



Project Finance for Renewable Energy and Clean Technology Projects

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Executive Summary

Investments in the clean technology sector often combine capital intensity with new technologies. Securing project finance can prove to be a critical step in the path to commercialization. Project finance succeeds best when you have long-term off-take agreements with quality-credit counterparties (such as power purchase agreements with utilities) but commodity-based projects that sell into open markets (such as biofuels) can also benefit from the project finance model.

This primer provides an overview of project finance for renewable energy investors, with a focus on the pros and cons, as well as a survey of key concepts and requirements, including tax incentives and monetization strategies and other key structuring considerations in determining whether to project finance.

Key Points

- Project finance has emerged as a leading way to finance large infrastructure projects that might otherwise be too expensive or speculative to be carried on a corporate balance sheet.
- The basic premise of project finance is that lenders loan money for the development of a project solely based on the specific project's risks and future cash flows. As such, project finance is a method of financing in which the lenders to a project have either no recourse or only limited recourse to the parent company that develops or "sponsors" the project.
- For equity investors, the appeal of project finance is that it can maximize equity returns, move significant liabilities off balance sheet, protect key assets and monetize tax financing opportunities. A wide range of commercial and legal issues must be addressed to secure adequate returns. Tight credit markets exacerbate competition for long-term financing, so even small differences in deals can impact the availability of financing, increase costs or reduce leverage.
- Project financing became particularly important to project development in emerging markets, with participants often relying on guarantees, long-term off-take or purchase agreements, or other contractual relationships with the host sovereign or its commercial appendages to ensure the long-term viability of individual projects. These were typically backstopped by multilateral lending agencies that mitigated some of the "political" risks to which the project lenders were exposed. Analogies to and alternative energy projects help investors de-risk higher-risk new technologies.

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February 2012 – Project Finance Primer

This primer undertakes an overview of project finance for the renewable energy investor or developer, with a focus on the pros and cons of project finance as well as an examination of some of its more fundamental characteristics and requirements, including how to raise equity capital. Tax incentives and monetization strategies in the renewable energy sector, and key structuring considerations in determining whether to project finance, are also examined.

Part I of the primer introduces project finance to those who may be less familiar with the concept, and asks questions that will assist investors and developers in determining whether project finance is appropriate for their renewable energy projects. Part II sets out the legal and contractual structure that will facilitate project financing. Part III describes the process of obtaining equity investment and some of the important options and considerations that companies may have in that process. Part IV provides a more in-depth look at what a typical renewable energy project financing looks like, including fundamental structural components that characterize any project finance transaction. Finally, Part V outlines key tax incentives currently available in the renewable energy industry, as well as monetization strategies that may be useful for earlier-stage energy companies unable to directly utilize such tax incentives.

Given the breadth of the current renewable energy landscape, this primer focuses on a hypothetical solar generation facility (“Solar Project”) as the primary case study with discussions of other renewable energy projects (windpower and biofuel projects in particular) as appropriate. In general, once the contracts related to a project are negotiated (which is described in Part II), the mechanical aspects of raising equity and project financing are likely to be similar across various renewable technologies, although investor enthusiasm and financing prices and terms are likely to vary significantly across technologies at any given time.

I. Introduction to Project Finance

A. *What Is Project Finance?*

The basic premise of project finance is that lenders loan money for the development of a project solely based on the specific project’s risks and future cash flows. As such, project finance is a method of financing in which the lenders to a project have either no recourse or only limited recourse to the parent company that develops or “sponsors” the project (the “Sponsor”). “Non-recourse” refers to the lenders’ inability to access the capital or assets of the Sponsor to repay the debt incurred by the special purpose entity that owns the project (the “Project Company”). In cases where project financings are limited recourse as opposed to truly non-recourse, the Sponsor’s capital or assets may be at risk only for specific purposes and in specific (limited) amounts set forth in the project financing documentation.

Project financing has been used in various ways for many years, but in the 1970s and 1980s it emerged as a leading way of financing large infrastructure projects that might otherwise be too expensive or speculative for any one individual investor to carry on its corporate balance sheet. Project financing has been particularly important to project development in emerging markets, with participants often relying on guarantees, long-term off-take or purchase agreements, or other contractual relationships with the host sovereign or its commercial appendages to ensure the long-term viability of individual projects. These were typically backstopped by multilateral lending agencies that mitigated some of the “political” risks to which the project lenders (and, sometimes, equity investors) were exposed.

With the rise of the independent power industry in the US starting in the 1980s, project finance became essential to the domestic market, as the new entrants to the sector did not have the same rate-based revenue streams and capital-raising abilities of the incumbent utilities. This same pattern continues to hold true with new entrants in the renewable energy sector; project finance remains essential for the realization of their business plans.



B. What Underpins Project Finance?

As a general (if not universal) rule, lenders will not forgo recourse to a project's Sponsor unless there is a revenue stream from the project that can be secured for purposes of ensuring repayment of the loans. In the case of large wind and solar power projects, this revenue is typically generated from a power purchase agreement ("PPA") with the local utility, under which the project may be able to utilize the creditworthiness of the utility to reduce its borrowing costs. While the wind power market has matured significantly in the past five years, leading to the successful project financing of "merchant" projects in the absence of long-term PPAs, solar projects are generally not yet able to be project financed in such a manner. In "merchant" power projects, lenders are able to receive assurance of the project's ability to repay its debt by focusing on commodity hedging, collateral values, and the income to be produced based on historical and forward-looking power price curves and fully developed markets. In non-power generation contexts, the project's revenue stream may be a long-term operating agreement (e.g., in the case of toll roads), a capacity purchase agreement (e.g., in the case of transmission lines), a production sharing agreement (e.g., in the case of oil field development), or a series of short-term and spot sales into commodity markets (e.g., in the case of biofuels projects).


While project finance lenders clearly prefer long-term contracts that ensure relatively consistent and guaranteed revenue streams (including assured margins over the cost of inputs), in the context of some industries, lenders have determined that sufficient revenues to support the project's debt are of a high enough probability that they will provide debt financing without a long-term off-take agreement. Utility-scale solar projects, due to their peak period production, high marginal costs, and lack of demonstrated merchant capabilities, are generally not viewed as "project financeable" without PPAs that cover all or substantially all of their output. Solar projects' lack of merchant viability is exacerbated by the fact that the southwest United States (the region most appropriate for utility-scale solar power development) does not have a mature merchant power market that functions in the absence of long-term bilateral sales agreements. The dependence of large-scale solar projects on the PPA model is not expected to change in the short to intermediate term.

C. When to Project Finance?

One of the primary benefits of project financing is that the debt is held at the level of the Project Company and not on the corporate books of the Sponsor. When modeling projects and projected income, the internal rate of return of Sponsors and other project-level equity investors can increase dramatically once a project is fully leveraged. Sponsors are frequently able to recover development costs at the closing of the project financing or upon completion of the project and put their money into other projects. Another benefit of project financing is the protection of key Sponsor assets, such as intellectual property, key personnel, and investments in other projects and other assets, in the case of the Project Company's bankruptcy, debt default, or foreclosure. Moreover, project financing allows for a wide variety of tax structuring opportunities, particularly in the context of monetizing tax incentives (discussed further in Part V). On the other hand, project financing is document-intensive, time-consuming, and expensive to consummate. It is not atypical that administrative and closing costs, when factoring in lenders, consultants, and attorneys fees for all parties, equal several percentage points of the amount of the loan commitment. Moreover, project financing imposes significant operating restrictions on each Project Company, including its ability to make equity distributions to the Sponsor prior to the payment of operating expenses, debt service, and a percentage "sweep" of additional cash flow (discussed further in Part IV). The result is that the decision of whether to reinvest cash flow in the project does not rest solely with the Sponsor.

