



Geothermal FINANCING WORKBOOK

2nd edition

By Liz Battocletti,
Bob Lawrence & Associates, Inc.

Report No. INEEL/EXT-99-01284 / November 1999

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Geothermal Financing Workbook, 2nd edition

Preface

The *Geothermal Financing Workbook, 2nd edition*, was prepared by Liz Battocletti of Bob Lawrence & Associates, Inc. for Idaho National Engineering and Environmental Laboratory (INEEL) under Purchase Order No. F99-181039, and the U.S. Department of Energy, Office of Geothermal and Wind Technologies.

Special thanks go to Joel Renner of INEEL and Dr. Marshall Reed of DOE's Office of Geothermal and Wind Technologies for their continued support; the Geothermal Energy Association; and the many financing sources who completed the *Geothermal Financing Questionnaire* and answered the author's questions.

Financing sources have been updated in the 2nd edition. The 1st edition included 19 sources; the 2nd—30. While a few financing sources have been removed, many more new sources have been added. In direct response to requests from the U.S. geothermal industry, financing sources which are not specifically targeted towards U.S. companies are included in the 2nd edition. This is useful for comparison's sake (interest rates, loan periods, etc.) as well as to show the additional financing sources available to U.S. companies working in partnership with non-U.S. companies.

The photograph on the cover and title pages is of the Heber Geothermal Power Station located south of El Centro, California. Taken by Warren Gretz, it is provided courtesy of the National Renewable Energy Laboratory.

— November 30, 1999

Geothermal Financing Workbook, 2nd edition

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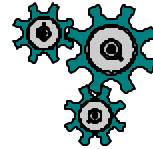
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Introduction

“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:

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

Central America, South America, and Africa have the potential to meet a large proportion of their electricity needs through utilizing their geothermal resources—more than 50% of the current electricity needs in Latin America and the Caribbean and 28% in Africa. Thirty-nine (39) countries could be totally powered by geothermal resources including Bolivia, Djibouti, Ecuador, Ethiopia, Guadeloupe, Guatemala, Honduras, Indonesia, Kenya, Martinique, Mozambique,

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

Nicaragua, Panama, Peru, Philippines, Rwanda, Somalia, Sudan, Tanzania, Uganda, Vanuatu, and Yemen.²

With today's technology, geothermal resources could support 35,448-72,392 MWe of electrical generation capacity worldwide. Using enhanced technology, e.g., permeability enhancement and drilling improvements, geothermal could support 65,576-138,131 MWe. Worldwide, geothermal power could provide electricity to 865 million people, or about 17% of the world's population.³

Low-enthalpy resources, e.g., 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.⁴

Many geothermal projects will be small and medium-sized, 30 MWe 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,⁵ 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.

² "Preliminary Report: Geothermal Energy, The Potential for Clean Power from the Earth" by Karl Gawell, Dr. Marshall Reed, and Dr. P. Michael Wright, April 7, 1999, p. 1.

³ Ibid, pp.1-2.

⁴ "Geothermal Energy Can Make A Major Contribution," *First Alert*, Geothermal Energy Association, Vol.1 No. 1, January 1998.

⁵ 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).

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.⁶

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*;

⁶ 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.

-
3. Perform a basic financial analysis of your project using:
 - U *discounted cash flow analysis*,
 - " Net Present Value analysis,
 - " Internal Rate of Return analysis, and
 - U 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:
 - U anticipate financing sources' need for financial data—the “What,” “How,” and “Why;”
 - U tailor your approach and business and financing plans to better respond to individual investors' particular criteria; and
 - U 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 MWe) geothermal projects⁷, including:

⁷ 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.

-
- U the high exploration, development, and financing costs associated with smaller geothermal projects; ⁸
 - U project sponsors who may have less of a track record in developing international projects; and
 - U 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
 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.).

⁸ “Unfortunately for smaller and medium sized projects, development costs are not proportionate to the size for the project, i.e., a 12 MWe project may incur development costs equal to those of a 50 MWe 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.

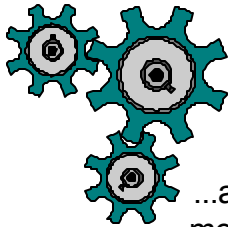
Project Financing ⁹

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.”¹⁰

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.¹¹

There are two types of project financing:

1. Nonrecourse—securities and other borrowings are serviced entirely out of project cash flow.
2. Limited recourse—project sponsors are obligated to supplement the project’s cash flow under certain (limited) circumstances.

⁹ 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).

¹⁰ Ibid, p. 2.

¹¹ Ibid, p. 24.

Figure 1¹² illustrates the basic elements and inter-relationships of a project-financed investment.

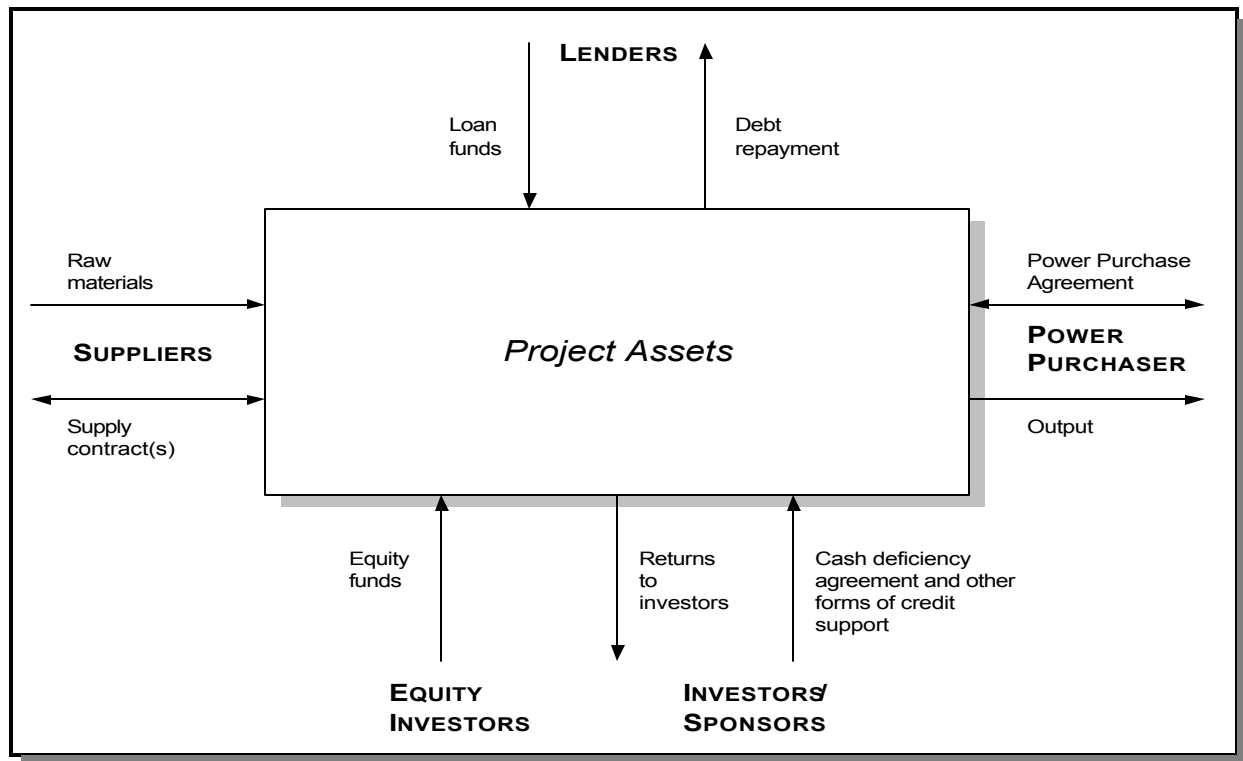


Figure 1 - The Basic Elements of a Project Financing

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

¹² 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.¹³

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.¹⁴ (For example, a heavily leveraged project carries more debt. The greater debt results in lower profits, thereby decreasing the project's tax burden.)

Table 1¹⁵ compares direct or conventional direct financing to project financing.

CRITERION	DIRECT FINANCING	PROJECT FINANCING
Organization	<ul style="list-style-type: none">• Large businesses are usually organized in corporate form.• Cash flows from different assets and businesses are commingled.	<ul style="list-style-type: none">• 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.

¹³ Ibid, p. 53.

¹⁴ Ibid, p. 33.

¹⁵ Ibid, pp. 25-27.

CRITERION	DIRECT FINANCING	PROJECT FINANCING
Control & monitoring	<ul style="list-style-type: none"> Control is vested primarily in management. Board of directors monitors corporate performance on behalf of the shareholders. Limited direct monitoring is done by investors. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 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)

CRITERION	DIRECT FINANCING	PROJECT FINANCING
Financial flexibility	<ul style="list-style-type: none"> • Financing can typically be arranged quickly. • Internally generated funds can be used to finance other projects, bypassing the discipline of the capital market. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Managers have limited discretion. • By contract, free cash flow must be distributed to equity investors.
Agency costs	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Creditors look to the sponsor's entire asset portfolio for their debt service. • Typically, debt is unsecured (when the borrower is a large corporation). 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> Debt financing uses part of the sponsor's debt capacity. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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

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

2. Completion risk

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

3. Resource risk^{16,17}

- U resource existence
- U resource size and deliverability¹⁸
- U premature resource degradation
- U production wells may decline in production rate and/or temperature (or enthalpy)
- U anticipated cost of well field development
- U injection pressure may increase
- U the chemistry of the produced fluid may change adversely with time as the project is operated

¹⁶ “Resource Risk and Its Mitigation for the Financing of Geothermal Projects” by Subir K. Sanyal and James B. Koenig. Proceedings of the World Geothermal Congress, 1995, Auckland, New Zealand: International Geothermal Associates, Inc., Volume 4, (1995), pp. 2911-2915.

¹⁷ Except for the question of resource existence, other resource risks can change in perception or in reality over time. Ibid, p. 2912.

¹⁸ If the project is the first one to be developed in a field, typically 10% to more than 30% of the production necessary to supply the plant needs to be proven before project financing can be obtained. Ibid, p. 2911.

4. Operation risk

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

5. Offtake and sales risk

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

6. Political or country risk

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

7. Approvals, regulatory, and environmental risk

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

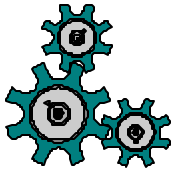
8. Force majeure risk

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

“All of these except the resource risk are common to all other types of power projects; therefore, financial institutions are familiar with them and have developed mechanisms to assess and mitigate them. By contrast, geothermal resource risks,

being relatively unfamiliar, have been the subject of intensive investigation in recent years...often as a condition of financing.”¹⁹

Increased costs due to unmitigated or unmanageable resource risks accrue to the developer and the equity investors. In certain cases the costs can be passed on to lenders (default and rescheduling or loan repayment) or to the public (increased power cost or taxes)...The final consequence...is to make future geothermal projects more costly to finance, and thus less likely to succeed economically.”²⁰



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.	<p>Lenders generally prefer to work with corporate sponsors which have substantial technical expertise and financial depth.</p> <p>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.</p> <p>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.</p>

¹⁹ Ibid, p. 2911.

²⁰ Ibid, p. 2913.

Risk	Risk Mitigation	Comment for Smaller Developers
Completion / Construction	<p>In the pre-construction stage, lenders will require insurance against physical damage, loss, and liability.</p> <p>For completion, lenders will request fixed-price “turnkey” construction contracts to be negotiated with the contractors.</p>	<p><u>This is the period of highest risk for lenders.</u></p> <p>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.</p> <p>A Construction Contract is needed.</p>
Resource	<p>Potential lenders will likely require the opinion of an independent technical consultant on the project’s geothermal resources.</p>	<p>The project sponsor must show that:</p> <ul style="list-style-type: none"> • 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	<p>Lenders derive comfort from the employment of an experienced third-party O&M contractor whose costs can be fixed.</p> <p>In addition to committing to an O&M schedule, an O&M contractor also guarantees to keep x MWe online at y% load factor, and faces financial penalties if he fails to do so.</p>	<p>Sponsors should consider an O&M contractor, even though it may involve greater expense, because of the additional “comfort factor” it gives potential lenders.</p> <p>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.</p> <p>An O&M Agreement should be strongly considered.</p>

Risk	Risk Mitigation	Comment for Smaller Developers
Offtake & Sales	<p>Risk that the project may fail to generate adequate income.</p>	<p>The sponsor should discuss the maturity of the market and price volatility in the business plan.</p> <p>Availability of a long-term, guaranteed-price <u>Power Purchase Agreement (PPA)</u> is a key element in eliminating volume and price risks.</p> <p>(Long-term, fixed price PPAs are becoming increasingly rare. This applies less, however, to developing and transitional countries where it is still possible to obtain a PPA, and where merchant plants are a future development.)</p> <p>Sponsors should expect lenders to require the repayment of their loans during the life of the PPA or preferential offtake contracts.</p> <p>Ways to contractually reduce the working capital required for the sponsor to realize pro forma revenue projections:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <p>Sponsors should also expect lenders to take a security interest in PPAs.</p>

Risk	Risk Mitigation	Comment for Smaller Developers
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.	<p>Currency risk mitigation:</p> <ul style="list-style-type: none"> • sovereign guarantee, • irrevocable standby letter of credit from host government, • currency “swap” arrangements and block fund transfers, and • combination of barter and countertrade. <p><u>Implementation Agreement (IA)</u> or state support agreement which seeks to guarantee the performance of government entities involved in the project. IAs are also called “Cooperation” or “Coordination” Agreements.</p> <p>Political risk insurance to cover basic risks of expropriation, currency inconvertibility, and breach of contract by government bodies. (See <i>OPIC, MIGA</i>)</p>
Approvals, Regulatory & Environmental		<p>Identify required governmental approvals and mandate governmental support in obtaining permits.</p> <p><u>Land Conveyance Agreement (LCA)</u> transfers land ownership to the project company (purchase or long-term lease).</p> <p>The LCA must be assignable to lenders in case of default.</p> <p>Political risk insurance to cover basic risks of expropriation, currency inconvertibility, and breach of contract by government bodies. (See <i>OPIC, MIGA</i>)</p>
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 ^{21, 22}

²¹ 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.

²² “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	<ul style="list-style-type: none"> Developer team in place Developer has done similar projects at same company 	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> First attempt at project development in lead role Experience in individual disciplines does not count
Project Size	<ul style="list-style-type: none"> Over 50 MWe 	<ul style="list-style-type: none"> 20-50 MWe 	<ul style="list-style-type: none"> Under 20 MWe
Country	<ul style="list-style-type: none"> Investment-grade rated Strong economy Active, well-regarded sovereign and corporate borrowing Top 15-20 risk ranking of all countries 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Unstable economy Political instability Lack of policy consensus among government, business, and labor
Geothermal Resource	<ul style="list-style-type: none"> Resource proven Exploration drilling completed 	<ul style="list-style-type: none"> Resource being proved Exploration drilling in progress 	<ul style="list-style-type: none"> Resource unproven Exploration drilling to be done

SUCCESS FACTOR	HIGH = 3	MEDIUM = 2	LOW = 1
Status of Contracts	<ul style="list-style-type: none"> All contracts executed and drafted as per international standards for project financing 	<ul style="list-style-type: none"> Competitive bid awarded or key meaningful and exclusive Letter of Intent or Memorandum of Understanding is signed 	<ul style="list-style-type: none"> No commitments in writing

Table 3 - Developer Self-Scoring Test to Evaluate Financing Readiness ²³

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

²³

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.

Example

A developer with no experience (1) has a project in China (2) using conventional geothermal technology (3) for a 20 MWe 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.

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 $\div 2.43$	
FINANCING READINESS SCORE	

The Financing Plan & Basic Financial Analysis²⁴

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.²⁵

²⁴ This section incorporates Chapters 6, 7, and 8 of Finnerty.

²⁵ Ibid, p. 91.

A financing plan format is below.

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

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

Things to consider when designing a financing plan:

U 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.

U Creating a financing plan begins with an estimate of the total external funds required:

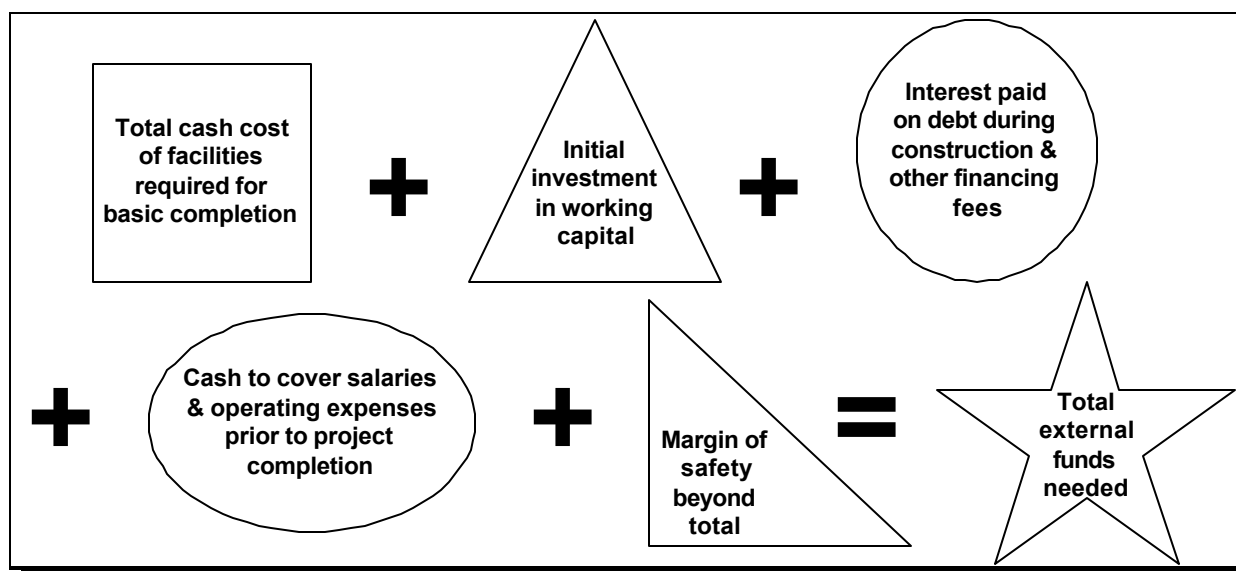


Figure 2 - Calculating Total External Funds

U 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.

