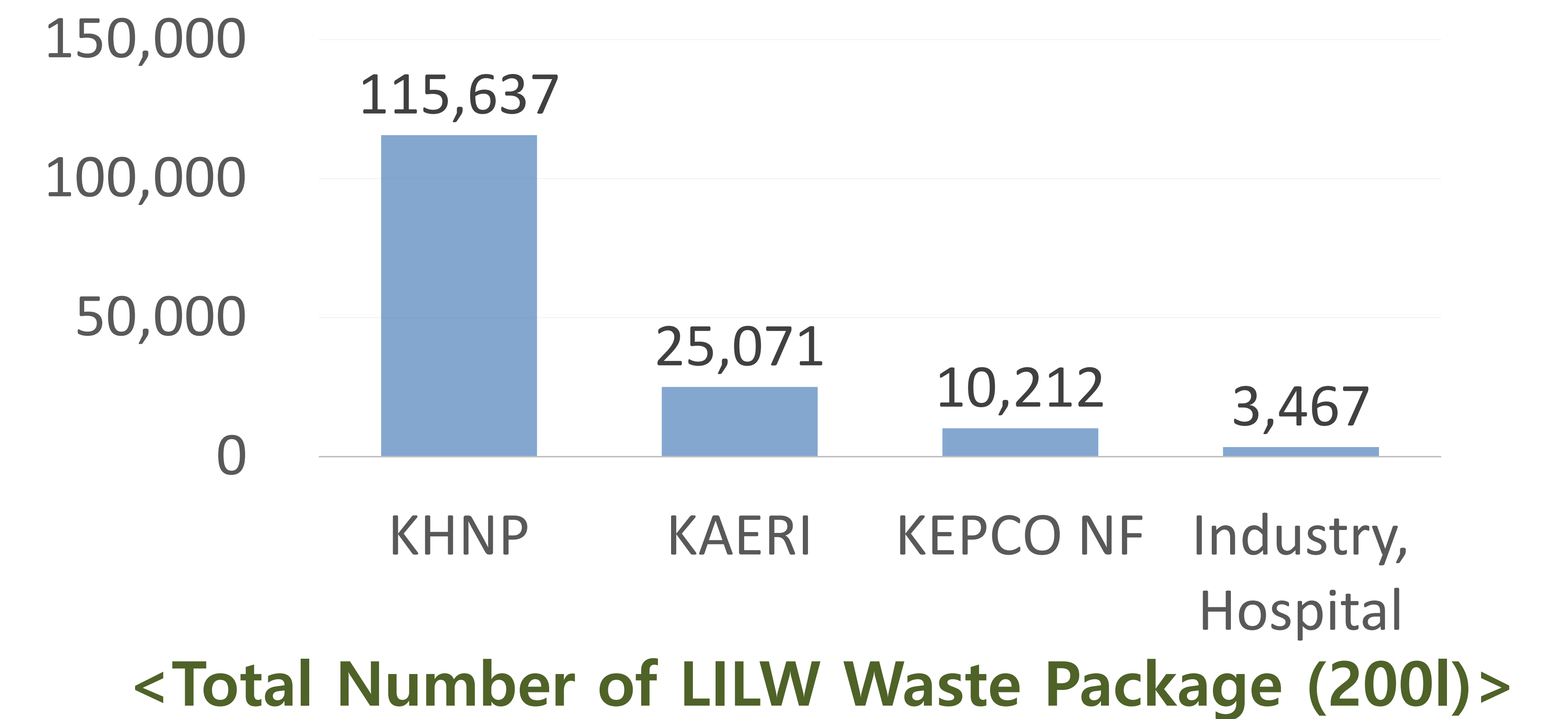
NPP Development for 50 year

