

## Green-Schools Energy Theme

- **The aim of the Green-Schools Programme**

*'Is to increase students' and participant awareness of environmental issues through classroom studies and to transfer this knowledge into positive environmental action in the school and also in the wider community'.*

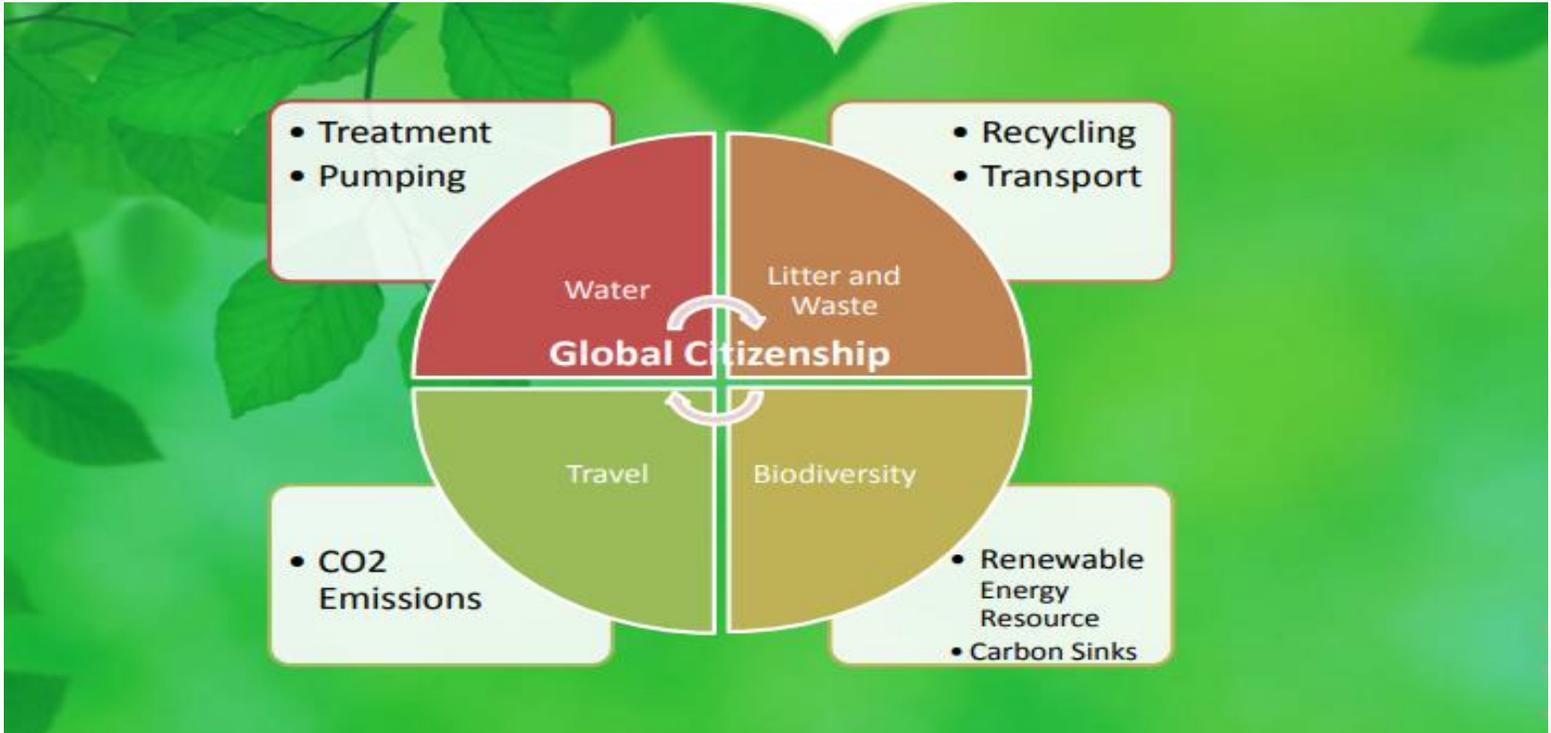
- **Remember...**

*The situation will vary from school to school Green-Schools is a STRUCTURED but FLEXIBLE programme.*