U 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.²⁶

U 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:

²⁶ The typical equity/debt ratios that particular financing sources required are noted in the "Financing Sources" section of the Workbook.

-
- " financial institutions might be induced to lend more, or to lend on superior terms and conditions to the project if an **equity kicker**²⁷ is provided, or
 - " 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.
- U The financing plan must address the need for and potential identity of outside equity investors for the project.
- U 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.
- U The existence of withholding taxes can influence the design of the financing plan for a project.
- U 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**.

²⁷ 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.

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 1.50.²⁸

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**²⁹ 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.

²⁸ A debt service coverage ratio less than 1.00 indicates that a project cannot service its debt fully out of operating income.

²⁹ Ibid, p. 101.

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

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

$$D^{\circ} = PV / \alpha$$

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:

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

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

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

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 I 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		
<i>R</i>	\$150 million	Cash revenues in Year 1 (first full year of operation)
<i>E</i>	\$26 million	Cash expenses in Year 1 (first full year of operation)
<i>C</i>	0	Noncash expenses deductible for tax purposes each year
<i>T</i>	40% (0.40)	Income tax rate
<i>g_R</i>	5% p.a.	Annual growth rate of cash revenues
<i>g_E</i>	5% p.a.	Annual growth rate of cash expenses
<i>I</i>	10% (0.10)	Interest rate on the debt
<i>N</i>	12 years	Life of the loan measured from the date of project completion
<i>M</i>	2 years	Loan deferral or grace period
"	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 I 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 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 Analysis³⁰

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:
 - T reputation, experience, staffing, management;
 - T cash position and net worth;
 - T income stability;
 - T borrowing capacity and history;
 - T liabilities or obligations inherent in the geothermal industry;
 - T 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:
 - U the reliability of project revenues and cash flows;
 - U debt service coverage ratios;

³⁰ Ibid, pp. 99-107.

-
- U mitigation of various risks, e.g., market (change in market demand, currency exchange fluctuation, interest rate risk), economic (inflation), political, country, etc.;
 - U availability of insurance;
 - U existence of security packages and their enforceability (lenders must always have at least two ways out of a credit); and
 - U the geothermal resource and technology being used.³¹

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 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.

³¹ "Credit Requirements for Commercial Bank Lending to Power Projects: Credit Suisse Project Finance," by R. Scoff 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.

I 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:

$$CFAT = -I_o - \Delta W - (1 - \tau)E_o + (1 - \tau)S_o + \tau B_o + I_c. \quad (6)$$

INCREMENTAL CASH FLOW ANALYSIS – VARIABLES	
C_o	Net initial investment outlay
I_o	Initial cash expenditures
ΔW	Increase in net working capital
J	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 expenses³² do not affect taxes at the start of a project.

Expensed items³³ 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:

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

CASH FLOW AFTER TAX (CFAT) – VARIABLES	
J	Marginal tax rate
ΔR	Changes in revenue
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 capital³⁴:

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

³² The cost of a **capitalized** asset is allocated to two or more time periods.

³³ An **expensed** cost is recognized for tax purposes at the time of expenditure.

³⁴ 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.

NET SALVAGE VALUE – VARIABLES	
<i>J</i>	Marginal tax rate
<i>S</i>	Sale price
<i>B</i>	Book value
<i>RE</i> <i>X</i>	Cleanup and removal expense
<i>) W</i>	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.

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:

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

$I_o = \$15.9$ million and $E_o = \$100,000$. The increase in net working capital is $) W = \$2$ 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
J	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 expenses
ΔD	\$1.45 million ³⁵	Depreciation change
S	\$500,000	Sale price
B	\$500,000	Book value
REX	\$250,000	Cleanup and removal expense

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

$$C_0 = -15,900,000 - 2,000,000 - (1 - 0.4)(100,000) + 0 + 0 + 0.$$

$$C_0 = -17,960,000.$$

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

$$CFAT = 0.6(1,500,000 - 1,450,000) + 1,450,000.$$

$$CFAT = 30,000 + 1,450,000.$$

$$CFAT = \$1,480,000.$$

³⁵

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.

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		
C₀	\$17.96 million	Net initial investment outlay
CFA_T	\$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).

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**)³⁶ and its capital structure (debt/equity). In project

³⁶ Beta (\$) 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%.

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)**:

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

WEIGHTED AVERAGE COST OF CAPITAL (WACC)	
COST OF DEBT	
θ	Ratio of debt financing to total investment value
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
\$	1.25	Common equity beta
r_M	8.4% (0.084)	Expected excess return on the market portfolio
J	40% (0.40)	Marginal income tax rate
2	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.³⁷

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 may be easily estimated based on historical trends.

³⁷

Financial Tune-Up for Windows 1.0.01 , © 1995-96 Odyssey Computing Inc. and Furistics Corp. A Windows 95 demo version may be downloaded at www.zdnet.com.

COST OF EQUITY	BUSINESS TYPE
16% to 20%	Larger businesses that have a stable earning record, readily available capital, and 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 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 a 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

i 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.³⁸

³⁸

Ibid.

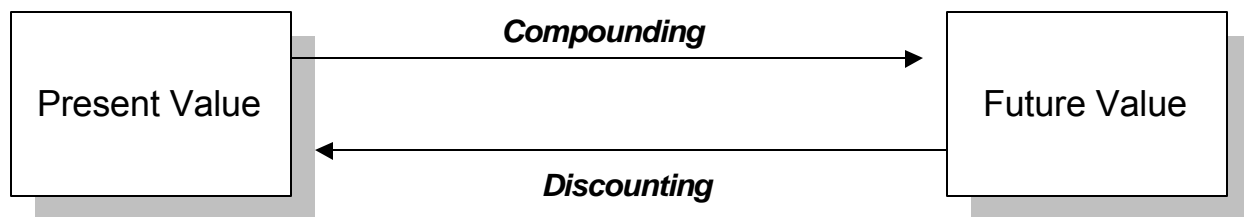


Figure 3 - Time Value of Money

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

$$\begin{aligned} \text{NPV} &= \text{CF}_0 + \frac{\text{CF}_1}{(1+r)} + \frac{\text{CF}_2}{(1+r)^2} + \dots + \frac{\text{CF}_n}{(1+r)^n} \\ &= \sum_{t=0}^n \frac{\text{CF}_t}{(1+r)^t} \end{aligned} \quad (11)$$

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:

$$0 = \sum_{t=0}^n \frac{\text{CF}_t}{(1 + \text{IRR})^t} = \text{CF}_0 + \sum_{t=1}^n \frac{\text{CF}_t}{(1 + \text{IRR})^t} \quad (12)$$

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

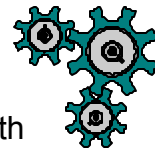
Using equation 11, Geo-Co's NPV is:

$$\text{NPV} = \sum_{t=0}^n \frac{\text{CF}_t}{(1+r)^t}.$$
$$\text{NPV} = -17.96 + \sum_{t=1}^9 \frac{1.48}{(1.049)^t} + \frac{3.83}{(1.049)^{10}}.$$
$$\text{NPV} = -\$5.87 \text{ million.}$$

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 <ul style="list-style-type: none">• Measures project's ability to cover interest charges.• An interest rate coverage ratio below 1.00 indicates that a project cannot cover its interest charges fully out of operating income.• Lenders typically require interest coverage of over 1.00.
Fixed charge coverage	= (EBIT + a rentals) / (Interest + a rentals) <ul style="list-style-type: none">• 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 an interest component.• A fixed charge coverage ratio below 1.00 indicates that a project cannot cover its interest charge fully out of operating income.

RATIO	EQUATION AND INTERPRETATION
Debt service coverage	$= \frac{\text{EBITDA} + \text{Rentals}}{\text{Interest} + \text{Rentals} + \frac{\text{Principal repayments}}{1 - \text{Tax rate}}}$ <ul style="list-style-type: none"> • Accounts for all debt service payment obligations. • A debt service coverage ratio below 1.00 means that the project cannot fully service its debt out of project cash flows and will have to borrow funds or seek equity to cover the shortfall. • Particularly useful in designing the amortization schedule for project debt. • Most comprehensive of the three coverage ratios. <p>EBITDA = Earnings before interest, taxes, depreciation, and amortization.</p>

Table 6 - Annual Coverage Tests

Financing Sources

*Background*³⁹

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 “no- 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 credit,” 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 credit is available only to those borrowers which have strong enough balance sheets or connections to qualify for the required letters of credit from their local bankers.

Venture capital – Venture capital is used usually by start-up companies which do not have a track record or financial base to support conventional bank financing. Because of the high risks associated with start-ups, venture capitalists typically require very high returns (e.g., 25-50% annual return on equity).

³⁹ Adapted from Trade in Environmental Services and Technologies (TEST), U.S. Agency for International Development, “U.S. Environmental Financing Programs for India,” October 18, 1996.

Forms of Financing

Grants – Grants are available from U.S. Government (USG) agencies and USG-funded organizations. Some grants are unconditional; others may require repayment or charge 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. Equity investors expect a return in the form of dividends on their equity shares in relation to their risk.

Debt – Debt financing is a loan which is secured by the assets of a company 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 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 enhancements are designed to reduce the risks other lenders or investors face.

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 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 repayment from government agencies.

Terms

The terms associated with any financing vary considerably. For debt financing, the primary terms are the loan's interest rate, maturity, and grace period. For equity financing, the primary terms are expected return on investment and exit requirements or strategy.

In addition to type, form, transaction size, and terms, financing sources may also have other policies for investment which may include:

Cofinancing Requirement – Many funds limit their participation to a certain percentage of the total project cost or financing requested, requiring cofinancing from other financing sources. Typically, one fund or program will act as the lead agency in cofinancings.

Active versus Passive Management – Some equity investors may want to play an active role in managing the company in which they invest. Most will want seats on the company's Board of Directors if they are significant investors. Lenders are usually less active than equity investors, but may still insist on substantial oversight of the borrowing company's operations.

Types of Projects Preferred or Avoided – Some sources of financing may favor or avoid certain types of projects (e.g., greenfield, expansions, privatizations, etc.).

*Sources of Financing for Geothermal Projects*⁴⁰

Table 7 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) for each financing source, including:

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

⁴⁰ 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			U	U	U	
Bank of China		U	U		U	U
Black Sea Trade & Development Bank			U	U		U
California Energy Commission	U					
Commonwealth Development Corporation				U	U	
Deutsche Bank Securities, Inc.		U	U	U		
E & Co.		U		U		
Energy Capital Holding Company			U	U	U	
Energy Sector Management Assistance Programme	U					
Environmental Enterprises Assistance Fund			U	U		
European Bank for Reconstruction & Development			U	U	U	
European Investment Bank			U			
Export-Import Bank of the U.S.			U		U	U
Fundación Solar	U					
Global Environment Facility	U			U	U	

FINANCING SOURCE	FINANCING AVAILABLE					
	Project Development	Debt		Equity	Loan Guarantees / Insurance	Export Credit Assistance
		Short-term	Long-term			
Global Environment Facility Small Grants Programme	U					
Inter-American Development Bank			U		U	
Inter-American Investment Corporation			U	U		
International Finance Corporation			U	U		
International Finance Corporation Small & Medium-Scale Enterprises Program			U			
Japan Bank for International Cooperation	U		U			
Multilateral Investment Guarantee Agency					U	
Nordic Environmental Finance Corporation			U	U	U	
Overseas Private Investment Corporation			U	U	U	
Preferred Energy, Inc.	U	U	U	U		
Renewable Energy & Energy Efficiency Fund (In development)	U		U	U	U	
Scudder Latin American Power Fund			U	U		
U.S. Small Business Administration		U	U	U	U	U

FINANCING SOURCE	FINANCING AVAILABLE					
	Project Development	Debt		Equity	Loan Guarantee s / Insurance	Export Credit Assistance
		Short-term	Long-term			
U.S. Trade & Development Agency	U	U				
World Bank Prototype Carbon Fund (In development)	Not available					

Table 7 - Sources of Financing for Geothermal Projects

African Development Bank (AfDB)

Private Sector Department (OPSD)

Funds available	<p>In 1998, the AfDB lent about \$154.1 million.</p> <p>The AfDB's total authorized capital in 1998 was UA (Units of Account) \$21.87 billion, or approximately US\$29.2 billion.</p>
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	
<i>Investment Range (US\$)</i>	<p>Typically from \$140,000 to \$15 million. Can be exceeded on case-by-case basis.</p> <p>The AfDB's equity investment will not normally exceed 25% of the share capital of the enterprise and will not be lower than \$150,000.</p> <p>Total amount of AfDB assistance to any enterprise, including loans, equity investment, guarantees and underwriting commitment will not normally exceed 33 1/3% of the total cost of the project.</p>
<i>Term Range (years)</i>	Flexible. Typically from 5 to 12 years
<i>Interest Rate Range (%)</i>	Case-by-case, typically from LIBOR +1 to +5 (London Interbank Offered Rate)
<i>Grace Period (years)</i>	Yes, negotiable, reflecting the implementation schedule and projected cash flow of the borrower.
<i>Equity/Debt Ratio Required</i>	Case-by-case
<i>Expected Return on Investment (%)</i>	Case-by-case
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	Case-by-case

African Development Bank (AfDB)

Private Sector Department (OPSD)

Fees Standard front-end fee of 1% due before or at signing.

Commitment fee of 1% per annum on undisbursed loan balances; accrues 60 days after the loan agreement is signed.

Legal expenses incurred by the AfDB in connection with the appraisal and preparation of loan and other documents for a AfDB-financed project will normally be for the account of the investee company.

African Development Bank (AfDB)

Private Sector Department (OPSD)

Other The AfDB gives priority to projects in which other reputable institutions are involved.

Equity participation is conditional upon a pre-determined exit strategy.

To be eligible for AfDB assistance:

1. an enterprise must be located and incorporated in a regional member country (RMC) of the AfDB⁴¹, and
2. an enterprise should be privately owned and managed. It may be locally or foreign owned. An enterprise partly owned by the government may also be eligible for AfDB assistance, provided that its private ownership exceeds 51% of the voting stock, it satisfies the criteria of operational autonomy and managerial freedom, and is run on a commercial basis.

AfDB assistance may be considered for projects to establish, expand, diversify and modernize productive facilities in various sectors including energy, as long as the investment is beneficial to the economy of the host country.

The AfDB gives consideration primarily to financially viable proposals, which hold good prospects for earning a profit adequate to provide a good return on invested capital, and which contribute to one or more of the following:

1. generation of foreign exchange earnings and savings;
2. creation of employment, improvements in the skills of both labor and management and for the enhancement of productivity of capital and labor;
3. transfer of technology and acquisition of appropriate scientific equipment; and
4. forward and backward linkage effects.

For the AfDB to be involved in a project, it needs to be satisfied that the project is consistent with the country's economic

⁴¹ Algeria, Angola, Benin, Botswana, Burkina-Faso, Burundi, Cameroon, Cape-Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Equatorial Guinea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, and Zimbabwe.

African Development Bank (AfDB)

Private Sector Department (OPSD)

Application Procedure

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

1. description of the project;
2. the sponsors, including financial and managerial background;
3. cost estimates, including foreign exchange requirements;
4. financing plan, indicating the amount of ADB financing desired;
5. market prospect, including proposed marketing arrangements; and
6. implementation plan, including the status of government approvals.

After this information is assessed, the AfDB will convey its preliminary views to the applicant enterprise and may also ask for additional details and documents for further processing. The AfDB will observe confidentiality in its dealing with project sponsors.

See *"Checklist for the Preparation of an Application to the AfDB for a Loan and/or an Equity Investment in a Privately Owned Project"* attached.

Useful Publications

<http://www.afdb.org/news/publications.html>

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*.

Assistance to Private Enterprises. Outlines AfDB policies.

African Development Bank (AfDB)
Private Sector Department (OPSD)

Key Contact(s)

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Director
Private Sector Department
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or [225] 20-20-49-64

Web Site

<http://www.afdb.org/about/opsd-home.html>

AFRICAN DEVELOPMENT BANK
Private Sector Department

**Checklist for the Preparation of an Application to the AFDB
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 Department 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 past 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.

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, provisions for repatriation of capital, dividends, royalties, foreign exchange rates, loans, etc.
23. Provide details on insurance policies related to the company, the project, and the management.

Project Investment Cost Financing Plan

24. Provide detailed cost estimates, land, buildings, earthworks, machinery, equipment licensing, permanent working capital, interest during construction. Allocate costs among local and foreign currency requirements.
25. Financing plan, including details of share holding structure, and various details of loans.

-
26. Disbursement schedule and rationale.

Proposed financial and technical assistance from African Development Bank (See “Assistance to Private Enterprise” an AfDB 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 calculation of gross operating profit, cash flow projected income statements, summary balance sheet projection, etc. Supply detailed schedules as appendixes.
29. Provide a complete final evaluation of the project including computation of internal rate of return. For project expansion 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 sponsor intends to guard against the risks.