Backend Fuel Cycle for 50 year

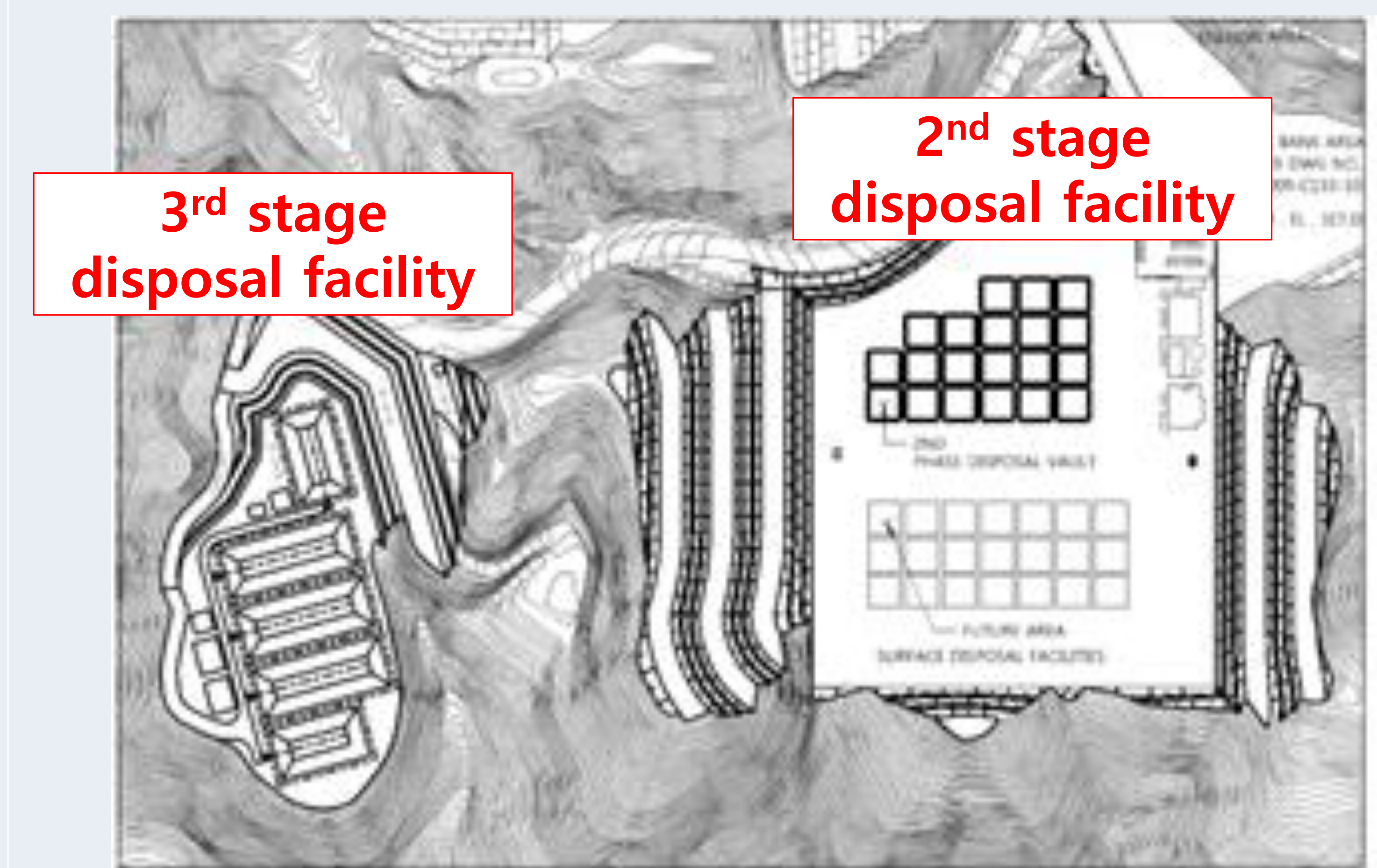
