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Environmentally Preferable Purchasing:
*A Getting Started Guide*

# Section Two:

# Purchasing for Energy Efficiency

## Section Two: Purchasing for Energy Efficiency

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Environmentally Preferable Purchasing:
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# General Resources

EPA United States Environmental Protection Agency | Air and Radiation (6202J) | DRAFT September 2002

Money Isn't All You're Saving

# ENERGY STAR® Institutional Purchasing

## What is ENERGY STAR Institutional Purchasing?

ENERGY STAR makes it easy for organizations to purchase energy-efficient products, reduce their energy costs, and prevent air pollution. ENERGY STAR Institutional Purchasing encourages and assists governments, schools, and businesses in procuring ENERGY STAR labeled products. These products use 25 to 50 percent less energy than their traditional counterparts, reduce fossil fuel use, and lower greenhouse gas emissions. Institutions and businesses can save hundreds of thousands of dollars annually by purchasing and using ENERGY STAR labeled products.

## ENERGY STAR Labeled Products

Over 11,000 product models in over 30 product categories bear the ENERGY STAR label. To qualify, these products must meet strict guidelines for energy efficiency:

- Office Equipment
- Heating & Cooling Equipment
- Lighting
- Exit Signs
- Windows
- Appliances
- Consumer Electronics
- Water Coolers
- Roof Products
- Transformers
- Traffic Lights

## Benefits of Purchasing ENERGY STAR Labeled Products

- Reduced energy costs without compromising quality or performance
- Reduced air pollution because fewer fossil fuels are burned
- Significant return on investment
- Extended product life and decreased maintenance

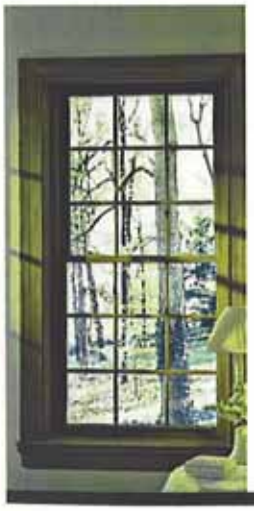
## The ENERGY STAR Purchasing Tool Kit

The ENERGY STAR Purchasing Tool Kit helps organizations quickly and easily identify, specify, and procure ENERGY STAR labeled products. Available online at www.energystar.gov, the ENERGY STAR Purchasing Tool Kit includes many valuable resources:

- **Product specifications***
- **Savings/Life-cycle cost calculators** that show how much energy and money an organization can save by purchasing ENERGY STAR labeled products
- **Drop-in procurement language** that organizations can incorporate into their purchasing policies
- Examples of energy-efficient purchasing **legislation**, including federal executive orders, state and local government policies, sample RFPs and contracts
- **Communication materials** for organizations to promote their success to stakeholders

ENERGY STAR is a government-industry partnership that makes it easy for organizations, businesses, and consumers to save money and protect the environment—in the workplace and at home. The ENERGY STAR label denotes the superior energy performance of more than 30 categories of consumer and business products and of office buildings, schools, and new homes. With ENERGY STAR, money isn't all you're saving.

* To help purchasers, the ENERGY STAR Purchasing Tool Kit also lists products considered energy-efficient but do not bear the ENERGY STAR label. These products are recommended by DOE's Federal Energy Management Program (FEMP).



**Who Benefits from ENERGY STAR Institutional Purchasing?**

- State, local, and federal governments
- K-12 schools
- Colleges/Universities
- Hotels
- Other businesses/corporations

**How Can Your Organization Procure ENERGY STAR Labeled Products?**

- Visit www.energystar.gov or www.epa.gov/nrgystar/purchasing (this link is subject to change) for detailed information on all ENERGY STAR labeled products, including product specifications, cost comparison calculators, procurement language, store locators, manufacturer contact information, and communication materials.
- Participate in an Internet presentation on ENERGY STAR Institutional Purchasing. Visit the ENERGY STAR Purchasing home page and click on "Participate in Our Internet Presentations."
- For more information, contact:
  - State governments
    Steve Jurovics, 919-403-5104,
    sjurovics@cadmusgroup.com
  - Higher education & K-12 schools
    Michelle Salisbury, 617-673-7153,
    msalisbury@cadmusgroup.com
  - Hotels & local governments
    Linda Dunlee, 617-673-7155,
    ldunlee@cadmusgroup.com
- Call the toll-free ENERGY STAR hotline: 1-888-STAR-YES (1-888-782-7937).

***Five easy steps to procure ENERGY STAR labeled products***

1. ***Review*** *purchasing policies and identify product categories where savings exist.*
2. ***Visit*** *www.energystar.gov for product listings. Use the Savings Calculators to determine savings opportunities and life cycle costs.*
3. ***Coordinate*** *with the appropriate offices within your organization to encourage the purchase of identified ENERGY STAR labeled products.*
4. ***Modify*** *procurement language and educate employees.*
5. ***Communicate*** *your success.*

***Federal, state, and local governments could save at least $139 million annually by reducing energy waste if they purchase and use ENERGY STAR labeled products. Reducing this energy waste would prevent greenhouse gas emissions equivalent to over 4.1 million metric tons of carbon by the year 2010 — that's equivalent to lighting more than 17.7 million homes per year.***

***Green Mountain College saves more than 260,000 kilowatt hours (kWh) annually since installing ENERGY STAR labeled light fixtures. This is equivalent to removing the air pollution generated from 40 cars annually.***

Money Isn't All You're Saving

January 2002

# Finding Money For Your Energy Efficiency Projects

***A Primer for Public Sector Energy, Facility, and Financial Managers***

From the U.S. Environmental Protection Agency's ENERGY STAR® Program

Are you having trouble getting energy efficiency projects approved and implemented? If so, this article from ENERGY STAR is for you. It describes how tax-exempt lease purchase agreements and performance contracts may offer you a practical solution when no money is available in the current budget for further improvements. This article also provides clear financial reasoning and cost modeling, which demonstrate that energy efficiency projects really can pay for themselves out of existing operating budgets. It equips you to persuade the decisionmakers within your school district, city, county, community college, university, or state that energy efficiency upgrades should be implemented as soon as possible.