Appendixes

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

Bank of China	
Funds available	N/A
Investment made to date in geothermal projects	\$0
Type(s) of Financing	Project finance / Trade finance
Form(s) of Financing	Export credit assistance / Loan guarantees / long-term Debt / Short-term Debt
Financing Structure	
<i>Investment Range (US\$)</i>	N/A
<i>Term Range (years)</i>	N/A
<i>Interest Rate Range (%)</i>	N/A
<i>Grace Period (years)</i>	N/A
<i>Equity/Debt Ratio Required</i>	N/A
<i>Expected Return on Investment (%)</i>	N/A
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A
<i>Fees</i>	N/A
<i>Other</i>	N/A
Application Procedure	N/A
Useful Publications	N/A
Key Contact(s)	<p>Jeff Liu Loan Officer Credit and Business Development Department Bank of China 410 Madison Avenue New York, NY 10017-1191</p> <p>Tel: [1] 212-935-3101 Fax: [1] 212-308-4993</p>
Web Site	http://www.bank-of-china.com/english/boc.html

Black Sea Trade and Development Bank (BSTDB)

Funds available	\$10-20 million
Investment made to date in geothermal projects	None to date; established 1998
Type(s) of Financing	Corporate finance / Project finance / Trade finance
Form(s) of Financing	Equity / Export credit assistance / Long-term Debt
Financing Structure	
<i>Investment Range (US\$)</i>	From \$3 million to \$20 million
	Funds available for no more than 35% of total project costs
<i>Term Range (years)</i>	From 3 to 8 years
<i>Interest Rate Range (%)</i>	Subject to evaluation
<i>Grace Period (years)</i>	Yes
<i>Equity/Debt Ratio Required</i>	Subject to evaluation
<i>Expected Return on Investment (%)</i>	Subject to evaluation
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	Subject to evaluation
<i>Fees</i>	Front-end fee of up to 1%. Commitment fee on undisbursed amount.

Black Sea Trade and Development Bank (BSTDB)

Other The BSTDB invests in projects in member countries: Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russian Federation, Turkey, and Ukraine. It will also consider projects with strong regional cooperation or developmental impact in the Black Sea Region.

The BSTDB would be a minority shareholder and possibly request a seat on the Board.

During the initial period of its operations, the BSTDB will primarily concentrate on the following areas:

1. Project finance, to include medium-size, medium-term, and economic infrastructure investments with strong cooperation and development impact, preferably involving participation of several member countries. The BSTDB will seek to co-finance such projects with the other International Financial Institutions (IFIs) and Export Credit Agencies (ECAs) as well as to attract private sources of capital (commercial banks and institutional investors).
2. Private enterprise sector development by providing credit lines and equity investments, in particular to medium sized companies which constitute the most vibrant and dynamic component of the private sector in member countries. The majority of these operations will be implemented through selected financial intermediaries.

Application Procedure

All projects must be economically justified, financially viable, technically feasible, and environmentally sound.

The major steps of the BSTDB's project approval process are:

1. Initiation
2. Appraisal
3. Negotiations
4. Approval

See Project Information Form attached.

Useful Publications

None provided

Black Sea Trade and Development Bank (BSTDB)

Key Contact(s)

Gueorgui Horozov
Project Finance Manager
Black Sea Trade and Development Bank
1 Kominion Street
546 24 Thessaloniki, Greece

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or [30] (31) 286-590
Email: info@bstdb.gr

Web Site

<http://www.bstdb.gr/index.html>



Project Information Form

BSTDB INITIAL INFORMATION REQUIREMENTS FOR PROJECT FINANCE PROPOSALS

All submissions shall be in English language. The information provided to BSTDB will be evaluated for the Eligibility Review and subject to the BSTDB Policy for Confidentiality and Disclosure of Information.

The main [Project Finance](#) products BSTDB offers are:

- a) [Loan](#);
- b) [Equity Investments](#) and
- c) [Guarantee](#);

[Trade Finance](#) offers:

- a) [Pre-export Finance Program](#);
- b) [Guarantee](#);
- c) [Medium and Long-Term Financing in the form of Single Buyer Credits, Multiple Buyer Credits and Single/Multiple Supplier Refinancing](#);

In addition [Special Products](#) will be offered.

[Home Page](#)
[About BSTDB](#)
[Organisation Structure](#)
[Strategy and Project Cycle](#)
[Financing Offered](#)
[Recruitment](#)
[Events/Press Releases](#)
[Announcements](#)

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fax:
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286-520

e-mail:
info@bstdb.gr

I. General Information about the applicant

- Legal name, Address and Contact Numbers;
- List of principal officers with their responsibilities;
- Ownership structure, date of incorporation and evidence of organization;
- Major product categories with volume of production and exports in each category;
- Short history since establishment;
- Organization chart and Number of employees;
- Major product categories with volume of production and exports in each category;

II. Applicant's Financial Records

- Financial statements for the last three years;
- Information about current debt obligations to the other lenders (with indication of the amounts, terms, payment schedules), accounts receivables;
- Assets pledged (mortgages, pledges, assignments, etc);

III. Information about the proposed Project

- Preliminary Feasibility Study (if any)
- Essence of the Project (Green field/expansion of existing business, project idea, history and status of the project)
- Location
- Identity of the Sponsors, their experience with the similar projects;
- Initiated Project Timetable
- Production Technology and Process
- Management of the Project (management structure, departments structure, functions, monitoring/control system, top position job descriptions/resumes)
- Overall Costs of the Project
- Fixed Investment Cost
- Financial Costs
- Working Capital Needs
- Schedule of expenses
- Existing or proposed Contractors, their experience in similar projects, Types of contracts;
- Production capacity, product categories, volumes;
- Operating Expenses;
- Availability of Raw Materials, Potential/Existing Suppliers
- Marketing study and plan (competition, market share, channels of distribution, sales volume, export versus domestic, prices) Potential/Existing Off-take Counterparts

IV. Financial Structure of the proposed project

- Equity contribution/Debt Financing from Sponsors, promoters
- Type of financing required
- Amount of financing required from BSTDB
- Other potential/existing sources of external finance (if any)
- Potential support from the Third Parties (take or pay agreements, fixed price contracts, completion guarantees)
- Securities (escrow account, buy back or off-take agreement, individual liens, sovereign guarantee etc)

V. Any other information available which may be considered important for the initial review of the Project by BSTDB.

California Energy Commission (CEC) International Energy Fund

Funds available	Not provided
Investment made to date in geothermal projects	<p>5 MWe baseload feasibility, Vanuatu</p> <p>Reservoir confirmation, Nicaragua</p> <p>Drilling technology (fiber optics), Venezuela</p> <p>Drilling technology, Indonesia</p>
Type(s) of Financing	Feasibility studies / Pre-feasibility studies / Technical assistance / Market and site assessment and analysis / Technology transfer agreements
Form(s) of Financing	Grants
Financing Structure	
<i>Investment Range (US\$)</i>	<p>Up to \$25,000 per proposal for pre-investment activities abroad</p> <p>Pre-investment activities include feasibility studies, market and site assessment and analysis, and technology transfer agreements</p> <p>The fund requires applicants to provide at least half of the total cost of pre-investment activities.</p>
<i>Term Range (years)</i>	N/A
<i>Interest Rate Range (%)</i>	Not provided
<i>Grace Period (years)</i>	N/A
<i>Equity/Debt Ratio Required</i>	N/A
<i>Expected Return on Investment (%)</i>	N/A
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A
<i>Fees</i>	Awards plus interest are reimbursed to the Commission when the recipient companies earn revenue and positive cash flow from a specific project.

California Energy Commission (CEC) International Energy Fund

Other Companies receiving funds must be small- and medium-sized California-based companies and have the host country's strong support.

Application Procedure

To receive an information package on the International Energy Fund, contact the CEC.

Solicitation is February to June 2000.

Useful Publications

California Energy Commission Energy Technology Export Program.

Key Contact(s)

Tambu Kisoki
International Energy
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California Energy
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Web Site

<http://www.energy.ca.gov/export/fund.html>

Commonwealth Development Corporation (CDC) United Kingdom

Funds available	CDC has global investments of over \$2.6 billion in over 400 businesses in 54 countries.
Investment made to date in geothermal projects	<p>\$20 million in 24 MWe BOO Orzunil I Power Plant in Guatemala. CDC is taking a 14% share holding. ORMAT has a 20% stake in the company.</p> <p>The plant's \$66.7 million in financing needs will be subscribed by ORMAT International, Scudder Latin American Power Fund, the International Finance Corporation, and a group of local investors.</p>
Type(s) of Financing	Development and early stage equity stakes (when projects are in the feasibility stage)
Form(s) of Financing	Equity / Quasi-equity / Loan guarantees
Financing Structure	
<i>Investment Range (US\$)</i>	<p>Typically invests between \$1million and \$50 million in a business.</p> <p>Smaller equity requirements can be met through country and regional private equity funds managed by CDC.</p> <p>Invests primarily in equity or mezzanine finance and can arrange the provision of debt finance.</p>
<i>Term Range (years)</i>	Is a medium to long-term investor ultimately aiming to realize its investments in consultation with its partners.
<i>Interest Rate Range (%)</i>	Not provided
<i>Grace Period (years)</i>	Not provided
<i>Equity/Debt Ratio Required</i>	Not provided
<i>Expected Return on Investment (%)</i>	Looks for fully commercial returns on its investments commensurate with the risk involved
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	Not provided
<i>Fees</i>	Not provided

Commonwealth Development Corporation (CDC) United Kingdom

Other CDC may co-sponsor and invest during the due diligence or bid stage of a potential business.

It will consider projects in Africa, East Asia and the Pacific, and Latin America and the Caribbean.

CDC seeks to establish a partnership with sponsors to acquire, expand, or restructure a business. It invests in businesses with good management teams.

Application Procedure

CDC applies a number of sound business criteria in considering investments:

- Commercial viability
- Economics –includes the Economic Internal Rate of Return which adjusts for various distortions, as well as the transfer of skills and training, economic linkages, positive and negative impacts on infrastructure, and the effect of the business on the market
- International social and environmental standards – CDC will only invest in a project if satisfied that any social or environmental risks have been properly mitigated through appropriate project design
- Modern forms of energy

The CDC would like to see before meeting a business plan which includes the following:

1. An executive summary for the business and the proposal;
2. A description of the business;
3. The background, resources, and experience of the sponsors;
4. The experience, commitment and track record of the key managers, together with the management and board structure;
5. Information on the sector and the markets in which you work; and
6. The proposed financial structure.

Useful Publications

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Commonwealth Development Corporation (CDC) United Kingdom

Key Contact(s)

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Manager, Renewable Energy
Commonwealth Development Corporation (CDC)
One Bessborough Gardens
London SW1V 2JQ, United Kingdom

Tel: [44] (20) 7963-3873
Fax: [44] (20) 7963-3956
Email: DFielden@cdc.co.uk

Web Site

<http://www.cdc.co.uk>

Deutsche Bank Securities, Inc.

Funds available	N/A
Investment made to date in geothermal projects	Not provided
Type(s) of Financing	Corporate finance / Project finance / Trade finance
Form(s) of Financing	Equity / Long-term Debt / Short-term Debt
Financing Structure <p> <i>Investment Range (US\$)</i> Up to \$75 million <i>Term Range (years)</i> Up to 10 years <i>Interest Rate Range (%)</i> Open <i>Grace Period (years)</i> Open <i>Equity/Debt Ratio Required</i> Open <i>Expected Return on Investment (%)</i> Not provided <i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i> Case-by-case <i>Fees</i> Case-by-case <i>Other</i> </p>	
Application Procedure	Contact the bank
Useful Publications	—
Key Contact(s)	Paul Naumann Deutsche Bank Securities, Inc. 31 West 52nd Street New York, NY 10019, Tel: [1] 212-469-3756 Fax: [1] 212-469-8565 Email: PaulNaumann@db.com
Web Site	http://www.db.com

E & Co.

Funds available	Not provided
Investment made to date in geothermal projects	<p>\$225,000 in El Hoyo-Monte Galán Geothermal Project (Nicaragua). E&Co provided investment support to assist Trans-Pacific during the final negotiations of the three agreements necessary to advance to financing: the Power Purchase Agreement with the Nicaraguan utility, receipt of the concession agreement (obtained) and the investment contract with the Government of Nicaragua.</p> <p>\$250,000 in Geoteca Geothermal Project to complete the pre-investment package needed to secure project financing (Guatemala).</p>
Type(s) of Financing	Technical assistance / Project finance
Form(s) of Financing	Short-term Equity / Short-term Debt

Financing Structure

<i>Investment Range (US\$)</i>	From \$50,000 to \$250,000
<i>Term Range (years)</i>	Up to 3 years
<i>Interest Rate Range (%)</i>	Negotiable
<i>Grace Period (years)</i>	Yes, balloon payment ok.
<i>Equity/Debt Ratio Required</i>	Negotiable
<i>Expected Return on Investment (%)</i>	Negotiable
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A
<i>Fees</i>	None
<i>Other</i>	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.

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 Investment and Project Proposal Guidelines attached.

Useful Publications

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E & Co.

Web Site

<http://www.energyhouse.com/ecomain.htm>

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 do so?

"Social and Environmental Benefits"

Does the energy enterprise or project have clear social benefits at the local level? Will it extend energy services to the unserved? Will it improve or protect the local, national and global environment?

"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 crucial to advance the enterprise?

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

"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?

Project Proposal Guidelines

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

E&Co's objective 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 based on the following criteria:

- The project must be well defined and involve capable people. Local, in-country developers, sponsors or partners are preferred.
- The project should employ innovative approaches to energy provision using established renewable or efficiency technologies.
- The project must offer clear social and environmental benefits while 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).

The proposal should cover the following points:

General Information:

- Project Title
- Geographic Location
- A brief description of the organization, company or person responsible, including its history, goals, and structure. Résumés of chief management personnel.
- Contact person
- Complete address and/or P.O. Box, telephone, fax, and E-mail.
- Project Summary, including the opportunity, the applicability of the technology, and the local need. The source of energy, the generation scale, and the end-users served should also be identified. Describe the sponsors' previous experience in the project area and any innovative aspects and non-commercial benefits of the project.

Technical/Organizational Information:

- Describe the technology or process used, the fuel supply or resource availability as appropriate, and quality control guidelines.
- Emphasize any innovative technologies, applications, or approaches to energy provision.
- Describe previous applications of the technology or delivery approach.
- Detail existing and proposed agreements for concessions and energy sales.

Financial/Economic Information:

- Information about any previous studies (prefeasibility, feasibility, marketing) made, including their costs and the companies involved.
- Project cost structure, showing the investment required at each stage of the project. Include cash flows and profit and loss projections where available.
- Sources of capital, including identified and proposed investment partners and lenders. Proposed investment structure (debt/equity). Include documentation of all interested investors.
- Requested terms and conditions for funding from E&Co.

Local Market Conditions:

- The overall energy market and investment climate of the project country, including information on tax policies, currency convertibility, profit repatriation, and other relevant legal issues.

Risk Assessment:

- Identify the potential risks borne by the project and outline risk mitigation strategies.

Energy Capital Holding Company (ECHCO)

A Member of the Energy House Consortium

Funds available	Not provided
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	
<i>Investment Range (US\$)</i>	\$10 million to \$250 million As ECHCO's volume increases, the minimum project size will decrease. The company is studying the establishment of specialized pools for 2-3 MWe projects.
<i>Term Range (years)</i>	12 to 15 years
<i>Interest Rate Range (%)</i>	9.5% to 11% fixed
<i>Grace Period (years)</i>	Yes, construction period plus up to 1 additional year
<i>Equity/Debt Ratio Required</i>	Varies from 30/70 to 15/85
<i>Expected Return on Investment (%)</i>	15-25% depending on the stage of investment
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	1.30
<i>Fees</i>	1 to 2.5% on Senior Debt depending on amount. 2 to 5.0% on Equity depending on source and amount.

Energy Capital Holding Company (ECHCO)

A Member of the Energy House Consortium

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.

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

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Key Contact(s)

Dr. Ronald E. Müller
Energy Capital Holding Company (ECHCO)
REM Capital Corporation
727 15th Street, N.W., 11th Floor
Washington, D.C. 20005

Tel: [1] 202-737-5400

Fax: [1] 202-737-4554

Email:

remcap@bellatlantic.net and remcap@erols.com

Web Site

None

Energy Sector Management Assistance Programme (ESMAP)

Funds available

In 1998, the cumulative value of ESMAP's 89 ongoing projects in 37 countries was \$21.6 million.

ESMAP disbursed \$13 million against projects in the portfolio in 1998.

Nine donors contributed \$8.2 million to ESMAP in 1998.

**Investment made to date
in geothermal projects**

\$0

Type(s) of Financing

Pre-feasibility studies (occasionally) / Technical assistance

Form(s) of Financing

Grants

Financing Structure

<i>Investment Range (US\$)</i>	From \$150,000 to \$300,000; average size is \$240,000
<i>Term Range (years)</i>	N/A
<i>Interest Rate Range (%)</i>	N/A
<i>Grace Period (years)</i>	N/A
<i>Equity/Debt Ratio Required</i>	N/A
<i>Expected Return on Investment (%)</i>	N/A
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A
<i>Fees</i>	N/A

Energy Sector Management Assistance Programme (ESMAP)

Other ESMAP channels free policy advice and other technical assistance to governments, focusing on three priority areas:

1. market-oriented energy sector reform and restructuring;
2. access to efficient and affordable energy; and
3. environmentally sustainable energy production, transportation, distribution and use.

ESMAP works along six main themes:

1. assisting with energy sector policy and restructuring,
2. promoting energy access in rural and urban areas and under-served households and businesses,
3. analyzing local, regional and global energy-environment linkages,
4. mainstreaming renewable energy technologies,
5. encouraging more efficient energy practices, and
6. facilitating international energy trade.

ESMAP aims at designing innovative approaches to address energy issues. Its activities include one or several of the following:

- free technical assistance
- specific studies
- advisory services
- pilot projects
- knowledge generation and dissemination
- trainings, workshops and seminars
- conferences and roundtables
- publications.

ESMAP is co-financed by the World Bank, the United Nations Development Programme, and other public and private donors. Its activities are managed by World Bank energy specialists.

