



# ANYONE CAN EFFECTIVELY MANAGE ENERGY EFFICIENCY PROGRAMS

ENERGY MANAGEMENT  
IN SCHOOLS

**SCHOOLDUDE**

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## Introduction

**Energy is a big deal. The rises and fluctuations in energy costs have the potential to impact a school's operating budget in a dramatic way, but many schools are choosing to simply pay the bills and ignore huge savings opportunities.**

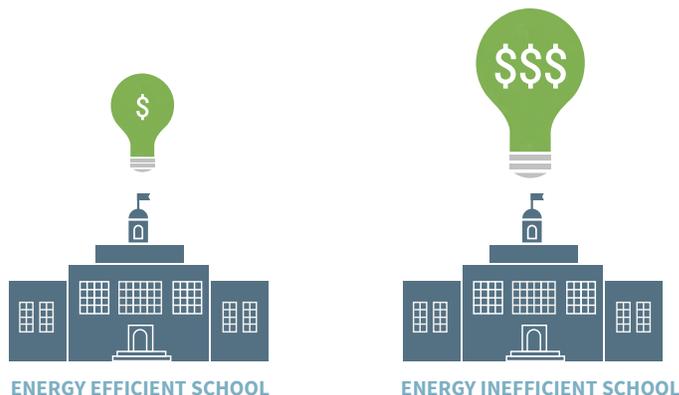
Imagine this scenario: a faculty member and Joe Greenwood, one of the maintenance and operations department managers, are the new energy managers for their school. Joe manages several buildings across the campus and the corresponding custodial and grounds staff. Neither he nor his colleague are energy experts and Joe has his hands full with his other responsibilities. He supports the concept of energy conservation, but is not an expert and lacks information to better manage energy in the school. Plain and simple—he lacks the expertise and resources. Does this sound familiar?

There is good news though! You do not need to be an energy expert to effectively manage an energy program. Everyone in your school can help play a part in your school realizing a significant savings within the first year of implementing an energy management program. The following eBook outlines important steps to helping your school get on track with an energy management program.

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### EFFICIENT VS INEFFICIENT SCHOOLS

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Energy-inefficient schools use up to **three times more energy** than energy-efficient ones

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## SECTION I:

# Is an energy management program a must have?

The short answer is YES! There are two predictions almost certain to come true: rises and fluctuations in energy costs will remain unpredictable, and those costs will consume an ever-increasing portion of school budgets. Changing, unusual weather patterns make it difficult to predict utility costs, and such unpredictability hampers efficiency efforts. At the same time, school buildings are getting older, and their outdated or antiquated systems make it that much harder to minimize energy usage and increase efficiencies.

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## K-12 ANNUAL ENERGY SPEND

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Across North America, K-12 school districts spend over \$6 billion annually on energy, more than the cost of computers and textbooks combined according to the U.S. Department of Energy.




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### Energy-inefficient schools:

- Use up to three times more energy than energy-efficient ones
- Spend \$60-100 per student more for energy each year
- Siphon dollars away from classroom, maintenance, and staffing budgets

Conversely, energy-efficient schools can save 10-15% simply by changing behavior alone. An additional 5-20% in savings can be achieved by more efficiently managing, maintaining and operating schools. The average national cost of energy is \$295 per student annually. A 10% reduction in cost can make a big impact on a schools budget. For example, a 10,000 student school district can result in a savings of over \$295,000 per year.

Energy programs across the country are making a big impact to reduce energy consumptions and costs in schools. Some schools are canceling furlough days as a result of the money they are saving with their energy conservation programs. Other schools are able to invest back into the school to enhance the learning environment and implement more energy efficient systems. Energy management systems can help your department and school track necessary data to implement a sustainable conservation program. To begin your energy efficiency and conservation program:

- Get buy-in from the top — down
- Gather and analyze utility data to develop an energy usage baseline
- Create energy conservation policies and guidelines
- Use energy data to increase awareness of consumption and determine action plans
- Establish benchmarks to guide energy efficiency efforts and receive recognition

## SECTION II:

# Get buy in

One of the first strategies for success is getting commitment to make energy management a priority. While you don't have to be an expert to implement an energy conservation program, it will be tough to do it alone. This commitment needs to be shared throughout the entire school. Work together with other departments, administration and individual schools or campuses to make your conservation program possible and sustainable. The most successful programs begin with administration and board buy-in and flow down through schools to the faculty and the students.

If you don't have top-down support, start from where you are and what you can control, for example controlling lighting and HVAC systems in facilities or working with students. Students can be a great way to get support; they can be very creative and can be your biggest advocates for getting an energy conservation program off the ground.

