



Teacher Name	Mrs Ruth McComb
School Name	St Mary's Grammar School, Magherafelt, Co. Londonderry
Number of pupils	1100
Eco-Schools Status	Green Flag (2)
Topic	Energy

1. Why did you choose Energy as an Eco-Schools topic? What was your Action Plan?

In October 2012 we established our Junior and Senior Eco committees to help achieve our Green Flag status again. Between November 2008 and November 2009 there was a 6% reduction in electricity use and to seek further reductions we chose Energy as one of our Eco-Schools topics. Our junior committee linked with pupils participating in the Dissolving Boundaries project investigating the energy efficiency within St Mary's Grammar School and our link school St Nathy's. To enable us to do this we intended carrying out an energy efficiency audit of our school and reduce our energy use.

Over mid-term break we took the electrical readings in our houses and then posted the information into the forum. St Nathy's also did the same. Completing this exercise introduced us into thinking about how much energy we use every day and how we could reduce this.

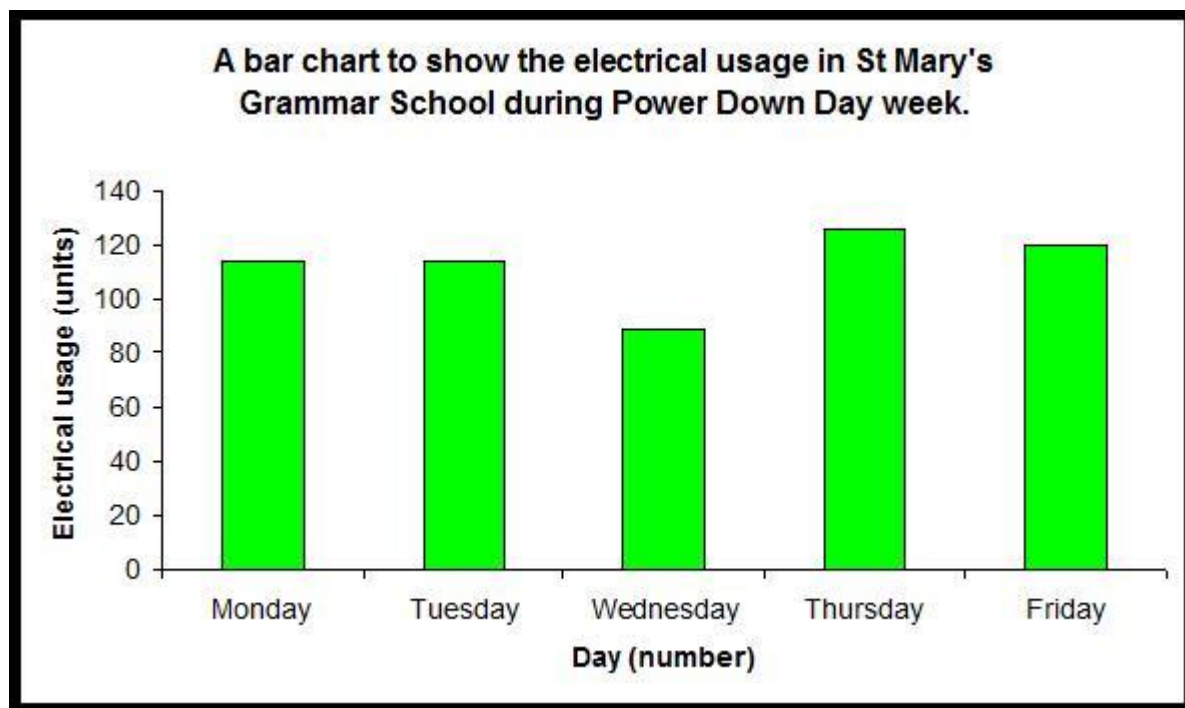
2. How do you integrate Energy into the curriculum?

This led to our Power Down Day on the 7th of November 2012, in which the Eco-Committee helped to organise. Before this date we held a poster competition which all KS3 students could enter to advertise Power Down Day. The winning Poster can be viewed below.



Power Down Day was all about making students and teachers more aware on how they can use less energy, either through turning off unnecessary lights, turning down heating if not required using a thermostat on the radiator, turning off computer monitors if not in use, and closing windows and doors if heating is on etc. On

Power Down Day the Eco-Committee went around making sure teachers and students remembered to complete these simple strategies to save energy. See below for our energy results.



It is clear from the graph above that during our Power Down Day, St Mary's did reduce the amount of electrical energy. This is shown on the above graph by Wednesday's readings, however, straight after, the electrical energy increased again. Therefore permanent measures need to be enforced in order to keep energy consumption at a low permanently and the eco-committee in St Mary's continue to work on these strategies.

3. How do you co-ordinate with other teachers to ensure a whole school approach?

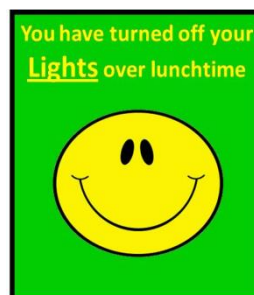
We have within our eco committee teaching, non-teaching staff and parents including the bursar, office manager, Health co-ordinator, various Heads of Department. Members of Eco-committee are also on the senior management team in school and report on progress regularly to the school Principal.

