

Research Brief

“Green” School Programs

Question: What are “Green School” programs and how do they benefit students, teachers and the community?

Summary of Findings:

In a Nutshell

The recent increase in the cost of fuel, coupled with a rapid decline in economic resources, has renewed our focus on the concept of “Green” living. Add almost daily reminders of vanishing polar ice caps, rising sea levels and horrific weather patterns, and we have every reason to wonder if we are doing enough to assure that we can create a sustainable future on this planet.

Even those who dispute the human impact on climate change can agree that creating more efficient and sustainable communities are at least good economic moves. Efficient resource management not only reduces our carbon output, and our consumption, it reduces costs. That’s a good idea in this or any economy! So, where do we begin?

As with most initiatives that require a change in attitude as well as a change in behavior, citizens are beginning to look to our schools as living laboratories for developing “Green” ways of living.

Green School programs seek to weave concepts of sustainability and environmental awareness into the social and academic culture of the school community. Green schools are high performance facilities that have been designed, built, renovated operated or reused in an ecological and resource efficient manner. Components such as environmental education, leadership development, green behavior development, green facility operations and a focus on efficient resource management encourage students and staff to begin to foster sustainable environmental attitudes and behaviors that carry over into their daily lives.

Our schools can be leaders in the development of Green technology, programs while saving millions of tax dollars and instilling in our young people a sense of pride and responsibility. However, Green school initiatives do take time and resources to plan and implement, so careful research and planning is, as always, the key to success.

Fortunately the current focus on green initiatives provides interested educators with more than enough information to begin planning green programs for their schools.

The more difficult task may be convincing stakeholders of the benefits of Green School Programs. [Global Green](#), the American arm of Green Cross International, has developed a list of the Top Ten Reasons to build Green Schools. Sharing this list may be a good first start.

Top Ten Reasons to Build Green Schools

Increase Student Performance

Studies have shown that student test scores can improve up to 20% when kids learn in green classrooms that provide more natural day-lighting, improved classroom acoustics and healthier paints and carpets that don't release toxic chemicals into the air.

Protect Health

Schools built with more natural daylight, better ventilation and healthy green building materials such as non VOC carpets and paints, can improve student and teacher health and result in fewer sick days, higher teacher retention and improved student attendance.

Save Money

Operating costs for energy and water can be reduced by 20% to 40%, allowing more money to be used for teacher salaries, textbooks and computers.

Provide A Unique Educational Opportunity

Buildings can become teaching tools and important features of science, math, and environmental curriculum when green features and advanced technology and design in schools are used to excite kids about learning real world applications of green technologies.

Reduce Carbon Emissions

Green Schools significantly reduces carbon dioxide emissions. In Los Angeles alone, building 34 new green schools will reduce 94,000 tons of CO₂ or the equivalent of eliminating more than 15,000 cars from the road every year or planting more than 280,000 trees!

Reduce Water Usage

On average, a green school reduces water usage 32%. This reduction has direct savings for the building as well as substantial societal benefits from lower pollution and reduced infrastructure costs to deliver water and to transport and treat wastewater.

Improve Teacher Retention

a green school can reduce teacher turnover by up to 5% which results in financial savings



for the school, as well as a more positive experience for students.

Create Green Jobs

Investing in building green schools is an investment in green jobs including green construction, building product manufacturing, and green architecture.

Average Daily Attendance Improves

Students in Green Schools are absent less frequently. By reducing absenteeism just 15%, a typical elementary school would save from \$40,000-\$60,000.

Improve Equity

Greening public schools creates an opportunity to improve the health and educational settings for all students, regardless of income or background.

Green School Initiatives Can Include:

- ❖ Waste reduction and recycling programs
- ❖ Water conservation
- ❖ Energy conservation
- ❖ Reducing Exposure to toxins
- ❖ Litter reduction
- ❖ Green collar job training
- ❖ Green technology exploration
- ❖ Renovation and redesign of buildings and facilities following Leadership in Energy and Environmental Design ([LEED](#)) Green Building Rating System™.

Promising Programs:

Alliance to Save Energy's Green Schools Program

Energy costs are an enormous expense for our nation's schools. To help free up more resources for education while strengthening academic learning, the Alliance's Green Schools Program engages students in creating energy-saving activities in their schools, using hands-on, real-world projects. Through basic changes in the operations, maintenance, and individual behavior, Green Schools has achieved reduction in energy use from 5%- 15 %among participating schools. In addition, Green Schools encourages students to apply the lessons of energy-efficiency message in their homes and communities. Click to [Learn more about Green Schools](#) and how to get involved and visit our [Green Schools in Action](#) page to read featured case studies from ASE's Green Schools Program.

The Next Generation Green Schools Program

[The Next Generation Green Schools Program](#) exists to foster environmental education, youth leadership development, and green behaviors and operations in our schools. This group works with students, teachers and administrators at elementary, middle and high schools to tailor a comprehensive program that supports current school priorities and engages students to create a sustainable future. Although the organization is based in California and works mainly with local schools, their website provides free ideas and resources for teachers and students.

