# Project management in deep geothermal projects: steps from first decision to the power plant





### **Summary**

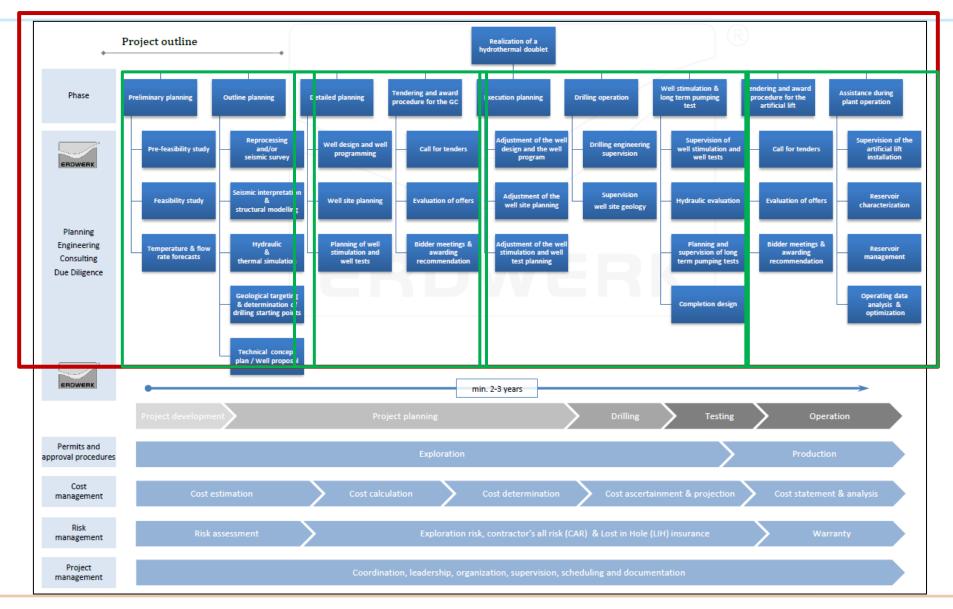


- 1. Steps in planning and implementation of a geothermal project
- 2. Approval procedures

