

LAW OF BIOFUELS
—Financing for Biofuel Projects—

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I. Introduction

A. Sources of Financing. The successful financing of an ethanol or biodiesel project requires a substantial amount of capital. The cost of constructing a biofuels plant that produces 50 million gallons per year can easily exceed \$80 million. The sources for financing for such a project broadly fall into two categories: equity and debt. Equity financing obtained from investors is generally more expensive for project sponsors than traditional debt financing obtained from lenders because of the resulting dilution that occurs. Most project developers will have to obtain some sort of equity financing to bring their project to fruition. Equity financing is becoming more and more available for biofuels projects, which is illustrated by the recent increase in private equity, investment and hedge funds set up to develop renewable-energy projects. The main concern of an investor providing equity financing for a biofuels project is the expected future earnings of the project and the stability of these earnings in the long run, as evidenced, for example, by the typical investor's concern with the quality of offtake agreements. Investors will be most focused on an analysis of the expected profitability of a project.

On the other hand, the essence of obtaining debt financing for a biofuels project is the search for credit and the fashioning of a loan package that provides adequate assurance to a lender that the borrower is creditworthy such that the loan will be repaid in a timely manner. Alternatively stated, it is the fashioning of a loan package such that the risk of default is reduced or mitigated to bring the risk within levels acceptable to the lender. For debt financing, creditworthiness and risk of default are thus two sides of the same coin: the greater the risk, the lower the creditworthiness, and vice versa.

Most biofuels projects require a creative combination of debt and equity financing. In fact, obtaining sufficient amounts of equity financing may be a prerequisite to obtaining debt financing. Many lenders will commit substantial amounts of capital to biofuels projects only after these projects are supported by significant equity investments made by key players other than the project sponsors. For this reason, EPC contractors often provide equity to a project to enable the project to obtain debt financing.

B. Managing the Risk. To the extent there is drama involved in putting together financing for biofuels projects, much of it derives from the efforts of each participant to shift the major risks (such as debt burden, operating risk, technology risk and accounting liabilities) to others, while retaining the benefits from the transaction that the participant seeks. Developers and investors may seek to shift the technology risks to the construction contractor through the use of performance warranties, while preserving for themselves as much of the cash flow and appreciation in project value as possible. The lender seeks to shift the risks to the project owners by taking senior positions in the project revenues and assets, and to third parties such as the construction contractor by getting the benefit of the warranties and contractual obligations of these participants, all to enhance the prospects of the loan being repaid on schedule.

This risk-shifting is accomplished by various legal undertakings by the participants: mortgages and security interests granted in the project assets, revenues and key project agreements; equipment and performance warranties and contractual requirements for the equipment and the work performed in making it operational; requirements for various types of insurance to cover certain adverse events; and guarantees of each participant's obligations from creditworthy entities. The negotiation and documentation of these risk-shifting devices is the focus of activity in project debt financing, resulting in loan documentation of substantial heft and complexity.

II. Equity Financing

An often critical portion of the financing picture for biofuels projects is equity. As a residual stakeholder with rights to profits that generally take a back seat to those of secured lenders, the equity component of these types of projects often tends to be the most difficult to raise because a high level of return is expected in order to justify the risk. Matters tend to be further complicated by the fact that the pool of investors is limited and that developers, owners and operators generally lack understanding of the sometimes confusing private equity financial landscape. One key point to note is that this section focuses on equity finance at the “project” level. Frequently, investors who intend to finance multiple projects prefer to invest in a parent company that owns multiple single-purpose “project” entities, because the consolidated approach ultimately makes it easier to go public.

A. What Is Private Equity? Private equity is one of the terms that tends to be least understood by people outside of the financial community. Private equity refers to the sale and purchase of securities that are not publicly traded—in other words, securities in private companies that have not yet been registered under federal and state securities laws and, therefore, are not freely transferable on stock exchanges such as the New York Stock Exchange or NASDAQ. The information reporting requirements under the Securities Exchange Act of 1934 for entities without publicly traded stock are substantially less than those for entities whose stock is publicly traded. As a result, the world of private equity investing tends to be somewhat secretive and have an aura of mystique. The concept of private equity is a broad one, with a large number of very different types of investment groups being classified thereunder. Because most biofuels projects are privately owned, becoming familiar with the private equity landscape is a critical step toward successful fundraising. Ultimately, however, many of these private equity investors may want to take the entities in which they invest public so they can gain liquidity on their ownership interests rather than waiting to receive distributions over the life of the project.

