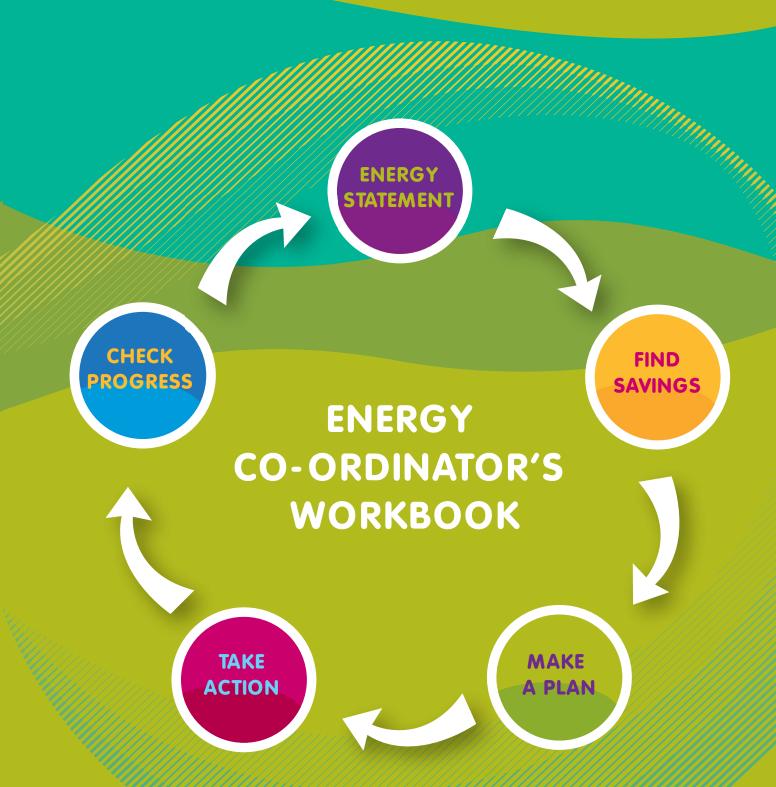




energy meducation

energy management guide for schools



This workbook is part of the Energy in Education pack designed to help school boards of management, principals, teachers, administrators, caretaking staff, pupils and parents to improve energy use practices and to reduce school operating costs while helping to protect the environment for future generations. It is designed for use in conjunction with the energy management guide, which outlines a five step process to assist you with effective energy management in your school. The Energy in Education website at www. energyineducation.ie provides a wide range of additional support material and detailed advice on specific topics such as lighting, heating, IT equipment, water conservation and renewables in schools; and school energy saving case studies. A pupil energy logbook has also been developed and the icon below denotes opportunities for pupil involvement in energy management.

get pupils involved

Involve pupils in the energy management process



Opportunities to integrate with the Green-Schools energy theme

School details

Fill in your details below to personalise your workbook, which will serve as your school's Energy Management record and allow you to track progress. You may not have all the details now, so just fill in what you can at the beginning.

Name	
Position	
School	
Contact number	
Roll number	
Contact address	
Email (optional)	
Start date (of period for which you are using this workbook)	Finish date
Number of staff	Number of pupils
Current energy supplier(s)	

urrent energy supplier(s)

Energy type	Supplier	Account manager (if known)	Contact number
Electricity			
Heating			
Other (please specify)			

Annual energy costs (academic year)(€/yr)

Area of school (m²)

What is the rating (A-G) on your school's Display Energy Certificate (DEC)? See guide or visit www.energyineducation.ie for more information.

Annual energy usage (kWh/yr)

This is a measure of energy use over a year (kWh or kilowatt hour is a unit of energy).

Questionnaire - Where are we now?

Answer these questions to help you assess your current situation in relation to energy management. Make a photocopy of this form, as ideally it should be completed in 12 month's time and the answers compared.

(If an effective energy management system is in place, most of your answers will be in the boxes on the right.)

the boxes on t	ine rigite.)		
Has a Coordin	ator been appointed	d to manage the Energy M	anagement Programme?
No		Informal appointment	Formal appointment
Additional co	omments:		
Is there an Ene	ergy Statement?		
No		Yes, a formal, written, statement	
Additional co	omments:		
Have you iden		ergy users and factors that	influence energy
No	Yes, but energy use has not been quantified	Yes, and some quantification of energy use has taken place	Yes, a full assessment has been undertaken
Additional co	omments:		
Is there an Ene	ergy Action Plan in p	place?	
No (none)	Unwritten plan	Written plan	Written plan which has been implemented
Additional co	omments:		
Are energy eff	icient practices and	energy awareness promo	ted amongst staff?
Not at all		Sometimes	Formally and regularly
Additional co	omments:		
Is there an ene	ergy measurement a	and monitoring system in រុ	olace?
No		Some informal monitoring	Formal system
Additional co	omments:		
Conclusions:			

Making the case for energy management at your school

How much could we save? The table below will help you to estimate the money the school could save through energy management measures. This will help you to demonstrate the benefits of investing resources and effort in implementing energy management.