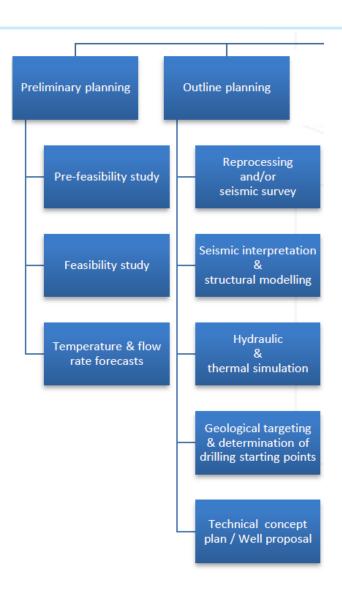


## Steps in planning and implementation of a deep geothermal project





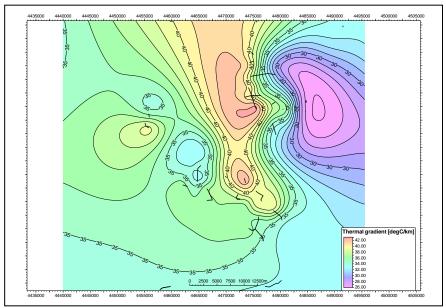




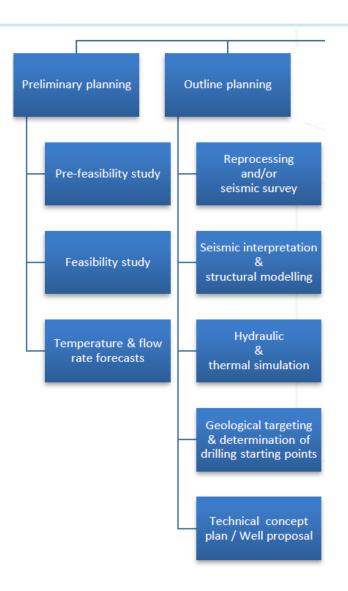
### **Duration (netto): 4-6 months**





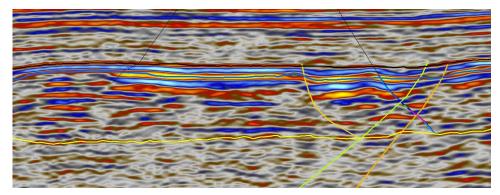




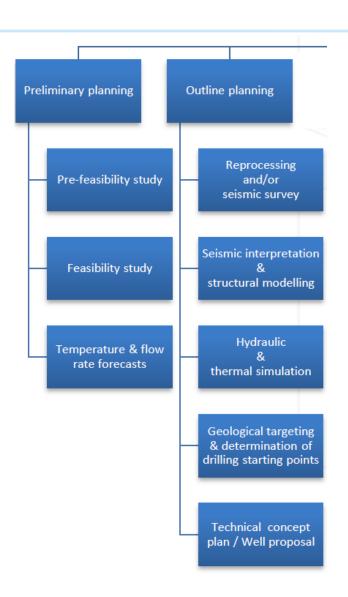


**Duration (netto): 4-6 months** 

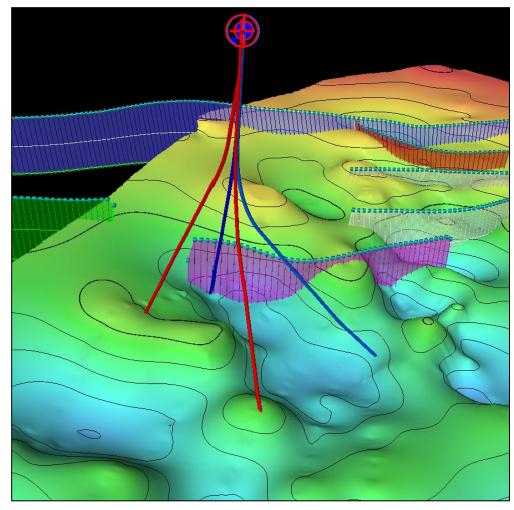




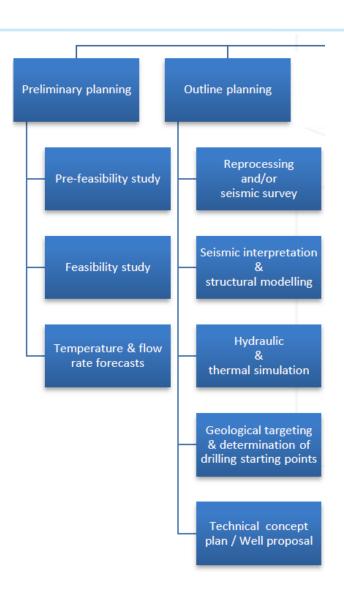




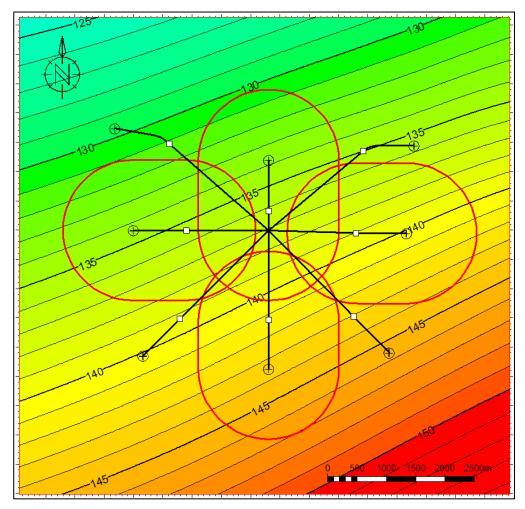
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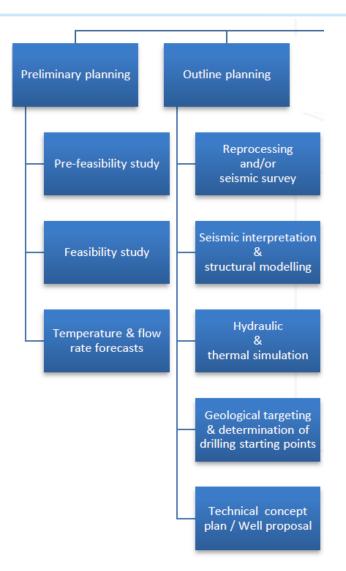




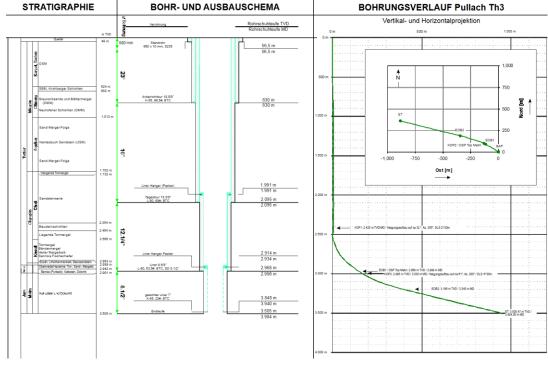
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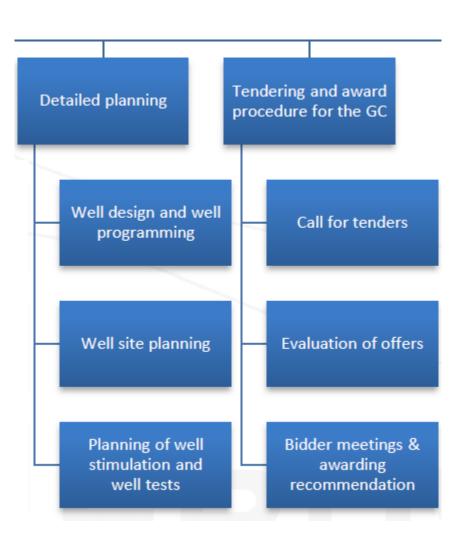