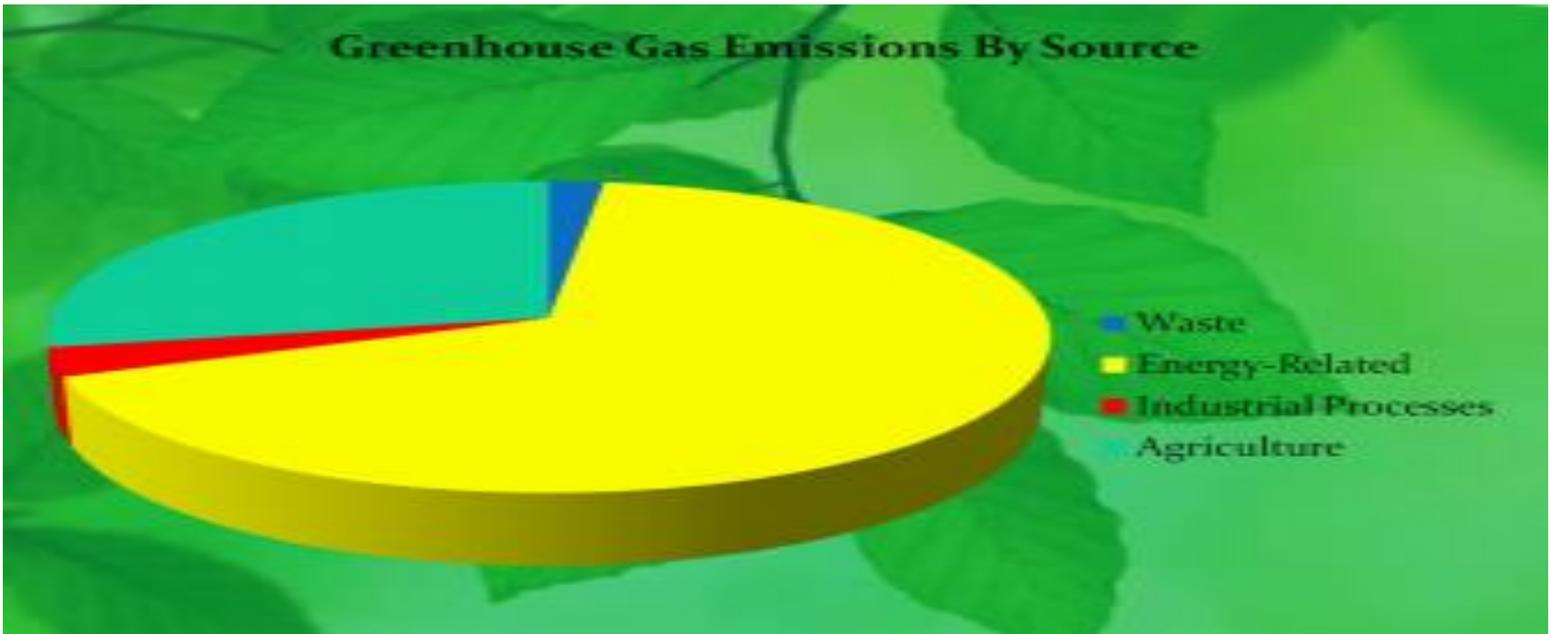
- **Green-Schools Themes**



- **Linkage with other themes**



- **Why energy is so important**



→ Fossil Fuels

→ Finite resource

→ In Turkey over 92% of our energy comes from the non-renewable sources of energy such as coal, gas, oil and peat.

