# ENERGY PERFORMANCE CONTRACTING FINANCING OPTIONS

## EPC TOOLKIT FOR HIGHER EDUCATION | APRIL 2009

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This section offers a detailed overview of the various financing options for Energy Performance Contract (EPC)-based projects and a description of the option's related cash flow mechanics.

## FINANCE OPTIONS

Several options for financing EPC exist, each with particular characteristics that may appeal to owners' varying needs and constraints. Key tradeoffs worth considering include financing term, balance sheet treatment, transaction costs, payment requirements, ease of accessing capital, costs of capital, and an EPC's impact on an institution's credit rating.

### INTERNAL SOURCES OF CAPITAL

Public and private entities with sufficient internal funds may want to consider self-financing their EPC project. A building owner can fund such a project by drawing on its endowment, capital budget, or operating budget or by tapping funds for deferred maintenance or reserve accounts for investment in EPC projects. Depending on the school's financial position, self-financing often represents the least expensive means of financing an EPC because it avoids the need to pay interest and transaction costs on incremental borrowing. Internal financing also minimizes the "cost of waiting," or energy cost savings opportunities foregone as an EPC project waits for external funding.

Energy-efficiency project history of high returns and low risk supports such an investment decision. Projects financed with funds from Harvard University's endowment through its interest-free Green Campus Loan Fund (GCLF) are producing an average return on investment of 26%, roughly 18% percentage points higher than the return from the university's endowment net of all expenses and fees.[1] Harvard University is not using EPCs to implement these retrofits, but their experience is instructive for institutions that have capital on hand and are considering whether or not to fund energy-efficiency improvements.

Attractive returns are possible in an EPC if an institution invests its own resources to pay for the up-front project costs in what is essentially a project equity investment to be paid back through energy savings. In many cases, building owners have chosen to take equity ownership in a portion of the project, while paying for the rest of the up-front cost through a leasing or debt mechanism.

Some schools might also consider creating an internal borrowing system wherein the school's capital reserves directly fund EPC projects. The EPC project reduces energy and operations related expenses, in turn freeing up cash that can be used to repay the school's capital reserves. Some schools have structured an internal borrowing with an interest rate that matches or beats the school's cost of capital. Syracuse University used such an arrangement during its first EPC in the mid-1990s. This project is discussed in more detail below.

Schools should weigh investment of internal funds towards EPC against competing uses for that capital (operating expenses, other capital projects, social or educational initiatives, market-based investments, etc.). If internal funds may be allocated to competing and/or more important uses, or if those funds can be invested elsewhere at returns expected to exceed the cost of borrowed capital, the building owner should consider external funding mechanisms outlined below.

1 Harvard Green Campus Initiative, Harvard University; http://www.greencampus.harvard.edu/gclf/achievements.php, 2007.

*From Timothy Sweet, Syracuse University*

Between 1996 and 2002, Syracuse University implemented a significant Energy Performance Contract based upon a funding "threshold" and project "sunset". These metrics allowed the university to take the latter of the two approaches mentioned above and execute twenty-six separate funding cycles totaling $12.8 million over a six-year period. Over this period, 8.2 million square feet of buildings were upgraded resulting in a 15% reduction in energy usage. The model developed utilized internal capital funds to support this multi-year performance contract.

As stated above, the two investment criteria established at the beginning of the project were threshold and sunset. For the purposes of this contract, the sunset (a.k.a. project completion) was based upon completing a study and developing proposals for all buildings and systems listed in the initial contract. While there was no specific sunset date, both parties (the university and the performance contractor) were motivated to maintain a manageable pace. The threshold established the financial criteria for the overall performance contract. The criteria established provided the payback term (10 years), and the borrowing rate, 10-year T-Bond +100 basis points on the date the project was approved. The threshold was applied to each of the 26 projects and was used to select specific measures identified during the building/system study. Based upon this criteria, the university's plant fund reserves were made available to provide the necessary capital funds for the individual projects; payment streams from the utility budget, based on the projected energy savings, were set up to repay the plant fund. Once the parties agreed to the aforementioned criteria, accessing funds became an established process and did not require additional approval.

An additional benefit of this process was that it provided a flexible means for mixing and matching projects during the study phase. One of the major goals of the performance contract was to put in place a mechanism that ensured continued savings in operating costs. As a result, a preventive maintenance program was established under the project and several improvements in operating and maintenance practices were implemented where the operations and maintenance (O&M) changes did not provide a direct energy cost savings payback. Strategically selected combinations of energy conservation measures and non-payback O&M improvements that together still met the required threshold allowed the university to meet this challenging continued savings goal on a building-by-building basis.

## COMMERCIAL LEASES

Energy-efficiency equipment that is considered by the Internal Revenue Service (IRS) to be personal property (also known as "movable property" or "chattels") may be leased. The traditional equipment lease is a contract between two parties in which one party is given the right to use another party's equipment over a specified term in exchange for a periodic payment. Such an arrangement is essentially a long-term rental agreement, but the agreement includes clearly stated "purchase options" – literally meaning options to buy the equipment – which the entity leasing the equipment may exercise at the end of the lease term. Leases can be written so the payments accommodate the university's cash flow needs (short-, long-, or "odd-" term; increasing or decreasing payments over time; balloon payments; skip payments, etc.). Leases are frequently used as part of an organization's overall tax and financing strategy and, as such, are commonly used in the private sector. From a financial reporting perspective, commercial leases fall into only two categories: operating lease or capital lease. However, each may receive different tax and legal treatments. For the purposes of this discussion, we are focusing on the financial reporting differences, which is of primary interest to colleges and universities.

