Financing a biomass project requires a substantial amount of capital. The financing sources for a biomass project broadly fall into two main categories: equity and debt. The availability of equity or debt for the project often depends on the stage of project development. In addition, making maximum use of available tax incentives and other government incentives may have a significant impact on the overall project financing package. Government grants also present potential funding opportunities for developers of biomass projects. Successfully bringing such projects on-line requires the developer to examine all sources, layering in such sources as appropriate and in the best interest of the project’s financial model.

I. Equity Financing. Securing adequate equity is critical to the successful development of a biomass project. Often the equity component is difficult to raise because the equity capital is generally the most at risk capital in the project. This high risk, particularly in a project that utilizes unproven technology, usually requires a higher reward to make the investment worthwhile to the potential investors. Federal and state securities laws further complicate the process of finding public or private equity investments for a biomass project.

A. Securities Laws. To raise equity, a project must offer and sell securities either after registering under the Securities Act of 1933, as amended (“Securities Act”), and applicable state laws or pursuant to applicable exemptions from such registration.

1. Registered Public Offering. Registration requires a project to prepare and file a detailed registration statement with the Securities and Exchange Commission for its review and approval. Unless the securities are going to be traded on a national securities exchange, such as NASDAQ®, the securities must also be registered under the applicable state securities laws. Once the registration statement is effective, the project can publicly offer its securities.

2. Private Offering. One of the most common offering exemptions is pursuant to Rule 506 of Regulation D of the Securities Act for transactions not involving a public offering. In general, sales can be made to an unlimited number of accredited investors (as defined in Regulation D) and up to 35 nonaccredited investors. There can be no general or public solicitation or general advertising, the securities cannot be resold unless registered or otherwise exempt, and the company must satisfy certain disclosure requirements. Securities sold in accordance with Rule 506 are exempt from state registration requirements.

3. Intrastate Offering. Another potential exemption is the intrastate exemption, which exempts from federal securities regulation offers and sales of securities that are offered and sold only to persons in one state. In general, to qualify for the intrastate exemption safe harbor, the issuer must be organized, doing business, and making offers and sales of its securities in the same state; the offers and sales can only be made in that state and cannot be made to any resident of another state within six months of the offering; and any transfers of the securities within nine months of the offering must be made only to residents of that state. The securities must be registered or exempt under the applicable state securities laws.

4. Section 521 Cooperative. For a biomass project, using a cooperative structure may be advantageous if a cooperative will provide a consistent and reliable source of feedstock for the biomass project. In addition, a cooperative with producer members qualified for certain preferred tax treatment pursuant to section 521 of the Internal Revenue Code is exempt from certain securities registration requirements and taxes. See Chapter 3 of The Law of Cooperatives for more information on the three business models involving cooperatives that are often used in renewable energy projects.

B. Types of Investors. Many types of potential investors might be interested in investing in your biomass project. Individuals, institutional investors, and corporations all invest in projects for different reasons.
Individual investors are generally best suited for the early stages of a project because of the high risk involved in such investments and because of the lower dollar amounts being invested. Some of the most common types of equity investor categories are:

* **Self-Financers** – individuals developing or owning the project who put up their own capital.

* **Friends and Family** – individuals investing based on personal relationships with the owner or developer.

* **Angels** – individuals investing for an investment return or other reasons other than a personal relationship with the owner or developer.

* **Community Members** – individuals in the same general location as the project investing for an investment return and the benefits the project will bring to the community.

* **Institutional Investors** – financial institutions investing in the project for investment returns.

* **Corporate Investors** – corporations investing for investment returns or for other strategic reasons.

C. **Finding Equity Sources.** 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. Things to consider when determining how to focus your equity fundraising efforts are:

* **Project Development** – early-stage investors typically require higher rates of return because the earlier an investment is made in a project, usually the higher the risk.

* **Project Cost** – generally, individual investors fund smaller projects and feasibility-stage developments whereas public offerings, large institutions, or corporations fund larger projects.

* **Liquidity** – possible exit strategies and realizing a return on investment is very important to investors.

* **Industry Experience** – industry experience and connections of investors can be valuable to a project and should be considered in fundraising efforts.

II. **Debt Financing.**

A. **Limited Recourse Debt: Project Financing.** Limited recourse financing, also known as project financing, is when the payment of the debt is backed only by the project assets and the revenues the project is able to generate. If the project fails to produce the revenues needed to pay expenses and service the debt, the lender can only pursue the project assets and revenues and not the assets or revenues of the investors. Because the lender is limited to project assets and revenues to secure repayment of the debt, there is typically an extensive due diligence process by which the lender investigates the project to make sure that it will operate successfully (i.e., pay its bills) even in a worst-case scenario. Complex securitization agreements and structures must be put in place with the lender to make sure that if the project cannot be operated successfully, the lender has recourse. See Chapter 1 of *The Law of Biofuels* (2d edition) for more information on limited recourse debt financing.

