

WHITE PAPER

DIY Versus Cenergistic

# Why the Cheapest (DIY) Option Pales in Comparison

Cenergistic®

OPTIMIZING ENERGY PERFORMANCE™

**The role of the public education Facility Manager is increasing in scope. Superficial views of school facilities management focus on routine maintenance and custodial functions, but today's school facility management department is responsible for ensuring all assets function at maximum efficiency, utility bills are within reason, damage from weather-related events is mitigated, safety and security is continuously improved, new construction is well-managed and much more. Black Swan weather events are also becoming more familiar with more than 2000 schools located in areas subject to frequent flooding, according to [PEW Charitable Trusts](#).**



Combine this increased scope with the \$38 billion deficit in annual funding for schools across the country, and the ability to ensure all school needs are met within the facility management budget is one of the most challenging tasks in public education. School boards sometimes budget for basic in-house energy management and preventative maintenance programs. While an in-house energy management program may seem like the cheapest, short-term option, creating a do-it-yourself (DIY) energy management program can have significant drawbacks and hidden expenses for already strained M&O budgets.

School officials need to understand the relationship between mediocre or hard-to-measure results and DIY programs. Those that take the time to consider the real financial and physical impact of a DIY energy conservation program can see why a proven,

experienced solution provider such as Cenergistic offers more than meets the eye to save money and resources, says [American School & University](#).

In this white paper, we'll take a closer look at the true burden placed on schools with DIY energy programs, including:

- **The challenges in developing an in-house program (re-inventing the wheel)**
- **How Cenergistic focuses on real-world benefits for both the short-term and long-term outlook**
- **The financial benefits of a Cenergistic partnership compared to DIY energy management.**

## Challenges of In-House, DIY Energy Management

Developing an in-house solution seems “free.” It requires no investment in outside resources, and, with the rise of SaaS energy management systems (EMS), the school Facility Manager can automate HVAC system controls. Automation is designed to lessen the burden of work in managing asset functions. Therefore, it would stand to reason an EMS is all a school district needs to create a successful system.

This is a misconception. An EMS still requires humans to act on data, specifically with how end users such as teachers, custodians, food service staff, central office and students all affect asset performance. At the same time, an in-house solution may provide limited controls, making collection and analysis of relevant data nearly impossible. In today’s world, the use of advanced analytics provides a massive repository of information and insights into how better energy savings can be realized. Unfortunately, that is only a small piece of the solution.

Additional challenges of creating an in-house program include:

- 1 Budget limitations** Even among schools using basic analytics, there may not be enough room in the budget to handle the costs of maintaining facility assets. Deferred maintenance increases and the overarching utility costs can skyrocket.
- 2 Difficulty measuring energy savings accurately** Most in-house efforts simply compare utility bills or consumption from one year to the next to determine the effectiveness of their DIY efforts. Unfortunately, this method, while easy, is inaccurate since there are many variables from one year to the next that affect energy, separate and apart from the in-house energy conservation program. Examples include milder or more severe weather, rate changes, differences in billing period lengths, building use changes, savings (or increased consumption) from equipment or lighting retrofits, increases or decreases in square footage for existing buildings, new construction, etc.
- 3 Higher costs due to unnecessary asset replacement** An in-house program also means the best solution to all problems tends to be the most apparent solution: equipment replacement. Unfortunately, many assets can be maintained and optimized with the right information and application of technology. This is a crucial weakness of many in-house, DIY programs.
- 4 Cascading equipment failures** Deferred maintenance may lead to continued loss of revenue through increased energy bills. At the same time, there will be start-up costs of an in-house program, even if it means deferring other maintenance needs.
- 5 Time restrictions** An in-house program is limited by the number of hours staff can dedicate to the program. What happens if something goes wrong at night, on a weekend or a holiday? It gets left until the next work day, or even next work week, and this can be a harbinger of higher costs and damage to equipment. Most school districts don’t have the luxury of assigning energy management only to a full-time employee - the employee typically wears a number of other hats. And when budget cuts are needed, this is the type of position that is most at-risk.
- 6 Adverse impact on students and faculty** The time restrictions for staff also mean centralized, heavy-handed measures to take control away from building occupants. This leads to increased comfort complaints and staff frustration.

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- 7 High labor costs** Since in-house team members do not work as efficiently as contracted support service providers due to their lack of experience, labor costs will inherently increase, and the district will still need to contract for specialized engineering and other technical services.
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- 8 Poor access to data between departments** Disparate school departments, like facility management and accounts payable, may not have access to the same data or communicate effectively. Unfortunately, organizational silos of this nature can lead to delayed detection of billing overcharges.
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- 9 Inevitable increase of demands on the energy manager's time** An in-house energy manager tends to be the repository of many duties that nobody else wants to do or that don't fit neatly in other staff positions. In times of budget deficit, classified and support personnel are impacted more than instructional staff, and the same work has to be done by fewer people. Over time, the in-house energy manager gains new responsibilities, competing with their ability to focus on energy conservation.
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- 10 The challenge of regular working hours** Most in-house energy managers lack the financial incentive or job flexibility to work at time other than the standard 8-5, yet it is during the unoccupied times that most energy savings opportunities in a school district will be found. In addition, there is a strong temptation to rely on analyzing utility bills and trends which leads to the majority of the working day being spent in the office behind a computer. These routines will never lead to significant and lasting energy conservation.
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- 11 No more low-hanging fruit** 20 years ago, it was common to see school districts that were letting HVAC systems run 24/7, year-round. The same was true with lighting management. But most school districts today are far more sophisticated than they used to be, and most of that low-hanging fruit has already been harvested. To achieve deeper, more-lasting energy savings requires more sophisticated engineering and technology, resources that only the largest and most-affluent school districts can afford.
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- 12 Lack of data and machine learning to prioritize high-ROI opportunities.** An all-or-nothing approach to energy upgrades will result in some retrofits with a poor ROI that should not have been made, while others may derive savings beyond their projected value. In a recent multi-study, California schools investing in equipment upgrades through state funding subsidies only realized about a quarter of the energy savings they expected, says [Fiona Burlig via Forbes](#). Unfortunately, lack of access to big data and machine learning can lead to Extended payback periods for equipment investments.
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With so many limitations involved in trying to “re-invent the wheel”, school officials should consider outsourcing energy management or at least engaging in a public-private partnership with a proven energy management partner that can apply time-tested processes, advanced software technology, engineering, added capacity and focus to drive meaningful and sustainable energy savings.