→ High dependency on imports- 85% of our primary energy demand

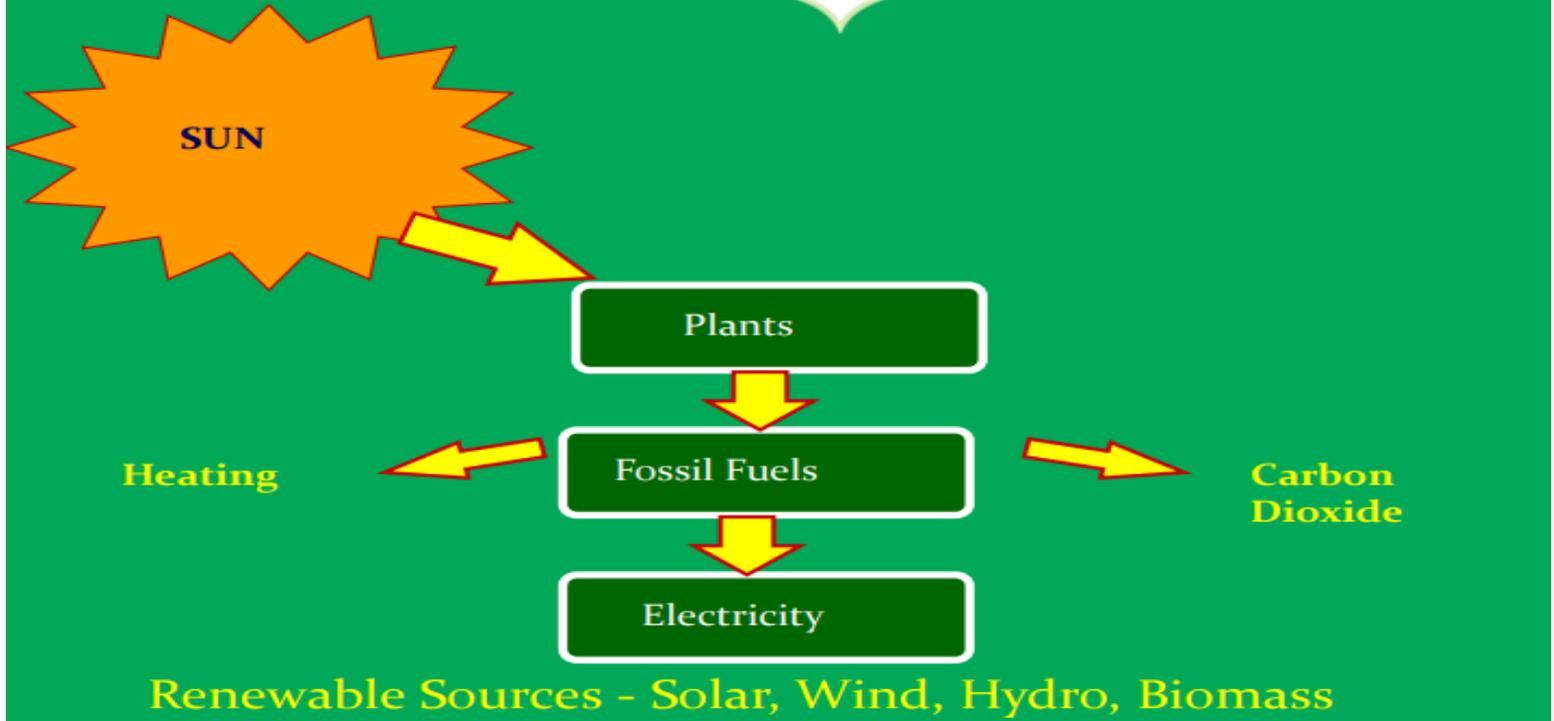
→ Major contributor to the greenhouse effect

