NSBA Endorses EnergySmart Schools

Creating energy-efficient schools can play a big role *in easing the dilemma faced by every school board in America: fulfilling ever-increasing educational needs in the face of tight budgets. It is a difficult juggling act, but a growing number of schools are discovering that smart energy choices can have lasting benefits for their students, their communities, and the environment.*

A look at the bottom line is telling. An energy-efficient school district with 4,000 students could save as much as $212,000 a year in energy costs. Over a 10-year-period, those savings can reach $2.1 million and, over the lifetime of the facility, many millions more. Looking at finances alone, those savings translate into the ability to hire more teachers, buy more computers, or upgrade instructional materials.

Other Benefits

EnergySmart schools offer many other benefits as well. Daylighting, for example, is used in energy-efficient schools to deliver natural lighting to classrooms and to reduce electricity usage. Studies have shown a potential connection between the use of daylighting in classrooms and improvements in student performance and attendance.

Some school districts incorporate water conservation measures into their projects as well, furthering cost savings and environmental performance. Others incorporate backup power generation—sometimes from renewable energy sources—equipping these schools to play a vital role in homeland security as emergency community shelters. In general, energy-smart schools offer healthier learning environments and serve as "living laboratories" to teach school personnel, students, and the broader community about energy efficiency.

DOE's EnergySmart Schools Program

K-12 schools spend more than $8 billion annually on energy, making energy the second-highest operating expenditure for schools after personnel costs. Recognizing this, the U.S. Department of Energy sponsors the EnergySmart Schools Program.

Endorsed by the National School Boards Association (NSBA), the program promotes the building of new schools that exceed code by 50 percent or more. In addition, it promotes a 30 percent improvement in existing schools. The program offers tools and resources to assist school decision makers in pla and financing energy-efficient high-performance schools, as well as education and training for bui industry professionals.

EnergySmart Schools

Making the Case for an EnergySmart School Project

Championing the cause of energy efficiency at a school requires educating various decision makers and bringing together disparate interests. While an increasing number of energy-efficient schools are being built across the U.S., some stakeholders still have misperceptions about them, especially regarding the cost of construction.

Here are some key points for a winning argument:

Constructing a high-performance school does not have to cost more than a conventionally built school.

Many districts believe that the initial capital investment to design and build energy-efficient facilities or to conduct major renovations will be substantial. With the right planning and integrated design, however, an energy-efficient school should cost no more than a conventionally built one and will pay for itself in substantially lower operational costs.

Many energy-efficient features even allow for a decrease in initial energy-related costs. A well-insulated and tight building envelope, for example, requires a smaller HVAC system. Low-emissivity windows for daylighting may eliminate the need for extensive electrical wiring and lighting fixtures.

Schools spend more on energy than any other expense except personnel.

Energy costs are a significant item in a school's operating budget, yet many administrators are unaware of their monthly utility expenditures. The costs can be high, but they are an expense that a school can actually control.

High-performance schools, if operated and maintained properly, can significantly lower a school district's operating costs.

The U.S. Department of Energy estimates that the nation's schools spend an average of $175 per student on energy costs. For a conventionally built school with 1,200 students, that translates into $210,000 annually. Because of its design and operation, an EnergySmart school uses 30 percent less energy. Costs, therefore, fall to an average of $122 per student, or $147,000 annually—a savings of $63,000 a year.

Energy costs are one of the few expenses a school can reduce without affecting its educational mission.

Lowering a school's energy costs does not require sacrificing educational resources. More efficient energy operations allow a school to cut costs, and the resulting savings can be put toward hiring another teacher or upgrading the computer lab.

Schools are central to the communities they serve and should reflect community values.

There is a growing awareness in the U.S. about the effects of global warming and the need for energy conservation. Because schools are vital to their communities, they are in a position to serve as models of energy efficiency. In addition, schools with onsite renewable energy sources can play an important role during times of natural or manmade disasters.

Schools are the best place to teach the nation's children about energy conservation.

High-performance schools can become part of the educational experience. At some schools, a glass wall has been installed so students can observe the operation of the mechanical room. Some have plaques near high-performance features explaining their function and value, while others have a display showing real-time energy use and operation of energy-efficient features. These educational elements allow students to understand the high-performance parts of the facility and conduct tours.

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U.S. Department of Energy
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