

EnergySmart Schools National Financing Roundtable— Key Outcomes

As a follow-up to the release of its Guide to Financing EnergySmart Schools (available at www.energysmartschools.gov), the U.S. Department of Energy's EnergySmart Schools program hosted the National Financing Roundtable on February 5, 2009. This event was held prior to the seventh Annual High Performance Schools Symposium, hosted by the Council of Educational Facility Planners International (CEFPI) on February 6–7, 2009 in Tampa, Florida.

The purpose of the National Financing Roundtable was to bring together individuals with diverse knowledge of school building projects to discuss financing issues and options that build upon those described in the *Guide to Financing EnergySmart Schools*.

Participants included representatives from the following organizations:

- CEFPI
- American Federation of Teachers
- U.S. Green Building Council (USGBC)
- Collaborative for High Performance Schools (CHPS)
- Florida Solar Energy Center
- 21st Century School Fund
- Florida Power & Light
- Progress Energy
- The Caldwell Group
- Sustainaissance International
- Cypress-Fairbanks Independent School District
- Planning Alliance, Inc.

This document summarizes the discussion that took place during the roundtable. It provides an overview of the financing opportunities, challenges, and activities involved in achieving high-performance schools, as identified by the participants. The discussion has been organized into five key outcomes:

Outcome 1: Identify creative funding mechanisms and low-cost or no-cost projects to help achieve energy efficiency in schools. Energy efficiency can be reached through small efforts when funding is limited as well as through large investments when funding is available.

Outcome 2: Recognize that energy savings performance contracts (ESPCs) are solutions that require a strong partnership with an energy service company (ESCO), a clear understanding of the cost avoidance (savings) guarantee language, and annual measurement and verification (M&V).

Outcome 3: Become better-educated and more aware decision makers in relation to energy-efficiency projects by discussing all financial and technical issues with stakeholders. Learn to reorganize the current district-level budgetary system to better recognize and account for savings from energy-efficiency measures.

Outcome 4: Encourage and gain community, teacher, and student involvement in and support about energy-efficiency projects. This will increase awareness about these issues, pressure legislators to provide funding, and start a culture of social responsibility.

Outcome 5: Create clear policies at federal and state levels to provide quick incentives to districts investing in energy-efficiency projects.

These outcomes are described in greater detail on the following pages.

Outcome 1

Identify creative funding mechanisms and low-cost or no-cost projects to help achieve energy efficiency in schools. Energy efficiency can be reached through small efforts when funding is limited as well as through large investments when funding is available.

For More Information
See the *Guide to Financing Energy Smart Schools* at www.energysmartschools.gov.

Actions

- The economic stimulus package is going to push schools to make decisions that influence construction plans during the next few decades. Make energy efficiency a prime consideration at the beginning of the design process to reap the benefits in the future. Bond programs are the first step in this process.
- Approach local utilities to conduct investment-grade building audits at no cost. Many utilities are currently evaluating energy-efficiency programs to invest in for their energy-efficiency portfolio and to better manage the demand on their systems at peak times. Leverage the utilities' interest in these programs to help finance and achieve energy efficiency.
- Emphasize the use of public buildings for multiple purposes to maximize the building-use hours per week and save on costs for the school through cost sharing. Municipalities can promote this cost-sharing strategy through grant financing.
- Consider requiring developers to subsidize parent-teacher organizations or to pay for the benefits of building residential units in proximity to schools. This will generate funds for energy-efficiency projects.

Example

An Air Force base partnered with a waste disposal plant to use the captured heat from the plant to help generate electricity for the base.

Example

In Orange County, Florida, the utilities created and housed energy usage profiles for each school building to help the county create an accurate baseline and monitor energy use. Visit the Utility Report Cards web site at http://utilityreportcards.com/urc_partners.htm.

- Consider allowing private ownership of school equipment to receive federal and state tax credit benefits because schools do not pay taxes. The private entity can take advantage of the tax incentives and pass the benefits along to the school.

Discussion Note

The modular (portable) building industry is seeking to improve the interior air quality and energy efficiency of modular buildings after being stigmatized in the construction industry for poor indoor environmental quality and energy efficiency in the past. The industry is starting to self-police. School districts should consider expanding their building-design guidelines to include modular construction. A Florida State Energy Center study showed that these modular buildings could be made energy efficient at a low cost. To review the details of the study (Evaluation of Energy Efficiency Improvements to Portable Classrooms in Florida), visit <http://www.fsec.ucf.edu/en/publications/html/FSEC-CR-1133-99/>.

Outcome 2

Recognize that energy savings performance contracts (ESPCs) are solutions that require a strong partnership with an energy service company (ESCO), a clear understanding of the cost avoidance (savings) guarantee language, and annual measurement and verification (M&V).

