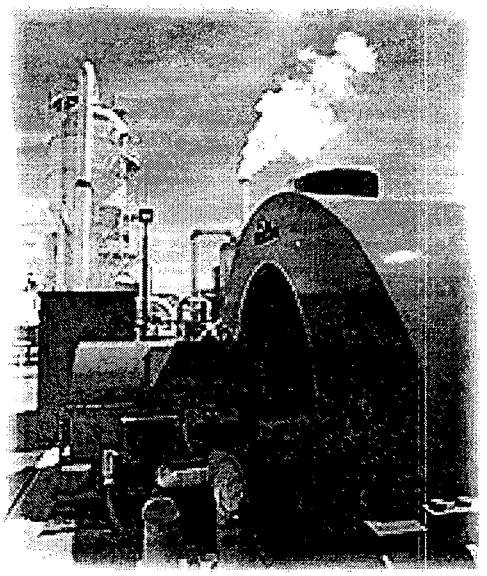


GEOTHERMAL

Written by:
E.C. Battocletti
Bob Lawrence & Associates, Inc.

For:
Sandia National Laboratories
Contract No. AS-0989

And:
The Office of Geothermal Technologies
U.S. Department of Energy

February 1998

Financing WORKBOOK

DISCLAIMER

Geothermal Financing Workbook

Acknowledgment

The *Geothermal Financing Workbook* was prepared by Elizabeth Battocletti of Bob Lawrence & Associates, Inc. for Sandia National Laboratories under Contract No. AS-0989.

Special thanks go to John Finger of Sandia National Laboratories and Dr. Marshall Reed of the U.S. Department of Energy's Office of Geothermal Technologies for their support; the Geothermal Energy Association, U.S. Geothermal Industry Corporation, and others who responded to the *Case Study Surveys*; the various financing sources who completed the *Geothermal Financing Questionnaire* and answered the author's many questions; the Multilateral Development Office of the U.S. Department of Commerce; and to those who proofread the Workbook and provided valuable comments. All mistakes which remain are solely the author's.

The photograph on the cover and title pages is of the CalEnergy Leathers Plant located near Brawley, California. Taken by Warren Gretz, it is provided courtesy of the National Renewable Energy Laboratory.

— February 1998

Geothermal Financing Workbook

Table of Contents

Introduction

"Financing is never in short supply—vision is."

—Achilles Adamantiades, *Workshop Proceedings on Financing the Development and Deployment of Renewable Energy Technologies,* May 15-16, 1995, p. 32.

By the year 2015, world energy demand is projected to reach nearly 562 quadrillion British thermal units (Btu). Two-thirds of that growth will occur in the developing and transitional economies, particularly in Asia. Of the total energy needed, 46.3 quadrillion Btu is estimated to come from renewable sources of energy.

At the Earth Summit in Rio de Janeiro, Brazil, in 1992, 166 countries endorsed the text of a Framework Convention on Climate Change committing the world's governments to stabilizing atmospheric concentrations of greenhouse gases.[1]

Geothermal energy has an important role to play in both delivering electricity to people in the developing and transitional economies (including those in the hard to reach, off-grid rural areas) and in helping to reduce greenhouse gas emissions. By the year 2010 U.S. geothermal power plants installed overseas will:

- ✔ account for an estimated 15,000 MW,
- ✔ supply electricity to 40 million people in the developing nations, and
- ✔ reduce greenhouse gas emissions by 22 million metric tons of carbon (MMTC) per year.

Geothermal district heating will warm 5 million homes and buildings around the world. Direct use of geothermal resources overall will increase ten-fold by the year 2010, reducing emissions by an additional 15 MMTC.[2] Many of these

---

1 *International Energy Outlook (IEO) 1997 World Energy Consumption;* May 1, 1997; http://www.eia.doe.gov/oiaf/ieo97/world.html.

2 "Geothermal Energy Can Make A Major Contribution," *First Alert*, Geothermal Energy Association, Vol.1 No. 1, January 1998.

geothermal projects will be small and medium-sized, 30 megawatts (MW) and lower. The big questions: *Who will pay for them?* and *How?*.

The *Who* has been addressed by several good publications, both general and with a regional focus. Power Money,[3] for one, which was produced by the U.S. Export Council for Renewable Energy, is an excellent source of information on U.S. government financing for renewable energy projects. There is less instruction, however, on the *How*, specifically, *how* smaller geothermal developers can structure their overseas projects and approach potential financing sources in a manner most likely to lead to success in obtaining financing and implementing their much-needed smaller projects.

What is the Geothermal Financing Workbook?

The *Geothermal Financing Workbook* was designed to help fill the *How* void, to take Power Money and other excellent sources like it, the next logical step—to give small and medium-size U.S. geothermal companies the information they need to identify, structure, and obtain financing for overseas geothermal projects.

Rather than reinventing the wheel, the Workbook coalesces into one comprehensive package and in one place, the spokes of that wheel—the information on project financing, financing plans, financial analysis, and financing sources that smaller project developers may find most relevant to their projects. (Financing sources included in the Workbook have indicated an interest in smaller geothermal projects.)

The Workbook will help smaller project developers become familiar with the financial analysis they should conduct and the jargon they should use in order to evaluate and present their projects in terms potential investors understand. Part of the problem that developers find when approaching potential investors is that they don't "speak the same language." The Workbook will give developers a better understanding of financial terminology thereby increasing their chances of having their projects taken seriously by investors, considered for financing, and ultimately, financed.[4]

---

[3] Power Money: The International Business Executive's Guide to Government Resources, by Williams A. Delphos, Second edition, (Washington, D.C., Venture Publishing, N.A.,© 1996).

[4] Investors receive countless requests for financing. The more the project developers can do to answer investors' questions and address their concerns up-front, the better their chances of having their projects seriously considered for financing.

Finally, the Workbook will apply the tools and information it provides to "structure financing" for three hypothetical Case Study Projects: [5]

1. a 20 MW flash/hybrid plant in Djibouti,
2. a 10 MW binary plant in Dominica, and
3. a 2 MW village power plant in Indonesia.

The Workbook will help you, the Project Developer to...

1. Understand *project financing* as a mechanism for financing your project, its advantages and disadvantages, criteria for successful project financing, and risk mitigation;

2. Assess your project's *financing readiness*, estimate its borrowing capacity, and develop a *financing plan*;

3. Perform a basic financial analysis of your project using:

   ✔ *discounted cash flow analysis* ,
   - Net Present Value analysis,
   - Internal Rate of Return analysis, and

   ✔ the *standard coverage tests* typically used by lenders:
   - interest rate coverage ratio,
   - fixed charge coverage ratio, and
   - debt service coverage ratio;

4. Understand what specific potential financing sources are looking for (e.g., investment criteria, financing structure, and application procedures), enabling you to:

   ✔ anticipate financing sources' need for financial data—the "What," "How," and "Why;"

[5] Case Study Projects were selected based on the results of surveys sent to member-companies of the Geothermal Energy Association (GEA), the U.S. Geothermal Industry Corporation (USGIC), and key members of the geothermal industry. Although hypothetical, based on their real resources and industry interest, Case Study Projects are entirely probable, and variations of all three are currently in development.

- ✔ tailor your approach and business and financing plans to better respond to individual investors' particular criteria; and

- ✔ improve your overall chances of getting your project financed at the optimal cost; and

5. Learn how to access the $45-billion Multilateral Development Bank (MDB) market.

The Workbook will not:

1. Take the place of a business or financing plan or substitute for financial advice;

2. Overcome the obstacles inherent in financing smaller (less than 30 MW) geothermal projects[6], including:

   - ✔ the high exploration, development, and financing costs associated with smaller geothermal projects; [7]

   - ✔ project sponsors who may have less of a track record in developing international projects; and

   - ✔ the poor or unproven creditworthiness of customers (e.g., state-owned utilities, municipalities, or rural populations).

3. Remedy the lack of financing for the exploration stage of a geothermal power project; and

---

6 Large project developers face many of the same problems but, due to their size and extensive in-house resources, can more readily absorb the transaction costs associated with overcoming regulatory, market, financing, and other barriers. They also have readier access to financing and advisory support.

7 "Unfortunately for smaller and medium sized projects, development costs are not proportionate to the size for the project, i.e., a 12 MW project may incur development costs equal to those of a 50 MW project...Legal costs in particular are not linearly related to project size." *Draft Financing Readiness: A Handbook for Energy Project Developers*, for the California Energy Commission by Power Project Financing, Inc., December 11, 1997, pp 4-1 and 4-2.

4. Solve financing problems that are not related to the economic soundness of your project or are caused by things outside of your control (e.g., country and political risk, economic instability, inflation, etc.).

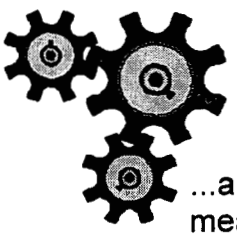
Project Financing [8]

What is Project Financing?

Project financing is:

> "...the raising of funds to finance an economically separable capital investment project in which the providers of the funds look primarily to the cash flow from the project as the source of funds to service their loans and provide the return of and a return on their equity invested in the project."[9]

Project financing is not...



...a way to finance a project that is so weak economically that it may not be able to service its debt or provide an acceptable rate of return to equity investors, or

...a way to finance a project that cannot be financed by conventional means.

A smaller project developer should consider project financing if it is unable to obtain sufficient funds to finance a project at a reasonable cost on its own. Project financing may then offer the only practical means of financing the project.[10]

There are two types of project financing:

4. Nonrecourse—securities and other borrowings are serviced entirely out of project cash flow.

5. Limited recourse—project sponsors are obligated to supplement the project's cash flow under certain (limited) circumstances.

---

8 This section is largely adapted from Project Financing: Asset-Based Financial Engineering by John D. Finnerty, Ph.D. (New York, NY: John Wiley & Sons, Inc., © 1996).

9 Ibid, p. 2.

10 Ibid, p. 24.

Figure 1[11] illustrates the basic elements and inter-relationships of a project-financed investment.

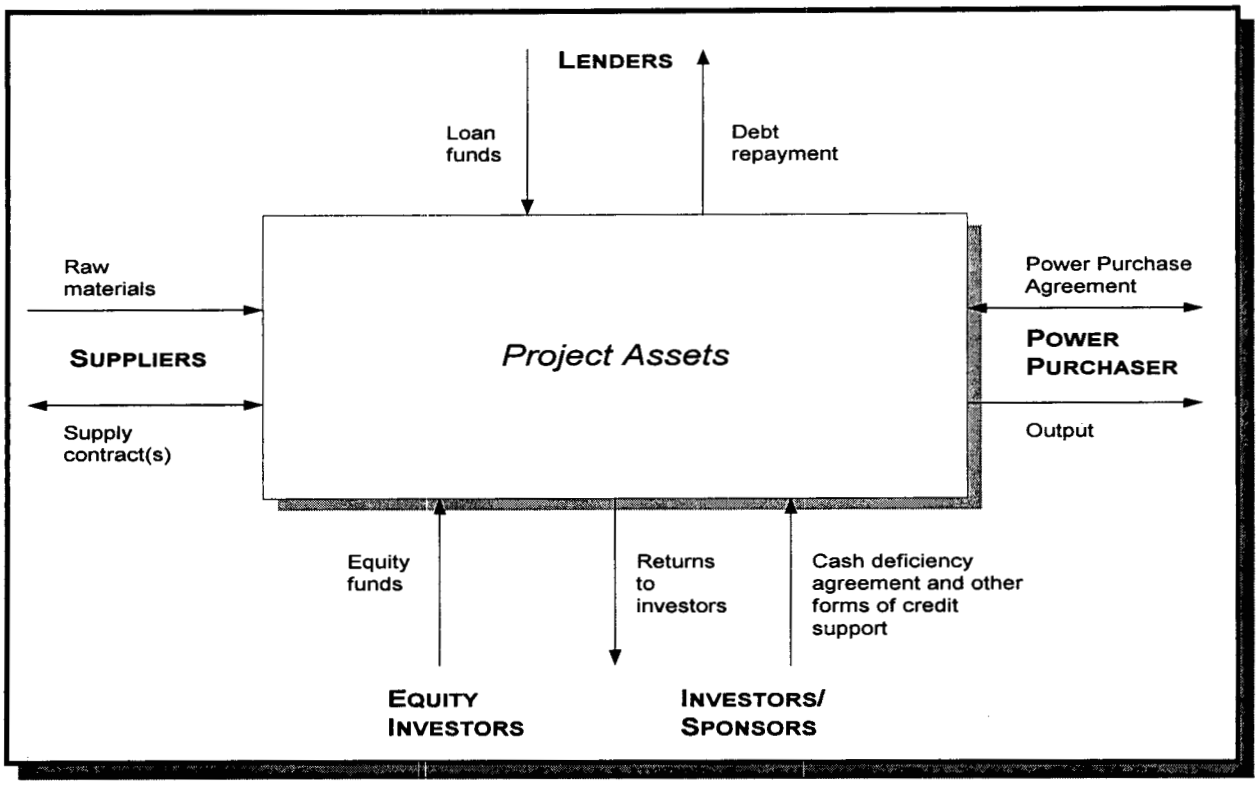


Figure 1 - The Basic Elements of a Project Financing

Criteria for Successful Project Financing

In a project financing, lenders require the sponsors or other creditworthy parties involved with the project to provide assurances, generally through contractual obligations, that:

1. the project will be completed even if costs exceed those originally projected or, if the project is not completed, its debt will be repaid in full;

2. the project, when completed, will generate cash sufficient to meet all of its debt service obligations; and

[11] Ibid, p. 3.

3. if for any reason, including force majeure, the project's operations are interrupted, suspended, or terminated, the project will continue to service (and fully repay on schedule) its debt obligations.[12]

On the downside, project financing is more costly to arrange than conventional direct financing. Because project financing is structured around a set of contracts that all parties must negotiate and agree to, it is usually more complex, costly, and time-consuming to arrange than conventional financing.

Due to the higher transaction costs and yield premiums inherent in project financing, project financing will usually be more cost-effective than conventional direct financing when:

1. it permits a higher degree of leverage than project sponsors could achieve on their own, and

2. the increase in leverage produces tax shield benefits sufficient to offset the higher cost of debt funds, resulting in a lower overall cost of capital for the project.[13] (For example, a heavily leveraged project carries more debt. The greater debt results in lower profits, thereby decreasing the project's tax burden.)

[12] Ibid, p. 53.

[13] Ibid, p. 33.

Table 1[14] compares direct or conventional direct financing to project financing.

CRITERION	DIRECT FINANCING	PROJECT FINANCING
Organization	• Large businesses are usually organized in corporate form. • Cash flows from different assets and businesses are commingled.	• The project can be organized as a partnership or limited liability company to utilize more efficiently the tax benefits of ownership. • Project-related assets and cash flows are segregated from the sponsor's other activities.
Control & monitoring	• Control is vested primarily in management. • Board of directors monitors corporate performance on behalf of the shareholders. • Limited direct monitoring is done by investors.	• Management remains in control but is subject to closer monitoring than in a typical corporation. • Segregation of assets and cash flows allows for greater accountability to investors. • Contractual arrangements governing the debt and equity investments contain covenants and other provisions that facilitate monitoring.
Allocation of risk	• Creditors have full recourse to the project sponsor. • Risks are diversified across the sponsor's portfolio of assets. • Certain risks can be transferred to others by purchasing insurance, engaging in hedging activities, and so on.	• Creditors typically have limited recourse—and in some cases, no recourse—to the project sponsors. • Creditors' financial exposure is project-specific, although supplemental credit support arrangements can at least partially offset this risk exposure. • Contractual arrangements redistribute project-related risks. • Project risks can be

[14] Ibid, pp. 25-27.

CRITERION	DIRECT FINANCING	PROJECT FINANCING
		allocated among the parties who are best able to bear them (e.g., engineering firm will build facility under a fixed-price turnkey contract, utility will purchase power under a PPA)
Financial flexibility	• Financing can typically be arranged quickly. • Internally generated funds can be used to finance other projects, bypassing the discipline of the capital market.	• Higher information, contracting, and transaction costs are involved. • Financing arrangements are highly structured and very time-consuming. • Internally generated cash flow can be reserved for proprietary projects.
Free cash flow	• Managers have broad discretion regarding the allocation of free cash flow between dividends and reinvestment. • Cash flows are commingled and then allocated in accordance with corporate policy.	• Managers have limited discretion. • By contract, free cash flow must be distributed to equity investors.
Agency costs	• Equity investors are exposed to the agency costs of free cash flow. • Making management incentives project-specific is more difficult. • Agency costs are greater than for project financing.	• The agency costs of free cash flow are reduced. • Management incentives can be tied to project performance. • Closer monitoring by investors is facilitated • Agency costs are lower than for internal financing.
Structure of debt contracts	• Creditors look to the sponsor's entire asset portfolio for their debt service. • Typically, debt is unsecured (when the borrower is a large corporation).	• Creditors look to a specific asset or pool of assets for their debt service. • Typically, debt is secured. • Debt contracts are tailored to the specific characteristics of the project.

CRITERION	DIRECT FINANCING	PROJECT FINANCING
Debt capacity	• Debt financing uses part of the sponsor's debt capacity.	• Credit support from other sources, such as purchasers of project output, can be channeled to support project borrowings. • The sponsor's debt capacity can be effectively expanded. • Higher leverage (which provides valuable interest tax shields) than the sponsor would feel comfortable with if it financed the project directly can be achieved.
Bankruptcy	• Costly and time-consuming financial distress can be avoided. • Lenders have the benefit of the sponsor's entire asset portfolio. • Difficulties in one key line of business could drain cash from "good" projects.	• The cost of resolving financial distress is lower. • The project can be insulated from the sponsor's possible bankruptcy. • Lenders' chances of recovering principal are more limited; the debt is generally not repayable from the proceeds of other unrelated projects.

Table 1 - A Comparison of Direct Financing and Project Financing

Risk Mitigation

There are countless risks in developing and financing a project. Investors are concerned about all a project's risks, specifically, who will bear them, how will they be minimized, and whether the project's cash flow will be adequate to compensate them for the risks they are being asked to bear.

In project financing, risk mitigation is achieved, in part, through an interlocked system of contracts between the project sponsor and other implementing parties. The nature and extent of the contractual arrangements depend on the financial strength of the sponsor(s), the profitability of the project, and the type and magnitude of project risks.

Project financing involves identifying and evaluating the risks and allocating them appropriately. The risks are numerous in a geothermal project, and include:

1. Sponsor risk

   - ✔ equity contribution and creditworthiness of project developer
   - ✔ corporate strength and experience

2. Completion risk

   - ✔ cost overruns
   - ✔ construction delays
   - ✔ increased construction costs
   - ✔ finance cost increases

3. Resource risk[15]

   - ✔ anticipated cost of well field development
   - ✔ future wells cooler than expected
   - ✔ reservoir permeability less than expected
   - ✔ recoverable heat reserve not sufficient to supply the project for the proposed period
   - ✔ wells produce at less than expected rate
   - ✔ borehole casing becomes corroded
   - ✔ development on surrounding leases leads to pressure interference

4. Operation risk

   - ✔ risk to the forecasted cash flow
   - ✔ poor technical and financial performance
   - ✔ plant downtime
   - ✔ fuel interruption
   - ✔ machinery breakdown
   - ✔ poor O&M
   - ✔ poor plant performance

---

[15] "Methods of Analysis of Economics and Risk of Geothermal Development" by Subir K. Sanyal. Presented at the Geothermal Resources Council Short Course — Engineering and Economic Assessment of Geothermal Resources, Kailua Kona, Hawaii, 31 August to 1 September 1995, pp. 91-112.

5. Offtake and sales risk

- ✔ risk that the project will fail to generate adequate income
- ✔ creditworthiness of purchaser/utility

6. Political or country risk

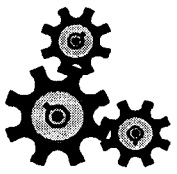
- ✔ greatest concern to lenders
- ✔ expropriation
- ✔ currency exchange—assuring availability of foreign exchange to service project debt and pay dividends to offshore investors is critical to obtaining project financing
- ✔ taxation and duties

7. Approvals, regulatory, and environmental risk

- ✔ home-country laws with extra-territorial applicability
- ✔ potential for default on the part of the government or its agencies in meeting contractual obligations
- ✔ laws may change without grandfathering provisions

8. Force majeure risk

- ✔ natural disaster or accident
- ✔ fires, flood, storms, earthquakes



When approaching potential financing sources, the project developer, *particularly one that is not a major corporation*, must address the specific risks of the project with a clear plan of how to overcome each risk or assign them to the party best suited to overcome them.

Table 2 notes the most common risks inherent in a geothermal power project, measures which can be taken or contracts which may be negotiated to lessen them, and additional comments.

RISK	RISK MITIGATION	COMMENT FOR SMALLER DEVELOPERS
Sponsor	Lenders will normally require 15-50% equity to ensure the sponsor's continued commitment.	Lenders generally prefer to work with corporate sponsors which have substantial technical expertise and financial depth. Small project developers, who do not have the resources and track record of major companies, should anticipate and prepare for a discussion with potential lenders on these points. Sponsor risk can be reduced in the lender's eyes if the smaller developer enters into a joint venture arrangement with a more established sponsor.
Completion / Construction	In the pre-construction stage, lenders will require insurance against physical damage, loss, and liability. For completion, lenders will request fixed-price "turnkey" construction contracts to be negotiated with the contractors.	This is the period of highest risk for lenders. It may be possible, subject to the robustness of the project economics, to pre-agree to a debt-funded cost overrun contingency facility, or to raise additional equity up-front to cover this risk. A Construction Contract is needed.
Resource	Potential lenders will likely require the opinion of an independent technical consultant on the project's geothermal resources.	The project sponsor must show that: • the resource is proven, • the contractor is an experienced geothermal developer, • the guarantees and warranties which have been negotiated are adequate, and • the resources will perform as expected for as long as expected.
Operation	Lenders derive comfort from the employment of an experienced third-party O&M contractor whose costs can be fixed. In addition to committing to an O&M schedule, an O&M contractor also guarantees to keep *x* MW online at *y*% load factor, and faces financial penalties if he fails to do so.	Sponsors should consider an O&M contractor, even though it may involve greater expense, because of the additional "comfort factor" it gives potential lenders. Sponsors should also carefully review the efficiency levels, downtimes, and predicted outages in the cashflows they provide. It is better to err on the side of conservative estimates. An O&M Agreement should be strongly

RISK	RISK MITIGATION	COMMENT FOR SMALLER DEVELOPERS
		considered.
Offtake & Sales	Risk that the project may fail to generate adequate income.	The sponsor should discuss the maturity of the market and price volatility in the business plan. Availability of a long-term, guaranteed-price Power Purchase Agreement (PPA) is a key element in eliminating volume and price risks.[16] Sponsors should expect lenders to require the repayment of their loans during the life of the PPA or preferential offtake contracts. Ways to contractually reduce the working capital required for the sponsor to realize pro forma revenue projections: • require the purchaser to procure directly major variable cost items, e.g., spare parts, or • structure purchase rates to insure a direct "pass-through" of O&M costs. To offset utilities which are not creditworthy in their own right, it may be possible to sell electricity directly to the end users, e.g., industry. Sponsors should also expect lenders to take a security interest in PPAs.
Political	A key consideration is the ability of the utility/buyer to pay in hard currency, preferably in the currency with which project obligations must be paid.	Currency risk mitigation: • sovereign guarantee, • irrevocable standby letter of credit from host government, • currency "swap" arrangements and block fund transfers, and • combination of barter and countertrade. Implementation Agreement (IA)[17] or state support agreement which seeks to guarantee the performance of government entities involved in the project.

16 Long-term, fixed-price PPAs are becoming increasingly rare. This applies less, however, to the developing and transitional countries where it is still possible to obtain a PPA, and where merchant plants are a future development.

17 Also called "Cooperation" or "Coordination" Agreement.

RISK	RISK MITIGATION	COMMENT FOR SMALLER DEVELOPERS
		Political risk insurance to cover basic risks of expropriation, currency inconvertibility, and breach of contract by government bodies. *(See OPIC, MIGA)*
Approvals, Regulatory & Environmental		Identify required governmental approvals and mandate governmental support in obtaining permits. Land Conveyance Agreement (LCA) transfers land ownership to the project company (purchase or long-term lease). The LCA must be assignable to lenders in case of default. Political risk insurance to cover basic risks of expropriation, currency inconvertibility, and breach of contract by government bodies. *(See OPIC, MIGA)*
Force Majeure		An IA may include a covenant which provides protection against uninsurable force majeure events to which a country may be especially susceptible (e.g., floods, cyclones, epidemics).

Table 2 - Common Geothermal Power Project Risks and Their Mitigation [18, 19]

[18] European Commission-Directorate General for Energy-DGXVII, THERNIE and SYNERGY Programmes, and the European Bank for Reconstruction and Development. "Guide to Energy Efficiency Bankable Proposals," April 1997, pp. 15-19.

[19] "Minimizing Business Risks in Geothermal Power Generation Projects," by George M. Knapp, from Meeting the Challenge of Increased Competition, Davis, CA, Geothermal Resources Council, 1997, pp. 471-477.

Assessing a Project's Financing Readiness

The *Developer Self-Scoring Test*, shown below in Table 3, is a simple yet effective way to measure a project's risk and financing readiness.

Developed by Power Project Financing, Inc. for the California Energy Commission, the Test is designed to assess a project's readiness for financing, specifically, how far, in temporal terms, a project is from seeking outside financing. Instructions for scoring and analyzing the Test follow.

SUCCESS FACTOR	HIGH = 3	MEDIUM = 2	LOW = 1
Developer Experience	• Developer team in place • Developer has done similar projects at same company	• Developer has experience in necessary tasks with similar projects at other companies or at the same company with dissimilar projects (e.g., geothermal vs. gas projects)	• First attempt at project development in lead role • Experience in individual disciplines does not count
Project Size	• Over 50 MW	• 20-50 MW	• Under 20 MW
Country	• Investment-grade rated • Strong economy • Active, well-regarded sovereign and corporate borrowing • Top 15-20 risk ranking of all countries	• Emerging market country • Low or below investment-grade but still ranked • Strongly growing economy • Large population • Natural resources and/or lost-cost labor force • Enabling legal system in place	• Unstable economy • Political instability • Lack of policy consensus among government, business, and labor
Geothermal Resource	• Resource proven • Exploration drilling completed	• Resource being proved • Exploration drilling in progress	• Resource unproven • Exploration drilling to be done
Status of Contracts	• All contracts executed and drafted as per international standards for project financing	• Competitive bid awarded or key meaningful and exclusive Letter of Intent or Memorandum of	• No commitments in writing

SUCCESS FACTOR	HIGH = 3	MEDIUM = 2	LOW = 1
		Understanding is signed	

Table 3 - Developer Self-Scoring Test to Evaluate Financing Readiness [20]

SCORING		TOTAL SCORE	ANALYSIS OF FINANCING READINESS
Step 1	Score 1 to 3 for each Success Factor	**100**	Ready to close financing; as certain as is possible.
Step 2	Multiply Success Factor scores	**60-100**	Project looks very good; very likely to succeed.
Step 3	Divide by 2.43	**40-60**	A decently, typical good project; perhaps 6 months from financing.
		20-40	A promising project; may have many hurdles to overcome; probably 1-2 years to go in development.
		1-20	An early-stage project with very high risk or with an unqualified sponsor.
		1	Will never be eligible for commercial financing.

Table 4 - Scoring the Test to Evaluate Financing Readiness

Example

A developer with no experience (1) has a project in China (2) using conventional geothermal technology (3) for a 20 MW plant (2) with a signed PPA (3)

Financing Readiness Score: $= 1 \times 2 \times 3 \times 2 \times 3 = 36 \div 2.43 = 14.8$

Analysis: An early-stage project with very high risk or with an unqualified sponsor.

[20] *Financing Readiness: A Handbook for Energy Project Developers* (draft version), by Power Project Financing, Inc. for the California Energy Commission, December 11, 1997, Section 1 pp. 1-4.

You may calculate your project's own "Financing Readiness" score:

SUCCESS FACTOR	SCORE
Developer Experience	
Project Size	
Country	
Geothermal Resource	
Status of Contracts	
TOTAL *(MULTIPLY ALL SCORES TOGETHER)*	
TOTAL ÷ 2.43	
FINANCING READINESS SCORE	

The Financing Plan & Basic Financial Analysis [21]

The Financing Plan

The **financing plan** describes how a project will be financed, specifically, the **sources**, **types** (e.g., debt, equity, quasi-equity, loan guarantees, insurance, etc.), and **allocation** of financing. The optimal financing plan for a project will:

1. ensure that sufficient financial resources are available to complete the project;

2. secure the necessary funds at the lowest practicable cost by maximizing debt as a percentage of total capitalization, and adjusting the amortization schedule for project debt to match the project's cash flows;

3. minimize the project sponsor's credit exposure to the project;

4. establish a dividend policy that maximizes the rate of return on the project sponsor's equity subject to the constraints imposed by lenders and the cash flow generated by the project;

5. maximize the value of the tax benefits of ownership to which the project will give rise; and

6. achieve the most beneficial regulatory treatment.[22]

---

[21] This section incorporates Chapters 6, 7, and 8 of Finnerty.

[22] Ibid, p. 91.

A financing plan format is below.

