

Financing an EnergySmart School

Choosing an EnergySmart approach to school construction can increase the number of attractive financing options available.

Energy efficient, high-performance schools are healthy learning environments that combine good lighting, comfort, acoustics, and air quality. These schools can save a school district thousands of dollars in operating costs annually—funds that can be re-directed to education resources.

Today, with good planning and project management, a new EnergySmart school can be highly cost competitive with a traditional school.

In the past, the initial cost for an EnergySmart school sometimes could be significantly higher than for its traditional counterpart. Now, thanks to advances in technologies and practices, the premium for a well-planned project utilizing integrated design is far lower—or even *nonexistent*. Today, school districts enjoy fast paybacks—in the range of 5 to 8 years—as well as ongoing lifecycle returns on their energy efficiency investments.

In short, the “business case” for an EnergySmart approach has become stronger than ever.[†]

[†]For more information on the costs and benefits of high-performance versus traditional schools, see *Greening America's Schools: Costs and Benefits*, October 2006, by Greg Kats at www.cap-e.com under “Publications.”

Obtaining financing is a hurdle for any school construction project. An EnergySmart approach can give your school district *more* financing choices.

By documenting the lifecycle cost savings that will be realized in an EnergySmart project, a school district can bolster its case to taxpayers, state officials, and financial institutions in the quest for project funding. This “bottom-line” benefit, however, is just part of the story.

In some areas, additional benefits associated with EnergySmart construction can translate to financing opportunities for school districts. Some states, for instance, provide financial incentives for energy efficiency because it helps them meet environmental and business development goals.

This document gives a flavor of the various creative approaches to high-performance schools financing being used throughout the nation and includes guidelines on how to define the most appropriate avenues for your specific situation.

For more information on the case studies featured here, as well as other guidelines and examples, see [Financing at www.energysmartschools.gov](http://www.energysmartschools.gov).

In identifying the best financing options for your high-performance school project, the experience of peers in other school districts can be invaluable.



EnergySmart Schools

Types of Financing Mechanisms

Internal financing

In most cases, a school uses its own operating or capital funds to finance smaller, short-term projects with short payback periods. The benefits are that the school can retain all of the energy cost savings, and the project can be implemented quickly by avoiding complex contract negotiations. Many schools, however, do not have enough funds available for energy efficient improvements.

Revolving investment funds

A school creates a revolving investment fund when it uses its own money for energy efficient projects. Savings that accrue from avoided energy costs are put into the revolving fund. As the energy savings compound, so do the returns to the fund. Profits can be reinvested in other EnergySmart projects. This approach is limited to districts that have taxing authority and are authorized by state statutes.

Debt financing

Bank loans generally finance small, shorter-term energy efficiency improvements. For bigger projects, many districts with bonding authority turn to the municipal bond market by issuing a general obligation bond. These bonds are often tax-exempt, which lowers their cost, but they also require voter approval and incur a debt that is reflected on the school's balance sheet.

Lease or lease-purchase agreements

Under these agreements, a school secures equipment or energy efficiency improvements from a private vendor, who gets repaid over the term of the lease through cost savings from the project. There are no upfront costs for the school, and the equipment can be bought at the end of the lease for a pre-negotiated price. These agreements can require complex administration as well as financial expertise.

Energy saving performance contracts (ESPCs)

ESPCs can be used to upgrade equipment and to improve the energy performance of existing facilities. An Energy Services Company (ESCO) and the school district contractually agree to a set payback period and annual savings. Additional energy savings above the agreed-to figure go to the school district and most contracts result in a positive cash flow for the school district annually. The additional savings can shorten payback periods on energy saving measures or shorten the contract period.

State programs

State grants and low interest loans are available for schools wanting to do energy efficiency upgrades. The Database of State Incentives for Renewables & Efficiency (www.dsireusa.org) provides information about these initiatives on a state-by-state basis.

Utilities

Local utilities may offer reduced interest loans or rebates for energy efficient projects or features. Utilities may also offer technical assistance to help schools identify and evaluate potential projects. For example, National Grid, a utility in the Northeast, offers financial incentives to schools for energy efficiency through its small business program (www.nationalgridus.com/masselectric/business/energyeff/3_small.asp).

Supplemental environmental projects (SEP)

SEPs are energy efficient projects funded by companies that are not in compliance with Federal environmental regulations. Designed by the U.S. Environmental Protection Agency, the SEP program allows the companies to fund these projects in lieu of fines.

Public benefit funds (PBF)

In some states, legislation requires electric utilities to add a fee to their monthly bill, which funds a PBF. Utilities or state-administered programs then use the funds for a variety of energy efficient projects. Links to specific PBFs can be found on the EnergySmart Schools Web site (www.energysmartschools.gov).

Foundations

A number of foundations provide grants to support energy improvements in schools. The Kresge Foundation's Green Building Initiative, for example, awards planning grants to elementary and secondary schools that predominantly serve individuals with physical and developmental disabilities.

Here are some examples of innovative approaches to school financing.

Across the country, schools are implementing innovative strategies to finance high-performance, energy efficient design. The following are three examples of financing strategies used recently by school districts, featuring such mechanisms as state and utility-based resources, third-party leasing agreements, and performance contracting.

