

COLUMBUS CENTER VIENNA

Energy diaphragm walls and energy piles for harnessing and storing geothermal energy



Diagram: H. Huss, architect

Shopping Centre with Office Premises

Total surface area:	45.000 m ²
Retail space:	16.000 m ²
Office space:	7.000 m ²
Underground parking spaces:	700

Client

DI Michael Auer, Vienna-A

Architect

DI Ernst H. Huss, Vienna-A

Building Services Planning

Planungsgruppe Grünbichler GmbH & Co KG
Kapfenberg-A

Benefits:

- Energy stored instead of being wasted
- Dual use of the refrigerator unit for cooling and heating
- High performance rating of refrigerator unit/heat pump due to low temperature differences
- Savings in respect of boiler and recooling installations
- Pay-back time for the additional costs approx. 8 years due to low running costs
- Reduction in CO₂ emissions of approx. 500 tonnes/year, roughly equivalent to EUR 12.500 in consequential costs

enercret - Technology

Activation of the diaphragm wall (12.400m² equipped) and piles (300 piles; 120 cm dia., 7 m to 20 m long) was performed using approx. 90.000 linear metres of HDPE piping dia. 25 x 2,3 mm. The storage capacity of the ground is

Cooling capacity ca. 1.400 kW

Heating capacity ca. 1.200 kW

Cooling output/year ca. 1.670 MWh

Heating output/year ca. 660 MWh