Given the pros and cons of project finance, the most relevant initial inquiry for an investor or developer may be when is project financing possible or most appropriate? The following questions should be useful in determining if project financing is a realistic opportunity for any given company:

- Is there an individual project or group of projects of a sufficient size to make either a standalone or portfolio project financing worthwhile? Typically lenders will be reluctant to provide project financing if the total amount of debt is less than US\$50 million and, preferably, US\$100 million.
- Will there be a revenue stream from the project large enough to support a leveraged debt financing with reasonable debt service coverage ratios? DSCRs range from 1.1x to 2.0x depending on the overall credit quality of the project.

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- Will the receipt of revenue be enforceable under contractual rights against a creditworthy party? This is not necessarily a prerequisite for all project financings, but the absence of a contract, or questionable creditworthiness of the purchaser, will prompt lender skepticism and necessitate thorough due diligence regarding future revenue projections.
 - Will there be physical assets sufficient to ensure lender repayment in case of foreclosure? Lenders will want to know that, even if the Project Company's projected revenue stream does not materialize, they will be able to foreclose on the project's assets sufficient in value to "make themselves whole," either by selling the project outright or operating it until the debt is repaid.
 - Is there a significant level of technology risk? While in many project financings, technology may be relatively new or cutting edge, project finance lenders almost never want to be the first to finance an untested technology. Demonstrated successful use in some context will often be necessary to secure project financing.
 - Does the project have contractual relationships with reputable companies for services key to the success of the project or the technology it employs? Lenders will be less likely to lend to a project the success of which depends solely on a few talented individuals who may depart, leaving the project unable to meet its potential.
 - Is the Sponsor ultimately willing to "risk the project"? In other words, once project financing is completed, the Sponsor loses the ability to determine how the vast majority of the project's revenue is spent. In the event a project becomes uneconomic and unable to service its debt, the only option besides refinancing the debt may be to turn over the project to the lenders (voluntarily or involuntarily), with the corresponding loss of the Sponsor's investment in the project.
 - Is the Sponsor looking for a quick exit? Once project-financed, divestiture opportunities are complicated by the requirement of lender consent, and potential purchasers will be thoroughly examined by lenders for development and operational expertise as well as creditworthiness.
 - Are Sponsors willing to grant rights of high-level oversight regarding the project's development and operation to project finance lenders? In many cases the interests of the Sponsor and the lenders will be aligned, and lenders will tend to defer to the Sponsor's developmental expertise. On the other hand, lenders must be viewed as additional project partners, with veto rights over many significant decisions.

Assuming project financing is a viable option, Part II provides a roadmap to structuring a project financing transaction.


II. Establishing a Project Structure and Negotiating Project Agreements

A. Project Structure

The project finance structure revolves around the creation of the Project Company that holds all of the project's assets, including all of its contractual rights and obligations. The Project Company is usually a single-member limited liability company, although in some cases it may be a limited partnership.

In most cases, the equity interest in the Project Company will be held by at least one intermediate holding company, usually a limited liability company (the "Holdco"), created for the purpose of pledging the Project Company's equity to the lenders in the eventual project financing. While the Holdco will have a separate legal identity, typically it will not have any business apart from holding the equity of the Project Company. This structure allows for most liability to be contained at the bankruptcy-remote Project Company level, and thus insulates the Sponsor (including equity investors in the Sponsor) and the Holdco from liability to either the Project Company's contractual counterparties

("Counterparties") or to the Holdco's lenders. In order to ensure that the Project Company is treated as a separate legal entity, it will be necessary to have governance mechanisms at the Project Company level that are independent,



including designated officers, at least one independent director, and internal controls and procedures designed to preserve a legal entity distinct from the Sponsor and the Holdco.

B. Project Agreements Overview

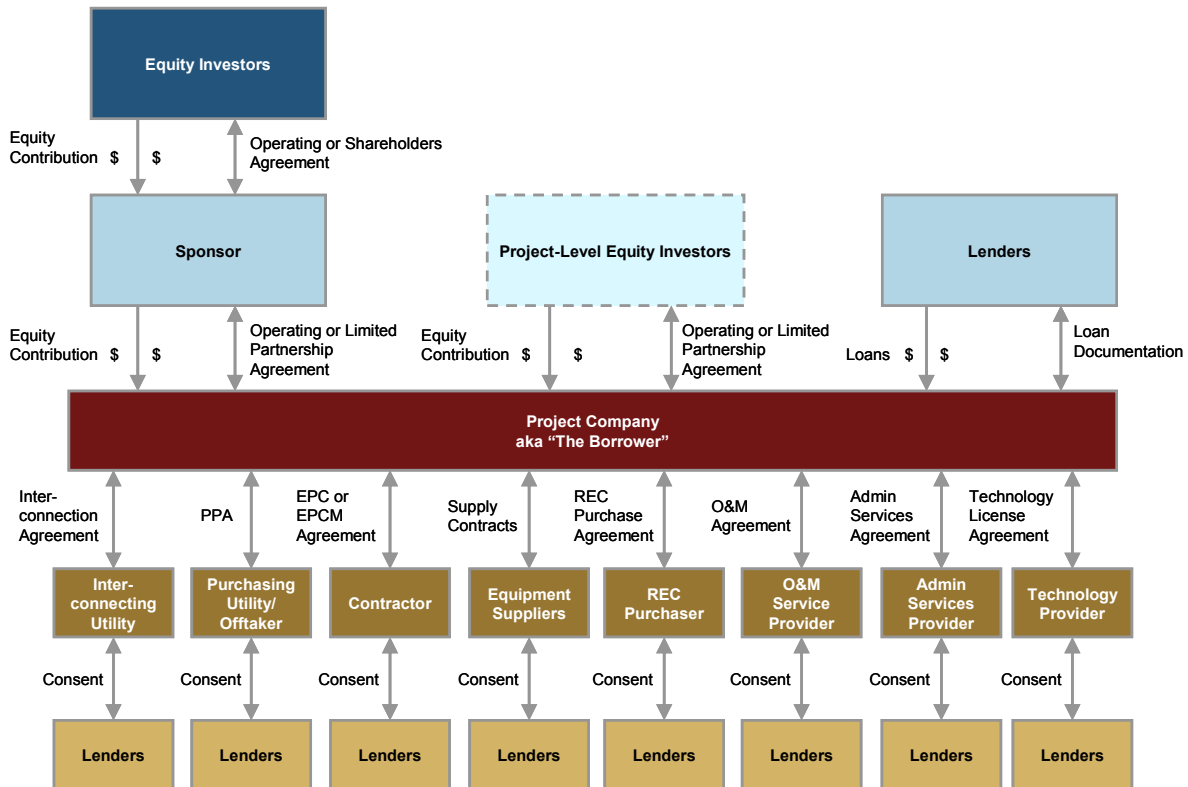
As a general matter, all contracts related to the development, construction, ownership, and operation of the project will be entered into by the Project Company (“Project Agreements”). If development-stage contracts have been executed by the Sponsor or one of its affiliates, it is important that the contracts allow for their assignment to the Project Company once the Project Company has been established for the purposes of pursuing project financing.

In addition to the external Project Agreements, there may be several intercompany agreements between the Project Company and the Sponsor or its affiliates. These may include an Operation and Maintenance Agreement (“O&M”), an Administrative Services Agreement (“ASA”), and a Technology License Agreement (“TLA”), often with affiliates of the Sponsor created specifically for the purpose of providing administrative support, operation, and maintenance services and holding the intellectual property for the benefit of one or more of the Sponsor’s projects. In other cases, unrelated third parties may provide these services to the Project Company. If intercompany agreements are used, they should be structured in such a manner as to track the material commercial terms that the Sponsor could obtain with an unrelated third party providing the same services.