1. Current and Required Sources of Finance			
Financing Source	*Local Currency*	*USD (,000's)*	*% of Total Project Costs*
Sponsor's own resources			
Supplier			
Local banks			
Foreign loans			
Foreign equity			
Others:			
Total Project Costs			100%

2. Type of Financing Required			
Type of Financing	*Local Currency*	*USD (,000's)*	*% of Total Project Costs*
Debt			
Equity			
Other:			
Total			100%

Things to consider when designing a financing plan:

- ✔ In general, the lowest cost of capital will be achieved when:
  - debt is maximized as a percentage of total capitalization, and
  - the amortization schedule for project debt is matched as closely as possible to the project's cash flows.
- ✔ Creating a financing plan begins with an estimate of the total external funds required:

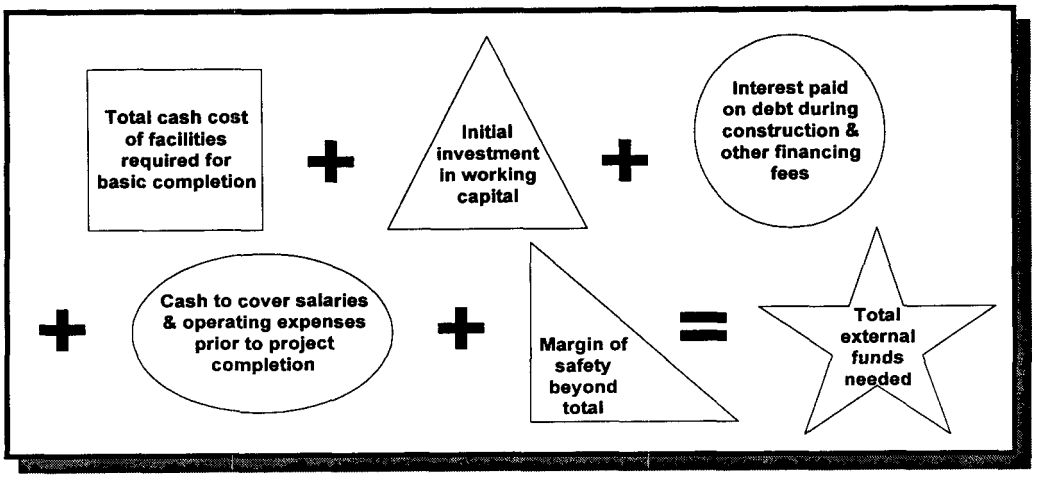


Figure 2 - Calculating Total External Funds

- ✔ A project's **maximum feasible debt/equity ratio** depends on the:
  - expected profitability and operating risks of the project,
  - adequacy of the project's security arrangements,
  - creditworthiness of the parties, and
  - sponsor's ability to contribute equity to the project.

- ✔ Of particular importance is whether there is a Power Purchase Agreement (PPA) or other long-term purchase commitment. The weaker these commitments, the lower the maximum debt/equity ratio.[23]

- ✔ Smaller project developers will usually have to look for outside equity investors. It may be advantageous for them to make a portion of the equity available to certain lenders or other participants:
  - financial institutions might be induced to lend more, or to lend on superior terms and conditions to the project if an **equity kicker**[24] is provided, or

[23] The typical equity/debt ratios that particular financing sources require are noted in the "Financing Sources" section of the Workbook.

[24] An "equity kicker" is when lenders receive an equity incentive (e.g., direct equity participation, royalty payments, or contingent payments) to assume additional risk to induce them to accept less restrictive covenants and less demanding credit support.

- power purchasers might consider an equity interest as sufficient encouragement to enter into a long-term PPA that would provide meaningful credit support to the project.

✔ The financing plan must address the need for and potential identity of outside equity investors for the project.

✔ A project's financing plan is composed of construction financing and permanent financing. Possible alternatives for securing construction financing are:

- the project company or a special-purpose finance corporation issues short-term promissory notes or borrowing short-term funds for construction directly from commercial banks, or
- each of the sponsors borrows its share of the required construction financing directly, on a short-term basis, from commercial banks, and then lends the funds to the project company.

✔ The existence of withholding taxes can influence the design of the financing plan for a project.

✔ Bank lenders to a project typically estimate the borrowing capacity of a project in two ways:

- they use **Discounted Cash Flow Analysis** to calculate Net Present Value (NPV) and Internal Rate of Return (IRR), and
- they test the ability of the project to meet its debt service payment obligations year by year by using **Annual Coverage Tests.**

Estimate the Borrowing Capacity of Your Project

A project's **borrowing capacity** is the amount of debt it can fully service during the loan repayment period.

The **Present Value (PV)** of a project is the total amount that a series of future payments is worth today. For example, when you borrow money, the loan amount is the present value to the lender. Stated another way, present value is the value of

the free cash flow stream that is available to service project debt, and is calculated from the project's cash flow projections.

Lenders are generally not willing to lend an amount to the project which exceeds a specified multiple of the present value of the project's free cash flow expected to be available for debt service over the loan repayment period. This multiple is known as the **Debt Service Ratio** or **Cash Flow Coverage**, and is calculated after depreciation and before taxes. A typical debt service ratio is 1.50.[25]

If you can estimate your project's revenues and expenses in Year 1, and the rate(s) at which both are expected to grow over the loan repayment period, you can use the **Borrowing Capacity Model** [26] to estimate the maximum amount of debt your project's cash flow will support.

The Borrowing Capacity Model can be applied to two different drawdown schedules: full drawdown immediately prior to project completion or periodic loan drawdowns.

BORROWING CAPACITY MODEL -- VARIABLES	
R	Cash revenues in Year 1 (first full year of operation)
E	Cash expenses in Year 1 (first full year of operation)
C	Noncash expenses deductible for tax purposes each year
T	Income tax rate
g_R	Annual growth rate of cash revenues
g_E	Annual growth rate of cash expenses
I	Interest rate on the debt
N	Life of the loan measured from the date of project completion
M	Loan deferral or grace period
PV	Present value
α	Target debt service/cash flow coverage ratio
D^*	Maximum loan amount

25 A debt service coverage ratio which is less than 1.00 indicates that a project cannot service its debt fully out of operating income.

26 Ibid, p. 101.

In the case of full drawdown immediately prior to project completion:

$$D° = \mathrm{PV} / \alpha$$

In the case of a loan deferral or a grace period—when revenues and operating expenses do not begin for M years from the date the loan is initially drawn down and the loan is drawn down during plant construction—the maximum loan amount can be found using equation 1:

$$D° = \mathrm{PV} / \left[\alpha (1+i)^{M}\right] \quad (1)$$

The present value of the cash flow stream available during the N-year period between project completion and final loan repayment is:

$$\mathrm{PV} = \sum_{t=1}^{N} \frac{(1-T)R(1+g_R)^{t-1}}{(1+i)^t} - \sum_{t=1}^{N} \frac{(1-T)E(1+g_E)^{t-1}}{(1+i)^t} + \sum_{t=1}^{N} \frac{TC}{(1+i)^t}. \quad (2)$$

which can be simplified to...

$$\frac{(1-T)R}{i-g_R}\left[1-\left(\frac{1+g_R}{1+i}\right)^{N}\right] - \frac{(1-T)E}{i-g_E}\left[1-\left(\frac{1+g_E}{1+i}\right)^{N}\right] + \frac{TC}{i}\left[1-\left(\frac{1}{1+i}\right)^{N}\right]. \quad (3)$$

Now assume that the project has a target debt level which we will call D. Given the desired loan amount of D, we can rewrite equation 3 to solve for R, the Year 1 revenues the project must generate to meet the cash flow coverage ratio test given a target debt level of D:

$$R = \frac{(1+i)^M \alpha D + \frac{(1-T)E}{i-g_E}\left[1-\left(\frac{1+g_E}{1+i}\right)^N\right] - \frac{TC}{i}\left[1-\left(\frac{1}{1+i}\right)^N\right]}{\frac{(1-T)}{i-g_R}\left[1-\left(\frac{1+g_R}{1+i}\right)^N\right]}. \quad (4)$$

When $g_E = g_R = g$, and $C = 0$, equation 4 simplifies to:

$$R = \frac{(1+i)^M \alpha D(i-g)}{(1-T)\left[1-\left(\frac{1+g}{1+i}\right)^N\right]} + E. \quad (5)$$

And now, for an example. Assume the following parameter values:

BORROWING CAPACITY MODEL— EXAMPLE		
R	$150 million	Cash revenues in Year 1 (first full year of operation)
E	$26 million	Cash expenses in Year 1 (first full year of operation)
C	0	Noncash expenses deductible for tax purposes each year
T	40% (0.40)	Income tax rate
g_R	5% p.a.	Annual growth rate of cash revenues
g_E	5% p.a.	Annual growth rate of cash expenses
i	10% (0.10)	Interest rate on the debt
N	12 years	Life of the loan measured from the date of project completion
M	2 years	Loan deferral or grace period
α	1.50	Target debt service/cash flow coverage ratio

Using equation 3 to solve for PV, the Present Value of the project is $636.54 million. Applying equation 1, we find that the maximum loan amount with a target debt service coverage ratio of 1.50 and a two-year grace period is:

$$D^{\circ} = 636.54 / [1.50(1.1)^2] = \$350.71 \text{ million.}$$

Assume the same parameter values as above, but with a grace period of 3 rather than 2 years and a debt service coverage ratio of 1.25. We find that the maximum loan amount is:

$$D^{\circ} = 636.54 / [1.25(1.1)^3] = \$382.59 \text{ million.}$$

Now suppose the project developer wants to know how much revenue the project must generate in Year 1 to service long-term debt of $D = \$350$ million with a three-year grace period and a target debt service coverage ratio of 1.50. They co can use equation 5 to calculate R, the amount of revenue required during the first full year of operations if $D = \$350$ million:

$$R = \frac{(1.1)^3(1.50)(350)(0.05)}{(0.6)\left[1-\left(\frac{1.05}{1.10}\right)^{12}\right]} + 26 = \$162.1 \text{ million.}$$

Now, suppose that I, the interest rate, is 8% rather than 10%. Assuming that $g_R = g_E = g = 5\%$, then:

$$R = \frac{(1.08)^3(1.50)(350)(0.05)}{(0.6)\left[1-\left(\frac{1.05}{1.08}\right)^{12}\right]} + 26 = \$218.1 \text{ million.}$$

Discounted Cash Flow Analysis [27]

When approached by a project developer to invest in a project, a potential investor will look at several factors:

1. The **Creditworthiness of Project Participants** - the participants' ability to perform the intended project functions and to fulfill their financial obligations, namely their:

   - ✔ reputation, experience, staffing, management;
   - ✔ cash position and net worth;
   - ✔ income stability;
   - ✔ borrowing capacity and history;
   - ✔ liabilities or obligations inherent in the geothermal industry;
   - ✔ financial strength and ability to access capital; and
   - ✔ regional or local expertise; and

2. The **Creditworthiness of the Project** - the strengths and weaknesses of the project itself, including:

   - ✔ the reliability of project revenues and cash flows;
   - ✔ debt service coverage ratios;
   - ✔ mitigation of various risks, e.g., market (change in market demand, currency exchange fluctuation, interest rate risk), economic (inflation), political, country, etc.;
   - ✔ availability of insurance;
   - ✔ existence of security packages and their enforceability (lenders must always have at least two ways out of a credit); and
   - ✔ the geothermal resource and technology being used.[28]

A potential investor uses **discounted cash flow analysis** to ascertain the economic viability and profitability of a proposed project and the adequacy of the rates of return that they can expect. The objective of discounted cash flow analysis is to find projects that are worth more than they cost—projects that have a positive **Net**

---

27 Ibid, pp. 99-107.

28 "Credit Requirements for Commercial Bank Lending to Power Projects: Credit Suisse Project Finance," by R. Scott McInnis and Stephen Rigal Jones from the proceedings of the World Geothermal Congress, 1995, Auckland, New Zealand: International Geothermal Associates, Inc., Volume 4, (1995), pp. 2921-2923.

Present Value (NPV) and an **Internal Rate of Return (IRR)** that exceeds the cost of capital.

NPV is the difference between what a project costs and what it is worth; the present value of all of the after-tax cash flows, all its costs now and in the future. When considering the purchase of capital assets (e.g., land, plant, and machinery), a project sponsor or potential investor must compare the expected future cash flows resulting from the purchase to the amount of the initial investment.

IRR is the capital investment project's expected rate of return; if the required rate of return (cost of capital) equals the IRR (the expected rate of return), the project's NPV is zero.

Discounted cash flow analysis can be broken down into four steps:

1. Compute the amount of the initial investment needed
2. Project the incremental, after-tax cash flows,
3. Estimate the cost of capital, and
4. Use the Net Present Value (NPV) and Internal Rate of Return (IRR) methods to determine whether the project is worth more than it costs and is therefore worth undertaking.

This explanation will start with Step 2.

❷ Project the Incremental After-tax Cash Flows

Only cash flow, not earnings, can be used to service a project's debt. Cash flows must be measured on an **incremental, after-tax basis**.

Incremental cash flow is the difference between the sponsor's cash flow with and without the project. Sunk costs—money that has already been spent on the project for items such as feasibility studies, R&D, drilling, exploration, and site preparation—are not relevant in the calculation. Only future expenditures are relevant to deciding whether or not to proceed with a project.

A capital investment project has four different types of cash flows:

1. **Net initial investment outlay (C_O)** are cash expenditures, changes in net working capital, net cash flow from the sale of old equipment, and investment tax credits:

$$C_O = -I_O - \Delta W - (1-\tau)E_O + (1-\tau)S_O + \tau B_O + I_C. \quad (6)$$

INCREMENTAL CASH FLOW ANALYSIS -- VARIABLES	
C_O	Net initial investment outlay
I_O	Initial cash expenditures
ΔW	Increase in net working capital
τ	Marginal tax rate
E_O	Expensed cost
S_O	Net sale price (revenues minus expenses)
B_O	Net book value
I_C	Investment tax credit

Capitalized expenses [29] do not affect taxes at the start of a project. **Expensed items**[30] have an immediate tax benefit.

2. **Net operating cash flows, or cash flows after taxes (CFAT)**, are funds which will be realized from operating the asset, and can be thought of as net income plus depreciation:

$$CFAT = (1-\tau)(\Delta R - \Delta E - \Delta D) + \Delta D. \quad (7)$$

CASH FLOW AFTER TAX (CFAT) — VARIABLES	
τ	Marginal tax rate
ΔR	Changes in revenue

29 The cost of a **capitalized** asset is allocated to two or more time periods.

30 An **expensed** cost is recognized for tax purposes at the time of expenditure.

CASH FLOW AFTER TAX (CFAT) — VARIABLES	
ΔE	Changes in expenses
ΔD	Depreciation change

For simplicity, assume that all depreciation is recognized on a straight-line basis. Consequently, ΔD, the change in depreciation, is identical each period.

3. **Nonoperating cash flows** are funds needed to support the initial investment outlay (e.g., major overhaul expense), and can be either capitalized or expensed immediately.

4. **Net salvage value** is the after-tax net cash flow for terminating the project, and can be broken down into sale of assets, cleanup and removal expenses, and release of net working capital[31]:

$$(1-\tau)S + \tau B - (1-\tau)\text{REX} + \Delta W \quad (8)$$

NET SALVAGE VALUE -- VARIABLES	
τ	Marginal tax rate
S	Sale price
B	Book value
REX	Cleanup and removal expense
ΔW	Increase in net working capital

An Example of Incremental Cash Flow Analysis

Geo-Co is considering investing in a geothermal power project that would involve purchasing equipment costing $15 million. The new equipment would be depreciated over a 10-year period on a straight-line basis to a net book value of $500,000. The project would produce pretax cash flows of $1.5 million per year for 10 years.

31 Cleanup and removal expenses are generally expensed immediately. The release of net working capital is not affected by tax considerations. Tax law treats it as an internal transfer of funds. It is simply an added cash flow.

Geo-Co estimates that the project would involve additional start-up costs of $1 million. Of this amount, $900,000 would be capitalized in the same way as the equipment (straight-line over 10 years), and the remaining $100,000 would be expensed immediately. The project would also require an investment in net working capital of $2 million. Finally, it is expected that, at the end of 10 years, the project will require $250,000 for closing old wells. Geo-Co estimates a marginal tax rate of 40 percent for the project.

Geo-Co's cash expenditures for the initial outlay are:

- ✔ the $15 million purchase price,
- ✔ the $900,000 capitalized installation cost, and
- ✔ the $100,000 expensed installation cost.

I_0 = $15.9 million and E_0 = $100,000. The increase in net working capital is ΔW = $2 million. No investment tax credit is specified.

INCREMENTAL CASH FLOW ANALYSIS -- GEO-CO		
I_0	$15 million + $900,000 = $15.9 million	Initial cash expenditures
ΔW	$2 million	Increase in net working capital
T	40% (0.40)	Marginal tax rate
E_0	$100,000	Expensed cost
S_0	Not specified	Net sale price (revenues minus expenses)
B_0	$500,000	Net book value
I_C	Not specified	Investment tax credit
ΔR	$1.5 million	Changes in revenue
ΔE	Not specified	Changes in expense
ΔD	$1.45 million [32]	Depreciation change
S	$500,000	Sale price
B	$500,000	Book value
REX	$250,000	Cleanup expense

[32] Change in depreciation (for years 1 through 10) would equal $15 million (Equipment Cost) minus $500,000 (Net Book Value) divided by 10, or $1.45 million.

Using equation 6, the Net Initial Investment Outlay for Geo-Co's project is:

$$C_O = -15{,}900{,}000 - 2{,}000{,}000 - (1 - 0.4)(100{,}000) + 0 + 0 + 0.$$
$$C_O = -17{,}960{,}000.$$

Using equation 7, the Net Operating Cash Flow, or Cash Flow After Tax, resulting from investing in the project is:

$$CFAT = 0.6(1{,}500{,}000 - 1{,}450{,}000) + 1{,}450{,}000.$$
$$CFAT = 30{,}000 + 1{,}450{,}000.$$
$$CFAT = \$1{,}480{,}000.$$

The equipment is expected to have a book value of $500,000 at the end of the project's life. A well reserve expenditure of $250,000 is expected. Using equation 8, the project's Net Salvage Value is:

$$= 0.6(500{,}000) + 0.4(500{,}000) - 0.6(250{,}000) + 2{,}000{,}000.$$
$$= \$2{,}350{,}000.$$

To summarize:

INCREMENTAL CASH FLOW ANALYSIS -- GEO-CO		
C_o	$17.96 million	Net initial investment outlay
CFAT	$1.48 million	Cash flow after tax / Net operating cash flow
	$2.35 million	Net salvage value

Using the above information. we can outline the incremental cash flows for Geo-Co's project (in $ millions):

INCREMENTAL CASH FLOW ANALYSIS — GEO-CO											
YEAR	0	1	2	3	4	5	6	7	8	9	10
Cash Flow	-17.96	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	3.83

Geo-Co's incremental cash flow shows how much money is available to service the debt on an annual basis, and will also enable us to calculate the project's Net Present Value and Internal Rate of Return (see Step 4).

❸ Estimate the Cost of Capital for a Project

To estimate the cost of capital for a project, you must first know the project's operating risk profile (**beta**)[33] and its capital structure (debt/equity). In project financing, a project's beta is not the same as the sponsor's because the sponsor has limited liability for the debt of the project company.

To calculate the total Cost of Capital, you must add the Cost of Equity to the Cost of Debt. Cost of Equity may be calculated using the **Capital-Asset-Pricing Model (CAPM)**:

$$r_e = r_f + \beta(r_M). \quad (9)$$

CAPITAL-ASSET-PRICING MODEL (CAPM) COST OF EQUITY	
r_e	Required rate of return for equity
r_f	Risk-free interest rate
β	Common equity beta
r_M	Expected excess return on the market portfolio

Cost of Debt may be measured using the **Weighted Average Cost of Capital (WACC)**:

$$\text{WACC} = (1-\theta)r_e + \theta(1-\tau)r_d. \quad (10)$$

WEIGHTED AVERAGE COST OF CAPITAL (WACC) COST OF DEBT	
θ	Ratio of debt financing to total investment value

[33] Beta (β) is a measure of an asset's risk in relation to the market. A stock with a beta of more than 1.0 is generally more volatile than the market. For example, a stock with a beta of 1.5 will tend to rise or fall by 15% when the market portfolio rises or falls by 10%.

Weighted Average Cost of Capital (WACC) Cost of Debt	
r_e	Required rate of return for equity
τ	Marginal income tax rate
r_d	Required rate of return on debt

Since calculating beta is beyond the scope of this workbook, the easiest way to demonstrate how to calculate cost of capital is with an example. Using the CAPM and the following, calculate the cost of capital for Geo-Co's project.

Cost of Capital — Geo-Co		
r_f	6% (0.06)	Risk-free interest rate
β	1.25	Common equity beta
r_M	8.4% (0.084)	Expected excess return on the market portfolio
τ	40% (0.40)	Marginal income tax rate
θ	80% (0.80)	Ratio of debt financing to total investment value
	10% (0.10)	Expected cost of debt (pretax)

1. Use CAPM (equation 9) to estimate r_e:

$$r_e = 6.0 + 1.25(8.4) = 16.5 \text{ percent.}$$

2. Use WACC (equation 10) to calculate the project's total cost of capital:

$$\begin{aligned} &= (1-\theta)r_e + \theta(1-\tau)r_d. \\ &= (0.2)(0.165) + (0.8)(0.2)(0.1). \\ &= 0.033 + 0.016. \\ &= 0.049. \end{aligned}$$

The project's cost of capital is 4.9 percent.

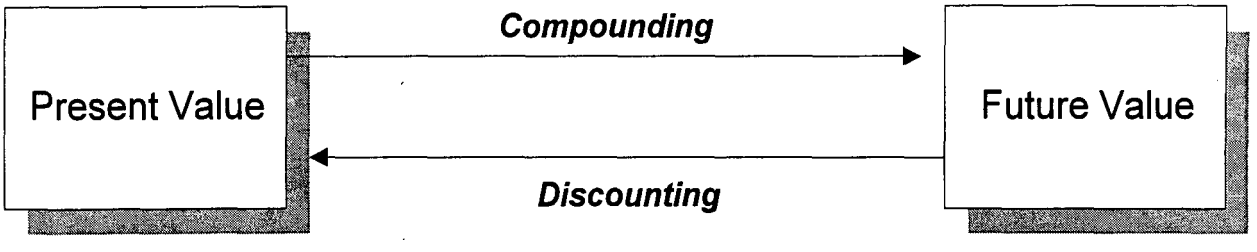
Table 5 outlines the appropriate cost of equity capital for different types of businesses.[34]

Cost of Equity	Business Type
10% to 15%	Large businesses that are leaders in their industry. These businesses are comparable to publicly traded companies and future earnings can be easily estimated based on historical trends.
16% to 20%	Larger businesses that have a stable earnings record, capital is readily available and there is depth in management. Future earnings are fairly predictable.
21% to 25%	Medium-sized businesses that have a fairly long history. May have some management depth but is in a competitive and ever-changing industry where the risk is high.
26% to 30%	Smaller-sized businesses that depend on a few key people usually consisting of family members or friends. Difficult to project the future earnings of the business and is usually undercapitalized.
31% to 40%	Businesses that depend heavily on the skills of one person, usually set up as sole proprietorship. These types of businesses are usually service oriented and may be based in the home of the business owner. Extremely difficult to project the future earnings of the business.

Table 5 - Cost of Equity Capital for Different Businesses

❹ Calculate NPV and IRR

The fourth and final parts of discounted cash flow analysis are the Net Present Value (NPV) and Internal Rate of Return (IRR) analyses. The basic premise of NPV and IRR is the time value of money, or the fact that a dollar today is worth more than a dollar in the future. An increase in value is commonly known as **compounding**. The reverse of compounding is **discounting** which is used to determine the present value of money.[35]



[34] Financial Tune-up Demo 1.0.01, ©1995-96 Odyssey Computing, Inc. and Furistics Corp. A free 30-day demo version is available for download at http://www.odysseyinc.com/ftp/#ftu97d.

[35] Ibid.

The **Net Present Value (NPV)** of a project is the difference between what it costs and what it is worth. Because its future it unknown, we must estimate NPV.

The NPV of a capital investment project is the present value of all of the after-tax cash flows (CF)—all its costs now and in the future. The variable r equals the discount rate, or cost of capital:

$$NPV = CF_0 + \frac{CF_1}{(1+r)} + \frac{CF_2}{(1+r)^2} + \cdots + \frac{CF_n}{(1+r)^n} = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}. \quad (11)$$

Most spreadsheet programs (e.g., Excel and Quattro Pro) will calculate PV and NPV.

If the NPV is negative, or will be worth less than it costs, the project should be rejected. When comparing two projects, the project with the higher NPV is a better investment.

The **Internal Rate of Return (IRR)** is a project's expected rate of return. If the cost of capital equals IRR, the NPV would be zero. The IRR for a project is the discount rate that makes the NPV zero:

$$0 = \sum_{t=0}^{n} \frac{CF_t}{(1+IRR)^t} = CF_0 + \sum_{t=1}^{n} \frac{CF_t}{(1+IRR)^t}. \quad (12)$$

Most financial calculators and spreadsheet programs will calculate the IRR of a cash flow stream.

Undertake a capital investment project if the IRR exceeds r, the project's cost of capital.

Let's calculate the NPV and IRR for the Geo-Co project. The project's cost of capital is 4.9%. Geo-Co's incremental cash flows calculated earlier in this section are:

INCREMENTAL CASH FLOW ANALYSIS — GEO-CO											
YEAR	0	1	2	3	4	5	6	7	8	9	10
Cash Flow	-17.96	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	1.48	3.83

Using equation 11, Geo-Co's NPV is:

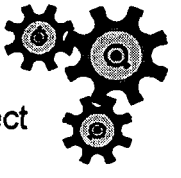
$$NPV = \sum_{t=0}^{n} \frac{CF_t}{(1+r)^t}.$$

$$NPV = -17.96 + \sum_{t=1}^{9} \frac{1.48}{(1.049)^t} + \frac{3.83}{(1.049)^{10}}.$$

$$NPV = -\$5.87 \text{ million}.$$

Since the NPV is negative, the project should not be undertaken. What is the Geo-Co project's IRR? Using Excel, we find that the IRR is -2%.

A smaller project often has a larger IRR but a smaller NPV than a larger project.



In cases like this, the project that will add the most wealth—the project with the higher NPV—should be selected.

Annual Coverage Tests

Lenders generally use three financial ratios to ascertain a project's ability to service its debt on a year by year basis:

1. Interest rate coverage ratio,
2. Fixed charge coverage ratio, and
3. Debt service coverage ratio.

RATIO	EQUATION AND INTERPRETATION
Interest rate coverage	***= Earnings Before Interest & Taxes (EBIT) / Interest*** • Measures project's ability to cover interest charges. • An interest coverage ratio below 1.00 indicates that a project cannot cover its interest charges fully out of operating income. • Lenders typically require interest coverage over 1.00.
Fixed charge coverage	***= (EBIT + ⅓ rentals) / (Interest + ⅓ rentals)*** • Used if there are rental agreements which do not appear on the project company's balance sheet. • The Security and Exchange Commission (SEC) permits companies to treat one-third of rental payments as the interest component. • An fixed charge coverage ratio below 1.00 indicates that a project cannot cover its interest charges fully out of operating income.

RATIO	EQUATION AND INTERPRETATION
Debt service coverage	$$= \frac{EBITDA + Rentals}{Interest + Rentals + \frac{Principal\ repayments}{1 - Tax\ rate}}$$ 1. Accounts for all debt service payment obligations. 2. A debt service coverage ratio below 1.00 means that the project cannot fully service its debt out of project cash flow and will have to borrow funds or seek equity to cover the shortfall. 3. Particularly useful in designing the amortization schedule for project debt. 4. Most comprehensive of the three coverage ratios. * EBITDA = Earnings before interest, taxes, depreciation, and amortization.

Case Study Projects

Case Study Projects apply the methods and information described in the "The Financing Plan and Basic Financial Analysis" and "Financing Sources" sections of the Workbook to three specific geothermal power projects. Case Studies are divided into two sections. The first section of the Case Study uses approximate numbers and assumptions to perform a basic financial analysis of the project:[36]

- ✔ Present Value,
- ✔ Net Present Value,
- ✔ Internal Rate of Return,
- ✔ Maximum loan amount with current revenue,
- ✔ Year 1 Revenue required for desired loan amount, and
- ✔ Cash flow projection.

The second section of the Case Study identifies potential financing sources for each project.

Based on a side-by-side comparison of the three Case Study Projects, as structured and using the approximate numbers, only the Djibouti project with a positive NPV, is a good investment.

	Djibouti	Dominica	Indonesia
Discount Rate	12.0%	10.0%	10.0%
Net Present Value (NPV)	$11,924,214	($6,261,864)	($1,234,230)
Internal Rate of Return (IRR)	15.4%	6.4%	5.5%

Case Study Projects were selected based on industry demand, specifically that of smaller U.S. geothermal companies. Although hypothetical, based on the real existence of both geothermal resources and industry interest, Case Study Projects are entirely probable. Variations of all three are in various stages of development.

---

36 The spreadsheet used to do the financial analysis is available from Bob Lawrence & Associates, Inc. in Excel or Quattro Pro format upon request to EcBatto@aol.com.

37 Source for maps: *CIA 1996 World Factbook.*

Industry demand was ascertained through two surveys sent to 20 representatives of geothermal companies, the GEA, USGIC, the U.S. Department of Energy, Sandia National Laboratories, and other interested parties. The first case survey obtained a broad understanding of the companies' regional interests. The second survey, using the results of the first, asked the same group to prioritize eight specific projects. The three projects with the highest "interest quotients" were selected. Effort was made to work with geothermal companies in order to structure Case Study Projects along the parameters of actual projects.