## CAPITAL LEASES

Energy-efficiency projects are frequently funded via capital leases, a financing structure under which an entity ("lessee") pays for equipment not at contract signing, but instead via scheduled installments to the capital provider ("lessor") over the term of the lease. The university classifies and accounts for the transaction as a purchase, recognizes the asset on its balance sheet, and classifies capital lease payments as capital expenses. One primary appeal of leasing as a means of funding is the flexibility leases afford in scheduling payments, which can be timed to coincide with projected energy cost savings from an EPC.

Capital leases often contain a "bargain purchase option," or a clause that grants to the lessee the power to purchase the equipment upon termination of the lease at a price below the asset's market value at that time.

The lessee's obligation to make timely payments under the lease is absolute and not dependent on realization of the EPC's projected energy cost savings. The energy services company (ESCO) guarantee on energy use savings can make up shortfalls in the realization of energy cost reductions, thereby assisting the building owner in making the lease payments, but this settlement is made apart from the building owner's obligation to the lessor. If the lessee should default on the lease payments, the lessor may remove and sell the equipment to minimize its losses. Since ESCO shortfall payments, in the event of dispute resolution, may not occur immediately, the lessee is therefore advised in all lease (and loan) arrangements to both a) incorporate a stiff penalty for non-timely ESCO shortfall payments into the EPC contract, and b) hold sufficient funds in reserve to ensure timely lease payments to the lender in the event of energy cost savings shortfalls.

Lessors may require a claim not only to the equipment itself, but also to the lessee's general economic resources (tax revenues, tuition revenue, endowment, etc.) as security for the lease. Lessors set rates and terms according to the strength of these resources, the availability of adequate operational cash flows, and the lessee's borrowing history. A lessee's credit rating and borrowing capacity thus play a role in determining the interest rate for a capital lease.

Public institutions and 501(c)(3)s can benefit from lower interest rates due to the tax exemption lessors enjoy on interest received from those institutions. To qualify automatically for tax-exempt financing, the lessee must be affiliated with an entity that has the powers of taxation, eminent domain, and police power (i.e. a municipality or state government). Non-profit institutions (also known as 501(c)(3)s) do not possess these powers. Thus, to benefit from tax-exempt interest rates, 501(c)(3)s must apply and receive approval for this tax-exempt treatment from a "conduit" agency in the institution's state of residency. As part of this approval process, the 501(c)(3) must establish before the conduit that the proceeds of the lease will be used in support of the 501(c)(3)'s primary mission (in this case, education). If the lessee is a for-profit institution, not a 501 (c)(3), they also may be entitled to certain benefits such as accelerated depreciation, since the asset is listed on their balance sheet and the costs associated with its use and operation come out of its taxable income.

## OPERATING LEASES

An alternative form of commercial lease is the operating lease. Unlike a capital lease, an operating lease dictates that legal and economic ownership of the equipment resides with the lessor indefinitely. From an accounting perspective, an operating lease obligation can

be considered "off-balance sheet." In effect, the lessee is paying rent for the service the equipment provides, rather than paying for the equipment itself. Unlike in a capital lease, there is no "bargain purchase option" for an operating lease at the end of the term. Operating leases also tend to have shorter terms than capital leases.

Because the equipment legally belongs to the lessor, the lessor will be entitled to take all the tax benefits of ownership such as accelerated depreciation and investment tax credits, if available. Because the lessee does not own the equipment, no asset or long-term liability rests on the institution's balance sheet, and lease payments can come out of the lessee's operating budget. Such an arrangement can benefit institutions that are at or near their borrowing capacity.

As in a capital lease, the institution's responsibility for making timely payments under the operating lease is absolute, and not contingent upon whether sufficient guaranteed savings materialize. Savings shortfalls are expected to be made up for by the ESCO, but this arrangement is separate from the building owner's regular payment obligation to the lessor.

Similar to a capital lease, an operating lease will likely require various forms of security, often including the equipment itself and other general economic resources of the institution. Resources might include tuition revenues or liquid endowment assets.

Institutions pursuing EPC through operating leases do not benefit from the tax- exempt interest rates available from capital leases, since ownership of the equipment does not legally reside with the tax-exempt entity – it will reside with a bank or other leasing entity, likely to be a private, for-profit institution. Thus, for a non-profit or public entity, the cost of financing under an operating lease is usually higher than under a capital lease. Operating leases' greater accounting and structuring complexity also typically lead to higher initial transaction costs.