Energy Sector Management Assistance Programme (ESMAP)

Application Procedure	<p>Proposals for activities are submitted to the Manager of ESMAP, reviewed by independent experts, and evaluated according to the Basic Selection Criteria.</p> <p>Calls for proposals are directed to all the members of the World Bank Group energy practice, and the evaluation of the proposal is done by World Bank Group and outside experts with the participation of the UNDP.</p> <p>Projects must have the support of in-country World Bank or UNDP personnel.</p> <p><i>See Project Proposals: Basic Selection Criteria attached.</i></p>
Useful Publications	<i>Annual Report 1998.</i>
Key Contact(s)	<p>Dominique M. Lallement Manager Energy Sector Management Assistance Programme (ESMAP) 2121 Pennsylvania Avenue, N.W. Room 8K-296 Washington, D.C. 20433</p> <p>Tel: [1] 202-458-2321 Fax: [1] 202-522-3018 Email: DLallement@worldbank.org</p>
Web Site	http://www.worldbank.org/esmap

Box 8 Project Proposals: Basic Selection Criteria

	Assessment Ratings Pass/Fail
1. Commitment of local Government	<input type="text"/>
2. Supports ESMAP priority areas	<input type="text"/>
3. ESMAP has comparative advantage	<input type="text"/>
4. Relevant lessons of experience reflected in project design	<input type="text"/>
5. Can generate new knowledge for which there is clear demand	<input type="text"/>
	0 - 5
6. Compatibility with CAS and World Bank Energy Policy	<input type="text"/>
7. Focus on poverty alleviation	<input type="text"/>
8. Innovative in developing, testing and/or mainstreaming new ideas/methods	<input type="text"/>
9. Potential to be replicated	<input type="text"/>
10. Contributes to institutional and capacity building	<input type="text"/>
11. Dissemination plan	<input type="text"/>
12. Potential for attracting investments	<input type="text"/>
13. Performance indicators identified and linked to objectives and outputs	<input type="text"/>
14. Focus on gender issues	<input type="text"/>
15. Focus on social issues	<input type="text"/>

0 - Not applicable	2 - Marginally Satisfactory	4 - Fully Satisfactory
1 - Unsatisfactory	3 - Satisfactory	5 - Outstanding

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	
<i>Investment Range (US\$)</i>	From \$100,000 to... Varies by country.
<i>Term Range (years)</i>	From 4 to 7 years
<i>Interest Rate Range (%)</i>	Depends on deal
<i>Grace Period (years)</i>	Depends on deal
<i>Equity/Debt Ratio Required</i>	Depends on deal
<i>Expected Return on Investment (%)</i>	Depends on deal
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	Depends on deal
<i>Fees</i>	—
<i>Other</i>	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:

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In Indonesia:

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Email: Leoramirez@cfa-fund.com

Web Site

<http://www.eeaf.org>

European Bank for Reconstruction & Development (EBRD)

Funds available	N/A
Investment made to date in geothermal projects	<p>US\$ 99.9 million (ECU 85.6 million), sovereign loan to the Russian Government for on-lending to Geoterm, to finance the 40 MWe geothermal Mutnovsky Independent Power Plant.</p> <p>The Mutnovsky plant will be the first IPP in Kamchatka and the first EBRD-funded renewable energy project in Russia.</p>
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	
<i>Investment Range (US\$)</i>	<p>From US\$ 5.5 million (ECU 5 million) to US\$150 million (ECU 140 million)</p> <p>Up to 35% of the total project cost for a greenfield project or the long-term capitalization of an established company</p> <p>Average amount of the Bank's involvement in private sector is US\$ 17.6 million (ECU 16 million).</p>
<i>Term Range (years)</i>	<p>Generally from 5 to 10 years.</p> <p>Longer maturities may be considered on an exceptional basis, for example up to 15 years for infrastructure projects.</p>
<i>Interest Rate Range (%)</i>	LIBOR + 1% (sovereign projects)
<i>Grace Period (years)</i>	Yes, negotiable.
<i>Equity/Debt Ratio Required</i>	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.
<i>Expected Return on Investment (%)</i>	20/30
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	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.

Procurement Policies and Rules.

Financing with the EBRD, 1996. Offers a step-by-step approach to financing with the EBRD. It provides details on the financial instruments on offer, the terms for its products, how and when the Bank should be approached, and how a project is processed.

See also <http://www.ebrd.com/english/Public/index.htm>.

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See also

<http://www.ebrd.com/english/busin/FINANCE/index.htm>

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 two to three years, and how it is expected to evolve over the next five years. Estimate the market share and sales volume achievable over the next two to five 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.

Ensure that the project cost takes into account any eventual costs of registering security and

	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.

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, highlighting 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.

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. Environmental and worker health and safety regulations and other requirements that apply 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.

European Investment Bank (EIB)

Funds available	In 1998, the EIB signed contracts totaling \$25.9 million (€25 million) to projects within the European Union; \$4.6 million (€4.4 million) to projects outside of the Union.
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Investment made to date in geothermal projects	Not provided
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Type(s) of Financing	Corporate finance / Project finance
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Form(s) of Financing	Long-term debt
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Financing Structure

<i>Investment Range (US\$)</i>	<u>Individual loans</u> for large-scale projects; concluded with promoters; over \$25.9 million (€25 million). Up to 50% of the cost of a project to a state, an entity with a state guarantee, or a credit-worthy private investor
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Global loans: for small and medium-scale projects (local authorities or firms with less than 500 persons and fixed assets of up to \$78 million [€75 million]); supported indirectly by loans from some 130 banks operating at national or regional level. For new capital investment projects worth up to \$25.9 million (€25 million, undertaken by small and medium enterprises (SMEs) or, in the case of small infrastructure projects, by local authorities. Up to 50% of the investment costs.

EIB loans may be granted to public or private borrowers in support of projects in all sectors of the economy, including environment and energy infrastructure.

<i>Term Range (years)</i>	<u>Individual loans</u> : In the industrial sector up to 12 years, and for infrastructure projects 20 years, or more in exceptional cases.
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Global loans: 5-12 years (for new construction projects exceptionally 15 years).

<i>Interest Rate Range (%)</i>	<u>Individual loans</u> : market rate of interest
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Global loans: to be agreed upon with the intermediary bank, which takes the financing decision in accordance with criteria determined with the EIB.

European Investment Bank (EIB)

<i>Grace Period (years)</i>	<p><u>Individual loans:</u> Yes, grace periods for capital repayment may be obtained for the construction phase of a project.</p>
	<p><u>Global loans:</u> to be agreed upon with the intermediary bank, which takes the financing decision in accordance with criteria determined with the EIB.</p>
<i>Equity/Debt Ratio Required</i>	<p><u>Individual loans:</u> Not provided</p>
	<p><u>Global loans:</u> to be agreed upon with the intermediary bank, which takes the financing decision in accordance with criteria determined with the EIB.</p>
<i>Expected Return on Investment (%)</i>	<p><u>Individual loans:</u> Not provided</p>
	<p><u>Global loans:</u> to be agreed upon with the intermediary bank, which takes the financing decision in accordance with criteria determined with the EIB.</p>
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	<p><u>Individual loans:</u> Not provided</p> <p><u>Global loans:</u> to be agreed upon with the intermediary bank, which takes the financing decision in accordance with criteria determined with the EIB.</p>
<i>Fees</i>	<p><u>Individual loans:</u> Generally, neither processing fees nor commitment fees or any other fees are charged.</p>
	<p><u>Global loans:</u> Not provided</p>
<i>Other</i>	<p>The EIB is the European Union's (EU) long-term lending institution.</p> <p>While most of its lending is for projects located within the EU, the EIB also participates in the implementation of the EU's development policy in countries outside the European Union: in the Mediterranean region, in 71 African, Caribbean and Pacific countries which are signatories to the Lomé Convention, in South Africa, in Central European countries and in Latin America and Asia.</p>

European Investment Bank (EIB)

Application Procedure

The EIB finances specific projects complying with the European objectives. It lends to both public and private sector borrowers. Outside the European Union, financing operations are governed by the various agreements in force.

Prior to any financing decision, the EIB examines whether the project submitted to it conforms to one or more of the European objectives which it helps to promote:

- balanced regional development,
- creation of communications networks,
- environmental protection and urban development,
- competitive industrial and service sectors,
- energy conservation and rational use of resources.

How to Apply:

1. Requests for individual loans can be addressed directly to the EIB, without specific formalities, either to its headquarters in Luxembourg, or to one of its external offices located in Rome, Athens, Lisbon, London, Brussels or Madrid.
2. Requests for credits financed in the framework of global loans should be addressed directly to one of the 130 intermediary banks and financing institutions, which operates on the national, regional or local level (see <http://www.eib.org/loans/intermed.htm>).

The EIB assesses the consistency of the project with European policies, its technical and financial viability as well as its economic benefits; it verifies compliance with environmental protection and procurement regulations; it analyses the promoter's financial situation and cash flow projections along with security offered.

The EIB welcomes U.S. companies to bring private-sector projects directly to the EIB.

European Investment Bank (EIB)

Useful Publications

1998 Annual Report.

Annual Brochure of the European Investment Bank. Updated each year, provides an illustrated summary of the Bank's major objectives and fields of activity, both within and outside the European Union.

Basic infrastructure investments in South-Eastern Europe. Report of the Balkan Task Force, September 1999.

Country fact sheets. Describe EIB financing facilities available in different countries and geographical areas (Member States, Central and Eastern Europe, the Mediterranean Region, the African, Caribbean and Pacific States, South Africa, Asia and Latin America).

Environmental Policy Statement. Covers guidelines, standards and procedures in the environmental field, June 1996.

European Investment Bank (EIB)

Key Contact(s)

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Web Site

<http://www.eib.org/>

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	
<i>Investment Range (US\$)</i>	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.
<i>Term Range (years)</i>	Medium-term: From 2 to 5 years; exceptionally 7 years. Long-term: Over 7 years.
<i>Interest Rate Range (%)</i>	<u>Direct Loan</u> : commercial interest reference rate (CIRR); fixed rate <u>Guarantee</u> : LIBOR-based
<i>Grace Period (years)</i>	Yes. 6 months. Capitalization of interest during construction.
<i>Equity/Debt Ratio Required</i>	Depends
<i>Expected Return on Investment (%)</i>	N/A
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	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>

Instructions can be found at: <http://www.exim.gov/95howto.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)

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Web Site

<http://www.exim.gov>

Fundación Solar
Renewable Energy Project Support Office (REPSO)
Central America

Funds available	Not provided
Investment made to date in geothermal projects	\$300,000
Type(s) of Financing	Feasibility studies / Pre-feasibility studies / Technical assistance
Form(s) of Financing	Grants
Financing Structure	
<i>Investment Range (US\$)</i>	\$20,000 to \$100,000
<i>Term Range (years)</i>	From 1 to 3 years
<i>Interest Rate Range (%)</i>	N/A
<i>Grace Period (years)</i>	N/A
<i>Equity/Debt Ratio Required</i>	N/A
<i>Expected Return on Investment (%)</i>	N/A
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A
<i>Fees</i>	N/A
<i>Other</i>	The Fundación Solar is a private development organization that was founded in 1993. It invests in robust, sound projects in Central and Latin America.
Application Procedure	Not provided
Useful Publications	—

Fundación Solar
Renewable Energy Project Support Office (REPSO)
Central America

Key Contact(s)

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Web Site

None

Global Environment Facility (GEF)

Funds available	<p>Variable; funding is disbursed in response to specific projects</p> <p>Since its creation in 1991, GEF has invested more than \$2 billion in over 500 projects in 120 countries.</p>
Investment made to date in geothermal projects	<p>\$46.3 million facilitating \$1.57 billion in co-financing for four projects with geothermal components:</p> <ol style="list-style-type: none"> 1. \$5.4 million in Poland to support the use of geothermal heat in the Zakopane district heating system (facilitating \$84.7 million in co-financing) 2. \$30 million in the Philippines to support the construction and operation of a 440 MWe geothermal electric generation plant, reinjection of waste gases to further reduce greenhouse gas emissions, and connection of the power station to the national grid (facilitating \$1.3 billion in co-financing) 3. \$6.9 million in Lithuania to construct a demonstration geothermal plant to provide hot water, and to modify the heating system (facilitating \$18.02 million in co-financing) 4. \$4.0 million in Indonesia to fund 75 MWe of small renewable energy projects (facilitating \$141.0 million in co-financing) <p><u>Projects in the GEF pipeline:</u></p> <p><i>Projects in the pipeline are proposals in the early stages of development that have been found to meet GEF eligibility requirements.</i></p> <p>\$5 million in Armenia for construction of a geothermal heat production plant for integration into the Yerevan district heating system.</p> <p>\$2.7 million contingency loan in Vietnam for site exploration and a feasibility study for a 50 MWe geothermal power plant.</p>
Type(s) of Financing	Feasibility studies / Pre-feasibility studies / Project finance / Technical assistance
Form(s) of Financing	Concessional and contingent financing / Grants / Loan guarantees

Global Environment Facility (GEF)

Financing Structure

Investment Range (US\$) Medium-Sized projects – up to \$1 million. Funding of up to \$25,000 may be available through the GEF Project Preparation and Development Facility to assist in preparing the project.

Average GEF investment is \$5.5 million

Term Range (years) N/A

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 N/A

Other GEF grants cover the incremental costs of a project—the costs that exceed the cost of the conventional energy alternative.

GEF gives higher priority to projects which have co-financing.

Eligible borrowers are developing countries that have ratified the U.N. Framework Convention on Climate Change (UNFCCC) or countries with economies in transition that are party to the UNFCCC and are eligible to borrow from the World Bank or receive technical assistance from the U.N. Development Programme.

Global Environment Facility (GEF)

Application Procedure

Projects originate in developing countries in partnership with one of the three Implementing Agencies—the U.N. Development Programme (UNDP), the U.N. Environment Programme (UNEP), or the World Bank—or regional development banks.

All project proposals must be submitted to the GEF through the Implementing Agencies.

For Medium-Sized Projects (up to \$1 million):

1. Preparation of the project proposal – The project proposer should first submit a project concept to an Implementing Agency. The project proposer can either send the concept to the headquarters of the Implementing Agency or discuss it with the local or regional representative (in the case of UNDP and UNEP).
2. Once a project concept is cleared, the project proposer is responsible for developing the concept into a project proposal. Funding of up to \$25,000 may be available through the GEF Project Preparation and Development Facility (PDF) to assist in preparing the project. Project preparation funds are authorized by an Implementing Agency.
3. Review and approval of project proposal – Once the project brief has been jointly accepted by the proposer and the Implementing Agency, the Implementing Agency submits the project proposal to the GEF Secretariat, and circulates copies to the Implementing Agencies, the Scientific and Advisory Panel (STAP), and to the conventions' Secretariats, when appropriate. The comment period for reviewing projects will normally not exceed 15 working days.

Medium-sized project proposals up to and including US\$750,000 do not require a technical review by an expert from the STAP roster.

4. Preparation of the final project document and project implementation – Once the project proposal has received approval, the Implementing Agency will inform the executing agency and immediately work with it to finalize the project document and other contractual arrangements. The time between approval of the project proposal by the CEO or the Council and the approval of the final project document and other contractual

Global Environment Facility (GEF)

Useful Publications

Introduction to the GEF, August 1999. See
<http://www.gefweb.org/intro/intqa.htm>

Operational Strategy of the Global Environment Facility,
February 1996. See
<http://www.gefweb.org/PUBLIC/opstrat/ops.htm>

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For complete directory, see:
<http://www.gefweb.org/agencies.htm>

Global Environment Facility (GEF)

Web Site

<http://www.gefweb.org>

Global Environment Facility Small Grants Programme (GEF/SGP)

Funds available Since its inception in 1992, the GEF/SGP has funded over 750 projects in Africa, North America, the Middle East, Asia and the Pacific, Europe, and Latin America and the Caribbean.

Investment made to date in geothermal projects \$0

Type(s) of Financing Technical assistance

Form(s) of Financing Grants

Financing Structure

Investment Range (US\$) Up to \$50,000; average grant is \$20,000

GEF/SGP grants are usually paid in three installments:

1. an up-front payment to initiate the project;
2. a mid-term payment upon receipt of a satisfactory progress report; and
3. a final payment on receipt of a satisfactory project completion and final report.

Term Range (years) N/A

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 N/A

Other Grants focus on "software," e.g., capacity-building, community organization, and microenterprise, rather than hardware.

Grants are made to local community-based groups (CBOs) and non-governmental organizations (NGOs) for activities that address local problems related to the GEF areas of concern.

Global Environment Facility Small Grants Programme (GEF/SGP)

Application Procedure

In each participating country, a broad-based national steering committee (NSC) provides overall guidance and strategic direction for the programme and screens and selects projects for grant awards.

To be eligible for GEF/SGP support, a project proposed for funding must fit the GEF/SGP country programme strategy and country-specific eligibility criteria approved by the NSC. In the area of climate change, activities must either demonstrate the removal of local barriers to energy conservation and energy efficiency, or promote the adoption of renewable energy.

Several different kinds of activities are eligible for funding under the GEF/SGP, including:

- Community-based assessment and planning (planning grants),
- Pilot demonstration activities,
- Capacity development,
- Monitoring and analysis, and
- Dissemination, networking, and policy dialogue.

How to Apply for a Grant:

National and local NGOs and CBOs may propose projects for grant support under the Small Grants Programme. Procedures for project proposal screening and approval are generally as follows:

1. The project proponent contacts the SGP national coordinator to receive project application guidelines and forms.
2. With assistance from the national coordinator and using the standard SGP format, the proponent prepares a brief project concept paper and submits this to the coordinator.
3. The national coordinator reviews and pre-screens the concept paper according to GEF criteria and criteria adopted by the NSC for activities in that country.
4. If the project is judged eligible, the project proponent prepares a project proposal; in some cases, this step may be supported by a planning grant.
5. Completed project proposals are submitted by the national coordinator or the NSC.

