Credit Requirements for Commercial Bank Lending to Power Projects

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CREDIT SUISSE PROJECT FINANCE

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ABSTRACT

The term "Project Financing" has become broadly defined in recent years. Its general meaning conveys the notion that a project's creditworthiness is based primarily on its inherent economic viability considering project assets, cash flow, and contract structure. Recourse to the project sponsor's balance sheet is limited or eliminated in such financings.

In financing a geothermal project, the reliability assessment of the resource plays an important role in determining the terms and conditions of the loan. However. this is only one of many aspects taken into consideration when structuring a project financing transaction. The following paper examines Project Financing of geothermal development from the lenders perspeclive, and provides an overview of requirements of lenders and the benefits of such financing to project sponsors.

Introduction

Definition. Project Finance refers to lendings to single purpose entities, with limited or no recourse to the developers or **owners** of the entity. Repayment of the lendings is routinely made from the operating cash **flow** of the entity. rather than the general corporate funds of the owners. Project Financings rely on extensive documentation and well meshed agreements to support the contractual project structure, and to assure proper balance of inputs and outputs to the project resulting in timely repayment of the project loans.

Entities which benefit from this **non-recourse** structure, tend to be large infrastructure projects with high capital costs and extended construction times. Owners benefit by preserving borrowing capacity while achieving leveraged returns on investment.

Milestones in the development of a Geothermal Energy Project. The development of a geothermal resource takes place in several phases, many of which may occur simultaneously, and all of which rely on completion of each of the other phases. These phases will routinely include i) identification of geothermal resources; ii) identification of market and transmission capabilities; iii) selection of project participants, such as contractors and financiers; iv) creation of a contractual structure for the project; v) lenders' and sponsors' due diligence, documentation, permitting, and execution of the transaction; and vi) implementing and monitoring the project throughout the construction and term of the financing.

Credit Considerations for Lenders to Projects. Certain concerns loom large in prospective lenders' credit approval processes. These concerns can be divided into two varieties: Creditworthiness of the project participants, to the extent they have obligations, and the creditworthiness ofthc project itself.

Development of a Geothermal Project

To set the stage for a discussion of credit concerns it is helpful to understand how projects develop, and the steps a developer might take toward completion of a geothermal power venture. Milestones noted in this section are arranged loosely as they might occur in the chronology of a project. There are exceptions and, just as it is helpful to define project milestones, it is also helpful to recognize the importance of the order of these events.

Identification of Resources. The logical first step in development of geothermal power projects is the identification of resources, both qualitatively and quantitatively. Very often it is the identification of a resource that prompts investigations into feasibility of a project.

If a developer, more commonly referred to as the project sponsor, is granted an option to purchase, has a lease on, or owns a geothermal resource, he may begin an exploratory drilling program to define the resource. At the same time the sponsor will attempt to identify and procure other assets necessary for project completion. Capital, power purchase contracts, transmission capacity, and contractors would be highest an the list of such resources.

Sources of capital are many. but not all are available to all projects and sponsors. In early stages of development, commercial and investment banks are unlikely lenders, except through rare venture capital funds. Equity markets can be a source of capital, but rarely for entities with no other assets. Very often, investigation of natural resource projects, prior to completed feasibility studies, must be financed from a sponsor's internally generated funds.

As the resource becomes more clearly identified, and production feasibility is proven, more and more parties became willing participants in a project. Banks will become more interested in financing proven **resources** when coupled with credible and lucrative **power** purchase agreements. Likewise, utilities will grant agreements to reliable sponsors with financial backing or a well known track record for completing similar facilities as those proposed.

Selectine Project Particioants. The criteria for selecting participants include experience, reliability, financial soundness, and other intangibles, such as regional or local expertise or favor. These selection parameten should apply for all parties and to all parties. That is, lenders should be concerned about the financial soundness and experience of equity investors, as the sponsor should want to know about the qualifications of its lenders, construction and drilling contractors, power purchasers, equipment suppliers, and operators, and vice versa.

Contractual Framework. Contracts are the skeletal framework of a project, and serve many functions. Contracts formally identify each of the project participants, and define their respective relationships and obligations to one another. Contracts work to assure i) construction completion and operation, ii) project inputs (such as steam, spare parts, etc.) and outputs (energy/revenue), iii) security and loan repayment. and iv) sponsors' return on investment. The objective of the structure is to allocate risks to those parties best suited to bear them.

The obligations for performing under project contracts are often presented with monetary variables attached, providing a penalty or bonus as incentive for the obligor. Early construction completion, better than expected output, and accurate appraisal of resources is commonly rewarded with some percentage of the monetized value of the incremental service provided. Under-performance is likewise penalized. Sponsors are always incentivized by net return, which relies upon the performance under all of the contracts.

