

St. Roman's N.S.



Green-Schools

Project on

Energy

2011-2013

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About Us!

St. Ronan's N.S. is a small rural school situated in Co. Sligo near the Roscommon border. We have a staff of two permanent teachers, one part-time learning support teacher and one part-time resource teacher. Currently we have 19 pupils on roll.

During the school years 2011-2012 we obtained our first Green Flag based on the theme of Litter and Waste.

Figure 1 - Cloonloo N.S.



Step 1: Green-Schools Committee

1. Who sits on your Green-Schools committee?

Our Green-Schools committee consisted of (See Figure 2/3):

- 6/7 children from First- Sixth Class
- Chris Harrison (School Caretaker)
- Joan Dowd (Parent)
- Michelle Jordan (Teacher/ Green School Co-Ordinator)
- Michael Heffernan (Principal)

Figure 2: Green School Committee School Year 2011/2012



Figure 3: Green School Committee School Year 2012/2013



Our members are selected as follows:

- Our Green-School Committee usually consists of 6 children and 4 adults.
- Each class (First - Sixth Class) has one representative on the Green-School committee (if possible due to the small numbers).
- Priority is given to sixth class children.
- If a number of children from the same class want to become a member of the committee, a lottery takes place.
- Adult members consist of teachers, parents and non-teaching staff (caretaker).
- Parental committee members are selected by lottery also.
- The committee changes after 2 years ensuring consistency for that 2 year period to evaluate the success or further needs of each project.

Our committee operates as follows:

- The *Green School Committee Meetings* aim to be a collaborative effort between the children and adults with the children given as much responsibility as possible.
- The *Green School Committee* meetings are informal in nature and consist of reviewing past decisions and discussing the implementation of new and existing actions.
- It was also decided that in the days following a *Green-School Committee Meeting*, an assembly would be held with the whole school. Here any decisions made or information gathered would be shared with all the children. The children not directly involved on the committee could have an input and share their ideas at these assemblies . Information is also displayed on the *Green School Notice Board*. (See Figure 4)

Figure 4: *Green School Notice Board*



2. How often does your committee meet?

- We try to meet every month for half an hour approximately to monitor and evaluate the running of the Green-Schools project.

3. Please include an example of minutes taken from one of your Green School committee meetings.

- See Figure 5 for an example of the Green School minutes.

Figure 5: Example of Green School Minutes

27th September 2012

Present: Children, Ms. Jordan, Mr. Heffernan, Chris, Joan

We welcomed the new members.

We went through the action plans to highlight what needs to be done:

- *Low Energy Day either in October/Summer*
- *Continue Meter Readings*
- *Graph Electricity Usage*
- *Begin Cloonloo Clickers again*
- *Change switch in boy's bathroom as the timer switch is getting stuck.*
- *Make wind powered cars for Science Week in November.*
- *Lower thermostat further.*
- *Harvest the crops in the raised beds*
- *Begin classroom inspections*
- *Use bins properly*
- *Learn Energy Code and revise Green School Code*

Step 2: Environmental Review

4. For your Environmental Review, did you conduct any of the following?

Essential Actions:

Read the school meter Yes

Find out what type of heating the school uses and how much is spent each year. Yes

Recommended Actions:

Conduct an Appliance Audit Yes

Conduct a Lighting Audit Yes

Investigate renewable and non-renewable Resources in the school Yes

Conduct Energy Surveys/Questionnaires Yes

Conduct a Draught Survey Yes

Conduct an Insulation Survey Yes

Conduct a Standby Survey Yes

Other - Temperature Survey Yes

5. What fuel sources does your school use?

Electricity Yes

Gas No

Oil Yes

Renewable No

6. What were the main findings of your Environmental Review?

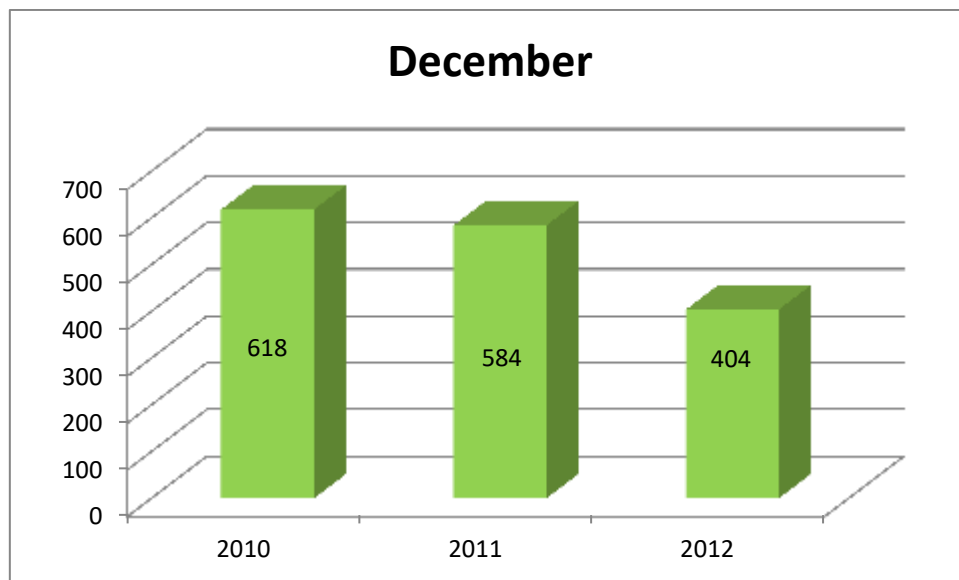
ESB Bills

Month	Units	Cost	No. of Billing Days	Daily Use	Personal Daily Use	Daily Cost	Personal Daily Cost
Sep 10	321	€52.32	30	10.7	0.56	€1.74	€0.09
Sep 11	261	€74.71	30	8.7	0.51	€2.49	€0.15
Sep 12	319	€83.34	30	10.6	0.46	€2.78	€0.12
Oct 10	435	€93.06	31	14	0.88	€3.00	€0.19
Oct 11	270	€77.19	31	8.7	0.55	€2.49	€0.15
Oct 12							
Nov 10	472	€105.95	30	15.7	0.83	€3.53	€0.19
Nov 11	371	€93.90	30	12.3	0.73	€3.13	€0.18
Dec 10	618	€130.24	31	19.9	1.05	€4.20	€0.22
Dec 11	584	€131.73	31	18.8	1.11	€4.25	€0.25
Jan 11	663	€137.47	31	21.4	1.13	€4.43	€0.23
Jan 12	655	€143.80	31	21.1	1.41	€4.64	€0.31
Feb 11	621	€120.19	28	22.2	1.17	€4.29	€0.23
Feb 12	493	€112.01	29	17	1.13	€3.86	€0.26
March 11	527	€93.18	31	17	0.89	€3.01	€0.16
March 12	383	€93.93	31	12.4	0.82	€3.03	€0.20
April 11	402	€73.68	30	13.4	0.71	€2.46	€0.13
April 12	357	€92.96	30	11.9	0.79	€3.10	€0.21
May 11	341	€64.78	31	11	0.58	€2.09	€0.11
May 12	345	€82.95	31	11.1	0.74	€2.68	€0.18

June 11	340	€64.21	30	11.3	0.60	€2.14	€0.11
June 12	315	€82.02	30	10.5	0.70	€2.73	€0.18
July 11	372	€69.51	31	12	0.63	€2.24	€0.12
July 12	322	€84.59	31	10.4	0.69	€2.73	€0.18
August 11	306	€59.43	31	9.9	0.52	€1.92	€0.10
August 12	323	€84.77	31	10.4	0.69	€2.73	€0.18

ESB bills were graphed every month. See Figure 6:

Figure 6 - ESB Units for December



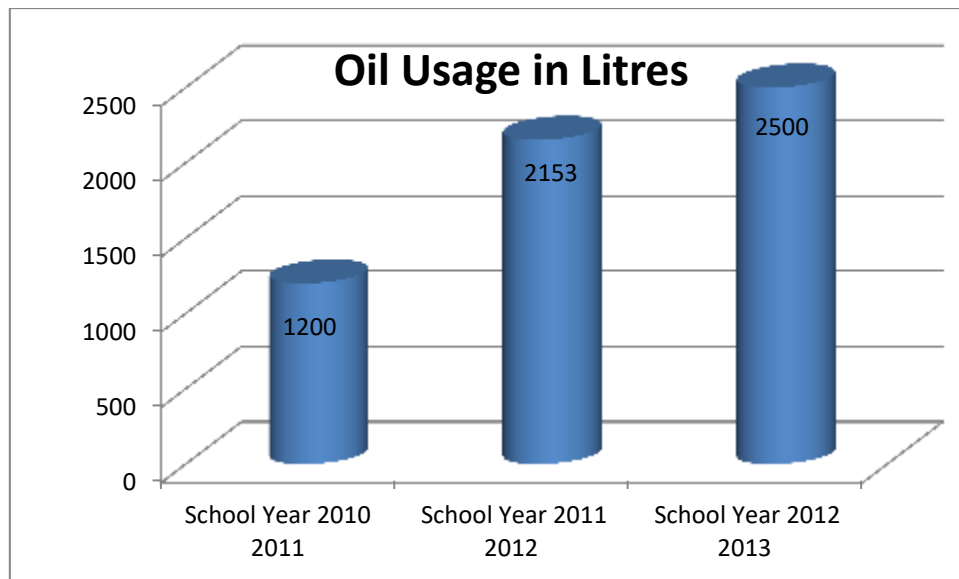
Electricity

Electricity	Units	Cost
Sep 10- Aug 11	5408	€1064.02
Sep 11 - Aug 12	4745	€1166.06

Heating:

OIL	Litres	Cost
2011	2153 l	€1701.92
2012	1200 l	€1040.00

Figure 7: Graph of Oil Usage



Appliance Audit

The children counted and photographed the appliances in the school. We have 32 appliances in the school. The children made posters displaying these results.



Figure 8: Poster of Appliances in Junior and Senior Room

Lighting Audit

The school has a lot of windows and is naturally quite bright. Lights were not switched off in bathrooms after use. Lights were left on in classroom during break when the rooms were empty. There was no "Switch if off" policy in the school.

We counted the number of light bulbs in each room and the types of light bulbs. We found that there are 36 fluorescent tubes in the school. They are a type of low energy lighting.

Renewable v Non-Renewable Sources of Energy

The school only uses oil and electricity for energy.

Energy Survey

Every child from First to Sixth class filled out an Energy Questionnaire on their personal energy habits.

Energy Survey

Date: _____

1. Does everyone turn off lights when leaving a room?
2. Where are lights left on when they are not needed?
3. When are lights left on when they are not needed?
4. Are windows shut when the room is empty?
5. Are classroom doors left open a lot?
6. Are blinds closed at night?
7. Do you think the classrooms are usually too warm/too cold/just right?
8. Are appliances left on or switched on when they are not being used?
9. What appliances are being left on?
10. Are appliances switched off at home time?

The children designed a survey for parents to complete:

Energy Survey

1. What type of light bulbs do you use?
2. Do you leave on lights when a room is empty?
3. Do you turn off appliances at the plug when you are finished?
4. Do you leave appliances on standby?
5. Do you leave chargers plugged in when not in use?
6. What type(s) of heating do you use?
7. Do you have any of these energy efficiency measures installed in your home?
 - Insulation - attic, cavity walls, floors, other
 - Double glazed windows
 - Draught-proofing of the windows and doors
 - Insulation of the hot water cylinder
 - Solar panels
 - Other
8. Do you put on the washing machine when it's not full?
9. Do you put on the dishwasher when it's not full?
10. Do you fill the kettle when you only want one cup of tea?
11. Can you name two ways you can save energy that would cost nothing?
12. What do you think would be a good incentive to people to be more active in saving energy?

Draught Survey

Classroom doors are left open a lot and windows are open when the heat is on.

We tested out windows and doors with paper strips to see if there were drafts. The exterior doors were draught proof. Draught seals and strips are intact. Window frames and glazing are tight fitting.

Insulation Survey

Windows	Double Glazed
Wall Panels	Insulated
Interior Doors	Fire Doors
Ceilings	Insulated
Hot water tank	Insulated
Pipes	Insulated
Floors	Not carpeted

Standby Survey/Vampire Hunt

We conducted an energy vampire hunt and found that 12 of the 32 appliances were turned on or on standby but not in use and therefore wasting electricity and energy. Many appliances were being left in standby overnight and during breaks e.g. photocopier, kettle, computers, shredder, T.V, C.D. player.