Intercompany agreements can also have a significant impact on the total return of a project to its investors, so their economic terms must be carefully crafted. Assuming the O&M, ASA, and TLA are entered into with Sponsor affiliates, they permit the affiliates to extract “arms length” fees for the provision of key services and technology to the Project Company on a monthly or quarterly basis; these fees are frequently paid prior to repayment of debt. The intercompany-agreement structure also allows the Sponsor, if the project fails following the project financing, to retain all of its employees that provide services to the Project Company, thereby ensuring that key employees (and know-how) will not be lost to lenders or a subsequent purchaser out of foreclosure. In such a scenario, the TLA will also allow the Sponsor to retain ownership of its technology subject only to a license right on the part of the Project Company which may no longer be affiliated with the Sponsor. These are especially critical points where the Sponsor has multiple projects that may utilize the same technology, support equipment, and personnel. In addition, the O&M, ASA, and TLA provide the Project Company’s lenders contractual certainty (through the agreements themselves as well as the corresponding consents to collateral assignment (discussed further in Part IV below)) that key services will continue if the Project Company defaults, thereby increasing the likelihood of the efficient development, construction, and operation of the project and the preservation of the value of the lenders’ collateral.

There are many other Project Agreements that are typically executed during the course of developing and constructing a renewable energy project. The Project Agreements may include one or more PPAs, which may have an income stream payable from an off-taker for energy payments, capacity payments, or both; an Engineering, Procurement, and Construction Agreement (“EPC Agreement”); a Site Lease Agreement (if the project’s land is not owned by the Project Company itself); a Renewable Energy Credit Agreement (in states where applicable); an Interconnection Agreement (for projects tied to the electricity grid); agreements for the provision of utility services; agreements for the provision of feedstock commodities (in the case of biofuels) and the necessary price and supply hedging; agreements including equity flip structures to take advantage of the federal tax incentives discussed in Part V below; and other Project Agreements necessary or desirable to develop, construct, own, or operate the project. In some cases certain byproducts of production may be sold in addition to the primary product (for example, steam as a byproduct of co-generation power projects, high protein distillers grains as a byproduct of ethanol production, or carbon dioxide where markets exist).

Typical Project Finance Structure



C. Key Project Agreement Terms

In the process of negotiating the Project Agreements it will be necessary to consider key project finance principles to prevent having to revisit contractual terms at the lenders' behest in the course of financing the project. One overriding concept is that lenders will own (and likely seek to immediately transfer) the Project Company in the case of foreclosure, thus will insist on contractual rights and terms that ensure a seamless transition to the lender or subsequent owner. To this end, the project lenders will require consents to collateral assignment ("Consents") for their benefit with some if not all of the Counterparties. Therefore, provisions that prevent assignment without Counterparty consent should be omitted from Project Agreements. Inclusion of contractual language that obligates the Counterparty to cooperate with the Project Company and its lenders in the course of the financing process will not only expedite the process of negotiating the Consents but will also reduce the scope for Counterparty intransigence in the context of the project financing.

The commercial terms of the PPA and the EPC Agreement, together with the market and technology risks, will largely determine whether lenders view the project as "financeable." Foremost among considerations related to the PPA will be whether or not there is a guaranteed revenue stream (usually energy payments from the actual production of power) from a creditworthy purchaser that will be sufficient to support the economics of the project, thereby ensuring prompt repayment of debt and mitigating the risk of default. The PPA term should also be sufficient in length to fully amortize the contemplated project debt. In contrast to most smaller distributed generation projects, where an off-taker pays for only the power that is produced, utility scale solar generation facilities may have "take or pay" PPAs where the utility is still required to pay the Project Company even if a

certain level of power is not purchased. In the case of Solar Projects, utilities are less likely to deliver capacity payments because power is generally produced only during daylight hours. However, distributed generation



projects may benefit from more certain payments because the distributed project produces all of the power for a given host.

If a project does not have a PPA or other off-take contract, demonstrated merchant operating histories of similarly situated plants (more relevant in the context of wind projects) will be necessary to convince lenders of the reliability of forecast ratios. Even with long-term PPAs, lenders will still look for additional data to support viability, such as meteorological wind data for wind power sites over the course of one to two years, often at installed hub-heights, or long-term temperature and sun data for solar projects. The trend in biofuels project financings is also moving toward contracted off-take arrangements with a creditworthy purchaser for all of a plant's production. At least in the short and intermediate terms, most project-financed solar projects will have PPAs for a significant portion, if not all, of their generated power. While PPAs for large-scale CSP projects will generally be far more complex than those for smaller distributed PV projects, in either case, the core economic terms will determine the lenders' view of whether a project or a portfolio of projects is viable from a revenue perspective and, accordingly, "financeable" on favorable terms.

To the extent a project is not fully constructed by the time project financing is sought, EPC Agreements will be an integral part of the financing analysis and pricing. While larger developers may be able to finance an entire project on balance sheet, and subsequently refinance the development to free up invested capital, most developers seek to leverage their equity and use project finance to construct and operate their projects. Where construction risk is present, lenders will generally seek corporate parent guarantees, performance bonds, or other forms of performance surety that ensure that the performance of the contractor is as close to budget and schedule as possible. Warranties of appropriate substance and duration as well as subsequent maintenance coverage regarding the EPC work and the equipment purchased will be necessary to convince lenders that significant unbudgeted expenses will not be incurred by the Project Company. With respect to the EPC contractor itself, lenders prefer a "full wrap" EPC agreement because such an agreement provides a single point of contact with regard to the various risks such an agreement might contain (warranties and schedule and performance guarantees, among other things). This is particularly the case with newer and untested technology even if operationally superior to previous generation technology. Liquidated damage coverage (pre-agreed payments made by the contractor) for schedule and performance delays, inefficiency, or equipment failures also reassure lenders that a project has the necessary protection against delays or performance defects that are within the EPC contractor's control. How much of the risk an EPC contractor accepts for cost overruns and design or installation defects, when viewed with other contractual terms, will affect the lenders' view of whether a project is "financeable" and at what cost. For example, a project that is not financeable at 80% debt due to certain off-take or technology risks may be financeable with 40%–60% debt because the lenders are taking less risk with a higher level of capital pre-paid into the project. Dedicating sufficient resources at the negotiation stage of PPA and EPC Agreements to achieve commercial and contractual terms as favorable as possible will usually pay dividends at the financing stage by saving not only money but also costly renegotiation and valuable time toward project completion.


III. Raising Equity

Venture capital and private equity investors also serve as attractive sources for capital raising, as an increasing number of funds are investing in renewable energy and clean technologies. The large sums of capital required to initiate and complete renewable energy projects drive not only the selection of appropriate equity investors but also the structure of such investments. Therefore, Sponsors and investors evaluating equity solar investments should consider the following action items:

A. Conduct an internal assessment of capital and budgeting strategies for the investment.

Sponsors and investors should conduct an internal evaluation of whether an equity investment would best serve their respective strategic objectives. Salient considerations include:

- Is the company's technology reliable enough to be considered financeable, and is there a realistic potential pool of later-stage equity investors from which to draw?

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- Are there any gaps in the Sponsor's existing organizational structure and operations that an equity investor would want filled before engaging in substantive discussions and/or closing an equity round of financing? For example, given the complexity involved in successfully executing solar projects, equity investors will look for experienced management with skill and connections within the industry, as well as potentially requiring contractual commitments from relevant third parties in the supply chain and customer base.
 - How much capital investment is realistically required for the applicable project? Has Sponsor management, on the one hand, conducted a thorough analysis of the timing and amount of future capital needs and relevant burn rates, and has the investor and its syndicate, on the other hand, assessed whether its proposed financing will be sufficient to either execute the project or bridge the Sponsor towards its next round of investment?
 - What type of investment is ideally suited for the particular project — e.g., is the Sponsor seeking passive investment, or an active strategic partner that will add value to the organization (as discussed in greater detail below)?
 - How would an equity investment impact the project's existing grants, tax treatment, eligibility for applicable federal and state incentive programs, and contractual obligations?
 - As equity investors become shareholders, and in many cases directors of the Sponsor, how much control is the Sponsor willing to give to the investor, and what level of control does the investor desire in order to have an active voice within the organization?

