

DEEP.KBB SERVICES

DEEP.KBB 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
- Drill path and directional drilling planning
- Preparing the drilling programmes
- Planning and implementing the drilling
- 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 energy 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)



DEEP.KBB GmbH

Convincing Competence

DEEP.KBB is a leading global engineering company for the planning and construction of storage caverns, particularly for natural gas and crude oil. Here, a total of more than 40 years of national and international experience can be looked back on. Among other things, the world's first compressed air storage was built, which was commissioned in 1978. DEEP.KBB is currently working on numerous groundbreaking planning and R & D work for future compressed air and hydrogen storage projects. On the basis of its competence in geology, drilling technology, reservoir engineering and the surface plant engineering involved, DEEP.KBB also provides services for the realisation of deep geothermal energy projects.



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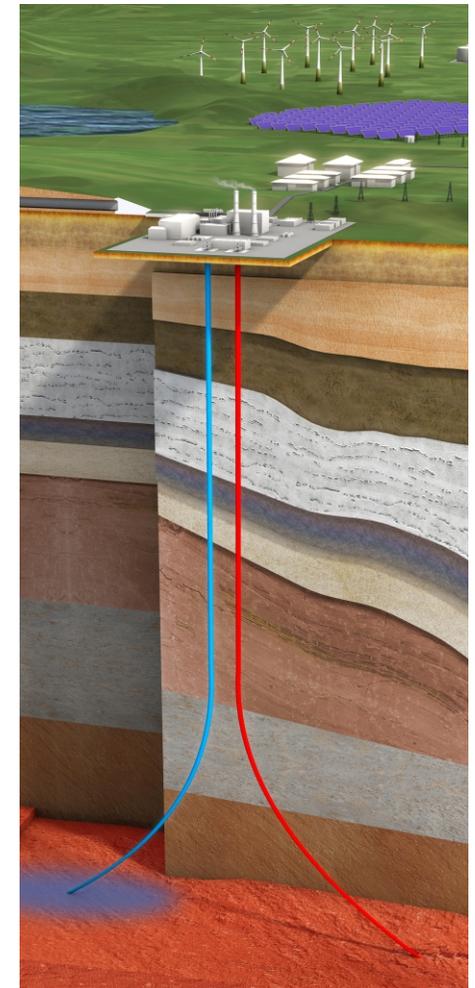
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DEEP.KBB

GEO THERMAL ENERGY



INNOVATIVE ENERGY STORAGE.

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RENEWABLE ENERGY FROM THE DEPTHS OF THE EARTH

Geothermal energy [energy from the Earth] is a reliable and baseload-compatible resource for the 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 underground technologies, DEEP.KBB can make a major contribution to developing this energy potential.

HYDROTHERMAL ENERGY POTENTIAL IN GERMANY



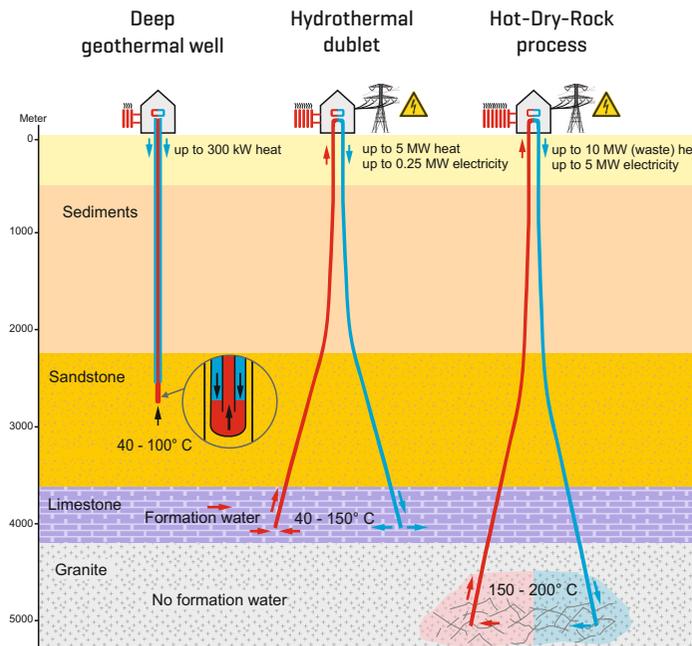
FEASIBILITY OF GEOTHERMAL PROJECTS

DEEP.KBB 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 DEPTH WELLS

If the initial investigations deliver promising results, DEEP.KBB 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

DEEP.KBB 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

DEEP.KBB 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.