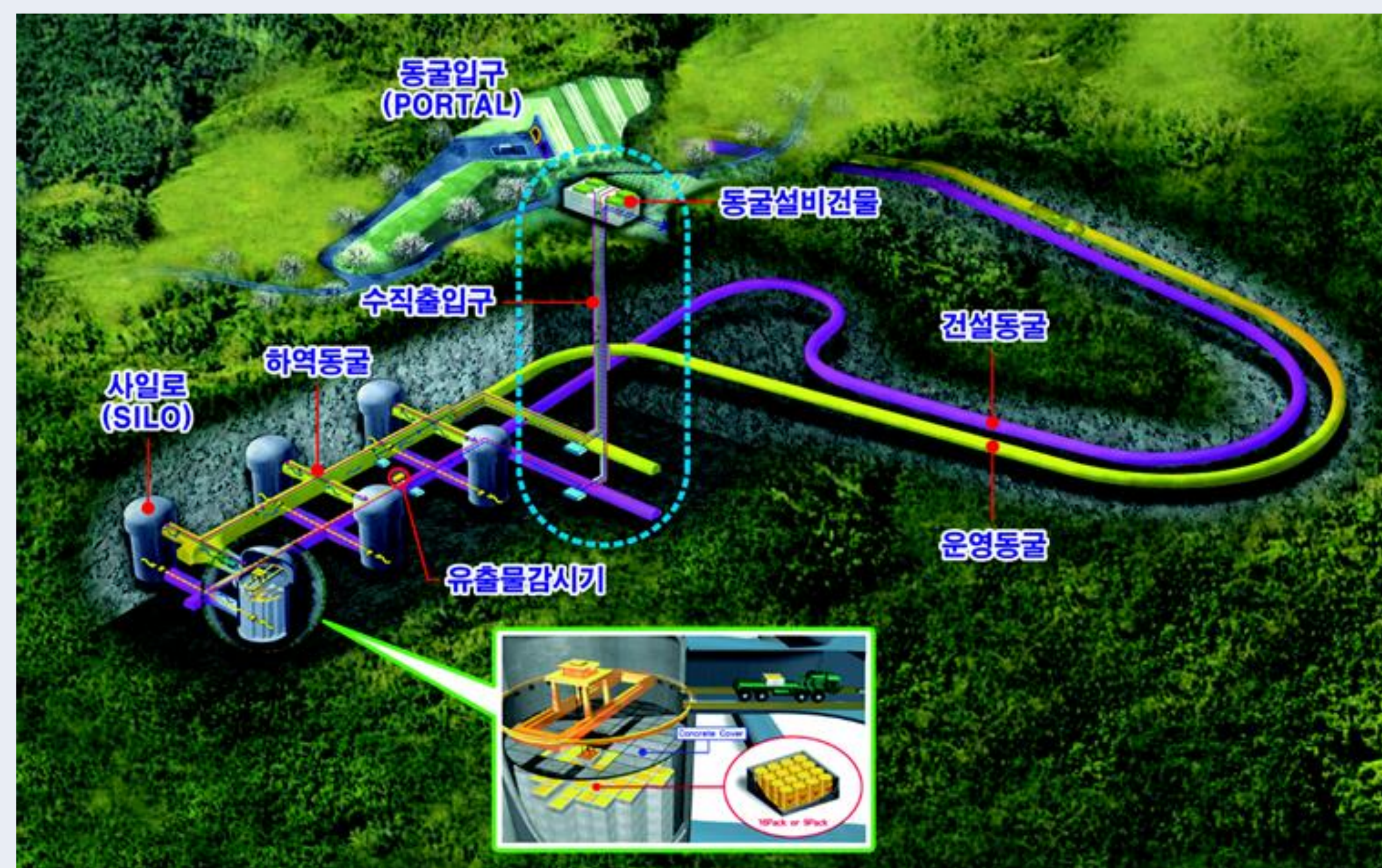