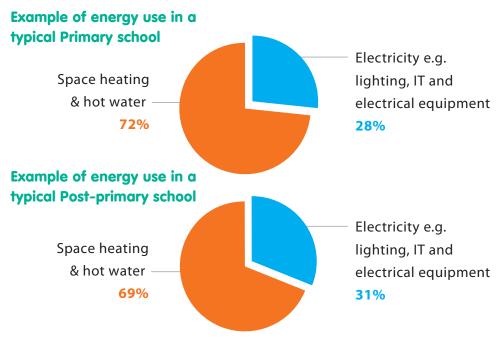
How to fill in this table

- 1. Record your total annual energy costs (from previous year's bills).
- 2. Calculate the value of 5% energy savings that can be made through 'good housekeeping'.
- 3. Calculate the value of 10% energy savings that can be made through modest building improvements.
- 4. Calculate the value of 25% energy savings that can be made through medium-cost capital investments.
- 5. Calculate how many computers (or other equipment) the school could buy with the maximum savings made over three years.

Financial indicators	
1. Total annual energy cost	
2. 5% Energy savings	
3. 10% Energy savings	
4. 25 % Energy savings	
Number of new PCs, assuming 10% savings for three years	
How do these savings compare to the an school last year?	nounts raised through fundraising by the
Conclusions	
Why should our school save energy? Wh	at will drive our campaign?
1.	
2.	
3.	
4.	

Where does the energy go in an average school?

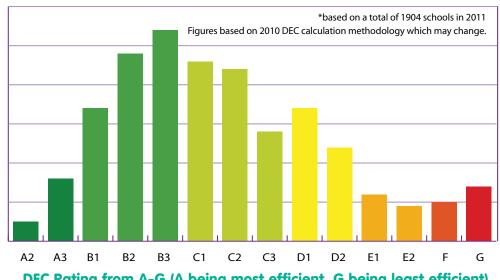
Energy use will vary a lot from school to school but the following pie charts illustrate that in general the main energy users are heating, lighting and hot water.



How much energy are schools using?

There are no hard and fast rules and many factors such as the age of the building and the energy management practices will influence energy consumption. If you have a Display Energy Certificate (DEC) you will have information on the energy rating of your school. If not, you can apply on line at www.energyineducation.ie/Display_Energy_Certificate once you know your energy use for a recent 12 month period and the area of your school (why not use the information you record on your energy bills in this workbook and tips on measuring the area of a school, available on the website?)

DEC ratings of Irish Schools* - how does your school's DEC compare?



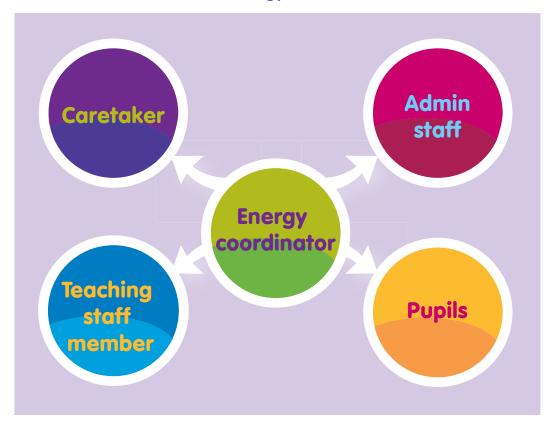
1. ENERGY STATEMENT

Step 1 Energy Statement

Assign an Energy Coordinator for your school.

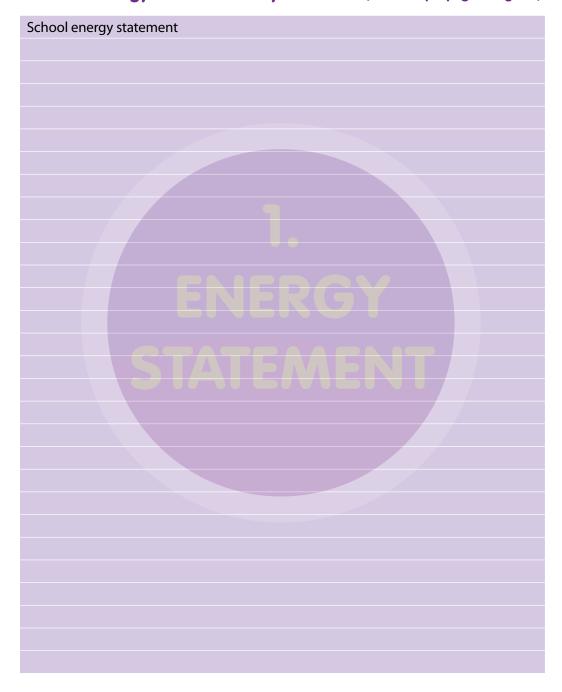
Name of energy coordinator	Ро	osition

Energy Team



Energy team members

Write an energy statement for your school (see example page 7 of guide).