B. **Full Recourse Debt: Balance Sheet Financing.** Full recourse financing, also known as “balance sheet” financing, is when 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. Balance sheet financing is generally available only to large entities that have substantial
liquid and tangible assets, acceptable levels of debt, and a proven track record of earnings. In many cases, balance sheet financing is not an option for biomass projects because the projects and the investors do not have the types of balance sheets lenders require. Even if a project or investor does have the necessary type of balance sheet, full recourse debt still may not be used because the more the balance sheet is used to support project debt, the less it will be available for other corporate purposes. See Chapter 1 of The Law of Biofuels (2d edition) for more information on full recourse debt financing.

C. Loan Guarantees. Both the United States Department of Agriculture (“USDA”) and the Department of Energy (“DOE”) have loan guarantee programs that may be available to a biomass project. Because loan guarantees are issued at the discretion of the U.S. government, the issuing agency must perform an environmental analysis under the National Environmental Policy Act (“NEPA”) before the loan guarantee can be finalized. See Chapter 4.

1. USDA Loan Guarantees. The USDA provides loan guarantees through a variety of programs, including the Rural Energy for America Program (“REAP”), the Business & Industry (“B&I”) program, and the Biorefinery Assistance program. See below for more details on REAP. The American Recovery and Reinvestment Act of 2009 (“ARRA”) appropriated $1.7 billion for B&I loan guarantees. The B&I program is not specific to renewable energy. However, commercially available energy projects that produce biomass fuel or biogas must be located in a rural area and complete two operating cycles at design performance levels to be eligible for B&I loan guarantees. The USDA will guarantee between 60 and 90 percent of the loan, depending on the loan size. The maximum loan amount for a legal entity other than a cooperative is $10 million, although an exception can be made for loans up to $25 million. The USDA also offers loan guarantees through the Biorefinery Assistance program, which authorizes loan guarantees of up to $250 million and competitive grants to assist development, construction, and retrofitting of biorefineries that convert renewable biomass to advanced biofuels. Demonstration-scale biorefineries are eligible for grants and loan guarantees, while commercial-scale biorefineries are solely eligible for loan guarantees. Federal grants can provide up to 30 percent of project costs, and federal guaranteed loans can provide up to 80 percent of project costs.

2. DOE Loan Guarantees. There are two loan guarantee programs being administered by the DOE of interest to biomass projects: one is under Section 1703 of the Energy Policy Act of 2005, and the other is Section 1705 of the Energy Policy Act of 2005, which was added as part of ARRA. The Section 1703 program is available only for innovative projects, whereas the Section 1705 program is available for commercial renewable energy projects. See Chapter 4 of Show Me the Money: The Law of the Stimulus Package (2d edition) for more information on this program.

III. Tax Incentives and Other Tax Considerations. Tax considerations may play a crucial role in the overall financing of a biomass project. Like many other alternative energy sources, biomass may qualify for certain tax credits and other tax incentives that, if properly utilized, can provide significant financing advantages. Making the most out of the available tax incentives also may strongly influence choice-of-entity, debt vs. equity, and other financing decisions. Identifying and maximizing the benefit of tax and other government incentives require careful advance planning. For a discussion of the federal, state, and local income tax issues associated with a biomass project, see Chapter 6.

IV. Government Grants. Government grants, including those described below, may be available to your biomass project. Note these opportunities are current through March 30, 2010 and may not include all grants that may be available to you or your project. Because many grants are issued at the discretion of the
U.S. government, the issuing agency may be required to perform an environmental analysis under NEPA before the grant proceeds can be provided to a project. See Chapter 4.

A. Research, Development, Demonstration, and Deployment Projects. The DOE’s Office of Energy Efficiency and Renewable Energy (“EERE”) was allocated $800 million to support biomass energy projects. These funds are intended to support applied research, development and deployment activities.

B. Advanced Research Projects Agency – Energy. ARRA also provided the Advanced Research Projects Agency – Energy (“ARPA-E”) with $400 million to support innovative energy research that could include novel biomass technologies.

C. Wood-to-Energy Grants. ARRA established $50 million to promote increased utilization of biomass from small diameter trees and woody biomass located on federal, state, and private lands. These wood-to-energy grants used for activities on state and private lands are not subject to matching or cost-sharing requirements.

D. Rural Energy for America Program. REAP provides funding for energy audits, feasibility studies, rural energy efficiency projects, or rural renewable energy production. Grants under this program may fund up to 25 percent of project costs (capped at $500,000), and loan guarantees may fund up to 75 percent of project costs (capped at $25 million).

E. Repowering Assistance. Biorefineries in existence when the 2008 Farm Bill was passed are eligible for payments to reduce their dependence upon fossil fuels. Payments are available to pay for costs to install new systems that use renewable biomass or for new production of energy from renewable biomass.

F. Bioenergy Program for Advanced Biofuels. The Bioenergy Program for Advanced Biofuels provides payments to agricultural producers of feedstocks for advanced biofuels. Producers of advanced biofuels may be paid based on quantity and duration of advanced biofuel production and on net nonrenewable energy content of the advanced biofuel. Advanced biofuels include fuels derived from renewable biomass other than corn kernel starch, such as sugar and starch, waste material, biodiesel made from renewable biomass, biogas produced through the conversion of organic matter from renewable biomass, butanol or other alcohols produced through the conversion of organic matter from renewable biomass, and other fuels derived from cellulosic biomass. Facilities that exceed total refining capacity of 150 million gallons per year are able to receive only 5 percent of the program funds.