Djibouti:
20 MW flash/hybrid plant

Present Value:
$38,894,528

Net Present Value:
$11,924,214

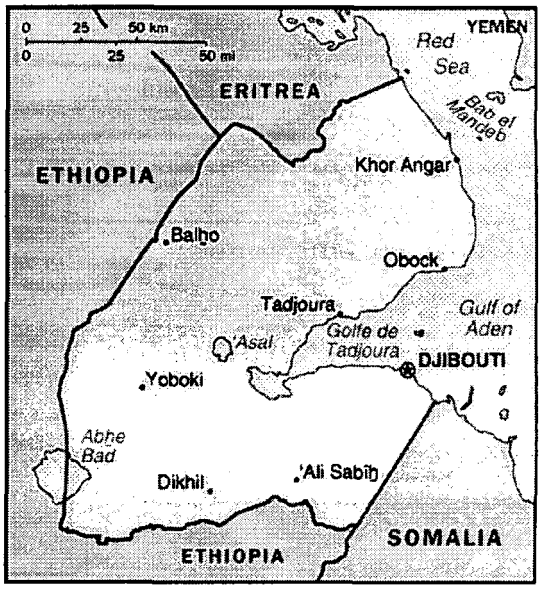
Internal Rate of Return:
15.4%

Maximum loan amount:
$21,876,116

Year 1 Revenue required for desired loan amount:
$18,900,150

Assumption	
Gross production MW	20
Capacity factor (less parasitic load & line loss)	90%
Net production MW	18
Power plant & wellfield unit cost (per kW)	$2,645
Total project cost	$52,900,000
Electricity price per kWh	$0.085
Year 1 Cash Revenues	$12,062,520
Year 1 Cash Expenses (includes O&M)	$5,290,000
Noncash expenses deductible for tax purposes	$0
Income tax rate	40%
Annual growth in revenues	5%
Annual growth in expenses	3%
Interest rate	12%
Loan period (years)	15
Grace period (years)	1.5
Target debt service coverage ratio	1.50
Desired loan amount (80% debt)	$42,320,000

Cash Flow Projection			
Year	Outgoing	Incoming	Net
			($52,900,000)
1	$5,290,000	$12,062,520	$6,772,520
2	5,448,700	12,665,646	7,216,946
3	5,612,161	13,298,928	7,686,767
4	5,780,526	13,963,875	8,183,349
5	5,953,942	14,662,068	8,708,127
6	6,132,560	15,395,172	9,262,612
7	6,316,537	16,164,930	9,848,394
8	6,506,033	16,973,177	10,467,144
9	6,701,214	17,821,836	11,120,622
10	6,902,250	18,712,928	11,810,677
11	7,109,318	19,648,574	12,539,256
12	7,322,597	20,631,003	13,308,406
13	7,542,275	21,662,553	14,120,278
14	7,768,543	22,745,680	14,977,137
15	8,001,600	23,882,965	15,881,365



Djibouti
Type of Financing
Debt
African Development Bank
International Finance Corporation
Islamic Financing Sources
Overseas Private Investment Corporation — project finance
Equity
African Development Bank
Global Environment Fund®
International Finance Corporation
Islamic Financing Sources
Other:
Multilateral Investment Guarantee Agency — political risk insurance
Overseas Private Investment Corporation — political risk insurance
U.S. Trade & Development Agency — Feasibility studies, Orientation visits, Trade-related training

Potential financing sources [38, 39]

1. African Development Bank (AfDB), Private Sector Department

   - ✔ Type(s) of Financing: Project finance, Venture capital.
   - ✔ Form(s) of Financing: Debt, Equity, Quasi-equity investments, Loan guarantees, Syndications, Underwriting, Advisory services.
   - ✔ Investment Range (US$): Typically from $140,000 to $14 million. Can be exceeded on case-by-case basis. Maximum limits are one-third of total project costs. Up to 25% of paid-in capital in the case of equity participation.
   - ✔ Term Range (years): Flexible. Typically from 5 to 12 years.
   - ✔ Other: The AfDB is a passive investor. Equity participation is conditional upon pre-determined exit strategy. Majority of voting stock must be owned by private

[38] As of February 1998, the Export-Import Bank of the United States (Ex-Im Bank) was not open in Djibouti.

[39] Complete information on most financing sources listed above can be found in the "Financing Sources" section of the Workbook beginning on page 60.

sector investors. Investee companies must have operational autonomy and managerial freedom.

2. Global Environment Fund®

- ✔ Type of Financing: Project finance.
- ✔ Form of Financing: Equity.
- ✔ Investment Range (US$): Depending on fund, ranges up to $18 million; invests in countries where OPIC programs are available.
- ✔ Term Range (years): From 3 to 7 years.

3. International Finance Corporation, The Infrastructure Department, Power Division

- ✔ Type(s) of Financing: Technical assistance, Project finance.
- ✔ Form(s) of Financing: Debt, Equity, Quasi-equity, Loan guarantees.
- ✔ Investment Range (US$): From $1 million to $100 million and higher. Up to 25% of total projects costs for greenfield projects or long-term capitalization of a company. Up to 50% of total project costs for expansion and rehabilitation projects.
- ✔ Term Range (years): Up to 15 years.

4. Multilateral Investment Guarantee Agency (MIGA)

- ✔ Type of Financing: Political risk insurance coverage against currency transfer restriction, expropriation, war and civil disturbance, and breach of contract.
- ✔ Form of Financing: Investor guarantees for equity, loans (shareholder and non-shareholder), loan guaranties, and technical assistance agreements.
- ✔ Investment Range (US$): Up to $75 million maximum per single project. Maximum Amounts of Guarantees for Equity is up to 90% of the investment contribution, plus an additional 500% of the initial guarantee amount to cover earnings attributable to the investment; for Loan or loan guarantees is up to 95% of the principal, plus an additional 150% of the initial guarantee amount to cover interest that will accrue over the term of the loan.
- ✔ Term Range (years): Up to 15 years (20 years under special circumstances).

5. Overseas Private Investment Corporation (OPIC)

- ✔ Type(s) of Financing: Project finance, Political risk insurance against currency inconvertibility, expropriation, and political violence.
- ✔ Form(s) of Financing: Loan guarantees (typically used for larger projects), Insurance.
- ✔ Investment Range (US$): Loan guarantees of $10 million to $200 million.
- ✔ Term Range (years): Loan guarantees: up to 20 years.
- ✔ Other: OPIC will not participate in projects that can secure adequate financing from commercial sources.

6. U.S. Trade & Development Agency (TDA)

- ✔ Type(s) of Financing: Feasibility studies, Orientation visits, Trade-related training, Technical assistance.
- ✔ Form of Financing: Short-term debt.
- ✔ Investment Range (US$): Feasibility study, from $20,000 to $1 million; average grant is $320,000; costs for private projects are shared between TDA and the American firm developing the project.
- ✔ Term Range (years): N/A.

7. Islamic Financing Sources[40]

"While statistics about Islamic financial institutions are scarce, according to Harvard University's Islamic Finance Information Program, there are now 133 Islamic financial institutions in 24 countries worldwide, with total assets of $101 billion and capital of $4.9 billion. Most of these are located in Pakistan, Indonesia and Sudan. However, the largest in terms of assets are concentrated in the Middle Eastern countries of Bahrain, Kuwait, Saudi Arabia and Iran.

In addition to the Islamic financial institutions, a growing number of conventional banks also handle certain funds in accordance with Islamic law and offer Islamic banking services. Since Citibank became the first major international bank to set up an Islamic finance division a dozen years ago, a number of others have followed suit."

[40] "Unlocking Islamic Finance," *Infrastructure Finance*, April 1997, pp. 19-25.

Dominica:
10 MW binary plant

Present Value:
$20,738,136

Net Present Value:
-$6,261,864

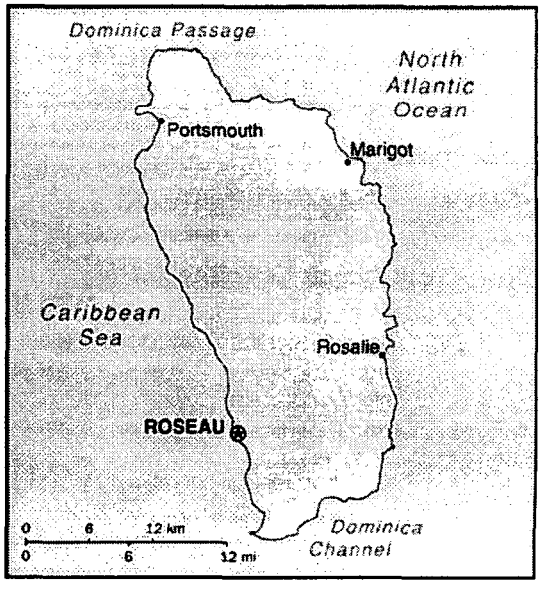
Internal Rate of Return:
6.4%

Maximum loan amount:
$12,568,567

Year 1 Revenue required for desired loan amount:
$8,557,001

Assumption	
Gross production MW	12
Capacity factor (less parasitic load & line loss)	85%
Net production MW	10
Power plant & wellfield unit cost (per kW)	$2,700
Total project cost	$27,000,000
Electricity price per kWh	$0.095
Year 1 Cash Revenues	$7,073,700
Year 1 Cash Expenses (includes O&M)	$5,400,000
Noncash expenses deductible for tax purposes	$0
Income tax rate (tax holiday)	0%
Annual growth in revenues	5%
Annual growth in expenses	3.7%
Interest rate	10%
Loan period (years)	15
Grace period (years)	1
Target debt service coverage ratio	1.50
Desired loan amount (80% debt)	$21,600,000

Cash Flow Projection			
Year	**Outgoing**	**Incoming**	**Net**
			($27,000,000)
1	$5,400,000	$7,073,700	$1,673,700
2	5,599,800	7,427,385	1,827,585
3	5,806,993	7,798,754	1,991,762
4	6,021,851	8,188,692	2,166,841
5	6,244,660	8,598,127	2,353,467
6	6,475,712	9,028,033	2,552,321
7	6,715,314	9,479,435	2,764,121
8	6,963,780	9,953,406	2,989,626
9	7,221,440	10,451,077	3,229,637
10	7,488,633	10,973,630	3,484,997
11	7,765,713	11,522,312	3,756,599
12	8,053,044	12,098,428	4,045,383
13	8,351,007	12,703,349	4,352,342
14	8,659,994	13,338,516	4,678,522
15	8,980,414	14,005,442	5,025,028



Dominica
Type of Financing
Debt
E & Co.
Energy Capital Holding Company
Environmental Enterprises Assistance Fund
International Finance Corporation
International Fund for Renewable Energy & Energy Efficiency
Overseas Private Investment Corporation — project finance
Equity
E & Co.
Energy Capital Holding Company
Environmental Enterprises Assistance Fund
Global Environment Fund®
International Finance Corporation
Scudder Latin American Power Fund
Other:
Export-Import Bank of the United States — Export credit assistance
Multilateral Investment Guarantee Agency — political risk insurance
Overseas Private Investment Corporation — political risk insurance
U.S. Trade & Development Agency — Feasibility studies, Orientation visits, Trade-related training

Potential financing sources:

1. Caribbean Development Bank (CDB) — N/A. The United States is not a member of the CDB and therefore ineligible to apply for financing.

2. E & Co., A Member of the Energy House Consortium

   - ✔ Type(s) of Financing: Technical assistance, Project finance.
   - ✔ Form(s) of Financing: Short-term Equity, Short-term Debt.
   - ✔ Investment Range (US$): From $50,000 to $250,000.
   - ✔ Term Range (years): Up to 3 years.
   - ✔ Other: Project must be in a developing country in Africa, East Asia and the Pacific, Latin America and the Caribbean, or South Asia. Prefer to lend to in-

country organizations. Prefer repayment as early as possibly, preferably at financial closure.

3. Energy Capital Holding Company (ECHCO), A Member of the Energy House Consortium

- ✔ Type(s) of Financing: Integrated project finance services including investor, financial advisor, project legal counsel, insurance, and engineering.
- ✔ Form(s) of Financing: Equity, Long-term Debt, Insurance.
- ✔ Investment Range (US$): $15 million to $250 million.
- ✔ Term Range (years): 12 to 15 years.
- ✔ Other: ECHCO is a company of companies with its shareholders providing merchant banking, legal, insurance, trustee, and engineering services. ECHCO offers "one stop shopping" for financing. In the early stages of project development, ECHCO works with other members of the Energy House Consortium to offer financial support to developers. In the later stages of development, ECHCO sources capital from outside lenders and the capital markets. ECHCO generally invests in projects in Latin America and the Caribbean.

4. Environmental Enterprises Assistance Fund (EEAF), A Member of the Energy House Consortium

- ✔ Type of Financing: Venture capital.
- ✔ Form(s) of Financing: Equity, Long-term debt.
- ✔ Investment Range (US$): From $100,000 to... Varies by country.
- ✔ Term Range (years): From 4 to 7 years.
- ✔ Other: Co-financing and significant equity investment by owner or developer are required. Borrower must have a proven track record, its own capital at risk, and a strong management team. EEAF operates primarily in the Caribbean, Central America, and Southeast Asia.

5. Export-Import Bank of the United States (Ex-Im Bank)

- ✔ Type(s) of Financing: Trade finance, Project finance (no limits but usually for transactions over $30 million due to high preparation costs).
- ✔ Form(s) of Financing: Medium- and long-term Debt, Medium- and long-term loan guarantees, Short- and medium-term insurance, Export credit assistance.
- ✔ Investment Range (US$): Medium-term is from $80,000 to $10 million. Long-term is over $10 million. Maximum amount is 85% of the contract price; 15% cash payment by foreign buyer.
- ✔ Term Range (years): Medium-term is from 2 to 5 years; exceptionally 7 years. Long-term is over 7 years.

6. Global Environment Fund® — *see above.*

7. Inter-American Investment Corporation (IIC), A Member of the Inter-American Development Bank Group — N/A. Dominica is not a member of the IIC and therefore ineligible for IIC financing.

8. International Finance Corporation, The Infrastructure Department, Power Division — *see above.*

9. International Fund for Renewable Energy & Energy Efficiency (IFREE), A Member of the Energy House Consortium

   - ✔ Type of Financing: Pre-feasibility studies.
   - ✔ Form(s) of Financing: Pre-investment, Long-term Debt.
   - ✔ Investment Range (US$): Maximum of 50% of the cost of pre-investment work.
   - ✔ Term Range (years): Negotiated per project.

10. Multilateral Investment Guarantee Agency — *see above.*

11. Overseas Private Investment Corporation — *see above.*

12. Scudder Latin American Power Fund (Latin Power Fund)

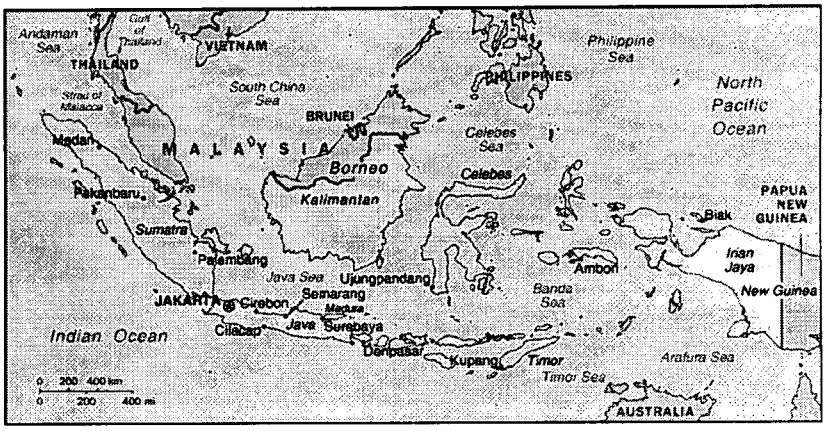
   - ✔ Type(s) of Financing: Corporate finance, Financial expertise.
   - ✔ Form(s) of Financing: Equity, Preferred stock, Convertible debt.
   - ✔ Investment Range (US$): $10 million minimum per project; $20 million to $25 million is ideal transaction size. The Fund is usually the largest shareholder in a project.
   - ✔ Term Range (years): Not provided.
   - ✔ Other: Lead investors on first fund are Corporacion Andina de Fomento (Andean Development Corporation), CMS Generation Company, International Finance Corporation, and NRG Energy, Inc.. The Fund will participate in the management of each project through a Board or Management Committee seat.

13. U.S. Small Business Administration (SBA), Office of International Trade (OIT)

   - ✔ Type(s) of Financing: Trade finance, Technical assistance.
   - ✔ Form(s) of Financing: Loan guarantees through SBA programs. Debt and Equity through Small Business Investment Companies (SBICs).
     - o Export Working Capital Program (EWCP)
     - o International Trade Loan Program (ITL)
     - o 7(a) Loan Guaranty Program
     - o Small Business Investment Companies (SBICs)
   - ✔ Investment Range (US$): For the EWCP, ITL, and 7(a) programs, there is no limit on the loan amount. There is, however, a limit to the amount that can be guaranteed. SBICs generally invest over $750,000.
   - ✔ Term Range (years): From 12 months to 25 years depending on program.

14. U.S. Trade & Development Agency — *see above.*

*Indonesia: 2 MW village power plant **



Present Value:
$2,857,054

Net Present Value:
-$1,234,230

Assumption	
Gross production MW	2
Capacity factor (less parasitic load & line loss)	80%
Net production MW	1.6
Power plant & wellfield unit cost (per kW)	$3,000
Total project cost	$6,000,000
Electricity price per kWh	$0.085
Year 1 Cash Revenues	$953,088
Year 1 Cash Expenses (includes O&M)	$300,000
Noncash expenses deductible for tax purposes	$0
Income tax rate	34%
Annual growth in revenues	3%
Annual growth in expenses	5%
Interest rate	10%
Loan period (years)	10
Grace period (years)	0.8
Target debt service coverage ratio	1.50
Desired loan amount (80% debt)	$4,800,000

Internal Rate of Return:
5.5%

Maximum loan amount:
$1,759,273

Year 1 Revenue required for desired loan amount:
$2,694,938

* *Assume off-grid, non-condensing steam plant with a base load agricultural customer.*

Cash Flow Projection			
Year	Outgoing	Incoming	Net
			($6,000,000)
1	$300,000	$953,088	$653,088
2	315,000	981,681	666,681
3	324,450	1,011,131	686,681
4	334,184	1,041,465	707,281
5	344,209	1,072,709	728,500
6	354,535	1,104,890	750,355
7	365,171	1,138,037	772,866
8	376,126	1,172,178	796,052
9	387,410	1,207,343	819,933
10	399,033	1,243,564	844,531
11	411,004	1,280,871	869,867

Indonesia
Type of Financing
Debt
E & Co.
Energy Capital Holding Company
Environmental Enterprises Assistance Fund
International Finance Corporation
International Fund for Renewable Energy & Energy Efficiency
Islamic Financing Sources
Overseas Private Investment Corporation — project finance
Equity
E & Co.
Energy Capital Holding Company
Environmental Enterprises Assistance Fund
Global Environment Fund®
International Finance Corporation
Islamic Financing Sources
Other:
Export-Import Bank of the United States — Export credit assistance
Multilateral Investment Guarantee Agency — political risk insurance
Overseas Private Investment Corporation — political risk insurance
Renewable Energy Network Indonesia — Feasibility studies, Project finance
U.S. Trade & Development Agency — Feasibility studies, Orientation visits, Trade-related training

Potential financing sources:

1. Asian Development Bank (ADB) — N/A. The ADB does not invest in projects with a total project cost less than $100 million.

2. Asian Finance and Investment Corporation (AFIC) — N/A. AFIC does not invest in power projects.

3. E & Co., A Member of the Energy House Consortium — *see above.*

4. Environmental Enterprises Assistance Fund — *see above.*

5. Export-Import Bank of the United States — *see above.*

6. Global Environment Fund® — *see above.*

7. International Finance Corporation, The Infrastructure Department, Power Division — *see above.*

8. International Fund for Renewable Energy & Energy Efficiency — *see above.*

9. Islamic Financing Sources — *see above.*

10. Multilateral Investment Guarantee Agency — *see above.*

11. Overseas Private Investment Corporation — *see above.*

12. Renewable Energy Network Indonesia (RENI), managed by Yayasan Bina Usaha Lingkungan (YBUL)

    - ✔ Type(s) of Financing: Feasibility studies, Project finance.
    - ✔ Form(s) of Financing: Grant (conditional), Short-term debt, Long-term debt.
    - ✔ Investment Range (US$): From $100,000 to $300,000.
    - ✔ Term Range (years): From 1 to 7 years.
    - ✔ Other: YBUL works with the EEAF (final funding decisions are made in the U.S.), Winrock International, and the Global Environment Facility - Small Grants Programme.

13. U.S. Small Business Administration, Office of International Trade — *see above.*

14. U.S. Trade & Development Agency — *see above.*

15. Winrock International

    - ✔ Type(s) of Financing: Pre-feasibility studies, Feasibility studies.
    - ✔ Form of Financing: Grants.
    - ✔ Investment Range (US$): Up to 50% of the cost of a pre-investment study (as funds allow).
    - ✔ Term Range (years): N/A.

Financing Sources

Background [41]

Financing sources can be categorized by type, form, transaction size, and terms.

Types of Financing

Project Development — One of the most commonly sought after types of support is for financing the costs of preparing pre-feasibility and feasibility studies and business plans. This financing can be in the form of loans or grants. The handful of current programs which finance project development are supported by the U.S. Government.

Project finance—Project finance, also known as "non- or limited recourse finance," refers to projects that are financed on the basis of projected revenue streams from the specific project rather than on the creditworthiness of the project's sponsors, or, "on the balance sheet."

Corporate finance—Unlike project finance, corporate finance, or "recourse financing," is "on the balance sheet" of the borrower, with both equity and debt financing based on projected earnings of the corporation with its underlying assets used as collateral to back up debt financing.

Trade finance—Trade finance or "export credits," is available to finance U.S. exports of goods and services. Trade finance, however, requires letters of credit from qualified in-country banks or buyers to provide assurance of repayment to the U.S. lender. Thus, export credits are available only to those borrowers with strong enough balance sheets or connections to qualify for the required letters of credit from their local bankers.

Venture capital—Venture capital is used by start-up companies which do not have a track record and financial base to support conventional bank financing. Because

[41] Adapted from Trade in Environmental Services and Technologies (TEST), U.S. Agency for International Development, "U.S. Environmental Financing Programs for India," http://www.info.usaid.gov/TEST/finance.htm, October 18, 1996.

of the high risks involved with start- up enterprises, venture capital typically requires very high returns (e.g., 25-50 % annual return on equity).

Forms of Financing

Grants—Grants are available from U.S. Government (USG) agencies and USG-funded organizations. Some of the grants are unconditional while others are "conditional grants," requiring repayment or charging a "success fee" if the project is successful.

Equity—Equity investors provide funding in return for an ownership interest in the project or company being financed. They expect a return in the form of dividends on their equity shares and in relation to their risk.

Debt—Debt financing is a loan which is secured by the assets of a corporation or project. Lenders typically expect sufficiently more collateral than the amount of exposure they face, which normally implies that a significant portion (25-50%) of a project or company be financed through equity. Debt is divided into short-term (less than one year) and long-term (over one year).

Loan guarantees, Insurance, and Export credit assistance—Governments and other sponsors often offer loan guarantees, insurance, or other export credit enhancement mechanisms (e.g., subordinated debt) in order to make projects more attractive to traditional lenders or investors. The various credit enhancement mechanisms are designed to reduce the risks facing the other lenders or investors.

Transaction Size

Small (less than $1 million)—Small transactions are usually financed through specialized government programs or informal sources because of the high costs of due diligence in relation to the potential returns.

Mid-size ($1 million to $10 million)—Mid-size transactions are often the most difficult to finance because they are too large for informal sources and too small, unless aggregated, to be of serious interest to larger commercial or investment banks.

Large ($10 million to $100 million)—Large transactions are of interest to most conventional commercial and investment banks and to multilateral development banks.

Very large (over $100 million)—These projects are of interest to larger private and multilateral development banks. Private financing on this scale is almost always through a consortium of lenders who often seek additional credit enhancement through sovereign guarantees or other assurances of payment from government bodies.

Terms

The terms associated with any financing vary considerably. For debt financing, the primary terms are interest rates, maturities, and grace periods. For equity financing, the primary terms are expected returns on investment and exit requirements.

In addition to type, form, transaction size, and terms, financing sources may also adhere to other policies. The most common are:

Co-financing requirements—Many funds limit their participation to a certain percentage of the overall financing and, therefore, explicitly or implicitly require co-financing from other sources. Typically, but not always, one fund or program will act as the lead agency in these cases.

Active versus Passive Management—Some equity investors will want to play an active role in managing an enterprise which they invest in, while others do not. Most will want seats on the Board of Directors if they are significant investors. Lenders are usually less active, but may still insist on substantial oversight of borrower operations.

Types of Projects Preferred or Avoided—Some sources of financing will favor or avoid certain types of projects (e.g., greenfield, expansions, privatizations, etc.) while others are concerned solely with project financials.

Sources of Financing for Geothermal Projects [42]

Table 6 on the following pages lists potential financing sources for smaller geothermal power projects, indicating which specific form(s) of financing each may provide.

The pages which immediately follow the table include detailed information (when relevant and available) on each financing source:

1. Funds available
2. Investment made to date in geothermal projects
3. Type(s) of financing
4. Form(s) of financing
5. Financing structure
   - ✔ investment range
   - ✔ term range (years)
   - ✔ interest rate range
   - ✔ grace period
   - ✔ equity/debt ratio required
   - ✔ expected return on investment
   - ✔ minium debt service ratio/cash flow coverage (before taxes, including depreciation)
   - ✔ fees
   - ✔ other
6. Application procedure
7. Useful publications
8. Key contact(s)
9. Web site

[42] Financing sources described in the Workbook are not exhaustive, and inclusion is not an endorsement of any particular source relative to another.

FINANCING SOURCE	FINANCING AVAILABLE					
	Project Development	Debt		Equity	Loan Guarantees / Insurance	Export Credit Assistance
		Short-term	Long-term			
African Development Bank			✔	✔	✔	
E & Co.		✔		✔		
Energy Capital Holding Company			✔	✔	✔	
Environmental Enterprises Assistance Fund			✔	✔		
European Bank for Reconstruction & Development			✔	✔	✔	
Export-Import Bank of the U.S.			✔		✔	✔
Global Environmental Fund®				✔		
Inter-American Development Bank			✔		✔	
Inter-American Investment Corporation			✔	✔		
International Finance Corporation			✔	✔		
International Fund for Renewable Energy & Energy Efficiency	✔		✔			
Multilateral Investment Guarantee Agency					✔	
Overseas Private Investment Corporation			✔	✔	✔	

FINANCING SOURCE	FINANCING AVAILABLE					
	Project Development	Debt		Equity	Loan Guarantees / Insurance	Export Credit Assistance
		Short-term	Long-term			
Renewable Energy & Energy Efficiency Fund (In development)	✔		✔	✔	✔	
Renewable Energy Network Indonesia	✔	✔	✔			
Scudder Latin American Power Fund			✔	✔		
U.S. Small Business Administration		✔	✔	✔	✔	✔
U.S. Trade & Development Agency	✔	✔				
Winrock International	✔					

Table 6 - Sources of Financing for Geothermal Projects

African Development Bank (AfDB)
Private Sector Department

Funds available	In 1997, AfDB lent about $2.5 billion. AfDB's total authorized capital in 1997 was $23.29 billion.
Investment made to date in geothermal projects	$0
Type(s) of Financing	Project finance / Venture capital
Form(s) of Financing	Debt / Equity / Quasi-equity investments / Loan guarantees / Syndications / Underwriting / Advisory services
Financing Structure	
Investment Range (US$)	Typically from $140,000 to $14 million. Can be exceeded on case-by-case basis. Maximum limits are one-third of total project costs. Up to 25% of paid-in capital in the case of equity participation.
Term Range (years)	Flexible. Typically from 5 to 12 years.
Interest Rate Range (%)	Case by case, typically from LIBOR +1 to +5 (London Interbank Offered Rate)
Grace Period (years)	Yes, negotiable
Equity/Debt Ratio Required	40/60 minimum
Expected Return on Investment (%)	Case-by-case
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Case-by-case
Fees	Standard front-end fee of 1% due before signing. Commitment fee of 1% per annum on undisbursed loan balances.
Other	The AfDB is a passive investor. Equity participation is conditional upon pre-determined exit strategy. Majority of voting stock must be owned by private sector investors. Investee companies must have operational autonomy and managerial freedom.

African Development Bank (AfDB)
Private Sector Department

Application Procedure

To enable the AfDB to promptly assess the eligibility of a project for investment, interested enterprises should submit a feasibility study and a business plan covering the following information:

1. Description of the project;
2. The sponsors, including their financial and managerial background;
3. Cost estimate, including foreign exchange requirements;
4. Financing plan indicating the amount of AfDB financing desired;
5. Market prospect, including proposed marketing arrangements; and
6. Implementation plan, including the status of government approvals.

** Application checklist attached.*

Useful Publications

Guidelines for the Use of Consultants, 1996. Contains the rules for the selection of consultants.

Private Sector Development. Gives guidance to companies considering AfDB private sector finance for their projects in Africa.

Quarterly Operational Summary (QOS). Contains brief descriptions of projects for which financing has been approved by the AfDB Board of Directors in the last six months as well as those which are expected to be submitted to the board for approval during the next six months. AfDB's *QOS* is available with a subscription to *U.N. Development Business.*

Key Contact(s)

Isaac Lobe Ndoumbe
Private Sector Department
AfDB
01 Boite Postal 1387
Abidjan 01, Cote d'Ivoire

Tel: [225] 20-41-68
Fax: [225] 20-49-64

Mark Herrling
Commercial Liaison to the AfDB
U.S. Commercial Service
U.S. Embassy
01 B.P. 1712
Abidjan 01, Cote d'Ivoire

Tel: [225] 21-46-16
Fax: [225] 22-24-37
E-mail: MHerrling@doc.gov

Web Site

http://www.africandevelopmentbank.com/

AFRICAN DEVELOPMENT BANK
PRIVATE SECTOR UNIT

Checklist for the Preparation of an Application to the African Development Bank for a loan and/or an Equity Investment in a Privately Owned Project

This checklist is designed to serve as a guide for the preparation of an application to the Private Sector Unit for a loan or equity investment. It will not be applicable to all projects and merely indicates the type of issues which should be addressed.

Name of Potential Borrower and/or Name of the Project

Location

1. Give the exact location of the project.

Name of Sponsoring Company and Brief Description of Project

2. Describe the proposed or existing company, its capital structure, land ownership details, nature of major activities, sponsors, history, management, financial results for pas five years, bank references etc.

