

Students Resource School energy audit



Introduction

There are many environmental and financial benefits for schools to reduce their energy consumption and therefore their energy bills! As we become more technologically connected within our schools, the amount of energy used is increasingly becoming an area for concern. Computer rooms, air conditioning, digital white boards and televisions all consume large amounts of energy and are often kept in an idol status when not in use, still consuming energy.

The School Energy Audit will cost the school little or no money and, if acted upon, will likely save your school money on its energy bill for this year and many years to come.

Things to find out

1. have there been previous energy audits done in the school and can students access them?
2. does the school already have an energy reduction program?
3. how can students access the school's energy bills or history? is the school connected to a smart meter for which the energy companies can printout energy consumption on a daily basis?
4. are there policies in the school that affect energy consumption, e.g., lights left on at night for security purposes.

Designing the audit

There are two types of audits in this template. One that will help you discover how much energy your school is using overall and once that is completed, a sample spot audit which will help you identify what types of energy and how much energy is being used in each room.

What do we want to find out from an energy audit?

1. what's the current energy usage of the school is and what are the financial costs for a day/week/month/year? students can work out averages from the bills
2. what sort of energy does the school use?
3. what sort of appliances does the school use?
4. how often and for how long are the appliances used?
5. what measures and practices are already in place to reduce energy consumption?
6. what recommendations can the students make to the school for improving their energy consumption?

Why do we want to do an energy audit?

By doing an energy audit your school will be able to:

- look and record how much energy you are using
- gain an understanding of energy usage in the school and make some evaluations or judgments about why the school is using that amount of energy
- have students make recommendations to the school about how to save energy and money
- have a strong understanding of the carbon footprint they have and how to reduce that footprint

Time to start your audit

The best way to start your audit is by finding out the total amount of energy used at the school over one year.

If your school receives 3 monthly bills you can either use the four bills for the year or multiply one bill by four.

Table 1: School's Overall Energy Usage

School name:

Students doing audit:

Date started audit: / /

Date finished audit: / /

Billing date	Electricity consumption	Electricity cost
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Q – Which season do you think would use the most energy and which season would use the least?

Why?

The next stage of the audit is to do a sample spot audit which identifies what types of energy are being used around the school, in areas like:

- classrooms
- school hall
- kitchen
- computer rooms
- playground
- gymnasium

To do a sample spot audit allocate a room to each student. This can be done during a class and later during a break, in lunch or recess (Table 2). Identify an electrical item and monitor when it is running (during class time and during break time) and then comment on if and how energy is being wasted. This can be carried out across the entire school.

By doing a spot audit your school will narrow down where the most energy usage and potentially wastage is coming from.

Look out for these big energy hitters!

In many schools, there are some big energy wasters to watch out for. In most schools these can include:

1. Timing when heaters and cooling systems are turned on and off
2. When heating and cooling have thermostats, for each degree the thermostat is adjusted, there can be a 10% increase or decrease in energy use
3. Many schools have small hot water systems dotted around the school consuming lots of energy and getting little use.
4. School computer systems can be optimised to reduce their energy use while not in use.
5. Some items of equipment are left on standby and rarely used. These can be turned off at the wall
6. Lights are often left on where they serve no purpose.

Table 2: Spot room audit

School name:

Students doing audit:

Date started audit: / /

Date finished audit: / /

Appliance	Electricity/Gas	On during class (Y/N)	On during the break (Y/N)	Any wasted energy? How?
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Happy auditing!

If you have any questions or to share your results with Council, contact Council's Environmental Education Officer by email, michael.rhydderch@campbelltown.nsw.gov.au or phone 4645 4346