

# Nuclear Waste Repositories

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# Types of Nuclear Waste

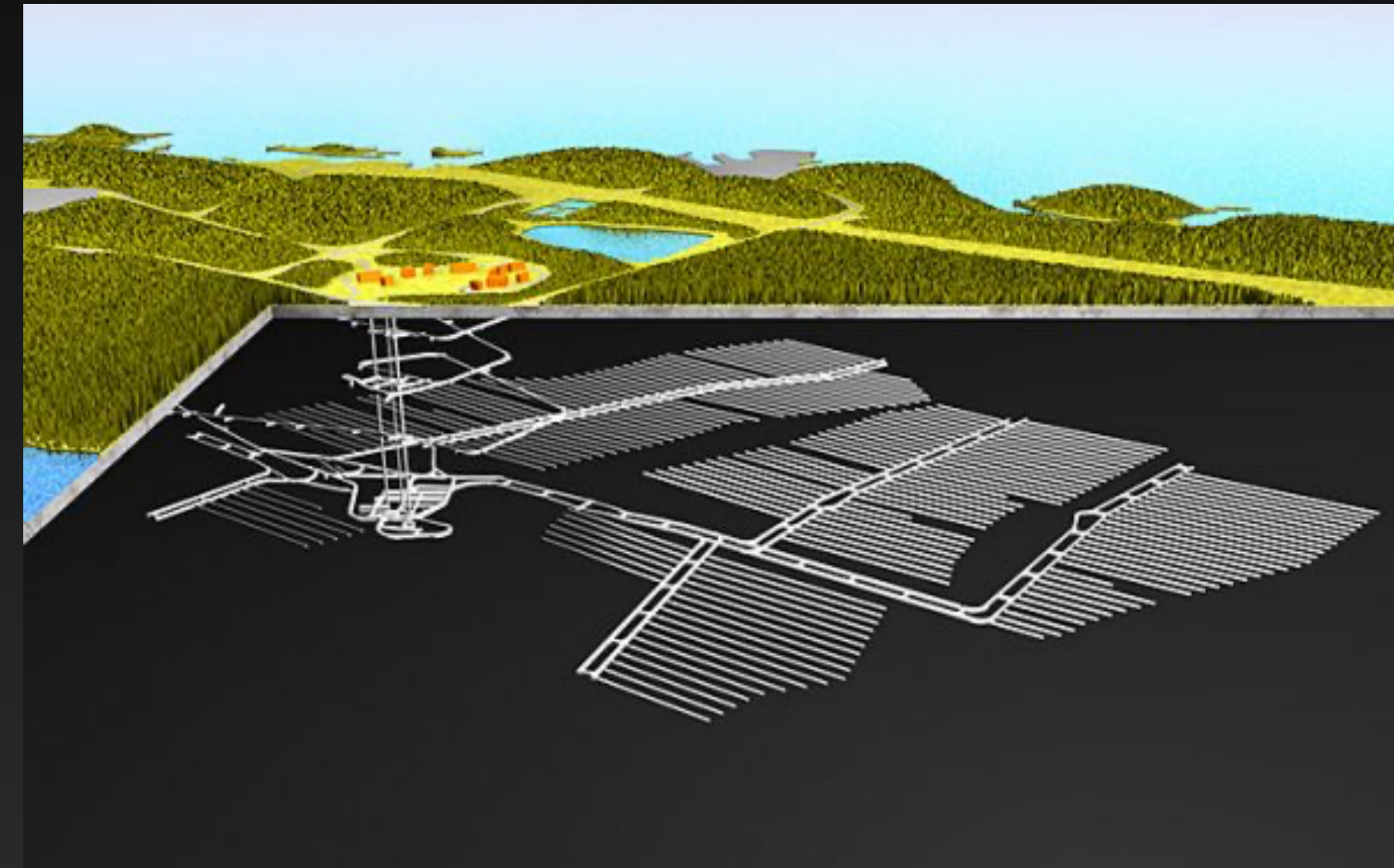
- **Low-level radioactive waste:** These types emit small amounts of radiation. Generally made up of waste from hospitals and radioactive facilities for medical use (X-ray and radiotherapy equipment).
- **Medium level radioactive waste:** Produced from mining activities and in the operation and dismantling of nuclear power plants and research organizations. They are deposited in steel drums that are then solidified with tar, resin or cement for transfer to the nuclear cemetery.
- **High-level radioactive waste:** They contain high concentrations of radionuclides. They come from the spent fuel of nuclear power plants. The storage of high-level nuclear waste is usually done underground, in pits dug deep in stable geological formations.

# Types of radioactive waste storage

- The storage of radioactive waste in repositories is intended to isolate it from the human environment. They are done by confining the waste. There are 3 types:
  - Geological storage
  - Temporary storage
  - Underwater storage

# Geological Storage

- Intended for high-level nuclear waste
- Depth between 100 and 500 meters
- Uses a system of multiple natural and artificial barriers
- In stable geological formations to secure it, as a leak can be extremely damaging.





# Temporary Storage

- A Centralized Temporary Storage Facility, or ATC for short, is a facility also intended for the medium and long-term storage of radioactive waste.
- Arranged at the surface or at a few meters of depth
- Storage of the toxic substance can be underwater, in so-called pools; or dry, through steel, copper, concrete, silicon or air-circulation vaults (depending on the material), or in containers made of steel, copper, concrete, silicon or air-circulation vaults (depending on the material).



# Underwater Storage

- The ocean was probably the most widely used nuclear repository by mankind to dispose of all radioactive material.
- From the 1950s to the 1980s, there are many ocean trenches converted into nuclear waste repositories.