ENERGY STAR 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 and financial well-being.

## 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 the projects.

> *"Anyone who doesn't have an energy efficiency program is acting fiscally irresponsible."*
> – Walter George
> Anne Arundel County Public Schools, Maryland
> July 2001

This article 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 second two.

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 provider (ESP) is expensive and unreliable.
- Tax-exempt lease-purchase agreements don't lend themselves to energy projects and 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 article defines some standard financial terms, presents financing options, and shows a "cost of delay" model that has proven effective in gaining the support of financial and administrative officials for energy efficiency projects. The next time you face your board, city council, chief financial officer, chief operating officer, or other decisionmaker, you will be 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 article illustrate how three different public entities worked through their financial hurdles to implement energy efficiency upgrades. For example, when Brooklyn College (part of the City College of New York) officials realized they did not have enough money to install all the energy-efficient equipment needed to successfully complete their project, they chose a lease-purchase agreement performance contract and spent the dollars they anticipated saving from future operating budgets. As no capital budget commitment was necessary, the college purchased and installed the new equipment right away. In Shenendehowa Central School District, officials knew that a tax increase was out of the question. Using a guaranteed performance contract, they found a way to pay for energy improvements within their existing approved budgets. 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.

**Brooklyn College, New York City**
By 1998, most of the equipment that produced chilled water for campus air conditioning systems was approaching the end of its useful life. Because this equipment was decentralized, the college faced much higher replacement costs than it would have for a shared chilled water plant. The total cost of the project was $23 million, of which The Dormitory Authority of the State of New York (DASNY) agreed to provide $15 million. Brooklyn College officials, however, were still $8 million short of the funds necessary to install the most efficient equipment they knew should be purchased; and using capital budget dollars was not an alternative. So they negotiated an energy efficiency performance contract that included an $8 million lease-purchase agreement to cover the shortfall. The energy service provider projected the savings over 12 years and structured the lease-purchase payments to be 85 percent of the projected savings—guaranteeing that the savings realized in the project would be sufficient to cover the lease payments. The agreement also included non-appropriation language, making the lease payments an operating rather than a capital expense.

What do these three examples have in common and why were their outcomes successful? The State of New Hampshire, Brooklyn College, and Shenendehowa Central School District all found that using performance contracts with reputable energy service providers (ESPs)—combined with tax-exempt lease-purchase agreements as the financing vehicle—provided the best, most cost-effective solution. 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.

## 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 organization. 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** one operating period (one operating period usually being 12 months). In contrast, ***operating expenses*** are those general and operating expenses (such as salaries or supply bills) incurred **during** one operating period (again, typically 12 months).[1] For example, repayment of a 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 are as follows: (1) these capital dollars are usually 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.

The advantage of using a lease-purchase agreement is that it can finance the purchase of assets, yet the repayment can be treated as an operating expense. Because the source of repayment is already in the utility line item in your operating budget, this often makes a lease-purchase agreement ideal for financing energy efficiency projects. There may be cases, however, 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.

## Understanding Performance Contracts and Tax-Exempt Lease-Purchase Agreements

### Performance Contracts

In many parts of the United States, performance contracting is a common way to implement energy efficiency improvements and frequently covers financing for the needed equipment, should you chose not to use internal funds. Properly structured Performance Contracts can be treated as an operating expense. Common financing options under a performance contract include (1) ESP-based financing and (2) tax-exempt lease-purchase agreements. As a facility manager, you can overcome the "lack of time and lack of expertise" barriers mentioned at the beginning of this article by outsourcing the work to qualified, reputable energy service providers using a performance contract. Under a performance contract, the ESP insures that the actual energy savings will match the projected savings, and the contract identifies the procedures by which these savings will be measured and verified. In a Guaranteed Savings Agreement (GSA)—the most popular type of performance contract used in the public sector—the energy performance of the equipment is guaranteed by the ESP or an insurance company, who agree 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. ESPs usually borrow at taxable interest rates, while public agencies are able to issue lower cost tax-exempt obligations. As a result, GSAs usually incorporate tax-exempt lease-purchase agreements as the underlying financing instrument.

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[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]."

## Tax-Exempt Lease-Purchase Agreements

Tax-exempt lease-purchase agreements are the most common public sector financing alternatives that are paid from operating expense dollars rather than capital expense dollars. This is an effective alternative to traditional debt financing (bonds, loans, etc.) and allows a public organization to pay for energy upgrades by using money that is already set aside in its annual utility budget. 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 rental agreement. Under most rental agreements (such as those used in car leasing), the renter returns the asset (the car) at the end of the lease term, without building any equity in the asset being leased. A lease-purchase agreement, however, presumes that the public sector organization will own the equipment after the term expires. Further, the interest rates are appreciably lower than those on a taxable commercial lease-purchase agreement because the interest paid is exempt from federal income tax for public sector entities. In addition, a tax-exempt lease-purchase agreement usually does **not** constitute a long-term "debt" obligation because of non-appropriation language 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 obligation on your future budgets.

Public sector organizations—schools, community colleges, universities, and local and state governments—should consider using a lease-purchase agreement to pay for energy efficiency equipment when the projected energy savings will be greater than the cost of the equipment plus financing, 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 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. Although the financing terms for lease-purchase agreements may extend as long as 12 to 15 years, they are usually less than 10 years and are limited by the useful life of the equipment.

