



SUMMARY OF
"PROPOSED TECHNICAL ASSISTANCE"
DOCUMENT
(VERSION 2011-OCT-14)



MAIN OBJECTIVE NGCBP REQUEST

- Increase capacity of
 - Government (national, local)
 - Companies
 - Knowledge institutions
- to develop, explore, utilize Geothermal Energy Resources
- to monitor impact on
 - economy
 - environment



DRIVERS

- Gov of Ind: Fast Track Energy Program
 - 3.9 GW new geothermal by 2015 (plan: Sep 2010)
 - Through 30% State-owned, 70% private investment
- MEMR “More Energy, less Carbon” initiative
 - 3.9 GW = 24 Mt CO₂
 - 26% less CO₂ than current 2020 predictions
- Indonesia Energy Council: Geothermal 2050 vision (2011)
 - 40% (276 GW) of energy renewable sources by 2050
- 70 staff per MW => 70,000 trained staff per year (based on Fast Track Program plans)



WHAT IS NEEDED?

1) Training Material

- Course and case study material (95 topics)
 - Exploration
 - Exploitation
 - Management
 - Environmental / hazards
- to be used by: Ministries, local government, universities, private sector
- Digital learning environments, APPs



WHAT IS NEEDED? (CONT'D)

2) Research capacity

- Techno-econom. risk assessment
- Reservoir modeling
- Drilling data logging and analysis
- Improved exploration methods
- EGS (fracturing and acidization)
- Power plant efficiency



WHAT IS NEEDED? (CONT'D)

3) Geothermal 2050

- Build research capacity
- Joint research
- Joint PhD supervision

4) Low enthalpy

- Potential mapping
- Development planning

5) National geothermal database

- Framework for subsurface data
- Integrate existing DB