

KBB UT services

KBB UT offers the following integrated or separate services to realise your specific geothermal energy projects:

Consulting and pre-studies

- General consulting, preliminary investigations, pre-studies
- Feasibilities studies, economic studies

Geology

- Evaluation of geological data
- Professional supervision/evaluation of seismic data processing
- Elaboration of geological and hydrogeological models
- Simulation calculations (forecast flow rates, thermal output, etc.)

Energy concept

- Plant engineering feasibility study
- Heat, power and combined power + heat
- Power plant dimensioning
- Construction concept

Drilling planning and execution

- Defining the drilling targets
- Dimensioning the geothermal wells
- Drill path and directional drilling planning
- Preparing the drilling programmes
- Planning and implementing the drilling and completions
- Supervision during the drilling campaign
- Modifying the geological and hydrogeological model (where necessary)
- Pump tests and evaluations
- Subsequent simulation calculations

Operating

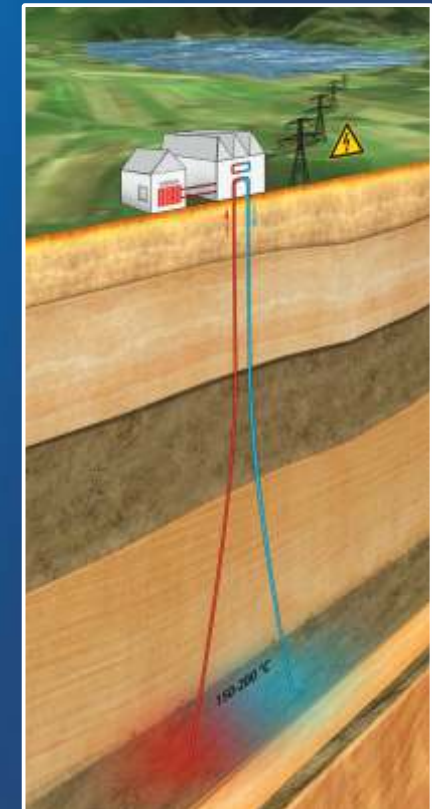
- Commissioning of the wells and the heat (power) plant

Accompanying services

- Project management and cost control
- Preparing the tendering documents
- Evaluating the tender bids and carrying out the negotiations
- Handling the approval procedures (mining, water law, other)

KBB UT is one of the world's leading engineering companies for the planning and construction of storage caverns, particularly for natural gas and oil. The company boasts more than 40 years of national and international experience. KBB constructed the first compressed air energy storage worldwide, and is currently involved in the planning and R&D work for future compressed air energy projects, and particularly also for hydrogen storage projects. On the basis of its competence in geology, drilling, reservoir engineering, and the surface plant engineering involved, KBB UT also provides services for the realisation of deep geothermal energy projects.

Geothermal energy from deep formations



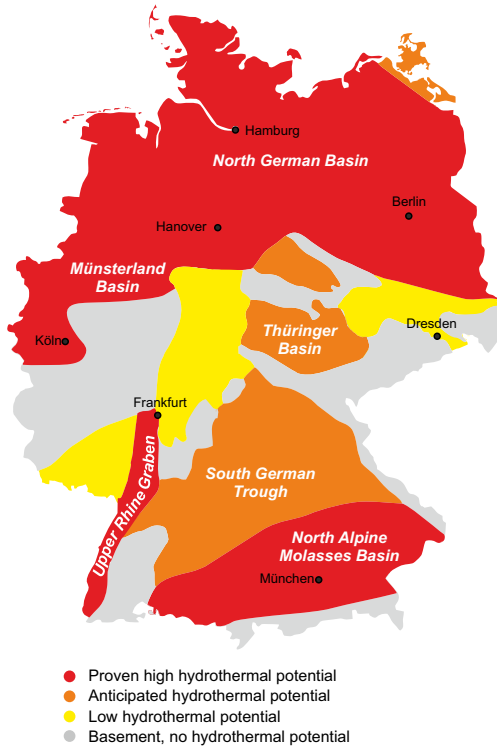
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Hydrothermal energy potential in Germany



Reliable energy from the depths of the Earth

Geothermal energy (energy from the Earth) is a reliable and baseload-compatible resource for the future supply of renewable energy. Thanks to its immense potential, using geothermal energy could make a major contribution to maintaining future energy supplies. The supply of geothermal heat which can be extracted in an environment-friendly way is currently considered to be inexhaustible. Unlike conventional fossil energy sources, geothermal energy is completely CO₂-free. The energy is extracted by producing hot water from deep wells. Potential water temperatures at depths of 5000 m can reach 140° C to 160° C depending on the temperature gradients. The thermal energy stored in this water can be used on the surface for power generation or for heating purposes. Thanks to its many years of experience in under-ground technologies, KBB UT can make a major contribution to developing this energy potential.

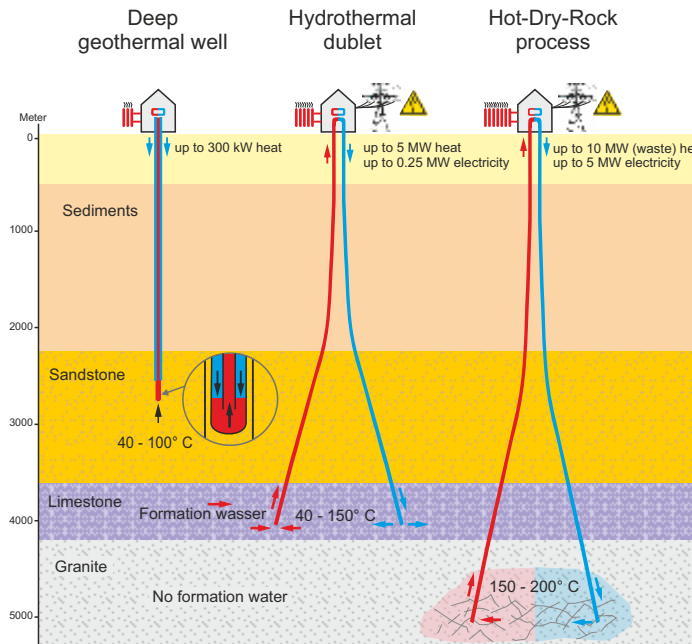
Feasibility of geothermal projects

KBB UT carries out preliminary geological investigations on the position and thickness of suitable water-bearing horizons on the basis of existing data, and uses this to prepare a geological model. Additional seismic surveys may be necessary to refine the model. Numerical simulations are carried out using the geological model and the associated data, to forecast the potential flow rates and the associated thermal output.

Drilling deep wells

If the initial investigations deliver promising results, KBB UT plans the well paths and executes the drilling activity, the construction of pumps, and manage the production and injection tests. The results of the drilling and the testing are used to refine the geological and numerical models by way of new calculations, and therefore also improve the future production and injection strategies, as well as future field development activities.

Deep geothermal technologies



Operation

KBB UT plans and constructs the heat transfer facilities as well as the installations for power generation, or to use the hot water for district heating.

Consultation

KBB UT is in continuous contact with its clients during project realisation, involving all technical project disciplines as well as project management, cost control, contact with the authorities and approval procedures.