Global Environment Facility Small Grants Programme (GEF/SGP)

Useful Publications

Second Independent Evaluation of the GEF Small Grants Programme: the Transition to an Operational Phase.
See <http://www.undp.org/gef/sgp/sgp-eva.htm>

Key Contact(s)

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United Nations Development Programme
BDP/SEED/GEF/Small Grants Programme
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For a list of GEF Small Grants Programme National Coordinators, see
<http://www.undp.org/gef/sgp/sgpccoor.htm>

Web Site

<http://www.undp.org/gef/sgp/main.htm>

Inter-American Development Bank (IDB)

Private Sector Department (PRI)

Funds available	\$650 million per year
Investment made to date in geothermal projects	<p>\$1 million for Feasibility Study of Azufral Geothermal Field. Colombia—Japan Special Fund Grant.</p> <p>\$1.4 million for El Valle de Antón Geothermal Field Advanced Pre-feasibility Studies, Phase II. Panamá—Japan Special Fund (approved February 1996).</p> <p>\$676,100 for studies of the Momotombo Geothermal Field, Nicaragua—Italian Trust Fund (approved August 1994).</p> <p>\$49.7 million for 27 MWe BOT Miravalles III; \$17 million for A loan; \$32.9 million for B; total project costs \$65.8 million, Costa Rica.</p>
Type(s) of Financing	Corporate finance / Project finance for large-scale infrastructure projects in the power, transportation, water/sanitation, and telecommunication sectors
Form(s) of Financing	Loans / Guarantees (partial risk and partial credit)

Inter-American Development Bank (IDB)

Private Sector Department (PRI)

Financing Structure

Investment Range (US\$) Loans:

The IDB can lend directly to the private sector without government guarantees for infrastructure projects, whether greenfield or refurbishing operations,

Up to \$75 million or 25% of total cost, whichever is lower, in US dollars; country dependent (up to 40% in smaller economies)

The IDB will limit its financial commitment to the amount required to secure funding from private sponsors and lenders.

Guarantees:

Partial risk guarantees may cover up to 50% of total project cost or \$150 million for specific political risks, such as sovereign contractual obligations or transferability.

Partial credit guarantees may cover a portion of financing provided by private financiers. Up to 25% of total project cost or \$75 million can be guaranteed without a government counter-guarantee.

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 (%) Established on case-by-case basis

*Minimum Debt Service Ratio/
Cash Flow Coverage
(before taxes, including depreciation)* Established on case-by-case basis

Fees Analysis fee. Commitment fee on undisbursed balance of loan. Front-end fee. Prepayment fee for prepayment before loan maturity. Late payment fee. Outside legal fees incurred by the 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 that is established within the laws of the country where the investment will be made. More than 50% of the shares must be held by investors from IDB-member countries. There is no requirement that there be majority ownership by local investors.

Inter-American Investment Corporation (IIC)

The IDB's other private-sector funding facility is the Inter-American Investment Corporation (see page 123 for additional information on the IIC). The IIC can take equity or debt positions in a broader range of smaller projects.

Application Procedure

Two-stage review process.

See information requirements attached.

Useful Publications

Basic Opportunities for Consulting Firms, 1991. Covers the rules for selecting consultants for IDB projects.

Guarantee Program, 1995.

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

IDB Projects. Lists information on public sector projects under consideration for IDB financing and associated procurement opportunities. Published monthly. Subscription currently costs \$175 per year. See

<http://www.iadb.org/exr/pipeline/subscrip.htm>

Lending for Private Sector Operations, 1999. Provides guidance to companies and entrepreneurs which are considering IDB financing for their infrastructure projects in Latin America and the Caribbean.

1998 Annual Report.

U.N. Development Business.

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

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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, base case and sensitivity analyses.

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- (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 schedules;
- (e) Commercial viability, including analysis of demand and projections. If formal studies were required (for example, road/por. traffic), a copy of them should be provided;
- (f) Description of project inputs (pricing, availability, etc.) and how supplies will be secured;

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- (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, reasonable way 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 impacts, 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;
 - Concurrence 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 IIB 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) 623-8639/822-2619

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
Form(s) of Financing	Long-term Debt
Financing Structure	
<i>Investment Range (US\$)</i>	From \$3 million to \$10 million; 50% of an expansion The IIC will not fund greenfield projects.
<i>Term Range (years)</i>	From 5 to 12 years
<i>Interest Rate Range (%)</i>	LIBOR + from 3% to 6%
<i>Grace Period (years)</i>	Yes, 2 to 3 years
<i>Equity/Debt Ratio Required</i>	Not provided
<i>Expected Return on Investment (%)</i>	Not provided
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	Not provided
<i>Fees</i>	The IIC charges a project appraisal fee and other fees where applicable.
<i>Other</i>	The IIC is a private-sector lending facility and an affiliate of the IDB. While U.S. companies may not directly approach the IIC for financing, their Latin American or Caribbean partners may.

Inter-American Investment Corporation (IIC)

A Member of the Inter-American Development Bank Group

Application Procedure

Projects must have majority Latin American or Caribbean ownership 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 will submit the project and proposed terms to the Board of Directors. If the IIC Board approves the project, the final terms of the IIC's involvement are negotiated and the legal documents drafted and signed. For cofinancing transactions, the IIC may contact other interested financial institutions.

Funds are disbursed in accordance with the terms of the loan agreement signed by 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 close 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 programs, and how to apply for funds.

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

1998 Annual Report.

Inter-American Investment Corporation (IIC)

A Member of the Inter-American Development Bank Group

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Region II:

Region I:

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Paraguay, Suriname, Trinidad
and Tobago, Uruguay

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

Web Site

<http://www.iadb.org/iic/>

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)
Power Department (CPW)
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	<p>\$29.4 million in a 24 MWe BOO Orzunil I Power Plant in Guatemala.</p> <p>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.</p> <p>The plant's \$66.7 million in financing needs will be subscribed by CDC, IFC, the Scudder Latin American Power Fund, ORMAT International, and a group of local investors.</p>
Type(s) of Financing	Technical assistance / Project finance
Form(s) of Financing	Debt / Equity / Quasi-equity / Loan guarantees
Financing Structure	
<i>Investment Range (US\$)</i>	<p>From \$1 million to \$100 million and higher</p> <p>Up to 25% of total project costs for greenfield projects or long-term capitalization of a company (to ensure the participation of other private investors)</p> <p>Up to 50% of total project costs for expansion and rehabilitation projects.</p>
<i>Term Range (years)</i>	Up to 15 years
<i>Interest Rate Range (%)</i>	Variable and fixed commercial rates set at a margin over LIBOR
<i>Grace Period (years)</i>	Yes, typically construction period plus 6 months
<i>Equity/Debt Ratio Required</i>	20/80 to 50/50 typical
<i>Expected Return on Investment (%)</i>	Commercial rates for IPPs in emerging markets which range from 15% to 25% depending on project and country risk
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	~ 1.50 average or higher

International Finance Corporation (IFC)
Power Department (CPW)
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 160.
3. Renewable Energy and Energy Efficiency Fund - in development, see page 158.
4. Small and Medium-Scale Enterprise (SME) Program, see page 134.
5. Infrastructure equity funds, e.g., the Asian Infrastructure Fund, which can invest in power projects.

International Finance Corporation (IFC)
Power Department (CPW)
A Member of the World Bank Group

Application Procedure

In order to receive IFC funding, a project must meet a number of IFC guidelines. Whether it is the establishment of a new enterprise or the expansion of an existing one,

- the project must be in the private sector;
- it must be technically sound;
- it must have a good prospect of being profitable; and
- it must benefit the local economy.

In addition to being financially, economically, and technically viable, the project in question must satisfy IFC's stringent environmental standards and conform to host country and World Bank 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 Power Department (see Key Contacts below) or the closest IFC mission or field office.

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

1. Brief description of project.
2. Sponsorship, management and technical assistance:
 - a. History and business of sponsors, including financial information.
 - b. Proposed management arrangements and names and curricula vitae of managers.
 - c. Description of technical arrangements and other external assistance (management, production, marketing, finance, etc.).
3. Market and sales:
 - a. Basic market orientation: local, national, regional, or export.
 - b. Projected production volumes, unit prices, sales objectives, and market share of proposed venture.
 - c. Potential users of products and distribution channels to be used.
 - d. Present sources of supply for products.
 - e. Future competition and possibility that market may be satisfied by substitute products.

International Finance Corporation (IFC)
Power Department (CPW)
A Member of the World Bank Group

Useful Publications

IFC 1999 Annual Report

Impact. IFC magazine which reviews private investment in developing countries

Key Contact(s)

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Web Site

<http://www.ifc.org/power/>

International Finance Corporation Small and Medium-Scale Enterprise (SME) Program

Funds available	\$16.8 million available for projects; \$11 million committed to date
Investment made to date in geothermal projects	\$0
Type(s) of Financing	Corporate finance / Project finance
Form(s) of Financing	Long-term debt
Financing Structure	
<i>Investment Range (US\$)</i>	Up to \$1 million for corporate debt Up to \$250,000 for project debt SME invests in projects which have a total asset value of less than \$5 million. Due to funding limits, project funding is probably best for small demonstration geothermal power projects or the first phase of larger projects.
<i>Term Range (years)</i>	From 4 to 8 years
<i>Interest Rate Range (%)</i>	Below commercial rates
<i>Grace Period (years)</i>	Yes, 2 to 3 years
<i>Equity/Debt Ratio Required</i>	N/A
<i>Expected Return on Investment (%)</i>	N/A
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	Depends, not fixed
<i>Fees</i>	N/A

International Finance Corporation Small and Medium-Scale Enterprise (SME) Program

Other The SME Program is managed by the International Finance Corporation (IFC). Projects must adhere to World Bank/IFC environmental guidelines and procedures.

The SME Program is an initial active investor which becomes passive.

The SME Program primarily lends to intermediary organizations e.g., the Environmental Enterprises Assistance Fund (EEAF), see page 81.

Application Procedure

Contact the Program Manager for an initial discussion of eligibility. If there is a fit, an application package will be sent out.

Useful Publications

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Key Contact(s)

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Small and Medium Scale
Enterprise Program
Program Manager
International Finance
Corporation
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Unit
Technical and Environmental
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Web Site

<http://www.ifc.org/depts/html/environ.htm>

Japan Bank for International Cooperation (JBIC) Overseas Economic Cooperation Operations

Funds available	FY 1999 budget of the Overseas Economic Cooperation Operations is 920 billion yen, or \$8.6 billion.
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Investment made to date in geothermal projects	Not provided
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Type(s) of Financing	Project development / Project finance
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Form(s) of Financing	Long-term debt / Untied Loans
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Financing Structure

<i>Investment Range (US\$)</i>	No specific range
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<i>Term Range (years)</i>	Average repayment period is 32.5 years
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<i>Interest Rate Range (%)</i>	As a general rule, ODA loans are provided at a low interest rate. ODA loans approved in fiscal 1998 had an average rate of 1.3%.
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<i>Grace Period (years)</i>	Average is from 7 to 10 years. The condition will be decided according to the income level of the recipient country and the subsector which is receiving the financing.
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<i>Equity/Debt Ratio Required</i>	No specific requirement
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<i>Expected Return on Investment (%)</i>	N/A
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Internal rate of return (financial and economic internal rate of return) should have a reasonable level in comparison with other alternative projects.

<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	None
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<i>Fees</i>	None
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Japan Bank for International Cooperation (JBIC)

Overseas Economic Cooperation Operations

Other The Japan Bank for International Cooperation (JBIC) was established October 1, 1999, by merging the Export-Import Bank of Japan (JEXIM) and the Overseas Economic Cooperation Fund, Japan (OECF).

The Overseas Economic Cooperation Operations support self-reliant development efforts in developing countries (Official Development Assistance [ODA] operations).

ODA loans are provided to developing countries, in which Asia accounts for 80% of its share, followed by Africa, Latin America, and the Middle East. In recent years, assistance to Eastern Europe and Central Asia has been increasing, making the number of ODA loan recipient countries as 93 at the end of fiscal 1998.

ODA loans are targeted mainly to socioeconomic infrastructure including power.

Application Procedure

Under an ODA loan, the principal condition is "general untied," under which procurement can be made from any country in the world. In practice, international competitive bidding (ICB) is carried out in order to purchase high quality but inexpensive goods and services from the world.

The beneficiary government should apply for JBIC financing through the Ministry of Foreign Affairs of the Japanese Government.

U.S. companies with some exceptions, are eligible to apply for JBIC procurements. Procurement conditions are included in the press release of new loan agreements. Tendering within the loan along with the procurement guidelines will be publicized in at least one major newspaper in the borrowing country.

Useful Publications

The Role and Functions of JBIC. Introduces JBIC's outline and operations (International Financial Operations and Overseas Economic Cooperation Operations), etc.

Guidelines for Procurement under JBIC ODA Loans. Set forth the general rules to be followed by Borrowers of JBIC ODA Loans to carry out the procurement of goods and services.

Guidelines for the Employment of Consultants under JBIC ODA Loans. Set forth the general rules to be followed by Borrowers of JBIC ODA Loans to carry out the employment of consultants.

Japan Bank for International Cooperation (JBIC)
Overseas Economic Cooperation Operations

Key Contact(s)

Representative Office in Washington
Japan Bank for International Cooperation (JBIC)
2100 Pennsylvania Ave, N.W., Suite 535
Washington, D.C. 20037

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Fax: [1] 202-785-8484
Email: washington@jbic.org

Web Site

<http://www.jbic.go.jp/>

Multilateral Investment Guarantee Agency (MIGA)

A Member of the World Bank Group

Funds available	N/A
Investment made to date in geothermal projects	<p>\$12.9 million in guarantees for equity and loan investments in 24 MWe BOO Orzunil I Geothermal Power Plant in Guatemala.</p> <p>The plant's \$66.7 million in financing needs will be subscribed by CDC, IFC, the Scudder Latin American Power Fund, ORMAT International, and a group of local investors.</p>
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	
<i>Investment Range (US\$)</i>	<p>Up to \$200 million maximum per single project, including treaty reinsurance. Additional amounts of coverage are available under MIGA's Cooperative Underwriting Program (see page 141).</p> <p>Maximum Amounts of Guarantees⁴² for:</p> <p><u>Equity</u>: Up to 90% of the investment contribution, plus an additional 450% of the investment contribution to cover earnings attributable to the investment.</p> <p><u>Loan or loan guarantees</u>: Up to 95% of the principal, plus an additional 135% of the principal to cover interest that will accrue over the term of the loan.</p> <p><u>Technical Assistance contracts</u>: Up to 90% of the total value of payments due under the insured agreement.</p>

⁴²

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

<i>Term Range (years)</i>	Up to 15 years (20 years under special circumstances)																
	Contract term for investments other than equity generally follows the term of the insured agreement.																
<i>Interest Rate Range (%)</i>	N/A																
<i>Grace Period (years)</i>	N/A																
<i>Equity/Debt Ratio Required</i>	N/A																
<i>Expected Return on Investment (%)</i>	N/A																
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A																
<i>Fees</i>	<p>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.</p> <p>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.</p> <p>Unused portion will be refunded; applicant will be charged an additional amount if needed.</p> <p>Application and Processing fees are due with submission of the <i>Definitive Application</i>.</p> <p>Premiums are based on the Project's risk profile. Annual base rates for Infrastructure/Oil and Gas projects are:</p> <table> <tr> <th><i>Type of Guarantee</i></th><th><i>Current⁴³</i></th><th><i>Standby⁴⁴</i></th></tr> <tr> <td>Transfer Restriction</td><td>0.50%</td><td>0.25%</td></tr> <tr> <td>Expropriation</td><td>1.25%</td><td>0.50%</td></tr> <tr> <td>Breach of Contract</td><td>1.25%</td><td>0.50%</td></tr> <tr> <td>War and Civil Disturbance</td><td>0.70%</td><td>0.30%</td></tr> </table>		<i>Type of Guarantee</i>	<i>Current⁴³</i>	<i>Standby⁴⁴</i>	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%
<i>Type of Guarantee</i>	<i>Current⁴³</i>	<i>Standby⁴⁴</i>															
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%															

⁴³ "Current" is the amount of investment currently at risk.

⁴⁴ "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.

IPAnet - The Investment Promotion Network

MIGA announced the launch of a new release of IPAnet, its Internet portal for firms engaged in foreign direct investment, in October 1999. 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.

Application is online at <http://www.miga.org/miggu/prelim.htm>

Multilateral Investment Guarantee Agency (MIGA)

A Member of the World Bank Group

Useful Publications

Investment Guarantee Guide, February 1999.

MIGA Annual Report, 1999.

MIGA News (MIGA's quarterly newsletter).

Key Contact(s)

Roger Pruneau
Vice President
Office of Guarantees (MIGGU)
Multilateral Investment
Guarantee Agency (MIGA)
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Philippe Valahu
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Office of Guarantees (MIGGU)
Multilateral Investment
Guarantee Agency (MIGA)
1800 G Street, N.W.,
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Washington, D.C. 20433

Tel: [1] 202-473-8043
Fax: [1] 202-522-2630

Web Site

<http://www.miga.org>

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.

PLEASE ENTER THE FOLLOWING INFORMATION.

(Please print, sign and mail the original copy of this form to the address below)

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

4. Total project cost in US\$

(including debt and other investors' contributions, if any)

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 start-up operation ☒ or an existing business? ☐

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 privately-owned ☒ or state-owned? ☐

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 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?