There are fundamentally two types of private equity investors: individual private equity investors and institutional private equity investors.

1. Individual Private Equity. As the name suggests, individual private equity is simply investment by individuals who have the appropriate net worth to make investments for their own personal portfolios. Since they are just individuals, the amounts of money that they are able to invest tend to be smaller (in the tens of thousands or hundreds of thousands of dollars, rather than the millions). They can be classified primarily by their relationship to the companies in which they invest rather than by the source of their money or structure of their investment vehicle. The most common types of individual private equity investor categories are:

Self financiers—the developer or original owner of the project puts up the capital him or herself.

Friends and family—people known to the individual owner/developer who invest based on their personal relationship to the owner/developer rather than necessarily on the merits of the project itself.

Angels—applicable mainly to small scale projects, angel investors are arm’s-length individual investors who are willing to invest and are often interested in becoming actively involved with the project because of experience with the industry or passion about it or both.

Individual investors are generally best suited for the early stages of project exploration and development. In fact, the first million dollars or so of high-risk equity will probably have to come from these types of sources because

such small investments simply are not large enough to attract the attention and justify the involvement of funds managing money for large financial institutions.

It should be noted that, although government grants are a common funding source for early-stage projects, grants are not technically considered equity. Unlike an equity investment, grants are not made with the expectation of profit or of being ultimately repaid. In this sense, they are more akin to gifts and, as such, can be one of the best and least expensive sources of financing for an early-stage company or project.

2. Institutional Private Equity. In contrast to the small scale and informality of individual investors, the bulk of all dollars available for investment in the United States comes directly or indirectly from large financial institutions such as pension funds, insurance companies, university endowments and large corporations. These institutions have trillions of dollars under management and act as formal mechanisms for pooling money for very large numbers of individuals who wish to have their savings professionally managed and placed in diversified asset portfolios.

In fact, in the United States today, there is so much money under management with these funds that the managers directly responsible for the investment decisions can only go to a certain level of depth in their analysis of, and day-to-day involvement with, investments. Specifically, they view the money as a resource of their portfolio that needs to be deployed and focus their efforts on asset allocation, meaning designating in which broad asset categories to place their money. Instead of trying to invest the money directly in companies themselves (although occasionally they do), they prefer to invest in a diversified portfolio of smaller, specialized investment funds managed by professional managers that have particular areas of expertise.

Within the category of institutional private equity, there are two important subgroups: general diversified private equity and focused private equity, the latter which is most vividly illustrated by venture capital funds.

a. General/Diversified Private Equity. When making their investment allocations, it is not uncommon for some institutions to simply put a substantial portion of their funds in generic “private equity” funds. In these funds, then, the fund managers have the freedom to opportunistically make investments in many or all of the above-listed subcategories. Many of these diversified private equity funds, therefore, have the latitude and interest (in the name of portfolio diversity) to invest in energy projects such as biofuels projects. On the other hand, because they are generalists, they may not have any exceptional level of understanding or expertise in how those projects are put together and operated, so it may take some education before they are actually comfortable enough to invest.

The investing activities of diversified private equity groups are distinguished by the following key characteristics:

- They have very large pools of capital (often billions of dollars) that need to be deployed in a prudent manner.
- They are large enough that they only want to spend the time sorting through complex legal structures or tax issues on deals in which they can deploy large amounts of equity – tens of millions of dollars.
- Like their institutional parents, they take a fairly high-level, general view of investing and focus very closely on diversification and portfolio theory.