### **Duration (netto): 4-6 months**



### 2. Detailed planning, tendering and contracting procedure GU





### **Duration (netto): 4-6 months**

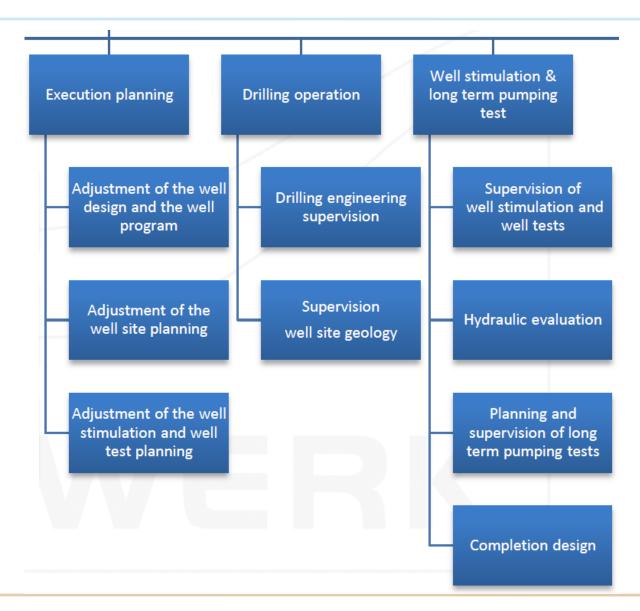




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### 3. Execution planning, drilling, testing



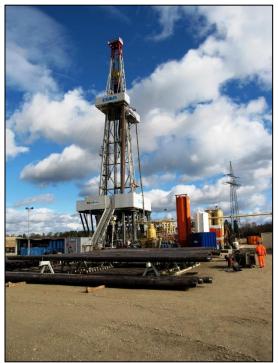


### Duration (netto): 8-12 + 6 months





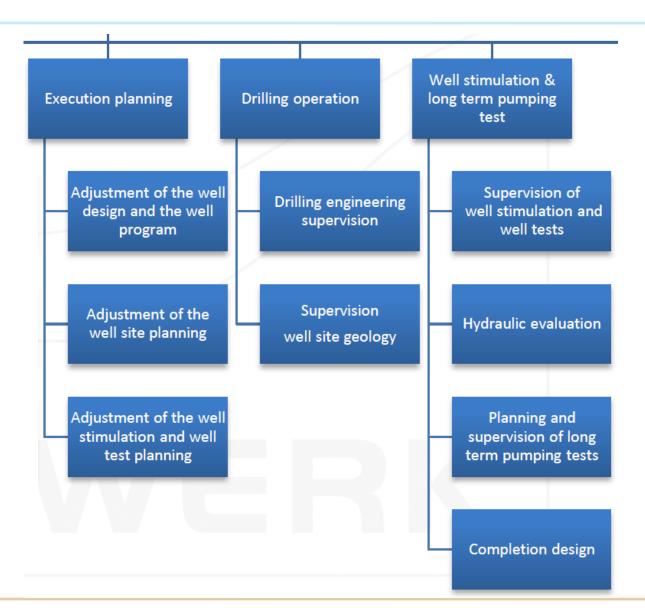




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### 3. Execution planning, drilling, testing





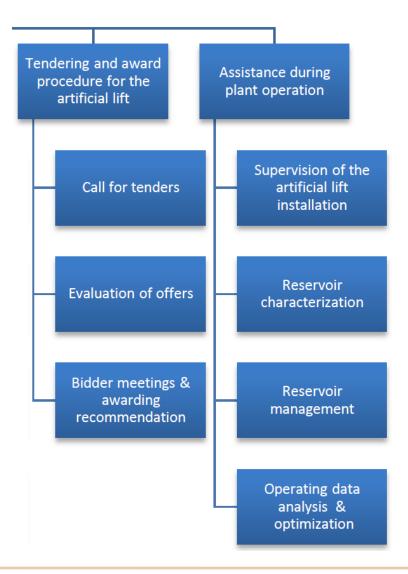
### Duration (netto): 8-12 + 6 months



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### 4. Definition of conveyor, plant operation