Foster-Glocester Regional School District, RI

*Ponaganset Middle School (New Construction),
Ponaganset High School (Full Renovation)*

Enrollment/Community Type: 990 students (grades 9-12); 656 students (grades 6-8); rural community

Type of Project: Combination of new construction (completed September 2007) and full renovation (expected to be completed June 2009)

Construction Cost: \$57.1M (energy investment \$11.4M)

Incremental Cost of Energy-Saving Measures:
\$11,468,300

Interest Charges, Bond Fees: \$4,286,483

Reimbursements from State: \$10,587,214

Net Incremental Cost to Foster-Glocester:
\$5,167,569

Financing Mechanism(s): State Aid Grant (67.2%),
Subsidized Bond Issuance (32.8%)

Unique Features:

- State Bonding Agency usage—Allowed schools to bundle bond issuances in order to get better interest rates (~4.25% on average).
- State Aid—Grants allowed for subsidized project cost.
- Decoupled ESCO usage—ESCO services were retained to conduct energy benchmarking, engineering design, financial planning, and energy usage monitoring, but the ESCO did not actually provide any direct financing. Decoupling allowed the district to seek competitive bids for all energy saving measures, enabling them to directly realize energy cost savings.

Energy Savings: Average savings over 20 years after 100% implementation and after payments for ESCO annual services: \$697,262/year. This equates to a payback period of 7.4 years.

Greenville County School District, SC

Riverside High School (New Construction)

Enrollment/Community Type: 1,358 students (grades 9-12); suburban community

Type of project: New construction

Replaced the 150,000 sq. ft. facility built in 1973 for 900 students with a more efficient and larger (268,000 sq. ft.) school facility for 1,600 students (with potential to be expanded to accommodate 1,800 students).

*Additional Costs Associated with LEED**

Certification:

Design costs and fees	\$ 220,000
Added construction cost	\$1,260,000
Total	\$1,480,000

Additional Costs Associated with Energy Savings Only:

Design costs and fees	\$75,000
Added construction cost	\$425,000
Total	\$500,000

Financing Mechanism(s): Installment Purchase Agreement (3rd Party Lease)

Unique Features:

- School signs over land title to not-for-profit and then leases it for \$1 a year.
- Not-for-profit issues bonds to pay for construction of school.
- School board appropriates funds and pays them to the not-for-profit annually to cover the bond principal and interest payments. This serves to space out the costs of the debt over the life of the bonds, instead of going on the books as a lump sum up front.
- Key point: helps keep upfront costs down, which makes projects easier to sell to key decision-makers, voters, and state regulatory boards.

Energy Savings: Anticipated savings 20-30% of current energy expenses of \$300,000 a year, or savings of \$60,000 to \$90,000/year. This gives Greenville an anticipated payback period of 5 to 8 years.



In the next three years, the goal of the U.S. Department of Energy's EnergySmart Schools Program is to provide school decision makers with the information needed to upgrade the energy efficiency of new schools to 50 percent better than current energy codes and to improve existing schools by 30 percent.

* The Leadership in Energy and Environmental Design (LEED) Schools Rating System is a third-party standard for high-performance schools.

Portland Public School District, ME

East End Community School (Renovation)

Enrollment/Community Type: 426 (grades K-5)

Type of Project: New construction

Incremental Project Cost over “Baseline” System:
\$217,585

Type of Financing: State Aid Grant, (55%), Standard Bond Issuance (45%)

Unique Features:

- State Aid—Grants allow for subsidized project cost, earning a maximum of \$120,000 in grant funds from Maine Public Utilities Commission, Efficiency Maine’s high-performance schools program.
- Financing pool for state aid comes through tax on electricity sold by utilities.
- Alliance of state agencies conducts outreach to schools, making it a highly effective pipeline for new deals through the program. Almost all school capital investment projects conducted in Maine in the past few years have included efficiency measures financed through Efficiency Maine (EM), mostly due to EM’s effectiveness in reaching decision makers at the school level.
- First public school in Maine to be awarded a LEED Silver rating.

Efficiency Maine’s Benchmarking Approach:

1. Each project design starts at the Maine Benchmark level of energy usage. All additional design and implementation costs that would result in the installation of electrical energy efficient equipment (and corresponding energy savings) above the

benchmark level are eligible for financing. Thus, projects with the highest level of savings will receive the most financing

2. Design specs are reached through collaboration between the EM program technical advisor (PTA) assigned to the project and the school’s contractors/architects/engineers. The PTA acts as an advisor to the project team, answering questions about the program and the value of energy efficient design and asking the schools what technologies they want to utilize (T-5, HVAC, lighting shelves, etc.).
3. Once design is agreed upon, energy benefits are determined using a spreadsheet that calculates savings. (The Design Grant is paid regardless of fuel and promotes energy saving designs and technologies across the entire energy spectrum. The Implementation Grant is predicated and paid on electrical savings only.) An appropriate level of financing is agreed upon to cover design and later implementation costs. Memoranda of Understanding (MOUs) are issued for both design and implementation, obligating EM to cover the agreed upon level of financing. The additional design work is also brought before the school board; however, EM pays for the work even if the school board does not approve it.
4. At about 90% of the project’s completion, EM verifies the installation of the installed technologies prior to payment. If changes to the project are made post approval, financing for implementation is adjusted accordingly.

Energy Savings: The East End School estimates savings of ~230,041 kWh per year, which nets the school a simple payback period of 6.9 years on its investment. The useful life of the investment is estimated at 20 years.

When your school district needs:

To minimize upfront capital investment

To shorten payback periods

Tailored information on available financing

Consider these options:

Financing mechanisms that require minimal investment up front, appealing to the school community (decision makers, voters, etc.) are:

- *Energy saving performance contracts*
- *Lease or lease-purchase agreements*

Financing mechanisms that reduce payback periods, enabling a fast return on investment, are:

- *Internal financing*
- *Debt financing*
- *Revolving investment funds*

Information on mechanisms available in specific regions and states or for specific types of districts or communities (rural, urban, suburban) is offered through:

- *State and utility-based programs*

**For more information,
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www.energysmartschools.gov



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