- They view their investment capital as needing to be perpetually deployed and, as a result, view exiting an investment as a negative event (rather than a successful ultimate payoff) because it just means that they have to turn around and find another asset in which to put the same money.
- They very closely assess the risk/reward trade-off—total return is assessed with respect to the risk involved. Only investments with the lowest risk/reward ratio tend to get done.

In short, these types of funds, if their managers understand or are willing to learn about the biofuels sector, can be good candidates for providing project equity.

b. Technology-Focused Private Equity – Venture Capital Funds. Venture capital is a very small subset of the private equity market that invests in innovative technologies. At present, it is rare for venture capitalists to invest in biofuels (or any other renewable energy projects) because they are looking to invest in rapid growth businesses based on a new technology or business model.

B. Corporate Investors. Because people initially tend to think of stand-alone investment funds as the primary source of equity investment for energy projects, another source of capital that is often overlooked are corporate investors. Like institutions, large corporations often have large pools of capital to invest and can often be convinced to invest for strategic reasons.

C. Finding Equity Sources. With this full spectrum of private equity investors, the best way to attract investors is by doing your homework and making sure that you understand who you are talking to and what motivates them. Below is a list of items that should be considered when trying to determine how to focus your private equity fundraising efforts.

➤ *Stage of Project Development.* There are two primary stages in the development of biofuels projects: the feasibility phase and the project stage. The feasibility stages of a biofuels project generally require modest amounts of capital (\$500,000 to \$1 million) and may have to be financed through some combination of self, friends, family, angels and government grants, although more of the larger scale investors are beginning to show a willingness to get involved at earlier stages than they have previously.

➤ *Geographical Focus.* Some investors are national or global in focus and some tend to be more locally focused. As a general rule, the earlier stage the project, the more likely it will be that the investor is nearby. This is because working with unproven, incomplete, high-risk projects requires much closer attention and more regular interaction than later-stage opportunities, and this level of involvement is far easier if the investor is actually located in the same state or city as the project. Investors who are not local tend to be more comfortable with later-stage investment opportunities in which the financial structure, rather than the day-to-day operational concerns, is the driving force.

➤ *Deal Size.* Generally, a \$50 million project will require more equity beyond the feasibility stages and the most likely sources for that level of funding are general, private equity funds or large corporations.

➤ *Liquidity Horizon.* It is important to take a look at when investors expect to get their money back. Feasibility stage investors need to understand that, unless the company goes public, they may get their money back only over the full life of the project (maybe 10, 20 or 30 years!).

➤ *Industry Expertise.* Remember that an additional reason for bringing in investors is for the value they add beyond just their capital contributions. It is wise to consider noneconomic benefits, such as industry expertise and connections, when targeting investors.

We've discussed various aspects of equity financing. Now we turn to debt financing. In broad terms, there are two basic approaches used in debt financing to address the credit/risk allocation issues in a manner that can be made to work (more or less) for all the participants involved: limited recourse debt (or project) financing and full recourse debt (or balance sheet) financing.

III. Limited Recourse Debt – Project Financing

A. Defined. With limited recourse, or “project,” financing, the payment of the debt is backed only by the project assets and the revenues they are able to generate.¹ To facilitate a credit appraisal and loan to the project itself, the project, its assets, cash flows, contracts and inherent economics are separated from its sponsors or developers. If the project fails to produce the revenues needed to pay expenses and service the debt, the lender cannot pursue the nonproject assets or revenues of those who own equity interests in the project owner. Recourse is limited to the project assets and revenues.

Indeed, this limited recourse nature is generally reinforced by the ownership structures for biofuels projects, which tend to utilize single-purpose entities, or SPEs, to own the project. An SPE is set up to have no assets other than its interest in the biofuels production facility. Furthermore, the SPE is typically a legal form of entity (e.g., corporation, limited liability company and limited partnership that have as their ultimate general partner a corporation or limited liability company) that, in most instances, prevents the creditors from going after the nonproject assets of SPE owner(s) to satisfy payment of the debt. Thus, by both the contractual provisions of the lending documents and the type of ownership structure employed for the SPE, the lender's recourse to enforce payment of the debt is limited to the project assets and revenue-generating capability.