**The State of New Hampshire**

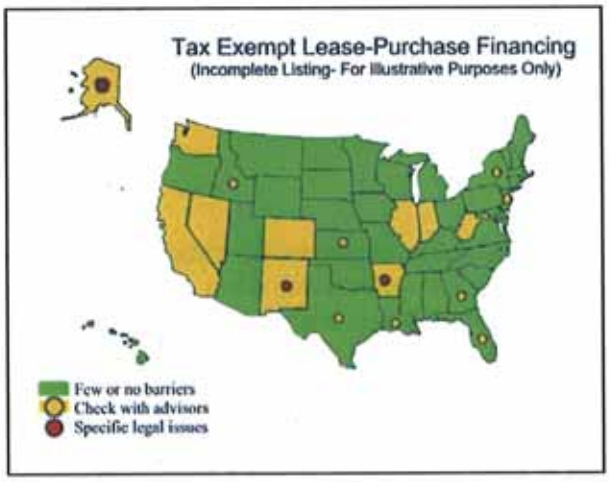
The New Hampshire Building Energy Conservation Initiative of 1997 prompted the evaluation of how to improve the energy efficiency of state-owned buildings. However, the state's Treasury Department was concerned about increasing the state's debt, which might adversely affect its credit rating. After discussions with energy service providers (ESPs) 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 pricing by consolidating all their projects under one agreement.

**Tax-Exempt Lease-Purchase Payments are 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 expense rather than a capital expense. As a result, the payments would not be considered "debt" from a legal perspective in most states and would rarely require public approval. Your organization 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?** It is important to be aware of the different interpretations of "debt" from three perspectives—legal, credit rating, and accounting. As mentioned above, most lease-purchase agreements are not considered "legal debt," which may prevent the need to obtain voter approval in your locality. 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 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 interpretation. Most public sector entities recognize that the energy savings cannot occur if the energy efficiency projects are not installed. As such, the projects' lease-purchase costs (or the financing costs for upgrades) can be paid out of the savings in the utility budget. Outside auditors, however, may take exception to this treatment if these payments are considered "material" from an accounting perspective. Determining when an expense is "material" is a matter of the auditor's professional judgment.[2] While there are no strictly defined accounting thresholds, as a practical guide, an item could be considered material when it equals or 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 will 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;[3] and the use of tax-exempt lease-purchase agreements may differ across schools, municipalities, and counties even within the same state (see map). Public sector organizations should always consult legal counsel before entering into lease-purchase agreements.

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[2] According to Dr. James Donegan, Ph.D. (Accounting), Western Connecticut State University, an amount is "considered material when it would affect the judgment of a reasonably informed reader when analyzing financial statements."

[3] 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".

## 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 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.[4]
- School districts in California are authorized to enter into energy efficiency financing relationships that "can be repaid from energy cost avoidance savings."[5]
- 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."[6]
- 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."[7]
- In Texas, lease-purchase payments are to be "made from maintenance taxes" and "shall not be considered payment of indebtedness."[8]

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. Recently, a financial manager was heard to say, "We float bonds at around 4 percent; why should we enter into a tax-exempt lease-purchase agreement at 5 percent?" 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) net interest costs and (2) the costs of delay.

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[4] Pennsylvania Guaranteed Energy Savings Act 29 of 1996 - §5(b)

[5] California Education Code 17651 (a)

[6] Florida Statutes Title XVI, Chapter 235.215 (1)

[7] Minnesota Statutes 2000 Chapter 123B.65 Subdivision 7

[8] Texas Statutes Chapter 271 – Public Property Finance Act - §271.004

## 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 seek to provide the best quality service for the lowest net cost. Bonds at 4 percent interest sound better than a lease-purchase agreement at 5 percent; however, the real savings become clear only when the net interest cost has been calculated. 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 the projects, especially for smaller projects. Therefore, the financing alternative that generates the lowest total payment (the 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 is not considered legal debt and is typically easy to implement, whereas voter approval must be obtained to enter into new debt, which is a capital expenditure. Therefore, two additional costs must be added to the aforementioned calculation: (1) the out-of-pocket cost of advertising and staffing for a vote, and (2) the intangible political cost of asking the taxpayers to approve "new debt." Frequently, this political cost is the greater of the two.

**Shenendehowa Central School District, Clinton Park, New York**

In 1996, the school district was facing escalating energy and maintenance costs for seven buildings constructed between 1952 and 1969. During that period, lowest first-cost had been the primary consideration, instead of life-cycle cost, when selecting the energy equipment. Three of the buildings relied exclusively on electricity for heating and air conditioning. Shenendehowa officials needed to make capital improvements at these facilities, but budgets were already strained. Further, they were unwilling to approach taxpayers for additional bond money.

To address these problems, school officials decided to install new energy-efficient equipment that could be paid for from future energy cost savings. With assistance from the New York State Energy Research and Development Agency (NYSERDA), they issued a Request For Proposal (RFP) for an energy service provider (ESP) that could provide a performance contract to address their needs. The winning ESP guaranteed the equipment performance and energy savings, which were verified using rigorous measurement and verification techniques.

Instead of bundling the financing under the performance contract, the school district chose to obtain the funds directly from a commercial lender using a tax-exempt lease-purchase agreement for a term of 10 years. The lease-purchase agreement contained non-appropriation language, which limited payments to the operating budget savings, thereby avoiding the capital budget. This financing option allowed Shenendehowa school officials to successfully install needed energy-efficient equipment without raising taxes.

## The Costs of Delay

Quantifying the costs of delaying the installation of an energy efficiency project adds a new dimension to the financial decision. 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.

- 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 public sector 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 5 percent for a term of 7 years (reasonable conditions for a traditional project), the *total* interest paid during the 7-year period will be $93,624 in absolute dollars, or about $6,375 *less than* the energy savings realized during the first 12 months of use ($100,000 minus $93,624). In other words, the savings realized by installing the equipment immediately rather than waiting for 12 months effectively reduces the interest rate for borrowed funds to less than 0 percent!

- The savings are in fact even greater, considering that a dollar paid for interest 7 years in the future is worth less than a dollar saved this year. Allowing for a real cost of money (or discount rate) of 3 percent, the $93,624 in financing charges translates to $84,352 in current dollars, or a real savings of almost $15,650 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.

