



# Top 5 Recommended Lighting Measures for Schools

**Optimizing your energy efficiency reduces your carbon footprint and helps to protect the environment.**

Research shows that the annual energy bill to run America's primary and secondary schools is a staggering \$6 billion — more than is spent on textbooks and computers combined. In California schools, electric lighting accounts for approximately 50% of the total consumption of electrical energy. Schools that take advantage of recent advances in energy-efficient lighting technology can significantly reduce their energy usage and costs, and improve the visual comfort of their educational facilities. Top performing energy-efficient schools use three times less energy than least efficient schools.

Pacific Gas and Electric Company (PG&E) offers design assistance, financial incentives, and education and training to help schools design or improve buildings to achieve optimal energy performance.

The top five key measures to consider implementing in your school lighting systems are:

- Integrated Classroom Lighting Systems
- Super T8s Fluorescent Lighting (800 series)
- Occupancy Sensors
- LED Exit Signs
- High Bay Linear Fluorescent Lamps

When schools combine these technologies to maximize energy efficiency, they can achieve significant savings — leaving more funds in the budget for their educational mission.

## **INTEGRATED CLASSROOM LIGHTING SYSTEMS GIVE TEACHERS CONTROL OF CLASSROOM LIGHTING**

In the past, the only way to improve the energy efficiency of classroom lighting was to build a system from components — lamps, ballasts, sensors, and controls. Integrated Classroom Lighting Systems (ICLS) provide schools with an easier, more affordable alternative to working with multiple vendors, products, and warranty programs. Schools may specify packaged systems consisting of high-efficiency lamps and ballasts, occupancy and daylight sensors, and a control center the teacher operates from the front of the room.

The ICLS installed at a test site demonstrated energy savings of more than 50%, and teachers reported that the ICLS helped them make the classroom more comfortable and productive.

## **800 SERIES SUPER T8 FLUORESCENT LAMPS USE LESS ENERGY AND IMPROVE LIGHTING QUALITY**

Super T8s are up to 20% more efficient than first-generation T8 systems. If you are using pre-series 800 T8 lighting, consider converting to the latest T8 systems, which offer longer lamp life, better color quality, improved lumen maintenance, improved control and dimming options, and better fixture optics.





**When you reduce your energy consumption, you can earn rebates and incentives from PG&E.**

### **OCCUPANCY SENSORS TURN OFF THE LIGHTS WHEN THEY AREN'T NEEDED**

Occupancy sensors control lighting based on motion detected in a given area. Occupancy sensors are ideal for spaces of any size that have intermittent people traffic. They can be used in large auditoriums and gymnasiums and in stairwells and small office spaces. Dual-technology sensors use both infrared and ultrasonic detection to improve occupancy sensing. Other sensor devices combine occupancy and daylight sensing to maintain the right level of light. Typical savings for occupancy sensors range between 25%-50%, depending on the type of space being controlled.

### **LED EXIT SIGNS CONSERVE ENERGY 24 HOURS PER DAY**

Illuminated exit signs are a legally required safety feature. By design, exit signs operate 24 hours per day. Over time they consume large amounts of energy. Light Emitting Diode (LED) exit signs can save up to 85% when compared to the older incandescent technology still used in many schools today. They may last up to 10 years or more, resulting in lower maintenance costs.



### **HIGH-BAY LINEAR FLUORESCENTS MAY CUT ENERGY COSTS IN HALF**

Standard metal halide fixtures have long been the predominant technology in high-bay lighting applications. The latest fluorescent fixtures are suitable for high-bay applications often found in schools and other buildings with ceilings 12 feet and higher. Linear high-bay fluorescent fixtures can provide up to 50% energy cost savings over standard metal halide systems.

### **HOW CAN PG&E HELP?**

PG&E can help you reduce your energy consumption and decrease your operating expenses by building energy efficiency and demand response capabilities into the long-range planning for your new and existing facilities.

Contact your local PG&E Representative, call PG&E's **Business Customer Service Center** at **1-800-468-4743**, or visit [www.pge.com/schools](http://www.pge.com/schools) for more information. Your representative will work with you to create a comprehensive energy efficiency plan for your facility.