***“Getting the staff involved was key. Now, we’ll go to the schools around 4:30-5 and the teachers will be sitting at their desks with all the lights off except the ones they need.”***

**Dan Caley**  
Energy Manager  
Rogers Public Schools, AR

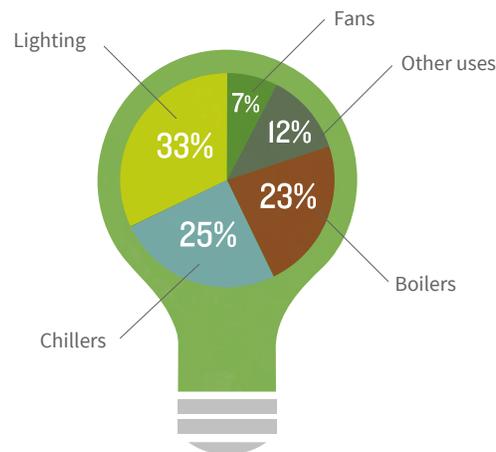
### SECTION III:

## Establish a baseline of energy usage

Energy expenses account for around 16% of a school's controllable costs. However, before you can rein in these costs, you must first determine their source. Learning energy consumption habits and patterns of individual schools or buildings will help develop an overview of energy usage across an individual campus and the school as a whole. Your past energy usage will be the key to establishing your baseline.

A utility tracking system, such as SchoolDude's UtilityDirect, makes it easy to enter billing and other information related to energy usage. To reduce energy costs, you must first determine what utilities, equipment and buildings are generating them before energy saving measures can be put in place. Using your data will give you a better idea of cost trends and cycles, helping you identify opportunities for conservation and savings.

### TYPICAL ENERGY USE IN K-12 SCHOOLS



While these estimates vary according to building size and local climate, knowing what these dollars are directed toward is essential to controlling costs. Entering two to three years of baseline data is ideal for comparison purposes and tracking reductions in consumption and spend. Web-based energy management systems allow your department to enter this data in easily, track it over time, and analyze results and changes. Having this data readily available to develop conservation plans and set obtainable energy goals will deliver several useful benefits, including the ability to:

- *Identify problem areas and priorities*
- *Develop starting points for conservation and incentive programs*
- *Generate information to help building occupants focus on areas of improvement*

## SECTION IV:

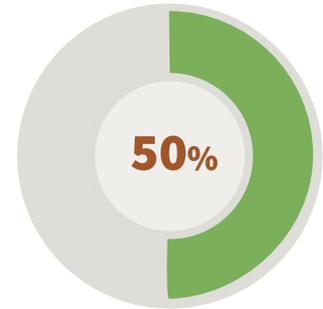
# Create policies and guidelines

Maintaining accurate records of energy consumption and costs of energy on a monthly basis should be the beginning of your energy management policy. In addition you should conduct a regularly scheduled energy audit at each campus and make recommendations from these audits to update the energy program.

You will also want to review all energy conservation guidelines and procedures within your school and review these with your governing board and administration. If you don't have any established, there are free resources available to help you craft one for your school.

These policies will help as you begin to implement behavior-based conservation programs. Policies should include things such as building usage, occupied versus unoccupied space and temperature set points. Therefore, staff and faculty will know what the guidelines and policies are for room temperatures and other factors within their control. Consider creating an incentive plan to reward individuals and schools for reaching target conservation levels and to recognize those whose efforts and leadership set an example for the school.

In addition to behavioral programs, you will also want to work with your facilities team to evaluate your buildings, equipment and preventive maintenance programs. To reduce energy consumption and see greater cost-savings, focus efforts on the following areas: Heating/cooling (HVAC), lighting, electrical outlets, and the overall building envelope.



**SAVE MORE ENERGY WITH  
PREVENTIVE MAINTENANCE**

***“My favorite tactic is getting the students involved. They are the most excited and can motivate teachers and the outside community.”***

**Sue Pierce**  
Director of Facility Planning and Energy  
Washington Elementary District, AZ

## SECTION V:

# Use data to determine areas of focus in conservation efforts

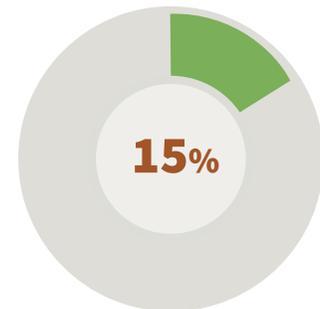
Armed with information, you and your team can discover areas to target for improvement. After entering your historical data into an online energy management system such as UtilityDirect, you can generate reports and statistics to discover how your individual schools compare to one another and how your district or campus as a whole compares to others nationwide.