B. Determine whether the investment will add value to the project.


Unless a Sponsor is seeking a purely passive equity investment, the Sponsor and its investor should conduct a thorough assessment of the investor's role in driving value to the enterprise by, among other things:

- Reviewing the investor's existing portfolio companies to determine whether the investor has previously invested in similar projects or has other relevant experience with alternative energy investments. It is important to find investors who understand the longer time period required to execute and obtain a return on investment from renewable energy projects;
- Meeting with the investor's key decisionmakers to assess how the investor will add value in addition to the capital infusion — e.g., through participation on the board of directors, introductions to potential customers, assistance in financial forecasting and planning, and guidance in analyzing potential liquidity events; and
- Assessing potential conflicts of interest that may arise to the extent that an investor has, for example, a competitor as one of its portfolio companies.

C. Assess the appropriate structure for the equity investment.

Once an appropriate equity investor has been identified, the equity investment typically will proceed to the preparation of a term sheet that identifies the key terms of the investment, as well as a diligence request and the execution of a confidentiality agreement to facilitate the exchange of information to the investor for the investor's due diligence purposes. A term sheet is a helpful means of assessing whether the parties truly see eye-to-eye with each other on the critical aspects of the investment before expending significant time and expense negotiating definitive documents, and may include the following terms:

- The identification of the relevant entity that will receive such funds (e.g., will the investment be made into a special purpose vehicle solely created for the project (for example, a Project Company) or will the investment be made into the Sponsor which may hold assets unrelated to the project);
- The amount of the investment, as the Sponsor should ensure that it receives sufficient capital to minimize future dilutive "cram-down" financings, but also not take in more capital than is needed as this also will have dilutive effects to existing shareholders. Milestone-based investments may help serve to mitigate Sponsor risk in terms of securing additional future financing, while helping investors stage their



investment to ensure that the Sponsor can meet specific financial and commercial targets before disbursing additional funds; and

- Whether the equity security will be “common stock,” which is typically issued to founders, optionees, and “angel” investors, or “preferred stock,” which not only is senior to the common stock in preference but also typically has additional terms and conditions that increase preferred stockholders’ return on investment and control over the Sponsor such as:
 - The right to appoint one or more board members;
 - Dividend rights;
 - A “liquidation preference,” which is the right to receive a preferential return on investment in the event of a liquidity event such as a merger, asset sale, or change of control;
 - A “redemption right,” which is the right to redeem the equity securities at an agreed-upon point in the future;
 - “Anti-dilution rights,” which protect an investor from the dilutive effect of future equity issuances; and
 - “Protective provisions,” which allow the preferred holders certain veto rights over key corporate actions.

D. Have candid discussions to ensure that expectations are aligned on key business issues, including:

- The market opportunity;
- The company’s ability to execute its business plan, and the investors’ commitment to both the initial and subsequent capital needs during the company’s life cycle;
- A realistic commercialization timeline, use of proceeds, and the expected internal rate of return of the applicable project; and
- The appropriate liquidity event, be it an acquisition or an initial public offering, and how the investor can add value to facilitate a liquidity event (e.g., by assisting in pre-public corporate governance compliance required by Sarbanes-Oxley, or introductions to key strategic partners, customers, and potential acquirers in the future).

In summary, both Sponsors and investors analyzing an equity investment should conduct a realistic assessment of the company’s capital needs, structure an investment that can add value to the company and its projects, and seek to create a mutually beneficial working relationship where expectations on key business issues between the Sponsor and the investor are aligned.

IV. Time to Project Finance

Before beginning an examination of the project financing process, it is worth noting different options for raising debt in the context of project development. The three most frequently utilized project financing structures are the syndicated or “club” loan, the issuance of project bonds through a private placement, and the issuance of “Term B loans.”

A. Syndicated and Club Loans and Project Bonds



Currently the majority of renewable energy projects are financed through the syndicated commercial loan market. Syndicated loans are loans in which members of a group of banks take portions of a larger loan and thus minimize the risk that any one individual lender making the same loan would otherwise have. A syndicated loan transaction is usually coordinated by one or more arranger banks whereas in “club” deals a handful of lenders take equal roles in leading the transaction and lending to the project. An alternative to the syndicated loan market is private placement of debt through “144A” offerings, which are exempt from registration with the SEC if the purchasers are “Qualified Institutional Buyers” as defined in the Securities Exchange Act of 1933. The issuer of 144A bonds could be either the Project Company or the Sponsor.

Syndicated loan structures are often preferred to accessing the capital markets through 144A offerings because capital markets investors are generally less likely to assume construction risk and the disclosure documentation for a 144A offering is generally more extensive than that prepared in connection with syndicating a commercial loan. In addition, amounts raised through a 144A issuance are all disbursed at closing, which leads to negative carry implications. Moreover, private placements or corporate level offerings tend to be fixed rate, which, while providing certainty, removes the upside potential of floating rates that are available pursuant to commercial bank loans. On the other hand, the documentation governing 144A bond offerings may be less restrictive than for commercial bank loans, and the repayment period of private placement debt offerings is generally longer. Bonds can also pay interest at tax-exempt rates (lowering the borrower’s borrowing cost), be issued in relatively small amounts (making them helpful for smaller project financings) and carry implied or explicit credit support from government instrumentalities (again reducing borrowing costs).


B. Term B Loans

Several years ago, Term B loans emerged as a subset of the project lending market and were characterized by shorter tenors and lower or delayed amortization, often with bullet payments due at maturity. Correspondingly, Term B loans carried higher risk profiles and usually were rated non-investment grade. In addition, the terms and conditions of Term B loans tended to be less onerous than traditional project debt that amortized over a longer period. As a result of the subprime lending crisis and the resulting credit crunch, the Term B loan market all but disappeared and is only now slowly re-emerging. For purposes of the following discussion, due to the considerations set forth above and the lull in the Term B market, we assume that a traditional bank syndication model of project financing will be most beneficial to the Sponsor. Although the terminology may differ from transaction to transaction, the documentation for such a project financing is governed by a credit or financing agreement (“Credit Agreement”) and at a minimum will include an asset security and equity pledge agreement, a mortgage, and various Consents.

C. Loan Types

Depending on the development stage of the project, and within the project finance framework, the Sponsor may on behalf of the Project Company seek construction loans, term loans, working capital loans and/or a letter of credit facility. Construction loans, as the name implies, are utilized only for the period that the project is under construction. The interest rate can be higher vis-a-vis a term loan (reflecting increased risk to the lenders during the construction period) but more frequent drawdowns of construction loans are permitted and at the end of the construction loan availability period, the construction loan usually converts to a term loan. Term loans are characterized by a set and limited commitment or drawdown period and an extended amortization period. Term loans can have a lower interest rate than construction loans, and have scheduled (quarterly or otherwise) repayment dates or set amortization schedules. The conversion from a construction loan to a term loan often coincides with the definition of “Substantial Completion” or “Final Completion” under the EPC Agreement, and a failure to achieve such conversion by a certain date will cause a default under the construction loan and accelerate the debt due thereunder.

Working capital loans, which are used primarily for ordinary course expenses such as inventory purchases, are generally sized smaller than construction or term loans and are subject to a maximum available amount tied to the value of a Project Company’s inventory and cash (often 80%). Working capital loans are usually revolving in nature, meaning that amounts borrowed can be reborrowed once they are repaid. Letters of credit are made available on the Project Company’s behalf usually for the benefit of third parties under the Project Agreements — for example, if a letter of credit is required as credit support under a PPA, an EPC Agreement or for the provision of



utility services. Draws by a third party on an outstanding letter of credit will operate to reduce the amount of working capital loan availability.