Due Diligence, Documentation, and Execution. Each party to the project will better understand the need for and scope of various contracts through performing investigative due diligence. Due diligence involves the review of the selection criteria of the project participants: experience and financial soundness. It also involves the review of development studies, environmental permits and procedures, documents and designs which formed the basis for the project, as well as visits to the proposed project site and sites of similar projects with similar, or possibly the same, participants. As a project progresses, due diligence means continually assessing the availability of resources, including the geothermal reservoir. and especially capital resources in the lending and equity markets.

Where a project participant is uncomfortable with their o w level of expertise or experience, the participant will select consultants or experts to advise them on these areas. In any project it is common to find independent consultants advising the participant on engineering and technical matters, insurance issues, environmental matters, and, of course, legal matters. As projects rely heavily on contracts, legal counsel is usually sought by each participant, and often in several jurisdictions.

Consummation of a project financing is very often implied as the date of execution of the project contracts and documents. Contracts often have their first form as a statement of terms and conditions. commonly referred to as a memorandum of understanding, or a termsheet. Legal counsel is normally responsible for drafting and analysing contracts. Simultaneously, the various other consultants are completing their investigation and compiling their findings into reports. until each project participant is satisfied with the assurances provided in all of the documents.

Construction and Operation. Upon execution of documentation, project participants begin to fulfill their obligations. In most cases, milestones will have been defined for the construction period, which are linked to contractors' payments and funding by lenders or investors. During the construction and operation phases, each of the participants will monitor proceedings carefully to assure that progress is made in compliance with the documentation.

Credit Considerations for Lenders to Projects

The considerations for lenders during the due diligence process might be broken into two essential components: Creditworthiness of the project participants; and the creditworthiness of the project itself, Lenders will look carefully at the project structure to identify any risks left outstanding despite structuring and documentation efforts.

Creditworthiness of Project Particioants. Specifically. lenders will attempt to define their risk or exposure to individual participants. To the extent possible, the lender will assess the participant's ability to perform the intended project functions, and to fulfill its financial obligations. In assessing ability to perform, the assessment may reflect on reputation, experience, on the competitive nature of the particular business, and on staffing. In assessing financial strength, lenders will focus on cash position and net worth, income stability, borrowing capacity and history, and liabilities or obligations inherent in a given industry

Credit reviews are tailored to the participant. In reviewing the abilities and strength of a contractor, for instance, a lender may be most interested in whether the company has ever done similar work, and what resources they can apply toward completing a project. The consideration of the contractor's ability to pay penalties and other charges, while extremely important, may be secondary to the concern over a participant's intended function. Lenders would obviously prefer seeing the project completed on time. on budget, and accarding to specification, ovcr seeing themselves dividing up the assets of a half-finished project. (At least in most cases!)

Conversely, when estimating a sponsor, a lender will likely be most concerned with the entity's financial strength and ability to access capital. If the sponsor is an equity investor, lenders will want to be certain that the proposed mount of equity will be available when called upon. Worthy sponsors understand the benefits of non-recourse, off-balance sheet financing, but also understand the importance of reputation in the future of their business. In the case of a shortfall in a budget. or another participant's performance, a sponsor may decide, without any legal obligation, that it is in everyone's best interest to contribute to the project to the extent of such a deficiency. A sponsor's experience is also extremely important, however, and lenders will want to know that the projcct will be well managed.

To the extent project participants are nut of a quality acceptable to a lender, certain provisions can be made so the project can move forward. Often, a performance bond can be arranged to protect against damage due to failure under a contract. Sponsors might also be willing to guarantee, or to "wrap" the obligations of another party under contract. Likewise, an extremely strong contractor or operator may be willing to contribute equity, dependent upon their view of the project and options to recoup their investment over the term of the financing.

Creditworthiness of the Project. In conjunction with estimates of the participants, project lenders will try to assess the strengths and weaknesses of the project itself. This review process can take many forms and occur in many phases. A project assessment examines not only the component parts, but also the structural relationships, and the efficiency of the project as a whole.

Reliability of Cash Flows. Lenders arc concerned about those factors which influence the stability and reliability of project revenues and cash flows. These factors include the lender's comfort with the project participants, as described above. It also includes the lender's disposition on other matters such as the geothermal resource characteristics, technology being used, the availability of insurance, and other risks.

Project cashflaws may be subject to certain "market" risks as well. In the face of economic downturns or changes in a utility's power procurement strategies. a power project may be exposed to the market demand for power, and dispatchability. Lenders will seek to mitigate this risk by assuring that the purchase of capacity provides for fixed costs and expenses, including debt service, as well as returns to incentivize owners and operators.

Other market risks include currency exchange fluctuation, and especially interest rate risk. as projects are commonly very highly leveraged. Lenders are familiar with these risks, and are very aften

willing to provide financial arrangements to hedge the risk, depending on their view of the project's strength.

Economic risks, such as inflation, will add volatility to project cash flows if not properly addressed in the structure. Variable operating costs, for instance, may be directly reimburseable under power purchase agreements. or linked to indices for such costs.

Predictability of project cash flows can also he enhanced by planning for contingencies that *are* not quantifiable at financial closing. but likely to occur all the same. An example of this would be increased well field costs, including expenses of drilling additional wells.

