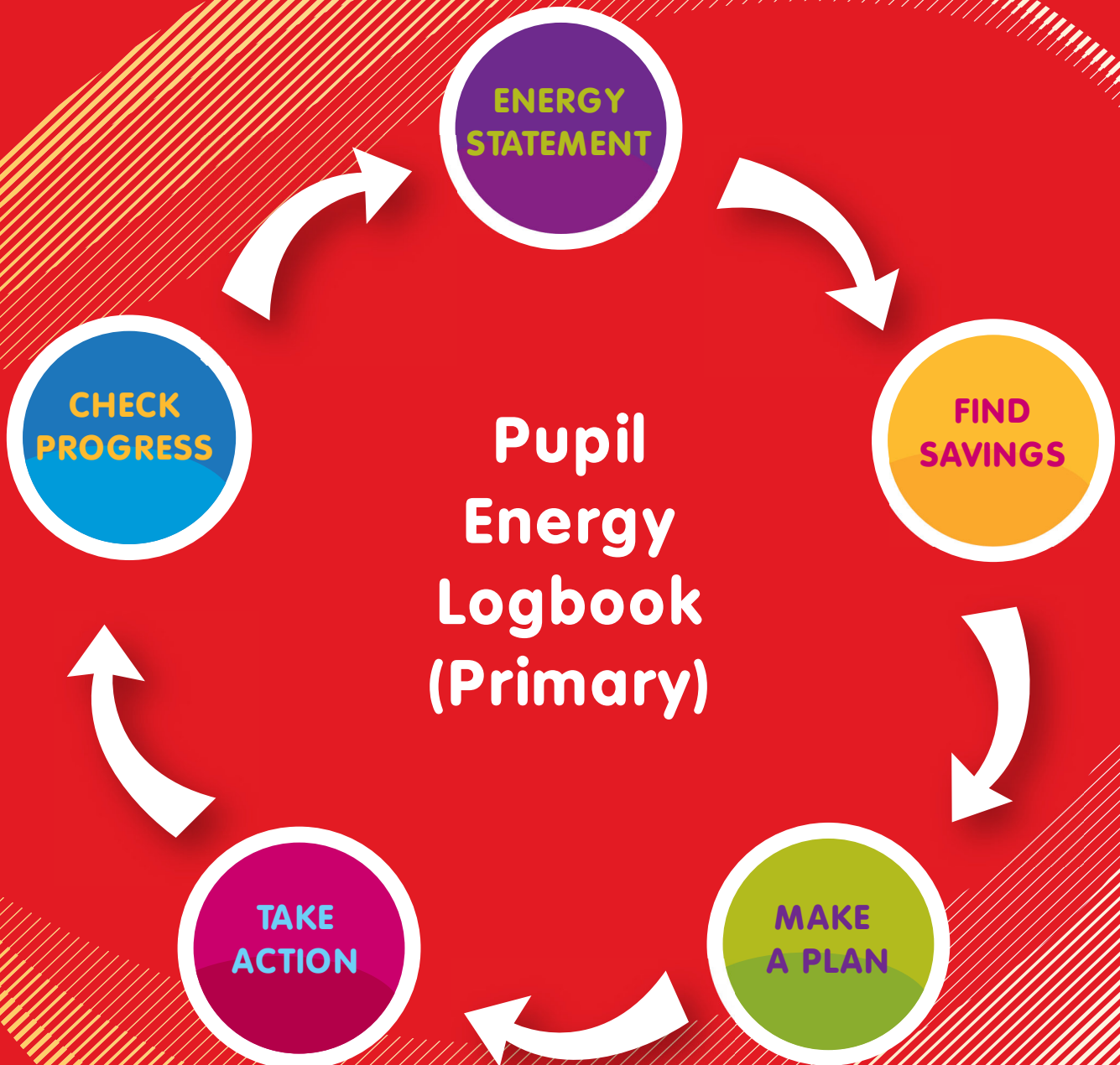




energy **in** education

energy management guide for schools





Name of school:

School address:

Class:

Teacher's name:

Start date:

Finish date:

Number of teachers in school:

Number of pupils in school:

School crest / logo

Your energy saving slogan:



Why save energy?

We all need to use energy every day but could we be more energy efficient?

Being energy efficient means using less energy to do the same job. For example:

- if the heat is on in a classroom but the window is open it will take more energy to keep the room warm
- a light left on in an empty room is still using energy but is not needed

By saving energy we can:



protect the environment



have a 'Display Energy Certificate' for the school



save money on energy bills

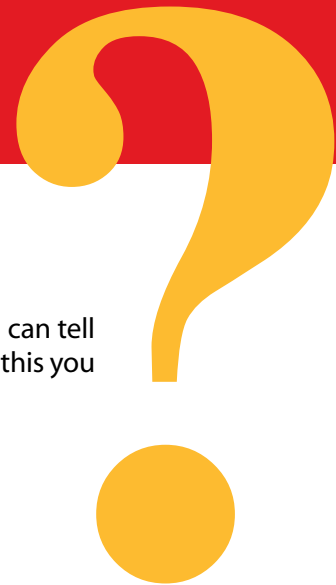


earn a Green Flag

Discuss the reasons why your school wants to save energy in class and write them here in order of importance:

We want to save energy because:





Why keep an energy logbook?