G. Biomass Research and Development. Funding has been allocated to provide grants, contracts, and financial assistance to eligible recipients to carry out research on and development and demonstration of biofuels and biobased products and the methods, practices, and technologies for the production of biofuels and biobased products. Most grants are limited to 50 percent of project cost. Research projects are more likely to receive funding under this program if they have a partnering agreement with universities, national laboratories, or other research agencies.

H. Rural Energy Self-Sufficiency Initiative. The Rural Energy Self-Sufficiency Initiative provides grants for community-wide energy assessments. Community-wide energy assessments are audits of a community’s (rather than an individual user’s) energy use and analysis of where energy savings can be obtained. Additional grants are also available under this program to develop and install integrated renewable energy systems. Grants are limited to 50 percent of project cost.
I. **Biomass Crop Assistance Program.** The Biomass Crop Assistance Program ("BCAP") was created to support the establishment and production of eligible crops for conversion to bioenergy, and to assist agricultural and forest landowners with the collection, harvest, storage, and transportation to a conversion facility of these crops. Assistance under BCAP includes payments for up to 75 percent of the cost of establishing an eligible crop within a BCAP project area, annual payments to support production, and matching payments of up to $45 per ton of eligible biomass feedstock for two years for collection, harvest, storage, and transportation to a biomass conversion facility.

J. **Forest Biomass for Energy Program.** The Forest Biomass for Energy Program is a competitive research and development program to encourage the use of forest biomass for energy. This program will be administered by the USDA’s Forest Service. Priority project areas include developing technology and techniques to use low-value forest biomass for energy production, developing processes to integrate energy production from forest biomass into biorefineries, developing new transportation fuels from forest biomass, and improving growth and yield of trees intended for renewable energy production.

K. **Community Wood Energy Program.** The Community Wood Energy Program provides grants to state and local governments to develop community wood energy plans. Eligible recipients can receive matching grants of $50,000 to acquire wood energy systems for public facilities.

V. **Preparing Project Agreements with Lenders and Investors in Mind.** The push for renewable energy and the green economy combined with the multiple grants, guarantees, bonds, and other stimulus programs and facilities have resulted in many options for the developer of a biomass facility to consider when creating its financial model. The one threshold requirement that all financing options share, and the one required characteristic that should consume the biomass project developer’s attention, is the notion of “creditworthiness.” Simply put, creditworthiness is a creditor’s measure of the project company’s ability to meet its debt obligations. Investors and lenders must be able to rely on the biomass project to generate a stable and predictable stream of cash flow necessary to ensure repayment of their loans and attainment of necessary returns. “Investment grade” projects are projects that have contractually sound cash flows, also known as “contracted-for revenues.” Such cash flows are the result of well-negotiated key throughput and development agreements that form the basis of the lender’s security structure and credit analysis, hence underpinning the project’s ability to attain appropriate financing. Developers of biomass and other energy projects, however, often approach key project agreements—leases, rights of way, feedstock agreements, power purchase agreements, etc.—as if they were independent of later efforts to finance the project. This approach is problematic, and experienced developers negotiate project agreements with the needs of lenders and investors in mind.

For example, a project finance lender will always require the developer to collaterally assign its interest in all key project agreements. The lender will insist that it have the right to receive default notices directly, and the right to cure those defaults. Lenders will want at least as much time as the developer has to cure a claimed default and will often require additional time, especially if there are several banks involved in the financing. Tax equity investors will often demand similar notice and cure rights. The developer should also consider drafting project lender and investor protection provisions that protect the lender or investor if the project goes into foreclosure or the developer goes bankrupt. In cases where the developer is familiar with the preferences of a known lender or investor who will be involved in project financing, these provisions can be set forth in detail, either in the body of the project agreement or in an agreed-upon form of collateral assignment agreement to be attached to the project agreement as an exhibit.
If the lender or investor is unknown at the time the project agreement is entered into, or if the developer and its counterparty are unwilling to negotiate detailed lender and investor protection provisions until the lender or investor is actually at the table, the project documents should at least include provisions that authorize the developer to collaterally assign the project agreement without counterparty consent and that require the counterparty to work with the developer in good faith to negotiate and deliver a collateral assignment agreement or other protective instrument in a form reasonably satisfactory to a lender or investor. Such provisions typically require the counterparty to execute such estoppel agreements and other instruments as may be reasonably required in connection with a financing of, or investment in, the project.

Sophisticated lenders or investors will also perform due diligence to make sure that the project agreements adequately address all of the key issues outlined in the *Law of Biomass*—for example, a power purchase agreement must include provisions that explain to the satisfaction of the proposed lender or investor how the risk of curtailment will be managed. The financing of the project begins on day one, and all project documentation must carefully consider how to address the likely concerns of the lenders or investors who will supply the funds required to build and operate the project.