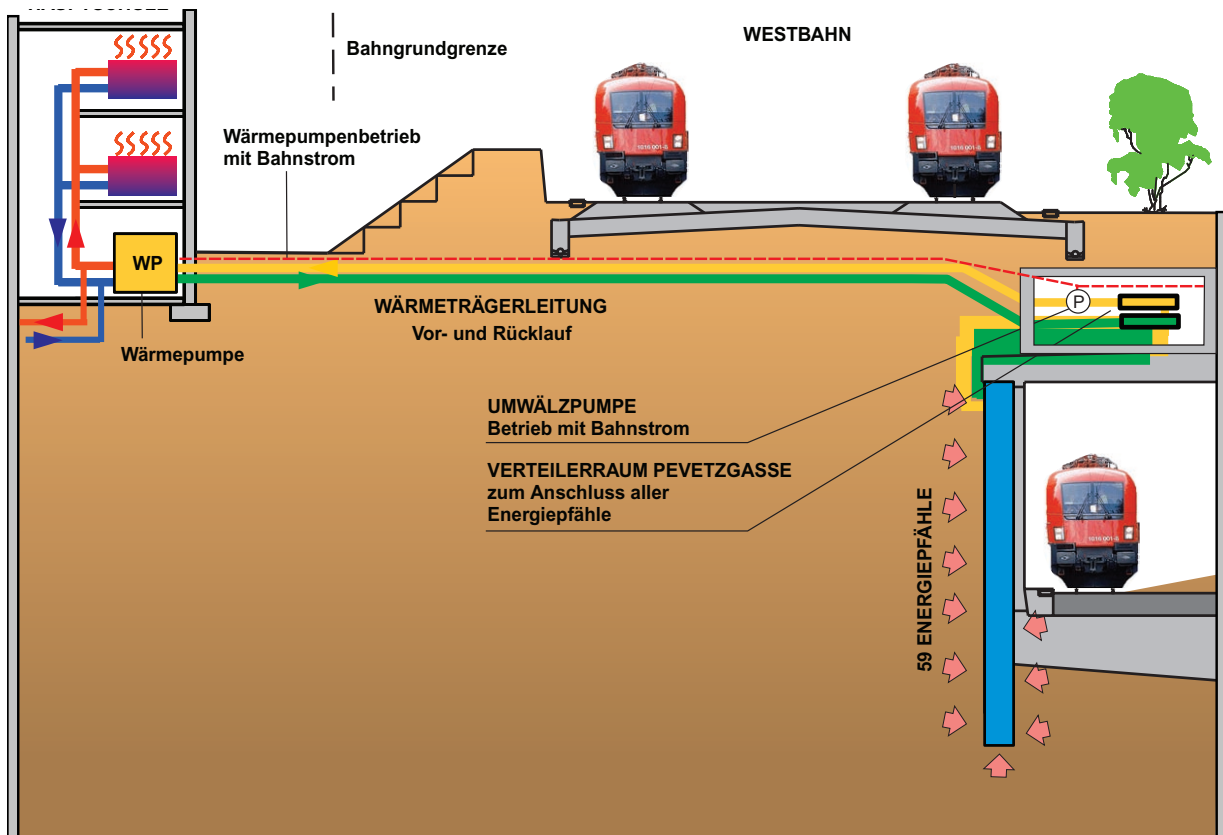


LAINZER TUNNEL

Use of a rail tunnel for harnessing geothermal energy



Client

HL-AG, Eisenbahn-Hochleistungsstrecken AG,
Vivenotgasse 10, 1120 Wien-A

Project Partners

Technische Universität Wien,
Institut für Grundbau u. Bodenmechanik
Karlsplatz 13/221, 1040 Wien-A
IC Consulanten
Kaiserstr. 45, 1070 Wien-A

Benefits of the use of geothermal energy obtained from tunnel structures

The use of geothermal energy obtained from tunnel structures represents the optimal combination of transport engineering and energy benefits. Since as a rule only minimal additional measures are required for this application, high synergy effects can be realised which have both business and economic implications: the tunnel owner now has an additional area of value creation to exploit, while the economy profits from a cost-efficient energy source, primary energy can be saved and emissions reduced.

The heating/cooling energy obtained can be put to the following concrete uses:

- Heating and cooling of buildings (own or third party)
- Ice prevention in exposed zones (bridges, platforms, stairs, etc.)
- Cooling of equipment, machines, cable ducts, etc.
- Heating of points and other installations which are sensitive to cold temperatures

enercret - Installation Lainzer Tunnel

Piled retaining wall with piles in 120 cm dia., 20 m length, every third pile equipped with piping, 59 piles equipped in total. Energy used for the Hadersdorf Sports Junior High School.

Heating capacity 100 kW

Annual heating output 144 MWh