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 4 percent interest against a lease-purchase agreement offered by a local lender at 5 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[9] | Capital |
| Term | 7 years | 7 years |
| Interest rate | 5.0% | 4.0% |
| Monthly payment | $7,067 | $6,834 |

Surprisingly, the difference in the monthly payments on this $500,000 project is only $233 a month ($7,067 minus $6,834), 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 2 months (see Appendix B for calculation).

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

The following chart demonstrates these costs of delay based on waiting for the 4.0 percent "cheaper money" (rounded to the nearest $100):

| Each month the project is delayed | Savings or Loss |
|---|---|
| 1 | $8,700 |
| 2 | $300 |
| 3 | ($8,000) |
| 4 | ($16,300) |
| 5 | ($24,700) |
| 6 | ($33,000) |
| 7 | ($41,300) |
| 8 | ($49,700) |
| 9 | ($58,000) |
| 10 | ($66,300) |
| 11 | ($74,700) |
| 12 | ($83,000) |

As shown, a delay of 12 months amounts to a loss of $83,000, or almost 17 percent of the original project cost. (Please contact Melissa Payne, USEPA ENERGY STAR, at payne.melissa@epa.gov if you would like a copy of the Microsoft Excel™ spreadsheet that calculates these costs of delay, using your own project specifics).

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.

## 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 use precious capital budget dollars. In fact, as long as the lease 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, providing even more cash.

In today's tightening economy, with uncertain and often increasing 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 not only your facilities but also your financial statement. In addition, it will demonstrate that public sector managers are acting responsibly as stewards of their constituents' resources.

ENERGY STAR has resources and tools available to assist your organization in developing a roadmap to better energy performance. To learn more about ENERGY STAR, please contact Melissa Payne, USEPA ENERGY STAR, at payne.melissa@epa.gov.

## Appendix A

Chart of all financing options:

| | CASH | BONDS | MUNICIPAL LEASE | 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 20 years or more | Up to 10 years is common and up to 12-15 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 day | Generally within 2-3 days 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 | Operating | Operating |
| **Largest Benefit** | Direct access *if* included in budget | Low interest rate because it is a general obligation of the public entity | Allows 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 |

## 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 entering the monthly payment of the readily available (more expensive) financing. We know the term (n) is 7 years, or 84 months, the Future Value (FV) is zero. Use the interest rate of the lower, "better deal" as the discount rate 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 $17,013 more than the original project cost. Based on the monthly energy efficiency savings of $8,333, the break-even point is 2.0 months ($17,013 divided by $8,333).

**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 or return-on-investment)?
   - 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?

EnergyIdeas Clearinghouse

# Energy Efficiency FACTSHEET

## Energy Efficient Procurement Resources

### Publications and Reports

**Buying Smart: Blueprint for Action.** Outlines innovative procurement strategies used by state governments in the acquisition of information technology commodities.
http://www.naspo.org/whitepapers/buyingsmart2.cfm

**Public Procurement and Energy Efficiency in the Pacific Northwest: Final Report to the Northwest Energy Efficiency Alliance**, by the Washington State University Energy Program, 1999.
http://www.energy.wsu.edu/ei/Files/Procurement/procure.htm

**Purchasing for Waste Prevention.** A section of INFORM's Community Waste Prevention Tool kit, a resource to help community leaders and grassroots environmental organizations design and implement effective solid waste prevention programs in their towns and cities.
http://www.informinc.org/cwp2procstrat.htm

**Reduce, Reuse, Recycle, and Purchase Recycled Products.** Section from the Pacific Northwest National Laboratory "Green Guide for Trimming Your Waste."
http://www.pnl.gov/esp/greenguide/appe.html

**Topical Reports: Environmental Purchasing.**
Pacific Northwest Pollution Prevention Resource Center (PPRC), 2000. A comprehensive resource document with links to procurement related resources.
http://www.pprc.org/pprc/pubs/topics/envpurch.html

### Associations, Organizations and Programs

**Center for Advanced Purchasing Studies.** An independent research organization associated with NAPM that provides research and data on best practices, benchmarking and focus studies.
http://www.capsresearch.org/

**Institute of Supply Management** (ISM) (Formerly National Association of Purchasing Management (NAPM)): Involved in research, education and standards of excellence in purchasing.
http://www.ism.ws/

**King County (WA) Environmental Purchasing Program** encourages municipal procurement of recycled and environmentally preferable materials.
http://www.metrokc.gov/procure/green/

**National Association of State Procurement Officials** (NASPO)
http://www.naspo.org/

*Managed by:*
Cooperative Extension Washington State University Energy Program

*Funded by:*
Northwest Energy Efficiency Alliance

**National Institute of Government Purchasers**
http://www.nigp.org/index.htm

**Oregon Public Purchasing Association** is a local chapter of the National Institute of Government Purchasing,
http://home.teleport.com/~oppanigp/

**State and Local Government Purchasing Initiative,** Consortium to Save Energy (CEE).
http://www.cee1.org/gov/purch/purch-main.php3

## Policies, Standards and Certification

**Environmentally Preferable Purchasing** (EPP), Environmental Protection Agency (EPA). Includes Guiding Principles, Standards Development, the "Top 20 Priorities for EPP Pioneer Pilot Projects," and EPP Tools.
http://www.epa.gov/opptintr/epp/

**Database of Environmental Information for Products and Services,** EPA. Contract language and specifications, environmental standards and guidelines for over 600 products and services.
http://yosemite1.epa.gov/oppt/eppstand2.nsf/Pages/Homepage.html?Open

**Green Seal: Product Standards and Certification**
http://www.greenseal.org/standards.htm

## Electronic Purchasing and Product Information Sites

**Buying Energy Efficiency Products,** from the Federal Energy Management Program. Provides links to procurement resources and Product Energy Efficiency Recommendations.
http://www.eren.doe.gov/femp/procurement/

