Air Cleaning for Healthy & Efficient Schools

Make the air in your school safer and healthier, permanently.

enVerid
Energy savings. Air quality.

The Post-COVID Challenge: Balancing Indoor Air Quality & Energy Efficiency

The COVID-19 pandemic shone a spotlight on the critical impact of indoor air quality (IAQ) on health and safety. It also highlighted the central role that heating, ventilation, and air conditioning (HVAC) systems play in achieving healthy IAQ, and the pressing need to ensure that these systems are upgraded and operating effectively. At the same time, climate change is fueling the green schools movement, where HVAC systems take center stage as the biggest energy consumers in most schools.

Despite the critical role HVAC systems play in IAQ and energy efficiency, HVAC system improvements have often been deferred and now 4 in 10 public school districts need to update or replace more than half of their outdated systems[1]. With limited financial resources, schools need solutions that address both indoor air quality and sustainability without significantly increasing costs. **Sorbent air cleaning technology delivers the win-win-win schools are looking for: better indoor air quality, reduced HVAC system and operating costs, and reduced carbon emissions.**

Introducing Sorbent Ventilation Technology™ for Schools

A large percentage of school energy consumption[2], especially in hot and cold climates, is used to condition (heat, cool, and adjust the humidity of) outside air brought in to dilute contaminants generated by school buildings and CO_2 emitted through breathing. By cleaning rather than replacing large volumes of indoor air, schools can realize better IAQ more efficiently, with smaller HVAC equipment and lower operating costs.

AHR EXPO INNOVATION AWARDS 2019 PRODUCT OF THE YEAR

enVerid's HVAC Load Reduction® (HLR®) air cleaning modules use award-winning Sorbent Ventilation Technology (SVT™) to deliver good indoor air quality most cost effectively. SVT does this by cleaning indoor air at a molecular level using sorbent materials like those used to clean the air in submarines and spacecraft. Safe, highly effective cleaning allows ventilation rates to be optimized to achieve indoor air quality, energy efficiency, and cost-saving goals. For schools located near sources of pollution such as cities, highways, wildfires, and allergens, cleaning indoor air also reduces the intake of polluted outside air. The benefits of SVT for schools include:

- Reduced operating costs due to less outside air conditioning
- Lower equipment first costs through downsizing new HVAC systems
- Improved learning outcomes from cleaner indoor air
- Increased environmental sustainability and green building ratings such as LEED® and CHPS

1. Schools Districts Frequently Identified Multiple Buildings Systems Needing Updates or Replacement, U.S. GAO, June 2020.
2. https://www.energystar.gov/sites/default/files/buildings/tools/EPA_BUM_CH10_Schools.pdf?1ba1-762c

Incorporating HLR Air Cleaning Improves Green School Ratings

Green buildings standards such as LEED and CHPS and net zero design are gaining adoption, and many states now require these standards to qualify for state funding for school building projects. Even without these requirements, green schools are good for learning outcomes and the bottom line.

Leadership in Energy and Environmental Design (LEED)

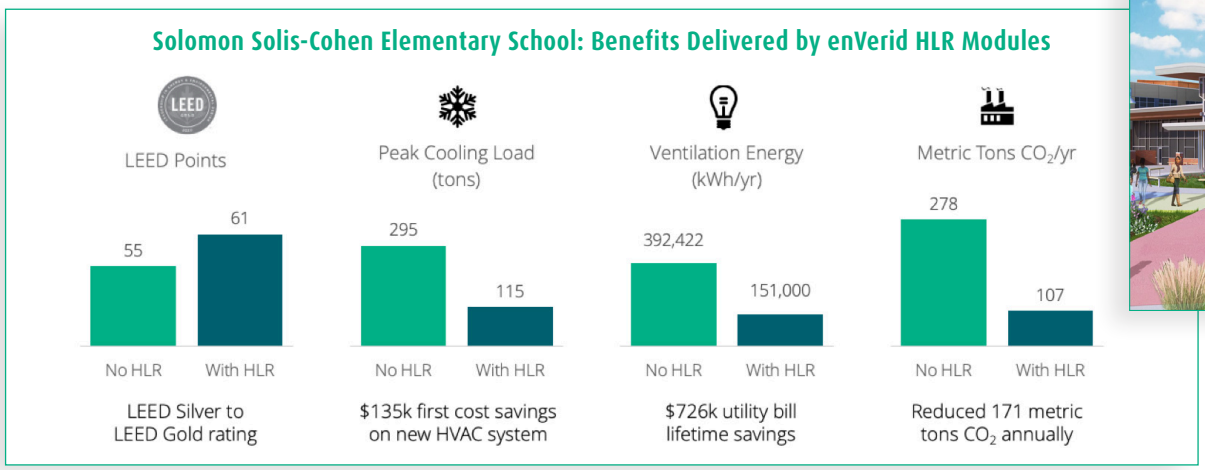
LEED is the most widely used green building rating system and has been adopted by many schools. Incorporating SVT into mechanical designs can help **new schools** earn up to **13 LEED** points related to energy efficiency, indoor environmental quality, and innovation. This includes 7 points by using the LEED BD+C performance-based indoor air quality design and assessment pilot credit (EQpc124).

Collaborative for High Performance Schools (CHPS)

CHPS provides resources to schools covering all aspects of high-performance school design, construction, and operation. One of these resources is a building standard that has been adopted by over 700 U.S. schools. 60 districts have committed to using CHPS for all new school construction and modernization projects. School districts that use SVT can earn points in the energy category of CHPS v2.0.

Project Snapshot: Solomon Solis-Cohen Elementary School

The new 140,000 ft^2 Solomon Solis-Cohen Elementary School in Philadelphia features energy-efficient lighting, a green roof and stormwater management system, solar arrays, and eleven HLR air cleaners. enVerid's HLR modules were incorporated to deliver the following benefits while maintaining even better IAQ than the stringent limits set by the LEED standard:



"The inclusion of enVerid's HLR air cleaners in our design allowed us to reduce peak cooling tonnage, which resulted in significant first cost savings and ongoing operating cost savings to the school district."

– **Anil Giri, Director of Mechanical Engineering, Global Engineering Solutions**

enVerid helps buildings achieve ESG (Environmental, Social, and Governance), healthy building, and cost saving goals by improving indoor air quality while saving money and reducing energy consumption and carbon emissions. For new HVAC systems, enVerid's award-winning HVAC Load Reduction (HLR) Modules enable immediate capital cost savings. HLR Modules also deliver up to 40% energy savings and improved indoor air quality in new and existing buildings. enVerid's air filtration products remove particulate and microorganism contamination from indoor air without the significant cost of upgrading mechanical systems and increasing mechanical ventilation rates. enVerid's products are deployed in commercial, academic and government buildings globally. enVerid's HLR Modules comply with ASHRAE Standard 62.1, deliver significant LEED and WELL points, and are eligible for utility rebates. For more information visit enverid.com.

Let's talk

To learn more about how enVerid Systems can assist and enhance your design scope by improving building indoor air quality while significantly reducing HVAC capital and operating costs AND maintaining compliance with State and local energy codes, contact us at 631-331-0215.