3. Project description and rationale.

4 Review of the Sector. Describe how the project fits within the country's development objectives.

Market

5. Describe the market for the product or service, give production and sales data including imports and exports. Provide forecasts and justification

6. Describe marketing channel, sales arrangements, usual commercial arrangements.

7 Competition, both domestic and foreign past and current market trends and developments.

8. Tariff and non-tariff barriers.

9. Price structures, price controls, subsidies, rebates, import regulations, government involvement etc.

(Checklist 1E/1996)

Technical Aspects

10. Detailed description of technical, construction or other aspects of putting together the project.

11. Technical process. Basis for its selection, suitability, relative costs, Describe processes, rated capacity and anticipated output.

Raw Materials and Procurement

12. Materials needed, sources, order time, stability of supply, concessions, import licenses, supply contracts. Likelihood of cost increases.

Infrastructure, Transportation

13. Adequacy of electricity, water and other utilities and transportation facilities. Costs. Possible installation delays. Possible port delays.

Environmental Aspects

14. Detailed description of waste disposal systems, how project affects the physical and social environment and what project sponsors are doing to mitigate effects.

Organization and Management

15. Describe the structure of the Board and Management.

16. How is the project construction and supervision organized? How is the project construction and supervision organized? How are costs to be determined and negotiated? Construction schedule.

17. Provide details of technical assistance or management contracts or other agreements. Provide information on competence of those involved

18. Provide details on availability and costs of appropriately skilled workers, as well as information on labor laws, union organizations, ease of work force reduction and so forth.

19. Describe the company's program for Africanization of management.

Government role, taxation, regulation, insurance, special incentives

20. Does the Government have any direct or indirect role. What government approvals are required and current status?

21. Are there any investment incentives or privileges accorded to the project?

22. Describe applicable taxes, provisions for repatriation of capital, dividends, royalties, foreign exchange regulations etc

23. Provide details on all insurance policies related to the company, the project, the management and the board.

Project Investment Cost and Financing Plan

24. Provide detailed capital cost estimates, including land, buildings, earthworks, machinery, equipment, licensing, permanent working capital, interest during construction, contingencies. Allocate costs among local and foreign currency requirements.

25. Financing plan, including details of share holding structure, various sources of loan funds and loan conditions.

26. Disbursement schedule and rationale.

Proposed financial and technical assistance from African Development Bank (See "Assistance to Private Enterprise" an ADB publication for outline of Bank Policies.

27. Provide details of assistance requested and reasons why the Bank should be of assistance to the project.

Financial and Economic Evaluation

28. Projections of output, revenues, costs and profits for ten profits for ten years or more. Costs items should include raw material, labor, power and other utilities, repair and maintenance, administration expenses, sales expenses, depreciation, taxes and so forth. Provide calculations of gross operating profit, cash flow projected income statements, summary balance sheet projection, etc. Supply detailed schedules as appendixes.

29 Provide a complete financial evaluation of the project including computation of internal rate of return. If an expansion project provide comparisons of forecasts with and without the project.

30. Provide an economic evaluation with economic rate of return and the assumptions used in its calculation.

Risks and Safeguards

31. Discuss realistically the risks involved in carrying out the project, including weather infrastructure, government, labor, supplier, market and other factors. Then review how the project sponsors intend to guard against the risks.

Appendixes

32. Provide maps, lists of affiliated companies, information on individual shareholders and managers, detailed process, equipment or product descriptions, market statistics, financial schedules and so forth.

How to Apply/Inquiries and applications may be addressed to:

The Head,
Private Sector Unit,
African Development Bank,
B.P. 1387,
Abidjan 01,
Côte d'Ivoire.

Phone	:	(225) 20 41 68
Telex	:	23717 or 23498
Telefax	:	(225) 20 49 64

E & Co. A Member of the Energy House Consortium	
Funds available	—
Investment made to date in geothermal projects	$225,000
Type(s) of Financing	Technical assistance / Project finance
Form(s) of Financing	Short-term Equity / Short-term Debt
Financing Structure	
Investment Range (US$)	From $50,000 to $250,000
Term Range (years)	Up to 3 years
Interest Rate Range (%)	Negotiable
Grace Period (years)	Yes, balloon payment ok.
Equity/Debt Ratio Required	Negotiable
Expected Return on Investment (%)	Negotiable
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	N/A
Fees	None
Other	Project must be in a developing country in Africa, East Asia and the Pacific, Latin America and the Caribbean, or South Asia. Prefer to lend to in-country organizations. Prefer repayment as early as possibly, preferably at financial closure.

E & Co.
A Member of the Energy House Consortium

Application Procedure	E&Co. will consider providing energy enterprises with small loans, technical assistance, intermediary services, and direct investment *if* the following conditions are met: 1. New money for new energy 2. Social and environmental benefits 3. Technology 4. Businesslike 5. Reasonable risk 6. "But for" 7. Policy framework 8. Human capability ** See attached application.*
Useful Publications	—
Key Contact(s)	Dr. Mike Allen Executive Director E&Co. Energy House 383 Franklin Street Bloomfield, NJ 07003 Tel: 973-680-9100 Fax: 973-680-8066 E-mail: eco@energyhouse.com Jose Maria Blanco Regional Director E&Co.-LAC P.O. Box 573-2050 Monte de Oca San Jose, Costa Rica Tel: [506] 283-9150 Fax: [506] 283-9150 E-mail: biomass@sol.racsa.co.cr
Web Site	http://www.energyhouse.com/ecomain.htm

Project Proposal Guidelines

These notes are provided as a guide for project proposals being presented to E&Co.

The objective of this initiative is to support the creation and development of energy projects in their initial stages, to demonstrate the potential of innovative approaches, and to promote private investment in renewable energy technologies.

The initial evaluation of proposals will be done on the basis of the following criteria:

- The project must be well defined and involve capable people.
- The project should use innovative approaches or technologies for the generation and utilisation of energy.
- The project must offer clear social and environmental benefits, besides being competitive with conventional alternatives.
- The project must have the potential to be economically self-sufficient in order to attract private investment in the next stages of development.

As a general policy, E&Co does not provide general or administrative support to energy enterprises, nor does it fund research and development, policy analysis, pre-feasibility studies, the publication of papers, meetings or conferences, or technical demonstrations of new technologies.

The project proposal should be written in English and sent to E&Co or E&Co LAC (for developments in Latin America or the Caribbean) at:

E&Co
Energy House
383 Franklin Street
Bloomfield, NJ 07003
Tel: 201-680-9100
Fax: 201-680-8066
E-Mail: eco@energyhouse.com

E&Co LAC
P O Box 573-2050
Monte de Oca
San Jose, Costa Rica
Tel: 506-283 -9150
Fax: 506-283-9150
E-Mail: biomass@solaracsa.co.cr

E&Co.

An Energy Investment Service

Project Proposal Guidelines (continued)

The Proposal should be structured in the following way:

General Information:

- Project Title
- Geographic Location
- Organization, company or person responsible. A brief description of the goals and structure of the organization or company, such as the experience of the person or group in charge of the project.
- Contact person
- Complete address and/or PO Box Telephone, Fax, and E-mail.
- Project Summary. Outline objectives, source of energy, type of technology, project type (demonstration or commercial), generation scale or energy use (own use, for sale to public facility, or to other buyers, etc.) Any other technical or general information available about the capacity and characteristics of the energy conversion (electric or thermal). Describe any previous experience relevant to the acting entity in the project work area, any innovative aspect or any non-commercial benefit of the project.

Technical Information:

- Delineate the technical information on the project, emphasize the innovative aspects.

Financial/Economic Information:

- Information about any previous studies (prefeasibility, feasibility) made: consulting firms and any other relevant information.
- Information about the structure of project costs.
- Information about the sources of capital, identified investors that will allow the execution of the project. Furthermore, information about the type of financing: debt or equity. Include the names of the investors interested in the project.
- Describe the proposed financing terms for the repayment of funds to E&Co.

Relevance to E&Co's Guidelines

Project Fact Sheet

- A summary of the proposal should be presented in the form of the attached Project Fact Sheet.

E&Co

An Energy Investment Service

Date:

Project:

Summary:

Region:

Contact:

Technology:
Country Focus:
Project Cost:
Amount Requested:
Deliverables.
Partners:

Full Project Cost:
2nd Stage Funders:
Pay-Back:
Replication Potential:
Environmental Impact:
Risks:
E&Co Interests:

1. New Money for New Energy:
2. Social and Environmental Benefits:
3. Technology:
4. Businesslike:
5. Reasonable Risk:
6. "But For":
7. Policy:
8. Human Capacity:

E&Co

An Energy Investment Service

Investment Guidelines

E&Co will consider providing energy enterprises with small loans, technical assistance, intermediary services and direct investment *if* the following conditions are met:

New Money for New Energy
Does the energy enterprise/project mobilize other investors, especially the private sector, to act and invest in later stages of the project and will it *either* be financially self-supporting *or* demonstrate *in a significant way* the potential of future projects to be so?

Social and Environmental Benefits
Does the energy enterprise/project involve significant *social and environmental benefits?*

Does the project improve local, national or global environmental conditions?

Technology
Does the energy enterprise employ *the most appropriate technology* when compared on the basis of cost, affordability and environmental impact?

Businesslike
Does the energy enterprise or project secure *acceptable participation* by its management, involved contractors, fuel suppliers, energy purchasers, site owners and regulatory bodies?

Reasonable Risk
Does the energy enterprise or project employ *reasonable risk assessment and management techniques*, consistent with the charitable purpose of E&Co?

"But For"
Is the intervention by an entity such as E&Co necessary in order to move forward?

"*But for*" the participation of E&Co, would the project advance?

Policy Framework
Does the energy enterprise or project *influence policy makers* and decision makers to support renewable energy and energy efficiency initiatives?

Human Capability
Does the energy enterprise or project *improve national or local capacity* to promote renewable energy and energy efficiency initiatives?

E&Co
An Energy Investment Service

Energy Capital Holding Company (ECHCO)
A Member of the Energy House Consortium

Funds available	—
Investment made to date in geothermal projects	Past activity has been through DesignPower/GENZL, a shareholder in ECHCO International.
Type(s) of Financing	Integrated Project Finance Services including Investor, Financial Advisor, Project Legal Counsel, Insurance, and Engineering
Form(s) of Financing	Equity / Long-term Debt / Insurance Debt sourcing includes alternatives from the International Bond, Insurance Lender, and Bank Credit Market.

Financing Structure

Investment Range (US$)	$15 million to $250 million
Term Range (years)	12 to 15 years
Interest Rate Range (%)	9.5% to 11% fixed
Grace Period (years)	Yes, construction period plus up to 1 additional year
Equity/Debt Ratio Required	Varies from 30/70 to 15/85
Expected Return on Investment (%)	15-25% depending on the stage of investment
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	1.30
Fees	1 to 2.5% on Senior Debt depending on amount. 2 to 5.0% on Equity depending on source and amount.
Other	ECHCO is a company of companies with its shareholders providing merchant banking, legal, insurance, trustee, and engineering services. ECHCO offers "one stop shopping" for financing. In the early stages of project development, ECHCO works with other members of the Energy House Consortium to offer financial support to developers. In the later stages of development, ECHCO sources capital from outside lenders and the capital markets. ECHCO generally invests in projects in Latin America and the Caribbean.

Energy Capital Holding Company (ECHCO)
A Member of the Energy House Consortium

Application Procedure	No formal procedure. Submit information on the project including: 1. Project participants 2. Status of Power Purchase Agreement 3. Description of project 4. Pro Forma of Financial Statements
Useful Publications	—
Key Contact(s)	Dr. Ronald E. Muller Energy Capital Holding Company (ECHCO) REM Capital Corporation 727 15th Street, NW Washington, DC 20005 Tel: 202-408-7916 Fax: 202-371-5116 E-mail: remcap@erols.com
Web Site	None

Environmental Enterprises Assistance Fund (EEAF)
A Member of the Energy House Consortium

Funds available	Varies by country
Investment made to date in geothermal projects	$0
Type(s) of Financing	Venture capital
Form(s) of Financing	Equity / Long-term debt
Financing Structure	
Investment Range (US$)	From $100,000 to... Varies by country.
Term Range (years)	From 4 to 7 years
Interest Rate Range (%)	Depends on deal
Grace Period (years)	Depends on deal
Equity/Debt Ratio Required	Depends on deal
Expected Return on Investment (%)	Depends on deal
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Depends on deal
Fees	—
Other	Co-financing and significant equity investment by owner or developer are required. Borrower must have a proven track record, its own capital at risk, and a strong management team. EEAF operates primarily in the Caribbean, Central America, and Southeast Asia.
Application Procedure	None indicated
Useful Publications	—

Environmental Enterprises Assistance Fund (EEAF)
A Member of the Energy House Consortium

Key Contact(s)	*In the United States:* Mary Ann Bovay Alger Senior Investment Officer Environmental Enterprises Assistance Fund (EEAF) 1901 North Moore Street, Suite 1004 Arlington, VA 22209 Tel: 703-522-5928 Fax: 703-522-6450 E-mail: eeaf@igc.apc.org	*In Indonesia:* Ms. Yani Witjaksono President Environmental Business Foundation Renewable Energy Network Indonesia (RENI) Yayasan Bina Usaha Lingkungan (YBUL) Jl. Mendawai III, No. 2 Jakarta 12130, Indonesia Tel: [62] (21) 739-6481 Fax: [62] (21) 739-6481 E-mail: ybul@indo.net.id
	In the Philippines: Renewable Energy Project Support Office (REPSO) Preferred Energy, Inc. 10/F, Strata 100 Bldg., Emerald Avenue Ortigas Center Pasig City 1600, Philippines Tel: [63] 2-635-4711 Fax: [63] 2-632-7097 E-mail: repso@cnl.net	*In Central America:* Leonardo Ramirez Manager Empresas Ambientales de Centro America Apdo 1581-2050 San Pedro de MO, Costa Rica Tel: [506] 257-4717 Fax: [506] 257-4717 E-mail: eaccr@huracan.cr
Web Site	None	

European Bank for Reconstruction & Development (EBRD)

Funds available	N/A
Investment made to date in geothermal projects	US$ 99.9 million (ECU 85.6 million), sovereign loan to the Russian Government for on-lending to Geoterm, to finance the 40 MW geothermal Mutnovsky Independent Power Plant. The Mutnovsky plant will be the first IPP in Kamchatka and the first EBRD-funded renewable energy project in Russia.
Type(s) of Financing	Project finance
Form(s) of Financing	Loan guarantees / Debt / Revolving Credit / Equity / Quasi-equity (subordinated loans, debentures and income notes to redeemable preference shares)
Financing Structure	
Investment Range (US$)	From US$ 5.5 million (ECU 5 million) to US$150 million (ECU 140 million) Up to 35% of the total project cost for a greenfield project or the long-term capitalization of an established company Average amount of the Bank's involvement in private sector is US$ 17.6 million (ECU 16 million).
Term Range (years)	Generally from 5 to 10 years. Longer maturities may be considered on an exceptional basis, for example up to 15 years for infrastructure projects.
Interest Rate Range (%)	LIBOR + 1% (sovereign projects)
Grace Period (years)	Yes, negotiable.
Equity/Debt Ratio Required	At least 1/3 to 2/3 Equity from sponsors need not be exclusively in cash but can be in the form of equipment, plant machinery, etc.
Expected Return on Investment (%)	20/30
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	1.5

European Bank for Reconstruction & Development (EBRD)

Fees A front-end fee will be charged at signing. Commitment fee of 0.5-1.0% per annum beginning 30 days after signing. Sponsors will be obliged to reimburse the Bank for out-of-pocket expenses, such as fees for technical consultants and outside legal counsel, and travel expenses.

Other Notification and short-listing procedures for Technical Cooperation Operations:

Brief notices of technical cooperation projects for which consultants are required, are now published by fax immediately after approval by the Bank.

Consultant short lists for assignments estimated to cost over ECU 50,000 will not be finalized until five working days after such publication. This allows consultants to submit brief expressions of interest to the responsible staff member prior to the finalizing of a short list. These expressions of interest should not exceed two pages, and should be faxed to the Bank for the attention of the staff member in charge.

Consultants are kindly requested to submit any correspondence by fax only. Telephone calls to Bank staff on these matters cannot be dealt with and will not be taken as expressions of interest.

Only consultants who are specifically qualified and experienced for the assignment should submit expressions of interest.

Consultants Contracts costing ECU 50,000 or less are normally selected on a direct basis without short-listing.

Publication of formal calls for expressions of interest is now made for all corporate services contracts with an estimated budget of ECU 200,000 or over.

For all projects, complete Terms of Reference, etc. will be sent only to consultants formally invited to submit a proposal or to negotiate a contract. Other consultants will not receive notification that they have not been retained.

European Bank for Reconstruction & Development (EBRD)

Application Procedure

The basis for providing a loan is the cash flows of the project and the ability of the project to repay that loan over the agreed period.

Prospective borrowers are encouraged to approach the EBRD at an early stage of a project in order for the banking staff to advise on procedure, potential structuring options and to be kept informed of the relevant developments in a project's cycle. For this initial stage the Bank will require the following information from the client, in as much detail as possible:

1. Information on the shareholders, both local and foreign;

2. Business and project rationale: a clear explanation of the business proposal, its technical and economic/commercial aspects; and

3. Initial proposal as to the type of EBRD involvement the client requires: for example, as an equity partner, as a source of credit (debt financing), or as a combination of both.

The information provided at this stage should be sufficient to enable the Bank to determine whether the proposed project fits within its guidelines and strategies and warrants further involvement and work on the part of the Bank. This will lead to the first step in the approval process, the Concept Clearance.

If the project concept is accepted, a Mandate Letter will be sent which forms the basis of a working agreement.

** See "EBRD information requirements for private sector financing" attached.*

European Bank for Reconstruction & Development (EBRD)

Useful Publications

Alternative Sources of Finance for Small and Medium-Sized Projects, October 1997. Lists financial intermediaries which provide funding for projects in Central and Eastern Europe and the Commonwealth of Independent States (CIS) that are too small to be funded directly by EBRD. Updated monthly.

EBRD Procurement Opportunities. Lists information on public sector projects under consideration for financing and associated procurement opportunities. Published monthly. Subscriptions currently cost £85 and can be obtained directly from the EBRD.

Financing with the EBRD, 1996. Provides guidance to companies and entrepreneurs considering financing projects or investing in the countries of Central and Eastern Europe and the CIS.

European Bank for Reconstruction & Development (EBRD)

Key Contact(s)

Riccardo Puliti
Principal Banker, Power & Energy Utilities Team
EBRD
One Exchange Square
London ECA 2EH,

Tel: [44] (171) 338-7379
Fax: [44] (171) 338-7280

Dean Peterson
Senior Commercial Officer
Office of the U.S. Director
EBRD
One Exchange Square
London ECA 2EH,

Tel: [44] (171) 338-6569
Fax: [44] (171) 338-6487
E-mail: DPeters8@doc.gov

Project enquiries and proposals:

Tel: [44] (171) 338-6282; 338-6252
Fax: [44] (171) 338-6102

Procurement Opportunities:

Tel: [44] (171) 338-6534
Fax: [44] (171) 338-7472

Consultants should contact:

Tel: [44] (171) 338-6066
Fax: [44] (171) 338-6097

Publications:

Tel: [44] (171) 338-7553
Fax: [44] (171) 338-6690

General enquiries about the EBRD:

Tel: [44] (171) 338-7931; 338-7236
Fax: [44] (171) 338-6690

Business Information Service:

Tel: [44] (171) 338-6361
Fax: [44] (171) 338-6155

Subscription-based service providing business information about each of the EBRD's countries of operations.

Web Site

http://www.ebrd.com/

EBRD information requirements for private sector financing

Introduction

These guidelines have been prepared by the EBRD to help potential private sector investors in approaching the Bank for financing. Each project carries different elements of risk, whether it is production, market, financial or legal risk. The EBRD needs to assess potential risks before committing its funds to a project and has to understand how those risks can be mitigated and/or shared with sponsors.

The EBRD bases its funding decision on the stand-alone merit of the proposed project, and therefore conducts a detailed analysis of the project and its proposed structure. This analysis takes into account the financial, commercial and legal aspects of the project and the environment in which it will be undertaken. Naturally, such investigation is simplified by a timely presentation of the relevant information. These guidelines outline the information requirements for such an analysis: the sooner information is available to the EBRD, the faster it can react to the demands of the investor.

All categories may not be relevant to your particular project. The level of detail required in each category will differ depending on the nature of the project you are presenting: the Bank is flexible in its analysis, and recommends that you contact it at an early stage to agree on an appropriate framework. Since the EBRD will present the project for preliminary review before final approval, the gathering of information can be phased to meet the Bank's internal approval process.

The guidelines are divided into three parts:

Part 1: Operational and project information

These sections cover the elements relating to the concept, role, production, markets and management of the project itself.

Part 2: Financial information

These sections refer specifically to financial considerations of the project covering project costs, financing plan and anticipated financial performance.

Part 3: Environmental and regulatory information

These sections identify and document regulatory environments in which the project will be developed.

Throughout your presentation of the project, it is helpful if all arguments are supported, as far as possible, with relevant data. Also, whenever possible, please provide information in English in order to avoid delays and potential translation costs.

Part 1
Operational and project information

The project

A brief introduction is helpful to place the project in context. It should include a description of the project you are bringing to the EBRD for financing, in particular detailing whether the project entity is a "greenfield" start-up or an expansion of an existing business, and whether it is an acquisition/privatisation or a joint venture. It is useful if this introduction includes an anticipated use of funds – construction, working capital, etc.

Also include, where appropriate, a history of the project, its present status and why you are seeking EBRD funding. A summary of the estimated timetable for implementation allows the EBRD to conduct a speedy review of an internal process suitable for the project. This summary would include the timetable to complete the facility, including the installation of equipment and commencement of production.

The project sponsors

During the evaluation of a financing request, the EBRD will want to liaise with the decision maker in the project. This is usually the project sponsor, the party responsible for bringing the project forward and for its ultimate implementation. The sponsor may be a company, for example the prospective borrower, or it may be a third party (a contractor or a potential purchaser of the borrower's product). Typically the sponsor is an important shareholder in the project, contributing both cash and in-kind equity. In addition, the sponsor sometimes has a support role to play in the project after it has been completed.

The sponsor leads the development of the project and is responsible for ensuring its success. The EBRD requires very strong commitment from the sponsor and needs detailed information on the overall support the sponsor will provide to the project in terms of equity, management, operations, production and marketing.

Operating experience

A sponsor with operating experience in the sector will be aware of the risks and be able to take strategic, commercial and financial decisions about the entity seeking financing ("the company"). The sponsor provides the EBRD with the comfort that an entity which knows about the business is prepared to risk money in the company. Where possible, highlight what the sponsor knows about the business, and how much it can contribute through its experience. Indeed, a brief description of similar projects in which the sponsor has participated would be useful. Where the project is an expansion of existing facilities and the sponsor and the company are the same entity, this section should describe the history of the company and any past experience in the area of expansion, in particular the following:

- brief history since establishment
- legal form of establishment, shareholder structure and corporate governance
- country of incorporation, internal organisation and recent evolution
- name of main banks and main clients for possible references.

Financial status

Details of the sponsor's financial status should demonstrate its track record to the EBRD. In particular, it is a key indicator of the success with which the sponsor has performed in its existing activities. Indeed, the EBRD may be relying on the sponsor for ongoing support to the project, and the degree of comfort will be based on the current financial health of the sponsor. The sponsor should attach financial statements, audited where possible, for the last three years and document any points of note during these three years. If the shareholder is an individual, the EBRD would need to know what he or she owns, for instance shares in other companies or cash from other businesses.

Other shareholders

Where there are other shareholders participating in the project, the sponsor should provide information outlining the role of the other parties, the anticipated control/voting power of the respective parties, and how these parties were selected.

Also include the size, ownership and track record of these shareholders, and whether any of these other shareholders are providing financial support or guarantees to the project. Attach financial statements for three years for these shareholders.

The product

In this section, describe in detail the product or service that you intend to sell. In most cases, the EBRD will ask an independent third party to review the proposed product or product range, so this section should be sufficiently detailed to allow such a review.

It is important that you describe the key features of your product, provide a comparison with those of your competitors, and indicate the benefit to potential customers.

Among other things, you should explain, on the basis of product specifications, why the customer will buy your product rather than those of your competitors. Detail the strengths and weaknesses of your product versus existing products, and describe clearly how the project aims to improve, transform or replace existing products.

Note: Keep your description focused on the product: the market will be addressed later on.

Production

The EBRD evaluates the production process to satisfy itself that the selected process will provide competitive production above and beyond circumstantial benefits such as labour costs and fiscal incentives. Five categories of information are listed below, although the focus may vary.

Location

Provide a rationale for the location of your facility. Reference should be made to the impact of the location on the cost of the project, with regard to:

- transportation
- the availability of raw materials and labour
- proximity to customers and suppliers
- availability of power and water supplies.

Facilities and equipment
Describe the facilities and equipment that will be required:

- how modern are the facilities?
- what level of upgrading will be required?
- how does your equipment compare with that of other producers?

Manufacturing process
Describe the manufacturing process and include where possible:

- production or operating process
- production or operating advantage
- production or operating capacity.

Inputs and costs
One of the most important components for the EBRD is an analysis of inputs and costs of materials:

- list the most important inputs for your production process
- explain where you will obtain these inputs and how you will secure their supply
- describe payment terms
- indicate if other sources of supply have been investigated
- classify the inputs that will be sourced with hard currency, and with local currency.

Labour force
The description of the labour force should detail anticipated staffing requirements. In particular, include a breakdown of local versus foreign staff, and the timetable to full staffing levels.

The market

You should then describe the market into which the company will sell the product and highlight the nature of market penetration that the company envisages (new market, established market or mature market). The type of market is a key element in determining the risk associated with the project and the reliability of the cash flow that the project will generate. Depending on the nature of the project, outline any financing schemes that the project may extend to potential customers.

Identify target markets
This section should explain how the customer base has been segmented and targeted. It should distinguish between the existing customer base and new targets, and describe the scope of the market and expected strength of demand. In particular, if you plan to export any products, explain clearly how you aim to achieve this and which export markets will be served.

Market share and sales volume
Describe how the market has evolved over the last 2-3 years, and how it is expected to evolve over the next 5 years. Estimate the market share and sales volume achievable over the next 2-5 years given the market trends described above. Identify any purchase commitments or contracts you have already secured.

Your description of the trends and evaluation of the market should, in particular, refer to the product, the competition and customers.

Competition
You should discuss the competitors in your market. Who are they and what is their market share? What have these competitors been doing over the past three years and what are their future plans? How are they likely to react to your project?

Pricing strategy
Discuss your pricing strategy and compare it, where possible, with the competition. Show how you can:

- penetrate the market
- maintain and increase market share
- maintain your margins

given the pricing strategy that you have outlined.

With the pricing strategy you should include an analysis of the historical evolution of product prices, and an assessment of the key price drivers (cost of inputs, consumer sensitivity and substitution products).

If the products are to be exported, identify the strategy for the export markets, and detail which products will earn hard currency and which will earn local currency.

Distribution and sales
Discuss how you plan to sell and distribute your product:

- organisation/motivation of your sales force
- distribution network for your products
- cash collection mechanism after invoicing
- advertising/brand awareness strategy.

It is important to distinguish between the existing distribution network and any new network that needs to be set up.

Management

The strength and quality of management is crucial to the success of the project. The EBRD needs to understand the strengths and weaknesses of the project's management:

- explain which sponsors are providing members of the management team
- describe the management structure and the relationship between the various departments and/or individuals (you may wish to use a diagram)
- describe the function of each department
- describe the information flow between the departments and management
- explain how performance is monitored.

For the most important management positions, such as managing director, finance director and production director, it is helpful to attach short résumés including names, areas of responsibility and relevant experience.

Part 2
Financial information

Project cost

The EBRD requires an accurate breakdown of the project costs and the use of funds, particularly the use of the EBRD funds. This should be available at a fairly early stage of project preparation. Uses of financing may typically include those shown in the table below. Some of the elements to incorporate are:

- how the costs have been estimated
- supplier costs, engineering quotes, featured quotes), by whom (internally or by an independent contractor), and the estimated degree of accuracy in these costs
- a timetable indicating when the costs will be incurred
- details of any costs that have already been incurred
- the valuation methodology of in-kind contributions or of existing assets
- an explanation as to the sources of equipment, materials, etc., particularly if they are being provided by one of the sponsors
- an explanation of cost contingency built into your project costs; where you envisage potential overruns, and whether you have ensured sufficient back-up funding in the event of cost overruns.

	Foreign currency	Local currency	In-kind contributions*
Building/facility			
Machinery			
Installation			
Start-up expenses			
Training			
Professional fees			
Working capital			
Interest during construction			
Total			

**In-kind contributions refer to elements within the project that do not need to be purchased but represent contributions (usually in exchange for equity) such as land, buildings, equipment, know-how, licences. This type of contribution often occurs in joint-venture projects.*

Ensure that the project cost takes into account any eventual costs of registering security and insurance policies. These costs are usually incurred before the financing agreements are signed, but may be paid for from the financing provided to the company.

Implementation and procurement

The EBRD may rely on the sponsor to implement directly, or to appoint contractors to implement, the project in a timely manner and in a cost-effective way. In order for the Bank to judge the risks connected with project implementation, you are asked to:

- summarise the implementation arrangements, including the names and agencies charged with implementing individual components of the project
- give the rationale for the choice of these agencies, and provide a description of their track record
- describe, if applicable, the nature of the contracts with these agencies, high-lighting in particular any completion covenants, progress payment schedules and performance bonds associated with the implementation of the project
- provide a detailed implementation and disbursement schedule
- indicate what you consider to be critical start-up dates within the project timetable, and how you envisage the dates being achieved; describe any back-up plans that you have in the event of time delays in the start-up.