## II. Status and Issues on LILW Disposal

- ✓ Management Volume of LILW (Sep. '22)
  - Total LILW Generation (KHNP, KAERI, CEPCO NF) : 154,387 (100.0%)  
(Number of Waste Package, 200l)
  - Total LILW Acceptance at Disposal Site : 30,206 (19.5%)
  - Total LILW Disposed at 1<sup>st</sup> Facility : 25,578 (16.5%)
- ✓ LILW Disposal Facilities, KORAD (Gyeongju)



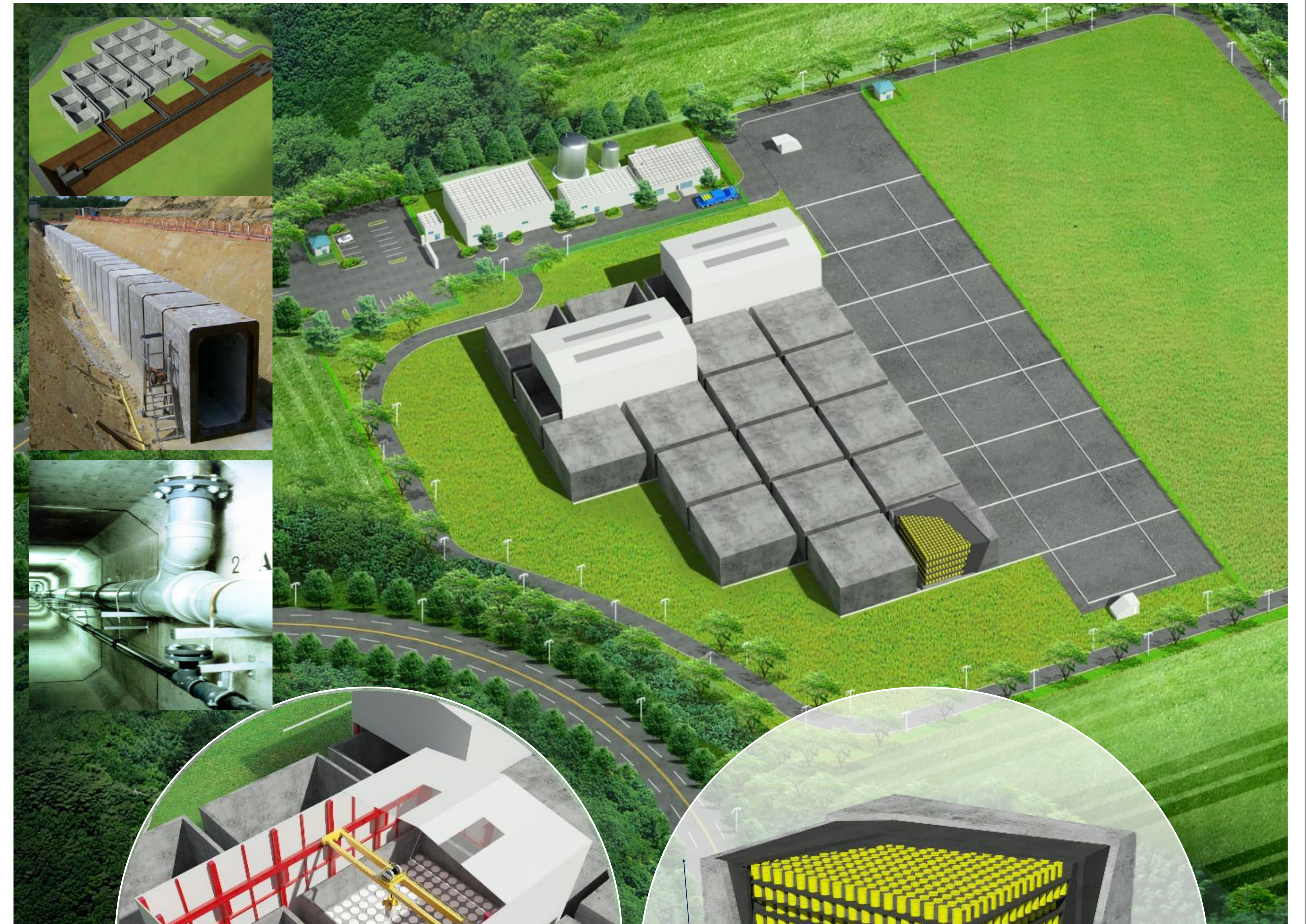
1 <sup>st</sup> Stage LILW Disposal Facility	2 <sup>nd</sup> Stage LILW Disposal Facility	3 <sup>rd</sup> Stage LILW Disposal Facility
<ul style="list-style-type: none"> <li>• In Operation ('15~)</li> <li>• Capacity : 100,000 (Number of WP)</li> <li>• Less than Intermediate-level WPs</li> </ul>	<ul style="list-style-type: none"> <li>• Under Construction (July '22~Dec. '24)</li> <li>• Planned Operation (Jan. '25)</li> <li>• Capacity : 125,000 (Number of WP, 200l)</li> <li>• Less than Low-level WPs</li> </ul>	<ul style="list-style-type: none"> <li>• On Design (Trench type disposal)</li> <li>• Planned Operation from 2027</li> <li>• Capacity : 160,000 (Number of WP, 200l)</li> <li>• Less than Very Low-Level WPs</li> </ul>





