

Green School Facts

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Written by [Ashley Katz](#)

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FACT: LEED-certified schools are designed to save energy, water and money. The operations and maintenance of a building are critical components to ensuring ongoing building performance.

Whether it's a school, a data center or an office building, proper operation and maintenance of any green building is critical to ensure ongoing, long-term LEED performance.

While design and construction was originally the focus of LEED when it came to market in 2000, it quickly expanded its scope to cover operational performance through [LEED for Existing Buildings: Operations & Maintenance](#). This rating system acts as a roadmap for how to drive down operating costs while ramping up occupant productivity responsibly.

To help schools and school districts improve the way their facilities are running, a host of resources are available and are designed to arm pre-K-12, teachers, paraprofessionals, administrators and others with the knowledge and skills to make healthier, more environmentally responsible decisions in the classroom. The resources available to schools range from the [Green Existing Schools Toolkit](#), the free [Green Existing Schools web training series](#), to the [Green Classroom Professional Certificate program](#). Since its launch in 2010, 105 school districts representing more than 5.2 million students have receiving in-person trainings and learned best practices for large-scale rethinking of school operations and decision-making.

- The K-12 schools that are certified under [LEED for Existing Buildings](#) boast energy performance that is 36 percent better than the average U.S. school.
- [Adlai E. Stevenson High School](#) in Lincolnshire, Ill., earned LEED Gold as an existing building, and achieved energy savings of \$100,000 with 7 percent lower electricity use and 5 percent less natural gas consumption during the 22-month certification process.

FACT: LEED-certified schools do not have to cost a penny more to build than a conventional school.

On average, green schools use 33 percent less energy and 32 percent less water than their conventional counterparts, and save \$100,000 per year on direct operating costs. More than 3,000 schools are LEED certified. Many of these schools, particularly those built in the last three years indicate that they have achieved LEED certification for no additional cost to the project's budget and oftentimes for a total cost that is less than regional construction costs for conventional schools built during the same time period.

- Projects across the country have earned certification without any cost premium while saving taxpayer money. Wisconsin's LEED Platinum [Lake Mills Middle School](#) is 45 percent more efficient than a conventional school, yielding a total annual energy savings of \$85,000, returning nearly \$700,000 back to taxpayers thus far.
- Ohio's investment in green schools is already paying off but there is more to come. The Ohio Facilities Construction Commission has projected that its energy savings will double the initial expenditure on its more than 300 LEED certified schools in approximately 10 years.
- Fossil Ridge High School in Colorado earned LEED certification without incurring additional costs. At \$179 per square foot, including design fees, furnishings and equipment, Fossil Ridge's cost compares favorably with other school building projects in the region. And that doesn't include the significant long-term savings from reduced water and energy use over the lifetime of the school.
- Fossil Ridge is 60 percent more energy efficient than comparable buildings because of innovative measures including lighting occupancy sensors, and water conservation efforts have saved the school \$11,500 annually.

- [West Brazos Junior High](#) in Texas achieved LEED certification for a total project cost that was 18% less than other schools built in the region that year, and found that its maintenance, operations and utilities costs are lower compared to traditional facilities.

FACT: LEED-certified schools are helping put money back into classrooms around the country.

In these tough economic times, cash-strapped schools have found improving the performance of their school facilities is one of the only ways to free up funds for critical expenses like teacher salaries. The \$100,000 per year saved on operating costs is enough money to hire two new teachers, buy 200 computers, or purchase 5,000 textbooks.

- Richardsville Elementary in Kentucky was built to generate enough energy to power the entire school without cutting programs, staff, or the quality of its education. In October, the Warren County school district received its annual 'electric bill' from the local utility—a \$37,000 check for the surplus energy sent from the school's solar system to the grid. In addition, Warren County Public Schools have offset \$6 million in energy costs since 2003 by calibrating heating and cooling systems and educating teachers and students to be good stewards.
- The construction of LEED Silver Homewood Middle School in Birmingham, Ala. came in \$500,000 under budget, 6 months ahead of schedule, and reduced its building energy use by 38 percent, and its outdoor and indoor water use by 30 and 50 percent respectively.

FACT: School buildings can enhance a student's ability to learn by keeping them healthy, attentive and present.

The physical location where students learn has a direct impact on the educational experience. LEED-certified schools provide students, teachers and visitors with clean and healthy air to breathe, better acoustics, regular access to daylight, thermal comfort and moisture control. LEED for Schools emphasizes strategies to create spaces that enhance learning by:

- Removing toxic materials and products from places where children learn and play.
- Controlling exposure to dust and pollen, which improves the health of students, faculty and staff, potentially decreasing sick days.
- Giving access to daylight and outdoor views to building occupants, which has been shown to heighten participation, lessen distraction and encourage learning. Studies have shown that when deprived of natural light, children's melatonin cycles are disrupted, thus likely having an impact on their alertness during school.
- Emphasizing the importance of acoustics, which are fundamental to absorbing and retaining information. There is a clear connection between proper acoustic design in schools and acoustic performance from students.
- Providing access to thermal controls like thermostats or operable windows, which teachers report give higher levels of comfort in their classrooms.
- Using LEED credits such as "the school as a teaching tool" within the LEED for Schools rating system, which encourages teachers to use the school facility as an educational tool. Fusing the sustainable features of a school facility with the school's educational mission brings the building to life, improves environmental literacy in students, and leads to a generation of sustainability natives.

Fact: The LEED AP professional credential adds significant value to a LEED project team. Experienced project teams produce better buildings.

The LEED credential has led to nearly 200,000 people gaining a better understanding of green buildings and of LEED, which arms them with additional knowledge to produce better outcomes, and to navigate the LEED process more efficiently. Having a LEED professional on a team can save time and money.

FACT: While there have been studies on the impact of environments on children, more research should be done on the connection between school buildings and student health and learning.

[USGBC's Center for Green Schools](#) has been leading the call for more research on the connection between school buildings and student health and learning. USGBC has developed a host of resources to engage teachers and students, design professionals, government agencies, supporting organizations and information networks in the effort to support and drive additional data collection and studies.

Last year, the Center for Green Schools jointly released [The Impact of School Buildings on Student Health and Performance](#) with the McGraw Hill Foundation, which is an accessible account of current research connecting school buildings with student health and performance. It also includes a summary of research needed and how individual groups (teachers and students, design professionals, government agencies, etc.) can help in the effort to draw connections between where students learn and their well being.

FACT: LEED is a holistic green building program that provides a framework for project teams to choose solutions that contribute to healthy, high-performing buildings.

Each LEED point culminates into a larger overall impact. LEED is shifting the market and the larger community in ways never imagined. Because of rating systems like LEED and CHPS, green building measures that were once deemed exceptional – like sourcing low Volatile Organic Compound (VOC) paints and materials – are now industry standard, and no longer cost prohibitive.

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