- CO2 emissions

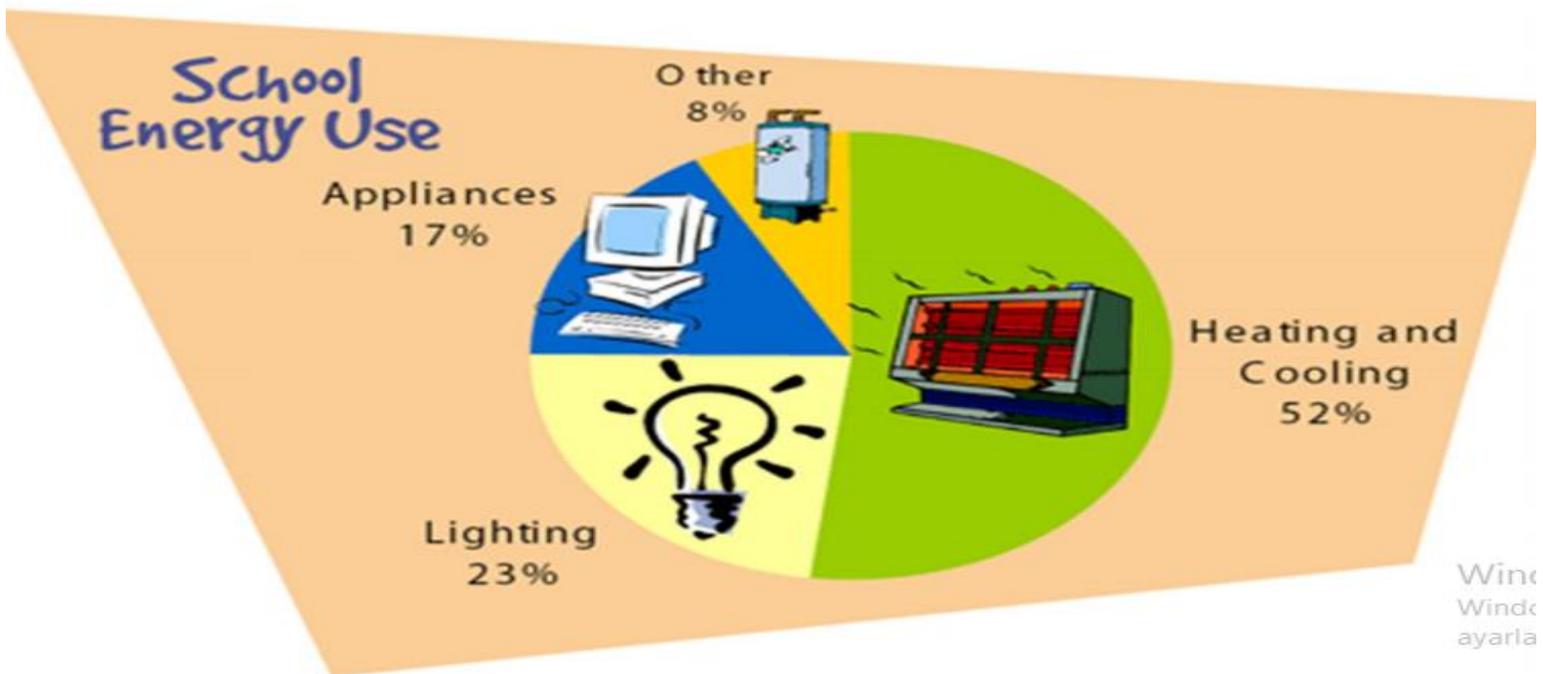
- Growth in energy demand is forecast to be 2- 3% annually out to 2020, with continued heavy dependence on imported fossil fuels and a need to invest in energy infrastructure