## II. Status and Issues on LILW Disposal

### ✓ 1<sup>st</sup> and 2<sup>nd</sup> LILW Disposal Facility, KORAD (Gyeongju)



Disposal Vault



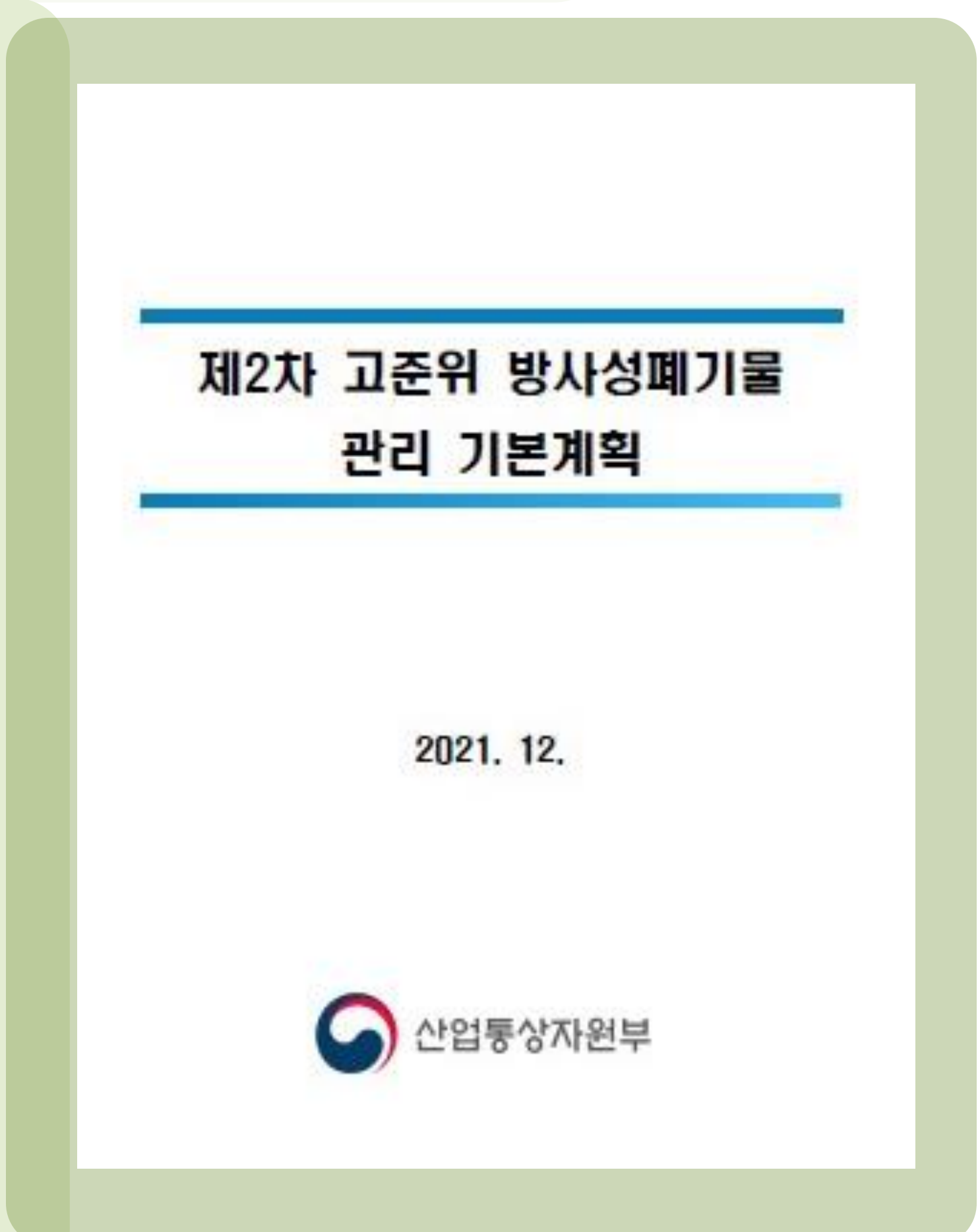
# III. Status and Issues on HLW Disposal

- ✓ The 2<sup>nd</sup> national master plan for HLW management(Dec. 2021)



