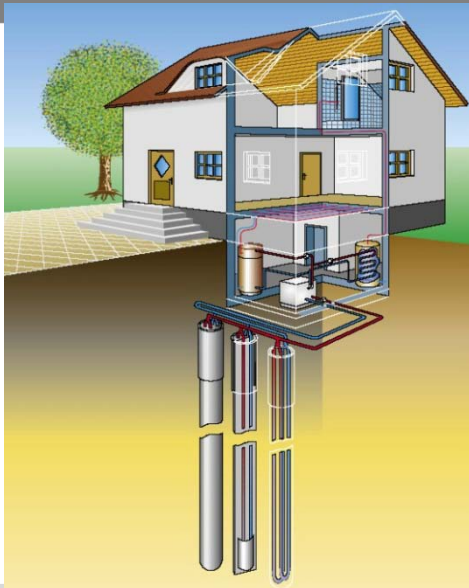


Open Access Publishing to Support Geothermal Research

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- Advantages of geothermal systems:
 - Huge potential,
 - local, renewable, low on CO₂
 - Sustainable production
 - base-load production

- Challenges of geothermal systems :
 - High investment cost
 - No warranty of success

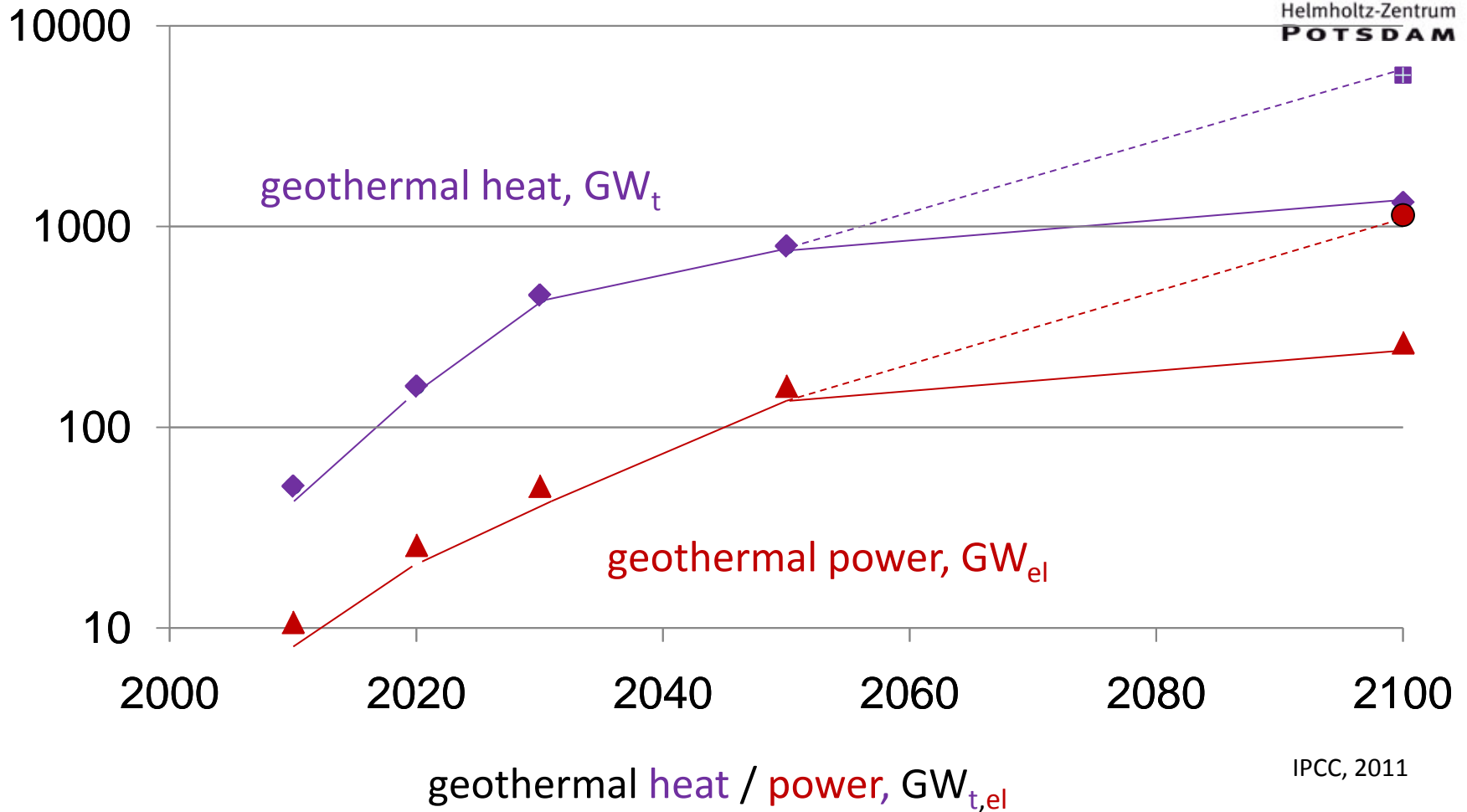
- **Barrier**
 - **Geothermal requires higher public acceptance !**