**Comprehensive Procurement Guidelines** (CPG), from the EPA. Part of the governments "buy-recycled" program. Includes background information, product fact sheets, and a searchable supplier database.
http://www.epa.gov/cpg/

**Database of Environmental Information for Products and Services,** EPA. Contract language and specifications, and environmental standards and guidelines for over 600 products and services.
http://yosemite1.epa.gov/oppt/eppstand2.nsf/Pages/Homepage.html?Open

**Energy Star Products, from the Environmental Protection Agency.**
http://www.eren.doe.gov/femp/procurement/

**Forest Stewardship Council (FSC) Certified Products**
http://www.certifiedwood.org/search-modules/SupplierSearch.ASP

**Green Product Information, from Oikos: The Green Building Source.**
http://oikos.com/products/

**Product Recommendations, from the Green Seal Certification Program.**
http://www.greenseal.org/recommendations.htm

**Recycled Commodities, a database provided by the National Association of State Purchasing Officials.**
http://www.state.fl.us/bpsr/drc_notice.html

**Renewable Energy On-line Database**
http://www.jxj.com/suppands/renenerg/

## Energy Organizations

**EnergyIdeas Clearinghouse** is an energy information and technical assistance service available to regional customers. The Clearinghouse provides information on technologies, programs, practices, energy news, training events and products. The Clearinghouse offers easy access by phone, fax, email, or website Monday-Friday 6 a.m.-5 p.m. 1-800-872-3568, info@energyideas.org.
http://www.EnergyIdeas.org

**Northwest Energy Efficiency Alliance** is a regional organization dedicated to transforming markets for energy-efficient technologies and practices to encourage the efficient use of energy and reduce costs to consumers and the electric system. The Alliance is funded by regional utilities and the Bonneville Power Administration.
http://www.nwalliance.org

**Northwest Energy Efficiency Council** is a business association of the energy efficiency industry with a membership of more than 70 companies throughout the Pacific Northwest. Members include energy service companies, engineering and design firms, equipment sales companies, policy consultants, and energy efficiency program designers, managers and evaluators. The Council's mission is to promote policies and programs that enhance market opportunities for energy efficiency.
http://www.neec.net

**Oregon Office of Energy** focuses on three main program areas — acquiring energy conservation, cleaning up nuclear waste, and developing new energy supplies. They demonstrate the workability of new energy-saving technologies; provide technical information to consumers on ways to save energy; train building operators to run their equipment efficiently; recommend energy standards for homes, buildings and appliances; and promote regulatory reforms that put conservation on a more equal footing with conventional resources.
http://www.energy.state.or.us

**Washington State University Cooperative Extension Energy Program** provides energy programs and services. They provide training, clearinghouse services, technical assistance, and conduct research on energy topics.
http://www.energy.wsu.edu

The EnergyIdeas Clearinghouse provides information on a broad range of energy technologies for customers of Pacific Northwest utilities. EIC provides a searchable website and has a team of energy specialists ready to respond to technical information requests by phone or email. Funded by the Northwest Energy Efficiency Alliance.

| | |
|---|---|
| Web: | http://www.EnergyIdeas.org |
| Regional Hotline: | 1-800-872-3568 |
| Email: | info@energyideas.org |

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## Additional Energy Resources

**Energy Star**
"ENERGY STAR® is a voluntary partnership among the U.S. Department of Energy, the U.S. Environmental Protection Agency, product manufacturers, local utilities, and retailers. Partners help promote efficient products by labeling with the ENERGY STAR® logo and educating consumers about the benefits of energy efficiency." Includes information about products that have the Energy Star label, which can be used as a guide for purchasers. Products listed include lights, office equipment, appliances and other equipment.
www.energystar.gov/ info@energystar.gov phone: 888-STAR-YES

**Energy Star Purchasing Initiative site**
Specific information for purchasing includes:
- Develop life cycle cost analyses
- Prepare your bid
- Specify a particular brand
- Educate employees about new policies
- Gain recognition for commitment to the environment and savings
- Overcome barriers
- Discover benefits

Also found on the website: "Savings Calculators," which can be used to compare Energy Star products with non-Energy Star products.

www.energystar.gov/index.cfm?c=bulk_purchasing.bus_purchasing

**State and Local Government Purchasing Initiative**
A fact sheet describing a project from the Consortium for Energy Efficiency, Inc. The Consortium is "a non-profit, public benefit corporation that uses the power of mass markets to advance super energy-efficient technologies that benefit consumers and the environment." Other initiatives and projects can be found on the "about" page.

www.ceeformt.org/gov/purch/purch-main.php3

**Energy Star Purchasing Tool Kit**

A Guide to Buying Energy-Efficient Products, US Environmental Protection Agency, US Department of Energy, 1999. A guide that includes information for governments and organizations on: product specifications, energy efficiency criteria, sample procurement language for contracts, a simple savings calculator, a comprehensive listing of resources for specific products, and information about additional savings opportunities.
PPRC Library Resource

Available from EPA: 1-888-STAR-YES

**Energy Star Purchasing**

Communications Starter Kit, US Environmental Protection Agency, US Department of Energy, 1999. A guide for developing a step-by-step communications program about the importance of energy efficient products to your agency/organization.
PPRC Library Resource

Available from EPA: 1-888-STAR-YES

**U.S. Department of Energy - Energy Efficiency and Renewable Energy**
**Federal Energy Management Program**

Technologies: Energy-Efficient Products

# Training for Energy-Efficient Procurement

FEMP offers on-site training for buying energy-efficient products. The training covers specifics on how to meet the Federal Acquisition Requirement (CFR 48, Part 23) (PDF 52 KB, 3 pp) and the Executive Order 13123 (PDF 103 KB, 12 pp) directive to purchase ENERGY STAR® products and products in the top 25th percentile of energy efficiency (for products not covered by ENERGY STAR®). Information also is presented on how to meet Executive Order 13221's directives on purchasing low power standby devices. Download Acrobat Reader.