The Financial Accounting Standards Board (FASB) has ruled that a lease CANNOT be considered an operating lease and remain off-balance sheet if it meets any one of the following four criteria:

1. The lease life exceeds 75% of the asset's useful life;
2. The present value of lease payments, discounted at the lessee's incremental borrowing rate, is equal to or exceeds 90% of the fair market value of the asset;
3. There is a bargain purchase option to purchase the asset at the end of the lease term; or
4. Ownership automatically transfers to the lessee at the end of the lease term.

If a lease meets any of these criteria, then it will be considered a capital lease and the obligation will appear on an institution's balance sheet. The accounting review applied to this test is one source of the transaction costs of an operating lease referenced above.

From a practical perspective, equipment under an operating lease must maintain some residual value at the end of the lease term as stated above. The equipment has to have at least 25% of its useful life left by the end of the lease term in order for the lease to qualify as an operating lease. Even in equipment with 25% or more of its remaining useful life, buildings energy systems and equipment that cannot be easily removed may also have little residual value at the end of a typical lease term that matches with the guarantee period of an EPC. Certain facility

improvement measures (FIMs) under an EPC, therefore, may not easily be financed through an off-balance sheet operating lease. Other, more easily removable systems with long operating lives – and therefore a higher likelihood of retaining residual value by the end of the lease term - are better candidates for this structure.

## TAX-EXEMPT LEASE PURCHASE AGREEMENTS (TELP)

When available, the tax-exempt lease purchase agreement (TELP) has traditionally been the most popular financing mechanism for EPC projects. Like a capital lease, a TELP (also known as a "municipal" or an "abatement" lease) is a lending structure under which a lessee purchases equipment not up-front, but through scheduled installments paid to the lessor over the term of the lease.

TELPs are available in most states, have statutory limitations, , and are often treated as off-balance sheet transactions. The off-balance sheet treatment depends on the presence of "non-appropriation" or "abatement" language in the lease itself. Such language provides that the lessee, through its Governing Board or similar governing entity, may be subject to periodic appropriation of sufficient funds to meet its current lease payment obligations in line with its overall budget. Because the obligations are limited to the current operating budget, the lease may not be classified as a long-term debt obligation, but rather as a series of renewable, short-term lease payments. The non-appropriation language also allows public entities to avoid voter referenda that they might otherwise be required to carry out before entering into any one of a myriad of long-term finance obligations.

While the TELP may not be considered debt from a legal or financial reporting perspective, the lessee should note that any decision not to appropriate funds for lease payments can bear serious consequences. Even though an event of such a "non-appropriation event" is not technically a default on debt, credit rating agencies tend to view it as such. Thus, a lessee's decision not to appropriate funds for payments under a TELP can have a material, negative impact on the lessee's credit rating.

In some states, like California and Indiana, once the leased equipment is fully installed, lease payments are only required if "beneficial use and enjoyment" of the leased property/equipment is substantially available to the lessee. These arrangements are often called "abatement leases." Under such structures, financing may be arranged, but payments may not commence until the equipment is actually installed or operational. Payments are also not required if the equipment is shut down for whatever reason. This characteristic of the TELP varies by state.

While payment obligations under a TELP are limited to the current operating budget, the lessee's obligation to make those payments in a timely manner is absolute and not dependent on realization of the ESCO's projected energy savings. In the event that guaranteed energy savings are not achieved, the ESCO is obligated to compensate the lessee for any cash shortfalls. However, as is the case with all EPC-based projects, the energy savings guarantee remains independent of and unrelated to the lessee's agreement with the lender to satisfy timely repayment of their lease obligation. As with commercial leases, lessors typically require a claim to the lessee's general economic resources - tuition revenue stream, endowment assets, physical infrastructure - as security, in addition to the equipment itself. The financing terms will be based in part upon the reliability and liquidity of these sources of security.

As with capital leases, TELPs allow public institutions and 501(c)(3)s benefit from financing at lower interest rates, as afforded by their tax-exempt status. However, while public institutions benefit from this treatment automatically, 501(c)(3)s must apply and receive approval for this tax-exempt treatment from the "conduit" agency in their state.

## MASTER LEASE AGREEMENT (MLA)

When a building owner wants to implement several projects in sequence, the owner can sign, up-front, a Master Lease Agreement (MLA). The MLA is like a lease line of credit that can be used for multiple EPCs or other efficiency projects to be implemented over a period of time by an entity with a large portfolio of buildings. The MLA contains the underlying framework for contractual terms that will govern all such leases. However, the commercial terms (interest rates, tenor, etc.) for each of the project-specific leases are not set forth in the MLA and must be established as each lease is executed under the MLA. By establishing the basic contractual terms and a schedule of projects to be funded in an MLA, the lessee can reduce the time and cost spent seeking funding for its full retrofit program. Lessors and lessees can enter into MLAs for commercial leases and TELPs. MLAs can include equipment other than energy-efficiency equipment.

## CAPITAL MARKETS

Under certain conditions, the building owner will receive optimal terms by seeking funding from the capital markets. While capital markets occasionally offer attractive terms (interest rate, tenor, etc.), the transaction costs of arranging the financing are typically higher, potentially leading to higher "all-in" financing costs. Building owners can access the capital markets via private placement or via public sale of securities (the latter must be registered with the Securities and Exchange Commission (SEC) and thus carry a greater burden of regulatory disclosure). Because of these higher transaction costs, building owners accessing the capital markets raise funds most efficiently when they offer larger bond offerings. Another strategy to minimize the effect of transaction costs is for the building owner to include their retrofit project financing as a part of a bond offering either already secured or in progress. In sum, the relative appeal of capital markets solutions will vary on a case-by-case basis.

