



Finanzierung Geothermie – Projekte

Die Sicht eines Projektentwicklers

www.begeothermal.com



- Project Developer BE Geothermal GmbH
- Project Summary – Bernried CHP #1
- Corporate Structure
- Critical success factors
- Financing obstacles
- Conclusion



- Lutz K. Stahl, Geschäftsführer
 - Founder of Bernried Erdwärme AG and BE Geothermal GmbH
 - Former CEO and shareholder Dr.-Ing. Stahl GmbH
 - Significant development to date on Bernried

- Anne Heigl, Finanzen
 - Former CFO of Exorka International
 - Previously Adidas & Coopers & Lybrand



„BEG is a Newcomer with good management but no track record“

Our Focus:

BE Geothermal
Energie aus tiefer Überzeugung

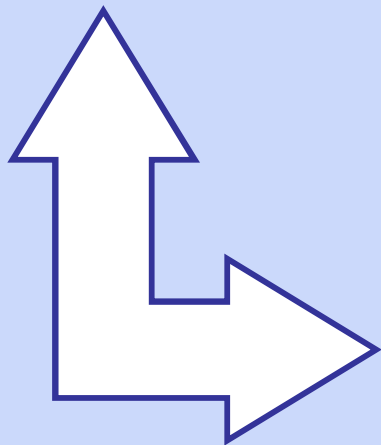


„Get the first plant up and running!“

Critical Success Factors for Geothermal CHP Projects in Bavaria



- High reservoir temperature $> 135^{\circ}\text{C}$
- Good geological structures
- Good local relationship – community should be fully integrated
- Heat-offtake qualifies for KWK-Bonus

