IRENA’s Power Generation Cost Analysis and Geothermal

Geothermal: Competing With Other Renewable And Non-Renewable Technologies Webinar, 19 November 2013

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About IRENA

As of October, 2013

- Members of the Agency
- Signatories/States in Accession

As of October, 2013
Rationale and goals

• Renewable energy can meet policy goals for secure, reliable and affordable energy and access.

• Lack of objective and up-to-date data is a barrier

• Decision making based on: outdated numbers, opinion

• IRENA to strive to become THE source for cost data

• Goals:
  ▪ Assist government decision-making, allow more ambitious policies
  ▪ Fill a significant information gap

• Coverage:
  ▪ Power generation (June 2012 and January 2013)
  ▪ Road Transport (July 2013)
  ▪ Stationary applications (2014)
RENEWABLE POWER
GENERATION 2012
Key findings

- Renewables now THE economic solution off-grid and for mini-grids, increasingly competitive for grid supply.
- A shift in policy focus will need to come.
- Dramatic price reductions for Solar PV. Onshore wind competitive at best sites, CSP has great potential. Hydropower, geothermal and biomass more mature.
- Equipment cost declines and technology improvements. LCOEs are falling.
- Data collection poses challenges.
- Why isn’t data systematically collected from support policies?
LCOE ranges and averages

[Chart showing LCOE costs for various renewable energy sources in OECD and Non-OECD regions, with diesel-fired and fossil fuel-fired electricity cost ranges indicated.]
Levelised cost of electricity by country/region

Note: assumes a 10% cost of capital
Geothermal: Installed costs have been rising

Source: IPCC, 2011

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Total installed costs of geothermal projects in Chile, Indonesia, Kenya, Mexico and the Philippines

Ex ante data, but what about ex post?
• Well defined resources of high quality can deliver highly competitive electricity
• Capital costs have been rising with commodity prices and engineering costs
• Risk profile is very different to other renewable technologies
• Many factors at play in determining the costs of a project
• Dedicated policy framework is essential to ensuring geothermal projects not disadvantaged
PLANS FOR THE IRENA RENEWABLE COSTING ALLIANCE
Rationale and Plans

• Analysis to date has been based on low hanging fruit
• Engage with business: The Alliance will work at a technical level on data and its availability
• Alliance members share, confidentially, their data on real world project costs
• Entirely voluntary, we work together for mutual benefit
• Establishment period now, official launch at Assembly
• Goals:
  ▪ more data, better data, a greater focus on analysis of data
Structure

Member countries:
Steering group for costing analysis focus
One workshop a year
Must nominate institution to deliver data
Quarterly newsletter

Alliance Members:
Provide data, confidentially
One workshop a year
Ability to query the database in detail
Quarterly newsletter

Observers:
Quarterly newsletter
Mailing list for new publications/analysis
Renewables are increasingly competitive, but more needs to be done to fulfill their potential…

IRENA is part of the solution

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www.irena.org/costs