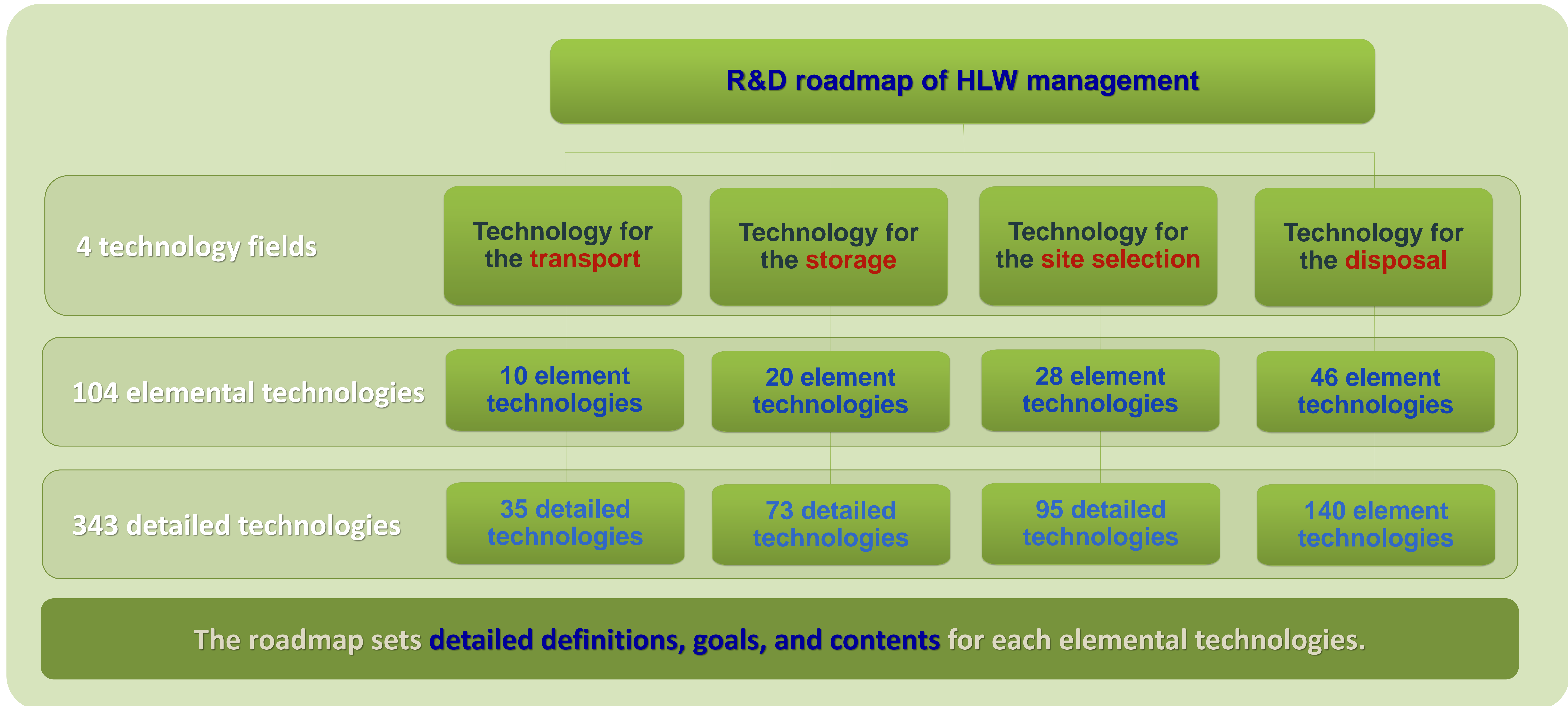
- ✓ R&D roadmap for national master plan (2022)

- Identification of all elemental technologies necessary for the entire management process to support the 2<sup>nd</sup> basic plan for HLW management
- Development of how to secure the technology from a mid- to long-term perspective that can ensure consistency and continuity
- Promoting the timely acquisition of necessary technologies for each stage of management
- Enhancement the reliability of policies and public acceptance and suggestions the ways to secure the technology for safe management of HLW



### III. Status and Issues on HLW Disposal

- ✓ 2022 R&D Roadmap for the 2<sup>nd</sup> national master plan(Dec.2021) of HLW management





### III. Status and Issues on HLW Disposal

#### ✓ Opinion Hearings for the domestic experts (July 2022)

- Background, Domestic & Overseas status of R&D, Introduction of developed roadmap
- Panel Discussions with online and offline questions

#### ✓ Major questions at opinion hearings (July 2022)

- ① According to 2<sup>nd</sup> basic plan, How the **technical interfaces between storage and disposal of HLW** are considered?
- ① **Detailed siting location of HLW management facility** including the centralized interim storage and the final disposal?
- ① In the roadmap, how the **safeguard issues** including both safeguards by design and security by design are considered?
- ① How does it considered the possible HLW that can be generated from **processing and reprocessing of SNF**?
- ① How it is considered for **public acceptance issues** before initiating the site investigation?





Thank you for your attention

