

Engineering for Efficiency

Energy Efficiency in Education

Since the early 1990s, the nonprofit Center for Energy and Environment (CEE) has helped a growing number of Minnesota’s educational facilities to save millions of dollars in annual utility costs. Through a comprehensive, multi-season energy study, CEE’s engineers will help your school building to plan thoughtfully and take action on energy-saving opportunities to lower operational expenses.

An average student spends more than six hours each day at school, which means the benefits of efficiency go much further than just energy savings. Embracing efficiency also helps improve indoor air quality, lighting, acoustics, and overall comfort, fostering better student performance by creating a better environment for learning.

And as an independent, community-focused nonprofit, we’re here to help.

Engineering for Efficiency

From school buildings to traditional offices, and everything in between, we have extensive experience reducing energy waste in many types of facilities. Our professional engineers are especially equipped to meet the needs of complex or unique buildings with an emphasis on low- or no-cost solutions.

We clearly communicate our findings and make sure that our recommendations fit both your budget and your building’s operations. And as an independent nonprofit, we’re mission-driven to provide unbiased, energy- and cost-saving recommendations.

About Center for Energy and Environment

Center for Energy and Environment (CEE) is a clean energy nonprofit with special expertise in energy efficiency stretching back 40 years. CEE conducts state and federally funded research to identify and understand cost-effective energy efficient technologies in building applications.

CEE provides a range of practical and cost-effective energy solutions for homes, businesses, and communities to strengthen the economy while improving the environment. And we reinvest our earnings in our customers’ communities through mission-guided energy efficiency programs and services.

CEE Engineering

- Decades of research and field investigation
- Independent nonprofit advisor
- Cold-climate expertise
- 11 million square feet investigated in over 900 buildings

Minnesota K-12 and Higher Education



1.3 million
Students

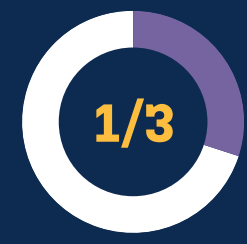


336 K-12 School districts and
200 post-secondary institutions
Millions of square feet in buildings

\$8 billion

in annual K-12 energy spending

More spending on **energy** than on books and computers combined



The most efficient K-12 schools used **1/3** the energy of their least efficient peers

Existing Buildings and New Construction

Case Study: Existing Building Recommissioning

Oak Grove Middle School

Oak Grove Middle School hired CEE to reduce the school's energy consumption because, for its size, its energy use was among the highest in the district. Oak Grove Middle School is a 6th to 8th grade school with many before and after school activities. The building has a gym, a pool, and a large auditorium. The building also houses the district offices which operate year-round.

At a total cost of roughly \$127,650, offset by a \$10,000 utility rebate, the recommended energy conservation improvements should yield annual savings of:

\$96,623

in energy use

453,154

kilowatt hours
of electricity

1.2

year payback

106,505

natural gas
therms

Case Study: New Construction Commissioning

West St. Paul School District 197

CEE's long partnership with the West St. Paul School District continues with the commissioning of a major remodel scheduled from 2019 to 2022. The district passed a bond referendum to allow for additions, renovations, and repairs to all schools, as well as a new multi-purpose athletic facility and aquatics center to be built on the high school campus.

The district hired CEE to ensure that all buildings are built to allow for peak energy performance. Our engineers reviewed construction plans with a focus on energy, maintainability, and operational issues, and our team will also observe the construction and test all mechanical and electrical systems to ensure optimal performance.

"Within our limited budget, maximizing the useful life of older equipment is part of good stewardship. CEE found smart ways to cut waste while making the most of what we have."

Mark Fortman, Director of Operations, Independent School District 197, Mendota Heights

Phases of New Construction Commissioning

Design Phase. Our team confirms that design plans, specifications, and other documentation are consistent with each other, include commissioning requirements, and meet the owner's project requirements.

Construction Phase. We ensure that equipment, systems and assemblies are properly installed, integrated, and operating in a manner that meets the owner's requirements.

Acceptance/Testing Phase. We undertake and document functional testing to provide performance benchmarks and confirm that the project meets defined requirements.

Warranty Phase. We conduct an onsite review of building operations after substantial completion, typically near the end of the warranty period.

Contact

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