INNOVATIVE FINANCING SOLUTIONS: FINDING MONEY FOR ENERGY EFFICIENCY PROJECTS IN THE PUBLIC SECTOR

The simple choice for energy efficiency.

ENERGY STAR

December 2016

Are you having trouble getting energy efficiency projects approved and implemented? If so, this paper from EPA's ENERGY STAR program is for you. The paper describes how energy services performance contracts (ESPCs), tax-exempt lease-purchase agreements, energy efficiency bonds, and state green banks may offer you practical solutions when no money is available in the current budget for further improvements. This document also provides clear financial reasoning and cost modeling, which demonstrate that energy efficiency projects really can pay for themselves within existing operating and capital budgets. It equips you to persuade the decisionmakers within your school district, city, county, community college, university, or state that implementing energy efficiency upgrades is a good business decision and should be done as soon as possible.

EPA's ENERGY STAR program is a voluntary government-industry partnership offering a suite of resources and tools to help businesses, government agencies, organizations, and consumers become more energy efficient in the workplace and at home. Through ENERGY STAR, an organization can learn how to apply energy best management practices and technologies that result in improved energy performance, financial well-being, and environmental protection.

Introduction

While the reasons for delaying projects may vary, most energy efficiency projects stall due to one or a combination of the following perceived barriers:

1. Lack of money.
2. Lack of time or personnel to design and plan the projects because of other, higher priorities.
3. Lack of internal expertise to implement and/or manage the projects.
4. Lack of "political will" within the decisionmaking process.

> *"Anyone who doesn't have an energy efficiency program is acting fiscally irresponsible."*
>
> - Walter George
> Anne Arundel County Public Schools, Maryland

This paper focuses on the perception that no money is available in your organization's budget for energy efficiency projects. As you will see later, resolving this first barrier frequently provides the solution to the others.

When you propose energy projects to the decisionmakers within your city, county, school district, community college, university, or state, the financial barriers they commonly raise can be characterized as follows:

- If it is not in this year's budget, it simply has to wait.
- Equipment improvements must be paid from the capital budget.
- Paying lower interest (by floating bonds) or no interest (by delaying the project and planning it into future budgets) saves more money and, therefore, is in the best interest of our organization.
- Taxes or fees will have to be increased to pay for these improvements.
- Performance contracting with an energy service and product provider (ESPP), or energy services company (ESCO), is expensive and unreliable.

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- Tax-exempt lease-purchase agreements are expensive alternative funding solutions.

Some of these comments may sound familiar. In fact, they are common misconceptions, which the information presented here can help you overcome. This paper defines some standard financial terms, presents financing options, and includes an effective "cost of delay" model that quantifies the opportunity costs inherent in energy efficiency projects. The next time you face your board, city council, chief financial officer, chief operating officer, or other decisionmaker, you will be better equipped to persuade them that energy efficiency upgrades can pay for themselves and should be implemented as soon as possible.

The brief case studies appearing in the sidebars throughout this paper illustrate how different public entities worked through their financial hurdles to implement energy efficiency upgrades. For example:

- Washington State Department of Enterprise Services (DES) has utilized a combination of sources to fund its energy efficiency upgrades, including capital funds, energy savings performance contracts, and incentives offered by electric or gas utility companies.
- State of New Hampshire officials insisted on minimizing any impact on the state's bond (credit) ratings while energy efficiency improvements were being implemented. After careful study, state officials settled on a master lease program that financed energy efficiency improvements using the dollars saved from future utility bills.
- The City of Amherst, NY, realized that by bundling a group of apparently unrelated city properties (ice rinks, city buildings, and the waste water treatment facility) together, they could get a very competitive bid from an ESCO and low-cost financing from a lender.