B. Betting on the Project. The owner or sponsor of the biofuels project bets the farm, or in this case, the project. Assuming that the debt is properly structured to eliminate or acceptably mitigate the lender's risk, the lender antes up on this “bet” by making the loan. The exercise in structuring limited recourse project financing is focused on those features that serve to eliminate or mitigate the risk to the lender. This, in turn, leads directly to an exhaustive examination of all aspects of the project—the nature and adequacy of the permitting for the site, the availability of feed stocks for the biofuels project, the reliability of the equipment and technology used, the assurance of a supply of energy to power the biofuels facility at a reasonable cost, the creditworthiness of key project participants, the experience of management personnel and all other important aspects. Indeed, if the lender is to be limited to project assets and revenues to secure repayment of the debt, it is essential that all aspects of the project be thoroughly vetted to ensure that it will operate successfully (i.e., pay its bills) even in a worst-case scenario.

C. Project Viability Versus Collateral Value of Project Assets. It should be noted that although the lender will generally insist on—and get—a first-priority lien on all project assets, the tangible collateral securing the loan is, in reality, of secondary importance to the lender. The reason is simple: as a general rule, in a foreclosure situation, tangible collateral can usually be sold only at a price that produces a

¹ In many cases, the limited recourse nature of the debt financing does not truly come into play until the project has achieved full commercial operation, as the project owner is often required to guarantee the debt on a full recourse basis during the construction period.

relatively small fraction of the debt it secures. A lender is far more likely to get repaid if the project operates successfully and produces the needed revenues than it is by liquidating the project assets in foreclosure. Therefore, the detailed examination of the project for purposes of limited recourse financing is aimed primarily at determining the likelihood that the project will operate as planned, and then putting in place those security arrangements with the project participants that, in the judgment of the lender, are best calculated to ensure that the project will in fact perform up to expectations even in the face of a worst case occurrence.

D. Security Arrangements – Creating a Sealed System. Thus far we have focused on those aspects of biofuels project finance that are aimed at vetting the risk associated with the ability of the project to perform up to expectations. We now turn to the security arrangements for project debt.

In the context of a limited recourse financing (discussed below), the security arrangements are part of the core foundation on which the financing rests, as the lender has recourse only to the project assets and revenues to enforce payment. The lender therefore seeks control (by means of security interests, mortgages and contract assignments) of all project assets (including all key project agreements) and all project revenues (also by means of security interests but coupled with lockbox arrangements as described below).

One way of looking at it is that the lender seeks to create a sealed system whereby all project assets and revenues are, to the fullest extent possible, sealed off from other creditors by means of the security arrangements, with the lender exercising control over the assets and revenues to ensure that they do not escape the system so as to jeopardize the repayment of the debt. This is the essence of the project finance bargain: the lender is willing to limit its recourse to the project assets and revenues, in exchange for a financing structure that effectively preserves all project assets and revenues for the sole benefit of the lender.

Assignments of Key Contracts and Permits. To ensure that it has control (via the security arrangements) over the entire biofuels project as a going concern, the lender will also require first-priority assignments of all key project contracts and permits. On the contract side, this includes the construction contract, feed stock supply contracts, offtake agreements for DDGs and CO₂, the equity contribution agreement among the owners of the project owner, the leases or rights-of-way for the project site, risk management and hedge agreements, rail agreements and any other material agreements.

In addition to taking assignments of the contracts from the project owner, the lender will also insist on having each counterparty to the assigned contracts consent in writing to the assignment in a manner in which the counterparty acknowledges the lender's rights, agrees to give the lender notice of any default by the project owner and agrees to grant the lender certain cure rights. The consents may also include a so-called "bankruptcy replacement clause," whereby the counterparty agrees to enter into a replacement agreement with the lender in the event the project owner is the subject of a bankruptcy proceeding. Finally, when payments are or may be owing by the counterparty to the project owner under a contract (for example, an offtake agreement), the consent also makes provisions for those payments to go directly into an account controlled by the lender as part of the lockbox arrangement discussed below.