- Key Questions:
 - Geothermal potential
 - Heating
 - Electricity production
 - State of technology
 - Diversity of subsurface structures and technology
 - Reservoir engineering,
 - drilling,
 - district heating,
 - plant (working fluids, turbines,...)
 - operation
 - Broad application (Heat, power)
 - Perspectives of development towards the end of the century?
- Goal:
 - Accelerate the technological development

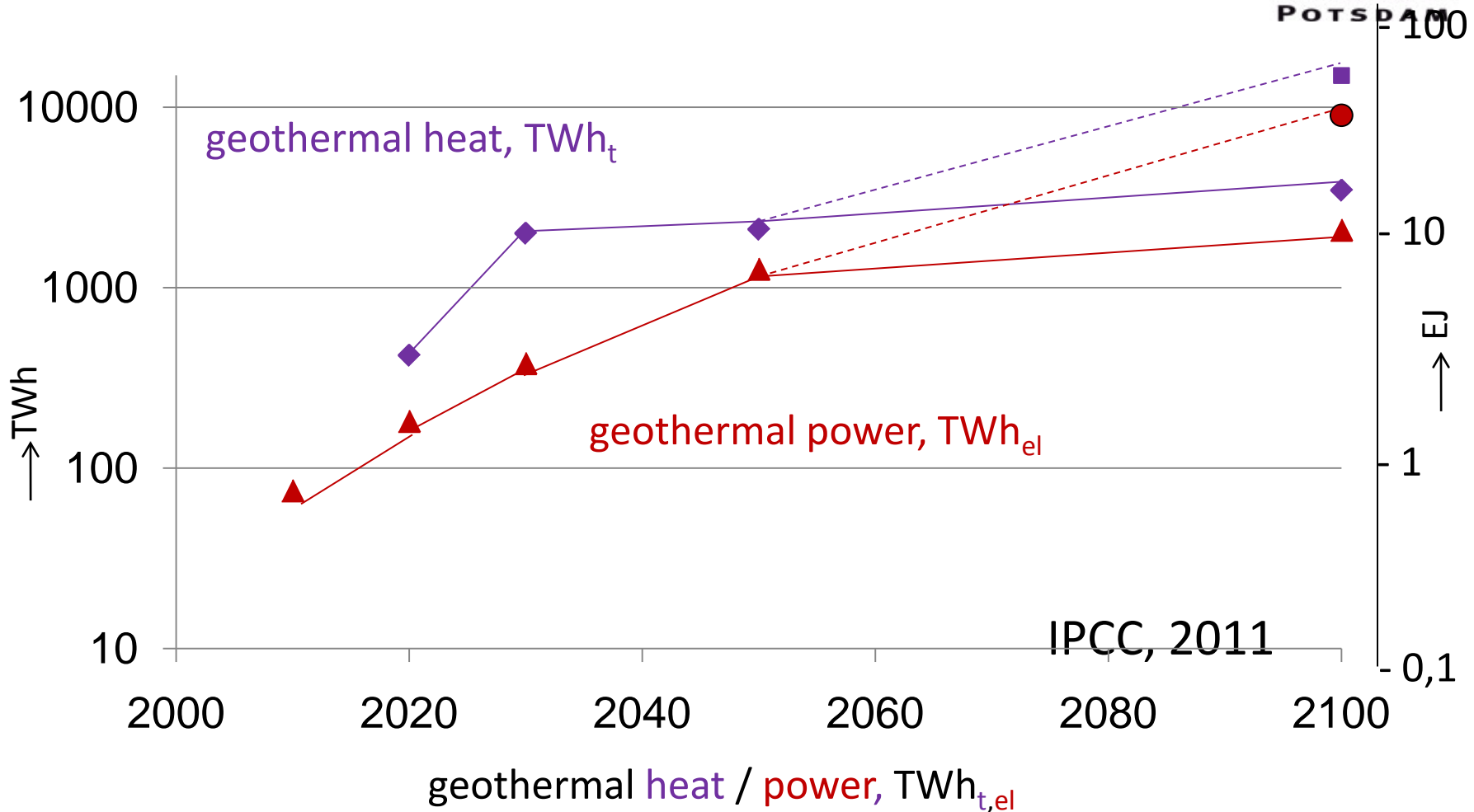
- Analysis of environment of publications:
 - Existing journals
 - Geothermics,
 - Energy Journals
 - Geophysical journals (JGR, GJI, ...)
 - Geological Journals (EPSL, Geology, ...)
 - ... (petrological, rock mechanics, ...)
 - Books mostly from 1970-1990
 - Increasing Teaching Activity
 - Germany: KIT, RWTH, TUM, TUC, TUF, TUB, ...
 - Switzerland: UniNE, ETHZ,
 - Iceland: UN School, University
 - ... (USA, NZ, GB, ...)
 - International collaboration projects (Geiser, ENGINE, I-Get, ...)

