

RESOURCE RISK AND ITS MITIGATION FOR THE FINANCING OF GEOTHERMAL PROJECTS

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ABSTRACT

The resource risk in connection with the financing of geothermal projects can be subdivided into questions of: resource existence, resource size, deliverability, cost of development and operation, environmental constraints, management and operational problems, and resource degradation. Except for the question of resource existence, these risks can change in perception, or in reality, over time. If resource risk cannot be managed or mitigated, it will result in increased cost, loss of revenue, or both, at times leading to economic failure and shutdown of the project. Costs accrue to the developer and the equity investors. In certain cases they can be passed on to lenders (default and rescheduling of payments), or to the public (increased power cost or increased taxes). This in turn may cause investors or lenders to shun future geothermal projects, or to increase the requirement for protective guarantees, with the result that future projects become more costly to finance, and thus less likely to succeed economically.

Several approaches have been tried by the financial institutions to mitigate resource risks; these can be summarized as the exercise of greater care by financiers in project selection and in disbursement of money, along with more careful monitoring of performance, and a willingness to take control of poorly performing projects. In order to mitigate or minimize the resource risks associated with geothermal project financing, lenders in the United States require verification of the geothermal resource, development plans, budgets and timetables, project structure and management, and environmental and regulatory issues. This verification is made periodically throughout the period when a substantial amount of capital is at risk.

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