What do these examples have in common, and why were the outcomes successful? Washington State Department of Enterprise Services, the State of New Hampshire, and Amherst, NY all found that using performance contracts with reputable energy service companies (ESCOS)—combined with tax-exempt lease-purchase agreements as the financing vehicle—provided the best, most cost-effective solution. Des Moines Public Schools (DMPS) realized that the cost of delay made accelerating the installation of EE equipment a better financial decision rather than waiting for funds to become available in the future and delaying the installation. Other public agencies undertaking similar energy efficiency projects include Pennsylvania's Allegheny County, which turned to performance contracting when its capital budget was reduced by 20 percent; Mississippi, Virginia, and Maryland, which initiated statewide Energy Efficiency Master Lease Programs (MLPs); and Florida's Miami-Dade County School District, which added energy efficiency projects to an existing lease-purchase Certificates of Participation (COPs) program as the lowest cost alternative.

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Background: Operating Expenses versus Capital Expenses

To argue the advantages of a tax-exempt lease-purchase agreement and a performance contract, facility managers must be conversant with the roles that the operating expense budget and the capital expense budget play in their organizations. Typically, capital expenses are those that pay for long-term debt and fixed assets (such as buildings, furniture, and school buses) and whose repayment typically extends beyond the current operating period (the operating period is usually 12 months). In contrast, operating expenses are those general and operating expenses (such as salaries or supply bills) incurred during the current operating period (again, typically 12 months).[1] For example, repayment of a twenty-year bond issue is considered a capital expense, whereas paying monthly utility bills is considered an operating expense.

The disadvantages associated with trying to use capital expense budget dollars for your energy efficiency projects include the following: (1) capital dollars are already committed to other projects; (2) capital dollars are often scarce, so your projects are competing with other priorities; and (3) the approval process for requesting new capital dollars is time consuming, expensive, and typically requires voter approval.

Understanding Performance Contracts and Tax-Exempt Lease-Purchase Agreements

Performance Contracts

Energy Services Performance Contracting (ESPC) is a common way for public sector organizations to implement energy efficiency improvements. Using an ESPC implies working with an Energy Services Company (ESCO), which is a business that develops, engineers, and installs projects designed to reduce the energy usage and maintenance costs for facilities. Under an ESPC, the ESCO insures that the actual energy savings will match the projects savings, and identifies the procedures by which these savings will be measured and verified. A typical ESPC consists of a *project development plan* which usually includes new energy efficiency equipment, an *energy services plan* for maintenance to

The State of New Hampshire

The New Hampshire Building Energy Conservation Initiative prompted the evaluation of how to improve the energy efficiency of state-owned buildings. However, the state's Treasury Department was concerned about increasing the state's debt, which might adversely affect its credit rating. Following discussions with energy service providers and finance professionals, state officials determined that by separating the financing activity from the technical performance obligations under a performance contract, the state could obtain lower cost financing (i.e., by setting up a tax-exempt master lease program (MLP) to underwrite the performance contracts). After a year of reviewing similar programs, all parties agreed that the non-appropriation language of the MLP would allow the lease to be repaid from operating funds and thus have minimal impact on the state's credit rating. This low-cost financing permitted New Hampshire officials to install a broader range of energy-efficient equipment than they would have if they had used the financing bundled into the ESP's performance contract. As a result, more projects met the legislated payback requirements. New Hampshire's credit rating did not change as a result of the energy conservation MLP. And, the state got better financing rates by consolidating all projects under one agreement.

[1] According to Barron's Dictionary of Accounting Terms, capital expenditures are "outlays charged to a long-term asset account. A capital expenditure either adds a fixed asset unit or increases the value of an existing fixed asset." Operating expenditures are costs "associated with the … administrative activities of the [organization]."

insure ongoing savings, and *financing options.* Financing can be provided directly by the customer or by the ESCO. ESPCs can be as long as 25 years, with the majority being 15 years or less. ESPCs terms and conditions are rarely the same, as they are tailored to meet the individual needs of the host organization.

ESPCs can separate financing from the technical components, which works well for most public organizations that can borrow at tax exempt interest rates (which are lower than commercial rates). However, when the host organization is unwilling or unable to provide the needed funding, many ESCOs can include financing as part of their ESPC. Before investigating funding alternatives, it is a good idea to start at your state's energy office to see if your project qualifies for any low cost utility or state financing programs.

