



Energy Conservation Facts and Tips

Schools can use these facts in announcements, assemblies, e-mails, websites, school newsletters and other publications to educate students and staff about the benefits of conserving energy at school. At the end of this document, see the facts about conserving energy at home.

General

- The United States has 4.5 percent of the world's population yet consumes over 25 percent of the world's produced oil.—U.S. Energy Information Administration and U.S. Census Bureau
(<http://www.nrdc.org/air/energy/fensec.asp#note2>)
(<http://www.census.gov/main/www/popclock.html>)
- The nation's K-12 districts spend more than \$6 billion annually on energy – more than is spent on computers and textbooks combined. As much as 30 percent of a district's total energy is used inefficiently or unnecessarily.—U.S. Environmental Protection Agency ENERGY STAR Program
(<http://www.energystar.gov/ia/partners/publications/pubdocs/Schools.pdf>)

Lighting and Electricity

- Turning lights out two hours earlier each day at your school can save as much as \$500 per month (based on 1000 light fixtures). National Energy Foundation and the Albuquerque Public Schools Energy Conservation Rebate Program
(<http://www.apsenergyconservation.org/PDF/EnergyFactsforTeachers.pdf>)
- Turning off the lights in one classroom for one hour keeps over two pounds of pollutants out of the environment. —National Energy Foundation and the Albuquerque Public Schools Energy Conservation Rebate Program
(<http://www.apsenergyconservation.org/PDF/EnergyFactsforTeachers.pdf>)
- One compact fluorescent light (CFL) bulb will last 6,000 to 10,000 hours. One CFL lasts as long as 10 incandescent bulbs and uses about 66 percent less energy. CFLs cost more to buy, but the combined total of the CFL purchase and the electricity cost will be less than the cost of an incandescent light bulb and the electricity to power the incandescent light bulb. —Tufts University, Office of Sustainability
(<http://sustainability.tufts.edu/wp-content/uploads/2012-Green-Guide.pdf>)

- Each compact fluorescent light bulb can save you \$30 or more in electricity costs over the life of each bulb. –Village of Glendale Heights, Illinois (http://www.glendaleheights.org/Goes_Green/energy.html)
- Do a routine check to make sure chargers, adapters, and small appliances are all unplugged before leaving the house. Phantom energy is the electricity that electronics pull from the outlet while plugged in. Even when an electronic device is off, it can use as much as 10 percent of your home's energy. –Harvard University, Office for Sustainability (<http://green.harvard.edu/tools-resources/green-tip/top-10-home-energy-saving-tips>)
- If you replace an incandescent bulb with a compact fluorescent (CFL), you will save 47 watts each use and the bulb will last 10 times as long. If you replace an incandescent light bulb with a light-emitting diode bulb (LED), you save about the same amount of watts and it lasts 25 times longer than an incandescent bulb. -The NEED Project (<http://www.need.org/ppts>)
- Natural lighting is associated with higher test scores, better work habits and decreased fatigue, headaches and eye strain. Students in classrooms with large windows and skylights outperformed students in schools with less day-lighting by up to 14 percent on end-of-grade tests. –Healthy Schools Network, Inc. (http://www.healthyschools.org/documents/School_Design_Guide.pdf)

Computer Energy Savings

- Laptops use 80 percent less energy than desktops. If you must use a desktop, LED monitors use less energy and last longer than LCD monitors. -Tufts University, Office of Sustainability (<http://sustainability.tufts.edu/wp-content/uploads/2012-Green-Guide.pdf>)
- Learn to manage your computer's power settings. By having your computer set to standby after 30 minutes of inactivity, you will save as much as \$75 per year in energy costs for each computer. –Village of Glendale Heights, Illinois (http://www.glendaleheights.org/Goes_Green/energy.html)
- It costs more than \$200 per year to power a computer continuously. Turning the computer off, even for a few minutes, saves more energy that is used to start it up. –Village of Glendale Heights, Illinois (http://www.glendaleheights.org/Goes_Green/energy.html)
- The average computer consumes about 10 watts in sleep mode, compared to zero when shut down completely and 150-200 watts when up and running. Laptops consume on average 45 watts while up and running. -Class 5 Energy (<http://class5energy.com/blog/shut-down-vs-sleep-mode-on-computers-which-saves-more-energy-and-money/>)