The regulatory environment, and the enforceability of project contracts is a risk borne by all of the participants. This may be the single most unwieldy risk in project financing. This risk can be mitigated to some degree through indemnifications within documentation (and prayer!).

Of course, not every risk can be structured away. and different lenders have differing views of which risks *are* and are not acceptable if left uncovered. Determining the magnitude of such risks is the objective of the project analysis.

Debt Service Coverage Ratios. Lenders use various methods lor estimating the volatility of project cash flows, and their exposure to the risks briefly outlined above. The barometer used by lenders to determine the magnitude of this volatility is the number of times cash flow available to pay debt service will cover the total debt service for a given period. It is an indication of the project's likely ability to pay its debts, as well as a reflection of the likely return to the sponsor. There *are* various ratios used, and they *can* be calculated in a number of ways. Commonly, the numerator of a ratio will be the annual cash flow available after payment of operating expenses and taxes. and the denominator being that year's principal and interest payments due.

Other ratios exist in common practice as well. The ratio of total available cash to total debt service over the life of the loan provides an average view of the project's ability to repay debt, without respect to periodic fluctuations in amortizations and project revenues.

Security Packages and Enforceability. Because lenders, as compared with equity investors, are financing the project on a temporary and non-recourse basis, and because, in most cases, the only asset of the borrower is the project itself, lenders are entitled to a security interest in the project. Depending upon the lender, they may be willing to take security interests that are subordinated to the interests of other lenders. Again, subordination comes at some price, usually increased credit margins. And again, the interplay between the projects creditors can (usually) be structured through the contractual framework.

In the case that the projections and debt service coverage ratios in the credit analysis are not borne out, creditors may have to rely on their security interest for their loans to be repaid. The basket of collateral components usually held by lenders includes, among other things, i) a first lien and mortgage on substantially all assets of the project including the site property, plant and equipment. easements and rights of way, ii) all contracts, including the power purchase agreement, iii) all permits or authorizations necessary to operate the project, iv) a pledge of all shares, if any, in the project company, v) all insurance proceeds, in the event there is a total or partial loss of the plant, vi) and other items necessary to the operation and maintenance of the plant.

Lenders must exercise caution when analysing and estimating the value of their security. as they would in analysing any other project component. Lenders are under a professional obligation to always have at least two ways out of a credit. If they have not done a valuation of their security, they have not done their jobs. Several things effect the value of security: Collateral condition, legal framework. contract enforceability, seniority and priority of payments, to name a few.

Collateral condition concerns take many forms. In default or foreclosure, lenders may want to install a new operator in the facility. The lenders will in this case be concerned about the condition of their collateral. They will want to know then that the facility has been maintained prudently, and can continue generating power and revenues until the project loans are repaid. If in foreclosure, lenders choose to sell the plant, again they would desire that the plant is kept in good working condition, so there is residual value at the time of the sale. One method of assuring this condition may be through initial performance testing and continuing obligations in maintenance agreements.

Collateral condition can also refer to items such as insurance policies, and cash reserve accounts Insurance policies must be kept valid and current. Reserve accounts must be invested in instruments which will not expose the collateral to unnecessary risks. Collateral and trust agents can be employed for the purpose of preserving collateral value.

Environmental liability can severely reduce the value of a project. This is a risk to security that falls under the headings of both collateral condition, and legal or regulatory framework, below.

The legal framework and environment will also effect the value of a security package. Unless diligence and proper care is exercised, lenders may find that part or all of their collateral package is not available to them due to laws and regulations in the country or locale of the project. Liens, for instance, may be unenforceable if not properly filed in the right jurisdiction. Lenders have found on occasion that their right to foreclose an an asset that is rightfully theirs under their documentation. is unenforceable, or prohibited by local law. Likewise, legal counsel will need to advise the lenders as to the assignability of contracts, and opine on their value.

In examining the security package. lenders would do well to remember the steps taken to develop the project in the first place, and then check whether their security allows them to retrace those steps if necessary. If one of the project's identified resources is not assignable, say a power purchase agreement, the project's value, as security. is severely diminished and difficult to estimate.

Conclusions

To the extent possible. the major devclopment milestones and credit considerations in project financings have been highlighted herein.

There is no representation that all of the issues presented will be included in the critical path of each project's completion, nor that the single major pitfall in any given project has necessarily been illuminated here, Chances are, however, that the general steps taken in project development (resource identification, selection of project participants. defining a contractual framework, due diligence and documentation, and construction and operation) will be taken at some paint. Chances are, as well, that if the project is financed on a non- or limited-recourse basis, lenders will face the general credit considerations in the foregoing pages: creditworthiness of the project participants, reliability and staoility of projcct cash flaws. security interests and enforceability, and the general creditworthiness of the project.

Project finance is a powerful but complex funding tool that can benefit all of the parties to a given project. As with any tool, common sense and discretion will go a long way in determining its wisest use.