## BONDS

Bonds are a form of long-term debt obligation bought by multiple investors and are typically treated from both a legal and accounting perspective as on-balance sheet financings for the borrower. An institution typically issues bonds with the assistance of one or more underwriters who are responsible for both structuring the offering and then placing the bonds with qualified investors, either through a private placement or through a SEC-registered public market offering.

Investors usually require security for their investment in the form of a general pledge of the institution's revenues (e.g. tuition revenue, student fees and charges, and endowment) or recourse to some form of the building's economic assets. Under a "general obligation" bond, investors are granted access to the sum total of economic resources the building owner has available. For instance, public entities could pledge access to future tax receipts as security, while educational stitutions could pledge access to their future tuition receipts and endowments.[2]

2 An alternative form of debt financing is a "revenue bond", in which an investors' recourse is limited to a specific revenue stream typically derived from the project that the bond has been issued to fund. For many projects financed through a revenue bond, investors may consider performance guarantees as adding an additional layer of security. In the past, however, it has been difficult to finance EPCs via revenue bonds, as investors have felt there can be too much disconnect between the monetary value of energy use savings guaranteed by an ESCO, and the timely lease payments made by the lessee of equipment. The actual payment of debt

As with the leasing structures described above, the borrower's obligation to make those payments in a timely manner is absolute and not dependent on realization of the ESCO's projected energy savings. If savings fall short of the guaranteed level, guarantee payments from the ESCO should cover the cost of debt service, but this reimbursement to the building owner is made independently of the lending institution.

Public institutions and 501(c)(3)s can benefit in the form of lower interest rates from the tax exemption investors enjoy on bond interest received from those institutions. Again, 501(c)(3) s must apply and receive approval for this tax-exempt treatment from a "conduit" issuer in their state.

## CERTIFICATES OF PARTICIPATION (COPs)

Certificates of participation provide an efficient way for larger projects to get funded when no single investor is able or willing to underwrite the entire financing. After a leasing agreement has already been established between the owner and the lessor, the lessor then sells off equally sized pieces of the financing to a larger pool of investors. The proceeds from these sales are then forward to the ESCO or building owner to cover the up-front costs of the project. As the lessor collects payments on the lease, those payments are then passed onto the holders of the COPs on a pro rata basis per their initial contribution. The lessor typically assigns the lease and lease payments to a trustee, who then remits the payments to the COP holders.

Building owners seeking to do larger projects may have difficulties finding single investors willing to finance the entire obligation, seriously limiting the number of potential investors. This may be dealt with by dividing the original lease into smaller notes to be bought by other investors. Owning a COP thus represents the right to collect a percentage of the payments paid by the lessee to the lessor under the lease. The lessor is effectively a conduit used to distribute the payments to other investors, made in proportion to their initial contribution. For example, if Investor A contributes 20% of the capital needed for a particular project, they would be entitled to 20% of the payments made.

Similar to bonds, COPs can provide building owners with access to larger amounts of capital by syndicating out the investment, but not ownership, in a lease to a larger universe of investors. The larger deal provides a way to include a group of investors in a single financing. The larger financing sizes afforded by COPs also allow building owners to reduce the relative impact of the additional fixed, up-front, financing-related costs they would otherwise bear were they to execute a series of a smaller sized financings.[3] Interest rates on COPs transactions are usually higher than for revenue or general obligation bonds, although this will ultimately vary by project and geography.

Unlike bonds, COPs in most jurisdictions do not require voter approval before they are issued, making for a swifter and less costly transaction. While the ability to skip voter approval may make for a less costly and time consuming transaction than issuing bonds, setting up a COP system can impose higher one-time transaction costs than leasing arrangements.

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service is still the building owner's responsibility, despite the ESCO's guarantee, and a lender wants to be sure that the owner will make the timely payment regardless of whether their energy costs are reduced. Transforming energy use savings into debt service payments depends upon the owner's ability to manage its operating budget to "capture" the savings, on the owner's ability to operate and maintain equipment properly so savings are realized, and other factors such as utility rate fluctuations and changes in building use. However, at the time of this writing, CCI is working actively with its financial partners to develop new lending structures that may make revenue bonds a more viable lending mechanism for funding EPC projects.

3 This statement at least holds true for legal, printing, filing and registration costs, and costs associated with receiving voter or board approval. Actual underwriting and pre-payment fees charged by the lending institution are usually set as a percentage against the face value of the offering, and are not technically "fixed."

Again, the lessee's obligation to make those payments in a timely manner is absolute and not dependent on realization of the ESCO's projected energy savings. Public institutions and 501(c)(3) s can benefit in the form of lower interest rates from the tax exemption investors enjoy on bond interest received from those institutions. 501(c)(3)s must apply and receive approval for this tax-exempt treatment from a "conduit" issuer in their state. After helping to arrange the lease, the conduit agency will then assist the building owner in issuing the COPs.

