Recent R&D Activities

**Coupled thermal-tectonical modeling of the Tauern Window**

Investigation of the actual geothermal conditions at the Alpine mountain range in order to detect positive heat-flux anomalies due to rapid exhumation of the Tauern Window.

**Micro heating-grids based on seasonal storage of solar heat**

Technical and economical feasibility study concerning micro heating grids based on seasonal storage of solar heat based on BHE techniques.

**THERMODEG: Systematic-interdisciplinary modeling for optimal management and energetic use of thermal water resources**

Research project with the focus on creating an optimal workflow from geophysical prospecting and description of reservoir parameters through to thermal-hydraulic simulation for assessment of useable resources.

More than 10 geological and geophysical studies with the focus on seismic interpretation, structural modelling, and well path planning within the last 10 years in Germany and Austria.

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**Geothermal Survey of Austria**

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Austria faces average geothermal conditions, showing terrestrial heat-fluxes at a range of 40mW/m² up to 120mW/m².

The geothermal conditions are dominated by the Alpine Orogeny (strongly varying conditions) and the neighbouring Pannonian Basin (enhanced heat-flux). The most suitable regions for geothermal use are situated in the Styrian Basin, the Vienna Basin and the Molasse Basin).

Styrian Basin
Situated at the south-eastern part of Austria the Eastern Styrian Basin offers favorable geothermal conditions due to geothermal influence by the Pannonian Basin. The most promising geothermal reservoirs are represented by Paleozoic carbonates and Neogene sandstones and conglomerates.

Vienna Basin
The Vienna Basin, situated at the north-eastern part of Austria is one of the most important hydrocarbon reservoirs in central Europe. It also offers huge potential for geothermal use with expected maximum reservoir temperatures up to 200-C. At its southern part an active hydrodynamic system exists, which is used for balneologic purposes.

Energetic use of geothermal resources started in the late 1970s at Bad Waltersdorf (Styrian Basin) using an non-successful oil well for heating purposes. Since then hydrogeothermal use in Austria has been enhanced to more than 10 sites at the Molasse Basin and Styrian Basin with a cumulated capacity of more than 60 MWth and 1 MWel.

Beside traditional energetic use based on naturally occuring thermal waters, R&D activities in Austria are also strongly set on innovative utilization concepts, such as:
- Deep BHE concepts (borehole lengths up to 2kms)
- Seasonal heat storage combined with solar heating
- Energetic use of tunnel constructions (Tunnelthermie©)
- Large scale petrothermal systems (ehoch10©)