4. How did you encourage pupil participation? How did they have ownership of the project?

As part of our eco-committee duties we go around the school on a monthly basis putting green or red stickers on the classroom doors according to whether or not lights and computers were left switched on during lunch. We call ourselves the Eco-Police. Our happy and unhappy stickers look like this:



Eco Committee



Eco committee

5. How did pupils/whole school benefit from this project?

In May 2013 St. Mary's Grammar School, Magherafelt were awarded the prestigious Eco-Schools Green Flag Award. In June we were awarded the Airtricity Operation Energy School of the year. At the Airtricity Global Wind Awards Ceremony in the Everglades Hotel our pupils collected the prize and presented in front of the audience of schools attending details of our work this year.



Attending the Awards; Jack Lavery, Airtricity's Doc Energy, Cathaoir Purvis, Carmel Fyfe, Eco-Schools Manager and Caoimhe McKillop.



Congratulations to Year 10 student, Ellen Skelly, who is the winner of our Eco-Schools Poster Competition. Ellen's poster, which contains the St. Mary's Eco-Code, will be displayed throughout the school to remind all of us of the simple steps we can take to be an environmentally friendly school.

6. Did you receive any support or resources from parents, staff or outside agencies? Did you have to source any funding?

We also participated in the Tidy Northern Ireland and Bryson Charitable Group Rethink Waste Project to raise awareness of waste issues and the waste hierarchy, emphasising the importance of prevention, reuse and recycling as well as the problems and issues associated with waste disposal. As a school we also stopped junk mail coming to our houses to cut down on paper, participants who availed of this opportunity either got a plastic bottle made from recycled materials or usb pen also made from recycled materials. Look below to see our Dissolving Boundaries group receiving their plastic water bottles:



We also helped to reduce our carbon footprint by reducing our junk mail and handing out plastic drinking bottles. See below to see how much we have reduced:

Calculations for Tonnage and CO₂ Savings at St Mary's College Magherafelt.

Paper Tonnage

224(average Junk Mail received per household) **x 140**(Total Cards) **x 0.000075** (weight of average piece of mail in tonnes) = **2.352 tonnes (2352kgs)**

Plastic Tonnage

190(average school days) **x140** (No. of bottles delivered) **x0.000025** (average weight of 500ml bottle in tonnes) =**0.665 tonnes (665kgs)**

Total Tonnage Saved =3 tonnes

Saving 40 trees (based on 17 trees to make 1 tonne of paper)

Total CO₂ equivalent saving = 4.4 tonnes

We have also designed posters for the black rubbish bins and the blue recycling bins around school. These posters inform students on what type of materials can be placed into each and helps to encourage students to recycle.

7. Did you encounter any problems and, if so, how did you overcome them?

In St Mary's we have two main buildings-the Cashin Science block and the Main school building. We completed energy surveys to compare the energy efficiency of the two buildings in our school. The main building came out more energy efficient which is strange as the Cashin building is a newer building. See the picture below showing the two buildings. The Cashin building is on the left and the main school building is on the right.

After discussing our results with our other group-Group 2, who studied the Cashin building, we came up with the following results and reasons to explain how our Main school building is more energy efficient:

Methods at reducing heat loss	Main Building	Cashin Building
Draught excluding strips around windows	Very few	None
Draught excluding strips around doors	Some	Some
Solar reflecting film on windows	None	None
Responsible class window monitors	None	None
Are windows left open?	Sometimes and some had duck tape around them	Yes-rooms are always very close to external windows
Are doors left open?	Sometimes	Yes-only one main access door
Do the windows have double glazing?	Some	None
Are any external doors self-closing?	Some	None
Are the internal doors self-closing?	Yes	Yes
Does each classroom have its own heating thermostat?	Yes but some don't work	Yes
Methods of reducing electricity	Main Building	Cashin Building
Are low energy light bulbs and fluorescent tubes used in school?	Fluorescent tubes present	Fluorescent tubes present
Are lights and electrical items turned off when not in use?	Mostly	Sometimes
Additional information	More doors to enter into the building however always kept closed. Three storey building with a larger floor area and therefore less classrooms close to an external wall or window as a lot of corridors. Less windows present within the building. More pupils present within building due to more classrooms.	Main door left open quite a lot with only one main door for whole building which most pupils have to enter via. Two storey building compared to a three storey building with most classrooms being close to an external window or door. Less pupils present in Cashin to generate body heat. Most windows present are external windows. Science building where maybe quite a lot of electrical equipment is being used.

8. Has doing this topic driven other Eco-Schools ideas? What are your future plans regarding Eco-Schools?

We also recently won a Best Kept School competition. Pupils also participated in the Big Spring Clean, Northern Ireland's largest anti-litter campaign. Look at how much rubbish we collected in 30 minutes on our big clean up day.



Our future plans include actions in the topics of Biodiversity and Healthy Living.

9. How did you use Operation Energy (www.operation-energy.com) to help you with the Energy topic?

Resources include energy audits, energy experiments, energy saving activities and lessons on renewables.