Lower Your Natural Gas Bill Now: Quick Tips for Schools

Space Heating
Space heating makes up more than 50% of natural gas usage in most school buildings.

- Schedule an inspection and cleaning for all heating equipment before the start of each school year to ensure that the system is operating as efficiently as possible.
- Conduct periodic maintenance, such as changing filters and checking pipes and duct insulation for damage.
- Many school districts have established policies and procedures for maintaining temperature settings throughout the school year. The School District Energy Manual (ASBO International) recommends 68° for a heating temperature. Individual school districts may choose a more moderate temperature, based upon the condition of the building, climate zone, etc.
- Programmable thermostats are a reasonably low cost upgrade that can save energy by operating the heating system according to occupancy schedules and nighttime and weekend setbacks.
- Make sure that all doors and windows are closed tightly while the heating system is operating. Also, regularly inspect and repair all caulking and weather stripping around doors and windows.
- Moving air-flow-blocking books, papers, and other supplies from unit ventilators in classrooms and offices can increase heating efficiency.
- Boilers are normally the largest single energy user in most school buildings. Scheduled inspection and maintenance should be performed at least annually. Regular maintenance is essential for safe and efficient operation. Proper maintenance can lead to energy savings of 10% to 20%, according to U.S. Department of Energy estimates. Upgrades such as new efficient burners, temperature and pressure controls, and boiler economizers can increase efficiency and improve fuel combustion.

Water Heating
Water heating makes up nearly fifteen percent of energy usage in a typical school building. Major opportunities for energy savings include dishwashing and showers.

- Schedule regular inspection and maintenance to ensure the efficient operation of water heating equipment. The hot water system should be checked regularly for leaks, and the burners should be tested annually.
- Make sure that hot water pipes and storage tanks are well insulated.
- Consider installing a booster heater at points of heavy usage, such as the dishwashing area.
- Install low-flow showerheads and aerated faucets to reduce the amount of hot water used during showers and washing. Aerated faucets mix air and water using a screen to limit the amount of water flow and improve water pressure.
- Turn down water heaters over the weekend and when school is out of session. You might also want to consider adding a timer that shuts off the water in the school building when it is unoccupied.

Cooking
While cooking takes a smaller percentage of gas load than space and water heating, it is still an important function for most school districts. A few simple operational changes and cost effective retrofits can save a significant amount of energy.

- Ovens should reach their desired temperature within fifteen minutes. To save energy, pre-heat ovens for no longer than fifteen minutes.
- Use hood fans only when cooking. Hood fans draw air that has been heated and exhaust it outside.

- Integrate controls that turn down the heat input with sensors that determine when food is not present. A large percentage of food equipment continues to run (idle) at high heat input rates even when food is not present.
- For gas fryers and gas griddles, use infrared (IR) burners that operate with less than ten percent excess air, reducing combustion energy loss up the flue.