The term of a project finance loan will vary depending on the term of the principal off-take agreement. To minimize risk profile and lower borrowing costs, loans will ideally amortize in full prior to the end of the term of the PPA. The borrowing costs of a renewable energy project will invariably depend on the risk profile determined by the characteristics of the project itself, in particular the lenders' view of the likelihood that the project will default on its loans. In addition, exposure to merchant markets or other off-take risk will increase borrowing costs relative to projects that have a long-term PPA, particularly one that is fixed price with take-or-pay terms. The reduced risks that come with long-term PPAs prevent Sponsors from taking full advantage of arbitrage opportunities that may become available in the spot market if power prices rise, as price risk is avoided for the producer. Recent trends have seen a wide swing in loan terms and it is difficult to provide standard pricing terms, although as a general rule rates are higher and fees have increased, while internal credit reviews have become more stringent and less forgiving of unmitigated project risks or even minor holes or errors in Project Agreements. Typical lending fees for a project financing include the following: (i) two percent (2%) to six percent (6%) of the aggregate loan commitment as an arranging or structuring fee, (ii) one percent (1%) of the aggregate loan commitment as a syndication fee, (iii) \$75,000 administrative agency fee to be paid annually, (iv) \$50,000 collateral agency fee to be paid annually, and (v) facility fees to each lender in the syndicate in an amount between three-quarters of one percent (.75%) and one and one-half percent (1.5%) of each lender's commitment. In addition, the Project Company will be required to pay the professional fees and administrative expenses of each of the lenders in evaluating the transaction, negotiating the loan documents, and providing the loans.

Despite the non-recourse nature of pure project financing, in some transactions lenders will seek guarantees for certain obligations of the Sponsor or its affiliates, either to ensure construction of the project or to ensure that the Project Company is sufficiently capitalized to meet its debt service requirements. While by no means a requirement in all transactions, under certain market conditions, a guaranteed (or limited recourse) project finance structure may be the only way to finance one or more projects or to obtain reasonably priced project debt.

D. Security Package

1. Overview

Project finance requires the pledge of a comprehensive collateral security package to the lenders in exchange for the making of loans. The collateral security package, in the absence of recourse to the Sponsor, serves as the basis for the lenders' securing repayment in the case of default. Specifically, all assets of the Project Company owned at the time of the loan closing, in addition to those acquired post-closing, will be pledged to the lenders until the loans are fully repaid. Included in the assets to be pledged will be all of the Project Company's personal property, accounts receivable, contractual rights, and intellectual property. The Project Company's real property is pledged to the lenders pursuant to a mortgage. A pledge of the equity interests in the Project Company is executed by the Holdco or any other entities that directly hold equity interests.

As part of the collateral security package, the lenders will require a Consent from some or all of the Counterparties. The Consent negotiation process can be time consuming and even contentious, especially if the interests of the Sponsor and the Project Company on the one hand, and the Counterparty on the other, are not aligned. To complicate matters, lenders may use the process of Consent negotiation to incorporate amendments to the relevant Project Agreement, which are likely to benefit the Project Company as well as the lenders, but at which the Counterparty may balk as a renegotiation of the fundamental business agreement embodied in the Project Agreement. Even fundamental Consent terms such as the extension of cure periods for defaults for the benefit of the lenders in the event the Project Company does not cure may be viewed as an unfavorable renegotiation from the perspective of a Counterparty. In addition, some Counterparties are hesitant to enter into a contractual relationship with a large financial institution as a putative future partner. The prospect of perceived bargaining asymmetry often complicates what may be tedious three-way negotiations between the Counterparty, the Project Company, and the lenders, with the Project Company likely playing the role of honest broker in order to facilitate prompt agreement and closure of the financing.



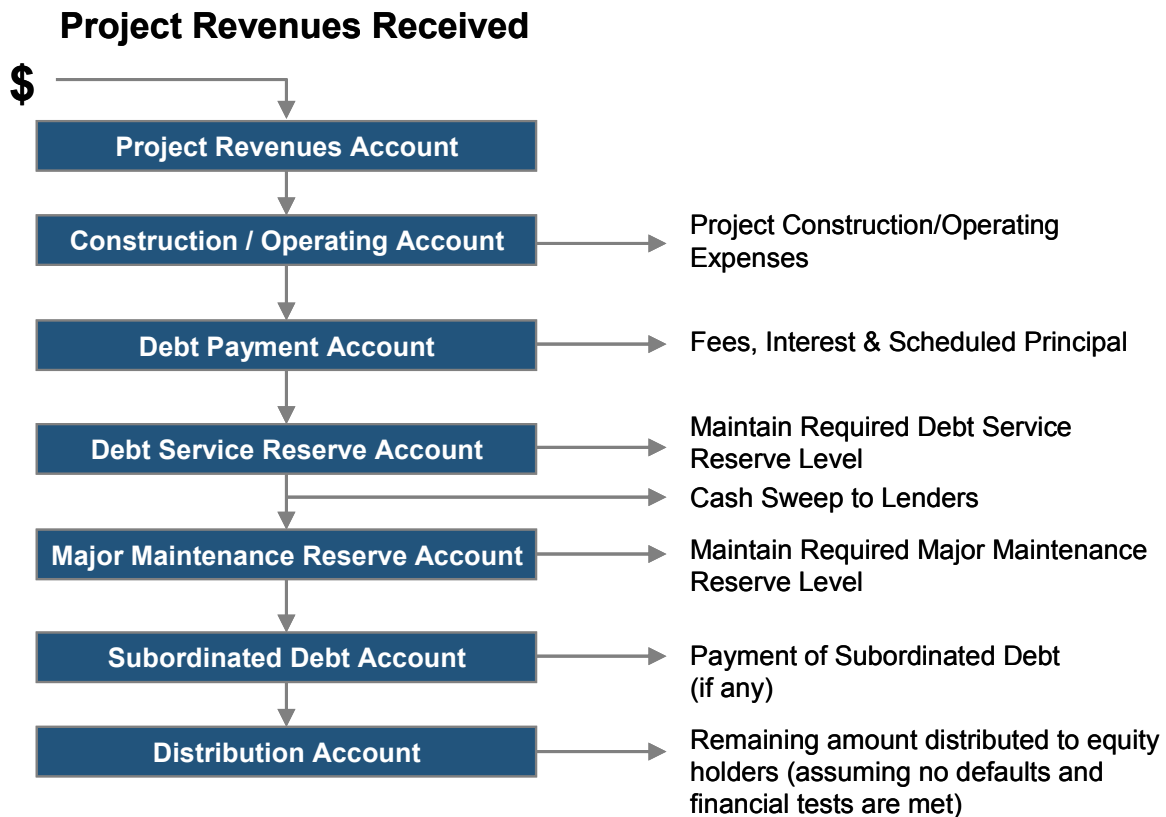
2. Distribution of Project Revenues

Almost all project financed loans have what is referred to as the “project waterfall.” All revenues received by the Project Company are placed in a master project revenue account, which serves as the top of the metaphorical waterfall. As money flows down the waterfall it is siphoned off into segregated secured accounts at each different level as described in an Accounts or Disbursement Agreement, with any funds remaining at the bottom of the waterfall being paid, assuming there are no defaults and that certain financial tests are met, to the equity owners of the Project Company. Typically, the project waterfall is structured (roughly) in a manner as described below, with most withdrawals from the waterfall occurring on a monthly or quarterly basis as appropriate:

- The first level of payment would be in an amount necessary to pay costs incurred by the Project Company (i.e., construction and/or operation and maintenance expenses depending on the project’s stage of development), including pre-approved reasonable amounts paid to the Sponsor’s affiliates under the O&M, the ASA, and the TLA;
- The second level of payment would be to the lenders to pay (i) loan fees and expenses, (ii) interest payments, and (iii) principal payments (in this order);
- The third level of payment will be used to fill an account segregated for the purposes of paying future debt service in times of lower project revenues, although once this account has been filled to the level of the required amount no amounts will be taken out at this level;
- The fourth level of payment is often referred to as a “cash sweep” in which the lenders are repaid outstanding principal with a certain percentage of the excess cash (generally one-third or half, which increases in a default scenario) remaining after the operation of the three waterfall levels above;
- The fifth level of the waterfall may operate to fill one or more reserve accounts, often designated for future major maintenance or other purposes, but once the reserve account is filled with the required amount no amounts will be taken out at this level;
- The sixth level of the waterfall may be used to repay the holders of subordinated debt or bondholders, if applicable; and
- The seventh level of the waterfall allows for cash remaining after amounts have been removed at the higher levels to be paid to the equity holders of the Project Company in the form of an equity distribution, assuming there are no defaults and that financial tests are met.