- A conventional computer monitor uses the same amount of electricity as a 75-watt light bulb. Turning it off, even if you're going to be away from it for only 10 minutes, can save a tremendous amount of energy in the long run. Despite their name, screen-savers do not save any energy at all. –Tufts University, Office of Sustainability (<http://sustainability.tufts.edu/?pid=17&c=25>)
- Using power management on your computer will save up to \$50 annually on your electricity bills. –ENERGY STAR (https://www.energystar.gov/index.cfm?c=power_mgt.pr_power_mgt_users1)
- Computer monitors waste over \$900 million in electricity per year because 60 percent of all computers and monitors are left on at night. Forty percent of all monitors are not enabled for power management and the electricity wasted is equivalent to 9 million tons of carbon dioxide emissions annually, which is equal to the emissions of 1.5 million automobiles. –National Energy Foundation and the Albuquerque Public Schools Energy Conservation Rebate Program (<http://www.apsenergyconservation.org/PDF/EnergyFactsforTeachers.pdf>)
- One computer left on 24 hours a day uses between \$65 and \$115 annually and dumps 850 - 1,500 pounds of carbon dioxide into the air. –University of Massachusetts Amherst (<http://www.housing.umass.edu/reshall/energy.html>)

National Electricity Use

- Electricity production is the leading cause of industrial air pollution in the United States, and is responsible for 40 percent of the nation's carbon emissions that contribute to global climate change. –Worldwatch Institute (<http://www.worldwatch.org/system/files/Electricity.pdf>)
- Many idle electronics — TVs, VCRs, DVD and CD players, cordless phones, microwaves — use energy even when switched off to keep display clocks lit and memory chips and remote controls working. Nationally, these energy “vampires” use 5 percent of our domestic energy and cost consumers more than \$8 billion annually. –Alliance to Save Energy (<http://www.oberlin.edu/recycle/facts.html>)
- About 90 percent of all the energy we use in the United States comes from nonrenewable resources such as coal, oil and nuclear fission. –National Energy Foundation and the Albuquerque Public Schools Energy Conservation Rebate Program (<http://www.apsenergyconservation.org/PDF/EnergyFactsforTeachers.pdf>)

Energy and Consumption

- 1.5 million barrels of oil are used to produce bottles of water each year, and 12 million barrels are used to produce plastic bags. Taking reusable canvas bags to the store with you and using a reusable water bottle can cut down on this needless use of resources. –Harvard University, Office for Sustainability (<http://green.harvard.edu/tools-resources/green-tip/reasons-avoid-bottled-water>)

- Biking keeps you in shape and produces no pollution or greenhouse gases at all! A third of all greenhouse gases come from transportation.
–Tufts University, Office of Sustainability (<http://sustainability.tufts.edu/?pid=17&c=25>)
- At most, 35 percent of coal's energy in a power plant converts to electricity. The remaining two thirds is lost as waste heat, benefiting no one and often harming surrounding ecosystems. –Worldwatch Institute
(<http://www.worldwatch.org/system/files/Electricity.pdf>)
- The U.S. Environmental Protection Agency estimates that an active energy conservation program can save as much as 30 percent of energy consumption. –National Energy Foundation and the Albuquerque Public Schools Energy Conservation Rebate Program
(<http://www.apsenergyconservation.org/PDF/EnergyFactsforTeachers.pdf>)
- If all the coal used to produce the energy used by the United States was on one train, it would be long enough to stretch around the world 3 times. –National Energy Foundation and the Albuquerque Public Schools Energy Conservation Rebate Program
(<http://www.apsenergyconservation.org/PDF/EnergyFactsforTeachers.pdf>)
- It takes 16 times more energy to make a new aluminum can than the energy involved in recycling one can. –National Energy Foundation and the Albuquerque Public Schools Energy Conservation Rebate Program
(<http://www.apsenergyconservation.org/PDF/EnergyFactsforTeachers.pdf>)

Heating/Cooling

- Shade from trees reduces air conditioning needs and makes non-air conditioned homes more comfortable. Trees can reduce energy use for heating by blocking cold winter winds. –Utah State University
(http://extension.usu.edu/forestry/HomeTown/Energy_TreesandEnergy.htm)
- Large deciduous trees planted on the east, west, and northwest sides of your home create soothing shade from the hot summer sun and reduce summer air conditioning costs by up to 35% -Arbor Day Foundation
(<https://www.arborday.org/globalwarming/summerShade.cfm>)
- Strategically placed shade trees-a minimum of three large trees can reduce air conditioning costs up to 30 percent. –Maryland Department of Natural Resources Forest Service (<http://energy.gov/energysaver/articles/landscape-windbreaks-and-efficiency>)
- Use evergreens, which retain their leaves/needles yearlong, in a planned pattern. They will serve as windbreaks to save from 10 to 50 percent in energy used for heating.
–Maryland Department of Natural Resources Forest Service
(<http://energy.gov/energysaver/articles/landscape-windbreaks-and-efficiency>)