## RECEIVABLES PURCHASE AGREEMENTS

A Receivables Purchase Agreement (RPA) is a lesser-known but effective method for getting an EPC project implemented. In this structure, the building owner pledges the projected future stream of project-generated energy and operational cost savings to the ESCO. The ESCO then sells this pledge of future cash flows, minus annual monies earmarked for operations & maintenance of the installed equipment, to a third party financier. In exchange for selling this future stream of funds, the ESCO receives a lump sum payment from the third party financier. The ESCO uses the proceeds from that sale to implement the EPC project.

The amount of the ESCO's annual guaranteed savings, the total project price charged by the ESCO to the owner, and the discount rate applied to those cash flows by the financier determine the number of years that the stream of savings will be pledged. As in any other EPC project, the ESCO's investment grade audit (IGA) output projects how much the savings will be each year and the project's Guaranteed Maximum Price.

The primary advantage of a RPA is the speed and ease with which it can be executed. Building owners who are facing a long waiting period to raise financing through other mechanisms might therefore find the RPA attractive, given the cost of delay (as calculated by the foregone savings).

The primary disadvantage of a RPA lies in the possibility that the financier will apply a high discount rate in valuing the receivables or future cash flows created by the project's cash flows, thereby increasing the financier's return. The financier may justify this higher discount rate by pointing to project uncertainty, as the receivables from the EPC are sold before the retrofit has been implemented or the first year's energy savings proven.

However, the building owner can capitalize on a RPA's ease and speed of execution while containing costs by refinancing their indebtedness to the financier with a more traditional debt instrument after a full year of savings has been realized post-project implementation. By then, the predictability of the cash flow from savings will be much greater and may afford the owner the opportunity to refinance at a much lower cost of capital. In fact, an owner may use a RPA as short-term bridge (bridge or construction) financing to get the project off the ground (bridge financing is discussed in more detail later in this chapter). Owners can conduct a sensitivity analysis as to when the best time would be to refinance, but should include language in the RPA that allows them to exercise the option to refinance. Owners should also pay close attention to the amortization table that defines the amount to be paid to refinance that is in the RPA to ensure that a future refinance is feasible.

Examples of building owners who may want to consider a RPA include public institutions waiting for voter approval on bond issuances and non-profit institutions waiting for approval from their conduit issuer to access tax-exempt capital markets

Another advantage of the RPA is that it can be structured so that the third party financier first holds the ESCO responsible for shortfalls in the cash flows in any payment period. The final resolution of who is liable for the payment shortfall will eventually include the building owner, but the financier will be involved in the negotiation of a resolution from the beginning, unlike with other lending structures in which the lender has only the building owner to look to for payment. The ESCO thus bears a greater and more immediate share of the "risk of performance" on the project as that performance is translated to a direct financial liability.

Under a RPA, the building owner legally owns the efficiency equipment, and its annual payments are accounted for "on-balance sheet" as capital expenses by the institution. RPAs are not eligible as tax-exempt financings, as there is no explicit income from interest payments to be eligible for tax-exemption. Banks using a RPA will likely look towards the equipment and general economic resources of both the ESCO and the building owner for security.

## LOANS

Commercial loans may also be utilized for EPC financing. Loans are typically backed by the "full faith and credit" of the borrower, but in some cases, additional collateral may be required in the form of equipment or the institution's general economic resources.

As with leases, public institutions and 501(c)(3)s can benefit in the form of lower interest rates the tax exemption lenders enjoy on interest received from those institutions. While public institutions benefit from this treatment automatically, 501(c)(3)s must apply and receive approval for this tax-exempt treatment from the "conduit" established in the institution's state of residency. As part of this approval process, the 501(c)(3) must establish before the conduit that the proceeds of the loan will be used in support of the 501(c)(3)'s primary mission.

## MIXING FUNDING SOURCES

Now that we have summarized a broad menu of options for financing EPCs, we should note that an institution can raise funds from several of these sources at the same time for a given EPC project. For example, if an institution would like to use funds from its capital budget to cover part of an EPC project's cost, but does not have enough to cover the entirety, the owner may use any of the lease or debt options to cover the difference, with energy savings used to cover the debt/lease payments. Such an arrangement would mirror the "debt/equity" mix that is common in project finance. Under such an arrangement, the debt financier will always have to receive its payments first before the equity financier (in this case the school itself) is able to receive their returns.

An institution might also mix leasing mechanisms for a single project, using an operating lease to install some equipment and a capital lease to finance other retrofits. Such an arrangement may allow parts of the EPC to be kept off-balance sheet, while the remainder would remain on-balance sheet. The overall cost of capital would be a mix of on-balance sheet, tax-exempt leases and off-balance sheet, non-tax-exempt leases. An independent financial advisor or the ESCO's in-house financial experts can help a building owner determine the appropriate mix of sources for a given project, if a mix is necessary or desirable.

## STRUCTURING PAYMENT SCHEDULES

There is some room for flexibility in structuring payments for various leasing and loan structures. Building owners entering into an EPC should explore different possibilities to ensure that the payment schedules will best meet their project goals.