While every project waterfall will operate somewhat differently and many will have features unique to specific project and financing arrangements, the waterfall operation outlined above is generally standard in project financing arrangements.

Typical Project Finance Waterfall




E. Operating Restrictions

Project finance lenders place restrictions and affirmative obligations on the Project Company that significantly impact its day-to-day operation. While many of the affirmative obligations in particular may seem like ordinary course of business operations, and the affirmative obligations and restrictions taken individually may not seem particularly onerous, on a collective basis compliance with these obligations and restrictions requires time and effort from the Sponsor's employees. It is worth noting in connection with the time consuming nature of complying with the covenants set forth in project financing documentation that there may be certain economies of scale, particularly where the individual projects are smaller, to arranging project financing on a portfolio basis.

More specifically, project finance lenders will require that the Project Company (i) comply with all laws and regulations, including permits, (ii) construct and operate the project in accordance with prudent industry standards, (iii) pay its debts and obligations as they become due, (iv) use proceeds received and cash flow as set forth in the financing documentation (including operation of the waterfall), (v) maintain pre-determined (and generally quite comprehensive) insurance coverage, (vi) maintain books and records in accordance with GAAP, (vii) adopt and update budgets, (viii) permit independent verification by the lenders' representatives of performance tests, (ix) maintain in effect all Project Agreements, (x) preserve title to all assets, (xi) update the financial model, (xii) maintain the liens granted under the security documentation, and (xiii) enter into pre-approved hedging arrangements both for commodity inputs — for example, natural gas in the case of a power project or feedstock in the case of a biofuel plant — and for purposes of interest rate protection. This list is far from comprehensive in scope or detail. In addition, comprehensive reporting requirements will be set out in the Credit Agreement that obligate the Project Company to provide the lenders with copies of everything from construction status reports to auditor's letters to notices of certain adverse events.

Prohibitions placed on the Project Company by the financing documentation will likely include (i) incurring indebtedness subject to certain exceptions, (ii) incurring liens subject to certain exceptions, (iii) making investments



subject to certain exceptions, (iii) changing the nature of the business, (iv) issuing equity securities, (v) disposing of assets outside of the ordinary course of business, (vi) consolidating or merging, (viii) transacting with affiliates subject to certain exceptions, (ix) opening bank accounts other than those secured under the financing documentation, (x) creating subsidiaries, partnerships, or joint ventures, (xi) making certain tax elections, (xii) making certain ERISA elections, (xiii) amending Project Agreements (including EPC change orders) subject to certain exceptions, (xiv) entering into additional Project Agreements, (xv) suspending or abandoning the project, (xvi) entering into hedging arrangements not approved by the lenders, (xvii) budgeting changes subject to certain tolerance bands, and (xviii) making equity distributions outside of the waterfall framework and unless certain criteria are met, including achieving certain cash available to debt service ratios on a historical and prospective basis (usually between 1.25:1 and 1.5:1). While this list is not comprehensive, it should again be stressed that lenders will generally tend to be sensitive to the financial interests of the project and will to some degree tailor a covenant package to the project's expected construction and operation characteristics. It should also be noted that project finance lenders will often entertain requests for waivers of obligations set forth in the financing documentation after the closing of the loans, as they are incentivized to keep the loans performing and out of default.

F. Potential Defaults

“Event of Default” is the legal term for the circumstance that allows project finance lenders to exercise their remedies under the financing documentation, including acceleration of the outstanding debt and foreclosure. Events of Default may include: (i) nonpayment of fees, interest, or principal due under the financing documentation (usually with a very short grace period with respect to fees and interest only), (ii) breach of representation or warranty made in the financing documentation (usually with a grace period if capable of being cured), (iii) non-performance of certain covenants or obligations under the financing documentation (usually with a grace period if capable of being cured), (iv) cross-defaults to other debt instruments, (v) non-appealable legal judgments rendered against the Project Company, (vi) certain events related to ERISA, (vii) bankruptcy or insolvency, (viii) default under or termination of Project Agreements, (ix) significant delays in construction schedule, (x) failure to obtain or maintain a necessary permit or government approval, (xi) unenforceability of financing documentation, (xii) certain material environmental matters, (xiii) loss of or damage to collateral, (xiv) abandonment of the project, and (xv) a change of control. Many Events of Default have cure periods, which allow the Sponsor or Project Company to take action over the course of a certain period (usually 30 days but may be less or more) to remedy the non-compliance if the Event of Default is capable of being cured; for example, a “default” under another debt instrument may be cured by paying the amount due but a final, non-appealable legal judgment against the Project Company would be incurable. In addition, during the course of negotiating the Credit Agreement it will be important for the Project Company's representatives to qualify as many of the Event of Default provisions with materiality and “Material Adverse Effect” standards as possible, providing the Project Company more leeway to avoid an Event of Default and the potential loss of the project.

G. Conditions to Closing

Project financing lenders will require that a lengthy list of conditions be satisfied in order to “close” the financing and fund the loan. While many of the precedent conditions and required documents are shared with other forms of financing, it is worth mentioning certain of the conditions that constitute particularly long lead time items that must be commenced months prior to the close of the financing. Specifically, project finance lenders will generally require the delivery of the following as conditions to closing the loan: (i) a report of an independent engineer that confirms the technology employed by the project is commercially viable, the reasonableness of budgetary assumptions, the absence of serious environmental issues, compliance with all necessary permits or approvals, and that financial projections are realistic; (ii) a power or biofuels market report (if the project will have significant uncontracted off-take) setting forth expected market conditions over the course of the loan; (iii) an environmental site assessment (at least a “Phase I” report concluding that no further environmental investigation is necessary); (iv) an insurance report from the lenders' insurance consultant; (v) land surveys and site descriptions; (vi) a commodity management plan (in the case of biofuels facilities and other projects where appropriate); (vii) evidence that the required equity component of the project has been contributed or will otherwise be available when required; and (viii) copies of all third-party and government approvals and permits.

As a final note, depending on the project's funding requirements and the size of the equity contribution and project finance commitments, it may be possible to include subordinated debt in the financing package. In the case of



certain renewable energy projects (e.g., biofuels production facilities), tax-exempt state bond financing may be available to close any gap between the raised and required equity in a project finance scenario. As a general rule, subordinated debt will be more expensive than senior debt due to the subordinated lenders' higher risk of non-payment. In almost all circumstances, the subordinated debt will need to be in place prior to finalization of the senior project debt to avoid the substantial costs that would be incurred to re-document the senior loan. If subordinated debt is employed, an intercreditor agreement will be negotiated between the agent for the senior lenders and the trustee or agent for the subordinated debtholders, pursuant to which the senior lenders will obtain standard terms of subordination to ensure their senior lien and payment positions vis-a-vis the subordinated lenders and any unsecured creditors in the case of any Event of Default by the Project Company or its bankruptcy or insolvency.

V. Tax Implications

A. Key Federal Income Tax Incentives for Renewable Energy Projects

The U.S. federal government provides several income tax subsidies to encourage the development of renewable energy projects. These tax benefits are typically necessary to make renewable energy projects economically competitive with projects that produce energy from conventional sources, and can finance as much as approximately 60 percent of the capital cost of a project. The following is a brief discussion of some of the key federal income tax incentives available to developers of, and investors in, renewable energy projects. To address a significant decline in available "tax equity" investors that began in 2008, in February 2009 Congress enacted a grant program for renewable energy projects that, although not specifically a tax incentive, is intended to replicate a key tax incentive. This grant program expired generally at the end of 2011.