There are many different types of ESPCs including Guaranteed Savings Agreements (GSA), Shared Savings Agreements, Managed Energy Savings Agreements (MESA), and Efficiency Service Agreements (ESA). In the Guaranteed Savings Agreement - the most popular type of performance contract used in the public sector-the energy performance of the equipment (savings) is guaranteed by the ESCO, that agrees to reimburse the sponsoring organization for any shortfalls. A GSA bundles equipment purchasing and performance guarantees, and it may also include financing, energy costs, and maintenance. However, ESCOs usually borrow at taxable interest rates, while public agencies are able to issue lower cost tax-exempt obligations. As a result, GSAs often take advantage of lower cost tax-exempt lease-purchase agreements or bonds as the underlying financing instrument by treating the financing separately from the technical components.

Shared Savings Agreements work well when measurement and verification protocols are clearly defined. Issuing agencies unwilling or unable to issue "on balance sheet" obligations can effectively turn the management of the utility component over to a third party using a MESA or ESA which consolidates the financing cost with the efficiency measures.

Organizations that need help identifying and implementing potential projects, do not have current product knowledge or the staffing needed to manage the projects and maintain the equipment, need performance guarantees, or simply can't access the funding needed to implement a project will benefit greatly by working with an ESCO.

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Tax-Exempt Lease-Purchase Agreements

Tax-exempt lease-purchase agreements are common public sector financing alternatives that may allow repayment from operating expense dollars rather than capital expense dollars. They are effective alternatives to traditional debt financing (bonds, loans, etc.) and allow public organizations to pay for energy upgrades by using money already set aside in annual utility budgets. When properly structured, this type of financing mechanism allows public sector agencies to draw on dollars saved from future utility bills to pay for new, energy-efficient equipment today.

A tax-exempt lease-purchase agreement, also known as a municipal lease, is like an installment-purchase agreement rather than a traditional lease or rental agreement. Under most rental agreements (such as those used in car leasing), the renter (lessee) returns the asset (the car) at the end of the lease term, without building any equity in the asset being leased. They can postpone the decision to acquire the asset being financed until the end of the lease term. A lease-purchase agreement, however, presumes that the public sector organization will own the equipment after the term expires. Further, the interest rates for public sector entities are lower than those on a taxable commercial lease-purchase agreement because the interest paid to the investors is exempt from federal income tax.

In addition, in many states a tax-exempt lease-purchase agreement usually does not constitute a long-term "debt" obligation because of non-appropriation language commonly written into the agreement. This language effectively limits the payment obligation to the organization's current operating budget period. Therefore, if for some reason future funds are not appropriated, the equipment is returned to the lender, and the repayment obligation is terminated at the end of the current operating period without placing any commitment on your future budgets.

Public sector organizations-schools, community colleges, universities, and local and state governments-should consider using a tax-exempt lease-purchase agreement to pay for energy efficiency equipment when the projected energy savings will be greater than the cost of financing the installation, especially when a creditworthy energy service provider guarantees the savings. If your financial decisionmakers are concerned about exceeding operating budgets, you can assure them that this will not happen because lease payments can come from the dollars to be saved

Des Moines Public School District

Des Moines Public School District, located in Des Moines, Iowa, has more than 31,000 students and 72 school district facilities encompassing almost 6 million square feet of space. The average age of the district's schools is 65 years old. After assessing the need for energy efficiency improvements, DMPS realized that financing and installing the energy-efficient equipment immediately was a better financial decision than waiting for funds to become available over time (the "cost of delay"). DMPS established a community-based facilities advisory committee that developed a 5-year plan based on a 10-year vision. The plan focused on enforcing safety and security, replacing inefficient or worn-out equipment or systems, implementing building improvements, making technology upgrades, and communicating the benefits of energy efficiency. DMPS has utilized the statewide penny sales tax revenue to fund debt service costs on a series of Revenue Bonds (more than $210 million issued in three phases), which funded nearly 100% of Phase 1, Phase 2, and Phase 3 capital improvement costs. This allowed the District to more rapidly complete an additional $97 million in capital improvements. Also, the District was able to save a portion of its annual statewide penny sales tax revenue to fund 100% of Phase 4 capital improvement costs. In addition, District administrators contracted with a variety of engineers to define savings and improvement opportunities, and used their internal construction management team as the general contractors. By utilizing revenue bonds to fund capital projects, allowing projects to be completed more rapidly, and by managing these services "in house," it is estimated the District saved more than $79 million in construction costs.