For more information on the training course, contact the DOE-EERE Information Center at 1-877-337-3463. To order the latest FEMP *Training Catalog* and other resources, you can also call the DOE-EERE Information Center or order on line.


Environmentally Preferable Purchasing:
*A Getting Started Guide*

# Sample Contract Language, Specifications, and Policies

Russell Unger
Legislative Counsel

**THE COUNCIL**

Report of the Governmental Affairs Division
Marcel Van Ooyen, Legislative Director

Proposed Int. No. 536-A

By Council Members Gennaro, Brewer, Clarke, Fidler, Gerson, Jackson, James, Liu, Lopez, Martinez, Nelson, Palma, Quinn, Recchia Jr., Sanders Jr., Seabrook, Sears, Stewart, Vallone Jr., Weprin, Koppell, Lanza, Moskowitz, DeBlasio, Barron, Perkins, Avella, McMahon, Foster, Reyna, Monserrate, Yassky, Gonzalez and Gioia

A Local Law

To amend the administrative code of the city of New York, in relation to the purchase of energy efficient products, and to repeal subdivisions a, c, d, e and f of section 6-127 of such code.

Be it enacted by the Council as follows:

Section 1. Statement of findings and purpose. Recognizing the need for energy efficiency, the United States Environmental Protection Agency (EPA) and the United States Department of Energy (DOE) decided in 1992 to promote the purchase of energy efficient products through an innovative labeling program. The Energy Star labeling program tags products that meet energy efficient criteria, and as a result, reduce overall energy use, lessening the amount of fossil fuel being burned by power plants and the amount of greenhouse gases and other pollutants emitted into the atmosphere.

Through the Energy Star program, manufacturers and retailers sign voluntary agreements allowing them to place Energy Star labels on products that meet or exceed energy-efficiency guidelines set by the EPA and the DOE. Manufacturers and retailers also can use the label in product packaging, promotions and advertising for qualified

products. Most Energy Star labeled products have the same or better performance, features, reliability, and price as conventional models.

Federal buyers are directed by Federal Acquisition Regulation Part 23 and Executive Orders 13123 and 13221 to purchase products that are Energy Star labeled or products that are designated to be in the upper 25% of energy efficiency in their class, as well as products with low standby power. In addition, federal agencies are required to reduce their energy use by 35% by 2010 in comparison to 1985 levels. In order to assist agencies in meeting these and similar requirements, the DOE established the Federal Energy Management Program ("FEMP"), which provides federal agencies with energy efficiency recommendations that exceed the requirements for Energy Star certification.

Energy Star labeled and FEMP recommended office equipment save energy by automatically entering a low-power mode when not in use and by using less energy when in standby. The energy-efficient models have all of the performance features of standard office equipment, but help to eliminate energy waste through special power management features. Energy Star labeled and FEMP recommended office products use about half as much electricity as conventional office equipment, thereby significantly reducing energy costs. Accordingly, the Council declares it is reasonable and necessary to require the use of energy efficient products.

§2. Subdivisions a, c, d, e and f of section 6-127 of the administrative code of the city of New York are REPEALED.

§3. Title 6 of the administrative code of the city of New York is amended by adding a new subchapter 4 to chapter 3, section 6-127(b) of the administrative code of the city of New York is renumbered as new section 6-310 of new subchapter 4 of chapter 3 of title 6 and amended, and the administrative code of the city of New York is amended by adding a new section 6-311 to subchapter 4 of chapter 3 of title 6 to read as follows:

**SUBCHAPTER 4**
**ENERGY EFFICIENCY**

**§6-310 Energy efficiency standards.**
**§6-311 Enabling office equipment energy efficiency functions.**

§6-310 **Energy efficiency standards.** a. Any [In any solicitation by an agency for the purchase or lease of] energy-using product[s, the agency shall include a specification that such products], for which the United States environmental protection agency and the United States department of energy have developed energy efficiency standards for compliance with the Energy Star program, shall be ENERGY STAR labeled.[, provided that there are at least six manufacturers that produce such products with the ENERGY STAR label. Nothing herein shall preclude an agency from including a specification in a solicitation for energy-using products requiring that such products be ENERGY STAR labeled if there are fewer than six manufacturers that produce such products with the ENERGY STAR label.]

b. Any product for which the federal energy management program of the United States department of energy has issued product energy efficiency recommendations shall achieve no less energy efficiency or flow rate than the minimum recommended in such recommendations.

c. Any product in any category listed in article 4 of chapter 4 of division 2 of title 20 of the California code of regulations, for which the California energy commission has

issued product appliance efficiency regulations and for which the federal energy management program of the United States department of energy has not issued product energy efficiency recommendations, shall achieve no less energy efficiency or flow rate than the minimum recommended in such regulations.

d. Any desktop computer or desktop-derived server containing an internally mounted power supply shall meet the following requirements:

(1) minimum energy efficiency shall be 80% at 20%, 50% and 100% of rated power supply output, when tested according to a proportional allocation method of loading the power supply;

(2) minimum power factor shall be 0.9 at 100% of rated power supply output, when tested according to a proportional allocation method of loading the power supply; and

(3) total rated power supply output shall be no less than 150 watts and no more than 800 watts.

e. Any lamp shall be a fluorescent lamp, rather than an incandescent lamp, provided a fluorescent lamp is available of sufficient lumens and of an appropriate size for the intended application.

§6-311 **Enabling office equipment energy efficiency functions**. a. The power management software functions of any city-owned or leased computer, printer, facsimile machine or photocopy machine shall be calibrated to achieve the highest energy savings practicable.

b. Any computer monitor or central processing unit shall be set to enter into a low power mode after the shortest practicable period of inactivity. Any screensaver or other computer program that may interfere with the capability of a computer monitor or central processing unit to enter into a low power mode shall be disabled.

c. Any agency need not comply with the provisions of this subdivision when compliance would interfere with any agency mission or cause instability in any computer system. Notwithstanding any provision of section 6-302 of this code, this section shall apply to any product used by any agency.