- Requirement for open platform:
 - Join forces between engineers and geologists
 - wide spread of contributors
 - Research / Industrial activities
 - Project driven by industry with often minimum research investigation
 - Availability of data, metadata, project timeline
 - Archiving function
 - Combination with existing archives of IGA
 - Conference proceedings
 - High scientific level
 - Problems: Review process (overloaded experts)
 - Better scientific visibility

Forecast of Geothermal Development Worldwide Installed Capacity



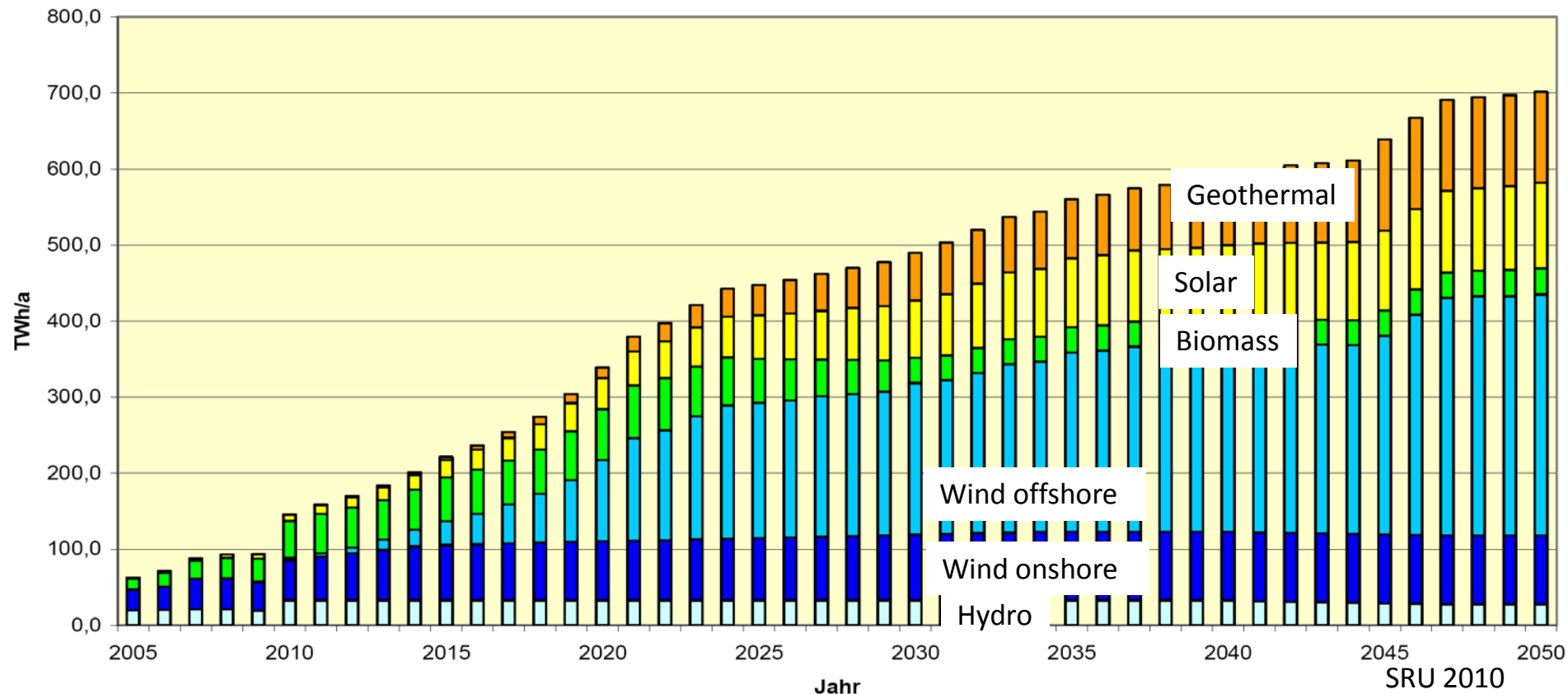
Forecast of Geothermal Development Worldwide Energy Production



Power Production from Renewables (SRU-Scenario 2.1.b)

■ Szenario Germany:

- min. 60% renewables, Little internat. grid utilization.
- Need: > 100 TWh geothermal electricity in 2050



Example for New Research Plan:

GeoLaB
Black Forest –
Underground Research Laboratory
for Geothermal Utilization

GeoLaB - Geothermie-Labor im Bergwerk



Significance for geothermal energy development

- Accelerate local energy
- Long term development of geothermal electricity as alternative to electricity line / grids or local storage systems
- Geothermal heat production required to achieve the 20-20-20-goal of the EU
- Operative Projects are required
 - Geothermal drilling program
 - Geothermal Masterplan
- Increasing investments in R&D

Open Access Publishing to Support Geothermal Research

- Helmholtz topic:
 - Financial support for the starting phase

- Possible win-win structure:
 - Helmholtz:
 - To confirm its international standing
 - To use of an international network
 - Scientists:
 - To accelerate publication process
 - Fast visibility of research documents