Rödl & Partner

Globally active

Geothermal Project Kirchweidach

Maria Ueltzen | Mayors‘ Geothermal Club, Budapest | 8 October 2015

Agenda

01 Company Presentation Rödl & Partner

02 Presentation of the Kirchweidach Project

03 Heat Supply Contract Features

04 Contact Information

Agenda

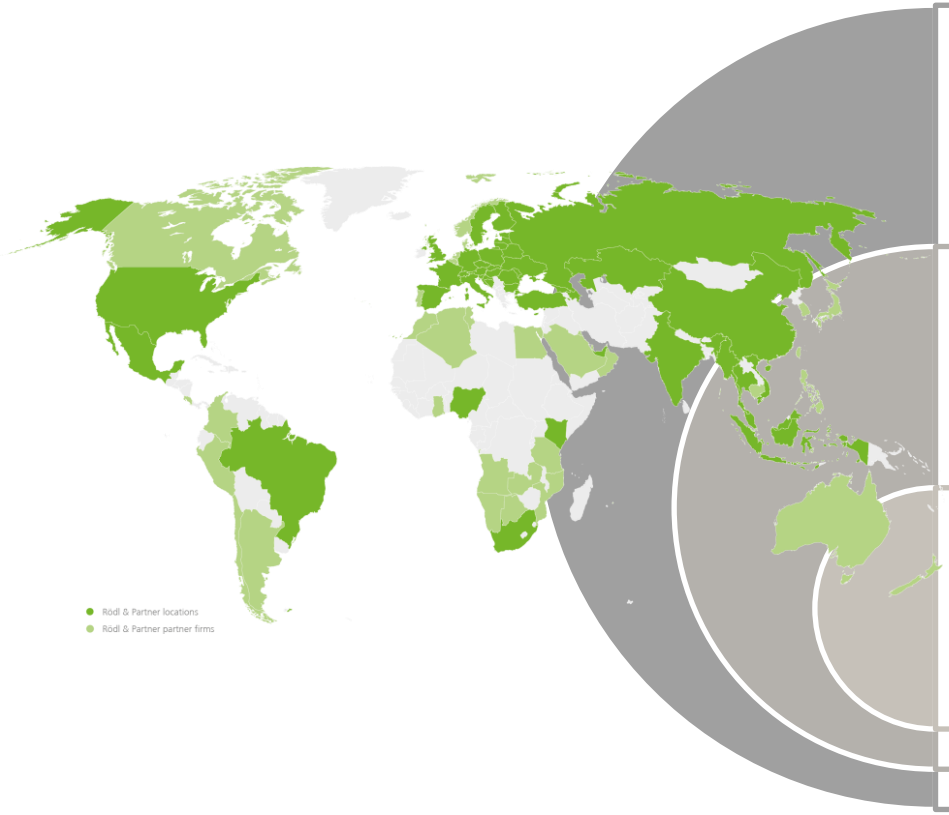
01 **Company Presentation Rödl & Partner**

02 Presentation of the Kirchweidach Project

03 Heat Supply Contract Features

04 Contact Information

Renewable Energy Consulting at Rödl & Partner



Rödl & Partner	•102 locations in 46 countries •3,900 employees •Full range of professional services
Public Management Consulting	•**Energy** •Renewable energy •Water & wastewater •Public sector •Health care •Public Transport
Team Renewable Energy	•Fund design & management •Strategy consulting •Investment consulting •Due diligence •Risk management

Interdisciplinary: Financial, fiscal, legal

Technologies: Deep geothermal, wind, PV, biomass, hydro

Our References in Geothermal Project Management

Client	Our Services
Unterhaching Geothermal Project	Overall project management, sourcing of subsidies, development of the first exploration risk insurance, development of the district heating pricing systems, tendering of operating contract
Tiefengeothermie Königsdorf GmbH & Co. KG	Financial and legal consulting, financial feasibility studies, contract design and general project management
Electric Utility Company	Development of a dynamic financial model to support the early-stage decision making process regarding a 3D seismic study for a geothermal project in the Upper Rhine Valley.
Various Municipalities	Definition and evaluation of alternative strategies, demand estimates, financial feasibility studies, business plan development, valuation, corporate structure, investment alternatives
Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety/ World Bank	Country benchmarking study (pilot project Hungary)
Project Development Slovakia	Development of a risk management system, design of an exploration risk insurance, local legal consulting, financial and legal due diligence