The results speak for themselves. Energy costs went from almost $6 million in 2009 to around $3.5 million in 2015, and the district earned ENERGY STAR certification for 48 facilities in 2015. DMPS has been also been recognized as an ENERGY STAR Partner of the Year—Sustained Excellence winner.

on utility bills once the energy efficiency equipment is installed. Utility bill payments are already part of any organization's standard year-to-year operating budget. The financing terms for lease-purchase agreements may extend as long as 20 years or more; however, they are limited by the useful life of the equipment. Most lenders prefer a shorter term; usually 15 years or less.

Tax-Exempt Lease-Purchase Payments Not Considered "Debt." Because of the non-appropriation language typically included in tax-exempt lease-purchase agreements, this type of financing may be considered an operating rather than a capital expense. As a result, the payments are not considered "debt" from a legal perspective in most states and usually do not require taxpayer approval. You will, however, have to assure lenders that the energy efficiency projects being financed are considered of essential use (i.e., essential to the operation of your organization), which minimizes the non-appropriation risk to the lender.

How is Debt Defined? "Debt" can be interpreted from three different perspectives-legal, credit rating, and accounting. As mentioned above, in most states tax exempt lease-purchase agreements are not considered "legal debt" because the payment obligation renews from year to year. By not entering into a long-term commitment, your organization may not be required to obtain local voter approval (referendum) for this financing. However, credit rating agencies, such as Moody's and Standard & Poor's, do include some or all of the lease-purchase obligations when they evaluate a public entity's credit rating and its ability to meet payment commitments ("debt service"). These two perspectives (legal and credit rating) may differ markedly from the way lease-purchase agreements are treated (i.e., which budget is charged) by your own accounting department and your organization's external auditors.

In general, lease-purchase payments on energy efficiency equipment are quite small when compared to the overall operating expense budget of a public organization. This usually means that the accounting treatment of such payments may be open to accounting interpretations. Most public sector entities recognize that the energy savings are a direct result of the installed energy efficiency improvements. As such, the source of repayment for the projects' lease-purchase costs (or the financing costs for upgrades) can be tied directly back to savings in the utility budget. Outside auditors, however, may take exception to treating these payments as operating expenses if they are considered "material" from an accounting perspective.

Determining when an expense is "material" is a matter of the auditor's professional judgment. While there are no strictly defined accounting thresholds, as a practical guide, an item could be considered material when it is greater than 5 percent of the total expense budget in the public sector (or 5 percent of the net income for the private sector). For example, the energy budget for a typical medium-to-large school district is around 2 percent; therefore, energy efficiency improvements would rarely be considered "material" using this practical guideline.

Know Your State's Rules. Many public entities already lease equipment. Adding an energy project to an existing lease agreement may be surprisingly easy, especially if a Master Lease is in place with a lending institution. Governing statutes vary from state to state;[2]

[2] California and Indiana use "abatement leases" rather than "non-appropriation" leases. Under abatement theory, the lease is not considered "debt" because the yearly payment is limited to the ability to use the asset during the current operating period; if the asset cannot be used, then the payment can be reduced or "abated."

and the use of tax-exempt lease-purchase agreements may differ across schools, municipalities, and counties even within the same state. Public sector organizations should always consult legal counsel before entering into lease-purchase agreements.

There may be cases when a lease-purchase agreement is not advisable; for example, (1) state statute or charter may prohibit such financing mechanisms from being used; (2) the approval process may be too difficult or politically driven; or (3) other funds are readily available, (e.g., bond funding that will soon be accessible), or excess money exists in the current capital or operating budgets.