If you measure and record the energy you use in the school in this logbook you can tell exactly how much energy you are using and how much it costs. When you know this you will be able to:

- set a target for how much energy your school could save
- measure how much energy you save with simple actions
- tell everyone about your success!



ENERGY DETECTIVES!

Your e-mission is to find out

What type of energy you use in your school for light, heat and equipment? (Tick the boxes)

- Electricity Gas Oil LPG (liquid petroleum gas) Biomass (wood pellets) Other

Clues:

Electricity

Oil

Gas

LPG

Biomass (Wood pellets)

Water is a valuable resource and energy is used to clean water and pump it to the school, so saving water saves energy. To find out more you could ask your teacher if they have recorded information on water use in the Energy Co-ordinator's Workbook, ask to read water bills or ask your Green-Schools committee for help.



How is energy measured?

- ➔ Electricity is measured in kilowatt hours (kWh)
- ➔ Natural Gas is measured in cubic metres (m³)
- ➔ Oil is measured in litres (l)

Some bills convert this figure to kWh for you. If not you can do it yourself when you know that:

- ➔ 1 litre of oil = 10.78 kWh

Example: A school used 2570 litres of oil in a year.
 $2570 \times 10.78 = 27704.6$ kWh.
 The oil used by the school = 27704.6 kilowatt hours

- ➔ 1 m³ of Natural Gas = 11.06 kWh
- ➔ 1 litre of LPG = 6.6 kWh

How much energy do you use?

You can find out how much energy you use by looking at energy bills and reading the electricity meter. You may also have a gas meter if you use gas for heating the school.

Understanding your energy bills

Ask your teacher or Principal for the school energy bills (for the past year if possible) and fill out the tables on page 4. Electricity is measured in kWh and you should be able to find how many kWh the school uses on your bill.

Energy Bill

Account Details:
 Account Number: 000000000000XX Date of Issue: 00/00/00
 Invoice Number: 000000000000XX Other details: 000x000x00

Name of Bill Payer
 Address here
 This Road
 This county

your electricity bill

your MPRN number
 12 345 678
 DG MC PROFILE
 GD12 MCC12 5

METER READINGS	QTY	DESCRIPTION OF CHARGES	AMOUNT
PRESENT	PREVIOUS		
TARIFF: GENERAL PURPOSE			
54634	54463	MULTIPLIER OF 60 APPLIES	
	7598 X	EO.1610 GENERAL UNTIS	1223.27
	2662 X	EO.1450 GENERAL UNITS	385.99
70964	70823	MULTIPLIER OF 60 APPLIES	
	3420 X	EO.0000 WATTLESS	00.00
	5040 X	EO.00780 EXCESS W/LESS	39.31
58 DAYS @ E0.4100 / DAY STANDING CHARGE			23.78
44 EVA FOR 2 MONTHS @ E0.00 KWA/MONTH			0.00
VAT @ 13.5% 1672.35			225.76

Billing Period: dd Payment due: 00/00/00

Net cost: xxxxxx
 VAT@xx: xxxxxx
 Total cost: xxxxxx

Account Number
 MPRN Number
 Tariff
 Multiplier
 Meter Readings
 Units used
 Wattless Units

