Green-Schools
An Taisce



Energy Audit Booklet

Student Copy



GREEN-SCHOOLS
ENERGY

Overview

What is an Energy Audit?
Basically, it's a great way to find out how your school can use less energy, but before we get into all that, talk with your group or to a partner, and see if you can come up with two reasons why saving energy is a good idea. You can write them in the space below.

Reason 1:

Reason 2:

Hold on a second, what is energy in the first place?
Good question, so glad you asked! Energy is all around us, and comes in lots of different types. The two types of energy that you're most used to are light energy (otherwise known as radiant energy), and heat energy (or thermal energy).

There's another kind of energy called electrical energy though, which we use to run our appliances and electronic devices. In a nutshell, anything that needs electricity to function.

Take a look around you now, and see if you can spot four things that run using electrical energy. You can list them in the space below.

1) _____

2) _____

3) _____

4) _____

But don't we need to use energy to keep the school running?
Yes! Another excellent question. The school needs a lot of energy every day for a lot of different reasons, from keeping the lights on so you can read this booklet, to making sure the building stays at a comfortable temperature.

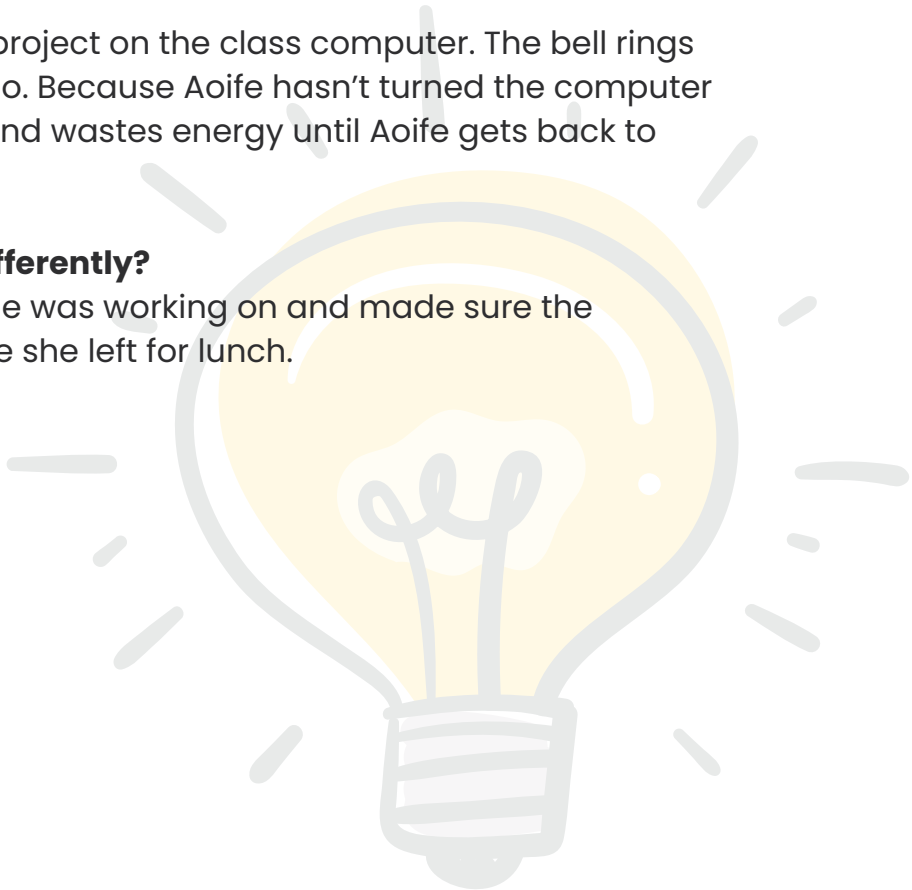
Some of that energy is being wasted though, and that is where you come in. A lot of things get left on when nobody is using them. Sometimes it's obvious, like the lights left on in an empty classroom, sometimes it's less obvious. For example, do you think computers still use energy when no one is using them?

For those of you who said yes, well done. Many electronic devices go into what is called standby or sleep mode when you don't use them for a while. They might look like they're off, but when you move the mouse or press a key, they turn back on straight away. Computers do this, and so do interactive whiteboards, photocopiers and tablets.

But that's terribly wasteful, how can we stop wasting energy?
Well the first step is by doing an energy audit of your school. This is going to give you a very good idea of where your school might be wasting energy. Before we get started, though, take a moment and see if you can think of three scenarios that might happen on a typical school day where energy could be being wasted. Next, think about what the teachers and students could do differently to stop that energy being wasted, and share them with your group.

Example: Aoife is working on a project on the class computer. The bell rings for lunch, and Aoife gets up to go. Because Aoife hasn't turned the computer off, it goes into standby mode and wastes energy until Aoife gets back to finish her project.

What could Aoife have done differently?
Aoife could have saved what she was working on and made sure the computer was shut down before she left for lunch.



Meter Reading Record

You will be taking weekly meter readings as part of your energy audit. Use this table to record your measurements.

- If you are taking readings for electricity and another type of fuel (e.g. gas), make sure to record both.
- Make sure to take the meter readings **at the same time** each week.
- Make a note of any events that might have increased or decreased your usage (e.g. bank holiday or midterm break)

Date	Meter Reading	Date	Meter readings

Doing Your Energy Audit

This is where you find out where energy is being lost in your school

Once your teacher has given you an area or areas of the school to audit, make a note of which area you've been given in the space below:

My Area(s) Is/are: _____

Overhead lights	Number of lights:	Number of lights left on:
Computers and Computer monitors	Number:	Number left on or on standby:
Interactive Whiteboards	Number:	Number left on or on standby:
Photocopiers and Printers	Number:	Number left on standby:
Desk Lamps	Number:	Number left on:
Televisions	Number:	Number left on or on standby:
Other Devices	Number:	Number left on or on standby:

Heating Temperature Log

This is where you record the temperature in your assigned area(s)

Area	Location	Temperature (degrees C):
Classrooms/ Study rooms		
Library		
Corridors		
Gym/Sports Hall		
Toilets/ Changing rooms		

Energy Loss

Leaving windows and doors open is often neccessary during classtime, but if they are left open during breaks or overnight, this can be a major source of energy loss.

- Check your assigned area to see how many windows and doors there are (remember to count external doors as well as interior ones).
- Look for the radiators in your area.
- Check how many windows and doors have been left open, and how many radiators are obstructed (there's something covering or blocking the radiator)

Windows	**Total Number:**	**Total Left Open:**
Doors	**Total Number:**	**Total Left Open:**
Radiators	**Total Number:**	**Total Obstructed:**

Analyzing Energy Bills

Fill in the table using information from the school's energy bills or meter readings

Electricity		
From (dd/mm/yy)	**To (dd/mm/yy)**	**kWh energy**
Heating		
From (dd/mm/yy)	**To (dd/mm/yy)**	**kWh (gas) or litres (oil) energy**

What kinds of energy and how many units where used per year?	
Type of Energy	**Amount**
Electricity (kWh)	
Gas (kWh)	
Oil (Litres)	

Did any of the energy come from renewable sources? Circle your answer.		
Yes	No	Not Sure