States Take Advantage of Energy Savings to Fund Energy Efficiency Projects

Many states have recognized that the savings realized by installing energy efficiency equipment can be used to finance the needed equipment. For example:

- In Pennsylvania, public sector organizations are authorized to use funds designated for operating expenses, utility expenses, or capital expenditures to meet lease-purchase or installment payments under performance contracts.[3]
- School districts in California are authorized to enter into energy efficiency financing relationships that "can be repaid from energy cost avoidance savings."[4]
- In Florida, "it is the policy of this state to encourage school districts, state community colleges and state universities to reinvest any energy savings resulting from energy conservation measures into additional energy conservation efforts."[5]
- In Minnesota, "a district annually may transfer from the general fund to the reserve for operating capital account an amount up to the amount saved in energy and operation costs as a result of guaranteed energy savings contracts."[6]

City of Amherst, New York

Amherst, New York, took a holistic approach to energy efficiency by issuing an RFP for energy services companies (ESCOs) to bid on overall energy efficiency improvements under a town-wide energy conservation program. Amherst, with a population of 117,000, has an electric budget of $2.7 million and a total operating budget of $100 million. The wastewater plant's electric budget was $1.5 million, or 55.6 percent of the entire town's electric bill. New York State Energy Law In the first year, Article 9 allows for the bundling of projects to obtain a weighted average simple payback, and the town selected the ESCO that maximized the amount of new equipment that could be purchased from the energy savings. The result was a $5.2 million project that included the city's ice skating rinks, police station, three community and recreational centers, four libraries, and a museum in addition to the waste water treatment facilities, plus other city properties that, on their own, would be too small to attract the attention of any major ESCO. This was done as a Performance Contact (Guaranteed Savings Agreement). The ESCO guaranteed $5 million of savings on these projects, which include end-of-life replacement equipment as well as energy efficiency equipment. In the first year, the actual savings exceeded projected savings by 16 percent. Amherst chose to bid the technology separately from the financing.

[3] Laws of Pennsylvania Act 1998-57 - §3755(b)
[4] California Education Code 17651 (a)
[5] 2016 Florida Statutes Title XLVIII, Chapter 1013 (1)
[6] Minnesota Statutes 2015 Chapter 123B.65 Energy-Efficiency Projects Subdivision 7

- In Texas, "If… payments by the school district are to be made from maintenance taxes previously approved by the voters…and are subject to annual appropriation…the payments under the contract shall not be considered payment of indebtedness"[7]

Many other states support the idea of funding energy efficiency projects from future utility bill savings. Obtaining your accounting department's cooperation may be easier than you think, especially if determining the legal precedent in your state is a matter of doing a little research.

Getting the Best Deal

If tax-exempt lease-purchase financing is so good, why are some public organizations reluctant to use it to fund energy efficiency projects? One reason may be the higher stated interest rate when compared to that of a bond. There is, unfortunately, a common misconception that the lowest interest rate is always the best deal. If your finance decisionmakers make this assumption, you need to remind them that two factors must be addressed to determine the best financing alternative: (1) all-in net interest costs and (2) the costs of delay.

All-in Net Interest Costs

Every borrower seeks the best deal. As stewards of public funds, managers in the nation's public schools, community colleges, state universities, and local or state government agencies want to provide the best quality service for the lowest net cost. Bonds at 3.5 percent interest sound better than a lease-purchase agreement at 4.0 percent; however, the real savings become clear only when the all-in net interest cost has been calculated (all-in Net Interest Cost reflects the par value of the financing, and includes any accrued interest, premium, discount, all costs of issuance, etc.). Typically, lease-purchase agreements do not include any extra costs or fees outside the interest rate (with the exception of fees related to setting up an escrow account needed to manage funds during the construction period in case "construction progress payments" are necessary). The legal opinion for a lease-purchase agreement usually requires little or no research and can be provided by internal counsel.