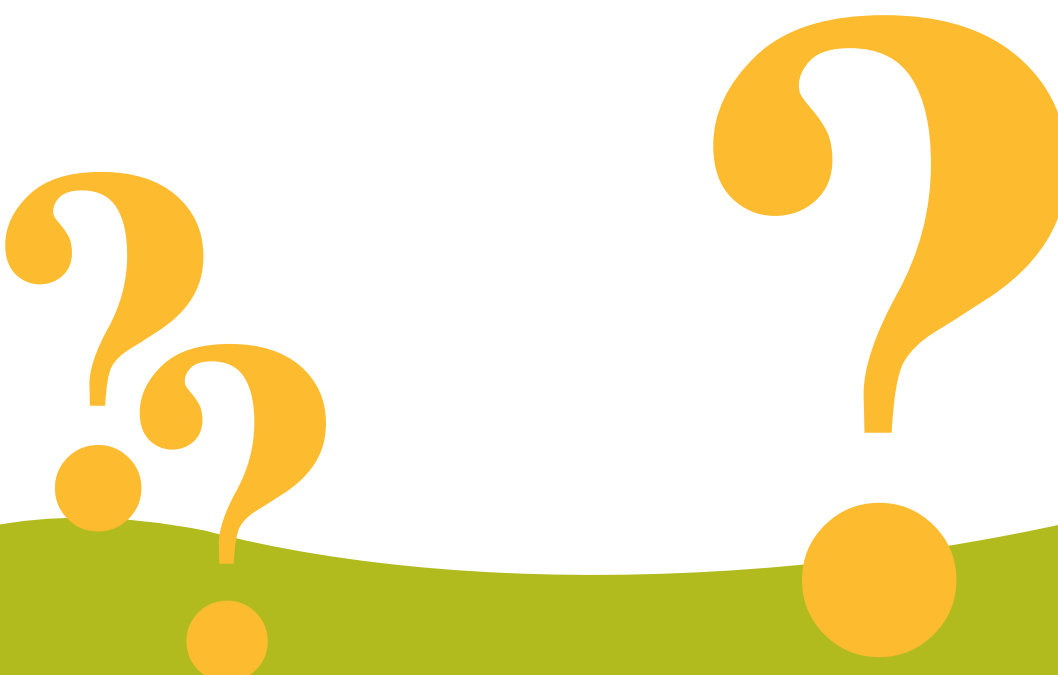
Read your meter

For a video on reading the meter go to www.energyineducation.ie/Measure_Energy_Use

The electricity meter in your school can tell you how much electricity you are using. You may also have a meter for gas. First you will need to ask permission to read the meter and then you will need to find out where it is.

What can a meter tell us?

- You can take readings every day, week or month if you want to see how much electricity you are using.
- You can try different ideas for saving electricity, like turning off lights or other equipment when a room is empty. You can use meter readings to measure how much energy each idea saves:
 - Read your meter and record the amount of electricity used over a full school week **before** you try out your energy saving idea.
 - Try your idea for a full school week, read your meter at the end of the week and record the amount of electricity used. You can see if your idea is saving energy.
- You can measure the outside temperature at your school or go to the Met Eireann website www.met.ie and find the temperature for your county each day. You could work out a weekly average. Draw a graph of temperature and electricity, oil or gas use each day. Do you see a pattern?
- You may also have a meter for gas.
- LPG and Oil tanks in schools often do not have a meter fitted.



You can use these tables to record meter readings

(You should photocopy the table before you start so you have a spare, blank copy)

Electricity

Date	Reading	Units used since previous reading	Multiplier*	kWh used
Total (to date)				

* Some electricity bills have a 'multiplier' on them. That means you need to multiply your meter reading by this number.

If you have a gas meter why not design your own table to record readings.

Now that you have investigated how much energy is used in the school you can work out the following:

- ➔ Average daily use for last month (total energy used divided by billing days)
- ➔ Average daily use for last year (total energy used divided by billing days)
- ➔ How much energy is used in your school per person per day? (kWh/day)
(You will need to find out the population of your school)
- ➔ Now can you work out the daily cost per person?



Want to investigate energy some more?

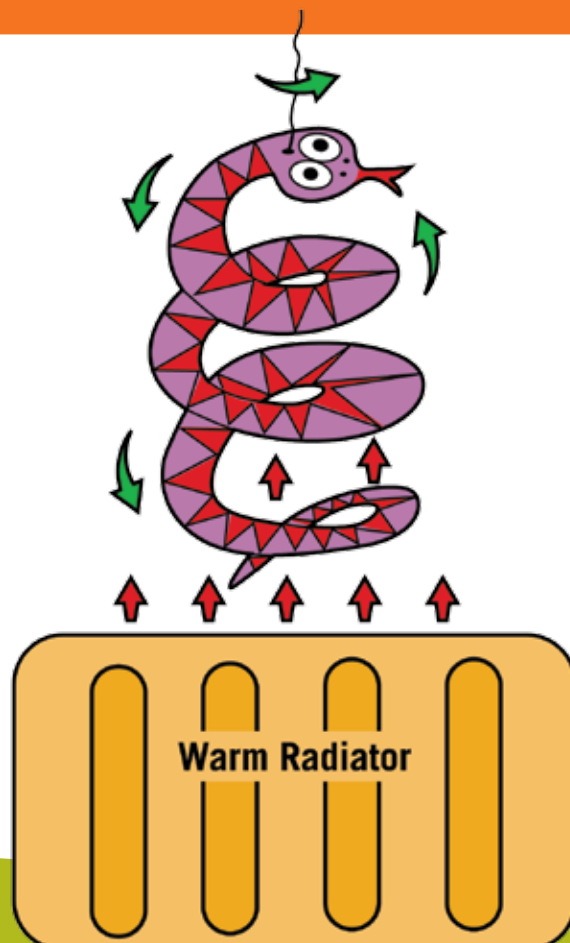
SEAI has a whole range of useful information for primary schools at http://www.seai.ie/plan-your-energy-journey/Schools/Primary_Schools where you will find curriculum based resources to help you teach your pupils all about energy.

You are encouraged to register for SEAI's Energy Academy an online free resource of learning materials.

- ⇒ Enroll for [Saving Energy in Schools](#). This module introduces you to the main energy consumers in schools, energy management principles, tips and advice for saving energy in schools.
- ⇒ Enroll for the [Energy and Climate Change](#). This course gives an overview of where Ireland gets its energy and how our energy use influences climate change.



Present the results of all your energy investigations to the class and display on a wall chart.







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