King County Green School Program

Over 200 schools participate in the [King County Green School Program](#) that provides individual public and private K - 12 schools and school districts in King County with tools and support needed to improve the efficiency of their schools and add green activities and instructional projects to their curriculum.

The Program includes tools to:

- ❖ Initiate and expand waste reduction and recycling practices and other conservation actions
- ❖ Involve the whole school community in environmental stewardship as a model for the larger community
- ❖ Operate environmentally efficient and responsible facilities

The program is sponsored by King County Department of Natural Resources and Parks, Solid Waste Division.

The Green Education Foundation, Green Week, Ride Green and Play Green Program

The [Green Education Foundation](#), a non-profit, was founded in early 2008 with the goal of promoting and enhancing the state of environmental education in schools. The goals of the program are to:

- ❖ Stimulate family-based green practices,
- ❖ Integrate green activities, projects and exercises into class-based curricula,
- ❖ Jumpstart new school environmental initiatives,
- ❖ Encourage students and adults to ride green



- ❖ Encourage students sport teams to play green

The foundation's Green Week program provides opportunities for schools to participate in green activities and compete for Green In-Action Awards, as well as curriculum materials and activities. While the foundation sells merchandise on its website, there is enough free material to make a visit worth your while.

National Environmental Education Week (sponsored by Cannon)

[National Environmental Education Week](#) (EE Week) is the largest organized environmental education event in the United States. Made possible by [Canon](#), it increases the educational impact of Earth Day by creating a full week of educational preparation, learning, and activities in K-12 classrooms, nature centers, zoos, museums, and aquariums. The EE website provides lesson plan and activity ideas for K-12 students and also provides some interesting tools. The [Curricula Library](#) has lessons and activities and the site links to many other environmental education sites.

Resources:

[U.S. Green Building Council, Build Green Schools Program](#)

The U.S. Green Building Council is the nation's foremost coalition of leaders from across the building industry working to promote buildings that are environmentally responsible, profitable, and healthy places to live and work. The Build Green Schools program demonstrates how to green a school and build for sustainability. The site has loads of good information and a resource library that includes videos and slide shows as well as examples of student work.

[Center for Environmental Education](#)

CEE works with K-12 schools to address climate change issues and to cultivate healthy lifestyles. Students learn best through experience. If their schools are green, students will learn to live that way. The site provides lots of good information and a curriculum library. There is also a Blueprint for a Green School link as well as a News From the Field link.

[Collaborative for High Performance Schools](#)

Although the Collaborative for High Performance Schools (CHPS) was developed as a standard for California's public schools, this website contains excellent information. Its Best Practices Manual is a good standard reference for high performance school design and has information directed to school districts and guidelines for designers. It contains information on each building system and provides a variety of detailed design recommendations centered on resource efficiency, day-lighting, and indoor air quality.

[Earth Day Network](#)

Earth Day Network (EDN) grew out of the original Earth Day in 1970. Earth Day Network is a driving force steering environmental awareness around the world. EDN is committed to expanding the definition of "environment" to include all issues that affect our health, our communities and our environment. EDN is leading a national green schools campaign. The site

has tons of information for students and faculty. The current campaigns focus on Green Schools, Climate Change and Cultural Diversity. This site is a gold mine! The [Foot Print Calculator](#) is fun and disturbing!

EnergySmart Schools a U.S. Department of Energy Project

EnergySmart Schools offers schools training workshops, publications, recognition, direct technical assistance, financing options, and a host of other resources toward making school facilities more energy efficient. Resources available on the website include step-by-step guidance for making schools more energy efficient, classroom materials and activities, and information about school buses. The website provides good information as well as case studies.

Youth for Environmental Sanity, Green School Manual

Youth for Environmental Sanity was founded by two students, Ocean Robbins (16) and Ryan Eliassen (19). Their non-profit organization continues to involve students in various social and environmental causes. The [Green School Manual](#) provides lots of good information in an easy to read format. The group sponsors workshops and school programs.

National Clearing House for Educational Facilities, High Performance Green Schools

Sponsored by the U.S. Department of Education, this website provides extensive resource lists that cover planning, design, financing, construction, and the operation and maintenance of school facilities. The lists are annotated bibliographies and include links to full text publications and related Web sites, descriptions of books, studies, reports and journal articles. Specific topics pertaining to green building include day-lighting, high performance school buildings, energy savings, indoor air quality, and much more. Look for the resource list on their website.

The Database of State Incentives for Renewable Energy

The Database of State Incentives for Renewable Energy (DSIRE) is a comprehensive source of information on state, local, utility, and selected federal incentives that promote renewable energy. It includes a state-by-state database of 'Schools Going Solar' programs.

United States Environmental Protection Agency Indoor Air Quality Tools For Schools Kit

The Indoor Air Quality (IAQ) Tools for Schools Kit (Kit) shows schools how to carry out a practical plan of action to improve indoor air problems at little or no cost using straightforward activities and in-house staff. Indoor Air Quality Tools for Schools is co-sponsored by the National PTA, National Education Association, Council for American Private Education, Association of School Business Officials, American Federation of Teachers, and the American Lung Association.

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