On the other hand, a bond will require obtaining an extensive (and expensive) legal opinion, setting up a trustee, and retaining accounting services to ensure compliance. Bond issues may also incur costs to rate the bond, obtain insurance, set aside a cash reserve for the first year, and pay for printing or marketing fees-additional costs that can easily exceed $50,000. Adding these bond issuance costs to the cost of energy efficiency projects can dramatically change the economics of a project, unless the project is fairly large. Therefore, the financing alternative that generates the lowest total payment (the all-in net interest cost) is the best deal-and this may not be the one with the lowest stated interest rate.

Political, as well as financial, issues must be taken into account when determining lowest net cost. A tax-exempt lease-purchase agreement may not be considered legal debt and be easier to implement than floating a bond, which is a capital expenditure often requiring voter approval. Therefore, two additional costs must be added to the aforementioned calculation: (1) the out-of-pocket cost of advertising and staffing for a referendum, and (2) the intangible political cost of asking the taxpayers to approve "new debt." Frequently, the political cost is the greater of the two.

[7] Texas Local Government Code, Title 8 (c) Chapter 271 - Public Property Finance Act - §271.004 (e)

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The Costs of Delay

Quantifying the costs of delaying the installation of an energy efficiency project adds a new dimension to the financial decision. ENERGY STAR statistics show that up to 30% of most utility budgets pays for wasted or underutilized energy. However, school district and local or state government officials often feel that postponing the installation of energy efficiency equipment until such time as the operating or capital budget dollars are available-rather than financing the installation immediately-is a better financial decision. They reason that if internal budget dollars are used, paying interest can be avoided completely. However, delaying the installation will delay the point at which energy savings can begin and, therefore, has an opportunity cost attached to it.

- For example, if a $500,000 project has a 5-year simple payback, the average monthly savings will be about $8,333 per month ($500,000 divided by 60 months). Under this scenario, if the project is delayed by 12 months, the organization will pay the local utility $100,000 more (12 times $8,333) during the delay period than it would have if energy efficiency equipment had been installed immediately.
- If financing for the lease-purchase is available at 4 percent for a term of 7 years (reasonable conditions for a traditional project), the total interest paid during the 7-year period will be $74,090 in nominal dollars (unadjusted for inflation), or about $25,910 less than the energy savings realized during the first 12 months of use ($100,000 minus $74,090). In other words, the savings realized by installing the equipment immediately rather than waiting for 12 months effectively is greater than the total of all interest paid over the entire term of the financing.
- The savings are in fact even greater, considering that a dollar paid in the future is worth less than a dollar saved this today. Allowing for a real cost of money (or discount rate) of 3 percent, the $74,090 in financing charges reduces to $66,753 in real dollars, or a savings of almost $33,247 if equipment is financed and installed right away rather than waiting for internal funds to become available. Using third-party financing initially and paying it off early with approved future budget dollars may be the way to maximize an energy project's total cost savings.
- Many organizations choose to wait until funds are available in a future year's budget rather than entering into a financing agreement that requires paying interest, believing that paying no interest is the better financial decision. Because the energy savings on most projects are so large, the lost savings incurred by waiting for one year are greater than all the present value of all the interest payments combined. In this example, financing the project today versus waiting for one year has a Net Present Value (NPV) benefit of $181,029 when financing over the 7 year versus a Net Present Value of $114,843 caused by waiting for one year. In other words, financing the project now generates over $66,000 more NPV dollars than delaying the installation for one year.

This cost of delay calculation is more complicated when comparing two different financing alternatives with different interest rates and terms, but the result is no less stark. For example, compare a bond or loan issued at 3.5 percent interest against a lease-purchase agreement offered by a local lender at 4 percent interest for the same project. Ignore, for the moment, any additional fees that must be added to the bond and focus on the unavailability of the funds for 12 months, while the lease-purchase funds are available immediately. A comparison of the consequences of these examples based on the same $500,000 equipment cost and 5-year simple payback results in the following:

	Option 1	Option 2
Instrument	Lease-purchase	Loan or Bond
Budget	Operating[8]	Capital
Term	7 years	7 years
Interest rate	4.0%	3.5%
Monthly payment	$6,834	$6,720

Surprisingly, the difference in the monthly payments on this $500,000 project is only $114 a month ($6,834 minus $6,720), while the energy efficiency savings lost would be equal to $8,333 a month (as shown in the text above).

