

GeoElec Basic Financial Model

for investors and banks to evaluate geothermal electricity projects
and to estimate costs for geothermal power supplied electricity

Calculation in 5 steps



Start

Schritt 1/5



Timing

Start of capital expenditure

Power station in charge

Electric Power

MWe installed Power

kWe needed Power (Pumps, cooling)

Geothermal Projekt

Type: Conventional / Binary / EGS

Use: cascade and hybrid uses

Flowrate

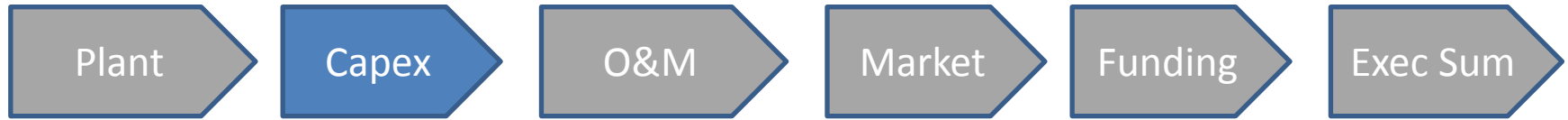
Temperature-spread

Country specific hydrogeological faktors

Plant operating hours

Weiter

Schritt 2/5



Feasibility (Phase 1)

Prefeasibility

Exploration
2D-/3D seismic

Planning

Consulting

Capital Expenditure (Phase 2 and 3)

Well
useful life

Power Generation
useful life

Project Management

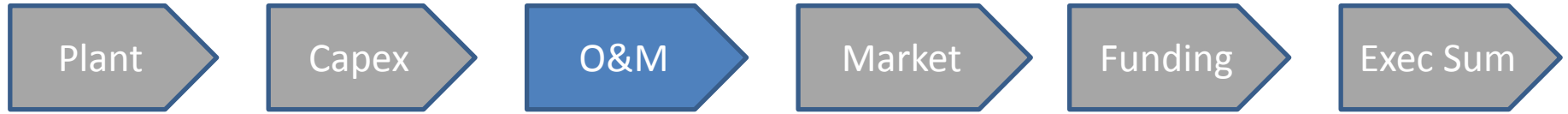
Insurance/Interest during exploration
(optional)

Conventional / binary / enhanced geothermal system
(cost estimation by Mannvit, EnBW, University of Stuttgart)

Zurück Schritt 1

Weiter

Schritt 3/5



Cost groups

Variable costs

current demand
repair & maintenance

Semi fixed costs

labor costs
travel costs
consulting costs
public relation

Fixed costs

admin costs

Depreciation

Interest

Inflationary Rates

Zurück Schritt 2

Weiter

Schritt 4/5



Sales

Production
Electricity
Heat

Remuneration
Feed-in tariff for power production
Sales Price for Heat

Purchases

Demand
Electricity for pumps
Electricity for cooling

Stock prices
EEG allocation costs
Electricity taxes

Inflationary Rates

Zurück Schritt 3

Weiter

Schritt 5/5



Equity

Financing the complete capital expenditure (until risk abolishment)

Financial Re-Structuring after risk-free investment

Grants

Mezzanine capital

Debts

Interest Rates

Principal payment

Duration of credit

Financing the Project phases (1 to 4)

- 1 Site identification / pre feasibility / surface exploration / Feasibility of drilling exploration / resource development / economic feasibility
- 2 Drilling and exploration
- 3 Plant construction
- 4 Operating

Zurück Schritt 4

Weiter

Results



Executive Summary

Key Performance Indicators (KPI)

IRR, NPV, Pay Back Period

Reports

Levelized costs

Financial Results

Profit & Loss, Balance sheet, Cash Flow

Zurück Schritt 5

Berechnen