

Geothermal Energy

Geothermal Energy (terrestrial heat) is part of our planning service when it comes to economic ways of producing renewable terrestrial energy.

Read more on WIKIPEDIA (<http://de.wikipedia.org/wiki/Geothermie>) to learn more about new techniques of producing geothermal energy.



History and Services

We are proud to point out that we made significant contributions to the procedure of extracting terrestrial heat in collaboration with the energy foundation of Baden-Wuerttemberg in 2000:

Feasibility Study entitled:

„Process of economic production of heat and electricity from deep boreholes via a closed cycle of matter“

The procedure describes the analysis of using ammonia together with a release nozzle.

The energy foundation of Baden-Wuerttemberg, located in Karlsruhe, sponsored our project.

Based on this project, the Klett Ingenieur GmbH applied for a patent at the European Patent Office in 2000 which was officially granted in the European Patent Bulletin 2002/49 on 12/4/2002.

By applying our theory to the actual process of making boreholes (of "only" 200 meters), we verified our theoretical findings and agreed on improvements to the new process.

Patent

The patent with the number EP 1 194 723 B1 was granted on 12/4/2002 and is entitled with:

Device For Using Terrestrial Heat And Operating Procedure

The link below redirects you to a pdf-file containing a description and a schema of the procedure.

[Patentbeschreibung \(1.5 MiB\)](#)

Future prospect of this method:

We predict a prosperous future regarding our patent method of extracting heat, as long as further researches lead to an investigation and improvement of some details of the setup.

Projects

These days, reference projects of our office focus on the supply of property and on building-relevant procedures:

Pumping Geothermal Water for the Generaloberst-von-Fritsch- Barracks in Pfullendorf:

There are two spots with a distance of 1.000 meters in between where well drilling down to limestone (ca. 1.500 meters) takes places in order to track geothermal water with a temperature of 65°C.

One well site is supposed to pump the water upwards, where it is being conducted through a heat exchanger, whereas the other well site manages to pump the water down to the limestone.

Taking into consideration that limestone offers an existing water line, the cold water can be heated up again on its way back to the other spot where it is pumped up to the surface.

Prinzip-Bild:

Expected Performance Characteristics:

- capacity: 22l/sec
- heat exchanger: 65°C/40-45°C
- thermal power: 2,1 MW

Regenerative Effect:

- over 90% of the property's energy demand is met regeneratively.
- carbon dioxide reduction: >1,2 Tonnes/a.

Estimated Completion Date:

2014

References of Air-Conditioning with Earth Shaft

- [Project: OFD Cafeteria](#)
- [Project: KV + ZIM Heidelberg](#)