The key question becomes: How long will it take for the lost energy savings to consume the total savings realized from the lower interest rate financing? The answer: Just over one month (see Appendix B for calculation). In other words, in this example if it takes longer than 1 month to access the lower interest rate financing, from a cash flow perspective the lower interest rate is more expensive.

The following chart demonstrates these costs of delay based on waiting for the 3.5 percent "cheaper money" (rounded to the nearest $100) when 4% financing is immediately available for a $500,000 project with a 60-month simple payback:

Each month the project is delayed	Savings or (Loss)
1	$200
2	($8,100)
3	($16,500)
4	($24,800)
5	($33,100)
6	($41,500)
7	($49,800)
8	($58,100)
9	($66,500)
10	($74,800)
11	($83,100)
12	($91,500)

[8] Non appropriation or Abatement leases; actual treatment may vary by state.

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As shown, a delay of 12 months means that $91,500, or over 18 percent of the original project cost, will be paid to the utility for wasted or underutilized energy.

ENERGY STAR makes doing these calculations easy by using the Cash Flow Opportunity Calculator Microsoft Excel™ spreadsheet to calculates these costs of delay using your own project data. This tool can be downloaded from www.energystar.gov/CFOcalculator.

The true cost of delay may be even greater, as none of these calculations includes the higher administrative costs of the loan or bond, nor the environmental benefits of installing the energy efficiency equipment sooner rather than later.

New Potential Sources of Funding

The market is constantly evolving and creating attractive funding alternatives for energy efficiency projects. Two worth mentioning are Qualified Energy Conservation Bonds (QECB's) and Green Banks.

QECB's: The Energy Improvement and Extension Act of 2008, enacted in October 2008, authorized the issuance of $3.2 billion of Qualified Energy Conservation Bonds (QECBs) that may be used by state, local and tribal governments to finance certain types of energy projects. QECBs are qualified tax credit bonds in which the borrower who issues the bond pays back only the principal of the bond, and the bondholder receives federal tax credits in lieu of the traditional bond interest. In today's market, this puts the effective interest rate close to zero. To qualify, the energy project must reduce energy consumption by 20% or more.

Green Banks: A green bank is a financial organization that uses strategic public-private partnerships to overcome market barriers and increase the amount of private capital available to finance clean energy projects. A list of states sponsoring Green Banks can be found at www.coalitionforgreencapital.com.

Conclusion: Improving Energy Performance and Fiscal Management

Energy efficiency equipment differs from other capital equipment. Because the dollars saved by installing energy efficiency equipment can be used to pay for its financing, this equipment can be installed without having to increase operating costs or using precious capital budget dollars. In fact, as long as the finance payments are lower than the energy dollars saved, a positive cash flow is created that can be used for other projects. Extending the repayment terms will reduce the monthly payment, improving the cash flow even more.

In today's economy of tight budgets and rising energy prices, a good energy efficiency policy is a necessity. As stewards of significant assets, public sector facilities and finance managers must aggressively manage all costs and maintain effective cash management programs. Accelerating the installation of energy efficiency equipment will improve both your facilities and your financial statement.

EPA's ENERGY STAR program for buildings offers tools and resources to assist your organization in developing a roadmap to better energy performance. To learn more about ENERGY STAR, visit www.energystar.gov/buildings or contact Katy Hatcher, ENERGY STAR National Manager, Public Sector, at hatcher.caterina@epa.gov to request a copy.