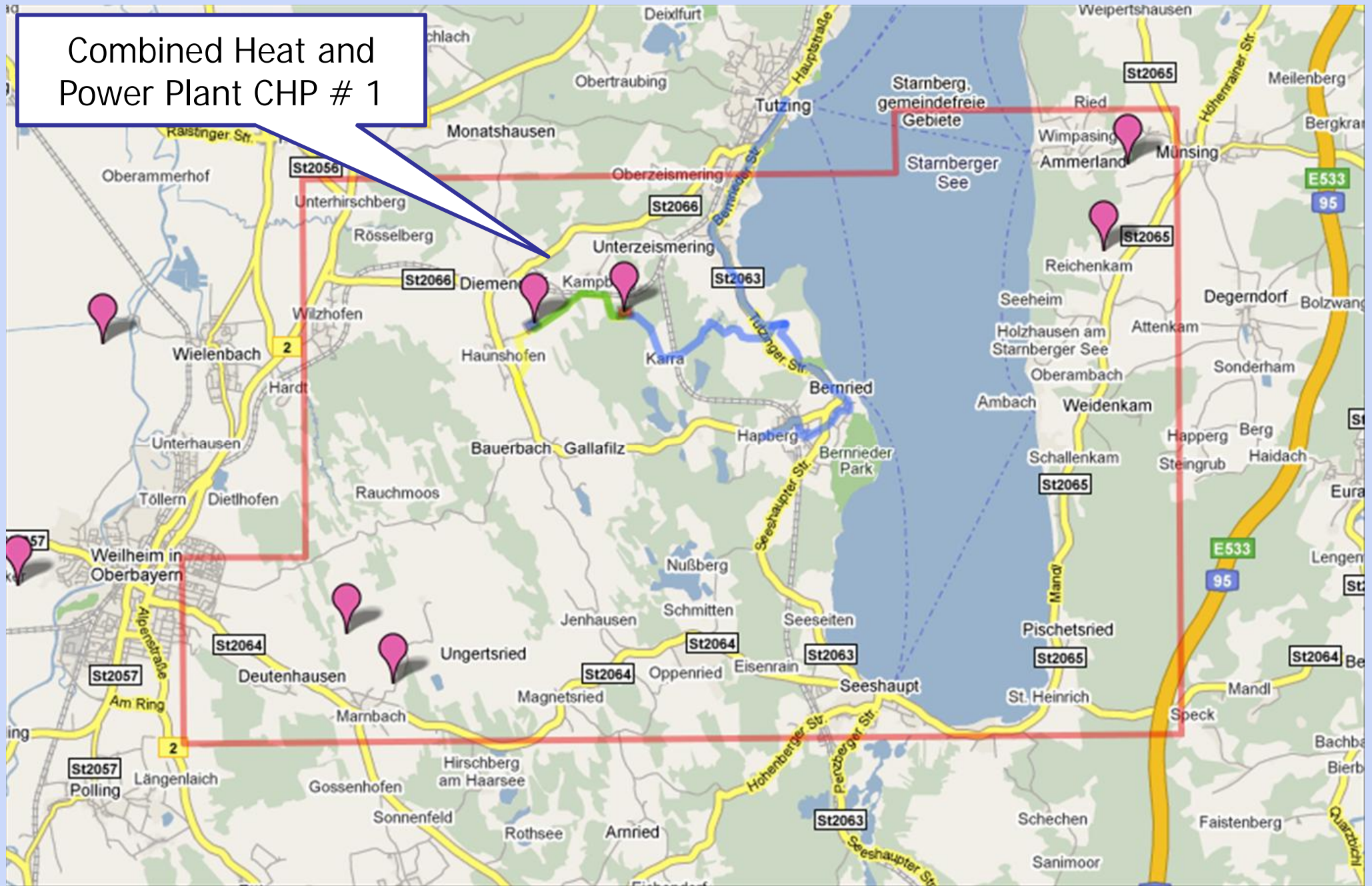


Not all locations are suitable...

Bernried Exploration Permit



Combined Heat and
Power Plant CHP # 1



Project Summary – Bernried CHP #1



■ Overview

- Attractive geological structures
- Relatively high temperatures (148°C)
- Conventional ORC power plant – 10.5 MWeI
- Integrated district heating
- Four wells – conservative design
- EUR 72.6 mio investment
- Plus insurance of up to EUR 5.4 mio

■ Revenues & profitability

- EUR 19.6 mio per year at full operation (with DHS revenue and heat bonus)
- Operating cost EUR 4.3 mio per year at full operation
- High profit margin and internal rate of return

■ Schedule

- 35 months
- Drilling start 1Q 2010





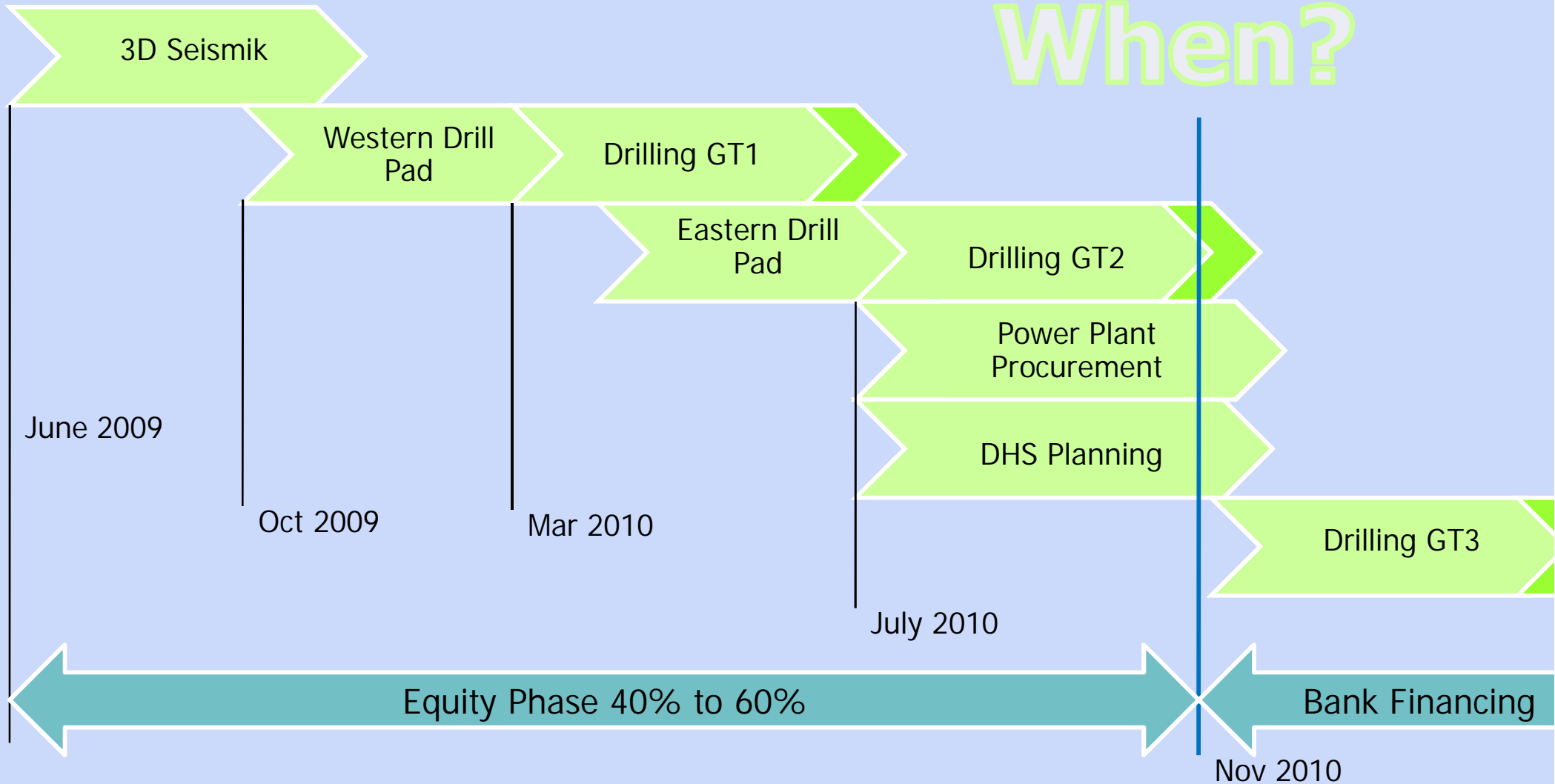
- Project development companies within the geothermal community were partly „naive“ regarding financing geothermal projects
- The idea of well productivity insurance is good, but ignited the idea of financing without full drilling equity in hand
- Most Geothermal Project developers lack “bankable” experience and are small and underfinanced
- CHP Projects were only economic when EEG 2009 came into place
- Financial crisis slowed interest from possible partners in mid 2008
- Financing institutions need a lot of lessons on geothermal development
- Regular project finance does not work – no common risk understanding – financing institutions do not know the way to finance geothermal projects