§4. If any section, subsection, sentence, clause, phrase or other portion of this local law is, for any reason, declared unconstitutional or invalid, in whole or in part, by any court of competent jurisdiction, such portion shall be deemed severable, and such unconstitutionality or invalidity shall not affect the validity of the remaining portions of this law, which remaining portions shall continue in full force and effect.

§5. This local law shall take effect January 1, 2006, except that the director of environmental purchasing as appointed by the mayor, in consultation with the mayor's office of environmental coordination, shall take all actions necessary, including the promulgation of rules, to implement this local law on or before the date upon which it shall take effect. Provided, however, that this local law shall take effect only in the event that: Int. No. 534-A, a proposed local law to amend the administrative code of the city of New York, in relation to environmental purchasing and the establishment of a director of environmental purchasing, takes effect; Int. No. 545-A, a proposed local law to amend the administrative code of the city of New York, in relation to the purchase of products with recycled content, and to repeal section 6-122 and subchapter 5 of chapter 3 of title 16 of such code, takes effect; Int. No. 544-A, a proposed local law to amend the administrative code of the city of New York, in relation to the reduction of hazardous substances in

products purchased by the city, takes effect; and Int. No. 552-A, a proposed local law to amend the administrative code of the city of New York, in relation to the purchase of less toxic cleaning and other custodial products, takes effect.

RBU
LS#1486
06/14/2005

# ENERGY STAR Office Products:
# Sample Procurement Language

## Computers and Monitors

**The Vendor Must:**

Provide new and repaired computers, monitors, and integrated computer-monitor systems that earn the ENERGY STAR and are configured properly for automatic energy-saving features, such as entering into low-power or sleep mode after a maximum of 30 minutes of inactivity, as per current ENERGY STAR specifications. The vendor shall provide customer support with respect to power management features, such that these features remain properly enabled and repaired if a malfunction occurs. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

Table A: Key Product Criteria for ENERGY STAR Labeled Computers

| **Guideline** | **Power Consumption** | |
|---|---|---|
| • Shall enter a sleep mode within 30 minutes of inactivity<br>• If shipped with network capability, shall sleep on networks and respond to wake events | Power Supply | Watts (W) in Sleep Mode |
| | **Guideline A*:** | |
| | ≤ 200W | ≤ 15W |
| | > 200W ≤ 300W | ≤ 20W |
| | > 300W ≤ 350W | ≤ 25W |
| | > 350W ≤ 400W | ≤ 30W |
| | > 400W | 10% of power supply's maximum continuous output rating |
| • Shall enter a sleep mode within 30 minutes of inactivity<br>• If shipped with network capability, shall sleep on networks and respond to wake events | **Guideline B**:** | ≤ 15% of power supply's maximum continuous output rating |

* The following types of computers must be qualified under Guideline A:

$ Computers that are shipped with the capability to be on networks such that they can remain in their low-power/sleep mode while their network interface adapter retains the ability to respond to network queries.

$ Computers that are not shipped with a network interface capability.

$ Computers shipped to a non-networked environment.

EPA expects computers sold or otherwise marketed as personal computers to be qualified under Guideline A only.

** Computers that are shipped with the capability to be on networks that currently require the computer's processor and/or memory to be involved in maintaining its network connection while in sleep mode can be qualified under Guideline B. Computers qualifying under Guideline B are expected to maintain identical network functionality in and out of sleep mode.

Table B: Key Product Criteria for ENERGY STAR Labeled Monitors

| **Low-Power Mode** | First Low-Power "Sleep Mode" | Second Low-Power "Deep Sleep" Mode |
|---|---|---|
| Maximum Watts in Low-Power State | ≤ 15 Watts | ≤ 8 Watts |
| Maximum Time to Enter Low-Power | ≤ 30 minutes | ≤ 60 minutes* |

| | | |
|---|---|---|
| State | | |

*Note: The time that a monitor takes to enter into the first low power "sleep mode" and the second low-power "deep sleep" mode shall not exceed 60 minutes.

Table C: Key Product Criteria for ENERGY STAR Labeled Integrated Computer System

| **Guideline** | **Power Consumption (Watts in Sleep Mode)** |
|---|---|
| • Shall enter a sleep mode within 30 minutes of inactivity<br>• If shipped with network capability, shall sleep on networks and respond to wake events | ≤ 35W |

*Additional considerations for the procurement official:*

- You, or other individuals in your organization, may adjust the power management setting to conform to unique work patterns. If you have questions about activating or changing the sleep feature, refer to the owners' manual, call the manufacturer's help line, or visit www.energystar.gov/powermanagement.
- If your business operates on a local area network (LAN), be sure to specify that the power management feature on your computer is compatible with the existing network system.

## Printers/Fax Machines/Mailing Machines

**The Vendor Must:**

Provide printers, fax machines, and mailing machines that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency as outlined below. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

Table 1. Stand Alone Fax Machines (designed to accommodate primarily A4 or 8.5" x 11" sized paper)

| Product Speed In Pages Per Minute (ppm) | Sleep Mode (Watts) | Default Time To Sleep Mode |
|---|---|---|
| 0 < ppm ≤ 10 | ≤ 10 | ≤ 5 minutes |
| 10 < ppm | ≤ 15 | ≤ 5 minutes |

Table 2. Mailing Machines

| Product Speed In Mail Pieces Per Minute (mppm) | Sleep Mode (Watts) | Default Time To Sleep Mode |
|---|---|---|
| 0 < mppm ≤ 50 mppm | ≤ 10 | ≤ 20 minutes |
| 50 < mppm ≤ 100 mppm | ≤ 30 | ≤ 30 minutes |
| 100 < mppm ≤ 150 mppm | ≤ 50 | ≤ 40 minutes |
| 150 < mppm | ≤ 85 | ≤ 60 minutes |