### **Duration (netto): 6 months and continious support during operation**





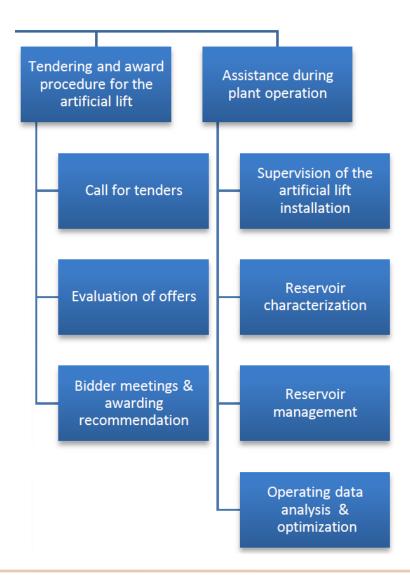




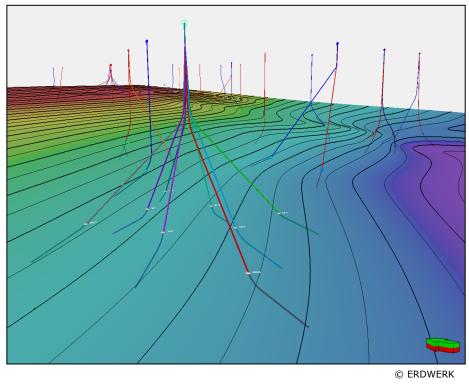
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### 4. Definition of conveyor, plant operation



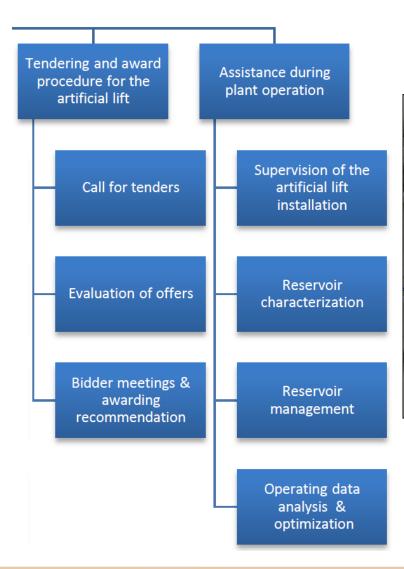


### Duration (netto): 6 months and continious support during operation



### 4. Definition of conveyor, plant operation





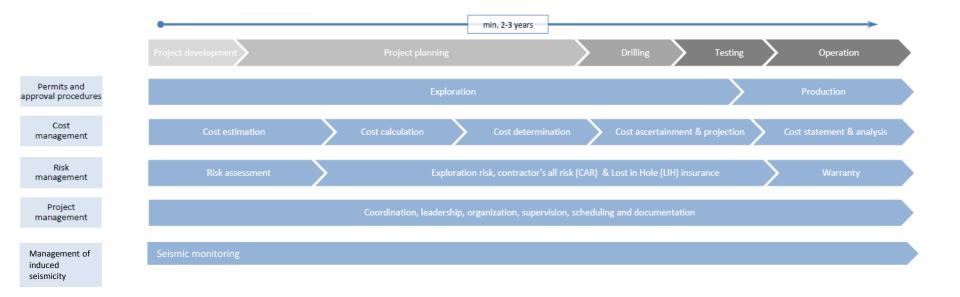
### **Duration (netto): 6 months and continious support during operation**





### Various aspects of a deep geothermal project







# Legal framework and approval procedures

### Approval procedure in Bavaria



### **Exploration phase**

Bavarian Ministry of Economic Affairs, Media, Energy and Technology Mining Exploration and Prospecting License

- Exploration permit
- Annual Reports, exploration tax

Government of Upper Bavaria, South Bavarian State Mining Authority

#### Operations plan procedure

- Statement on nuclear waste storage sites
- Preliminary environmental impact study
- (Management plan for geophysical campaigns)
- Framework management plan for drilling and drilling operations
- Specific Management plan for drilling works
- Management plan for pumping and long-therm tests

#### Water rights

Limited water rights permit for testing

### Production phase

Bavarian Ministry of Economic Affairs, Media, Energy and Technology

#### Mining license (for 50 years)

Gewinnungsbewilligung inkl. Wärmebergbaumodell

Government of Upper Bavaria, South Bavarian State Mining Authority

#### Operations plan procedure

- Operation plan
- (if necessary, management plans for specific activities)
- Management plan for the recultivation of the drilling site

#### Water rights

- High water rights permit (25 years)
- Annual provision of operating data
- Evaluation of operating data every 5 years

### Thank you for your attention!





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