Temperature Survey

Rooms are often warmer than required. Windows are opened if classroom gets too hot. Blinds are not closed at night. There is free space around radiators for hot air to circulate. Electric heaters are not often used.

We recorded the temperature in the Senior/Junior Room, hallway, Resource room and office between the two breaks each day for a week to find out the average room temperatures.

Rooms	Day 1	Day 2	Day 3	Day 4	Day 5	Average
Junior	19°C	20.5°C	20.5°C	20°C	20°C	20°C
Senior	18.5°C	19°C	21°C	21°C	17°C	19°C
Hall	15°C	17°C	17°C	17°C	17°C	17C
L/S	15°C	11°C	17.5°C	18°C	11°C	16C
Office	16°C	15°C	18°C	17°C	16°C	16C

The recommended temperature is about 18°C.

Step 3: Action Plans

7. Please type in your current Action Plan below:

Aim 1: To ensure the entire school is aware of Green-Schools Energy programme and to encourage full participation in the programme.

Action	Person	Time	Progress
Create graphs/posters to show audit results	All	Feb '12	Completed Feb '12
"Switch it off" posters	All	Feb '12	Completed & Displayed
Survey and Energy Tips for Parents	All	Feb '12	Completed Feb '12
Tour - Windmill farm/Mine	All	May '12	Visited May '12
Posters competition - Energy Awareness	All	May '12	Completed May '12
Low Energy Day	All	June '12	Completed October '12
Follow up Parent survey	Parents	Feb '12	

Aim 2: To reduce rate of electricity consumption

Action	Person	Time	Progress
Meter readings	Senior Room	Daily	On going
Compare and graph monthly rate of energy consumption with same months from previous year.	Senior Room	Sep '10 Onwards	On going
Cloonloo Clickers - Switch of plugs/light at breaks/home time.	All	Daily	On going
Don't overfill the kettle	Teachers	Feb '12 Onwards	On going
Install time switches in bathrooms	Chris	Feb '12	Removed
Make Solar/Wind powered cars	All	Science Week Nov '12	Completed Nov '12

Aim 3: To reduce rate of oil consumption

Action	Person	Time	Progress
Shut doors	All	Daily	On going
Lower thermostats by 1	Chris	Feb '12	Completed Feb '12
Investigate temperature throughout the day	All	March '12	Completed March '12
Keep windows closed when heating is on	All	Feb '12 Onwards	On going
Test draughts	All	April '12	Completed April '12

Aim 4: Continue work on Litter and Waste

Action	Person	Time	Progress
Get hanging baskets	Mr. Heffernan	March/April '12	Completed April '12
Plant tree for National Tree Day	All Thomas Crummy	March '12	Completed March '12
Flower Bed Planting	All	March '12	Completed March '12
Spring Clean	All	April '12 April '13	Complete April '12
Paint basketball hoop poles	Chris	Summer '12	Completed Easter '12
Remove moss	Chris	Summer '12	On going
Raised Beds Planting	Claire & Children	April '12 April '13	Completed May '12
Classroom Inspections	All	Daily	On going
Using the bread bin, compost bin, paper bin and recycling bin properly	All	Daily	On going
Welcome Planter	Chris All	May '13	

Step 4: Monitoring and Evaluation

8. Describe:

(a) How you monitor and evaluate progress for the Energy theme:

- Daily recording of electricity meter
- Monthly graphs comparing electricity used during the current month/same month last year.
- Yearly graph of oil usage.
- Redoing surveys/questionnaires
- Cloonloo Clicker for each room in charge of turning off light switches and appliances at break times/home time.
- Check and revise Action Plans
- Displaying graphs/pictures/results on notice board.
- Discussion with Green School Committee and feedback from whole school assemblies.
- Regular reciting of the Energy Code.

(b) How you maintain the Litter and Waste theme:

- Daily classroom inspections to ensure classrooms are kept tidy.
- Random bin checks to ensure bins are being used properly.
- Counting the number of bags of rubbish leaving the school for landfill/recycling daily/weekly.
- Teaching the new/younger children how to clean out their yoghurt pots etc, how to use the bin correctly, to have reusable lunch boxes etc.
- Regular reciting of the Green School Code.
- Daily Inspections ensuring the yards are kept clean.
- Forbidding food/drinks into the yard.