1. Production Tax Credits

A production tax credit ("PTC") is available for the production and sale of electricity from certain renewable sources. Renewable sources of energy that qualify for the PTC include wind, biomass, geothermal, municipal solid waste (either landfill gas or trash), hydropower (in the case of newly installed turbines), and marine and hydrokinetic energy. To qualify for the PTC, electricity from these sources must be produced at a facility that is "placed in service" before (i) January 1, 2013 for a wind facility and (ii) January 1, 2014 for other qualifying facilities. The facility must be located in the United States.

The PTC is available for 10 years following the date the qualified facility is placed in service. The amount of the credit for each year is generally determined by multiplying the credit rate by the number of kilowatt hours of electricity produced by the taxpayer from the qualified facility and sold to an unrelated party. The credit rate is adjusted annually for inflation and varies based on the type of renewable resource. The amount of the PTC is reduced by as much as 50 percent to the extent the project benefits from nontaxable grants, tax-exempt bond financing, other subsidized energy financing, or other federal credits. The taxpayer's basis in the property is not reduced by any part of the PTC.

2. Investment Tax Credit

Many renewable energy projects can qualify for the investment tax credit ("ITC"), which is based on the cost of the qualifying property (unlike the PTC, which is based on the amount of electricity generated and sold to an unrelated party). The ITC is equal to the product of the "energy percentage" and the taxpayer's tax basis in its "energy property" that is "placed in service" during the taxable year. "Energy property" includes, among other things, equipment that uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat. Certain fuel cell power plants that are placed in service before January 1, 2017, also qualify for the ITC. The "energy percentage" is 30 percent for solar equipment and fuel cell equipment that is placed in service before January 1, 2017. For solar equipment placed in service after 2016, the energy percentage is 10%; the ITC is not available for fuel cell property placed in service after 2016. To be "placed in service," the property must be ready for use, which generally requires that all tests have been completed, all licenses and permits have been obtained, and the project be synchronized with the transmission system and be operational. Unlike the PTC, the ITC is not reduced by subsidized energy financing.



A taxpayer currently may elect to claim either the ITC or the PTC for most facilities that qualify for the PTC. The ITC for these facilities is 30 percent of tax basis and the election is available for a facility that is placed in service before the relevant PTC cutoff date: (i) January 1, 2013 for a wind facility, and (ii) January 1, 2014 for other qualifying facilities. In deciding which credit to claim for a renewable energy project that can qualify for either credit, a Sponsor will consider a number of factors, including the estimated cost of the facility, the expected power production from the facility over the 10-year PTC period and anticipated power prices (including prices under a PPA that is in place).

To qualify for the ITC, the energy property must satisfy several requirements. The property must be constructed or acquired by the taxpayer and the original use of the property must commence with the taxpayer. In addition, the property must be used within the United States and depreciation or amortization must be allowable with respect to the property. The property must meet any performance and quality standards prescribed by the Internal Revenue Service ("IRS") after consultation with the Department of Energy (none have been proposed to date). The property must also not be used (including under a lease) by a tax-exempt or governmental entity. Finally, the project must not include property which is part of a facility the production from which is used to claim PTCs. The taxpayer's depreciable basis in the property is reduced by 50 percent of the amount of the ITC.

The ITC vests 20 percent annually over five years. If the property is disposed of or otherwise becomes ineligible for the ITC prior to fully vesting, the unvested portion is recaptured.

3. Treasury Grants

A renewable energy project that qualifies for the ITC can qualify for a Department of the Treasury grant in lieu of the ITC (and the PTC), so long as construction on the project began in 2009, 2010 or 2011 and the project is placed in service by the relevant date on which the ITC terminates. The amount of the grant is calculated in the same manner as the ITC for the qualifying property, but since the grant is a cash payment from the Department of the Treasury (rather than a credit against federal income tax) a taxpayer need not have a federal income tax liability to benefit from a grant. Property that is used (including under a lease) by a tax-exempt or governmental entity may qualify for a grant (although generally it could not qualify for the ITC). The taxpayer's depreciable basis in the property is reduced by 50 percent of the amount of the grant.

Treasury grants are also subject to recapture, using the same schedule that is used for the ITC, but a sale or other disposition of property with respect to which a grant was received is not a recapture event provided that (i) the sale is to a person eligible to receive a grant and (ii) the buyer of the property agrees to be jointly liable with the seller of the property for any recapture. An application must be filed for a grant not later than October 1, 2012.

4. Depreciation

Certain equipment used in renewable energy projects may qualify for accelerated depreciation. After the basis of the property is reduced by 50 percent of the ITC (or Treasury grant), the remaining basis is generally depreciated over five years following the date the project is placed in service. Alternatively, a taxpayer may choose to claim "bonus depreciation" with respect to the remaining basis of most projects. Generally, for property acquired after December 31, 2011 and before January 1, 2013 and placed in service in 2013, bonus depreciation is 50 percent of the remaining basis, and the remaining basis (after reduction for the bonus depreciation) is generally depreciated using the standard accelerated depreciation schedule.

5. Qualifying Advanced Energy Project Credit

In 2009, Congress enacted a new credit equal to 30 percent of a taxpayer's qualified investment with respect to any "qualifying advanced energy project" of the taxpayer. This credit is available only for manufacturing facilities, not for renewables or energy efficiency installation projects. For the purposes of the credit, a "manufacturing facility" is a facility that makes, or processes raw materials into, finished products (or accomplishes any intermediate state in that process). A "qualifying advanced energy project" is a project that re-equips, expands, or establishes a manufacturing facility to produce property that is designed to (i) be used to produce energy from solar, wind, geothermal, or other renewable resources; (ii) manufacture fuel cells, microturbines, or an energy storage system for use with electric or hybrid motor vehicles; (iii) manufacture electric grids to support transmission of intermittent sources of renewable energy, including storage of such energy; (iv) manufacture carbon capture or sequestration equipment; (v) refine or blend renewable fuels or produce energy-conservation technologies (including energy-



conserving lighting technologies and smart grid technologies); (vi) manufacture qualified plug-in electric drive motor vehicles, qualified plug-in electric vehicles, or components designed specifically for such vehicles; or (vii) reduce greenhouse gas emissions (as determined by the Treasury Department). The IRS must certify that the project is eligible for the credit and the project cannot produce any property that is used in the refining or blending of any transportation fuel (other than renewable fuels). A taxpayer's "qualified investment" is the basis of eligible property that the taxpayer places in service during the taxable year and is part of a qualifying advanced energy project. Property is placed in service in the taxable year in which it is placed in a condition or state of readiness and availability for its intended purpose. "Eligible property" means any property of the taxpayer that is (i) necessary for the production of property designed for the uses listed above; (ii) tangible personal property or other tangible property (not including a building or its structural components), but only if such property is used as an integral part of the qualified advanced energy project; and (iii) with respect to which depreciation (or amortization) is allowable. The basis of the property is reduced by the full amount of the credit, and recapture rules apply to the credit.

To claim this credit, among other things a taxpayer must file applications for a project with the Department of Energy and the IRS and be awarded an amount of credit. A total of \$2.3 billion of credits is authorized for awards. Although the entire \$2.3 billion has been awarded to projects, because some approved projects might never be completed (or qualify for a lesser amount of credit) and because of the possibility that Congress might authorize an additional several billion dollars of credit for future awards, credits might become available in the future.

The techniques described below to monetize tax benefits may also be available for this credit. Because this credit is awarded to a specific applicant, any monetization technique that involves the transfer of the property to another person (or a change in tax status of the person awarded a credit) will require that the IRS approve the transfer of the credit to the successor.

6. Cellulosic Biofuels

An income tax credit is available for a producer of cellulosic biofuels equal to \$1.01 for each gallon of qualified fuel produced. This credit is reduced by the amount of other ethanol credits, so that the sum of this credit and those other credits is \$1.01 per gallon of qualified fuel produced. In addition, the owner of a cellulosic biofuel plant placed in service in the United States before January 1, 2013 (or the construction of which begins after December 20, 2006 and before January 1, 2013) may claim a depreciation deduction equal to 50 percent of the cost of the plant for the year in which it is placed in service; the remaining 50 percent of the cost of the plant may qualify for accelerated depreciation.