Lease payments are usually fixed throughout the term of the lease - although again, in states like California and Indiana where "abatement leases" are possible, payments are only required if the owner is receiving "beneficial use and enjoyment" from the leased property. Tax-exempt leases will usually be structured so that the lender places the full up-front payment to the contractor in an escrow account, which distributes the funds to the vendor on a percentage completed basis over time. Once the money is deposited, the lender will often impose a "date certain" for the commencement of payments, and payments will be made on a specific schedule. At times, there may be some flexibility as to the start date – often the payments will not start for a set time (e.g. 9 or 12 months after construction starts) to accommodate the construction period – but the lease will be accruing interest from when the funds are deposited in the escrow account. The interest accruing on monies in escrow may often go to the borrower. The net interest due to the lender is then typically discounted back at the building owner's hurdle rate and then capitalized into the total project cost, along with other on-going project related expenses such as M&V and O&M contracts. The calculation of construction interest to be capitalized is done prior to the funding the project.

Many commercial leasing companies will provide construction financing prior to initiating the lease, or structure the lease to accommodate the progress payments needed by the ESCO or installing company. One common structure is to pay only the interest on the payments made during the construction period.

Loans can be structured in a number of ways. Two common structures include "amortizing" and "bullet" loans. Payments throughout the term of an amortizing loan include both interest and principal, while payments throughout the term of "bullet" loans are comprised purely of interest, with a larger "bullet" repayment of principal at the end of the term. Interest on the payments made to the ESCO or installing company during the construction period can be added to the loan as they are made.

## CREDIT RATING IMPACT OF EPC

Auditors will consider the impact of an EPC project on an institution's credit rating if they deem the required financing amount as "material" in comparison to the institution's overall budget or income. As a frame of reference, an item is often considered "material" when it is equal to or greater than 5% of the total operating budget, though this metric is a rule of thumb rather than an enforceable standard. Definitions of "materiality" are always subjective, and may vary depending upon the credit rating agency.

Even for certain leasing structures that are not considered debt for legal and accounting purposes (like operating leases, for example), Moody's or Standard and Poor's may treat lease obligations as debt when they evaluate an institution's credit rating. The way in which auditors assess the credit impact of borrowing to finance an EPC project is difficult to predict, and depends largely on the characteristics and circumstances of a particular institution (e.g. how close the institution is to its debt limit, the size of the project lease payments in proportion to its overall operating budget or net income).

## TAX CREDITS, REBATES, AND OTHER GOVERNMENT INCENTIVES

A way to reduce costs on EPCs and power purchase agreements (PPAs) (which are discussed later in the document) is to access tax credits, rebates, or incentive funds from a wide range of federal, state and local government or utility company programs. The availability of these programs varies by state and locality. It is important to check with the local utility to determine the requirements and opportunities for energy-efficiency and renewable energy programs. It is also important to check with a competent tax attorney and appropriate accounting professionals to determine the applicability of tax credits, rebates and incentives to the particular project. Project financing structures can impact accessibility of these programs. Due to the complexity of these programs, it is a good to include a question about the ESCO's knowledge of these programs during the selection process. These fund sources can vary by technology, retrofit or renovation project, and project timing.

Private sector firms can also take advantage of the accelerated and bonus depreciation provisions in the federal tax code for capital investments, which translates to a lower tax liability for the first few years of the project, while extending future tax liabilities. Energy-efficiency projects that meet certification requirements may qualify for a tax deduction of up to $1.80 per square foot[4] which, when installed in government property, may be given to the firm primarily responsible for the systems' design. The value to the recipient organization can equate to a minimum of 25% of the value of the initial energy investment. Depending on the nature of the transaction and financial structure, the value can increase to 40% of the investment value.

Rebates and incentives from the local utility or state energy agency are often available for both energy conservation projects and alternative energy projects. The rebates and incentives are often calculated on a cost per kilowatt of electricity saved or generated. In some cases, utility rebates are offered for specific technologies such as the exchange of incandescent bulbs for compact fluorescent bulbs. In the case of energy-efficiency and alternative energy projects, the value of the rebate can equate to 20% to 50% of the project cost. Local utility rebates and incentives are additive to federal energy tax credits and accelerated depreciation. ESCOs and independent financial consultants can help an institution wade their way through such programs, identifying their relevance and impact on a particular project.

Before initiating the procurement process, we recommend that schools investigate whether any local, state, or federal incentive programs could help pay down the cost of financing for energy-efficiency and renewable energy projects. A good resource to research programs is the "Database of State Incentives for Renewables and Energy," or "DSIRE." DSIRE is "a comprehensive source of information on state, local, utility, and federal incentives that promote renewable energy and energy efficiency." The database can be accessed at http://www.dsireusa.org.