TIPS

- → Don't hide away your energy statement, communicate it to staff at meetings and display it prominently in the school.
- → Inform parents of the new energy policy through newsletters or a note and consider involving interested parents in the energy management process.
- → You can download a template for your energy statement to complete and display at www.energyineducation.ie/Energy_Management_Getting_Started

Step 2 Finding Savings

Document energy bills and take meter readings to determine your energy usage and costs. Try to record all your energy bills in kWh for consistency. Conversion factors for different fuels are often on your bill and are available online at www.energyineducation.ie/Measure_Energy_Use, where you can also download a bill tracking tool.

Your electricity bills

If you have multiple buildings with different billing periods you can make copies of these tables. If your bills are estimated contact your supplier with a meter reading to find out real consumption figures.

Previous academic year:

Previous academic year:		
Billing Period	Quantity Billed (Units) kWh	Total Cost (€)
	2.	
	FIND	
Total		

Current academic year:

earrerre acad	errine yearr	
Billing Period	Quantity Billed (Units) kWh	Total Cost (€)
Total (To Date)		

2. FIND

SAVINGS

Your heating bills

Type of Fuel (e.g. natural gas)

Previous academic year:

· · · · · · · · · · · · · · · · · · ·		
Billing Period	Quantity Billed (Units) kWh	Total Cost (€)
Total		

Current academic year:

,		
Billing Period	Quantity Billed (Units) kWh	Total Cost (€)
	2	
	CAMINICO	
	SAVINGS	
Total (To Date)		

Your other bills (e.g. diesel, LPG, solid fuel)

Previous academic year:

	idemic year:	
Billing period	Quantity billed (units) kWh	Total cost (€)
Total		

Current academic year:

Current academic year.		
Billing period	Quantity billed (units) kWh	Total cost (€)
Total (To Date)		

You can use readings from electricity or gas meters to look at usage in a more detailed manner on a daily, weekly or monthly basis. This information also allows you to measure the success of the energy saving measures you are implementing.

Meter readings - Electricity



*Sometimes meters are unable to record the actual amount of energy that you use. In this case, a certain percentage of usage is passed through your meter and the actual usage is calculated by multiplying by a factor, i.e. a multiplier. Check your bill to see if a multiplier applies to your account. If no multiplier applies, the units used = kWh used.

Meter readings - Gas

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

Meter readings - Water

Date	Reading	Litres used since previous reading
Total (to date)		

Action



Pupils can assist with taking meter readings from electricity/gas meters and recording details from bills (see pupil logbook)

Energy users and influences

Identify energy-using equipment (lights, computers, heaters, kettle, dishwasher), the people who use it and if there are possible savings (you may need extra copies of this sheet). You can download this table at www.energyineducation.ie/Energy_Management_Getting_Started

-	Appliance	How many	Hours on per day	How Hours on Influential factors many per day	Who is responsible	Savings opportunity?	(Optional) Energy rating (kW) You will find this on nameplate on appliance	(Optional) Energy value (kWh) for 1 day Energy rating x quantity x hours of usage

get pupils involved

Action





List of opportunities

Start to fill out your list of opportunities to save energy and include opportunities in various areas. This should be a 'living' document, www.energyineducation.ie/Energy_Management_Getting_Started. Any ideas/suggestions should be captured here. which can be added to at any stage during the process. You can download this table at

Ref	Aspect (e.g. lighting) or Area (e.g. zone 1 /	Opportunity	Cost	Comment
	classroom/canteen)			
				
2				
e N				
4				
2				
9				
_				
_∞				
6				
10				
<u></u>				
12				
13				
14				
15				

get Action pupils involved

Pupils can assist with counting and recording energy using equipment (see pupil logbook)

Energy action plan

about what you can achieve, and check the Energy Management Guide for advice on prioritising measures. It should be signed by Using your list of opportunities complete your Energy action plan below. You will have lots of ideas but remember to be realistic the Principal to demonstrate commitment. You can download this table at www.energyineducation.ie/Energy_Management_Getting_Started

Target/Plan	Cost	Priority	Responsible	Expected Result	Target Date
Approved: Date:					



Action plan for energy (consult your Green-Schools energy handbook)

Action

Step 4 Take Action

Implement housekeeping and Energy Action Plan.