Getting to "Yes" for Energy Efficiency: A Guide to Developing a Persuasive Business Case for Energy Efficiency in Commercial and Corporate Properties published by Catalyst Financial Group, Inc. and the Maryland Energy Administration is a guide that encourages Energy Efficiency Project installations by focusing on the process rather than the technology. February, 2013. Download the guide here: http://tinyurl.com/j843234

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APPENDIX A

Chart of financing options

	CASH	BONDS	TAX EXEMPT LEASE PURCHASE	PERFORMANCE CONTRACTS
Interest Rates	N/A	Lowest tax-exempt rate	Low tax-exempt rate	Can be taxable or tax-exempt
Financing Term	N/A	May be 25 years or more	Up to 15 years is common and up to 20 years is possible for large projects	Typically up to 10 years but may be as long as 15 years
Other Costs	N/A	Underwriting legal opinion, insurance, etc.	None	May have to pay engineering costs if contract not executed
Approval Process	Internal	May have to be approved by tax payers or public referendum	Internal approvals needed. Simple attorney letter required	RFP usually required, internal approvals needed
Approval Time	Current budget period	May be lengthy – process may take years	Generally within one week	Generally within 2-3 weeks once the award is made
Funding Flexibility	N/A	Very difficult to go above the dollar ceiling	Can set up a Master Lease, which allows you to draw down funds as needed	Relatively flexible. An underlying Municipal Lease is often used
Budget Used	Either	Capital	Capital or Operating	Capital or Operating
Largest Benefit	Direct access *if* included in budget	Low interest rate because it is a general obligation of the public entity	May allow you to buy capital equipment using operating dollars	Provides performance guarantees which help approval process
Largest Hurdle	Never seems to be enough money available for projects	Very time consuming	Identifying the project to be financed	Identifying the project to be financed and selecting the ESCO

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APPENDIX B

How long will it take for the lost energy savings to consume the total savings realized from the lower interest rate financing? The calculation is straightforward and can be done using any financial calculator or Excel/Lotus spread sheet. The variables in the formula are:

PV= present value

n= number of payments

pmt = monthly payment

FV = future value

i = interest

If you use a financial calculator, by entering four of the five values, the calculator will automatically calculate the fifth value (or unknown one). Using a financial calculator, start by calculating the monthly payment of the readily available (4%) financing. We know the term (n) is 7 years, or 84 months, the Future Value (FV) is zero. Then enter the interest rate of the lower, "better deal" as the discount rate (3.5%) in order to calculate the present value (PV). This calculation provides the Net Present Value of the interest rate differential, which in this case is $8,518 more than the original project cost. Based on the monthly energy efficiency savings of $8,333, the break-even point is about than 1 month ($8,518 divided by $8,333).

INNOVATIVE FINANCING SOLUTIONS: FINDING MONEY FOR ENERGY EFFICIENCY PROJECTS IN THE PUBLIC SECTOR

The simple choice for energy efficiency.

ENERGY STAR

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APPENDIX C

Putting Together a Proposal

In developing a proposal for an energy efficiency project to present to your agency's financial decisionmakers, the following steps are recommended:

1. Define the decision process and decisionmakers.

- Whose approval is needed for a decision?
- What are the decisionmaker's sensitivities or "hot buttons?"
- How does the project respond to organizational priorities?
- Who are the potential "champions" of this project?

2. Quantify why this is a good project to implement.

- How much will energy costs be reduced?
- What are the other associated cost impacts, such as reduced labor costs, O&M costs, and life-cycle costs? -What are the likely employee impacts (e.g., on productivity or morale)?
- Does the project meet/exceed established profitability criteria (such as payback period)?
- Does it create positive cash flow? How much? How might any extra saved energy dollars be spent to support other pressing projects or programs?
- Does this help address indoor air quality (IAQ) problems or reduce the deferred maintenance budget? -What are the associated environmental impacts and public relations opportunities?

3. Show how the project can be funded.

- What subsidies/credits are available to reduce net costs (such as from your state energy office, utility, or public benefits program, if deregulated)?
- Can a performance contract and tax-exempt lease-purchase agreement be used if other funds are not available? What would be the terms and conditions of such an arrangement?

4. Identify the costs of delay.

- What would be the cost of waiting for internal funds to become available?
- What would be the cost of waiting for lower interest-rate financing to become available?