Agenda

01 Company Presentation Rödl & Partner

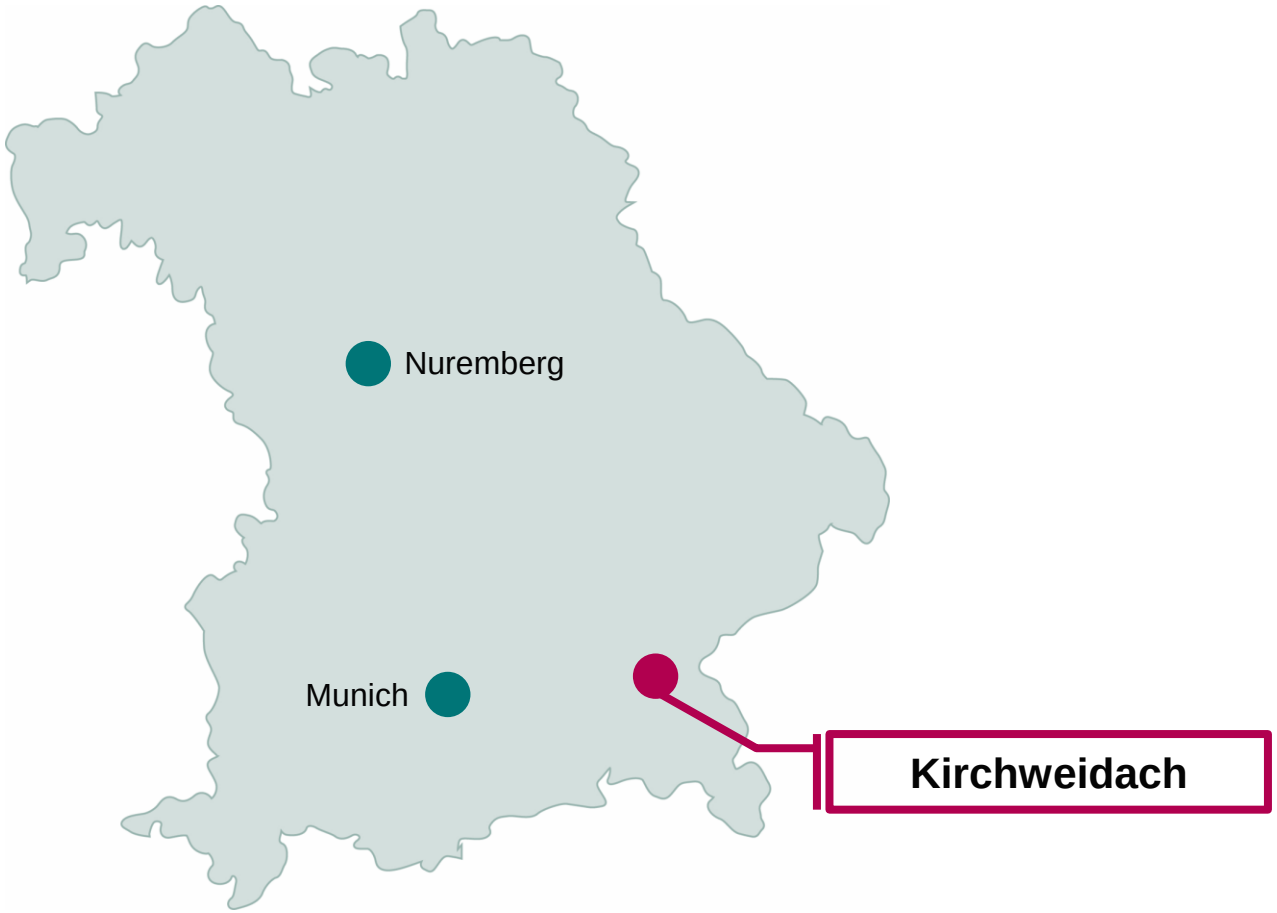
02 **Presentation of the Kirchweidach Project**

