

GEOHERMAL ENERGY

1. Resources of renewable energy, the Earth energy balance (The Earth energy origin, ways of heat transport, thermal conductivity, characteristics of GTE)
2. Geothermal systems, types and classification (Definition and Classification of GT Resources)
3. Exploration of GTE resources (indirect and direct methods)
4. Resources and reserves of GTE in the World (power and heat production, high and low enthalpy)
5. Drilling for high enthalpy GTE (deep drilling, geology, risks, technology. Rigs, completion)
6. Drilling for low enthalpy of GTE (shallow drilling, borehole completion, rigs, risks)
7. Underground heat storage technology (geology, technology, examples)
8. Ground source heat pumps (basic principle, pros and cons, examples)
9. Borehole heat exchanger dimensioning, TRT, models (heat conduction theory, principle of the TRT, software used for simulations of the systems)
10. Design and construction management of GTE projects (project management, performance monitoring and evaluation, operation records, team motivation)
11. Design, construction and operation risks of GTE projects (geology, technology, economy, people, social and political issues)
12. Environmental aspects and risks of GTE projects (conflicts of interests, exploration, building and production risks)