The EBRD requires transparency and arm's-length procurement when approving the funding of a project so the sponsor is asked to address this area carefully. In particular:

- indicate and justify the proposed method for purchasing goods, services and equipment with EBRD funds
- confirm that the goods, services and equipment have been purchased at arm's length on proper commercial terms (please indicate where there may be exceptions to the arm's-length condition)
- state the nature of the contracts (turnkey, etc.) for the project.

In some cases the EBRD will appoint a third party to examine the progress of the project, and to report on any potential bottlenecks or cost overruns.

Sources of funding

This section considers how the costs identified above will be met. Typically, the EBRD will be only one of several sources of financing. Indeed, the Bank will encourage the sponsor both to invest directly in the equity and to identify other potential sources of financing. In the case where the project involves the expansion of an existing facility, the EBRD may be prepared to finance the project itself provided the Bank's exposure in the company remains within 35 per cent of the long-term capitalisation of the company.

A typical breakdown of sources of funds would be:				
	Hard currency	Local currency	In-kind	Percentage
Equity cash				
Local partners				
Others				
Equity in kind				
Local				
Foreign				
Other				
Debt				
EBRD				
Other source *				

Why does the EBRD require other investors to co-finance the project?

- Risk sharing – the EBRD wants to see that entities with direct experience of the business are willing to risk their money in support of the project as a worthwhile venture.

- Catalyst – the EBRD wants to encourage other financing entities to participate in the project, either through loans or through equity.

If the sponsor is experiencing difficulty in attracting other financing, especially debt, it is advisable to contact the EBRD at an early stage. The Bank should be able to offer assistance in attracting other lending institutions once the financing structure has been agreed.

Where the project involves the extension of existing facilities, provide a current balance sheet, income statement and cash-flow statement (audited to international standards if possible) of the existing business.

The information on sources of funding should include the following information:

Equity

- who is putting in equity and over what period
- how much equity is contributed in cash versus in kind
- how has the allocation of shareholdings been divided and on what basis (include employee/worker participation if relevant)
- if the EBRD is being asked to provide equity, how the sponsor envisages an exit for the Bank (the Bank does not expect to be a permanent equity investor).

Loans

- who is providing loans to the project
- who are the anticipated senior and subordinated lenders
- what currencies are involved
- whether any of the loans are tied to conditions such as subsidised interest rates or procurement issues

** This may include sources of cash generated by the initial cash flows of the project.*

- what are the terms and conditions of all the other loans involved in the project, or already existing on the project balance sheet.

Relevant supporting agreements
Describe any agreements that will affect the above structure, for example:

- sales agreements/off-take agreements
- any guarantees by sponsor/third parties
- additional support agreements
- government support (i.e. subsidies, tax holidays).

Collateral and security
If possible, describe the nature of the security available to the lenders of the project. In particular, it is important to detail the types of mortgages, liens and pledges that already exist.

Financial overview and anticipated performance

This section must allow the EBRD to evaluate and assess the ability of the project to generate sufficient cash flow to service its debt or pay dividends in the case of investment.

The projections should be for the same number of years as the loan/investment you are seeking.

Key operating assumptions
Please provide, by year:

- sales volume and price by product including discounts and commissions
- breakdown of operating expenses including:
  labour
  – number of employees
  – average salary
  raw materials
  – by local and foreign currency
  transport
  utilities
  sales and administration
- capital expenditure on a yearly basis for maintenance
- working capital: give breakdown of assumptions
  – how much stock must be carried, both for raw materials and finished goods
  – terms of payment to company
  – terms of payment to supplier.

Financial projections
- profit and loss/income statement, including anticipated dividends
- balance sheet, beginning with opening year going forward
- operating cash-flow and net cash-flow describing sources and uses of cash – this should be linked to the above two points
- debt schedule and interest schedule indicating life and terms of existing/new debt and the interest to be paid on the loans
- depreciation schedule for assets
- working capital schedule, highlighting changes and assumptions during loan
- anticipated tax schedule that the company will face during life of loan.

All schedules should indicate the timetable for any costs or expenses incurred, or revenues generated.

Part 3
Environmental and regulatory information

Environmental information

The EBRD's environmental mandate requires that the Bank "promote in the full range of its activities environmentally sound and sustainable development". It is therefore necessary that your financing proposal assembles sufficient information on the environmental aspects of your project to enable its environmental implications to be adequately assessed. Initial information to the Bank should cover:

- the location of the project site(s)
- historical and current land uses associated with the site(s)
- description of any construction activities or physical modifications involved in the project
- proposed measures for environmental mitigation and enhancement
- a statement setting out responsibilities regarding any contamination and/or liability issues
- any corporate environmental policy statement.

You should include, where possible, copies of any environmental audits or impact assessments that have been carried out for the project. National, regional and local environmental and worker health and safety requirements relevant to the project should be described.

Regulatory information

The EBRD needs to understand the regulatory environment in which the proposed project will operate. The following areas should be covered where relevant.

Describe what government licences or permits will be required in order to take the project forward. Indicate how you plan to obtain these and provide an estimate of how long you believe this will take.

If this is a manufacturing project describe to what extent raw materials are subsidised by the relevant government. Also indicate whether there are any likely restrictions on the importation of relevant machinery. Describe the nature of border tariffs or quotas. If you intend to export the product, indicate whether export markets have restrictions on imports.

Explain the current pricing structure for utilities and any other relevant tariff structures.

Indicate whether there are currency restrictions particularly with regard to the repatriation of profits.

Export-Import Bank of the United States
(Ex-Im Bank)

Funds available	Supports the sale of U.S. goods and services to creditworthy foreign buyers. No limit on funding.
Investment made to date in geothermal projects	$49.7 million Direct Loan to Ormat Leyte Co. , Ltd. (Political risk guarantee of loan provided by a syndicate of commercial banks led by ING Bank, Amsterdam, The Netherlands; upon project completion, Ex-Im Bank will replace the commercial bank financing with a direct loan).
Type(s) of Financing	Trade finance / Project finance (no limits but usually for transactions over $30 million due to high preparation costs)
Form(s) of Financing	Medium- and long-term Debt / Medium- and long-term loan guarantees / Short- and medium-term insurance / Export credit assistance
Financing Structure	
Investment Range (US$)	Medium-term: From $80,000 to $10 million Long-term: Over $10 million Maximum amount is 85% of the contract price; 15% cash payment by foreign buyer.
Term Range (years)	Medium-term: From 2 to 5 years; exceptionally 7 years. Long-term: Over 7 years.
Interest Rate Range (%)	Direct Loan: commercial interest reference rate (CIRR); fixed rate Guarantee: LIBOR-based
Grace Period (years)	Yes. 6 months. Capitalization of interest during construction.
Equity/Debt Ratio Required	Depends
Expected Return on Investment (%)	N/A
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Depends on nature of project

Export-Import Bank of the United States
(Ex-Im Bank)

Fees	Direct Loan: $100 processing fee; commitment fee of 1/2% of undisbursed portion; front-end exposure fee (may be financed). Guarantee: $100 processing fee; commitment fee of 1/8% of undisbursed portion; front-end exposure fee (may be financed). Project Finance: $100 processing fee; evaluation fee; additional fees for independent legal counsel, engineers, and insurance advisors; two-part commitment fee (pre and post-completion) based on coverages desired and risk assessment; not financeable; two-part exposure fee system based on coverages desired and risk assessment; 100% financeable. Insurance: No processing fee; priced at each application for each market. Exposure fee based on risk assessment of customer, country, and terms of credit.

Export-Import Bank of the United States
(Ex-Im Bank)

Other

1. Financial Guarantee Program - Ex-Im provides guarantees for repayment of medium- and long-term loans used to finance U.S. exports.

2. Credit Guarantee Facility - Ex-Im provides guarantees for repayment of draws under bank lines of credit used to finance U.S. exports.

3. Direct Loan Program - Ex-Im provides direct loans to foreign purchasers of U.S. exports.

4. Project Finance Program - Ex-Im will assist U.S. exporters in new or expansion projects such as power, infrastructure, oil and gas, mining, telecommunications, transportation, and other sectors.

   a. repayment from project cash flow
   b. separate exposure fee schedule
   c. political only coverage through project completion
   d. outside financial, legal, and technical advisors

5. Working Capital Guarantee Program: 90% guarantee of principal and interest to lenders; must be fully collateralized; 1 year revolving line of transaction-specific line.

6. Export Credit Insurance Program: short-term up to 180 days. Medium-term up to 5 years.

7. Environmental Exports Program:

   a. Short-term Environmental Export Insurance Policy - terms up to 180 days; 95% coverage against commercial losses; $0 deductible.

   b. Medium-term Export Credit Insurance for Capital Goods and Services, e.g., feasibility studies -terms up to 5 years; $10 million maximum.

8. Financing Leasing Insurance: U.S. company would build, own, and operate a plant and lease it to the customer; quicker processing time; more cost-effective than project financing; 100% protection for sovereign lessees, 90% for all others.

Export-Import Bank of the United States (Ex-Im Bank)

Application Procedure

Applications should be made on the standard Ex-Im Bank application form and vary depending on what coverage is sought.

Project finance applicants are required to submit 5 copies of the following:

1. Summary of all aspects of the project
2. Draft project agreements
3. Breakdown of anticipated project financing plan and security package
4. Projected annual financial statements and assumptions
5. Market information regarding the exports
6. Description of the principal risks and benefits of the project
7. Description of the types of insurance coverages to be obtained.

• *All applications can be found at: http://www.exim.gov/forms.html*

Useful Publications

Ex-Im Bank: Jobs Through Exports, A Map of Programs.

Financing and Insuring Exports: A User's Guide to Ex-Im Bank Programs, $75 per copy; $25 on disk.

Environmental Exports, May 8, 1997.

Key Contact(s)

Robert Haight
Loan Officer
Export-Import Bank of the United States
811 Vermont Avenue, N.W.
Washington DC, 20571

Tel: 202-565-3919
Tel: 1-800-565-EXIM
Fax: 202-565-3931

John Lavelle
Director
Export-Import Bank of the United States
6 World Trade Center, Suite 635
New York, NY 10048

Tel: 212-466-2950
Fax: 212-466-2959

Web Site

http://www.exim.gov

Global Environment Fund® Management Corporation

Funds available	Global Environment Fund ® is a private, U.S.-based investment group with approximately $250 million under management in four different funds and private asset accounts.
Investment made to date in geothermal projects	Magma Power, CalEnergy
Type(s) of Financing	Project finance
Form(s) of Financing	Equity
Financing Structure	
Investment Range (US$)	Global Environment Fund, L.P. - may invest up to 25% of assets in private companies or restricted securities; investments range up to $4 million. Global Environment Finance Partners, L.P. - invests from $500,000 to $2 million in small, private, growth-oriented companies. Global Environment Emerging Markets Fund, L.P. - $70-million fund invests up to $10 million in co-investment opportunities with established operating companies engaged in operational partnerships with local firms in high-growth markets; invests in countries where OPIC programs are available. Global Environment Emerging Markets Fund II, L.P. - $120-million fund invests up to $18 million in targeted emerging market countries in *inter alia* independent power generation and energy; OPIC-backed fund.
Term Range (years)	From 3 to 7 years
Interest Rate Range (%)	Not provided
Grace Period (years)	Not provided
Equity/Debt Ratio Required	Not provided
Expected Return on Investment (%)	In single projects, looking for very strong rate of return.
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Not provided

Global Environment Fund® Management Corporation

	Fees	Cost reimbursement payable at closing.
	Other	None
Application Procedure		Submission of a completed business plan or offering memorandum, including relevant financial data and a cover letter on company stationary, is sufficient to initiate the investment review process.
Useful Publications		—
Key Contact(s)		*In Washington, D.C.:* Global Environment Fund Management Corporation 1201 New York Avenue, NW, Suite 220 Washington DC, 20005 Tel: [1] 202-789-4500 Fax: [1] 202-789-4508 E-mail: NBermudez@geffunds.com Boris Cooper Investment Officer, Eastern Europe/Africa Jay Dunn Senior Investment Officer, Latin America Greg Nagler Investment Officer, Asia Navis Bermudez Corporate Services Associate *In California:* Global Environment Fund Management Corporation 412 North Coast Highway, Suite 345 Laguna Beach, CA 92651 Tel: [1] 714-497-6049 Fax: [1] 714-494-8392
Web Site		http://www.geffunds.com

Inter-American Development Bank (IDB)
Private Sector Department (PRI)

Funds available	$300-350 million per year
Investment made to date in geothermal projects	$1million for Feasibility Study of Azufral Geothermal Field, Colombia—Japan Special Fund Grant (in preparation stage). $1.4 million for El Valle de Antón Geothermal Field Advanced Pre-feasibility Studies, Phase II, Panama—Japan Special Fund (approved February 7, 1996). $215 million (IDB), $55 million (OECF of Japan) for Electric Power Sector Program, Stage II, El Salvador—(approved November 30, 1994). $676,100 for studies for the Momotombo Geothermal Field, Nicaragua — Italian Trust Fund (approved August 3, 1994).
Type(s) of Financing	Project finance for large-scale infrastructure projects
Form(s) of Financing	Long-term Debt / Loans / Guarantees
Financing Structure	
Investment Range (US$)	Up to $75 million or 25% of total cost, whichever is lower; in US dollars. The IDB will limit its financial commitment to projects to the amount required to secure funding from private sponsors and lenders.
Term Range (years)	Up to 20 years
Interest Rate Range (%)	Commercial rates
Grace Period (years)	Yes, established on case-by-case basis.
Equity/Debt Ratio Required	Yes, established on case-by-case basis.
Expected Return on Investment (%)	Yes, established on case-by-case basis.
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Yes, established on case-by-case basis.
Fees	Analysis fee. Commitment fee on undisbursed balance of loan. Front-end fee. Prepayment fee for prepayment before maturity. Late payment fee. Outside legal fees incurred by IDB.

Inter-American Development Bank (IDB)
Private Sector Department (PRI)

Other	Through its lending and guarantee programs, the IDB acts as a catalyst, enabling projects in the region to secure financing in US dollars under appropriate conditions and longer tenors. The beneficiary must be a company established within the laws of the country where the investment will be made. The IDB's private-sector lending facility is the **Inter-American Investment Corporation (IIC)** (see below for additional information).
Application Procedure	Two-stage review process. ** See information requirements attached.*
Useful Publications	*Basic Opportunities for Consulting Firms*, 1991. Covers the rules for the selection of consultants for IDB projects. *Guarantee Program*, 1995. *IDB Projects.* Lists information on public sector under consideration for financing and associated procurement opportunities. Published monthly. Subscription currently costs $150 per year. *Lending for Private Sector Operations*, 1995. Provides guidance to companies and entrepreneurs considering IDB financing for their infrastructure projects in Latin America and the Caribbean. *U.N. Development Business.*
Key Contact(s)	Hiroshi Toyoda Manager Private Sector Department Inter-American Development Bank (IDB) 1300 New York Avenue, N.W. Washington DC, 20577 Tel: [1] 202-623-1501 Fax: [1] 202-623-3639 Robert J. McEntire Commercial Liaison Commercial Liaison to the IDB 1300 New York Avenue, N.W. Mail Stop E 0209 Washington DC, 20577 Tel: [1] 202-623-3822 Fax: [1] 202-623-2039 E-mail: BobM@iadb.org
Web Site	http://www.iadb.org

Information Requirements

First Stage

To enable the IDB to proceed to a preliminary review of the project, the sponsors must provide a memorandum containing a brief but comprehensive description of the project, including, when pertinent, the following information:

(a) Description of the project and its rationale;
(b) Investment: budget and schedule;
(c) Participants: sponsors, project management team, customers, operator, contractors, regulator, etc.;
(d) Awarding process: bidding/direct concession/other, if applicable;
(e) Financial structure: debt/equity, sources of debt/equity and terms, and local/foreign financing (currencies);
(f) Legal structure, indicating whether, and to what extent, the project will be structured on a nonrecourse basis;
(g) Revenue information: demand, commercial and economic viability, critical factors determining profitability, tariff setting, and competition. If applicable, it should include details on how it would be implemented (i.e., purchase agreements, concession, etc.)
(h) Cost information: raw materials, other inputs, infrastructure to be developed, and maintenance/operating costs;
(i) Financial viability: rate of return and government entities involved, break even point, base case and its assumptions, and sensitivity analysis;

(j) Technical issues: technology, and contractor experience and track record;
(k) Environmental issues, expected impact on the environment and how the sponsor is planning to mitigate potentially adverse effects;
(l) Regulatory environment: description of applicable laws and the tariff setting process;
(m) Risks: description of the financial and commercial risks involved (market, construction-related, currency, etc.) and how they will be mitigated/shared.

Second Stage

In a second stage, the IDB will require more complete information in order to decide whether a "due diligence" process will be conducted. The requirements at this stage will vary depending on the specific project, but in general the information should expand upon the memorandum received for the preliminary analysis and include:

(a) A complete feasibility study;
(b) Detailed information on the participants, including the last five years of audited financial reports, experience and track record, and references;
(c) Detailed financial structure: sources of funds and security package;
(d) Detailed budget: breakdown of costs and implementation schedule;
(e) Commercial viability, including analysis of demand and projections. If formal studies were required (for example, road/port traffic), a copy of them should be provided;
(f) Description of project inputs (pricing, availability, etc.) and how supplies will be secured;

(g) Description of the awarding process (if applicable): how the concession was awarded, and how the contractor and main supplier of inputs were selected;
(h) A complete environmental study;
(i) Technical memorandum describing the technology, engineering information, equipment and facilities, reasons why the technology and contractor are the most appropriate, and the track record of similar facilities;
(j) Operation and maintenance, including description of these activities and identification of parties involved and their responsibilities;
(k) Detailed description of the regulatory environment and its implication, identification of sources of regulatory risks, and historical record;
(l) Description of development/social impact, approvals from local authorities, and other regulatory effects on the project (i.e., withholding taxes, labor restrictions, tax holidays, etc.);
(m) Documentation:
- Submission of relevant contracts and drafts, including purchase agreement or equivalent;
- Construction contract (including structure of technical guarantees and penalties);
- Insurance policies, letters of credit and other guarantees;
- Concession agreement;
- Environmental study;
- Copy of applicable laws/regulations;
- Operating and maintenance contracts;
- Supplier's contract;
- Legal documentation of the company soliciting the financing. In cases where other companies provide a guarantee to the project, financial and legal information of those companies should be submitted to the IDB to allow a preliminary evaluation of the characteristics of the guarantee.

For more information, contact:
Inter-American Development Bank
Private Sector Department
Telephone: (202) 623-1501
Fax: (202) 623-3639/623-3319

Inter-American Investment Corporation (IIC)
A Member of the Inter-American Development Bank Group

Funds available	$100 million per year
Investment made to date in geothermal projects	$0
Type(s) of Financing	Project finance / Corporate finance In medium-scale projects in all sectors
Form(s) of Financing	Long-term Debt / Equity
Financing Structure	
Investment Range (US$)	From $3 million to $10 million 33% of a new project; 50% of an expansion
Term Range (years)	From 5 to 12 years
Interest Rate Range (%)	LIBOR + from 3% to 6%
Grace Period (years)	Yes, 2 to 3 years
Equity/Debt Ratio Required	50/50 if greenfield project
Expected Return on Investment (%)	—
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	—
Fees	The IIC charges a project appraisal fee and other fees where applicable.
Other	The IDB's private-sector lending facility is the Inter-American Investment Corporation (IIC). While U.S. companies may not directly approach the IIC for financing, their Latin American or Caribbean partners may do so.

Inter-American Investment Corporation (IIC)
A Member of the Inter-American Development Bank Group

Application Procedure

Projects must have a significant amount of Latin American or Caribbean participation to qualify for IIC financing.

Send a brief description of the project to the IIC Regional Coordinator for the relevant country (see Key Contacts below).

If the project meets the IIC's eligibility criteria, more detailed information will be requested (see the *Project Presentation Guide*). After reviewing this detailed information, the IIC may decide to conduct an on-site project appraisal.

If the results of the project appraisal are satisfactory to the IIC, the IIC's management submits the project and proposed terms to the IIC's Board of Directors. If the Board of Directors approves the project, the final terms of IIC's involvement are negotiated, and the legal documents are drafted and signed. For cofinancing transactions, the IIC may contact interested financial institutions.

Funds are disbursed in accordance with the terms of the loan or equity agreement signed between the IIC and the project company. The IIC requires quarterly reports on the progress of the project and the company's operations, along with audited financial statements and other pertinent information.

The IIC maintains constant contact with its clients and partners to monitor its loan and investment portfolio.

• *See Project Presentation Guide attached.*

Useful Publications

How to Work with the IIC. Describes the IIC, its financing program, and how to apply for funds.

The IDB and the Private Sector. Describes the IDB's private-sector financing programs, including those from the IIC.

Lending for Private Sector Operations. Provides an annual overview of the Latin American and Caribbean economies, including updated country summaries and statistical information. Each edition contains a special report on a major regional issue.

Inter-American Investment Corporation (IIC)

A Member of the Inter-American Development Bank Group

Key Contact(s)	Roldan Trujillo Chief Operations Department Inter-American Investment Corporation (IIC) 1300 New York Avenue, NW Washington DC, 20577 Tel: 202-623-3922 Fax: 202-623-2360 E-mail: RoldanT@iadb.org **Region I:** Argentina, Bolivia, Brazil, Chile, Paraguay, Uruguay *In Washington:* Tel: 202-623-3981 Fax: 202-623-3761 *In Montevideo, Uruguay:* Tel: [598] 2-91-6063 Fax: [598] 2-90-8899 **Region II:** Costa Rica, Dominican Republic, FT Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama *In Washington:* Tel: 202-623-3768 Fax: 202-623-2036 *In San José, Costa Rica:* Tel: [506] 233-2543 Fax: [506] 233-1840	Robert J. McEntire Commercial Liaison to the IDB 1300 New York Avenue, N.W., Mail Stop E 0209 Washington DC, 20577 Tel: [1] 202-623-3822 Fax: [1] 202-623-2039 E-mail: BobM@iadb.org **Region III:** Bahamas, Barbados, Colombia, Ecuador, Guyana, Jamaica, Peru, Trinidad & Tobago, Venezuela *In Washington:* Tel: 202-623-3959 Fax: 202-623-3802 *In Bogota, Colombia:* Tel: [571] 288-0366 Fax: [571] 288-6336 **For general information about the IIC:** *In Washington:* Tel: 202-623-3948; 623-3902 Fax: 202-623-3815
Web Site	http://www.iadb.org

PROJECT PRESENTATION GUIDE

The IIC needs the following information in order to evaluate possible participation in the financing of a project:

1. General

- Name of company
- Legal structure
- Year established
- Location
- Mailing address
- Telephone numbers
- Fax number
- Name of contact person(s)

2. Owners/Sponsors

- Name, nationality, and ownership percentage of all shareholders
- Experience in the sector, industry, and product lines
- Experience in company management
- Financial (bank) and commercial (trade) references
- Resumes of main sponsors

3. The Company

- Brief company history
- Names and resumes of management team
- Products or services
- Historical financial information (audited statements for last three years)
- Current indebtedness (and extent of liens or mortgages on existing assets)
- Market information (supply, demand, prices, distribution strategy, main competitors)
- Principal suppliers and customers
- Comparative and competitive advantages
- Name of company auditors and legal counsel

4. The Project

- Detailed description of the project
- Project feasibility studies: technical, market, and financial
- Comparative and competitive advantages
- Major sources of competition
- Technology arrangements
- Employment (current and projected)
- Foreign exchange generation (current and projected)

5. Investment Costs

- Costs of the project
- Basis for estimating costs
- Potential sources of local and imported equipment/machinery

	$000		
	Local	*Imported*	*Total*
Land			
Plant			
Equip. & Mach.			
Others			
Subtotal			
Engineering and preoperating costs			
Contingencies			
Permanent working capital			
Interest during construction			
Subtotal			
TOTAL			

6. Financial Projections

- Ten year pro forma financial statements for the project, and consolidated statements for the company (cash flow, balance sheet, and income statement)
- Monthly projections for first year of operation
- Assumptions used for financial projections
- Cost of goods sold and unit cost analysis
- Calculation of unleveraged, unescalated internal rate of return
- Debt service coverage and other financial ratios

7. Implementation

- Monthly/annual schedule for project implementation
- Key implementation risks (construction risks, technology risks, environmental issues)
- Project risks (inputs, technical, operating, management, market, competition)

8. Financial Plan

	$ 000	%
EQUITY		
Owner/Sponsor		
Other investors		
Subtotal		
LONG-TERM DEBT		
Local banks		
Foreign banks		
Other sources		
Subtotal		
TOTAL		

9. Operating and Working Capital Financing

- Trade/commodity/crop, etc. finance
- Short-term lines of credit for working capital needs (Receivables + Inventories - Suppliers Credit)

10. Proposed Security Arrangements

- Mortgage/liens on project assets
- Insurance
- Sponsor guarantees
- Project completion guarantees
- Offshore escrow account

International Finance Corporation (IFC)

The Infrastructure Department, Power Division
A Member of The World Bank Group

Funds available	Annual target for private power investment is $400 million
Investment made to date in geothermal projects	$29.4 million in a 24 MW BOO geothermal plant at Zunil, Guatemala. IFC will provide a $14.4 million A-loan for its own account, a $12.8 million B-loan, and equity of up to $2.2 million. The plant's $66.7 million in financing needs will be subscribed by IFC, the Scudder Latin American Power Fund, Ormat Inc., the Commonwealth Development Corp., and a group of local investors.
Type(s) of Financing	Technical assistance / Project finance
Form(s) of Financing	Debt / Equity / Quasi-equity / Loan guarantees
Financing Structure	
Investment Range (US$)	From $1 million to $100 million and higher Up to 25% of total projects costs for greenfield projects or long-term capitalization of a company. Up to 50% of total project costs for expansion and rehabilitation projects.
Term Range (years)	Up to 15 years
Interest Rate Range (%)	Variable and fixed commercial rates set at a margin over LIBOR
Grace Period (years)	Yes, typically construction period plus 6 months
Equity/Debt Ratio Required	20/80 to 50/50 typical
Expected Return on Investment (%)	Commercial rates for IPPs in emerging markets which range from 15% to 25% depending on project and country risk
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	~ 1.50 average or higher

International Finance Corporation (IFC)

The Infrastructure Department, Power Division
A Member of The World Bank Group

Fees

Loan fees: 1% front-end fee for A-loans. ½ of 1% commitment fee per annum for variable rate loans on undisbursed balance. 1% commitment fee per annum for fixed-rate loans on undisbursed amount. 1% syndication fee for B-loans (up-front fee for B-Loans is 2%).

Appraisal fees: $100,000 to $200,000 for smaller projects plus out-of-pocket expenses.

Other

The IFC owns equity in approximately 77 investment funds valued at $4 billion in developing regions around the world. The funds include both public investment funds investing in emerging stock markets and private funds for direct investment in small and medium-sized companies.

Relevant IFC-sponsored funds:

1. Global Power Fund — GE Capital Corporation, Quantum Industrial Holdings (Soros Fund Management), and IFC are lead sponsors.
2. Scudder Latin American Power Fund — see page 130.
3. Renewable Energy and Energy Efficiency Fund — in development, see page 126.
4. Infrastructure equity funds, e.g., the Asian Infrastructure Fund, which can invest in power projects.

Application Procedure

To be eligible for IFC financing, projects must be profitable for investors, benefit the economy of the host country, and comply with stringent environmental guidelines.

There is no standard application form for IFC financing. A company or entrepreneur can approach IFC directly by requesting a meeting and submitting *preliminary project or corporate information* to the appropriate IFC department or the closest IFC mission or field office.

** See attached "IFC Brief: How to Work with IFC" for Application Procedures.*

International Finance Corporation (IFC)

The Infrastructure Department, Power Division
A Member of The World Bank Group

Useful Publications	*IFC 1997 Investment Portfolio.* *IFC 1997 Annual Report.* *Impact.* IFC magazine which reviews private investment in developing countries.
Key Contact(s)	Dennis T. Koromzay Principal Investment Officer Infrastructure Department, Power Unit International Finance Corporation 2121 Pennsylvania Ave, NW Room 2P-118 Washington DC, 20433 Tel: [1] 202-473-0578 Fax: [1] 202-974-4307 E-mail: DKoromzay@ifc.org
Web Site	http://www.ifc.org

IFC BRIEF

HOW TO WORK WITH IFC

APPLICATION PROCEDURES

Application for IFC Financing

There is no standard application form for IFC financing. A company or entrepreneur, foreign or domestic, seeking to establish a new venture or expand an existing enterprise can approach IFC directly. This can be done by requesting a meeting or by submitting preliminary project or corporate information. After these initial contacts and a preliminary review, IFC will request a detailed feasibility study or business plan to determine whether or not to appraise the project.

Appraisal and Investment Approval

Typically, an appraisal team comprises an investment officer with financial expertise and knowledge of the country in which the project is located and an engineer with the relevant technical expertise. The team is responsible for fully evaluating the technical, financial, and economic aspects of the project. This process entails visits to the proposed site of the project and extensive discussions with the project sponsors. After returning to headquarters, the team submits its recommendations to senior management. If financing of the project is approved, IFC's legal department drafts appropriate documents. Outstanding issues are negotiated with the company, government, or financial institutions involved and the project is submitted to IFC's Board of Directors for approval.

Disbursement and Supervision

Following Board approval, disbursements are made under the terms of the legal documents agreed by all parties. IFC supervises its investments closely, consults periodically with management, sends field missions to visit the enterprise, and requires quarterly progress reports together with information on factors that might materially affect the enterprise in which it has invested. It also requires annual financial statements audited by independent public accountants.

PREPARING YOUR INVESTMENT PROPOSAL

Preliminary information on a project for consideration by IFC should include the following:

1. **Brief description of project.**
2. **Sponsorship, management and technical assistance:**

- History and business of sponsors, including financial information.
- Proposed management arrangements and names and curricula vitae of managers.
- Description of technical arrangements and other external assistance (management, production, marketing, finance, etc.).

