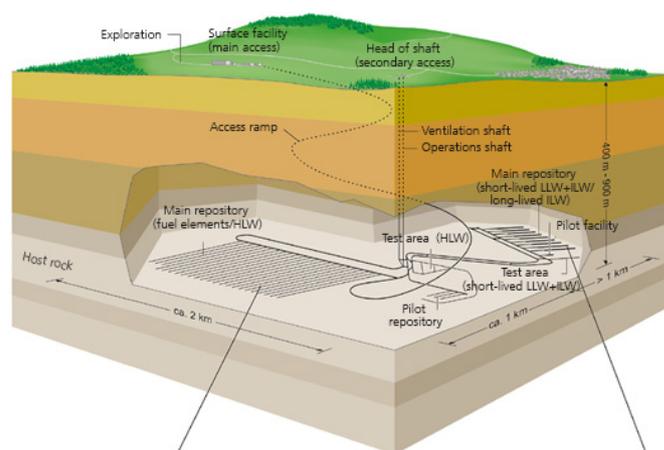


FACT SHEET

DEEP GEOLOGICAL REPOSITORY

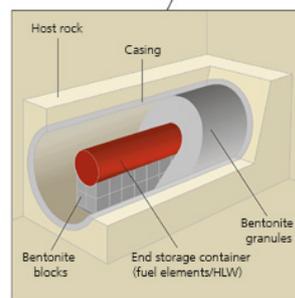
COMPONENTS OF A DEEP GEOLOGICAL REPOSITORY

Below the surface, a deep geological repository comprises test zones, a pilot facility and the main repository for the storage of the radioactive waste, plus the necessary access facilities on the surface. The purpose of the test zones is to demonstrate the various construction and operational processes of the facility, for example how to retrieve the waste if necessary. In the pilot facility, a small quantity of waste is deposited and the behaviour of the barriers is monitored. This way, any unfavourable developments can be detected at an early stage and the necessary remedial measures can be implemented. The main repository houses the type of radioactive waste for which the deep geological repository has been designed.

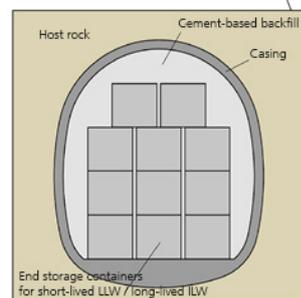


SAFETY WITH A MULTI-BARRIER SYSTEM

A considerable portion of the radioactive waste will decay within a few hundred years, i.e. within a period in which the containers are still intact. If after several hundred to a few thousand years the containers have disintegrated, the clay minerals in the bentonite in the backfill of the shaft absorb any substances escaping from the host rock and thus prevent or greatly slow down their release into the environment. The ideal host rock therefore has to possess favourable chemical and physical properties, prevent the circulation of water and gases to the greatest possible extent and be capable of repairing itself if fissures should occur. These properties are particularly prevalent in clayrich rock formations. Additionally, the host rock should have remained unaffected by tectonic disturbances during the course of the earth's history, be as widespread as possible in all directions and located at a favourable depth for the construction of the deep geological repository. In addition, it should be as uniform as possible and be readily explorable using the methods that are available today.



Storage tunnel (fuel elements/HLW)



Storage cavern for short-lived LLW / long-lived ILW

Radioactive waste stored in a deep geological repository is protected by both natural and technical barriers.

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Federal Department of the Environment, Transport, Energy and Communications
 DETEC — **Swiss Federal Office of Energy SFOE**, Disposal of Radioactive
 Waste section, Mühlestrasse 4, CH-3063 Ittigen — Postal address: 3003 Bern
 Tel. +41 (58) 462 56 11 — Fax +41 (58) 463 25 00
 sachplan@bfe.admin.ch — www.radioaktiveabfaelle.ch



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ILLUSTRATIONS

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