Energy Conservation at Home

General

- World electricity demand is expected to double between 2000 and 2030. The greatest increase will occur in the developing world, and the most rapid growth will occur in people's homes. –Worldwatch Institute (<http://www.worldwatch.org/system/files/Electricity.pdf>)

Household Kitchen Appliances

- Put a Lid on It. Using cooking pots with lids reduces time and energy used by 20 percent. –Alliant Energy (<http://www.powerhousetv.com/Energy-EfficientLiving/Energy-savingsTips/027471>)
- Make sure your refrigerator is set on the correct temperature. Refrigerators should be set between 38 and 42 degrees Fahrenheit, and freezers between 0 and 5. If your settings are 10 degrees too cold, which is often the case, your electricity costs will be up to 25 percent higher. Defrost refrigerators regularly. The more ice builds up in your refrigerator and freezer, the less efficient they are and the more electricity they use. –Tufts University, Office of Sustainability (<http://sustainability.tufts.edu/?pid=17&c=25>)
- A refrigerator built 20 years ago uses 70 percent more energy than today's energy efficient models. –Environmental Protection Agency Energy Star (http://www.energystar.gov/ia/products/downloads/ES_Anniv_Book_030712_508compliant_v2.pdf)
- Today's dishwashers are about 95 percent more energy-efficient than those bought in 1972 — your old dishwasher may be costing you more money in energy bills than it would take to buy a new one. –Environmental Protection Agency Energy Star (http://www.energystar.gov/ia/products/downloads/ES_Anniv_Book_030712_508compliant_v2.pdf)
- Use the right sized pot on stove burners. A 6-inch' pot on an 8-inch burner wastes over 40 percent of the burner's heat. Also, cover pots and pans to keep heat in. Using the right sized pot on stove burners can save about \$36 annually for an electric range, or \$18 for gas. Covering pots and pans also helps you cook more efficiently and keeps your kitchen cooler. –ENERGY STAR (http://www.energystar.gov/index.cfm?c=products.pr_save_energy_at_home)
- Repair any faucet leaks. Hot water leaking at a rate of one drip per second can waste up to \$1,661 gallons of water over the course of a year, and waste up to \$35 in natural gas. Fixing drips is a cost effective and easy way to save energy. –ENERGY STAR (http://www.energystar.gov/index.cfm?c=products.pr_save_energy_at_home)

Doing Laundry

- It takes a huge amount of energy to run a dryer— all to do something that the air, given a little more time, will do for free. Many households spend more than \$100 a year on the energy used by their dryer. Air drying can save up to 2,400 pounds of CO₂. -Co-Op America: Economics for a just planet (<http://www.greenamerica.org/pdf/CAQ75.pdf>)
- With modern washing machines and detergents, washing your clothes in cold water gets them just as clean as washing in hot water, but it uses half the energy. In situations where you do need hot water—for example, to kill dust mites in bedding— choose cold water for the rinse cycle. -Co-Op America: Economics for a just planet (<http://www.greenamerica.org/pdf/CAQ75.pdf>)
- Save energy when doing the laundry. Wash your clothes using the "cold/cold" setting. Also, only do laundry when you have a full load. If possible, use a front-loader washing machine. It washes your clothes cleaner, uses only about a third as much water as a top loader and less than half as much energy. Watch out, you only need about a third as much detergent! Hang your clothes on a clothesline. –Tufts University, Office of Sustainability (<http://sustainability.tufts.edu/?pid=17&c=25>)
- Hot water heating accounts for about 90 percent of the energy your machine uses to wash clothes. -Energy Star (https://www.energystar.gov/index.cfm?c=products.es_at_home_tips)

Heating and Cooling

- Put on a sweater. Instead of turning up the heat in your home, school or office, wear more clothes. Every degree you set your thermostat up in hot weather or down in cold weather will help you save on your overall energy bill. -Energy Star (https://www.energystar.gov/index.cfm?c=products.es_at_home_tips)
- Insulate your water heater. Keeping your water heater insulated will reduce your heat losses by 25 to 40% and reduce costs by 10%. If half of US households simply turned down their hot water heater by ten degrees, it would prevent 239 million tons of CO₂ emissions.--Co-Op America: Economics for a just planet (<http://www.greenamerica.org/pdf/CAQ75.pdf>)
- Insulating your walls and ceilings can save 20 to 30 percent of home heating bills and reduce CO₂ emissions by 140 to 2100 pounds per year. -Pace University Baseline Institute (http://www.powerscorecard.org/reduce_energy.cfm)
- Lowering your thermostat is a quick and easy way to save energy and money. Contrary to popular belief, it takes more energy to keep a home warm than it does to warm it back up. If you lower your thermostat 10 degrees while out for the day you will save roughly 10% on your energy bill. –Harvard University, Office for Sustainability (<http://green.harvard.edu/tools-resources/poster/low-hanging-fruit>)

