

## **Geothermal Power Economics “101”**

***Geothermal Resources, Technologies & Economics:  
A 1-day introduction for non-engineers.***

### **Course objectives**

This one-day training course is designed to introduce the basics of geothermal power – the resource and the methods of harnessing it – along with its competitive positioning within the power and energy markets. In addressing the latter, the course will also briefly cover the fundamental concepts governing the supply and demand of power/energy, including the basics of power grids and the factors which determine popular economic measures such as levelised electricity cost (all with particular reference to geothermal as compared with other power sources, both fossil and renewable).

### **Style**

The course will be run in an informal manner which allows and encourages time for discussion and questions with answers, ensuring that participants get the most out of their day.

### **Approximate Timing**

Course begins:           09:00  
Course ends:             17:30

(Timings are approximate and include lunch plus morning and afternoon refreshment breaks)

### **About Green Power Academy**

*Green Power Academy* exists to provide the quality, impartial, informative and enjoyable training needed to increase and distribute knowledge and skills to green energy industry professionals. Whether you are new to the industry, have recently changed jobs or simply wish to refresh your knowledge, our training should become a key part of your personal or company professional development programme.

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## Course Content

### Geothermal Energy Resources & Applications

- Different types of geothermal resource: locations, depths, temperatures, resource characteristics and sustainability issues.
- The fundamentals of power/energy markets and the role of geothermal within them, including: measurements and scales, power demand/supply and pricing, power plant types and competing energy sources.
- The Geothermal market: differing direct-use (heat) and power applications, including a review of current market sizes, characteristics and case studies.

### Capturing and Exploiting Geothermal Energy

- Comparing geothermal power plant designs, including flash steam, dry steam, binary and combined cycle: how they work, why they differ and where/when they are suitable.
- Emerging technologies, including EGS - Enhanced geothermal (“hot dry rock”), mixed fluid and supercritical fluid cycles.
- Case Studies of the different types of commercial plants and pilot projects.
- Understanding limits on the sustainability of geothermal power generation.
- Geothermal CHP, plus smaller-scale and distributed heat and/or power applications

### GeoPower Economics

- The key cost and investment issues surrounding geothermal power plants, including exploration, land requirements, plant development and ongoing operations.
- What are the key risks and unknowns in GeoPower investments?
- Levelised costs of GeoPower: identifying the most significant input variables and illustrating how each influences the economics of the project.
- Geothermal power economics in comparison with both fossil fuel and renewable power sources: how each may fit into the future power mix.
- The role of external factors in GeoPower economics, including regulatory policies and incentives.