9. Please compare the amounts of energy your school used for two periods over the duration of your work on the Energy theme:

		Start date for period over which energy consumption was calculated	Finish date for period over which energy consumption was calculated	Number of school days in this period	Amount of Energy used in Kwh/litres	Average number of Kwh/litres used per person per day	How did you measure your Energy consumption.
Year 1	Electricity	1/10/11	31/10/11	20	425	0.91	Read the meter ESB Bill
Year 2	Electricity	1/10/12	31/10/12	20	336	0.54	Read the meter ESB Bill

If you have experienced an increased in energy consumption, please outline the reason:

Increase in school electrical equipment/appliances. Yes

Increase in school population Yes

Other - Building work Yes

Step 5: Curriculum Links

10. Please give the numbers and ages of students involved in curriculum work and information on the topic or subject areas addressed:

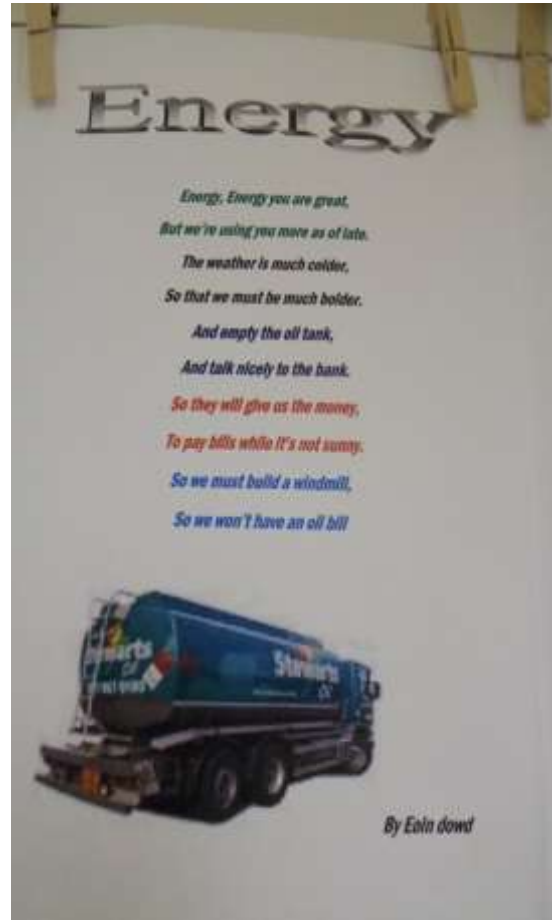
Subject	Class Group	Environmental Issue Covered
English	Junior Infants - 6 th Class (13 children)	Writing Green School Slogans
English	Junior Infants - 6 th Class (21 children)	Learning Green School Code/ Energy Code
English	1 st - 6 th Class (10 children)	Writing Signs for "Switch it Off" Campaign
English	3 rd - 6 th Class (11 children)	Writing Energy Poems
Irish	3 rd - 6 th (7 children)	Writing signs for "Switch if Off" Campaign in Irish
Maths	3 rd - 6 th Class (11 children)	Using calculators to calculate electricity usage on daily/monthly basis
Maths	1 st - 6 th Class (11 children)	Data - Creating graphs to compare electricity usage/ oil usage
History	Junior Infants - 6 th Class (13 children)	Arigna Mine History
Geography	3 rd - 6 th Class (7 children)	Natural Environment - Energy Sources;

		Renewable/Non-renewable energy
Science	Junior Infants - 6 th Class (21 children)	Wind Powered Cars
Science	Junior Infants - 6 th Class (13 children)	Electricity
Science	Junior Infants - 2 nd Class (10 children)	Light
Science & Geography	Junior Infants - 6 th Class (20 children)	Environmental Awareness and Care
Visual Arts	Junior Infants - 6 th Class (13 children)	Energy Posters

Figure 9: Wind Powered Cars



Figure 10: Some Energy Poems



Step 6: Informing and Involving

11. How is the whole school community informed of, and involved in, all aspects of the Green-Schools Programme?

- A Green-Schools notice board is located just inside the main entrance of the school for all the children, parents and visitors to the school to see. This notice board displays the action plan and up to date information about Green-School activities. The notice board is regularly changed and updated.
- The school newsletter is used to bring information about the Green-School programme and the children's on going work to parents, teacher and the Board of Management.
- The school website www.cloonlooschool.ie is regularly updated with Green School news.
- After each Green-School meeting, a Green-School assembly is held with all the children in the school. Children are informed about what targets have been achieved and information is provided and discussed.
- Art work involving recycled materials is displayed in the hallways for all children, parents and visitors to the school to see.