3. **Market and sales:**

- Basic market orientation—local, national, regional, or export.
- Projected production volumes, unit prices, sales objectives, and market share of proposed venture.
- Potential users of products and distribution channels to be used.

INTERNATIONAL FINANCE CORPORATION
A Member of the World Bank Group

International Fund for Renewable Energy & Energy Efficiency (IFREE)

A Member of the Energy House Consortium

Funds available	Up to $50,000 per project.
Investment made to date in geothermal projects	$100,000 (El Hoyo-Monte Galan Geothermal Project, Nicaragua)
Type(s) of Financing	Pre-feasibility studies
Form(s) of Financing	Pre-investment / Long-term Debt
Financing Structure	
Investment Range (US$)	Maximum of 50% of the cost of pre-investment work.
Term Range (years)	Negotiated per project
Interest Rate Range (%)	Negotiated per project
Grace Period (years)	Negotiated per project
Equity/Debt Ratio Required	Negotiated per project
Expected Return on Investment (%)	Negotiated per project
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Negotiated per project
Fees	—
Other	—

International Fund for Renewable Energy & Energy Efficiency (IFREE)

A Member of the Energy House Consortium

Application Procedure	*Threshold criteria for Project Eligibility:* 1. The project must involve a significant use of the subject renewable energy or energy efficiency technologies 2. The project must be commercial. 3. Project participants must be willing to share the costs of the study, and are expected to contribute at least 50% of the expenses. 4. In many cases, an interested potential investor has been identified for any remaining pre- investment work, for the capital (debt and equity), and for the insurance required for the project. 5. The project must have a capable in-country agent, partner, or advocate. 6. One or more of the project participants must be a member of a U.S. renewable energy or energy efficiency trade association. 7. The project must intend to use predominantly U.S. equipment, materials, or services whenever economically feasible. • *See attached application.*
Useful Publications	—
Key Contact(s)	Dana Levy Vice President International Fund for Renewable Energy and Energy Efficiency (IFREE) Pre-Investment Funding Program (PIFP) 727 15th Street, N.W., 11th Floor Washington DC, 20005 Tel: 202-408-7916 Fax: 202-371-5116 E-mail: dana@ifree.org
Web Site	http://www.energyhouse.com/ifree/

(II) APPLICATION FOR IFREE PRE-INVESTMENT FUNDING PROGRAM

Please provide information for each of the following sections. Where applicable, please include copies of all relevant supporting documentation. The review process will only begin once IFREE determines that the proposal is complete.

1. *General Information*

(a) Project name and location
(b) Technology and capacity (MW/ KW)
(c) Contact information for US and local firms
(d) Proposed purchaser(s) of electricity and/or heat/steam with contact information
(e) Dollar amount requested from IFREE
(f) Estimated remaining development cost to bring project to financial closure

2. *Brief Project Description*

Please provide a description of the proposed project and the specific site and customers to be served. Include a description of the role and relevant experience of each of the project sponsors. Please also provide a brief description of the overall energy market and investment climate of the country where the project is being proposed, including information on tax policies, currency convertibility, profit repatriation, and other relevant legal frameworks which could affect the potential project.

3. *Technical Description*

(a) Resource assessment/fuel supply analysis. Please supply letters of intent from potential fuel suppliers
(b) Technology details
(c) Previous applications of the proposed technology

4. *Financial Description*

Please provide a description of the proposed capital sources and ownership structure, including estimated total project size, debt/equity ratio, expected return on investment, and the estimated value of US goods and services.

5. *Participating Firms*

(a) Please provide the background, experience, and financial overview of in-country partner(s), including the most recent three years of audited financial statements.

(b) Please provide the background, experience, and financial overview of US firm(s), including the most recent three years of audited financial statements.

(c) Please provide the proposed structure of the implementation team for prefeasibility, feasibility, construction and operation.

(d) Please provide information on any outstanding debts or lawsuits that may impede the completion of the project, or an affirmation that these do not exist.

(e) Please provide copies of memoranda of understanding with all joint venture partners involved in the project.

(f) Please provide financial references (names and telephone numbers) of individuals, banks, or other organizations that have financed similar projects in the past with the project participants.

6. *Environmental Plan*

Please explain how your firm plans to address the environmental issues associated with developing the project. Please attach the environmental information on which the plan is to be based. The plan should explain how your firm intends to meet the environmental requirements of the country in which the project is proposed to be located.

7. *Scope of Work and Budget*

(a) Please provide a detailed scope of work including milestones to be accomplished, timeline, and budget matrix that explains and correlates all persons involved in the proposed work with their tasks, hours and costs per hour. Please specify clearly for which components of the work plan IFREE support is being requested.

(b) Please attach resumes for all individuals involved in the pre-investment phase of the project. Please also include information on past projects in which the project participants have been involved.

(c) Please also provide an agreement to comply with federal regulations in the establishment of a formal accounting procedure that clearly identifies how IFREE funds are spent.

8. *Threshold Criteria for Project Eligibility*

The following Threshold Criteria are minimum requirements that every candidate project for pre-investment funding must meet. Please describe how the proposed project meets each one of the criteria listed below.

(a) The project must involve a significant use of the subject renewable energy or energy efficiency technologies.

(b) The project must be commercial, i.e.

- the project may not involve R&D of new technologies, demonstration projects, or commercialization activities;
- the project manager must have experience in the development and management of *similar* successful commercial ventures;
- the project participants must be in good financial standing and demonstrate that they are willing and able to implement the project if the study results are positive; and
- an interested potential buyer for the energy produced must have been identified. Please include letters of intent from prospective purchasers of the energy to be produced by the proposed project.

(c) Project participants must be willing to share the costs of the study, and are expected to contribute at least 50% of the expenses. Substantive in-kind contributions can be counted as part of this share.

(d) In many cases, an interested potential investor has been identified for any remaining pre-investment work, for the capital (debt and equity), and for the insurance required for the project. Please provide letters of intent from these funding sources, if available.

(e) The project must have a capable in-country agent, partner, or advocate with complementary commercial experience to that of the US applicant.

(f) One or more of the project participants must be a member of a US renewable energy or energy efficiency trade association.

(g) The project must intend to use predominantly US equipment, materials, or services whenever economically feasible

Questions

Questions regarding the Pre-Investment Funding Program should be directed to the IFREE office in Washington, DC.

IFREE Pre-Investment Funding Program
727 15th Street, NW, Eleventh Floor
Washington, DC, 20005
Telephone: (202) 408-7916
Facsimile: (202) 371-5116
E-mail: ifree@ifree.org

Funding for IFREE's programs is provided by the US Department of Energy (USDOE), the US Agency for International Development (USAID), and Rockefeller Foundation.

Multilateral Investment Guarantee Agency (MIGA)
A Member of The World Bank Group

Funds available	N/A
Investment made to date in geothermal projects	$12.9 million in guarantees for equity and loan investments in 24 MW BOO geothermal plant (ORZUNIL I., S.A.) by Ormat International, Inc.. in Quetzaltenango Province, Guatemala.
Type(s) of Financing	Political risk insurance coverage against currency transfer restriction, expropriation, war and civil disturbance, and breach of contract.
Form(s) of Financing	Investor guarantees for equity, loans (shareholder and non-shareholder), loan guaranties, and technical assistance agreements.
Financing Structure	
Investment Range (US$)	Up to $75 million maximum per single project, including treaty reinsurance. Additional amounts of coverage are available under MIGA's Cooperative Underwriting Program (see page 116). *Maximum Amounts of Guarantees[43], for:* Equity: up to 90% of the investment contribution, plus an additional 500% of the initial guarantee amount to cover earnings attributable to the investment. Loan or loan guarantees: up to 95% of the principal, plus an additional 150% of the initial guarantee amount to cover interest that will accrue over the term of the loan. Technical Assistance contracts: up to 90% of the total value of payments due under the insured agreement.

[43] The amounts described constitute the *Maximum Amount of Guarantee* available for each risk category and for the insured investment. The *Current Amount of Guarantee* is the amount of coverage in force during any one contract year. The difference between the Maximum Amount of Guarantee and the Current Amount of Guarantee is the *Standby Amount of Guarantee* which is a reserve of insurance coverage that the investor may put into effect at any annual election of coverage to account for changes in the value or amount of the investment at risk.

Multilateral Investment Guarantee Agency (MIGA)
A Member of The World Bank Group

Term Range (years)	Up to 15 years (20 years under special circumstances) Contract term for investments other than equity generally follows the term of the insured agreement.
Interest Rate Range (%)	N/A
Grace Period (years)	N/A
Equity/Debt Ratio Required	N/A
Expected Return on Investment (%)	N/A
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	N/A
Fees	Application fee of $10,000, which will be credited against first year's premium if guarantee infrastructure/oil and gas project is accepted, or refunded if MIGA declines to offer coverage. Processing fee of $25,000 for environmentally sensitive or financially complex projects (e.g., oil and gas, infrastructure) to cover external financial, legal, or environmental services. Unused portion will be refunded; applicant will be charges an additional amount if needed. Application and Processing fees are due with submission of the *Definitive Application.* Premiums are based on the Project's risk profile. Annual base rates for Infrastructure/Oil and Gas projects are:

Type of Guarantee	*Current*[44]	*Standby*[45]
Transfer Restriction	0.50%	0.25%
Expropriation	1.25%	0.50%
Breach of Contract	1.25%	0.50%
War and Civil Disturbance	0.70%	0.30%

44 "Current" is the amount of investment currently at risk..

45 "Standby" is the amount of investment expected to be at risk in the future.

Multilateral Investment Guarantee Agency (MIGA)
A Member of The World Bank Group

Other	MIGA must obtain the approval of the host country to issue a Contract of Guarantee. **Cooperative Underwriting Program (CUP)** In further collaboration with the private insurance market, MIGA created the Cooperative Underwriting Program, a form of coinsurance in which MIGA is the insurer-of-record for the entire insured amount. The CUP is designed to expand available investment insurance capacity for prospective investors by encouraging private underwriters to offer coverage in developing countries where they might not have insured investments without the involvement of a multilateral institution such as MIGA. **IPA*net* — The Investment Promotion Network** In 1997, MIGA launched a new version of IPA*net*, its marketplace on the Internet that carries information on investment opportunities and business operating conditions in more than 150 countries. *See*: http://www.ipanet.net
Application Procedure	An investor seeking coverage from MIGA should submit a *Preliminary Application* * (no cost) before the investment is made or irrevocably committed. MIGA will register Preliminary Applications for eligible investments in countries that have signed the MIGA Convention. For eligible investments in countries that have not yet signed the Convention, MIGA will consider issuing a Letter of Intent to register the project formally when the country signs the Convention. Once investment and financing plans are established, the investor should promptly complete and return a *Definitive Application* for Guarantee along with any relevant project documentation, such as a joint venture contract, feasibility study, and an environmental assessment. * *See Preliminary Application for Guarantee attached.*
Useful Publications	*Investment Guarantee Guide*, August 1997. *MIGA Annual Report 1997.* *MIGA News* (MIGA's quarterly newsletter)

Multilateral Investment Guarantee Agency (MIGA)
A Member of The World Bank Group

Key Contact(s)	Office of Guarantees (MIGGU) Multilateral Investment Guarantee Agency (MIGA) 1800 G Street, NW 12th Floor Washington DC, 20433 Fax: 202-522-2630 Roger Pruneau Vice President, MIGGU Tel: 202-473-6167 Christophe Bellinger Chief Guarantee Officer, MIGGU Tel: 202-473-6163 Christina Westholm-Schoder Manager, Syndications & Business Development, MIGGU Tel: 202-473-6165 Ms. Stine Andresen Regional Manager, Central/Eastern Europe/NIS Tel: 202-473-6157 Roland Pladet Regional Manager, Middle East & Africa Tel: 202-473-2059 Anne Marie Thurber Regional Manager, Latin America & the Caribbean Tel: 202-473-7153 Philippe Valahu Regional Manager, Asia & the Pacific Tel: 202-473-8043
Web Site	http://www.miga.org

Multilateral Investment Guarantee Agency

PRELIMINARY APPLICATION FOR GUARANTEE

The undersigned hereby requests that MIGA register the proposed investment to assure that its eligibility for a MIGA guarantee will not be prejudiced if the investment is committed or made while the registration is in effect. Upon acceptance, a Notice of Registration will be issued which will remain in effect for the period specified therein. This Notice does not constitute a commitment either for MIGA to offer a guarantee or for the investor to accept such a guarantee.

MIGA will treat all information contained in this application as confidential, and will not disclose it outside the Agency except with the applicant's consent.

A. INVESTOR

1. Name _____

   Address _____

   _____

   Telephone _____ Telex _____ Telefax _____

2. Investor's legal status:

   ☐ Individual; nationality _____

   ☐ Corporation; incorporated in _____

   Principal place of business _____

   Majority of capital owned by nationals of _____

3. Authorized representative/insurance broker (optional) appointed to deal with MIGA:

   Name _____

   Address
   (if other than investor) _____

   Telephone _____ Telex _____ Telefax _____

B. INVESTMENT

1. Host country _____

2. Name of project enterprise (if available) _____

3. Product(s) and/or services to be produced _____

   _____

4. Total project cost in US$ (including debt and other investors' contributions, if any) _____

(continued on other side)

Mail Address: 1800 G Street, N.W., Washington, D.C. 20433
Offices at: 1800 G Street, N.W., 12th Floor, Washington, D.C. 20433
Telephone: (202) 473-6168 Telex: RCA 248423 Telefax: (202) 522-2630

(PA 10/95)

5. List other investors (local and foreign) _____

_____

6. Types and estimated values of investor's/lender's contributions for which a guarantee is desired (in US$):

(a) Equity _____

(b) Shareholder loan or loan guaranty _____

(c) Non-shareholder loan _____

(d) Other form(s) of investment (please specify) _____

_____

Total contribution _____

7. Does the project involve a new investment in (a) a start-up operation ; or (b) an existing business ? (Please check appropriate box.) If the project involves an expansion of an existing business, please describe the changes and restructuring to be performed: _____

_____

_____

If the investment is used to acquire existing shares in an enterprise, are the shares (a) privately-owned ; or (b) state-owned ? (Please check appropriate box.) Please indicate the percent of host government or parastatal ownership after the investment: _____%.

8. Estimated date of irrevocable commitment to invest: _____

C. TYPE OF GUARANTEE REQUESTED

1. Risks to be covered by MIGA:

☐ Currency Transfer ☐ Expropriation ☐ War/Civil Disturbance ☐ Breach of Contract

2. As a condition for payment of compensation, MIGA requires assignment to it of the guaranteed shares or other assets unencumbered. Will shares or other assets representing investments to be insured by MIGA be pledged to a lender? Yes ☐ No ☐

3. List other insurers from which coverage for political risks has been (will be) requested:

_____

D. HOW DID YOU HEAR ABOUT MIGA? (Please check appropriate box(es))

1. MIGA News ☐	4. Conference ☐	7. Investor Government Official ☐
2. Insurance Broker ☐	5. Another Investment Insurer ☐	8. World Bank Group Official ☐
3. Magazine Article ☐	6. Host Government Official ☐	9. Other _____

E. APPLICATION MADE BY

I hereby affirm that none of the investment for which coverage is sought has been irrevocably committed or made as of this date, and I am aware that an investment irrevocably committed or made prior to MIGA's acceptance will not be eligible for coverage.

Signature of Investor _____ Date _____

Name and Title _____

(Please print)

Multilateral Investment Guarantee Agency

1818 H Street N.W.
Washington, D.C. 20433
U.S.A.

(202) 473-2964
Cable Address: MICAVEST
Fax: (202) 522-2660

141 MEMBER COUNTRIES

INDUSTRIALIZED - 19

Belgium	Germany	Luxembourg	Sweden
Canada	Greece	Netherlands	Switzerland
Denmark	Iceland	Norway	United Kingdom
Finland	Italy	Portugal	United States
France	Japan	Spain	

DEVELOPING - 122

AFRICA	ASIA-PACIFIC	EUROPE/CENTRAL ASIA	LATIN AMERICA/CARIBBEAN
Angola	Bangladesh	Albania	Argentina
Benin	China	Armenia	Bahamas, The
Botswana	Fiji	Azerbaijan	Barbados
Burkina Faso	India	Belarus	Belize
Cameroon	Indonesia	Bosnia-Herzegovina, Republic of	Bolivia
Cape Verde	Korea, Republic of	Bulgaria	Brazil
Congo, Democratic Republic of	Malaysia	Croatia, Republic of	Chile
Congo, Republic of	Micronesia, Fed. States of	Cyprus	Colombia
Cote d'Ivoire	Nepal	Czech Republic	Costa Rica
Equatorial Guinea	Pakistan	Estonia	Dominica
Eritrea	Papua New Guinea	Georgia	Dominican Republic
Ethiopia	Philippines	Hungary	Ecuador
Gambia, The	Sri Lanka	Kazakhstan*	El Salvador
Ghana	Vanuatu	Kyrgyz Republic	Grenada
Guinea	Viet Nam	Lithuania	Guatemala
Kenya	Samoa	Macedonia, FYR of	Guyana
Lesotho		Moldova	Haiti
Madagascar	MIDDLE EAST/	Poland	Honduras
Malawi	NORTH AFRICA	Romania	Jamaica
Mali	Algeria	Russian Federation	Nicaragua
Mauritania	Bahrain	Slovak Republic	Panama
Mauritius	Egypt, Arab Republic of	Slovenia, Republic of	Paraguay
Mozambique	Israel	Turkey	Peru
Namibia	Jordan	Turkmenistan	St. Lucia
Nigeria	Kuwait	Ukraine	St. Vincent and the Grenadines
Senegal	Lebanon	Uzbekistan	Trinidad & Tobago
Seychelles	Libya		Uruguay
Sierra Leone	Malta		Venezuela
South Africa	Morocco		
Sudan	Oman		
Swaziland	Qatar		
Tanzania	Saudi Arabia		
Togo	Tunisia		
Uganda	United Arab Emirates		
Zambia	Yemen, Republic of		
Zimbabwe			

19 COUNTRIES IN THE PROCESS OF FULFILLING MEMBERSHIP REQUIREMENTS

INDUSTRIALIZED - 2

Australia	Austria

DEVELOPING - 17

AFRICA	ASIA-PACIFIC	MIDDLE EAST/ NORTH AFRICA	LATIN AMERICA/CARIBBEAN
Burundi	Cambodia	Syrian Arab Republic	St. Kitts & Nevis
Chad	Mongolia		Suriname
Gabon	Singapore		
Guinea-Bissau	Solomon Islands	EUROPE/CENTRAL ASIA	
Niger	Thailand	Latvia	
Rwanda		Tajikistan	
		Yugoslavia, Federal Republic of	

Contact MICA for information about countries not listed

*Name Change

September 12, 1997

Overseas Private Investment Corporation (OPIC)

Funds available	$2.4 billion in reserves
Investment made to date in geothermal projects[46]	Insurance: $175 million - CalEnergy Company, Inc./Kiewit Energy & Company, Inc. [1] $175 million - CalEnergy Company, Inc./Kiewit Energy & Company, Inc. [2] $50 million - CalEnergy Company, Inc./Kiewit Energy & Company, Inc. Finance: $150 million - UNOCAL Corporation (Dayabumi Salak Pratama, Ltd.)
Type(s) of Financing	Project finance / Political risk insurance against currency inconvertibility, expropriation, and political violence OPIC also has specialized insurance programs for: 1. financial institutions; 2. leasing arrangements; 3. oil and gas projects; 4. natural resource projects; and 5. contractors and exporters.
Form(s) of Financing	Debt *(for projects involving U.S. small businesses*[47] *and cooperatives)* / Loan guarantees *(typically used for larger projects)* / Insurance / Equity *(through OPIC-supported private investment funds)* • OPIC will not participate in projects that can secure adequate financing from commercial sources.

46 *OPIC 1996 Annual Report*, p 23.

47 OPIC defines small businesses as industrial companies with annual sales of less than $198 million, and non-industrial companies with stockholders' equity of less than $67 million, taking into account consolidated sales and equity of the parent company.

Overseas Private Investment Corporation (OPIC)

Financing Structure

Investment Range (US$)	Direct loans: $2 million to $30 million; for projects involving U.S. small businesses[48] and cooperatives; up to 50% of total project costs of a new venture; more for expansion; up to a limit of $200 million. Project finance: due to the costs of preparation, project finance is usually not cost-effective for projects with total costs of less than $10 million. Loan guarantees: $10 million to $200 million; limited to 270% of the original investment (90% of the original investment plus 180% to cover future earnings); typically used for larger projects. Up to $400 million in total project support for any one project: up to $200 million in project finance and $200 million in political risk insurance.
Term Range (years)	Direct loans: 5 to 15 years Loan guarantees: up to 15 years
Interest Rate Range (%)	Direct loans: vary with OPIC's assessment of the financial and political risks involved; based on interest rates in U.S. long-term capital markets. Loan guarantees: comparable to those of other U.S. government-guaranteed issues of similar maturity.
Grace Period (years)	Yes
Equity/Debt Ratio Required	40/60
Expected Return on Investment (%)	Depends on project
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Depends on project

[48] OPIC defines a small business as "industrial companies with annual sales of less than $198 million, and non-industrial companies with stockholders' equity of less than $67 million, taking into account the consolidated sales and equity of the parent company."

Overseas Private Investment Corporation (OPIC)

Fees

Direct loans: front-end, commitment, and cancellation fees are charged; reimbursement of related out-of-pocket expenses is also required.

Project finance fees: retainer fee of 0.30-0.50%; facility fee of 1.0%; commitment fee of 0.50-0.75% of undisbursed and uncanceled amount; cancellation fee of 1.0% of the canceled amount; prepayment fee of 3.0%, 2.0%, and 1.0% in the first, second, and third year after disbursement respectively, none after third year; maintenance fee of up to $10,000 per annum, plus reimbursement of out-of-pocket expenses including legal costs.

Loan guarantees: guarantee fee of 2.5% to 5% per annum on the outstanding principal amount.

Insurance: premiums based on project's risk profile.

Annual base rates for Natural Resources (Except Oil & Gas) per $100 of Coverage:

Type of Guarantee	*Current*	*Standby*
Inconvertibility	$0.30	$0.25
Expropriation	$0.90	$0.25
Political Violence		
Business Income	$0.45	$0.25
Assets	$0.60	$0.25

Base rates shown may be increased or decreased, usually by not more than one-third, depending on the risk profile of the project. Once established, the rates are fixed for the life of the contract.

Overseas Private Investment Corporation (OPIC)

	Other	OPIC assistance is available for new investments, privatizations, and for expansions and modernizations of existing plants sponsored by U.S. investors. In the case of a project with foreign ownership, only the portion of the investment made by the U.S. investor is insurable by OPIC. Under agreement with certain countries, the host government may be required to approve OPIC assistance to a project. OPIC-backed Investment funds: OPIC-supported funds operate in most countries in East Asia, sub-Saharan Africa, South America, Russia and other New Independent States, Poland and other countries in Central Europe, and India and Israel. Investment funds are privately owned, privately managed, and make their own commercially based investment decisions. Sponsors seeking long-term growth capital for their projects should approach the appropriate fund directly. Funds typically invest in 5% to 40% of the equity capital of each of their portfolio companies, and own interests in 10 to 20 companies when fully invested.
Application Procedure		OPIC 220 - Small Business Application for Financing[49] OPIC 223 - Small Business Application for Political Risk Insurance ** See http://www.opic.gov/subdocs/forms.htm for applications.*
Useful Publications		*OPIC Program Handbook*, December 1995.

[49] Small companies may use OPIC Form 220 to apply for financing rather than the longer, more complex OPIC Form 115.

Overseas Private Investment Corporation (OPIC)

Key Contact(s)	Joan J. Edwards Managing Director for Business Development Overseas Private Investment Corporation (OPIC) Investment Development Group 1100 New York Avenue, NW Washington DC, 20527 Tel: 202-336-8621 Fax: 202-408-5145 OPIC InfoLine: 202-336-8799 *— to listen to recorded information, request printed material, or speak with an Information Officer (from 8:45 a.m. to 5:30 p.m. EST).* OPIC FactsLine: 202-336-8700 *— to obtain faxes of various OPIC documents.*
Web Site	http://www.opic.gov

Renewable Energy & Energy Efficiency Fund (REEF)

— In Development —

Funds available	Mobilization target of $100 million to $200 million $30 million from Global Environment Facility (GEF) in grant and concessional funds for eligible incremental costs for promising new technologies and management costs.
Investment made to date in geothermal projects	N/A—fund in development Target launch date is the end of 1998.
Type(s) of Financing	Project finance
Form(s) of Financing	Grants / Debt / Equity / Loan guarantees
Financing Structure	
Investment Range (US$)	The Fund will focus on small and medium-size projects (less than 100 MW) and companies requiring $1 million to $100 million in financing.
Term Range (years)	N/A—fund in development
Interest Rate Range (%)	N/A—fund in development
Grace Period (years)	N/A—fund in development
Equity/Debt Ratio Required	N/A—fund in development
Expected Return on Investment (%)	N/A—fund in development
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	N/A—fund in development
Fees	N/A—fund in development
Other	GEF support would normally be extended after considerable resources have already been invested by the project sponsors. About two-thirds to three-fourths of GEF-supported projects will be renewable energy projects.
Application Procedure	N/A—fund in development
Useful Publications	N/A—fund in development

Renewable Energy & Energy Efficiency Fund (REEF)

— In Development —

Key Contact(s)	Ken R. Locklin Managing Director Renewable Energy & Energy Efficiency Fund Energy Investors Funds Group (EIF) 727 Fifteenth Street, NW, Eleventh Floor Washington DC, 20005 Tel: [1] 202-783-4419 Fax: [1] 202-371-5116 E-mail: KRLocklin@IFREE.org
Web Site	None

Renewable Energy Network Indonesia (RENI)
Yayasan Bina Usaha Lingkungan (YBUL)

Funds available	—
Investment made to date in geothermal projects	$0
Type(s) of Financing	Feasibility studies / Project finance
Form(s) of Financing	Grant (conditional) / Short-term debt / Long-term debt

Financing Structure

Investment Range (US$)	From $100,000 to $300,000
Term Range (years)	From 1 to 7 years
Interest Rate Range (%)	From 10% to 12% (net of withholding tax)
Grace Period (years)	Yes, up to 2 years
Equity/Debt Ratio Required	30/70 (minimum)
Expected Return on Investment (%)	15% (minimum)
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	1.5
Fees	None
Other	*YBUL works with*:

1. The Environmental Enterprises Assistance Fund (EEAF); final funding decisions are made in the U.S.
2. Winrock International through the USAID-funded Renewable Energy Network Indonesia (RENI).
3. Global Environment Facility - Small Grants Programme.

Renewable Energy Network Indonesia (RENI)

Yayasan Bina Usaha Lingkungan (YBUL)

Application Procedure

Borrower eligibility: private company, provides adequate collateral (for debt finance), demonstrates good cashflow and business plan, has obtained all permits and licenses.

Applicants should submit a brief proposal directly to the RENI Program office which includes the following information:

1. Name, company, address, telephone and fax numbers, e-mail address
2. Company's scope of activities
3. Prospective renewable energy applicable, e.g., geothermal
4. Energy required (MW)
5. Energy use, e.g., industry, household, public facilities, other.

Once the RENI Program criteria are met, staff will work to obtain a financial agreement for a cost-share award. The entire process takes five to ten weeks to reach the formalized stage.

Key Contact(s)

Mr. Hardjono Purwandono
Investment Officer
Environmental Business Foundation
Renewable Energy Network Indonesia (RENI)
Yayasan Bina Usaha Lingkungan (YBUL)
Jl. Mendawai III, No. 2
Jakarta 12130, Indonesia

Tel: [62] (21) 739-6481
Fax: [62] (21) 739-6481
E-mail: ybul@indo.net.id

Mary Ann Bovay Alger
Senior Investment Officer
Environmental Enterprises Assistance Fund (EEAF)
1901 North Moore Street, Suite 1004
Arlington, VA 22209

Tel: 703-522-5928
Fax: 703-522-6450
E-mail: eeaf@igc.apc.org

Peter K. Williams
Projects Coordinator, Indonesia
Winrock International
Renewable Energy Division
1611 North Kent Street, Suite 600
Arlington, VA 22209-2134

Tel: 703-525-9430
Fax: 703-243-1175
E-mail: PKW@winrock.org

Web Site

None

Scudder Latin American Power Fund
(Latin Power Fund)

Funds available	Capitalized first fund for $100 million in 1996; $28 million remains to invest. Second fund for $235 million has recently closed.
Investment made to date in geothermal projects	$32.8 million (49% of total project costs) in a 24 MW BOO geothermal plant at Zunil, Guatemala (with IFC, Ormat Inc., the Commonwealth Development Corp., and the local utility company).
Type(s) of Financing	Corporate finance / Financial expertise
Form(s) of Financing	Equity / Preferred stock / Convertible debt
Financing Structure	
Investment Range (US$)	$10 million minimum per project; $20 million to $25 million is ideal transaction size. The Fund is usually the largest shareholder in a project.
Term Range (years)	Not provided.
Interest Rate Range (%)	Not provided.
Grace Period (years)	Not provided.
Equity/Debt Ratio Required	Not provided.
Expected Return on Investment (%)	Not provided.
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Not provided.
Fees	Not provided.
Other	Lead investors on first fund are Corporacion Andina de Fomento (Andean Development Corporation), CMS Generation Company, International Finance Corporation, and NRG Energy, Inc. The Fund will participate in the management of each project through a Board or Management Committee seat.