4. TAKE ACTION

Maintenance checklist

Establish your housekeeping and maintenance checklist below. Think about what should be turned off and when. You may want to leave an individual checklist for particular pieces of equipment or in certain areas of the school. Labels can be useful reminders. You can download this table at

www.energyineducation.ie/Energy_Management_Getting_Started

Area	Task	Check	Person	Training Required?	Achieved
		Frequency	Responsible	Required	

Step 5 Check Progress

Energy management annual progress review

Reviewing your progress each year allows you to benchmark success and should inform your plans for the coming year. You can start by completing the questionnaire on page two again to re-assess the school's position overall in relation to energy management. You can then review the situation in more detail using the checklists and tables in this section.

1.	guide?	gy cost since using this energy management
	Yes	No
If y	es, please detail	
2.	Does the energy team have the full sup	oport of the school management?
	Yes	No
3.	Have you communicated your energy s	statement to all staff members?
De	escribe how	
4.	What projects have been carried out du	uring this cycle of energy management?
5.	Which objectives have been achieved f	rom the energy action plan?

6.	Of these targets, how many have been	achieved within their timeframe?
7.	Have you started running an energy as	wareness campaign?
	Yes	No
Ify	es, please detail	
8.	Have you noticed a change in attitude	to energy waste?
	Yes	No
Ify	es, please detail	
9.	Have you made a list of recommendation	ons for the ongoing plan for energy efficiency?
	Yes	No
10.	Have you investigated the range of g Education and Skills/ SEAI?	rants that are available from Department of
	Yes	No
Ify	es, please detail	

Annual performance comparison progress table

Review your school's annual performance and plan for future work by filling in the tables below.

Date (Try to do this to tie in with your energy bills)	Comparison 1 Electricity Use kWh/m²	Comparison 2 Gas Use kWh/m²	Comparison 3	Comparison 4

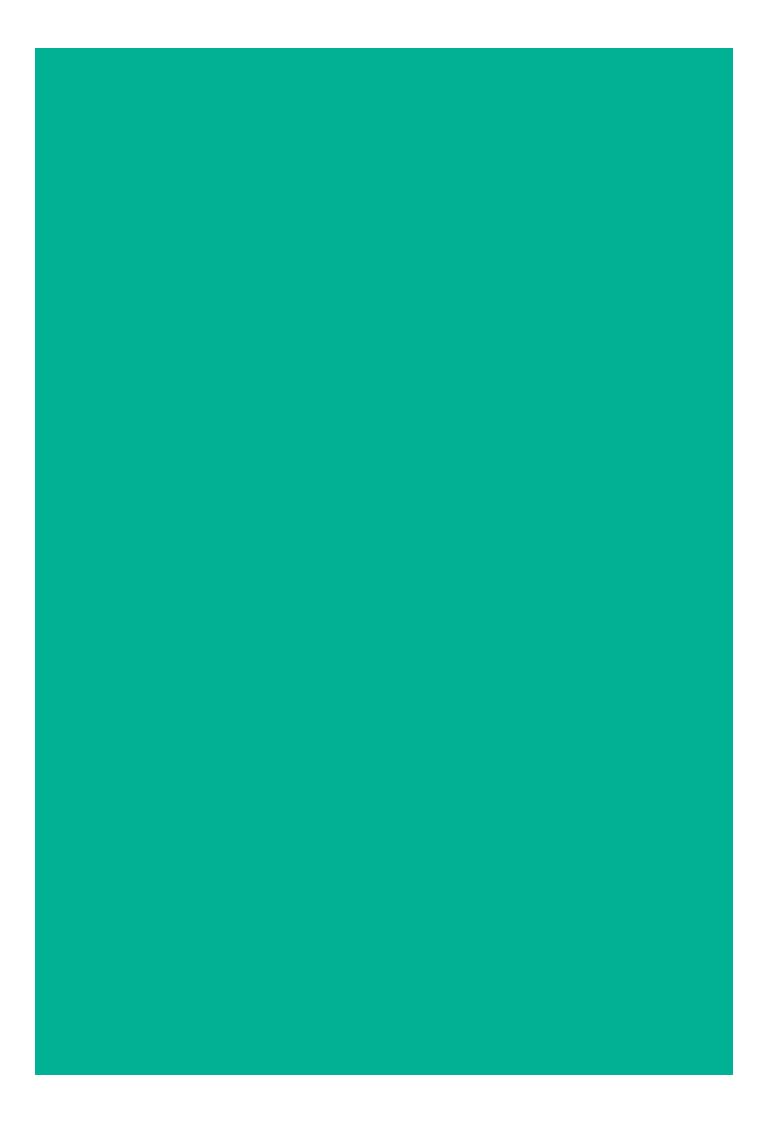
Most recent Display Energy Certificate rating

Previous Display Energy Certificate rating

Future Recommendations

Based on the energy management annual progress review (step 5) outline a list of suggestions as to how to improve on the energy management programme for next year.









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