Issues

- Because ESPC processes vary across states, the effectiveness of an ESPC within a given jurisdiction could be limited.
- A school district might lack the familiarity or expertise to achieve the maximum value from energy savings performance contracting.
- Measuring a building's baseline energy performance is often misconceived as being costly.
- The school should be aware that ESPCs reallocate funds from one budgetary area to another. Rather than the school making a one-time, planned capital investment for an improvement project, it shifts the project costs to operational budgets through the use of ESPCs.
- The school should be aware that many components in an ESPC can be negotiated and should work to establish an appropriate level of transparency. Additionally, it is critical that the school stay involved throughout the design and development stage (for example, during the baseline calculation period). All future savings will be based on the established baseline and escalation rates.

Actions

- Determine if an ESPC is the best option for the situation based on the school's available capital. ESPCs are best for schools that lack necessary technical expertise and time to supervise or manage comprehensive improvements, need to free in-house resources for other priorities, or are unwilling or unable to finance the initial cost of improvement.
- Evaluate the potential of ESCOs to maximize the benefits of ESPCs. Look to the state and federal level for qualified ESCOs as a starting point. An alternative is to contract with an ESPC consultant familiar with the ESPC process to act as an advisor. The retention of appropriate attorneys, business representatives, and engineers to quantify the savings is also recommended. Another possible solution is for the state to create an office to provide these services to districts and schools that lack funding to retain such counsel on their own.
- Base ESPCs on the measured baseline energy performance of a building rather than on estimated consumption. The cost to measure baseline performance of a building is only a small percentage of the total project cost, but accurate baseline information will help to create the foundation for a robust ESPC.
- Conduct a cash flow analysis to calculate the true cost avoidance achieved using ESPCs and account for the shift in funding from the capital budget to the operational budget. Use this analysis to map the long-term savings for the district.
- At a state or national level, create a guide that will educate school administrators about ESPCs and ensure that they understand and manage the process.

Discussion Note

The Clinton Climate Initiative (CCI) has standardized ESPCs for CCI clients (ESCO customers). Visit the Clinton Foundation web site at <http://www.clintonfoundation.org/what-we-do/clinton-climate-initiative/our-approach/major-programs/making-buildings-green/> for more information.

Outcome 3

Become better-educated and more aware decision makers in relation to energy-efficiency projects by discussing all financial and technical issues with stakeholders. Learn to reorganize the current district-level budgetary system to better recognize and account for savings from energy-efficiency measures.

For More Information
See the *Guide to Financing EnergySmart Schools* at www.energysmartschools.gov.

Issues

- Many school budgeting processes may not provide appropriate incentives for energy management. For example, cost savings from energy efficiency generated by a specific school may be difficult to track back to the school if a single, district-wide energy bill is paid at the central office. In addition, when any funding a school has not used is returned to the budgetary pool and redistributed at the end of a budget period, there is no incentive to save. Such processes do not encourage districts or schools to pursue energy-efficiency projects.
- High-performance schools' costs may be high if energy-efficiency considerations are not included in the initial design phase or are tacked on during the construction phase.
- Energy-efficiency measures often are misconceived as having poor or long payback periods.
- School buildings often are not used to maximize their lifetime potential because of defective operations and maintenance budgets that do not account for life-cycle costs in the out years.
- Schools may not fully understand their financing options because many states do not publish off-budget financing laws.
- When the availability of funding is low, saving energy is considered a low priority compared to the other budgetary needs of a school, such as teachers and other educational resources.
- Energy-efficient technologies and projects that are reviewed individually rather than collectively might be perceived as being expensive or providing low return on investment. Individual measures should be bundled into projects. (See the example of project bundling on this page.)

- The energy cost of transportation to and from school often is not taken into account in schools' or districts' energy costs. Often, new schools are constructed in suburbs or outlying areas, without consideration of the need for expansion of infrastructure or the energy usage for transportation.

Actions

- Become better educated about high-performance schools at the beginning of the design phase, understanding that the best opportunities for minimizing the cost of a high-performance school occur at the start of the process.
- Consider the total life-cycle energy cost and savings of the aggregated energy-efficiency projects over time rather than of each project in the short term. Taking the complete energy cost and savings into account over the life of the asset will help to identify the most effective financing strategy. Selecting the investment with the best life-cycle return allows the accrued savings to be reallocated to other educational needs.

Example—Project Bundling

Consider the combined cost and savings of improving the energy efficiency of an HVAC system and installing waterless urinals from installation to the end of the life cycle. Although training personnel to maintain waterless urinals is an added cost, the savings from the improved HVAC system may more than pay for that additional cost. The improved HVAC system may save operations resources that can be reallocated to maintaining the waterless urinals.

