



Closed CHS system

Vertical **soil heat exchangers** are used when low thermal capacity is required or where the geological structure is not suitable.

This involves drilling bores that are then equipped with a single or double loop of polyethylene tubing carrying a circulating liquid. The liquid is heated or cooled by the subsoil and then pumped through the building to heat or cool the building.

Our strengths

- Delivering a complete solution (feasibility study, engineering, follow-up and maintenance).
- Many years of experience with boring and electromechanical expertise.
- Round-the-clock service.

Soil energy is a sustainable way to cool and heat buildings in an environmentally sound manner. The most commonly used form of soil energy is cold heat storage (CHS), which is based on the insulating properties of the subsoil. There are two types of CHS systems: open and closed. Underground energy storage is used for office buildings, hospitals, glasshouses, railway points heating, residential buildings and neighbourhoods.

Open CHS system

Thermal energy is stored in the ground using two or more **water pits**.

In the **summer** water at groundwater temperature (10 °C) is withdrawn from the cold pit. The water absorbs heat from the building via a heat exchanger and is injected into the warm pit at a higher temperature (16 to 25 °C).

In the **winter** water is withdrawn from the warm pit. After transferring heat to the building via the heat exchanger, the water is injected into the cold pit at a lower temperature (6 to 7 °C).