Scudder Latin American Power Fund
(Latin Power Fund)

Application Procedure	As the Investment Advisor, Scudder is responsible for sourcing and screening potential investments. 1. Scudder performs a preliminary screening and as a result, may recommend to the Project Committee that funds be expended to perform detailed due diligence. 2. Based upon the results of the due diligence, Scudder may recommend the investment to the Project Committee. 3. If a majority of the Project Committee members eligible to vote approve the investment, Scudder has the authority (but not the requirement) to negotiate the documentation and make the investment.
Useful Publications	—
Key Contact(s)	Eugene Avila Assistant Vice President Scudder Latin American Power Fund Scudder, Stevens & Clark, Inc. 345 Park Avenue, 15th Floor New York, NY 10154-0010 Tel: 212-326-6385 Fax: 212-751-3660
Web Site	None

U.S. Small Business Administration (SBA)
Office of International Trade (OIT)

Funds available	In FY 1997, the SBA guaranteed over 1260 loans totaling $419 million to small business exporters. The SBA helps small businesses obtain capital to explore, establish, or expand international markets.
Investment made to date in geothermal projects	$0
Type(s) of Financing	Trade finance / Technical assistance

U.S. Small Business Administration (SBA)
Office of International Trade (OIT)

Form(s) of Financing

Loan guarantees — through SBA programs

Debt / Equity — through SBICs[50]

1. Export Working Capital Program (EWCP)
   a. loan guarantees for short-term, transaction-specific financing
   b. available for pre-export financing of labor and materials, financing receivables generated from export sales, and standby letters of credit to foreign buyers

2. International Trade Loan Program (ITL)
   a. loan guarantees
   b. available for working capital, facilities, and equipment
   c. cannot be used for debt payment

3. 7(a) Loan Guaranty Program
   a. provides loan guarantees to small businesses that are unable to secure financing on reasonable terms through normal lending channels
   b. available for long-term loans

4. Small Business Investment Companies (SBICs)
   a. working capital
   b. long-term debt
   c. equity

[50] Small Business Investment Companies (SBICs) are privately owned and operated investment companies that use their own capital, plus funds borrowed at favorable rates with an SBA guarantee, to make venture capital investments in small businesses in a wide range of industries.

Companies that received financing from SBICs: America On-Line, Apple Computer, Federal Express, Intel Corporation, Outback Steakhouse, Staples, and Sun Microsystems.

U.S. Small Business Administration (SBA)

Office of International Trade (OIT)

Financing Structure

Investment Range (US$)	* For the EWCP, ITL, and 7(a) programs, there is no limit on the loan amount. There is, however, a limit to the amount that can be guaranteed. EWCP: maximum loan guarantee is $750,000 or 90% of loan amount. ITL: maximum loan guarantee is $1.25 million, less other outstanding SBA loans. 7(a): maximum loan guarantee is $750,000 or 75-80% of loan amount, depending on the size of the loan. SBICs: over $750,000.
Term Range (years)	EWCP: generally 12 months; revolving credit lines may be renewed up to a total of 36 months. ITL: up to 25 years, excluding the working capital portion of the loan (3 years). 7(a): 7-10 years for working capital, 10-25 years for machinery and equipment, and up to 25 years for building construction or purchase. SBICs: negotiated with SBIC.
Interest Rate Range (%)	EWCP: negotiable between the applicant and the lender. ITL: up to 2.25% over New York Prime Rate for loans with maturities less than 7 years; up to 2.75% over Prime for maturities over 7years. 7(a): up to 2.25% over New York Prime Rate for loans with maturities less than 7 years; up to 2.75% over Prime for maturities over 7years. SBICs: negotiated with SBIC.
Grace Period (years)	Negotiated between small business and commercial lender or SBIC

U.S. Small Business Administration (SBA)
Office of International Trade (OIT)

Equity/Debt Ratio Required	Negotiated between small business and commercial lender or SBIC
Expected Return on Investment (%)	Negotiated between small business and commercial lender or SBIC
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	Negotiated between small business and commercial lender or SBIC
Fees	Negotiated between small business and commercial lender or SBIC
Other	U.S. Export Assistance Centers (USEACs) - located in 19 cities across the U.S., OIT delivers the EWCP and other finance programs for exporters through these centers. Centers also house representatives of the Department of Commerce and Ex-Im Bank. For USEAC locations, see http://www.sbaonline.sba.gov/oit/txt/export/useac.html. Business Development Assistance - trade counseling, training, legal assistance, and publications through the Service Corps of Retired Executives (SCORE), Small Business Development Centers (SBDCs), and Small Business Administration local distric offices. Export Legal Assistance Network (ELAN) - local SBA office can arrange a free initial consultation with an attorney to discuss international trade questions.

U.S. Small Business Administration (SBA)
Office of International Trade (OIT)

Application Procedure

Borrower eligibility:

To be eligible, the business must be operated for profit and fall within the size standards set by the SBA (generally, a small business is defined as up to 500 employees). Loans cannot be made to businesses engaged in speculation or investment.

• *See http://www.sbaonline.sba.gov/library/pubsroom.html for application forms for EWCP, ITL, and 7(a) Programs.*

EWCP: apply directly to the SBA for a preliminary commitment; approach your bank with the SBA commitment; bank applies to the SBA for final commitment. Use SBA Form 84-1, Application for Export Working Capital Guarantee.

ITL and 7(a): Applicants must establish either of the following to be eligible: loan proceeds will significantly expand or develop export markets; or applicant's business is harmed by import competition.

1. Take business plan including information on how debt will be serviced to your bank, and request loan from bank.
2. If your bank is unwilling or unable to make the loan, request that they consider making the loan under the SBA Guaranty Program.
3. If bank agrees, complete a formal application for forwarding to the SBA
4. In the case of guaranteed loans, the SBA generally deals with the bank only and not the small business.
5. Use SBA Form 4, Application for Small Business Loan (short form).

For SBIC Program:

1. Contact the SBA Investment Division a list of SBICs.
2. Research the SBICs, their investment criteria, amount of money available, etc..
3. Contact SBICs directly with business plan.

U.S. Small Business Administration (SBA)
Office of International Trade (OIT)

Useful Publications	*Breaking Into the Trade Game: A Small Business Guide to Exporting.* *Bankable Deals: A Question and Answer Guide to Trade Finance.*
Key Contact(s)	*SBA/OIT:* Office of International Trade U.S. Small Business Administration 409 Third Street, SW Washington DC, 20416 Tel: [1] 202-205-6720 Fax: [1] 202-205-7272 *SBA SBIC Program:* Investment Division U.S. Small Business Administration 409 Third Street, SW Washington DC, 20416 Tel: [1] 202-205-6510 Fax: [1] 202-205-6959 *Local SBA offices*: SBA has offices throughout the United States. For the one nearest you, consult the telephone directory under "U.S. Government," or call the Small Business Answer Desk at 1-800-8-ASK-SBA; Fax: 202-205-7064.
Web Site	http://www.sba.gov/oit http://www.sbaonline.sba.gov/INV

U.S. Trade & Development Agency (TDA)

Funds available	In FY 1996, TDA obligated $43.5 million for U.S. firms in 39 countries.
Investment made to date in geothermal projects	$75,000
Type(s) of Financing	Feasibility studies / Definitional Missions (DM) or Desk Studies / Conferences / Orientation visits / Trade-related training / Technical assistance / Financial packaging
Form(s) of Financing	Grants / Short-term debt
Financing Structure	
Investment Range (US$)	Feasibility study: from $20,000 to $1 million; average grant is $320,000; costs for private projects are shared between TDA and the American firm developing the project.
Term Range (years)	N/A
Interest Rate Range (%)	0%
Grace Period (years)	N/A
Equity/Debt Ratio Required	N/A
Expected Return on Investment (%)	N/A
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	N/A
Fees	Feasibility study: a "success fee" is charged when the project is implemented and the U.S. firm involved in the study obtains significant economic benefit from the project.
Other	Evergreen Funds: TDA maintains trust funds at the World Bank, IFC, EBRD, IDB, IIC, and AfDB; funds can be used for technical assistance or feasibility studies conducted by U.S. firms. Definitional Missions: small firms that are interested in competing for a contract to conduct a Definitional Mission can access TDA's DM Hotline at (703) 875-7447. Solicitations over $25,000 are published in the *Commerce Business Daily (CBD)*.

U.S. Trade & Development Agency (TDA)

Application Procedure

Official requests for assistance must be made directly to TDA by the sponsoring organization (government or private sector) of the host country.

Feasibility studies: TDA provides feasibility study grants to the host country or a foreign private company undertaking a project. The grant recipient—not TDA—selects the U.S. company that will perform the study.

Eligible projects: To be considered for funding, projects must:

1. Face strong competition from foreign companies that receive subsidies and other support from their governments;

2. Be a development priority of the country where the project is located and have the endorsement of the U.S. embassy in that nation;

3. Represent an opportunity for sales of U.S. goods or services that is many times greater than the cost of TDA assistance (exports in excess of $20 million per project); and

4. Be likely to receive implementation financing, and have a procurement process open to U.S. firms.

If the project satisfies the criteria above, qualifies, prepare documentation and research that confirms the information. Begin with a one- to two-page summary. Be sure to tell TDA about your company, its capabilities, resources, and personnel.

Contact the TDA Country Manager responsible for the nation where the project is located. A telephone or office appointment will be arranged for an informal review of your proposal.

For the formal application, obtain a copy of the *TDA Feasibility Study Model Format* and follow the instructions carefully. TDA will review the project and inform you of its ability to be of assistance.

** See TDA Feasibility Study Model Format attached.*

U.S. Trade & Development Agency (TDA)

Useful Publications	*Commerce Business Daily.* Lists bid announcements and solicitations over $25,000; call CBD Subscription at (202) 512-1800, or see http://cbdnet.gpo.gov/search1.html. *TDA Biweekly.* Provides U.S. suppliers and manufacturers with timely information on agency-supported projects. *TDA Feasibility Study Model Format.* Guidelines for submitting a Feasibility Study Proposal to TDA. *TDA Pipeline.* Call TDA to subscribe, or see http://www.tda.gov/docs/pipeline/biweekly.html.
Key Contact(s)	U.S. Trade and Development Agency 1621 North Kent Street, Suite 300 Rosslyn, VA 22209-2131 Tel: 703-875-4357 Fax: 703-875-4009 Albert W. Angulo Regional Director, Latin America & Caribbean E-mail: AAngulo@tda.gov Rodney Azama Regional Director, Central Europe E-mail: RAzama@tda.gov Geoff Jackson Regional Director, East Asia & Pacific Islands E-mail: GJackson@tda.gov John Richter Regional Director, Africa & Middle East E-mail: JRichter@tda.gov Daniel D. Stein Regional Director, New Independent States, South Asia & Mongolia E-mail: DStein@tda.gov
Web Site	http://www.tda.gov

TDA Feasibility Study Model Format

Guidelines for Submitting a Feasibility Study Proposal to the U.S. Trade and Development Agency

Proposals submitted to TDA by U.S. companies must follow this model format. Proposals that do not fully address each item may not be considered for funding. As used below, "study" means the feasibility study for which TDA funding is being sought. "Project" means the actual project to be implemented at the conclusion of the feasibility study. TDA funding may be used only for services sourced in the United States. However, up to 20 percent of the TDA funding may be subcontracted to host country organizations. Proposals must clearly identify the nationality of individuals and companies who will actually conduct the feasibility study. A minimum of six copies of the proposal must be submitted to TDA. If the proposals contain confidential commercial information, they should be so marked.

Companies submitting proposals should note that meeting the criteria ensures TDA consideration, but does not guarantee TDA funding. TDA does not have the resources to fund all projects which meet TDA criteria. Additionally, TDA usually requires cost-sharing, i.e., TDA only partially covers the cost of the feasibility study, with the remainder of the cost being borne by the company. TDA's contribution varies according to a number of factors, including, the size of the company, the costs the company has incurred in developing the project, and the risks associated with the project. In addition, TDA may require the company to reimburse part or all of TDA's funding if the project is implemented.

A. Executive Summary.

B. Project Description. A description of the project's technical, economic, and financial prospects and developmental and environmental impact.

C. Developmental Priority. A statement on the national development priority of the project, including:

1. A description of actions taken to demonstrate host-country commitment to the project;
2. A review of the host country's infrastructure development activities and goals, and annual budget allocations (if any) for the project, and
3. A description of the host-country sponsoring agency and other agencies that might share responsibility or carry potential authority for the project. Also include that agency's past track record on project implementation.
4. An endorsement from the U.S. embassy in the host country.

D. Justification. Explain why TDA's funding is needed, why the U.S. company cannot fund the study itself and why this study should not be openly competed among qualified U.S. firms.

E. Project Finance. A discussion of financing options for project implementation, including:

1. An overall cost estimate and schedule for project implementation;
2. Evidence that financing is available (or likely to be available) for the project. This may take the form of bank references, bank commitments, and available lines of credit. It should clearly reflect discussions with representatives of potential lenders, including, where appropriate, multilateral lending institutions, the U.S. Export-Import Bank, and the Overseas Private Investment Corporation. Provide names and phone numbers of contacts, and summarize their comments; and
3. Description of the external borrowing authority of the host country sponsoring entity involved in the project, where applicable.
4. Assurance that there will be a procurement process open to U.S. firms.

For projects involving U.S. equity investment, the following additional information must be provided:

- Audited financial statements from the U.S. investor for the past three years which show evidence of an operation with a solid financial structure and a net worth sufficiently large to assure the availability of the equity required for the project.
- Evidence of a debt-equity structure for financing the project that corresponds to the requirements of the prospective lenders. Sources of equity must be identified, and letters of intent/commitment from investors should be provided. Typically, at least 30% cash equity is required by lenders, with the U.S. investor itself providing at least half of the equity; and
- Pro forma cost and earnings estimates for the project.

F. U.S. Export Potential. An estimate of the U.S. exports expected to result from the project, including:

1. A detailed breakdown by categories and dollar values of the U.S. goods and services likely to be procured for project implementation and a list of goods and services not likely to be procured in the U.S., including the likely source of their procurement;
2. A statement on U.S. competitiveness in each category of likely U.S. exports;
3. An illustrative list of potential U.S. suppliers of the goods and services for each category (and the cities and states where they are located);

4. Information and analysis on U.S. market share in the host country market; and

5 A specific quantification of potential follow-on contracts for the U.S. company submitting the proposal.

6. Other evidence that the project will provide an opportunity for sales of U.S goods and services that is many times greater than the cost of TDA assistance.

G. Foreign Competition. The nature of potential foreign competition for implementing the project, including availability of financing, past success of foreign firms, their market shares, procurement tendencies of the host country, and any subsidies or support provided to foreign firms by their governments.

H. Impact on U.S. Labor. A statement on the impact of the project on U.S. labor that addresses the legislative restrictions on the use of Foreign Assistance funds listed below.

I. Qualifications. Background on the qualifications and experience of the feasibility study team members.

Terms of Reference. A detailed terms of reference and schedule for the feasibility study. In addition to an examination of the relevant technical, commercial and regulatory issues, the terms of reference must include:

1. An appropriate environmental analysis of the project.
2. A financial analysis of the project; and
3. Proposed equipment and service lists.
4. A Final Report summarizing the findings of the study and/or other appropriate deliverables.

In addition, the terms of reference should meet the requirements of the lender identified in the proposal as the most likely source of project finance.

Budget. A detailed budget for the feasibility study following the format sample. The budget must include:

1. Labor costs derived from a hourly breakdown by major tasks. Hourly rates should be based on prevailing rates in the industry; and
2. Itemization for per diem, transportation, communications and other direct costs. Per diem should be based on U.S. Government per diem rates, which are available from TDA. The budget should specify which tasks and labor costs are associated with the company's personnel and which tasks and labor costs are associated with subcontractors or consultants.

rev. 3/7/96

Impact on U.S. Labor Statement

The Foreign Operations, Export Financing and Related Programs Appropriations Act, 1996 (HR1868; Pub. L. No. 104-99, sec. 301, 110 Stat. 26, 38 (1996) restricts U.S. foreign assistance from being used to provide:

"(a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States;

(b) assistance for the purpose of establishing or developing in a foreign country any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone or area...

(c) assistance for any project or activity that contributes to the violation of internationally recognized workers rights..." [Section 539]

"(a)...direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity..." [Section 513]

Sample Budget

Feasibility Study Budget Format

Direct Labor

	Manhours	Unit Cost	Total Cost
(Position Task)	_____	_____	_____
(Position Task)	_____	_____	_____
(Position Task)	_____	_____	_____

Travel

Transportation	_____trips @ $_____ =	_____
Per Diem	_____days @ $_____ =	_____
Other (specify)		_____

Total _____ _____

Equipment and Supplies (specify) _____

Communications _____

Interpreters (___days @ $____) _____

Subcontracts (specify) _____

Other Costs (specify) _____

Total Budget _____

Winrock International	
Funds available	—
Investment made to date in geothermal projects	$0
Type(s) of Financing	Pre-feasibility studies / Feasibility studies
Form(s) of Financing	Grants
Financing Structure	
Investment Range (US$)	Up to 50% of the cost of a pre-investment study (as funds allow)
Term Range (years)	N/A
Interest Rate Range (%)	If a proposed project goes forward, the grant must be repaid, without interest, to Winrock International upon financial closure.
Grace Period (years)	N/A
Equity/Debt Ratio Required	N/A
Expected Return on Investment (%)	N/A
Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)	N/A
Fees	None
Other	Program Managers: REPSO[51]-Central America REPSO-India RENI[52]-Indonesia REPSO-Philippines * See *Key Contacts* below

51 Renewable Energy Support Office (REPSO).

52 Renewable Energy Network Indonesia (RENI).

Winrock International

Application Procedure

Threshold Criteria:

To be eligible for grant funds the following requirements must to be fulfilled:

1. The proposed project must involve a significant use of...geothermal resources;

2. The project must utilize commercially-proven technology;

3. The project must be located in a country in which Winrock has a renewable energy program;

4. The project developer must be a private company, either U.S. or local. If the project developer is a U.S. company, the proposal must name a local company as principal collaborator in the project; and

5. The project participants must be willing to share the cost of the study by contributing 50% or more of the total expenses.

Evaluation Criteria:

If a project meets the above threshold criteria and funds are available, the Winrock International Evaluation Committee will evaluate the proposal using the following criteria:

1. The project opportunity must be genuine with the site(s) and local partners. In the case of a full feasibility study, a pre-feasibility study must indicate that the project is commercially promising;

2. Winrock International must concur in the technical, commercial, developmental, and environmental merits of the proposed project; and

3. Project participants must be able to demonstrate financial solvency as well as their willingness and ability to implement the project if the study result is positive.

Useful Publications

Trade Guide on Renewable Energy in Indonesia, June 1997.

Trade Guide on Renewable Energy in the Philippines, September 1996.

Winrock International

Key Contact(s)

John Kadyszewski
Director
Renewable Energy Division
Winrock International
1611 North Kent Street, Suite 600
Arlington, VA 22209-2134

Tel: 703-525-9430
Fax: 703-243-1175
E-mail: JPK@winrock.org

REPSO-Central America

Ivan Azurdia
Hugo E. Beteta
Fundación Solar
14 Calle 13-56
Zona 10, Oakland,
Guatemala

Tel: [502] (2) 680-096; 681-782
Fax: [502] (2) 680-096; 681-782
E-mail: 75372.3417@compuserve.com

REPSO-India

Mr. S. Gopinath
P.O. Box No. 8808
7, Poorvi Marg, Vasant Vihar
New Delhi-110 057, India

Tel: [91] (11) 605-099; 673-527
Fax: [91] (11) 687-6004

RENI-Indonesia

Ms. Yani Witjaksono
President
Environmental Business Foundation
Yayasan Bina Usaha Lingkungan (YBUL)
Jl. Mendawai III, No. 2
Jakarta 12130, Indonesia

Tel: [62] (21) 739-6481
Fax: [62] (21) 739-6481
E-mail: ybul@indo.net.id

REPSO-Philippines

Alberto Dalusung
Zita Dinglasan
Preferred Energy, Inc.
10/F, Strata 100 Bldg.,
Emerald Avenue,
Ortigas Center
Pasig City 1600, Philippines

Tel: [63] 2-635-4711
Fax: [63] 2-632-7097
E-mail: repso@cnl.net

Web Site

http://www.winrock.org

Unlocking a $45-Billion Market [53]

How to Work with the World Bank and other Multilateral Development Banks (MDBs)

Each year, the five major Multilateral Development Banks (MDBs) lend approximately $45 billion in more than 30,000 loans to developing countries which are implemented through contracts with small, medium, and large firms around the world.

U. S. geothermal project developers and consultants are eligible to bid on procurement opportunities funded by the MDBs of which the United States is a member:

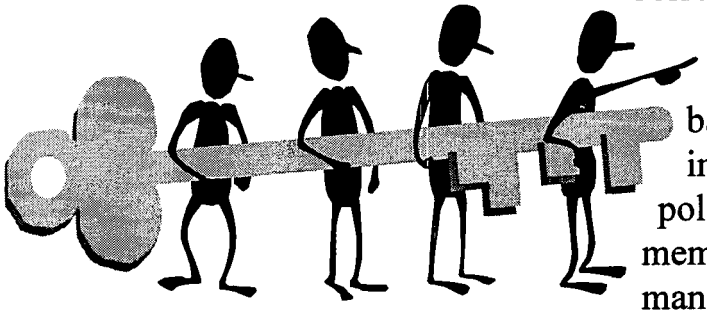
1. African Development Bank (AfDB)
2. Asian Development Bank (ADB)
3. European Bank for Reconstruction and Development (EBRD)
4. The Inter-American Development Bank (IDB) Group
   - ✔ Inter-American Investment Corporation (IIC)
5. The World Bank Group
   - ✔ International Bank for Reconstruction and Development (IBRD)
   - ✔ International Development Association (IDA)
   - ✔ International Finance Corporation (IFC)
   - ✔ Multilateral Investment Guarantee Agency (MIGA)

[53] This section benefits greatly from *The Multilateral Development Bank Handbook: A Guide to Opportunities for U.S. Business*, produced by the Multilateral Development Bank Operations (MDBO) office of the U.S. and Foreign Commercial Service. To obtain a copy of the handbook, contact the MDBO office at (202) 482-3399.

The World Bank Group

International Bank for Reconstruction and Development (IBRD)[54] —The IBRD lends only to creditworthy borrowers and only for projects that promise high real rates of economic return to the country. While it does not aim to maximize profits, but rather to provide development funds at the lowest cost, the IBRD has earned a net income every year since 1948.

The IBRD borrows most of the money it lends through medium- and long-term borrowings in capital markets across the globe. It also borrows funds at market-based rates from central banks and other government institutions. Conservative lending policies, strong financial backing from members, and prudent financial management give the IBRD strong standing in the markets. As well as borrowings, the IBRD is funded by the capital its members have paid in, its retained earnings, and repayments on its loans.



International Development Association (IDA) — IDA was established in 1960 to provide assistance to poorer developing countries that cannot meet the IBRD's near-commercial terms. IDA provides credits to the poorest countries; mainly to those 70 countries that have an annual per capita GNP $785 or less (in 1996 U.S. dollars).

IDA credits are made only to governments. The repayment period is 35 to 40 years. Credits carry no interest, but there is a commitment charge, which is set annually, within a range of 0-0.5 percent of the undisbursed balance; the commitment charge is currently set at 0 percent. Although IDA is legally and financially distinct from the IBRD, it shares the same staff, and the projects it supports have to meet the same criteria as do projects supported by the IBRD.

International Finance Corporation (IFC) — Established in 1956, the IFC helps promote private sector growth in developing countries and mobilize domestic and foreign capital. The IFC provides loans and makes equity investments in support

[54] The World Bank *Annual Report 1997*. (The International Bank for Reconstruction and Development/The World Bank, © 1997).

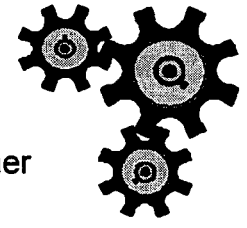
of projects in its 172 member-countries. Unlike most multilateral institutions, the IFC does not accept government guarantees for its financing.

Like a private financial institution, the IFC seeks profitable returns and prices its finance and service, to the extent possible, in line with the market while taking into account the cost of its funds. The IFC shares full project risks with its private-sector partners.

In 1997, the IFC achieved $6.7 billion in new approvals in 276 projects of which $3.4 billion was mobilized through loan syndications, underwriting, and private placements. Net income was $432 million resulting in a return on average net worth of 9.7 percent, well above target.[55] (See page 105 for additional information about the IFC.)

MDB projects are initiated in several ways:

1. by the government of the borrowing nation,
2. by the MDBs themselves through project identification missions,
3. through cofinancing proposals submitted by other MDBs or financing institutions, or
4. *occasionally*, by private sponsors.



Multilateral Investment Guarantee Agency (MIGA) — MIGA was established in 1988 to promote the flow of foreign direct investment (FDI) in its 141 member-countries. To serve this objective, MIGA issues guarantees against noncommercial risks for FDI in its developing member countries that originate in any of its member countries, and provides technical assistance to governments of developing member countries to improve their ability to attract FDI.

In fiscal 1997, MIGA signed 70 guarantee contracts totaling $614 million in coverage issued. These contracts facilitated investments in 25 developing countries and generated $26.2 million in gross earnings from premiums and commitment fees. Infrastructure investments reached 17 percent of the Agency's portfolio, which, was $2.5 billion outstanding at the end of the fiscal year. In addition, MIGA signed five commitment letters for a total of $68.9 million in

[55] *1997 IFC Annual Report.*

potential coverage. The foreign private investment facilitated by MIGA's 293 existing guarantees is estimated at $20 billion.[56] (See page 114 for additional information about MIGA.)

MDB Project Cycle

To successfully work with the MDBs, it is vital for a company or consultant to understand how the banks work, specifically, the *Project Cycle*, and how to obtain timely information about projects in the pipeline.

All public sector projects financed by the MDBs pass through a *Project Cycle*. While each MDB has its own project cycle, all share the six steps shown in Figure 3.

It is essential for companies to have early warning and information on MDB projects because competition for consulting contracts may begin before board approval.

Information on projects is produced and publically available at different stages in the project cycle.

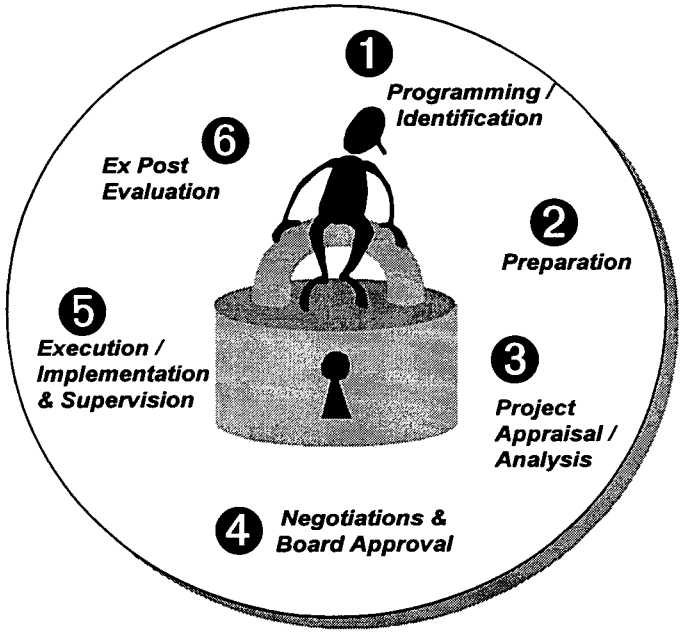


Figure 3 - MDB Project Cycle

For each Project Stage, Table 7 shows:

- ✔ which parties are responsible, e.g., the Borrowing Government, the Bank, or both;
- ✔ what specific activities the responsible parties are conducting:
- ✔ what information is available to the public; and
- ✔ what an interested contractor should do.

[56] *MIGA Annual Report 1997.*

PROJECT STAGE	RESPONSIBLE PARTIES	ACTIVITIES	PUBLIC INFORMATION AVAILABLE / CONSULTANT ACTION
❶ **Programming / Identification**	Borrowing Government Bank	Sources of project ideas: • borrower-country's proposal • Bank economic or sector work or field offices • previous projects • other agencies (e.g., bilateral donors, non-governmental organizations, and cofinancing agencies) Initial summary of project approved by country department Projects under consideration for bank financing are added to a "pipeline" of projects.	Project published in the *World Bank Monthly Operation Summary (MOS)* which is located in the bimonthly *Development Business.*[57] • The notice will include the name and contact information at the in-country executing agency. Project Information Document (PID) [58] • PID lists the World Bank contact Obtain PID

[57] Subscriptions to *Development Business* may be obtained by writing the United Nations, Room DC1-560 One United Nations Plaza, New York, New York 10017, USA. Telephone (212) 963-1515. Fax (212) 963-1318. A one-year subscription is $495; a two-year $845.

[58] The Project Information Document (PID), project abstracts, or technical data sheets describe more fully the scope of a project and the terms of the financing. These documents are updated regularly as a project evolves.

PROJECT STAGE	RESPONSIBLE PARTIES	ACTIVITIES	PUBLIC INFORMATION AVAILABLE / CONSULTANT ACTION
❷ **Preparation** ***Consulting firms are often required during this stage.***	Borrowing Government	• Defines the scope of the project in more detail • Establishes its components • Determines costs and institutional issues • Carries out environmental assessment and other engineering and design studies	Revised PID Environment Assessment (EA) ***Contractors and suppliers should begin to make contacts with the proper executing agency in country and the Bank staff.*** Obtain revised PID Obtain EA Contact Executing Agency [59] Contact Bank Task Manager [60]
❸ **Project Appraisal / Analysis**	Bank	Bank evaluates project's viability and aspects: • economic • technical • institutional • financial • environmental Bank decides whether project should go forward, be redesigned, or dropped	

59 In addition to obtaining written information on a project, companies should contact the Government Executing Agency or Ministry responsible for the project. The executing agency or ministry will assign an official or unit to be the project contact for the government. This individual or unit will likely have detailed information on the scope of the project, including procurement and consulting needs. Companies should contact executing agencies early on in the process.