- Consider looking at energy savings from a district building-portfolio level instead of at the individual school level. This approach would give planners flexibility in improving energy efficiency across a range of schools at lesser cost, while still allowing each school to claim the benefits of its individual energy-efficiency improvements.

Outcome 3 (continued)

- Understand various options for energy-efficiency projects. Making the shift toward high-performance schools does not necessarily equate to investing in high-cost or long-payback technologies. There are low-cost or no-cost solutions that can be implemented on a small scale, as discussed under Outcome 1.
- Include the cost of student and staff transportation into the overall energy usage forecasts and work creatively to reduce that combined cost by promoting walking, biking, car sharing, or no-idle policies. Consider the unique needs of each school based on its location (for example, suburb or city), as transportation costs may be higher in suburban schools than in urban schools.

For More Information

Refer to the *Guide to Operating and Maintaining EnergySmart Schools*, which will be available soon at www.energysmartschools.gov.

- Open the lines of communication and conduct regular meetings with all the decision makers (that is, superintendent, O&M staff, architects, engineers, community) to discuss the budgetary realities, building operations needs, and energy savings potential.
- Track and demonstrate the savings to the district and reach an agreement with the district to split the savings with the school.
- If feasible, employ a single district employee to act as the representative of the owner in evaluating all construction activities to ensure equitable decision making for all projects.

For More Information

Refer to the U.S. Department of Transportation's Safe Routes to School program at <http://www.saferoutesinfo.org> for more information on how to develop a safe walking and biking program.

Outcome 4

Encourage and gain community, teacher, and student involvement in and support for energy-efficiency projects. This will increase awareness about these issues, pressure legislators to provide funding, and start a culture of social responsibility.

Issues

- Taxpayers (local community) might not understand the correlations between tax spending, school building infrastructure, and energy efficiency.

Actions

- Encourage teachers to develop a curriculum that includes energy issues outside of the textbook. Teachers and students will become more educated about energy issues and might develop a sense of social responsibility that will carry into other aspects of their lives. Teachers and students who advocate for high-performance schools can deliver a strong message to administrators and decision makers within the community to allocate funds and resources to these efforts.

Example

Florida Atlantic University has partnered with Palm Beach County to educate teachers in the university's College of Education on high-performance school concerns. Student teachers also have the opportunity to intern at the county's schools.

- Encourage teachers, parents, and students who support high-performance school construction or operations and maintenance efforts to help make the business case to school administrators.
- Partner with local community colleges and universities to have students pursuing education, building technologies, engineering, or architecture degrees gain work experience at high-performance schools and learn about the related issues. This will educate the next generation of teachers and builders to be more aware and engaged in these issues. It also will shift the values and culture of education. Having students experience on-the-job training (such as internships or mentorships) at high-performance schools or schools working to achieve energy efficiency will be mutually beneficial by cutting personnel costs for the schools and providing unique learning environments for the students.

Example

Teachers may incorporate Utility Report Cards as a teaching tool. If students identify issues that have an impact on the school's utility bill, that information can be presented to business officials to make changes. More information is available at <http://utilityreportcards.com>.

Outcome 5

Create clear policies at the federal and state levels to provide quick incentives to districts investing in energy-efficiency projects.

Issues

- Oil price fluctuation creates budget concerns for schools.
- Existing preemption laws force federal laws over state and local laws for equipment standards and keep states from exceeding federal levels.
- In some states, restrictive debt rules limit the financing options available to schools.
- Because incentives for energy efficiency differ from one state and utility to another, it is difficult to replicate public-private partnerships.

Actions

- At the policy level, set a national or state floor on the price of oil for budgeting purposes. If the price of oil drops below the floor amount, the school would put the difference into an Energy Efficiency Renewable Energy (EERE) fund designed to promote a more consistent investment stream for the school.
- To overcome issues with preemption laws that force federal law over state and local laws for equipment standards, states could set their minimum standards to match the federal laws and offer incentives for improvements beyond them. In addition, create a broader framework that brings codes into harmony.
- At the federal level, evaluate the incentive process (that is, the involvement of utilities, state energy offices, tax offices) for energy-efficiency improvements and identify ways to make it more efficient.
- Amend state debt rules to enhance the negotiation power of school districts.
- At federal and state levels, standardize incentives for energy efficiency to facilitate development of holistic public-private partnerships that take advantage of the full range of skills of the partners.

Summary

These five outcomes of the National Financing Roundtable emphasize the need for ongoing education and communication about energy-efficiency issues among educators, school administrators, students, governments, businesses, and community members to build their awareness and encourage their involvement in making decisions that promote high-performance schools.