12. Describe your Day of Action:

Our day of Action took place on Tuesday 29th May 2012. The children went on a school funded tour to two contrasting places - Arigna Coal Mine and Arigna Wind Farm.

We began by visiting Arigna Coal Mine. Before visiting the Mine we had done some work in school on the history of the mine. We

learned about coal mining and discovered the mine had shut down because the coal seams were running out, emphasising the fact that coal is a non-renewable source of energy.

We then visited a modern renewable source of energy -a wind farm. We got up close and personal with some wind turbines and discovered that they were big but not very noisy.

We had our photograph taken at the mine and it was published in a local newspaper "The Sligo Weekender".



Figure 11: Tour to The Arigna Mines



Figure 12: Tour of Wind farm

13 Please describe any contacts made with the wider community?

- Chris Harrison, the school caretaker and a member of the Green-School Committee has been instrumental in the Green-School Programme. He helped adjust the school thermostat, installed timer switches in the bathrooms (and removed them when they were not working well) and kept the school looking tidy and clean.
- Joan Dowd, a parent and a member of the Green-School Committee taught the older children how to make graphs using Excel.
- Claire Winters, a parent and gardener, provided a range of vegetables, flowers and seeds and helped the children plant them in the raised beds. (See Figure 13)
- The school made contact with An Taisce to register for the National Spring Clean and we were provided with an information pack and gloves, aprons and plastic bags for collecting the rubbish.
- Photographs were taken of our Day of Action - Visit to Arigna Mine and were later printed in a local newspaper- The Sligo Weekender . This raised awareness of our Green-School project in the wider community.
- Thomas J. Crummy Landscaping contacted the school about National Tree Week. He provided the school with an apple tree and helped the children plant it. Many parents came in for the day and the children dressed up in camouflage. The event was published in a local newspaper - The Sligo Weekender (See Figure 14)
- The school keeps in contact with An Taisce, Repak , North West Wheel Bin Service etc regarding green

issues and incorporate these, where feasible into the action plan/curriculum work.

- Attendance at Green School Seminar on Energy Theme in Tobercurry on Tuesday 11th October 2012



Figure 13: Planting vegetables



Figure 14: National Tree Week 2012

Step 7: Green Code

14. Please reproduce your school's Green Code for the Energy Theme:

Cloonloo Energy Code

Be a power saver and you'll do our school a favour,
Remember to close the door and the heat will stay with you more,
Be an energy bug, turn off or pull the plug,
And when you say Goodnight, don't forget to turn off the light.

15. Describe how the Green Code was agreed and how it has been integrated into school life.

In May 2012, the school held an Energy Awareness Poster competition. All the children were asked to create a catchy Green-School Energy rhyme, slogan or saying. The winning slogan would be used as the basis of the schools Energy Code.

All the children participated and there was a very high standard of entries. The Green School Committee came together to discuss each entry and describe if it should go in a yes/no/maybe pile. The final decision was left with the adults on the Green School Committee.

It was decided that 4 entries combined created an all-encompassing Energy Code. The winners were Cael McDonagh (1st Class), Diarmuid Conway (4th Class), Eoin Dowd (5th Class) and Nikita Hogan (6th Class).

Each got a prize. Adam Hayden and Cody Gardner also got awarded for artistic talent.

The Green School Code and the Energy Code are said on a daily basis and are displayed proudly on the Green School Notice Board.



Figure 15 - Green School Notice Board with Energy Posters

16 - (a) Would you like to highlight any positive aspects you encountered while working on the programme?

We all feel at St. Ronan's N.S. that the Green-Schools programme has greatly enhanced our understanding of energy and ways it can be wasted and conserved. It is a very practical theme in the current climate and one that is easily applicable at home as well as school.

(b) Would you like to highlight any negative aspects you encountered while working on the programme?

The one aspect that we found difficult about this theme was the dependence on figures and maths for calculating daily usage/ monthly usage etc. It got very complicated for the children to do the figuring out at times and it was much too difficult for the younger children to participate in.