60 Lastly, companies should identify and contact the person in the MDB who is charged with supervising or managing the project they are pursuing. These "task managers" or "project officers" are responsible for working with borrower governments to develop and move projects through the MDB's approval process. The task manager or project officer will have detailed information on the scope and terms of projects assigned to him or her.

PROJECT STAGE	RESPONSIBLE PARTIES	ACTIVITIES	PUBLIC INFORMATION AVAILABLE / CONSULTANT ACTION
❹ **Negotiations and Board Approval**	Borrowing Government Bank	Borrower reviews final documents, including: • implementation schedules • procurement arrangements Terms and conditions of loan agreed upon by Borrower and Bank Board of Directors of the Bank approves loan Loan agreement signed by Borrower and Bank	Staff Appraisal Report (SAR) *or* Technical Annex (TA) [61] Obtain SAR or TA—available approximately 3 weeks after loan is signed
❺ **Execution / Implementation & Supervision**	Borrowing Government Bank	Loan declared ready for disbursement Implementation by Borrower Supervision by Bank	Legal Agreement ***Consultants may be used for studies, training, and institutional strengthening at this stage.***
❻ **Ex Post Evaluation**	Bank	Completion and audit reports Analysis used for future project studies	Impact studies

Table 7 - Multilateral Bank Project Cycle

61 The Staff Appraisal Report (SAR) loan document or loan proposal describes in full detail a project to be financed, including extensive background analysis of the project sector in that country; past bank experience lending in that sector; economic justification, financial evaluation, and project objectives; description; cost estimates; financing plan; procurement details; and disbursement plans. The SAR is the document that is forwarded to the relevant bank's board of executive directors for review and approval.

Tracking MDB Information about Public Sector Projects[62]

Each of the five MDBs publishes slightly different information on the projects it is considering funding. The information is published in a variety of formats, and the documents and publications are known by a variety of names. Table 8 describes where interested companies can locate specific procurement information for each of the five MDBs.

MDB	PROCUREMENT INFORMATION IN...
African Development Bank (AfDB)	AfDB's *Quarterly Operational Summary (QOS)*. Contains brief descriptions of projects for which financing has been approved by the AfDB Board of Directors in the last 6 months, and those which will go before the Board in the next 6 months. Available with a subscription to *U.N. Development Business*. Web site: http://www.africandevelopmentbank.com
Asian Development Bank (ADB)	*ADB Business Opportunities* (a.k.a. the "blue book" or ADBBO). Lists information on public sector projects under consideration for financing and associated procurement opportunities. Published monthly. Subscriptions are $100 per year or $160 for two years. Contact the ADB Information Office to subscribe. *U.N. Development Business*. Web site: http://www.asiandevbank.org NOTE: For economic reasons, ADB prefers to help finance large ($100 million or more) projects funded on least cost principles. Because of the complexities involved in power projects, and given ADB's limited financial and human resources, aggregating small power projects for submission to ADB for consideration is not a viable option.
European Bank for Reconstruction & Development (EBRD)	*EBRD Procurement Opportunities*. Lists information on public sector projects under consideration for financing and associated procurement opportunities. Published monthly. Subscriptions currently cost £85 and can be obtained directly from the EBRD. *U.N. Development Business*. Web site: http://www.ebrd.com

[62] Ibid, Appendix 4, pp. 44-45.

MDB	PROCUREMENT INFORMATION IN...
Inter-American Development Bank (IDB)	*IDB Projects*. Lists information on public sector under consideration for financing and associated procurement opportunities. Published monthly. Subscription currently costs $150 per year. *U.N. Development Business*. Web site: http://www.iadb.org
World Bank **IBRD** **IDA**	*Monthly Operational Summary (MOS)*. Lists information on projects under consideration for financing and associated procurement opportunities. Included in subscription to *U.N. Development Business*. *Guidelines for the Use of Consultants by World Bank Borrowers and by the World Bank as Executing Agency*, 1997. Provides the rules for the selection of consultants. Known as the "green book." *Guidelines for Procurement under IBRD Loans and IDA Credits*, 1995. Contains recently updated rules for the procurement of goods, works, and related services. Known as the "red book." *Standard Bidding Documents*. Prepared for a number of sectors for use by World Bank borrowers in the procurement of goods and works. Also available is the *Standard Form of Contract* for use by borrowers in the contracting of consultants. These documents are essential reading. *The World Bank Directory*. Gives organization charts and staff telephone numbers for the World Bank (IBRD and IDA), the IFC, and MIGA. Published every May and November. Web site: http://www.worldbank.org

Table 8 - MDB Procurement Information

Approaching the Private Sector Investment Arms of the MDBs for Financing for Private Sector Projects [63]

Increasingly, the MDBs are providing funding to private sector entities for private projects in developing countries. A growing number of companies and project developers around the world are taking advantage of this funding, which is secured based on the financial, economic, and social viability of the projects in question.

Requests for MDB financing for private ventures are generally made directly by the project developer(s) and/or sponsor(s) to the relevant MDB. There are no standard application forms to complete.

To begin, the project developer/sponsor should determine whether or not their project fits the MDB's economic, social, and financial parameters. Next, the project developer/sponsor should submit to the bank a business plan as a first step in applying for financing. The financing proposal should include information on the following:

- ✔ description of the project (technical, economic, and commercial aspects),
- ✔ description of the main parties to the transaction,
- ✔ financing plan,
- ✔ financial overview, and
- ✔ environmental impact.

While the project developer/sponsor may make initial contact with the MDB by submitting a brief or preliminary description of the project, it is important to note that the better prepared a company or consultant is on initial contact with the MDB, the faster the MDB can respond. It is also important to note that responsibility for project preparation rests with the project developer/sponsor, and not the MDB, although the bank will work closely with the project developer/sponsor to ensure that the proposal meets bank standards.

If, after reviewing the details, the bank agrees to appraise the project, a bank team will fully evaluate the technical, financial, and economic aspects of the project. If the project proves satisfactory to the bank team, it submits the project and

[63] Ibid, Appendix 6, p. 48.

proposed terms to its board of executive directors for review and approval.

If approved, the project developer/sponsor is responsible for up-front costs associated with the project appraisal, which usually amount to 1-3 percent of the total project cost. The project developer/sponsor may also be responsible for a commitment fee charged on undisbursed loan balances and for consulting, legal, and other expenses associated with the project as incurred by the bank.

In general, total time for a private sector project to go from initial review to board approval can vary from 6-12 months, depending on how well prepared the project is at the time of initial review.

Hints and Tips for Winning MDB-Financed Contracts[64]

1. Learn how the MDB operates, how it is organized, and what its priorities are.

2. Determine whether the goods and services your company offers are required in bank-funded projects.

3. Subscribe to *U.N. Development Business*. *Development Business* tracks projects funded by the World Bank, Asian Development Bank, Inter-American Development Bank, Caribbean Development Bank, European Bank for Reconstruction and Development, African Development Bank, and the U.N. Development Programme.

4. Focus your efforts on those regions, countries, sectors, and projects in which your firm has a competitive advantage.

5. Develop partnerships with firms that have a competitive advantage or are familiar with MDB-financed projects.

6. Follow a project through each stage of the project cycle.

7. Learn the procurement process and the guidelines that govern it.

[64] Ibid, Appendix 5, pp. 46-47.

8. If you are a consultant, take the time to complete the DACON registration process.

9. Learn as much as you can about the borrower and/or executing agency. Travel to the country of operation and make direct contact with the relevant officials.

   Market yourself and your goods and services directly to the country decision makers.

10. Associate with a local agent or representative in the borrowing country.

11. Make direct contact with MDB staff to market your goods and services.

12. Obtain tender documents as soon as they are available. Local agents can be very helpful in this regard.

13. Read the tender documents and evaluation criteria carefully. Make sure your tender is priced competitively and complies strictly with all specifications and contractual conditions stipulated in the documents. Do not be creative!

14. Ensure that all required bonds, guarantees, or deposits are posted for each bid.

15. If at all possible, attend the tender opening to learn about your competitors' pricing.

16. If you did not win, ask for a debriefing by the MDB, analyze the reasons why you lost, learn from your experience, and modify your subsequent tenders.

17. Use the U.S. Commercial Service resources available to you—your nearest Export Assistance Center, the MDB Operations office, Commercial Liaisons at the banks, and Commercial Officers at U.S. embassies and consulates around the world.

MDB Operations Office and Commercial Liaisons

The Multilateral Development Bank Operations (MDBO) office of the U.S. and Foreign Commercial Service located at the U.S. Department of Commerce is an *essential* resource for any U.S. company wishing to work with the MDBs. The MDBO offers U.S. businesses "one-stop shopping," including:

- ✔ information on approved projects and downstream financing plans;
- ✔ expert guidance on what you need to know to pursue business at the MDBs;
- ✔ advocacy and assistance with pre-award support and procurement disputes;
- ✔ on-line information including a guide to electronic media providing up-to-date information relating to projects; and
- ✔ "heads-up" on future opportunities.

In addition to its Washington, D.C. headquarters, the Department of Commerce has assigned commercial liaison officers to each of the MDBs. These officers work closely with the U.S. Executive Directors of the respective MDBs to support the efforts of U.S. companies pursuing MDB contracts.

MDBO Headquarters
Janet G. Thomas
Director, Multilateral Development Bank Operations
U.S. Department of Commerce
14th & Constitution Avenue, N.W.
Room H-1107
Washington DC, 20230

Tel: [1] 202-482-3399
Fax: [1] 202-273-0927
E-mail: JThomas8@doc.gov
Web Site: http://www.ita.doc.gov/mdbo

African Development Bank (AfDB)
Mark Herrling
Commercial Liaison to the AfDB
African Development Bank (AfDB)
5 Rue Jesse Owens
01 B.P. 1712
Abidjan 01, Cote d'Ivoire

Tel: [225] 21-46-16
Fax: [225] 22-24-37
E-mail: MHerrling@doc.gov

Mailing address:
American Embassy Abidjan
Department of State
Washington, DC 20520-2010

Asian Development Bank (ADB)
Denny Barnes
Director, Office of the Commercial Liaison
Asian Development Bank (ADB)
6 ADB Avenue, Mandaluyong City
0401 Metro Manila, Philippines

Tel: [63] 2-632-6054; 2-890-9364
Fax: [63] 2-890-9713
E-mail: DBarnes3@doc.gov

European Bank for Reconstruction and Development (EBRD)
Dean Peterson
Senior Commercial Officer
Office of the U.S. Director
European Bank for Reconstruction & Development (EBRD)
One Exchange Square
London ECA 2EH, United Kingdom

Tel: [44] (171) 338-6569
Fax: [44] (171) 338-6487
E-mail: DPeters8@doc.gov

Inter-American Development Bank (IDB)
Eric Weaver
Director, Commerce Liaison Office
Tel: [1] 202-623-3821
Fax: [1] 202-623-2039
E-mail: EricW@iadb.org

Robert J. McEntire
Commercial Liaison
Tel: [1] 202-623-3822
Fax: [1] 202-623-2039
E-mail: BobM@iadb.org

Office of the U.S. Executive Director
Inter-American Development Bank (IDB)
Commercial Liaison to the IDB
1300 New York Avenue, N.W.
Mail Stop E 0209
Washington DC, 20577

World Bank
Charles R. Kestenbaum
Director, Commerce Liaison Office
Tel: [1] 202-458-0120
Fax: [1] 202-477-2967
E-mail: CKestenbaum@worldbank.org

Janice Mazur
Commercial Liaison
Tel: [1] 202-458-0118
Fax: [1] 202-477-2967
E-mail: JMazur@worldbank.org

Office of the U.S. Executive Director
1818 H Street, NW
Washington DC, 20433

Global Environment Facility (GEF)

The GEF is not a feasible financing source for most private-sector projects.

The GEF covers the difference (or "increment") between the costs of a project undertaken with global environmental objectives in mind, and the costs of an alternative project that the country would have implemented in the absence of global environmental concerns.

GEF projects must be country driven, incorporate consultation with local communities and, where appropriate, involve non-governmental organizations in project implementation.

Governments may apply for GEF funds directly to any of the implementing agencies. NGOs can do the same once the government has endorsed the project in principle. Projects submitted for funding under the Small Grants Programme in the 33 countries where the program is operational should apply directly to the national committee of the GEF Small Grants Programme. There is a ceiling of US $50,000 for national projects and US $250,000 for regional projects.

In addition to projects financed by the World Bank, *The World Bank Monthly Operational Summary* reports on projects financed by the Global Environment Facility (GEF). The GEF provides grants and concessional funding to recipient countries for projects and programs that protect the global environment and promote sustainable economic growth.

The Facility, originally set up as a pilot program in 1991, was restructured and replenished with over US $2 billion in 1994, to cover the agreed incremental costs of activities that benefit the global environment in four focal areas:

1. climate change,
2. biological diversity
3. international waters, and
4. stratospheric ozone.

Activities concerning land degradation, primarily desertification, and deforestation, as they relate to the four focal areas, are also eligible for funding. Both the Framework Convention on Climate Change and the Convention on Biological Diversity have designated the GEF as their funding mechanism on an interim basis. Currently 156 countries are participants in GEF.

Countries may be eligible for GEF funds in one of two ways:

1. if they are eligible for financial assistance through the financial mechanism of either the Climate Change Convention or the Convention on Biological Diversity, or

2. if they are eligible to borrow from the World Bank (IBRD and/or IDA) or receive technical assistance grants from UNDP through a Country Programme.

GEF projects and programs are managed through three implementing agencies: the UN Development Programme (UNDP), the UN Environment Programme (UNEP), and the World Bank.

1. The United Nations Development Programme (UNDP)—The UNDP is responsible for technical assistance activities and capacity building. Through its worldwide network of offices, UNDP helps to identify projects and activities consistent with the purpose of the GEF and national sustainable development strategies. It is also charged with running the Small Grants Programme for non-governmental organizations (NGOs) and community groups around the world.

2. The United Nations Environment Programme (UNEP)—The UNEP is responsible for catalyzing the development of scientific and technical analysis and advancing environmental management in GEF-financed activities. It also manages the Scientific and Technical Advisory Panel, an independent advisory body that provides scientific and technical guidance to the GEF.

3. The World Bank—The World Bank is the repository of the GEF Trust Fund, and is responsible for investment projects. It will also seek to mobilize resources from the private sector in a manner that is consistent with GEF objectives and national sustainable development strategies.

The GEF Secretariat, which is functionally independent from the three implementing agencies, reports to and services the Council and Assembly of the GEF. For more information, contact:

Global Environment Facility (GEF) Secretariat
1818 H Street, NW
Washington DC, 20433

Tel: 202-473-8324
Fax: 202-522-3240, 522-3245
Web site: http://www.worldbank.org/html/gef/gefgraph.htm

Conclusion

Congratulations! You made it through the *Geothermal Financing Workbook* and are now better prepared to identify, structure, and obtain financing for your smaller geothermal project. You know what information potential financing sources look for, why, what types of investments they are looking for, and what their specific investment criteria are. Thus, you can improve your chances of obtaining financing at the most optimal cost by adapting your approach and drafting your business and financing plans to be responsive to the financing sources you select.

Some projects, however, no matter how economically sound or beneficial to the local population, may be too small to interest traditional financing sources. In these cases, it is necessary to go outside the boundaries, to focus on new and creative financing strategies. Such creative financing strategies, which would be adapted to each specific project, might include linking the power plant to its end user (e.g., for direct use, agricultural drying, etc.) and financing the entire project; forming a barter arrangement to accept an exportable, marketable commodity; aggregating small projects with like economics and submitting to a financing source *en total*, or involving non-traditional financing sources.

Structuring financing for a project, even for the multimillion-dollar geothermal corporations and the large power projects, takes concentrated time, focus, and energy. Light may have been created simply with a "Let there be light." And there was light. But for the rest of us mere mortals it takes a lot longer! It took an excruciating six years to negotiate the financing for the 1,292 MW Hub River power project to light up Pakistan.

Here is one final piece of advice given by a Sicilian octogenarian: "When all else fails, try tenacity!"

Good luck!

Glossary

AMORTIZATION - the gradual payment of a debt through a schedule of payments or the process of writing off an intangible asset against expenses over the period of its economic useful life.

BETA - a measure of an asset's risk in relation to the market. A stock with a beta of more than 1.0 is generally more volatile than the market. For example, a stock with a beta of 1.5 will tend to rise or fall by 15% when the market portfolio rises or falls by 10% (β).

BORROWING CAPACITY MODEL - used to estimate the maximum amount of debt a project's cash flow will support.

CAPITALIZATION - of an asset, when the cost of the asset is allocated to two or more time periods.

CASH FLOW - the difference between the money coming into an investment project and the money going out.

CASH FLOW COVERAGE RATIO - measures the project's ability to pay for its long-term loan out of its generated free cash flows *(see also Debt Service Coverage Ratio).*

CASH FLOW PROJECTION - indicates how profitable a project is expected to be, how much cash flow it is expected to generate, the assumptions used, and how that cash flow will be allocated among the various providers of capital.

COMMITMENT FEE - a fee charged by a lender for committing to lend the undisbursed amount of the loan. It normally begins to accrue 30 to 60 days after the signing of the loan agreement. Normal commitment fee is 0.5-1.0 per cent per annum..

CONVENTIONAL DIRECT FINANCING - lenders to the firm look to the firm's entire asset portfolio to generate the cash flow to service the loans.

COST OF CAPITAL - a project's cost of debt plus its cost of equity.

CROSS-DEFAULT CLAUSE - a provision in a loan agreement which provides that a default by the borrower on another loan or loans would constitute a default under the loan agreement. Multilateral development banks require that they retain the option of either declaring their loans immediately due and payable, or of seeking other remedies following what is called the *optional cross-default clause.*

CUMULATIVE PRESENT WORTH OF NET REVENUE (CPWNR) - a profitability criteria for geothermal projects based on discounted cash flow analysis; usually calculated on a pre-tax basis.

DEBENTURES - a type of bond issued to raise funds from the market.

DEBT SERVICE COVERAGE RATIO - a ratio which measures the project's ability to pay for its long-term loan out of its generated free cash flows; a ratio below 1.00 indicates that a project cannot service its debt fully out of operating income; decreases in those years when the principal repayment increases *(see also Cash Flow Coverage Ratio).*

DEPLETION EXPENSE - recognized as natural resource reserves (e.g., a coal deposit or natural gas reserve) are used up.

DEPRECIATION - the recognition of a capital expense as the asset is used over time. Depreciation is a non-cash expense; it reduces taxable income and provides an annual tax advantage (or tax shield).

DEVELOPMENT COST PER KW INSTALLED CAPACITY - a profitability criteria for geothermal projects which includes the costs incurred before the plant goes on line (e.g., lease acquisition, exploration, construction of access roads and drilling pads, drilling, surface facilities, overhead, tax credits).

DISCOUNTED CASH FLOW ANALYSIS - a method used to analyze the economic viability and profitability of a proposed project and the adequacy of the rates of return that investors can expect.

EQUITY KICKER - an equity incentive (e.g., direct equity participation, royalty payments, or contingent payments) which lenders receive to assume additional risk and induce them to accept less restrictive covenants and less demanding credit support.

FINANCING PLAN - a description of how a project will be financed; the current and required sources of financing, the types (e.g., debt, equity, etc.) of financing required, and the sources of financing. The financing plan includes arrangements for both construction and permanent financing.

FIXED CHARGE COVERAGE - a ratio used to measure a project's ability to repay its debt which includes treating one-third of rental payments as part of the interest component; a ratio below 1.00 indicates that a project cannot service its debt fully out of operating income.

FREE CASH FLOWS - the cash not required for operations or reinvestment which can be used to service the project's debt or pay dividends to equity investors.

FRONT-END FEE - a commission charged by the Financier for arranging a loan facility payable at signing of the loan.

GUARANTEE - a written undertaking by the guarantor to pay a beneficiary a stated amount if the borrower fails to meet certain commitments such as loan repayment. If a guarantee covers part of debt servicing and covers all events of nonpayment, it is commonly called *partial credit guarantee*. If it covers a specific risk guarantee, e.g., sovereign risk, it is called *partial risk guarantee*. A partial risk guarantee is callable only if the default on debt servicing is due to the specific risk covered.

INCREMENTAL CASH FLOW - the difference between the cash flow with and without the project; does not include sunk costs.

INTERNAL RATE OF RETURN (IRR) - the capital investment project's expected rate of return; if the required rate of return (cost of capital) equals the IRR (the expected rate of return), the project's NPV is zero. The project should be undertaken if the IRR exceeds the project's cost of capital.

INTEREST COVERAGE RATIO - the ratio of earnings before interest and taxes (EBIT) divided by interest charges which measures a project's ability to cover interest charges; a ratio below 1.00 indicates that a project cannot service its debt fully out of operating income.

JOINT FINANCING - when loans from the primary financier and the co-financiers are used to finance, in some agreed proportions,

the same set or package of goods and services required for an operation..

LIMITED LIABILITY CORPORATION (LLC) - a condition in which owners of stock are not held liable for the debts of the corporation beyond the extent of their stockholdings.

LIMITED RECOURSE - when project sponsors are obligated to supplement the project's cash flow under certain (limited) circumstances.

MILL - one-thousandth of the U.S. dollar.

NEGATIVE CASH FLOW - more money going out than coming in over a period of time.

NET INCOME, OR ACCOUNTING PROFIT - the remaining revenue after paying all explicit costs.

NET PRESENT VALUE (NPV) - the difference between what a project costs and what it is worth; the present value of all of the after-tax cash flows, all its costs now and in the future. Undertake a capital investment project when its NPV is positive.

NON-RECOURSE FINANCING - when securities and other borrowings are serviced entirely out of a project's cash flow.

ORDINARY SHARES - a class of share that does not benefit from any preference in the payment of dividends or in the repayment of capital.

OVERALL STEAM SUPPLY COST - a profitability criteria of a geothermal project which represents the "fuel cost" of the power plant; cost of steam of hot water supply to the power plant in unit cost per kilowatt hour; allows comparison of a geothermal power plant with other types of electrical power projects.

PARALLEL FINANCING - when loans from the primary financier and the co-financiers are used to finance separate packages of goods and services.

PARI PASSU - Latin meaning "all equal."

PASSIVE INVESTOR - an investor that does not actively manage or would not contribute to the improvement of the efficiency of the company.

PAYOUT TIME - the number of years when CPWNR is zero for the first time in plant life; capital investment divided by free cash flow (the amount available to pay back the original capital investment).

POSITIVE CASH FLOW - more money coming in than going out over a period of time.

PREFERENCE SHARES - a class of share that benefits from preference in the payment of dividends or the repayment of capital.

PRESENT VALUE - the total amount that a series of future payments is worth today. Stated another way, PV is the value of the free cash flow stream that is available to service project debt, and is calculated from the project's cash flow projections.

PROFIT-TO-INVESTMENT RATIO - the ratio of total undiscounted net profit to investment; the amount of new money generated from an investment project per dollar invested.

PROFITABILITY CRITERIA - methods used by project developers and potential investors to assess a projects' profitability and ability to cover debt service with free cash flows;

see *Cumulative Present Worth of Net Revenue, Development Cost per kW Installed Capacity, Discount Cash Flow Analysis, Internal Rate of Return, Net Present Value (NPV), Overall Steam Supply Cost, Payout Time, Profit-to-Investment Ratio.*

PRO FORMA FINANCIAL STATEMENTS - Income Statement, Balance Sheet, Cash Flow, Financial Ratios.

PROJECT FINANCING - the raising of funds to finance an economically separable capital investment project in which the providers of the funds look primarily to the cash flow from the project as the source of funds to service their loans and provide the return of and a return on their equity invested in the project. Cofinancing and guarantees can form a part of the financing package for such projects.

QUASI-EQUITY - in addition to the contribution of cash as capital, there are other forms of capital investment such as subordinated loans and redeemable preference shares; such forms do not usually have the same rights as ordinary shares.

RETURN ON EQUITY - profit on the total equity in the company.

RETURN ON INVESTMENT (ROI) - profit on the invested capital.

RULE 144A - adopted by the Securities and Exchange Commission (SEC) in 1933, Rule 144A liberalized the restrictions that existed on trading unregistered debt and equity securities. As a result of Rule 144A, qualified institutional buyers can trade unregistered debt and equity securities with each other without regard to the private placement restrictions that otherwise apply to unregistered securities. Rule 144A issues can generally be arranged more quickly than public offerings because the securities do not have to be registered with the SEC. The principal buyers of Rule 144A debt are large life insurance companies which are receptive to Rule 144A debt offerings that are rated investment-grade (e.g., Moody's Baa 3 or better, or Standard & Poor's BBB- or better.[65]

SENSITIVITY ANALYSIS - evaluation of any chosen profitability criterion to changes in project variables (e.g., plant capacity factor, inflation rate, etc.); main purpose is to identify the variables that will have the most impact on profitability.

SUNK COSTS - money that has already been spent.

SYNDICATED LOAN - a loan that will be lent by a number of banks.

SYNDICATED PARTICIPATION - when the primary financier commits to fund the entire loan and, at or subsequent to loan closing, sells a participation in its loan to another bank or banks. In these cases, the primary financier remains committed for the entire amount but funds a portion of its commitment through the purchaser(s) of the participation(s).

SYNDICATION - the process whereby the primary financier identifies other financial institutions that will commit to lend under its documentation on terms reasonably similar to those under which it is prepared to lend.

USEFUL LIFE - the lifetime of a piece of equipment or machinery as defined by the

[65] Finnerty, p. 174.

government for tax purposes (or by the manufacturer).

YIELD - the rate of return from an investment relative to the actual dollars paid.

Bibliography

Beacon Resources Corporation. *Engineered Financing Plan & Feasibility Study Workbook for Russian Agri-enterprises* for The Citizens Network for Foreign Affairs, Inc. under the terms of the Food Systems Restructuring Program, Cooperative Agreement No. CCN-0006-A-00-3033-00 with the United States Agency for International Development, (June 1996).

Cordukes, Peter A., Editor. "Submission and Evaluation of Proposals for Private Power Generation Projects in Developing Countries," World Bank Discussion Paper No. 250, The World Bank, Washington, D.C., 1994.

Delphos, William A. Inside the World Bank Group: The Practical Guide for International Business Executives, Washington, D.C.: Venture Publishing, 1997.

————. Power Money: The International Business Executive's Guide to Government Resources, Renewable Energy Edition, Second Edition, Washington, D.C.: Venture Publishing, 1996.

European Commission-Directorate General for Energy-DGXVII, THERNIE and SYNERGY Programmes, and the European Bank for Reconstruction and Development. "Guide to Energy Efficiency Bankable Proposals," April 1997.

European Bank for Reconstruction and Development (EBRD). "Financing with the EBRD: A guide for companies and entrepreneurs considering financing projects or investing in the countries of central and eastern Europe and the CIS," London, United Kingdom: EBRD, August 3, 1996.

Finnerty, John D. Project Financing: Asset-Based Financial Engineering, New York, NY: John Wiley & Sons, Inc., 1996.

Global Environment Facility (GEF). "Global-Renewable Energy and Energy Efficiency Fund," GEF Project Information Document, Project ID 1WGE7766, October 11, 1996.

International Bank for Reconstruction and Development/World Bank. The World Bank *Annual Report 1997*, 1997.

International Energy Agency. Guidelines for the Economic Analysis of Renewable Energy Technology Applications, Based upon the Findings of the International Energy Agency Workshop on the Economics of Renewable Energy Technologies, Chateau Montebello, Quebec, Canada, 1991.

International Finance Corporation. *1997 IFC Annual Report*, 1997.

Knapp, George M. "Borrowers and Financiers," Drafting a Geothermal Project for Funding, Auckland, New Zealand, International Geothermal Associates, Inc.,1995, pp. 21-28.

———. "Key Elements in the Successful Financing of a Geothermal Project," Ibid, pp. 95-189.

———. "Minimizing Business Risks in Geothermal Power Generation Projects," Meeting the Challenge of Increased Competition, Davis, CA, Geothermal Resources Council, 1997, pp. 459-477.

McInnis, R. Scott. "Foreign Investment in the Asian Geothermal Industry: Issues, Challenges, and Solutions from a Financing Perspective: Credit Suisse First Boston," Bali, February 25, 1997.

——— and Stephen Rigal Jones. "Credit Requirements for Commercial Bank Lending to Power Projects: Credit Suisse Project Finance," Proceedings of the World Geothermal Congress, 1995, Auckland, New Zealand: International Geothermal Associates, Inc., Volume 4, (1995), pp. 2921-2923.

Multilateral Investment Guarantee Agency. *MIGA Annual Report 1997*, 1997.

Oak Ridge Institute for Science and Education (ORISE). *Workshop Proceedings on Financing the Development and Deployment of Renewable Energy Technologies*, for the U.S. Department of Energy under contract DE-AC05-76OR00033, May 15-16, 1995.

Power Project Financing, Inc.. *Financing Readiness: A Handbook for Energy Project Developers* (draft version), for the California Energy Commission, December 11, 1997.

Sanyal, Subir K. "Geothermal Resource Verification Required by Lenders," *GRC Bulletin*, July 1994, pp. 246-247.

———. "Methods of Analysis of Economics and Risk of Geothermal Development," presented at the Geothermal Resources Council Short Course — *Engineering and Economic Assessment of Geothermal Resources*, Kailua Kona, Hawaii, 31 August to 1 September 1995, pp. 91-112.

——— and James B. Koenig. "Resource Risk and its Mitigation for the Financing of Geothermal Projects," Proceedings of the World Geothermal Congress, 1995, Auckland, New Zealand: International Geothermal Associates, Inc., Volume 4, (1995), pp. 2911-2915.

U.S. Agency for International Development, Trade in Environmental Services and Technologies (TEST). "U.S. Environmental Financing Programs for India," http://www.info.usaid.gov/TEST/finance.htm, October 18, 1996.

U.S. Department of Commerce, International Trade Administration. "The Multilateral Development Bank Handbook: A Guide to Opportunities for U.S. Business," July 1997.