Equity Phase – Bank Finance Phase

Financing Institutions do not really know...



When?





Photovoltaik-Leitfaden für Kreditinstitute - Handbuch zur Prüfung und Finanzierung von Photovoltaik-Projekten

Der Leitfaden liefert Entscheidern in Banken und Sparkassen notwendige Informationen, um Anträge auf Finanzierung von Photovoltaik-Projekten bearbeiten zu können. Die inhaltlichen Schwerpunkte liegen auf den Themen Technologie, (Projekt)Finanzierung, Wirtschaftlichkeit und Risikomanagement.

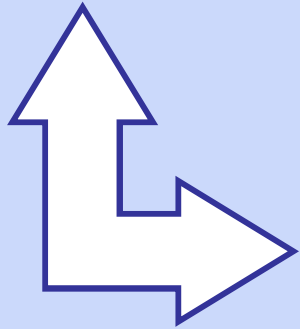


www.solaranlagen-portal.de/.../leitfaden-finanzierung-von-photovoltaik-projekten-erschier
Im Cache - Ähnlich -

Neuaufgabe: [Biogas-Leitfaden für Kreditinstitute und Investoren](#)
Insgesamt 5.000 Exemplare des kostenlosen **Biogas-Leitfaden** der Energieagentur ... um einen Antrag auf **Finanzierung** einer **Biogas-Anlage** bearbeiten zu können. ...
www.strom-magazin.de/.../neuaufgabe-biogas-leitfaden-fuer-kreditinstitute-und-investoren_18348.html - Im Cache - Ähnlich -



- Consultants on geothermal financing have same learning curve like banks
- Banks right now are very reluctant to address new fields of businesses – bank interest on financing is hard to get
- The KfW / MAP program is just starting to show effects (will be improved together with Bundesverband Geothermie)
- The necessary equity is hard to get right now...



- We have to go the same growth path like other renewable companies. No shortcuts possible
- Merging of project development companies is possible – but meaningful only if both companies are well financed
- With more experience and projects in the field, the acceptance of financing institutions will grow
- Go out of business / sell out to larger companies
- We encourage BMU and KfW to increase their efforts in support



Thank you!