B. State Tax Incentives

Although not the focus of this discussion, many states and local municipalities also offer tax incentives, in various forms (e.g., income tax credits, sales and use tax exemptions, property tax exemptions, and tax abatements), to promote the development of projects utilizing a wide variety of renewable energy sources. Of course, in budgeting for and deciding where to site a renewable energy project, Sponsors should also consider the impact of state and local taxes (such as sales and use tax and property tax) on the proposed project.

C. Tax Incentive Monetization Structures

A developer of a renewable energy project may not be able to benefit from the various tax subsidies available with respect to the project. Various strategies have developed that allow a developer to receive value for, or "monetize," the tax incentives the developer would not otherwise be able to utilize. These strategies generally involve an institutional investor that can benefit from the tax incentives acquiring an equity interest in the project. Two of the main strategies, the "partnership flip" and the sale-leaseback, are summarized below. These monetization structures may also be used for the Treasury grant in lieu of the ITC, described above.



1. Partnership Flip

In a typical partnership flip transaction, an institutional investor and the developer will form a partnership to own the renewable energy project. The investor will receive an allocation of tax benefits and cash distributions from the partnership until the investor achieves an agreed-upon after-tax return. Subject to some limitations, the investor may make its investment in the partnership over time, which effectively allows the investor to fund its investment in the partnership with reductions in future federal income tax liability.

In the initial stage of the project, the investor generally will receive a disproportionate allocation of the partnership's income or loss and any tax credits (e.g., PTC, ITC) available to the partnership. When the investor's target return is achieved (the "flip-point"), the investor's allocation of partnership items is reduced to a small portion.

The partnership generally will distribute its available cash flow 100 percent to the developer until the developer recoups its cash investment in the project, and cash would thereafter be distributed 100 percent to the investor until the flip-point is reached. Following the flip-point, cash distributions would be made in accordance with partnership allocations (e.g., 95% to the developer and 5% to the investor). The developer will typically have an option, exercisable on or after the flip-point, to purchase the investor's interest in the partnership at its then fair market value.

In late 2007, the IRS published safe harbor guidelines for wind partnership transactions under which it would treat the investor as a partner in the partnership (rather than a purchaser of tax credits) and respect the disproportionate allocation of PTCs to the investor. These guidelines were revised in late 2009. The revised guidelines provide that the safe harbor guidelines are not intended to provide substantive rules and are not to be used as IRS audit guidelines. Although the safe harbor applies only to wind transactions and the allocation of PTCs, the renewable energy industry is generally following the safe-harbor guidelines in structuring partnership flip transactions for non-wind projects and for tax incentives other than the PTC.

2. Sale-Leaseback

The sale-leaseback is another structure utilized to monetize various tax incentives. Although the sale-leaseback generally may not be used to monetize PTCs, the technique has been used extensively to monetize ITCs in solar projects. In a typical sale-leaseback transaction involving a solar project, the developer will install, operate, and maintain the project and a customer will agree to purchase the power generated from the project under a long-term PPA. The developer will incur all expenses related to the installation, operation, and maintenance of the solar equipment.

To monetize the ITC and other tax benefits, the developer will sell the facility to an investor within three months after its in-service date. The investor will lease the project back to the developer for a lease term approximating the term of the PPA and the developer will typically use the PPA as collateral for its lease payment obligations. The developer's revenue from the PPA is utilized to make rental payments under the lease.

The investor is considered the owner of the project for tax purposes, and it therefore claims the ITC and other tax benefits. The investor shares its tax savings with the developer in the form of reduced rents. The developer will typically have an option, exercisable at the end of the lease term, to purchase the project from the investor at its then fair market value.

For the sale-leaseback structure to work, the lease must be structured as a "true lease" for tax purposes. There is an extensive body of law addressing the characterization of transactions cast in the form of a lease. In general, under IRS ruling guidelines, a lease would be respected as a true lease if the lessee does not have an option to purchase the property for an amount less than its fair market value, the lessor retains the risk that the property will decline in value (e.g., the lessor does not have the right to require the lessee to purchase the asset at a fixed price), and at the end of the lease, the leased asset is expected to have a significant residual value (e.g., 20% of its original cost) and a significant remaining useful life (e.g., 20% of its originally estimated useful life). Case law has held that arrangements that do not fully comply with the IRS's ruling guidelines nonetheless qualify as leases. Equity investors and lenders may require that a lease of a renewable energy project qualify as a "guideline lease", however.



3. Pass-through Lease

Pass-through leases, used extensively to monetize the rehabilitation tax credit, have been used recently to monetize ITCs (and more recently Treasury grants). Typically, an entity (“Owner”) would acquire a project from a developer at fair market value. The project would include not only the tangible equipment but also the contract rights to sell the energy to the off-taker or homeowner (or lease the equipment to the off-taker/homeowner). The Owner would be structured as a limited liability company owned 50.01% by the developer (or an affiliate of the developer) and 49.99% by another limited liability company (“Tenant”). Tenant typically would be owned 99.9% by the investor and 0.01% by the developer (or an affiliate). Owner would lease the project to the Tenant under an arrangement that would qualify as a “true lease” for income tax purposes. Owner then would elect to have any available federal credits (or Treasury grants) “pass through” to its lessee, Tenant. (The legislation governing Treasury grants also permits this election for Treasury grants.) Under the election, the lessee’s cost basis in the property (for claiming the credit) is the appraised value of the property, which is not necessarily limited to the lessor’s cost basis in the property. The basis of the property is not adjusted for the amount of the credit/Treasury grant, but the lessee is required to include in income 50% of the amount of the credit/Treasury grant ratably over a 5-year period.

The effect of the election is to “bifurcate” the credit/Treasury grant from the depreciation, since the investor owns more than 99% of the lessee, but indirectly owns approximately 50% of the Owner, the entity that will claim depreciation. Thus, this structure is usually proposed by investors who value the credit/grant but place less importance on depreciation. Developers would typically prefer a partnership flip or sale-leaseback structure, because, among other things, those structures monetize nearly all of the accelerated depreciation (which developers often cannot use).

In addition to being allocated nearly all tax credits/grants, investors in pass-through structures typically received a fixed annual equity distribution from the Tenant entity in the range of 2-5% of their invested capital. The economics and cash flows of these deals are harder to “generalize” than the cash flows in a sale-leaseback (where the investor gets everything) or flip (where the investor gets nearly everything prior to the flip) and extensive modeling is usually required to ensure the economics of the deal meet expectations and are consistent with the legal structure.

VI. Conclusion

Companies that are in the business of developing renewable energy projects confront a host of complex and inter-related commercial and legal issues that must be successfully navigated to ensure a project’s success and realize potential investor returns. Regardless of whether project finance is employed, it is important for Sponsors to assemble a team of professional advisors that can not only assist in executing a debt or equity transaction, but also analyze the various options that may exist in the course of developing projects. The currently tight credit environment, which is characterized by a lack of liquidity in the marketplace and a general risk aversion on the part of lenders, serves only to heighten competition for available debt. However, in such an environment, the right combination of business model, project scale, contractual structure, and equity support will still be attractive to project lenders for long-term debt commitments.

Determining whether to pursue project financing in the course of developing renewable projects is one of the most fundamental decisions that developers must make. An affirmative decision will dictate the legal and contractual structure of the projects, place certain operational limitations on how the projects operate, and limit the developer’s discretion regarding the use of much of the cash flow from the project. On the other hand, a successful project financing can maximize equity returns through increased project leverage, remove significant liabilities from the Sponsor’s balance sheet, capitalize on tax financing opportunities, and protect key Sponsor assets. In order to take full advantage of project financing opportunities, it is vital that companies invest the time and resources during the initial development stages to obtain the best possible terms and conditions in commercial agreements which serve as the foundation to project financing on successful terms.