- ☐ MIGA News
- ☐ Insurance Broker
- ☐ Magazine Article
- ☐ Conference
- ☐ Another Investment Insurer
- ☐ Host Government Official
- ☐ Investor Government Official
- ☐ World Bank Group Official
- ☐ 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

Mail Address: 1818 H Street, N.W., Washington, D.C. 20433
Offices at: 1800 G Street, N.W., Washington, D.C. 20433
Telephone: (202) 473-6168 / Telex: RCA 248423 / Telefax: (202) 522-2630

MULTILATERAL INVESTMENT GUARANTEE AGENCY

A World Free of Poverty 
THE WORLD BANK GROUP

Nordic Environment Finance Corporation (NEFCO)

Funds available	\$83 million (ECU 80 million)
Investment made to date in geothermal projects	<p><i>Slovakia:</i></p> <p>Slovgeoterm a.s., Bratislava (Iceland) – Consultancy in geothermal energy – Total \$85,620 (EUR 82,000); \$17,750 (NEFCO EUR 17,000)</p> <p>Galantaterm Spol. s r.o., Galanta (Iceland) – Geothermal district heating – Total \$4,803,250 (EUR 4.6 million); \$439,569 (NEFCO EUR 421,000)</p>
Type(s) of Financing	Project finance
Form(s) of Financing	<p>Equity</p> <p>Grants: through the Nordic Environmental Development Fund</p> <p>Loan guarantees</p> <p>Medium- and Long-term debt: loans on market terms, with equity features, or subordinated loans or mezzanine financing</p>
Financing Structure	
<i>Investment Range (US\$)</i>	<p>Maximum commitment for one project is \$4 million (ECU 4 million)</p> <p>A commitment under \$130,000 (ECU 125,000) will be considered only under special conditions, for example in the case of environmentally significant demonstration projects.</p> <p>Equity: 25-35% of total equity</p> <p>Loans: 25-50% of total loan financing</p> <p>Grants: maximum is one-third of the total project cost</p>
<i>Term Range (years)</i>	NEFCO's participation does not have to follow pre-set time limits; time can be agreed upon on a case-by-case basis.
<i>Interest Rate Range (%)</i>	<p><u>Private sector</u>: depending on project sponsor strength and country, short-term 3-8 years</p> <p><u>Public sector</u>: 6 m LIBOR + 1.0-1.5%, long-term 5-15 years</p>

Nordic Environment Finance Corporation (NEFCO)

<i>Grace Period (years)</i>	<p><u>Private sector:</u> 1 to 5 years</p> <p><u>Public sector:</u> 5 to 10 years</p>
<i>Equity/Debt Ratio Required</i>	30/70
<i>Expected Return on Investment (%)</i>	NEFCO requires projects to meet reasonable profitability criteria but, this having been established, focuses more on the environmental effects. In this NEFCO represents a green equity concept, unlike commercial investment funds.
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	> 1.25
<i>Fees</i>	Commitment charge 0.5% p.a.
<i>Other</i>	<p>NEFCO, established 1990 by the five Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden), is a multilateral financial institution which participates as a risk capital financier in environmental investment projects.</p> <p>The purpose of NEFCO is to improve the environmental situation in Central and East European countries with positive effects also for the Nordic region.</p> <p>NEFCO takes an active management position which usually requires the right to nominate a representative to the Board of project companies, at least in the early phases of a project.</p> <p>Nordic Environmental Development Fund</p> <p>Established in October 1995 with initial capitalization of \$14 million (DKK 100 million), the fund support the realization of projects that otherwise would not materialize or could be realized only later in the future. It is expected that annual contributions to the fund will be approximately \$5 million (DKK 35 million).</p> <p>The fund will complement and supplement other financing organizations, particularly IFI's (international financial institutions) and bilateral sources. Local participation in the financing is required.</p> <p>Contributions from the fund can be provided as grants for the procurement of goods or services (cash subsidies) or to reduce the borrower's debt service costs.</p>

Nordic Environment Finance Corporation (NEFCO)

Application Procedure

The main criteria for NEFCO's participation in projects are:

- The project is located in one of NEFCO's countries of operation – Priority is given to the Baltic Sea region and the Barents region—the most important countries of operation are Estonia, Latvia, Lithuania, Poland and northwest Russia. Projects in the Czech Republic, Slovakia, Hungary, Belorussia or Ukraine are also eligible.
- The project has a relevant environmental effect – Priority will be given to projects that lead to reduction of pollution in the Baltic Sea and the Barents Sea or reduction of transboundary airborne pollution.
- The project is based on long-term cooperation through investments in enterprises, primarily through the formation of joint venture companies or corporate acquisitions.
- The project has a Nordic company or institution as business partner.
- The project is economically, financially, institutionally and technically viable.

NEFCO has no application guide but expects a brief project description in which the following items are included:

- The Nordic Partner/s
- Project Country
- Local partner(s)
- Project category, e.g., modernization of industrial and energy production processes; production of equipment for pollution abatement, metering, improved energy efficiency etc.; environmental services such as waste management, recycling, water and waste water treatment; and planning and consulting services.
- Environmental benefits
- The size of the financing
- Other financiers
- Possible feasibility studies

Useful Publications

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Nordic Environment Finance Corporation (NEFCO)

Key Contact(s)

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Nordic Environment Finance Corporation (NEFCO)
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FIN-00171 Helsinki, Finland

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Alt Tel: [358] (9) 180 0344
Fax: [358] (9) 630 976
Email: info.nefco@nib.fi

Web Site

<http://www.nefco.fi/>

Overseas Private Investment Corporation (OPIC)

Funds available	In 1998, OPIC supported 47 U.S.-sponsored projects in more than 30 developing and emerging markets, and increased cumulative amount of investment made by OPIC-backed projects to more than \$121 billion. ⁴⁵
Investment made to date in geothermal projects	<p><u>Insurance:</u>⁴⁶</p> <p>\$200 million – Philippines: MidAmerican Energy Holdings \$100 million – Philippines: MidAmerican Energy Holdings</p> <p><u>Finance:</u></p> <p>\$75 million – Philippines: MidAmerican Energy Holdings \$40 million – Philippines: MidAmerican Energy Holdings</p>
Type(s) of Financing	<p>Corporate finance / Project finance</p> <p>Political risk insurance against currency inconvertibility, expropriation, and political violence</p> <p>OPIC also has specialized insurance programs for:</p> <ol style="list-style-type: none"> 1. financial institutions, 2. leasing arrangements, 3. oil and gas projects, 4. natural resource projects, 5. contractors and exporters, and 6. capital markets investors.

⁴⁵ 1998 Annual Report, *Global Challenges, Innovative Solutions*.

⁴⁶ MidAmerican Energy Holdings Company announced on November 18, 1999 that OPIC and Lloyds have paid in full MidAmerican's claims under its political risk insurance policies. An international arbitration panel ruled in favor of Himpurna California Energy Ltd. and Patuha Power Ltd. (indirect subsidiaries of MidAmerican) in an arbitration proceeding brought by them against the Republic of Indonesia for breach of sovereign performance undertakings issued by the Ministry of Finance. MidAmerican received full payment of the claims filed with OPIC and Lloyds totaling \$290 million.

Overseas Private Investment Corporation (OPIC)

Form(s) of Financing

Debt (for projects involving U.S. small businesses⁴⁷ 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 or political risk insurance from private commercial sources.

Financing Structure

Investment Range (US\$) Direct loans \$250,000 to \$30 million; for projects involving U.S. small businesses⁴⁸ and cooperatives; up to 50% of total project costs of a new venture; up to 75% for expansion.

Loan guarantees: \$10 million to \$200 million; up to 50% of total project costs of a new venture; up to 75% for an expansion.

Up to \$400 million in total project support for any one project.
Up to \$200 million in political risk insurance per project;
specialized insurance for capital markets transactions is also available.

Term Range (years) Direct loans: 5 to 15 years

Loan guarantees: 5 to 15 years

Political risk insurance: up to 20 years

⁴⁷ OPIC's Small Business Definition: All companies, both service and industrial, with annual sales of less than \$250 million (taking into account the consolidated sales of the parent company). Entities with no revenues *per se*, such as individual private investors or newly-formed companies, with net worth or stockholders' equity of less than \$67 million.

⁴⁸ OPIC's Small Business Definition: All companies, both service and industrial, with annual sales of less than \$250 million (taking into account the consolidated sales of the parent company). Entities with no revenues *per se*, such as individual private investors or newly-formed companies, with net worth or stockholders' equity of less than \$67 million.

Overseas Private Investment Corporation (OPIC)

Interest Rate Range (%) Direct loans: Vary with OPIC's assessment of the financial and political risks involved; based on OPIC's cost of funds plus a spread for undertaking the risk associated with the transaction.

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, but depends on project

Expected Return on Investment (%) Depends on project

*Minimum Debt Service Ratio/
Cash Flow Coverage
(before taxes, including depreciation)* Depends on project

Overseas Private Investment Corporation (OPIC)

Fees Costs and expenses may vary for each transaction, and will depend upon the type of financing, the location of the borrower, the type of collateral offered, and the extent of the security package.

Direct loans: Retainer, commitment, and cancellation fees may be charged; reimbursement of related out-of-pocket expenses is also required.

Project finance fees: Up-front retainer fee; facility fee of 1.0%; commitment fee of 0.50% of undisbursed and uncanceled amount; cancellation fee of 1.0% of the canceled amount; prepayment fee; maintenance fee 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, depending on the project.

Insurance: Premiums based on project's risk profile.

Annual base rates for Natural Resources (except oil and gas) per \$100 of Coverage:

<i>Type of Coverage</i>	<i>Current</i>	<i>Standby</i>
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 eligible 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. OPIC Insurance Assistance is available for plants not sponsored by U.S. investors.

Under agreement with certain countries, the host government may be required to approve OPIC assistance to a project.

OPIC will only support projects that promote internationally recognized workers rights, do not have an adverse impact on the environment, and do not result in a loss of U.S. jobs. Other policy issues may apply.

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.

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.

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.

Written requests for Investment Funds information may be sent to the attention of "Administrator - Investment Funds Department" at 1100 New York Avenue, N.W., Washington, D.C., 20527. Callers with fax machines may use OPIC's automated FactsLine at (202) 336-8700 to obtain a current OPIC Direct Investment Funds List (Document #6011).

Overseas Private Investment Corporation (OPIC)

Application Procedure

[OPIC 220 – Small Business Financing Worksheet](#)

[OPIC 115 – Application for Financing](#)

[Form 50 – Request for Registration for Political Risk Insurance](#)

[OPIC 223 – Small Business Application for Political Risk Insurance](#)

[Form 52 – Application for Political Risk Insurance](#)

See <http://www.opic.gov/subdocs/forms.htm> for applications.

Useful Publications

OPIC Program Handbook, 1998.

OPIC's website is an important source of information on OPIC's programs and products.

Key Contact(s)

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Overseas Private Investment Corporation (OPIC)
Investment Development Group
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Washington, D.C. 20527

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Email: jedwards@opic.gov

[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 5:30p.m. EST)

[OPIC FactsLine: 202-336-8700](#)

– to obtain faxes of various OPIC documents

Web Site

<http://www.opic.gov>

Preferred Energy, Inc. (PEI)

Funds available	Renewable Energy Financing and Technical Assistance (REFTA) Capital Investment Fund — a revolving fund of \$900,000
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Investment made to date in geothermal projects	\$0
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Type(s) of Financing	Advisory services / Corporate finance / Feasibility studies / Project development / Project finance / Venture capital
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Form(s) of Financing	Equity / Grants / Long-term debt / Short-term debt
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Financing Structure

<i>Investment Range (US\$)</i>	Up to \$300,000
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<i>Term Range (years)</i>	Up to 7 years
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	For equity, minimum of 5 years
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<i>Interest Rate Range (%)</i>	Prime commercial
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<i>Grace Period (years)</i>	Yes, 1 year
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<i>Equity/Debt Ratio Required</i>	20/80
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<i>Expected Return on Investment (%)</i>	20%
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<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	None
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<i>Fees</i>	None
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Preferred Energy, Inc. (PEI)

Other Passive management. Prime security. Borrower cannot be heavily leveraged.

PEI is a non-profit organization that promotes renewable energy, energy efficiency and demand-side management in the Philippines. It is more of a project developer, working with project sponsors to obtain financing, than a regular financial institution.

PEI manages the REFTA Capital Investment Fund, the new Village Power Fund for renewable energy projects, and Winrock International's Renewable Energy Project Support Office in the Philippines.

Village Power Fund: Designed to provide pre-investment, loan, or equity financing to small, village-based sustainable renewable energy projects that are unable to access mainstream financing windows. PEI has financed feasibility studies for eight projects, and is currently looking for additional capital funds.

Application Procedure

No specific procedure. Project sponsors should contact PEI.

Useful Publications

N/A

Key Contact(s)

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Center
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Web Site

http://www.geocities.com/peinc_2000/index2.html

Renewable Energy & Energy Efficiency Fund (REEF) — In Development —

Funds available	<p>Mobilization target of \$100 million to \$200 million</p> <p>\$30 million from the Global Environment Facility (GEF) in grant and concessional funds for eligible incremental costs for promising new technologies and management costs</p>
Investment made to date in geothermal projects	<p>N/A</p> <p>Target launch date is the end of 1999.</p>
Type(s) of Financing	Project finance
Form(s) of Financing	Grants / Debt / Equity / Loan guarantees
Financing Structure	
<i>Investment Range (US\$)</i>	The Fund will focus on small and medium-size projects (less than 100 MWe) and companies requiring \$1 million to \$100 million in financing.
<i>Term Range (years)</i>	N/A – fund in development
<i>Interest Rate Range (%)</i>	N/A – fund in development
<i>Grace Period (years)</i>	N/A – fund in development
<i>Equity/Debt Ratio Required</i>	N/A – fund in development
<i>Expected Return on Investment (%)</i>	N/A – fund in development
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A – fund in development
<i>Fees</i>	N/A – fund in development
<i>Other</i>	<p>GEF-support would normally be extended after considerable resources already have been invested by the project sponsors.</p> <p>About two-thirds to three-fourths of GEF-supported projects will be renewable energy projects.</p>
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
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Renewable Energy & Energy Efficiency Fund (REEF)
Energy Investors Funds Group (EIF)
727 Fifteenth Street, N.W.
Eleventh Floor
Washington, D.C. 20005

Tel: [1] 202-783-4419
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Email: KLocklin@EIFGroup.com

Web Site

None

Scudder Latin American Power Fund ("Latin Power")

Funds available	First fund was capitalized at \$100 million in 1996. Additional capital commitments of \$157 million were raised in 1997. Additional funds will be raised as needed.
Investment made to date in geothermal projects	<p>\$32.8 million (49% of total project costs) in a 24 MWe BOO Orzunil I in Guatemala.</p> <p>The plant's \$66.7 million in financing needs will be subscribed by CDC, IFC, the Scudder Latin American Power Fund, ORMAT International, and a group of local investors.</p>
Type(s) of Financing	Corporate finance / Financial expertise
Form(s) of Financing	Equity / Preferred stock / Convertible stock
Financing Structure	
<i>Investment Range (US\$)</i>	<p>From \$10 million to \$40 million; \$20 million to \$25 million is ideal transaction size.</p> <p>The Fund is usually the largest shareholder in a project, seeking to own from 25% to 50% of a project's equity.</p> <p>No more than 25% of Latin Power's capital commitment can be invested in one country (except for Argentina, Brazil, Chile, Colombia, and Mexico in which Latin Power may invest up to 40% of its capital).</p> <p>From 20 MWe to 100 MWe</p> <p>Latin Power is able to invest a portion of its capital commitments in development equity in order to form strategic alliances with quality developers. Much smaller amounts are appropriate for these investments.</p>
<i>Term Range (years)</i>	Not provided
<i>Interest Rate Range (%)</i>	Not provided
<i>Grace Period (years)</i>	Not provided
<i>Equity/Debt Ratio Required</i>	Not provided
<i>Expected Return on Investment (%)</i>	20% after local taxes, cash-on-cash, based upon the cash flows generated by project investments

Scudder Latin American Power Fund ("Latin Power")

*Minimum Debt Service Ratio/
Cash Flow Coverage
(before taxes, including depreciation)*

Not provided

Fees Not provided

Other Latin Power has a preferred policy of investing in companies with long-term, dollar-indexed power sales contracts. It invests primarily in privately-owned electrical generating facilities employing proven technologies.

Latin Power is interested in investing in power projects in Latin America and the Caribbean (except Puerto Rico and Cuba) ranging from greenfield construction to privatization of existing facilities to expansion or retrofit opportunities.

Latin Power will participate in the management of each project through a Board or Management Committee seat.

Lead investors on first fund were Corporación Andina de Fomento (Andean Development Corporation), CMS Generation Company, the International Finance Corporation, and NRG Energy, Inc. Each has named a representative to Latin Power's Management Committee.

Scudder Latin American Power Fund ("Latin Power")

Application Procedure

All projects must comply with host country and World Bank environmental, health, and safety guidelines.

Each country in which Latin Power invests must have:

- sound economic prospects,
- a stable political environment,
- a supportive energy regulatory regime, and
- a legal system that supports the implementation of a sound project financing structure.

Each project must be economically viable in its local context.

Scudder Kemper Investments, as the Investment Manager for Latin Power, is responsible for sourcing and screening potential investments. Project investments will be assessed as follows.

1. A preliminary due diligence review will be performed by the Investment Manager to evaluate the viability of the project in relation to Latin Power's investment criteria.
2. If the results of the due diligence review determine a potential project investment, Latin Power will consult with its Project Committee to decide whether to proceed with the investment.
3. Once the Investment Manager approves the project, it will begin to negotiate the documentation and proceed with the investment.

Useful Publications

Scudder Latin American Power Fund.

Scudder Latin American Power Fund ("Latin Power")

Key Contact(s)

Scudder Latin American Power Fund
Scudder Kemper Investments
345 Park Avenue, 15th Floor
New York, NY 10154-0010

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Investment Manager
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Fax: [1] 212-751-3660

George Osorio
Investment Manager
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Fax: [1] 212-751-3660

J. Scott Swensen
Lead Investment Manager
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Web Site

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

Funds available	<p>In FY 1998, the SBA Export Working Capital Program guaranteed \$160 million in SBA loans about a 3 percent increase over FF 1997.</p> <p>The SBA helps small businesses obtain capital to explore, establish, or expand international markets.</p>
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

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

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 include 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 to 10 years for working capital; 10 to 25 years for machinery and equipment; 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 7 years.

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 7 years.

SBICs: Negotiated with SBIC.

Grace Period (years) Negotiated between small business and commercial lender or SBIC

Equity/Debt Ratio Required Negotiated between small business and commercial lender or SBIC

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

<i>Expected Return on Investment (%)</i>	Negotiated between small business and commercial lender or SBIC
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	Negotiated between small business and commercial lender or SBIC
<i>Fees</i>	Negotiated between small business and commercial lender or SBIC
<i>Other</i>	<p><u>U.S. Export Assistance Centers (USEACs)</u> - 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/exportluseac.html.</p> <p><u>Business Development Assistance</u> - 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 district offices.</p> <p><u>Export Legal Assistance Network (ELAN)</u> - local SBA office can arrange a free initial consultation with an attorney to discuss international trade questions.</p>

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 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.sba.gov/library/forms.html> for application forms for the 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. See <http://www.sbaonline.sba.gov/OIT/finance/downform.html>

ITL and 7(a): Applicants must establish either of the following to be eligible, that 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. See <http://www.sbaonline.sba.gov/INV> for listing of SBICs.
2. Research the SBICs, e.g., 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 D.C. 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 D.C. 20416

Tel: [1] 202-205-6510

Fax: [1] 202-205-6959

Local SBA offices:

SBA has offices across the United States. For the one nearest you, consult the telephone directory under "U.S. Government," or call the SBA Answer Desk at 1-800-ASK-SBA; Fax: 202-205-7064.