On the permit side, it can be more problematic to obtain a valid and enforceable assignment of the various permits relating to the biofuels project. This is because under applicable law, the permit is often granted to a particular entity (i.e., the project owner), and either no provision is made for assignment of the permit to a third party or the nature of the permit is such that it may no longer be valid in the hands of anyone other than the original permittee. To solve such problems, the lender may sidestep the issue by taking a first-priority security

interest in the equity ownership interests of the project owner (e.g., the stock of the project owner if it is a corporation, or the membership or partnership interests in the project owner if it is a limited liability company or partnership). In this way, in a foreclosure situation, the lender forecloses on the equity ownership interests, thus taking over ownership of the project owner and the permits that are held by the project owner. The permits themselves are never transferred from one entity to another. This may still require some action on the part of the lender to effectively complete the foreclosure. But it nevertheless provides a path forward for the lender that may not otherwise be available (or be subject to significant legal doubt) were it to attempt to foreclose directly on a security interest in a permit.

Flow of Funds and Lockbox Arrangements. The final piece of the puzzle needed to create a sealed system to protect the lender is the creation under the loan agreement of a flow of funds (often called a “waterfall”) and an accompanying lockbox arrangement. Again, the key purposes of these provisions are to ensure that the project revenues are applied in a manner that will ensure the timely repayment of the project debt and to place the lender in the position of controlling the revenues to see that they are, in fact, so applied.

The lockbox arrangement requires all persons making payments to the project owner under the project agreements to pay those amounts into an account controlled by the lender. Thus all payments under an offtake agreement might flow directly into this account, as do warranty or liquidated damages payments under a construction agreement or a balance of plant contract. Typically, the account in question is an account established with the lender itself, if the lender is the type of financial institution capable of handling such an account. Alternatively, the account may be established with a third-party financial institution, in which case the lender’s rights with respect to the account will be memorialized pursuant to a custodian agreement among the lender, the project owner and the custodian financial institution.

It is the flow-of-funds, or waterfall, provisions in the loan agreement that govern the lender’s (and, by negation, the project owner’s) rights with respect to the project revenues captured by the lockbox arrangement. Given that under limited recourse financing the project debt will be repaid only if the project operates more or less according to projections, the flow-of-funds provisions generally specify a priority of application of project revenues that has as its primary goal the maintenance of the project operations so that the project will continue to produce power and earn the needed revenues from power sales. It does this in part by directing the project revenues first to those expenses that are needed to keep the project operational and in part by requiring the funding of various subaccounts in a manner that will, in effect, create reserves to protect against adverse events that could interrupt the flow of project revenues.

Moneys get paid out of the lockbox in accordance with the priorities or “waterfall” established under the credit agreement. Disbursement of lockbox moneys is made against a requisition presented by the appropriate party (e.g., the project owner), accompanied by the relevant invoices documenting the expenditures for which disbursement is sought. It is not unusual for the lender to remit lockbox moneys directly to the party to whom they are owed in order to avoid misapplication by the project owner.

A typical flow of funds will provide that project revenues will be applied for the following purposes in the order of priority set forth below:

Debt Service. First, project revenues are applied to the payment of debt service on the project debt. Again, typical flow-of-funds provisions will, over time, capture project revenues at this level of the waterfall until

the debt service subaccount has on hand an adequate debt service reserve amount (typically six months' debt service on the project debt, but sometimes as long as one year's).

Major Maintenance Reserve. Second, project revenues may be deposited into a major maintenance reserve account. This reserve is required to be funded over time in an amount such that sufficient funds will be on hand to pay for anticipated items of major maintenance on the project assets and to provide a source of funding to cover the cost of major unanticipated equipment failures.