## How Cenergistic Focuses on Real-World Benefits and Around-the-Clock Service

Cenergistic is the nation's foremost pioneer and expert in energy conservation with more than 35 years of experience in the field. The company is built on principles that optimize the learning environment and HVAC equipment, achieving billions of dollars in energy savings over the next decade. Consider these benefits of a Cenergistic partnership:

- **Creation of an energy management program that uses data to drive savings.** Data-based decisions encourage school board support and demonstrate the value achieved through proper energy management.
- **Time-tested, well-thought-out strategies to encourage acceptance of new systems and processes among students, educators and administrative staff.** Acceptance is driven by showing people how they can positively influence change in energy use through their behaviors. Cenergistic has implemented more than 1,500 behavior-based programs nationwide.
- **Less risk than an in-house program.** Developing an in-house program represents a high risk. Investments may not result in the substantial ROI estimated, and poor prioritization could add to expenses rather than save money. Savings are never guaranteed. Partnering with a qualified provider puts the uncertainty in their hands.
- **Startup costs.** While an in-house program has startup costs such as purchasing new equipment, hiring an energy manager and paying for training and professional development, a Cenergistic partnership does not.
- **ENERGY STAR® Certification.** The creation of an energy management program does not necessarily lead to ENERGY STAR certification and there will be cost involved in hiring qualified engineers to certify results. Schools will need to enact changes and apply for certification, based on national averages. Conversely, Cenergistic partners have a cost-free path to ENERGY STAR recognition and a much higher



chance of qualifying: more than 50% of all schools receiving ENERGY STAR recognition since 2001 have been Cenergistic clients.

With increased complexity and uncertainty around rising utility rates, choosing to partner with Cenergistic is the obvious choice to save money and sustain savings over time. School Facility Managers are the local experts whose value and reputation will be enhanced by understanding the many benefits derived from this partnership.

## The Benefits of Cenergistic-Partnering Schools

Financial benefits from energy savings are not the only benefit of a Cenergistic partnership. Changes in energy use behaviors affect the organization culture in a positive way, including modeling behaviors for the next generation. Equipment life will be prolonged and comfort complaints and work orders will go down. And energy conservations represents good stewardship to taxpayers and a positive impact on global energy use and conservation efforts. **In addition to a no-cost 30-day startup period and guaranteed savings results, consider these other benefits of a Cenergistic partnership:**

- **Significant, sustainable annual savings.** Average savings for in-house programs is typically low to midsingle digits, but Cenergistic-partnering school districts see an average of 26% percent savings over the initial program term. Some districts have achieved 40% savings or more. Imagine how that could enhance support for your department in your school district and community.
- **Short time to ROI.** Since poor visibility of costs is a common problem with in-house programs, determining the time to ROI is difficult at best. Some schools will never see actual savings and many in-house efforts never take root due to lack of top-down support. Cenergistic-partnering schools see positive cash flow within four months.
- **Better use of labor resources.** Some in-house labor resources will be necessary for an Cenergistic partner program, but they work in tandem with the on-site energy specialist and other engineers and partnership takes work off their plate, not the other way around.
- **Experts to ensure behavioral change to drive efficiency.** The school Facility Manager may spend weeks planning an event or awareness campaign to encourage behavioral change, but real transformation never happens in a macro way. Cenergistic has a combined 800+ years of experience building individual relationships among staff in 25,000+ buildings, influencing lasting behavioral change that saves energy.

Energy conservation represents good stewardship to taxpayers.

## Summary: DIY Energy Management Is a Massive Setback to Planning, Budgeting, and Maintenance in Schools

DIY energy management for school districts sounds like an inexpensive venture. However, the costs of an inhouse program are significant, and there is no guarantee savings will come to fruition. The risks still exist in in-house programs, and limited resources will render the program useless without careful attention to detail and experience. As a result, more schools are turning to third-party providers to gain better results from their programs. Unfortunately, not all providers are equal, but Cenergistic stands out.

With a unique, risk-free approach to bringing practical, efficient processes to schools everywhere, Cenergistic is the leader in driving savings and support for energy management. Paired with an embedded energy specialist in every facility, school officials can finally reap the savings made possible through modern energy and facility management technologies.

## Learn More About Cenergistic

Ultimately, Cenergistic has the resources and expertise necessary to provide a comprehensive picture of your school's health and ensure your department takes the right steps to maintain it, reaping savings along the way.

Contact Cenergistic at 1-855-798-7779 or submit your questions online today.