Table 3. Standard Size Printers and Printer/Fax Combinations (designed to accommodate primarily A3, A4, or 8.5" x 11" sized paper; includes monochrome electrophotography, monochrome thermal transfer, and monochrome and color ink jet)

| Product Speed In Pages Per Minute (ppm) | Sleep Mode (Watts) | Default Time To Sleep Mode |
|---|---|---|
| 0 < ppm ≤ 10 | ≤ 10 | ≤ 5 minutes |
| 10 < ppm ≤ 20 | ≤ 20 | ≤ 15 minutes |
| 20 < ppm ≤ 30 | ≤ 30 | ≤ 30 minutes |
| 30 < ppm ≤ 44 | ≤ 40 | ≤ 60 minutes |
| 44 < ppm | ≤ 75 | ≤ 60 minutes |

Table 4. Impact Printers (designed to accommodate primarily A3 paper)

| Sleep Mode (Watts) | Default Time To Sleep Mode |
|---|---|
| ≤ 28 | ≤ 30 minutes |

Table 5. Large/Wide-Format Printers (designed to accommodate primarily A2 or 17" x 22", or larger paper)

| Product Speed In Pages Per Minute (ppm) | Sleep Mode (Watts) | Default Time To Sleep Mode |
|---|---|---|
| 0 < ppm ≤ 10 | ≤ 35 | ≤ 30 minutes |
| 10 < ppm ≤ 40 | ≤ 65 | ≤ 30 minutes |
| 40 < ppm | ≤ 100 | ≤ 90 minutes |

Table 6. Color Printers (designed to accommodate primarily A3, A4, or 8.5" x 11" sized paper; includes color electrophotography and color thermal transfer)

| Product Speed In Color Pages Per Minute (ppm) | Sleep Mode (Watts) | Default Time To Sleep Mode |
|---|---|---|
| 0 < ppm ≤ 10 | ≤ 35 | ≤ 30 minutes |
| 10 < ppm ≤ 20 | ≤ 45 | ≤ 60 minutes |
| 20 < ppm | ≤ 70 | ≤ 60 minutes |

## Scanners

**The Vendor Must:**

Provide scanners that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency as outlined below. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

| Performance Characteristic | Current Criteria |
|---|---|
| Low-power Mode | ≤ 12 watts |
| Low-power Mode Default Time | ≤ 15 minutes |

## Copiers

**The Vendor Must:**

Provide copiers that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency as outlined below. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

Standard-sized Copiers

| Copier Speed (copies per minute) | Low-Power Mode (watts) | Low-Power Default Time | Recovery Time 30 Seconds | Off Mode (watts) | Off Mode Default Time | Automatic Duplex Mode |
|---|---|---|---|---|---|---|
| 0 < cpm ≤ 20 | None | NA | NA | ≤ 5 | ≤ 30 min. | No |
| 20 < cpm ≤ 44 | 3.85 x cpm + 5 | 15 min. | Yes | ≤ 15 | ≤ 60 min. | Optional |
| 44 < cpm | 3.85 x cpm + 5 | 15 min. | Recommended | ≤ 20 | ≤ 90 min. | Optional |

cpm = copies per minute

To qualify as ENERGY STAR, copier models designed to handle primarily A2 or 17" x 22" paper or larger shall meet the specifications listed below. All large format copier speeds shall be measured with respect to the number of A4-sized copies that are produced per minute.

Large Format Copiers

| Copier Speed (copies per minute) | Low-Power Mode (watts) | Low-Power Default Time | Recovery Time 30 Seconds | Off Mode (watts) | Off Mode Default Time | Automatic Duplex Mode |
|---|---|---|---|---|---|---|
| 0 < cpm ≤ 40 | NA | NA | NA | ≤ 10 | ≤ 30 min. | No |
| 40 < cpm | 3.85 x cpm +5 | 15 min. | Recommended | ≤ 20 | ≤ 90 min. | No |

## Multifunction Devices

**The Vendor Must:**

Provide multifunction devices that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency as outlined below. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

Table 1. Standard-sized Multifunction Devices

| Multifunction Device Speed (images per minute) | Low-power Mode (Watts) | Recovery Time 30 seconds | Sleep Mode (Watts) | Sleep Mode Default Time | Automatic Duplex Mode |
|---|---|---|---|---|---|
| 0 < ipm ≤ 10 | NA | NA | ≤ 25 | ≤ 15 min | No |
| 10 < ipm ≤ 20 | NA | NA | ≤ 70 | ≤ 30 min | No |
| 20 < ipm ≤ 44 | 3.85 x ipm + 50 | Yes | ≤ 80 | ≤ 60 min | Optional |
| 44 < ipm ≤ 100 | 3.85 x ipm + 50 | Recommended | ≤ 95 | ≤ 90 min | Default for both copying and printing/fax receipt |
| 100 < ipm | 3.85 x ipm + 50 | Recommended | ≤ 105 | ≤ 120 min | Default for both copying and printing/fax receipt |

ipm= images per minute

Table 2. Large Format Multifunction Devices

| Multifunction Device Speed (images per minute) | Low-power Mode (Watts) | Recovery Time 30 seconds | Sleep Mode (Watts) | Sleep Mode Default Time | Automatic Duplex Mode |
|---|---|---|---|---|---|
| 0 < ipm ≤ 40 | NA | NA | ≤ 70 | ≤30 | No |
| 40 < ipm | 4.85 x ipm + 50 | Recommended | ≤ 105 | ≤90 | No |

## Water Coolers

**The Vendor Must:**

Provide water coolers that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency as outlined below. The vendor is encouraged to visit energystar.gov for complete product specifications and an updated list of qualifying products.

| **Product Category** | **Current Criteria** (Energy Use Under Test Conditions) |
|---|---|
| cold only and cook and cold bottled units | $\leq$ 0.16 kW-hours/day |
| hot and cold bottled units | $\leq$ 1.20 kW-hours/day |