Distributions to the Project Owner. Finally, any remaining project revenues are deposited in a subaccount that is variously called a "sweep account," a "distribution account" or a "surplus cash account." Subject to restrictions imposed under the loan agreement, the project revenues that end up at this level of the waterfall are available for distribution to the project owner. Generally such distributions are permitted only on a quarterly basis, and then only to the extent the subaccounts higher up in the waterfall are fully funded at the time of the proposed distribution and there is no default under the credit agreement. Typically, the loan agreement will use a debt service coverage ratio ("DSCR") as one of the tests for determining how cash in the distribution account is to be applied. The DSCR is the ratio of net project revenues to annual debt service, expressed as a number (e.g., 1.2, meaning net revenues for the fiscal year must be at least equal to 120 percent of annual debt service). To the extent the biofuels project fails to produce revenues sufficient to meet the DSCR, it generally means that the project has not been able to make the required payments into one or more of the subaccounts higher up in the waterfall. In such a situation, moneys in the distribution subaccount are not permitted to be distributed to the project owner but are instead swept into the higher waterfall subaccounts until they are fully funded.

IV. Full Recourse Debt – Balance Sheet Financing

A. Defined. With balance sheet financing, the payment of the debt is backed by the legal obligation of an entity with sufficient financial resources (i.e., its balance sheet) to underwrite the risk that the project will be successful and the debt will be repaid. It is "full" recourse in that the lender can enforce payment of the debt out of any and all unencumbered assets of the entity providing the balance sheet support, rather than being limited to the project assets or other specific collateral. On the other hand, balance sheet financing is usually unsecured, with the lender taking no lien on or security interest in any tangible or intangible assets of the borrower. The balance sheet backing rarely comes from the entity that will serve as the project owner, as these tend to be SPEs with no substantial assets other than the biofuels project. Rather, it is most typically provided by an affiliate of the project owner—an upstream parent or other affiliate with the requisite financial profile.

B. Who Can Access Balance Sheet Financing? Balance sheet financing is generally available only to the more substantial players in the particular industry whose long-term unsecured debt is rated at least investment grade by one of the national rating agencies. In a very real way, the reason balance sheet financing works is highlighted by the old joke:

- Question: What does it take to get a \$100 million loan from a bank?
- Answer: \$1 billion in cash collateral!

Indeed, backing a loan with the balance sheet of an entity that has substantial liquid and tangible assets, acceptable levels of debt and a proven track record of earnings can result in a risk posture to the lender that, in many respects, is the functional equivalent of overcollateralizing a loan with cash collateral.

C. Focus Shifted Away from Project. With balance sheet financing, the focus is on the financial position and prospects of the entity providing the balance sheet rather than on the legal, economic and technical viability of the biofuels project. The reason is simple: when a lender is primarily relying on the overall credit strength of the balance sheet provider and has recourse to all of its unencumbered assets and revenues to enforce payment of the debt, the viability of the project to be financed is only one small piece of the credit picture, and thus should not be the primary focus in evaluating the credit. Whether the particular project will be successful is less of a concern than if the success of the project were the only route to repayment of the debt.

D. Limiting Factors. However, in many cases balance sheet financing simply is not an option for biofuels projects. Many developers of biofuels projects are smaller, independent companies that do not have the type of balance sheet lenders require. This is changing somewhat in recent years as more substantial companies enter the field as biofuels project developers.

But even in those situations, there is often an unwillingness to use the balance sheet to support the debt. It is a question of opportunity cost: the more the balance sheet is used to support project debt, the less it will be available for other corporate purposes (such as the acquisition of other companies or the maintenance of a balance sheet debt posture that will not adversely affect the company's stock price). Thus, even for the more financially well-heeled players in the biofuels industry, balance sheet financing may not be an attractive course to pursue. The alternative is limited recourse, or project, financing (discussed above).

V. Conclusion

Raising millions of dollars of financing for biofuels projects can be complex and present a wide range of challenges, especially because it will require significant debt and equity financing. A successful financing will require careful attention and planning at its early stages. The financial instruments evidencing the equity and debt obligations must be carefully structured and reviewed. Partners, investors and lenders must be carefully chosen. By understanding the underlying structures and motivations of strategic partners, lenders and private equity investors, as well as the best ways to reflect their respective needs in terms of the deal and the legal documentation, one can create well-balanced, fully financed deals that are ultimately rewarding for all of the participants.