03 Heat Supply Contract Features

04 Contact Information

Kirchweidach Project

Location



Kirchweidach Project

Green Houses for Local Source Farming

Kirchweidach Project

Overview of Project Participants

Kirchweidach Project

Overview of Project Participants

Kirchweidacher Energie GmbH (KiwE)

District heating network

- 2014 start of construction
- Staged implementation (3 stages)
- Connected load of up to 5,100 kW_{th}
- Up to 300 clients
- Heat demand of up to 10 GWh/a

GEOenergie Kirchweidach GmbH

Concession owner/ power generator

- 2010 project initiation
- 2012 start of drilling
- 2013 successful test of doublet
- Use of thermal water within the temperature range of 38°C to 125 °C
- Heat extraction intended

Gemüsebau Steiner GmbH & Co KG

Green house operation

- 1st construction stage 12 ha (completed)
- 2nd construction stage 8 ha (under construction)
- Green house is in operation
- Connected load of approx. 18 MW_{th}
- Heat demand of 50 to 60 GWh/a

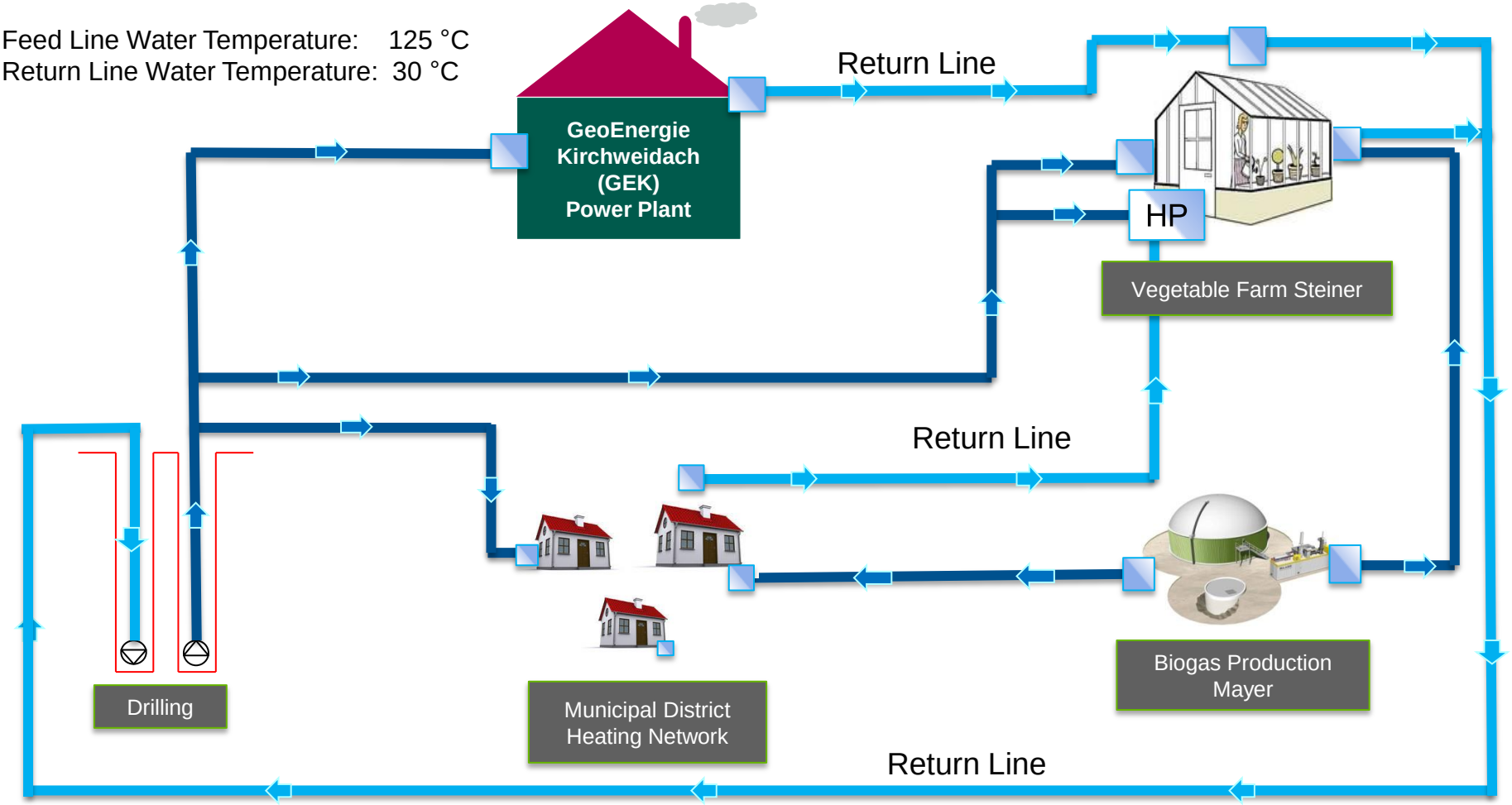
Biogas plant Mayer Guido

- Biogas pioneer (3 CHPPs)
- Interested in benefitting from the EEG CHP premium
- Inclusion in project as an additional heat supplier

Kirchweidach Project

Network Design

Feed Line Water Temperature: 125 °C
Return Line Water Temperature: 30 °C



Kirchweidach Project

Green Houses for Local Source Farming

Economic Aspects

Support of rural areas

- About 100 new jobs
- Local value added
- Fresh, locally sourced produce
- Substitute for imported produce

Every 10th tomato sold in Bavaria is from Kirchweidach!

Population of Kirchweidach	2,500
Population of Bavaria	11,000,000

Kirchweidach Project

Green Houses for Local Source Farming

Ecologic Aspects

Significant fossil energy savings

- Equivalent to 6.5m liters of oil
- Equivalent to approx. 120m kg of CO_2 emissions
- 1.6m km of reduced transportation distance vs. imports from e.g. Spain