4 H.R. 1424: Div. B, Sec. 303 (The Energy Improvement and Extension Act of 2008) and 26 USC § 179D.

## EPC FINANCING MATRIX

Below is a matrix that summarizes the distinguishing features of the various financing options we have covered.

| | Cash | Bonds | Capital Lease | Operating Lease | Receivables Purchase Agreement | Tax-Exempt Lease Purchase Agreement |
|---|---|---|---|---|---|---|
| Taxable or Tax-Exempt | Not Applicable | Taxable or Tax-exempt | Taxable or Tax-exempt | Taxable | Taxable | Tax-exempt |
| Initial Payments | 100% of project costs | Varies | Equal to 1 or 2 monthly payments | 1 or 2 monthly payments | None | In Arrears |
| Term | Not Applicable | 5 - 30 Years | 3 - 15 Years | 3 - 7 Years | 10 - 20 Years | 3 - 25 Years |
| Funding Access | Not Applicable | Limited | Varies | High | High | Varies |
| Capital or Operating Budget | Capital or Operating | Capital | Capital | Operating | Capital | Operating or Capital (state specific) |
| Balance Sheet Impact | On | On | On | Off | On | State specific |
| Ownership/Title | Institution | Institution | Lessor, passing to Institution | Lessor | Institution | Lessor, passing to Institution |
| Collateral/Security Required | Not Applicable | Varies depending on credit of issuer; full or limited pledge of institution revenues or other economic resources required | First priority lien on equipment and/or a claim to general econmic resources of Lessee | First priority lien on equipment and/or a claim to general econmic resources of Lessee | First priority lien on equipment and/or a claim to general econmic resources of the Lessee | First priority lien on equipment by Lessor |
| Tax Deductions (if applicable) | Depreciation | Interest and depreciation | Interest and depreciation | Lease payments | Interest | Interest and depreciation |
| Risk of Performance | Institution | Institution | Institution | Varies | Institution and ESCO | Institution |
| Minimum $ Amount | Not Applicable | $5 million unless in Bond Pool | $10,000 | $100,000 | $1,000,000 | $25,000 |
| Contract Termination Options | Not Applicable | Varies | Fixed Buyout, often below market value | Fair market value buyout or return equipment | Principal payoff | Ownership transfers to Lessee |
| Other Considerations | Must compete with other capital projects | Lengthy approval and transaction period; high up-front cost (up to 3% of total) | | Equipment specific. Hard assets preferred | May be subject to payment offset | Payment obligations may be subject to annual operating budget appropriation (state specific) |

## FINANCING RENEWABLES

As the ACUPCC is a commitment to carbon neutrality, signatory schools will ultimately be required to move beyond energy-efficiency improvements in their sustainability plans since energy-efficiency can only take a campus so far in its path to carbon neutrality. A school will need to consider the development of renewable energy systems that generate power on or near the campus, the purchase of "green" electricity or Renewable Energy Credits, and the procurement of carbon offsets to achieve carbon neutrality.

While ESCOs are widely known for implementing comprehensive energy-efficiency improvements, they are expanding their service offerings to include the installation, financing, and on-going operations and maintenance of renewable energy systems, utilizing both EPCs as well as other financing and contracting mechanisms.

## USING AN ENERGY PERFORMANCE CONTRACT FOR RENEWABLE ENERGY

Including renewable energy in performance contracts is becoming more common, particularly with municipalities, but also with colleges and universities. Solar photovoltaic (PV) systems are the most common technology included in these contracts, but small wind and small biogas power projects have been included as well. In performance contracts that include renewable energy systems, the ESCO makes an assumption about the renewable energy system's ability to reduce demand for grid-supplied electricity. In that sense, the renewable energy system is treated like just another energy-efficiency measure, in that it reduces traditional utility payments (and greenhouse gas emissions).

If the cost of a PV system, for example, is comparable or relatively small when compared to the other retrofit measures proposed for an EPC, then the PV system might not affect the financial attractiveness of the overall EPC project. But if a customer wishes to include a more costly PV system, that system may increase the total project's payback period – possibly to the point that the project becomes impossible to finance.[5] The payback problem can be solved by removing another long payback period measure from the project scope. The ESCO and the client must jointly discuss the merits of each option in relation to the school's financial, operational, and environmental goals and constraints.

Ultimately, colleges and universities wanting to include renewable energy systems in their EPC projects should either be prepared to accept a) a longer payback period and debt service schedule, b) be aware that the ESCO may have to drop some energy-efficiency measures, or c) invest some equity in the project (from cash-on-hand or through a grant) in order to accommodate the renewable system financially in the EPC (assuming the school wants the project to be cash-neutral). Still, more institutions are interested in installing large renewable energy systems. Incorporating such a system into an EPC has both pros and cons.

A renewable energy system installed via an EPC provides certain risk mitigations. For instance, a college or university may be unsure about how well a new renewable energy system will perform. The system may involve unfamiliar technology or configuration. There may be doubts about how it will affect the rest of the campus' electrical system or doubts that it will generate as much electricity as the vendor promises. Warranties can address some, though not all, of these issues, or not adequately protect the financial and operational requirements of the school.

5 In states where there are EPC term ceilings of 10 years or less, public entities may not be legally able to bundle PV into an EPC.