Web Site

<http://www.sba.gov/oit>

<http://www.sbaonline.sba.gov/INV>

<http://www.sba.gov/financing/>

U.S. Trade & Development Agency (TDA)

Funds available	In FY 1998, TDA obligated \$56 million for U.S. firms in 62 countries.
Investment made to date in geothermal projects	<p>\$1.75 million in 8 projects in 6 countries:</p> <ol style="list-style-type: none"> 1. Assal Geothermal Power Plant, Desk Study, \$2,500, Djibouti, 1999. 2. Geothermal Power Assessment Trade Mission, \$40,200, and Geothermal Power PFS Results, \$34,533, Kenya, 1988. 3. Luzon Geothermal Energy, Definitional Mission and Orientation, \$487,028, Philippines, 1988. 4. Geothermal Gas Abatement, Definitional Mission and Feasibility Study, \$365,617, Philippines, 1989. 5. Tiwi Geothermal Power Plant Rehabilitation, Feasibility Study, \$125,000, Philippines. 6. Central Vietnam Geothermal Power Plant, Technical Assistance and Desk Study, \$209,000, 1998. 7. Geothermal Feasibility Study, \$350,000, St. Lucia, 1983. 8. International Geothermal Energy, \$28,492, worldwide, 1990.
Type(s) of Financing	Feasibility studies / Definitional Missions / Desk Studies / Conferences / Orientation visits / Trade-related training / Technical assistance / Financial packaging
Form(s) of Financing	Grants
Financing Structure	
<i>Investment Range (US\$)</i>	<u>Feasibility study</u> : From \$200,000 to \$1 million; average grant is \$320,000; costs for private projects are shared between TDA and the U.S. firm developing the project.
<i>Term Range (years)</i>	N/A
<i>Interest Rate Range (%)</i>	N/A
<i>Grace Period (years)</i>	N/A
<i>Equity/Debt Ratio Required</i>	N/A

U.S. Trade & Development Agency (TDA)

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, and IIC; 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 or see <http://www.tda.gov/pipeline/>. Solicitations over \$25,000 are published in the *Commerce Business Daily (CBD)* or see <http://cbdnet.gpo.gov/search1.html>.

Technical assistance: TDA also funds activities designed to bring U.S. technical assistance to bear on a variety of projects.

U.S. Trade & Development Agency (TDA)

Application Procedure

Official requests for assistance must be made directly 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 country 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 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. See <http://www.tda.gov/resources/feasibility.html>

TDA Pipeline. Call TDA to subscribe or see <http://www.tda.gov/pipeline/> for latest issue and to sign up for the bi-weekly email update.

Key Contact(s)

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1621 North Kent Street, Suite 200
Rosslyn, VA 22209-2131

Tel: [1] 703-875-4357
Fax: [1] 703-875-4009

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Web Site

<http://www.tda.gov>

TDA RESOURCES

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 the model format set forth below. 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% of the TDA funding may be subcontracted to host country organizations. Proposals must clearly identify the nationality of individuals and companies who will actually carry out 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.

In most cases, TDA 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 requires the company to reimburse part or all of TDA's funding if the project is implemented.

- A. **Executive Summary.** A concise summary of the proposal.
- B. **Project Description.** A description of the project's technical, economic, and financial prospects and developmental and environmental impact. This description should include, to the extent that such information is available at this stage of the project's development: an analysis of the risks associated with the project, and consequently its financial viability, including, as appropriate, availability and cost of raw materials and other inputs; market demand and price for product; operating costs and revenue projections; availability of trained labor; adequacy of supporting infrastructure; environmental issues; corporate structure; capability and experience of project sponsor, developer, EPC and operator; competing technology alternatives; political and social issues; legislative/regulatory issues; and foreign exchange/repatriation of funds.
- 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



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- [TDA Guestbook](#)

<p>3. A description of the host-country project sponsor[s] and other agencies that might share responsibility or carry potential authority for the project. Also include the project sponsor's past track record on project implementation.</p> <p>D. Justification. plain why IDA's funding is needed, the amount of the funding being requested, why the U.S. company cannot fund the study itself, and why this study should not be openly competed among qualified U.S. firms.</p> <p>E. Implementation Financing. A discussion of financing options for project implementation, including:</p> <ol style="list-style-type: none"> 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; 3. Description of the external borrowing authority of the host country project sponsor(s), where applicable; and 4. Assurance that there will be a procurement process open to U.S. firms. <p>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;</p> <p>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</p> <p>Pro forma cost and earnings estimates for the project.</p>	
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<p>F. U.S. Export Potential. A best estimate of the U.S. exports expected to result from the project, including:</p> <ol style="list-style-type: none"> 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, taking into account geographic factors, local industry capabilities, technology and licensee issues, and past procurement tendencies of the project sponsor; 3. An illustrative list of potential U.S. suppliers of the goods and services for each category with contact names and telephone numbers; 4. A specific quantification of potential follow-on contracts for the U.S. company submitting the proposal; and 5. Other evidence that the project will provide an opportunity for sales of U.S. goods and services that is many times greater than the amount of TDA assistance. <p>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.</p> <p>H. Impact on U.S. Labor. A statement on the impact of the project on U.S. labor that addresses the legislative prohibitions on the use of Foreign Assistance funds listed in Section I.</p> <p>I. Qualifications. Relevant background on the U.S. company submitting the proposal and qualifications and experience of the feasibility study team members.</p> <p>J. Terms of Reference. A detailed proposed terms of reference and schedule for the feasibility study. In addition to an examination of the relevant technical, commercial, and regulatory issues, the proposed terms of reference must include:</p> <ol style="list-style-type: none"> 1. An appropriate environmental analysis of the project; 2. A financial analysis of the project; 3. Proposed equipment and services lists; 4. A Final Report that summarizes the findings of the study and/or other appropriate deliverables. <p>In addition, the terms of reference should meet the requirements of the lender identified in the proposal as the most likely source of implementation financing.</p>	
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K. Budget. A detailed budget for the feasibility study prepared in accordance with the Budget Preparation Guidelines and budget format in Section II. The budget should be supported with sufficient detail to enable TDA staff or others reviewing the material to understand completely, not only the budgeted amounts, but also the methodology which justifies the proposed budget amounts. The budget should include:

1. Labor, budgeted by position title for each of the positions on the feasibility study team. Positions should be identifiable, with the narrative descriptions of the positions and proposed incumbents included in the proposal. Person Days should reflect the proposed number of days of work effort proposed for each position. The unit cost should be the actual daily rate of compensation for each position. Supporting detail should be provided to describe the rate calculation. To the extent a company seeks funding for indirect costs, any such amounts must be allowable, reasonable and documented to explain the composition of costs, rates and basis of allocation. Such costs should be included as part of the Labor unit costs for purposes of this budget. The proposed budget and requested funding from TDA may not include fee or profit.
2. Itemization for per diem, transportation, communications, and other direct costs. Per diem should be based on U.S. Government per diem rates, available on the State Department web site (<http://www.state.gov/www/perdiems/index.html>).

The budget proposal should support the feasibility study terms of reference and include a task completion schedule and staffing plan.

Section 1: 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:

The Foreign Operations, Export Financing and Related Programs Appropriations legislation 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..."

"(d) 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 2: U.S. Trade and Development Agency Budget Preparation Guidelines

A budget should reflect the best estimate of the total reasonable cost of the activity, which includes allowable direct costs incident to performance of the activity, plus the allocable portion of indirect costs.

Direct costs are those costs that can be identified specifically with the activity. Direct costs may include:

1. Compensation of staff for the time and efforts devoted specifically to the execution of the activity;
2. Travel related directly to the completion of the activity. This would include transportation plus living expenses including accommodations, meals and other related expenses; and
3. Other items of expense specifically for the activity, including subcontracts.

Indirect costs are those costs that are attributable to more than one program or function (such as accounting, rent, office management, etc.). Indirect costs are accumulated and allocated to an activity via an indirect cost rate.

Indirect cost allocation plans can be simple or very complex and rates can vary depending upon accounting methodology within an organization. For TDA feasibility study budget preparation purposes, indirect costs are identified in two categories: employee benefits and overhead. Direct labor is used as the measurement base. For purposes of TDA funding, the proposed budget should combine indirect cost rates with the direct labor rate to develop a loaded labor rate; i.e., a labor rate inclusive of both direct and indirect costs. The proposed budget must not include fee or profit.

It is understood that indirect cost allocation plans and rates used by a U.S. company submitting a proposal to TDA may vary from these budget preparation guidelines. The U.S. company should attempt to conform to the guidelines and should provide supporting information concerning indirect cost rates and allocation plans. Amounts recoverable as indirect costs, to the extent a U.S. company seeks such funding, must be allowable, reasonable, and documented to explain the full composition of costs and allocation procedures.

In order to facilitate TDA's analysis of budget information, the agency requires that data and information be presented in a prescribed format. (See Section II Format). The categories described below correspond to the line items in the Feasibility Study Budget Format:

Labor

Description:

Labor includes the wages of personnel, by position, for time worked specifically on the activity, and appropriate indirect costs, such as overhead and benefits.

Guidance:

1. The two critical factors involved in the labor computation are time and unit cost (wage rate). Both must be estimated accurately based on the best information that is available.

2. Proposed Person Days should reflect a reasonable estimate of the days to be actually worked, exclusive of any leave, holidays, or other absences. With regard to estimating Person Days, the U.S. company should develop a schedule which details major tasks to be accomplished, the duration of each task, staff required to complete the activity, and for each position, time required for each major task. An example of such a schedule is attached with instructions for completion. (See Section II Labor Requirements).
3. The Unit Cost for each position should be the computed labor rate, inclusive of direct and indirect costs. In determining the Unit Cost component, the actual rate paid (by position) should be indicated. The attached Labor Rate Computation Worksheet provides guidance and a format for computing the unit cost. (See Section II Worksheet)
4. Benefits and overhead should represent an appropriate and reasonable percentage.
5. The proposed budget must not include fee or profit.

Travel

Description: Travel costs are the expenses for transportation, lodging, subsistence and related items incurred by project employees who are in travel status on official business of the organization.

Guidance:

1. Travel estimates should be reasonable and appropriate, given the particular circumstances and location of the project.
2. The U.S. company should use U.S. Government rates by country and city, available on the State Department web site (<http://www.state.gov/www/perdiems/index.html>) as a guide in estimating subsistence expenses.
3. Air fare amounts should be based on standard coach fare, unless total travel time is in excess of 14 hours, in which case business class fare may be used.
4. In developing budget estimates for travel, the Fly America Act must be considered. This means that, generally speaking, U.S. air carriers must be utilized except when U.S. air carriers are not reasonably available to meet necessary mission requirements, such as where utilizing a U.S. air carrier would:
 - Require circuitous routing
 - Require travel during unreasonable hours or for a long duration
 - Greatly increase the duration of the flight
 - Result in additional costs that would offset transportation savings
 Instructions for Completing Budgeted Labor Requirements Schedule

Contracts

Description

Subcontracts include both subcontracts with U.S. firms and subcontracts with local entities in the host country.

Guidance:

1. Subcontracts with U.S. firms should specify the particular services that the subcontractor will furnish. Budgets for subcontracts should be attached and developed in the format and line item content as the feasibility study budget.
2. Subcontracts with host country firms should be specific as to the services to be provided. It should be noted that no more than 20% of TDA's funding can be used for host country subcontracts.

Other Costs (Specify)

Description:

This category includes all other costs associated directly with the project

Guidance

1. It will be important to enumerate all costs in this category.
2. List each expense separately as follows:
 - Description of expense
 - Amount
 - Justification/relation to project *
 - Basis for projection *
 - Information source *

* To be included on an attachment to the budget

**Section II Format
Feasibility Study Budget Format**

Labor (Direct Labor + Overhead + Benefits)			
	Person-Days	X Unit Cost	= Total Cost
Position			
Position			
Position			
		Total	
Other Direct Costs - Travel			
Transportation	Trips	@ \$	=
Per Diem	Trips	@ \$	=
Other (specify)			
Subcontracts (specify; e.g. interpreters, legal, accounting)			
U.S. Subcontracts			
Host Country Subcontracts			
Other Costs (specify; e.g. communications, printing)			
Total Budget			
Note: The proposed budget must be supported with sufficient detail to justify the budgeted amounts and the basis and methodology on which such amounts are computed.			

**Section II
Labor Requirements**

The purpose of the schedule is to provide a detailed breakdown of the utilization of project staff.

The contractor is to provide a table which outlines projected labor requirements (in terms of staff weeks or staff months) for the duration of the project. Staff weeks are to be used if the project is expected to take 4 months or less. If the project is projected to take more than 4 months then labor requirements are to be determined in terms of staff months. A staff week is defined as 5 staff days. A staff month is defined as 4 staff weeks.

Part I: Under **"Task Completion Schedule"** list each major tasks to be accomplished. The duration of each task is to be graphically represented. For example, in the illustrative schedule, Task 1 is to begin in Week 1 and end in Week 4. Preparation of the Final Report begins in Week 6 and is completed in Week 8.

Under **"Total Staff Weeks/Months"** put the total staff weeks/months for each major task.

Part II: List the job title of each person who will be working on the project. Under each position, list the Tasks to which the person will be assigned. For each Task, list the percentage of time the person will be working on that Task each week (or month). *Note: Individual totals for any one week (or month). MUST be 1.00.*

Under the column titled **"Total Staff Weeks"** for each position and task, add the (horizontal) total of staff weeks. The **"Individual Total"** for each position represents the total amount of time that position will spend working on the project.

[View sample Budget Requirements Graph](#)

U.S. Trade & Development Agency Labor Rate Compensation Worksheet

Description	Rate Bases	Proposed Position		
Position Title		Sample Position 1	Sample Position 2	Sample Position 3
Annual Salary		\$25,000	\$50,000	\$75,000
Days Worked				
Total Compensable Days	260	_____	_____	_____
Less Compensated Leave		_____	_____	_____
Holidays	9	_____	_____	_____
Vacation	15	_____	_____	_____
Sick Leave	6	_____	_____	_____
Total Compensated Leave	30	_____	_____	_____
Total Days Worked	230	_____	_____	_____
Direct Daily Rate		\$108.70	\$217.39	\$326.09
Indirect Costs				
Employee Benefits	25%	\$27.17	\$54.35	\$81.25
Overhead	40%	\$43.48	\$86.96	\$130.43
Total Indirect Costs	65%	\$70.64	\$141.30	\$211.96
Daily Rate				
Fully Loaded		\$179.35	\$358.70	\$538.04
Hourly Rate				
Fully Loaded		\$22.42	\$44.84	\$67.26

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World Bank Prototype Carbon Fund (PCF) — In Development —

Funds available	<p>Mobilization target of \$60 million (minimum) to \$150 million (cap).</p> <p>Target first closing is the first quarter of 2000. Second closing (if required) is March 2001. If the Fund reaches a subscription of \$120 million-\$150 million, there will be no second closing.</p>
Investment made to date in geothermal projects	N/A
Type(s) of Financing	N/A
Form(s) of Financing	N/A
Financing Structure	
<i>Investment Range (US\$)</i>	N/A – fund in development
<i>Term Range (years)</i>	N/A – fund in development
<i>Interest Rate Range (%)</i>	N/A – fund in development
<i>Grace Period (years)</i>	N/A – fund in development
<i>Equity/Debt Ratio Required</i>	N/A – fund in development
<i>Expected Return on Investment (%)</i>	N/A – fund in development
<i>Minimum Debt Service Ratio/ Cash Flow Coverage (before taxes, including depreciation)</i>	N/A – fund in development
<i>Fees</i>	N/A – fund in development

World Bank Prototype Carbon Fund (PCF) — In Development —

Other The PCF will finance Projects designed to achieve Greenhouse Gas (GHG) Reductions of a sufficiently high quality, i.e., “High Quality” Emission Reductions.

The Fund Manager will be responsible for initiating the process of Project identification and will co-ordinate the Fund’s portfolio development with the GEF. Once the Fund Manager has identified a prospective Project for the Fund’s pipeline, the Project will first be reviewed by the Secretariat of the GEF to determine its GEF eligibility, on a no objection basis. (The GEF has first rights of refusal on all projects to be considered for the Fund portfolio.)

Only if it is determined that the Project will not receive GEF financing, will the Fund Management Unit proceed with developing it and preparing the Project Concept Note (the “PCN”).

World Bank Prototype Carbon Fund (PCF) — In Development —

Application Procedure

Most Projects are expected to be supplemental to projects in the existing and planned World Bank project pipeline.

The PCN will include relevant Project information, in particular, on the project Baseline, expected Emission Reductions and other Fund criteria.

The Project Selection Criteria include the following:

1. Consistency with the UNFCCC and/or the Kyoto Protocol
2. Consistency with Relevant National Criteria
3. Consistency with the World Bank's Country Assistance Strategy
4. Funding Alternatives/Complementarity with the Global Environment Facility ("GEF") – see page 109 for a description of the GEF
5. National and Local Environmental Benefits
6. Consistency with the Fund's Strategic Objectives and Operating Principles
7. Consistency with the Guidance Provided by Participants
8. Additional Characteristics of Fund Projects
 - a. Projects should generally entail manageable technological risk.
 - b. The technology to be used in a Project should be commercially available and have been demonstrated in a commercial context and be subject to the usual commercial performance guarantees.
 - c. The technical competence in the Host Country to manage the Project technology should be established during the course of project appraisal.
 - d. Projected Emission Reductions over the life of the Project should be predictable and Emission Reductions should also be amenable to standardized Validation and Verification processes with existing methodologies.

