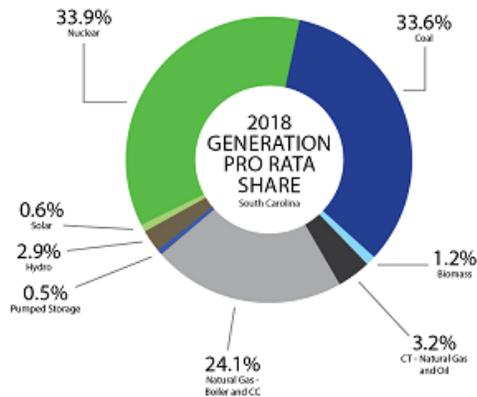


Green Steps Energy Audit

Energy is commonly defined as the capacity to do work. Electrical energy is generated from a variety of sources such as coal, natural gas, water, and the sun. In South Carolina, our electrical energy is derived from these sources and more as shown in the chart below.



Air emissions and waste (coal ash) from generating electricity have been documented as causing health issues such as asthma and cancer in some individuals through the air we breathe and the water we use each day. Reducing energy use or being more energy efficient can decrease the amount of energy that needs to be generated and reduce the need for additional generation facilities. By reducing your energy use, you can help reduce the use!

By completing this energy audit exercise, you can look at how energy is used in your school. After completing the audit, think of ways energy can be reduced through behavior changes, appliance reduction, or building upgrades. You are encouraged to implement a project as a result of the audit exercise.

Examples of each include:

Behavior Change:

- Turning off lights when leaving the room.
- Reducing the number of lights in a room.

Appliance Reduction

- Removing mini refrigerators in classrooms.
- Removing lamps from classrooms.

Building Upgrade

- Lighting upgrade from fluorescent to LED.
- Window tinting or replacement.

Spreadsheet instructions:

The spreadsheet contains an example of three activities that can be used to determine energy use at school. Each column contains information that is used to calculate the energy cost or energy savings. Each sheet can be printed and given to students to work through each topic. The questions to the right of each topic are examples of what teachers can ask the students. See below for specific instructions for each topic?

Plug Load

- A, B, C – Volts, Amps, Watts – This information can be found on the appliance or equipment label. Some labels will include watts, and some will only include volts and amp which can be used to calculate watts.
- G – Electricity Rate – This is an estimate. If you know how much you actually pay per kilowatt hour (kWh) please use this information. For loads that are not on all day, a kill-a-watt meter can be used for this exercise. Schools can borrow one from the Energy Office. They can also be purchased online or from a hardware store.

Lighting

- A - Number of light fixtures.
- B - Fixture wattage. This is an estimate. If you know the actual wattage, please use that information.
- D - Estimated new wattage. If you know the actual wattage, please use that information.
- G - This is an estimate of hours per year. This can be adjusted as necessary.
- I - This is an estimate. If you know how much you pay per kilowatt hour (kWh) please use this information.

Windows

- This exercise is best utilized when there is an extreme difference in outdoor and indoor temperature. For example, in the winter, late spring, or summer.
- A – If the actual indoor temperature is known, please use this information.
- B – Window temperature – Use a temperature gun. Schools can borrow one from the Energy Office. They can also be purchased online or from a hardware store.
- E – Use measuring tape, a yard stick, or ruler for this measurement.
- J – This is an estimate. If you know how much you pay per kilowatt hour (kWh) please use this information.