These reports and the statistics they offer can be used to direct administrative decision-making, including where the focus should be for the most significant gains as well as how to prioritize spending to achieve these gains. The data generated can also identify areas or buildings with serious energy usage excesses and be used to develop proactive plans to resolve consumption and conservation issues in particular areas or buildings, such as automatically shutting off lights at a certain time to decrease electricity use.

Your team can use this new level of transparency and exposure to paint a better, more detailed picture of energy usage. Making this picture available to students, employees and possibly the public will inspire changes in people's behavior which can quickly lead to significant energy savings. However, such changes will only happen if people are aware of the energy consumption they have the power to control.

Ultimately, the people at your schools will be the ones who determine how successful your energy efficiency efforts will be. Better communication about energy costs, usage and trends among departments, administration, staff and the greater community will be an essential element of that success. Having hard data available increases awareness of energy usage and demonstrates the effectiveness of conservation efforts. This will create accountability among faculty, staff and others. Additionally, sharing results and successes of energy usage reductions will provide the incentive for them to continue their efforts and encourage others to take part. Tracking and sharing this data is possible with a web-based energy management system like SchoolDude, providing numerous benefits:

- *School Administration will see the positive effects on the bottom line, as costs are reduced.*
- *Facilities Operations & Management will view efficiency and conservation efforts as a cornerstone of a successful facilities management program.*
- *Faculty and Students will gain greater awareness of the need for conservation and efficient energy use, with examples that can be applied throughout the curriculum and taken home.*
- *Community members will see that the school is environmentally conscious and good stewards for the public.*



**REDUCE ENERGY BUDGET  
WITH BEHAVIOR CHANGES**

## SECTION VI:

# Benchmark to help propel you to the next level

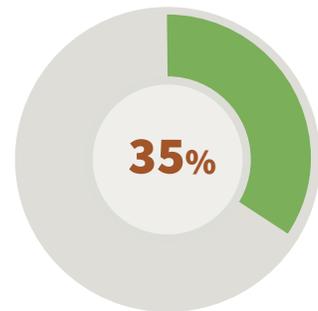
Benchmarking gives you information about how your schools use energy, where they use it, and what drives their energy use. It is a key step in identifying opportunities to increase energy efficiency campus or district-wide.

Benchmarking demonstrates the value of your efficiency and conservation program and points out prospects for additional savings. It enables you to understand the opportunities lost by maintaining the status quo, as well as the benefits of above-average performance.

This also helps provide staff and faculty further justification for their efforts and inspires them to continue looking for ways to conserve and use energy more efficiently. Your department can also help motivate staff and students to participate in school-based efforts, resulting in even greater progress. The EPA also offers recognition of superior energy efficiency through its ENERGY STAR® Awards program.

When considering the purchase of an energy management system, one which integrates directly with ENERGY STAR's Portfolio Manager, a free interactive energy management tool that allows you to track and assess energy and water consumption across your entire portfolio of buildings, will multiply the benefits provided by both products. SchoolDude is a top-ranked ENERGY STAR partner for education.

The ENERGY STAR program, operated jointly by the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA), offers an energy management strategy that helps in measuring current energy performance, setting goals, tracking savings and rewarding improvements. The EPA also recognizes top performing buildings with the ENERGY STAR logo, which is a brand recognized by more than 80% of Americans. Top performing ENERGY STAR-labeled schools cost fifty cents per square foot less to operate than average, use 35% less energy, and generate 35% fewer greenhouse gases.



**STAR-LABELED SCHOOLS  
USE LESS ENERGY**

**CONCLUSION:**

## Essential elements of success

Today's budgetary and environmental concerns have highlighted the need for greater energy efficiency in educational institutions. As a necessary cost-saving measure as well as to promote good environmental stewardship, schools need tools to manage energy consumption and conservation efforts. Implementing a web-based energy management system provides greater understanding and awareness of energy usage. The information generated allows you to track energy usage, establish usage baselines, create policies and action plans from energy data, generate benchmarks to improve efficiency and demonstrate the success of your schools' conservation efforts.

Ultimately, you and the people at your schools will be the ones who determine how successful your energy efficiency efforts will be. Better communication about energy costs, usage and trends among departments, administration, staff and even the community will be an essential element of that success. Having this readily available visual evidence with just a few mouse clicks will motivate staff members to support and take part in energy conservation efforts in your schools, as well as the community at large.



***Read more about SchoolDude solutions for energy management and how it can benefit your educational institution at [www.schooldude.com/suites/energy-management](http://www.schooldude.com/suites/energy-management)***