- Reduction by 5m m^3 of natural gas and 400,000 km of transportation distance vs. imports from the Netherlands

Agenda

01 Company Presentation Rödl & Partner

02 Presentation of the Kirchweidach Project

03 **Heat Supply Contract Features**

04 Contact Information

Heat Supply Contract Features

Basic Requirements of the Heat Supply Contract

Requirement 1	▪ Use of the return line thermal water must be cost neutral.
Requirement 2	▪ Thermal water extraction from the feed line to the power plant must not lead to disadvantages for the operator of the plant (GEK).
Requirement 3	▪ The municipality‘s investment must be safe.
Requirement 4	▪ The complete project must be financially feasible for the municipality.

Agenda

01 Company Presentation Rödl & Partner

02 Presentation of the Kirchweidach Project

03 Heat Supply Contract Features

04 **Contact Information**

Thank you very much for your attention.

Contact Information

Maria Ueltzen
Senior Associate

Rödl & Partner Nürnberg

Phone +49 (911) 9193 – 3614
Email: maria.ueltzen@roedl.com

Benjamin Richter
Associate Partner

Rödl & Partner Munich

Phone +49 (89) 928780-350
Email: benjamin.richter@roedl.com

„Jeder Einzelne zählt“ – bei den Castellers und bei uns.

Menschentürme symbolisieren in einzigartiger Weise die Unternehmenskultur von Rödl & Partner. Sie verkörpern unsere Philosophie von Zusammenhalt, Gleichgewicht, Mut und Mannschaftsgeist. Sie veranschaulichen das Wachstum aus eigener Kraft, das Rödl & Partner zu dem gemacht hat, was es heute ist. „Força, Equilibri, Valor i Seny“ (Kraft, Balance, Mut und Verstand) ist der katalanische Wahlspruch aller Castellers und beschreibt deren Grundwerte sehr pointiert. Das gefällt uns und entspricht unserer Mentalität. Deshalb ist Rödl & Partner eine Kooperation mit Repräsentanten dieser langen Tradition der Menschentürme, den Castellers de Barcelona, im Mai 2011 eingegangen. Der Verein aus Barcelona verkörpert neben vielen anderen dieses immaterielle Kulturerbe.