If an EPC arrangement is desired for a renewable energy installation, one can write the performance guarantee in such a way that contractually isolates the renewable energy systems from the other FIMs and limits the guarantee on the renewable system to just a few years. (Alternatively, and for simplicity, the client can simply sign a separate EPC for the renewable energy and treat it as a financially and legally separate project from the energy-efficiency project.) This approach recognizes that many renewable energy systems simply need a year or two of continuous operation to determine if actual energy production meets energy production estimates. In this approach, the performance contract is more of an insurance policy than a financing technique. For projects using a relatively untested energy technology that the client is eager to try but for which the ESCO is hesitant to offer a guarantee, the equipment vendor may fully accept the performance risk or share it with the ESCO.

Tax benefits (investment tax credit and depreciation) may contribute to the economics of renewable energy projects. It is important to note that these benefits accrue to the owner of the equipment and may be lost to tax-exempt organizations unless the financing is properly structured (see below for more information).

## THE POWER PURCHASE AGREEMENT (PPA)

For the reasons cited previously, renewable energy projects are typically financed separately from energy-efficiency projects, often involving some form of bonding or other debt obligation. However, ESCOs and other providers are offering another tool for financing renewable energy projects: the power purchase agreement (PPA).

PPAs are contracts in which the service provider pays for 100% of the costs for purchasing, financing, installing, and operating and maintaining a renewable energy system. The developer or an independent financier will own the system itself, while the client makes regular, contractually defined payments to purchase the measurable output of energy from the system. After a set contract term, ownership of the system typically transfers to the client, with all costs for the system plus profit paid to the provider from the regular payments for the energy.

Typically, a PPA will contain provisions that:

- Guarantee a minimum annual energy output.
- Set an annual price for the energy used.
- Set an annual energy price escalator (e.g., the price will increase 2% per year).
- Assign ownership of renewable energy credits (RECs,) carbon credits, and any other applicable environmental credits (typically the service provider receives these credits and incorporates these benefits into what results in a lower energy price than the client would otherwise receive).
- Allow for the acquisition of the system by the client during or after the contract, sometimes with a balloon payment from client to provider at contract termination.

One reason for utilizing a PPA structure is to enable capture of the financial benefits provided by local utilities and tax incentives provided by local, state, and federal governments. Many of these mechanisms are unavailable to public and non-profit entities as they require taxable income from which to deduct renewable energy system project costs. Therefore, a PPA structure in which a school utilizes a for-profit company as the purchaser, installer, operator, and maintainer of the

system allows capture of the tax incentive benefits by the for-profit entity. As in the case of carbon credits described above, the PPA provider should reflect its economic gain from the tax benefits in the form of a lower price for the energy produced for and consumed by the client. CCI advises clients to understand the value to their PPA provider of such items as carbon credits and tax incentives so that clients can ensure that they are paying the lowest possible price for the renewably generated energy.[6]

For an institution with a tight budget, the PPA approach is attractive. Typically, no down payment is required and the PPA shifts the system's performance risk from the client to the service provider. PPAs can also be considered off-balance sheet investments as the building owner does not hold title to the equipment, and payments are made through the operating budget.

With larger PV, wind, and landfill gas projects, there may be times when electricity is generated beyond what the college or university needs. In states with net metering laws,[7] excess energy can be sold to the local utility.[8] The PPA should specify to what entity or entities these revenues will flow. Where there is no net metering law, or where the renewable energy system's size exceeds the size allowed for net metering, arrangements can still be made to sell the power to another party, even a utility.

## FEDERAL LEVEL TAX INCENTIVES FOR RENEWABLE ENERGY SYSTEMS

The PPA provider also benefits from the IRS' Modified Accelerated Cost Recovery System ("MACRS"), which allows businesses to recover investments in solar, wind, and geothermal property placed in service after 1986 over a five-year schedule of depreciation deductions. The economic life of such property is 25 - 40 years, so this incentive allows for a fairly rapid recovery of investments compared to the expected economic life of the property installed.

In addition to being driven by local and state government incentives, the PPA business model relies heavily on federal tax credits, which must be renewed periodically by Congress. In October, as part of its financial rescue package, Congress renewed two important tax incentive programs for renewable energy – the 30% investment tax credit (ITC) for solar installations, and a series of Production Tax Credits (PTC) for other renewable energy technologies. The solar ITC allows companies with equity ownership in a solar project to receive a credit on their income taxes worth 30% of the value they invested in the project. Congress has extended this tax credit through 2016, and removed the $2,000 monetary cap for residential solar electric installations, as well as the prohibition that utilities could benefit from the credit. Without this tax credit, people who utilize the PPA model to finance a solar project would have a hard time receiving competitive prices for electricity. The PTC was extended for most technologies through 2010, and is applied to revenue generated on sales of energy from geothermal systems, closed-loop biomass systems, hydropower stations, landfill gas capture and trash combustion facilities, and marine energy systems (e.g. wave, tidal, and current).

6 For specifics on federal and state level tax incentives for renewable energy systems, see http://www.dsireusa.org/.

7 Ibid. (The same database also includes a full list of states' net metering laws.)

8 Some utilities operate under regulations that compel them to purchase electricity from a facility level installation at the "retail" rate, which is the same rate at which they sell it to their customers. In other states, utilities will only pay a "wholesale" rate that only pays for the cost of the electricity, without including transmission and distribution costs.