Useful Publications

—

World Bank Prototype Carbon Fund (PCF)

— *In Development* —

Key Contact(s)

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Email: Knewcombe@worldbank.org

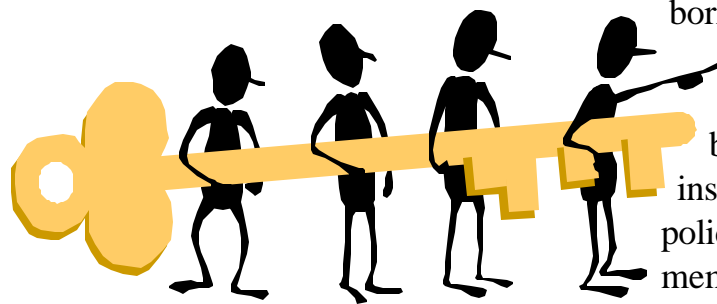
Web Site

<http://www.prototypecarbonfund.org>

The World Bank Group

International Bank for Reconstruction and Development (IBRD)⁵⁰ – The IBRD provides loans and development assistance to middle-income countries and creditworthy poorer countries, lending only for projects that promise high real rates of economic return to the country. The IBRD does not reschedule payments or participate in debt rescheduling agreements on its loans. 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.



The IBRD has lent \$338.5 billion since being established in 1945. Its FY 1999 lending was \$22.2 billion for 131 new operations in 39 countries. The IBRD's lending terms include an average cost of borrowings plus a spread (for most products), 12-20-year maturities, and a 3- to 5-year grace period on most loans.

International Development Association (IDA) – As the Bank's concessional lending arm, IDA plays a key role in supporting the World Bank's poverty reduction mission. IDA assistance is focused on the poorest countries, to which it provides interest-free loans (known as "credits") and other non-lending services. IDA credits are made only to governments. IDA is legally and financially distinct from IBRD, but it shares the same staff, and the projects it supports have to meet the same criteria.

IDA depends on contributions from its wealthier member countries—including some developing countries—for most of its financial resources. In FY 1999, 81 countries

⁵⁰

The World Bank *Annual Report 1999*. (The International Bank for Reconstruction and Development/The World Bank, © 1999).

were IDA-eligible. Operational cutoff for FY 1999 IDA eligibility was a 1997 GNP per capita of \$925, with some exceptions.

IDA has lent \$115.9 billion since its creation in 1960. Its FY 1999 lending was \$6.8 billion for 145 new operations in 53 countries. IDA's loans are interest-free (with a service charge of 0.75%) and have 35-40-year maturities with a 10-year grace period.

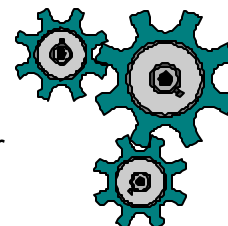
International Finance Corporation (IFC) – Established in 1956, the IFC helps promote private sector growth in developing countries and mobilize domestic and foreign capital. The IFC provides loans and makes equity investments in support of projects in its 172 member-countries. Unlike most multilateral 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 FY 1999, the IFC signed investment commitments of \$3.6 billion for 218 projects in 79 countries, of which \$798 million was mobilized through loan syndications and underwriting. IFC's committed portfolio at the end of FY 1999 increased by 12.8% from FY 1998, of which nearly 76% was in loans and 24% in equity investments.⁵¹ (See page 130 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's main objective is to encourage the flow of foreign direct investment (FDI) to its developing member countries. It facilitates investment primarily by providing investment guarantees

⁵¹ 1999 IFC Annual Report.

against noncommercial risks, e.g., currency transfer, expropriation, war, and civil disturbance. MIGA also provides technical assistance to help countries disseminate information on investment opportunities, and to build capacity for investment promotion. MIGA has its own operating and legal staff and is legally and financially a separate entity from the World Bank, on which it draws, however, for certain services. Since being established in 1988, MIGA has issued cumulative guarantees totaling \$5.5 billion and facilitating an estimated \$30 million in FDI.

In FY 1999, issued 72 guarantee contracts totaling \$1.3 billion in gross coverage. These contracts facilitated investments in 29 developing member countries. First projects were guaranteed in Côte d'Ivoire, Malaysia, West Bank and Gaza, and Zambia, bringing the cumulative number of countries that have received MIGA guarantees to 66.⁵² (See page 139 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, to know 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 4.

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. For each Project Stage, Table 8 shows:

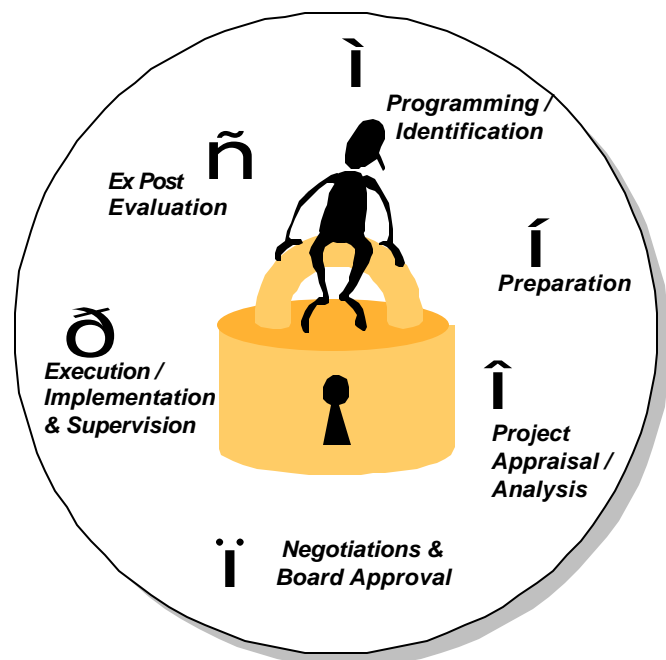


Figure 4 - MDB Project Cycle

⁵² MIGA Annual Report 1999.

- T which parties are responsible, e.g., the Borrowing Government, the Bank, or both;
- T what specific activities the responsible parties are conducting;
- T what information is available to the public; and
- T what an interested contractor should do.

PROJECT STAGE	RESPONSIBLE PARTIES	ACTIVITIES	PUBLIC INFORMATION AVAILABLE
			CONSULTANT ACTION
i Programming / Identification	Borrowing Government Bank	<p>Sources of project ideas:</p> <ul style="list-style-type: none"> • borrower-country proposal • Bank economic or sector work or field offices • previous projects • other agencies (e.g., bilateral donors, non-governmental organizations, and cofinancing agencies) <p>Initial summary of project approved by country department</p> <p>Projects under consideration for bank financing are added to a "pipeline" of projects.</p>	<p>Project published in the <i>World Bank Monthly Operation Summary (MOS)</i> which is located in the bimonthly <i>Development Business</i>.⁵³</p> <ul style="list-style-type: none"> • The notice will include the name and contact information of the in-country executing agency <p>Project Information Document (PID)⁵⁴</p> <ul style="list-style-type: none"> • PID lists the Bank contact
			Obtain PID

⁵³ Additional information about subscribing to Development Business may be obtained at their website, <http://www.devbusiness.com/>. A one-year print subscription is \$445; one-year of print plus on-line is \$695.

⁵⁴ 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 have detailed information on the scope of the project, including procurement and consulting needs. Companies should contact executing agencies early on in the process.

PROJECT STAGE	RESPONSIBLE PARTIES	ACTIVITIES	PUBLIC INFORMATION AVAILABLE <hr/> CONSULTANT ACTION
I Preparation <hr/> <i>Consulting firms are often required during this stage.</i>	Borrowing Government	<ul style="list-style-type: none"> Defines the scope of the project in more detail Establishes project components Determines costs and institutional issues Carries out environmental assessment and other engineering and design studies 	Revised PID Environmental Assessment (EA) <hr/> Contractors and suppliers should begin to make contacts with the proper executing agency in-country as well as Bank staff. Obtain revised PID Obtain EA Contact Executing Agency ⁵⁵ Contact Bank Task Manager ⁵⁶

⁵⁵ 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 have detailed information on the scope of the project, including procurement and consulting needs. Companies should contact executing agencies early on in the process.

⁵⁶ 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 MDBs 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 <hr/> CONSULTANT ACTION
i Project Appraisal / Analysis	Bank	Bank evaluates projects viability and aspects: <ul style="list-style-type: none"> • economic • technical • institutional • financial • environmental Bank decides whether projects should go forward, be re-designed, or dropped.	
i Negotiations and Board Approval	Borrowing Government Bank	Borrower reviews final documents including: <ul style="list-style-type: none"> • 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) ⁵⁷ <hr/> Obtain SAR or TA – available approximately 3 weeks after loan is signed

⁵⁷

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 banks board of executive directors for review and approval.



PROJECT STAGE	RESPONSIBLE PARTIES	ACTIVITIES	PUBLIC INFORMATION AVAILABLE CONSULTANT ACTION
 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.
 Ex Post Evaluation	Bank	Completion and audit reports Analysis used for future project studies	Impact studies

Table 8 - Multilateral Bank Project Cycle

Tracking MDB Information about Public Sector Projects⁵⁸

Each of the MDBs publishes slightly different information on the projects it is considering for financing. The information is published in a variety of formats, and the documents and publications are known by a variety of names. Table 9 describes where interested companies can locate specific procurement information for each MDBs.

MDB	PROCUREMENT INFORMATION IN...
African Development Bank (AfDB)	<p><i>AfDB's Quarterly Operational Summary (QOS)</i>. Contains brief Bank 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 <i>U.N. Development Business</i>.</p> <p>Web site: http://www.afdb.org</p>

⁵⁸

The Multilateral Development Bank Handbook.- A Guide to Opportunities for U.S. Business
 Ibid, Appendix 4, pp. 44-45.

MDB	PROCUREMENT INFORMATION IN...
Asian Development Bank (ADB)	<p><i>ADB Business Opportunities</i> (a.k.a. the “blue book” or ADBBO). Lists Bank 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.</p> <p><i>U.N. Development Business</i></p> <p>Web site: http://www.adb.org</p> <p><u>NOTE:</u> For economic reasons, ADB prefers to help finance large (\$100 million or more) projects funded on least cost principles. ADB has recently expressed interest in smaller projects.</p>
European Bank for Reconstruction and Development (EBRD)	<p><i>EBRD Procurement Opportunities</i>. Lists information on public sector projects under consideration for financing and associated procurement opportunities. Published monthly. See http://www.ebrd.com/english/procure/opportunities/main.htm.</p> <p>Web site: http://www.ebrd.com</p>
Inter-American Development Bank (IDB)	<p><i>IDB Projects</i>. Lists information on public sector projects under consideration for financing and associated procurement opportunities. Published monthly. Subscription currently costs \$175 per year. See http://www.iadb.org/exr/pipeline/subscrip.htm.</p> <p><i>U.N. Development Business</i></p> <p>Web site: http://www.iadb.org</p>

MDB	PROCUREMENT INFORMATION IN...
World Bank IBRD IDA	<p><i>Monthly Operational Summary (MOS).</i> Lists information on projects under consideration for financing and associated procurement opportunities. Included in subscription to <i>U.N. Development Business</i>.</p> <p><i>Guidelines for the Use of Consultants by World Bank Borrowers and by the World Bank as Executing Agency</i>, 1997. Provides the rules for the selection of consultants. Known as the "green book."</p> <p><i>Procurement in World Bank Financed Projects: Self-Learning Program CD-ROM</i>, August 1999.</p> <p><i>Standard Bidding Documents.</i> Prepared for a number of sectors for use by World Bank borrowers in the procurement of goods and works. Also available is the <i>Standard Form of Contract</i> for use by borrowers in the contracting of consultants. <u>These documents are essential reading.</u></p> <p><i>The World Bank Directory.</i> Provides organization charts and telephone numbers for World Bank Group staff.</p> <p>Web site: http://www.worldbank.org</p>

Table 9 - MDB Procurement Information

Approaching the Private Sector Investment Arms of the MDBs for Financing for Private Sector Projects⁵⁹

Increasingly, the MDBs provide 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 relevant MDBs 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:

⁵⁹ Ibid, Appendix 6, p. 48.

T	description of the project (technical, economic, and commercial aspects),
T	description of the main parties to the transaction,
T	financing plan,
T	financial overview, and
T	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 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 to 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 to 12 months, depending on how well prepared the project is at the time of initial review.

Hints and Tips for Winning MDB-Financed Contracts⁶⁰

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.

⁶⁰ Ibid, Appendix 5, pp. 46-47.

-
3. Subscribe to *U.N. Development Business* which 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, the North American 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.
 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. This is not the time to 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 MDBO Operations office, Commercial Liaisons at the banks, and Commercial Officers at U.S. embassies and consulates around the world.

Multilateral Development Bank Operations (MDBO) Office and Commercial Liaisons—U.S. Department of Commerce

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:

1. information on approved projects and downstream financing plans;
2. expert guidance on what you need to know to pursue business at the MDBs;
3. advocacy and assistance with pre-award support and procurement disputes;
4. on-line information including a guide to electronic media providing up-to-date information relating to projects; and
5. “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.

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Office of the U.S. Executive Director

Untied Aid Initiative—U.S. Department of Commerce

In 1995, the U.S. Government launched the *Untied Aid Initiative* to help U.S. firms take advantage of potential business opportunities created by official untied aid and credit financing in developing countries. While many industrialized countries offer untied aid, Japan by far has the largest and best-known program, the bulk of which are administered by the Japan Bank for International Cooperation (see page 136).

Under the *Untied Aid Initiative*, U.S. Embassy staff in Washington, D.C. and Tokyo as well as in Indonesia, China and India, Thailand, Philippines, and Vietnam (the leading recipients of untied financing), collect and report as much timely information as possible on projects that may be financed by Japanese untied aid and credits, allowing U.S. companies sufficient time to prepare effective bids.

For additional information on this initiative, please contact:

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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 and why, what types of investments they are looking for, and what their specific investment criteria are. You can consequently 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 approach.



The good news: there is money to finance small geothermal power plants. The bad news: it is neither “easy” nor “quick.”

Some projects, 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 might be to:

- T Link the power plant to its end user, e.g., for direct use, agricultural drying, industrial use, district heating, cooling, etc.;
- T Link the power plant to a new use, e.g., new small businesses, geothermal-powered communication facilities, low-cost telecommunication technology;
- T Accept a marketable commodity as payment in kind;
- T Aggregate small projects with similar economics for submission to a financing source;
- T Provide credit by including project costs on consumers bills and spread the cost over several years; or
- T Form a strategic alliance with a complementary company to be eligible for a wider range of non-U.S. financing sources.

Structuring financing for even for the large, experienced geothermal project developers, takes significant time, focus, energy, and money. ORMAT International's Orzunil I Plant in Guatemala was fully constructed before the financing even closed!

Financing small renewable projects, including geothermal, should be on everyone's "fast track." Suggestions made by ORMAT include:⁶¹

- T In the case of co-financing, financing sources should choose a leader,
- T The closing schedule and fees should be specified and agreed to during the initial review,
- T Performance specifications should be based on those of the manufacturer of the equipment used,
- T Agency teams should be assigned for the duration of the project process, through initial review to financial closing,
- T The review period through financing approval should be targeted to take no longer than six months, and
- T Agency requirements should be defined up front, during the review process.

Geothermal developers around the world, be they constructing a small power plant or designing a geothermal district heating system, must market geothermal to the financing sources—the World Bank, the IFC, and others—and get small geothermal projects in the financing fast lane.

⁶¹ Lucien Y. Bronicki, Chairman, ORMAT International, Inc. Presentation at the Geothermal Resources Council 1999 Annual Meeting, Reno, NV, October 18, 1999.

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 assets 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% (p).

BORROWING CAPACITY MODEL - used to estimate the maximum amount of debt a projects 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 projects 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 firms entire asset portfolio to generate the cash flow to service the loans.

COST OF CAPITAL - a projects 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 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 projects 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.

EUROPEAN COMMISSION - proposes policies and legislation for the European Union, is responsible for administration, and ensures that the provisions of the Treaties and the decisions of the institutions are properly implemented.

EUROPEAN UNION (EU) - previously known as the European Community, the EU is an institutional framework for the construction of a united Europe. Created after World War II to unite the nations of Europe economically so another war among them would be unthinkable, the EU currently has 15 member-countries.

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 projects 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.

FORFAITING - discounting export receivables, e.g., promissory notes, bills of exchange, or letters of credit, without recourse to the exporter. Forfaiting allows exporters to grant credit terms to their overseas buyers without assuming non-payment or currency exchange risks. Once an exporter has received its money from the forfaiter, they are out of the transaction. Forfaiting deals tend to be over \$100,000 and take 5-30 days to complete.⁶²

FREE CASH FLOWS - the cash not required for operations or reinvestment which can be used to service the projects 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 projects expected rate of return; if the required rate of return (cost of capital) equals the IRR (the expected rate of return), the projects NPV is zero. The project should be undertaken if the IRR exceeds the projects cost of capital.

INTEREST COVERAGE RATIO - the ratio of earnings before interest and taxes (EBIT) divided by interest charges which measures a projects ability to cover interest charges; a ratio below 1.00 indicates that a project

⁶² Credit Managers Association of California,
<http://www.cmaccom.com/art056.html>
1.

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 projects 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 projects 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 166 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 (PV) - 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 projects 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, 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., Moodys Baa 3 or better or Standard & Poors BBB- or better).⁶³

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.

SYNDICATION 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 government for tax purposes (or by the manufacturer).

VENTURE CAPITAL (VC) - the process by which investors fund early stage, more risk-oriented business endeavors. A venture capital funding arrangement will typically entail relinquishing some level of ownership and control of the business to offset the high risk the investor takes in the promise of high return on the investment.

The investment is usually in the form of stock or an instrument which can be converted into stock at some future date. Typical investments range from between \$500,000 and \$5 million with a VC expecting a 20-50% annual return on their investment at the time they are bought out.⁶⁴

⁶³ Finnerty, p. 174.

⁶⁴ Vfinance.com,
<http://www.vfinance.com/>.

YIELD - the rate of return from an investment relative to the actual dollars paid.

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