- Almost half of the average home's energy consumption is used for heating. –U.S. Energy Information Administration (<http://www.eia.doe.gov/kids/energyfacts/uses/residence.html>)
- About one-third of a typical home's heat loss occurs through the doors and windows. Energy-efficient doors are insulated and seal tightly to prevent air from leaking through or around them. –The Need Project (<http://www.need.org/files/curriculum/infobook/EfficiencyI.pdf>)
- Typically, 44 percent of an average family's energy bills are spent to keep homes at a comfortable temperature. –The Need Project (<http://www.need.org/files/curriculum/infobook/EfficiencyI.pdf>)
- You can save 10 percent or more on your energy bill by stopping the air leaks in your home. –The Need Project (<http://www.need.org/files/curriculum/infobook/EfficiencyI.pdf>)
- For every 1 degree change on the thermostat, you can save 514 kWh each year. -Seattle City Light (http://www.seattle.gov/light/consERVE/reports/paper_11.pdf)

Water Use and Energy

- Take shorter showers. The average household spends \$400-\$600 a year on water heating -- accounting for 14-18 percent of homeowners' utility bills. -U.S. Department of Energy (<http://energy.gov/articles/new-infographic-and-projects-keep-your-energy-bills-out-hot-water>)
- Delivering, treating, and heating the hot water for your shower is energy intensive. The longer you run the hot water, the higher your energy use and utility bills rise. According to the EPA, letting your faucet run for five minutes uses about as much energy as letting a 60-watt light bulb run for 22 hours. –Harvard University, Office for Sustainability (<http://green.harvard.edu/tools-resources/green-tip/5-ways-measure-5-minute-shower>)
- Make efficient use of hot water. Take shorter showers! Install efficient shower and faucet heads. The cost will quickly pay off in lower water and heating bills. Set your water heater on "low," or approximately 120 degrees Fahrenheit, which is perfectly adequate for most home use. –Tufts University, Office of Sustainability (<http://sustainability.tufts.edu/?pid=17&c=25>)
- A 10-minute shower can use less water than a full bath. –ENERGY STAR (http://www.energystar.gov/index.cfm?c=products.es_at_home_tips/)

Other Facts

- Today, more than 40 percent of all homes in the United States contain at least one video game console. The NRDC and Ecos Consulting found that game consoles consume an estimated 16 billion kilowatt-hours per year—roughly equal to the annual electricity use of the city of San Diego. Because this estimate is based on the assumption that half of all computer users leave their computer devices on all the time, gamers can significantly reduce the energy consumed by their consoles through simple steps such as turning off the console when not actively playing a game and enabling power management features. –Natural Resources Defense Council (<http://www.nrdc.org/energy/consoles/files/fconsoles.pdf>)
- If every home in the U.S. replaced just one light bulb with an Energy Star qualified bulb, we would save enough energy to light more than three million homes for a year, more than \$600 million in annual energy costs, and prevent greenhouse gas emissions of more than 800,000 cars. –Village of Glendale Heights, Illinois (http://www.glendaleheights.org/Goes_Green/energy.html)
- The entire life cycle of bottled water uses fossil fuels, contributes to global warming, and causes pollution. More than 17 million barrels of oil are required to produce enough plastic water bottles to meet America’s annual demand for bottled water. According to the Container Recycling Institute, 86 percent of plastic water bottles used in the United States become garbage or litter. – Harvard University, Office for Sustainability (<http://green.harvard.edu/tools-resources/green-tip/reasons-avoid-bottled-water>)
- Waiting until you have a full load and doing your laundry on cold wash not only extends the lifespan and vibrancy of your clothing, it also saves 90 percent of the energy that would have been used to heat the water. (<http://green.harvard.edu/tools-resources/green-tip/reasons-avoid-bottled-water>)
- Swap CFL’s for LEDs. hey are 90% more efficient, contain no harmful gases, and can last up to 20 years! –Harvard University, Office for Sustainability (<http://green.harvard.edu/tools-resources/green-tip/top-10-home-energy-saving-tips>)

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