- Contribution to Climate Change

## Origin of Energy



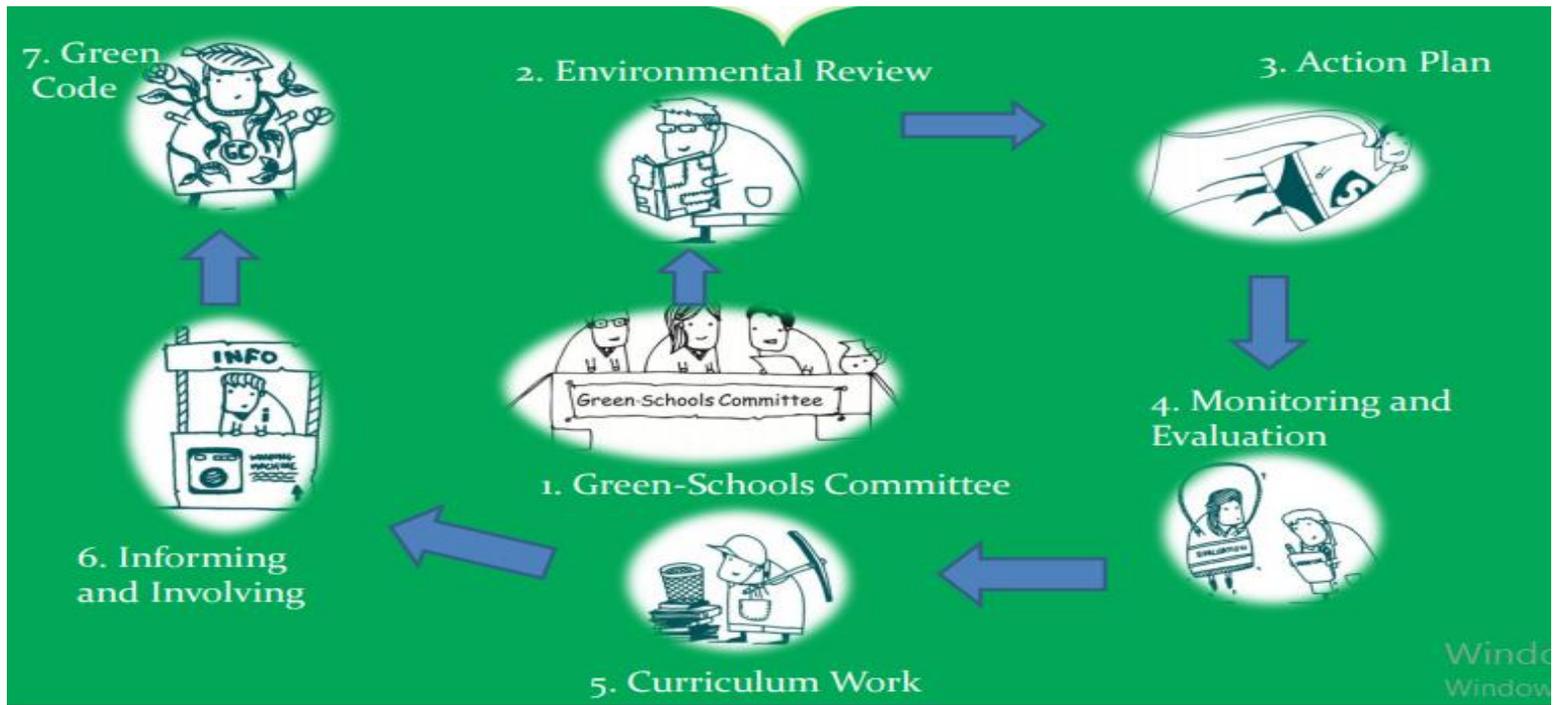
## School Energy Usage



- **Does Green-Schools Make a Difference?**

★ *Raising awareness is KEY!*

- **Implementing the Programme – The 7 Steps!**



## *Step 1: Committee*

- Student led
- Caretaker
- New classes represented (Buddy system)
- Sub committees; Delegate energy wardens, 'Energy detectives' 'Power rangers' 'Energy vampires' 'Lightguard on duty' Captain Power, Lieutenant light bulb and High Tower Heat, litter detectives-rotate frequently to maintain interest.

- Delegate responsibility of notice board to a different class each week, enforcing whole school involvement
- Award best classroom with 'green cup/cert'
- Suggestion box



# Step 2. Energy Review

- *If you can't measure it, you can't monitor it!*

How much energy is the school using?  
Where is the school using energy?

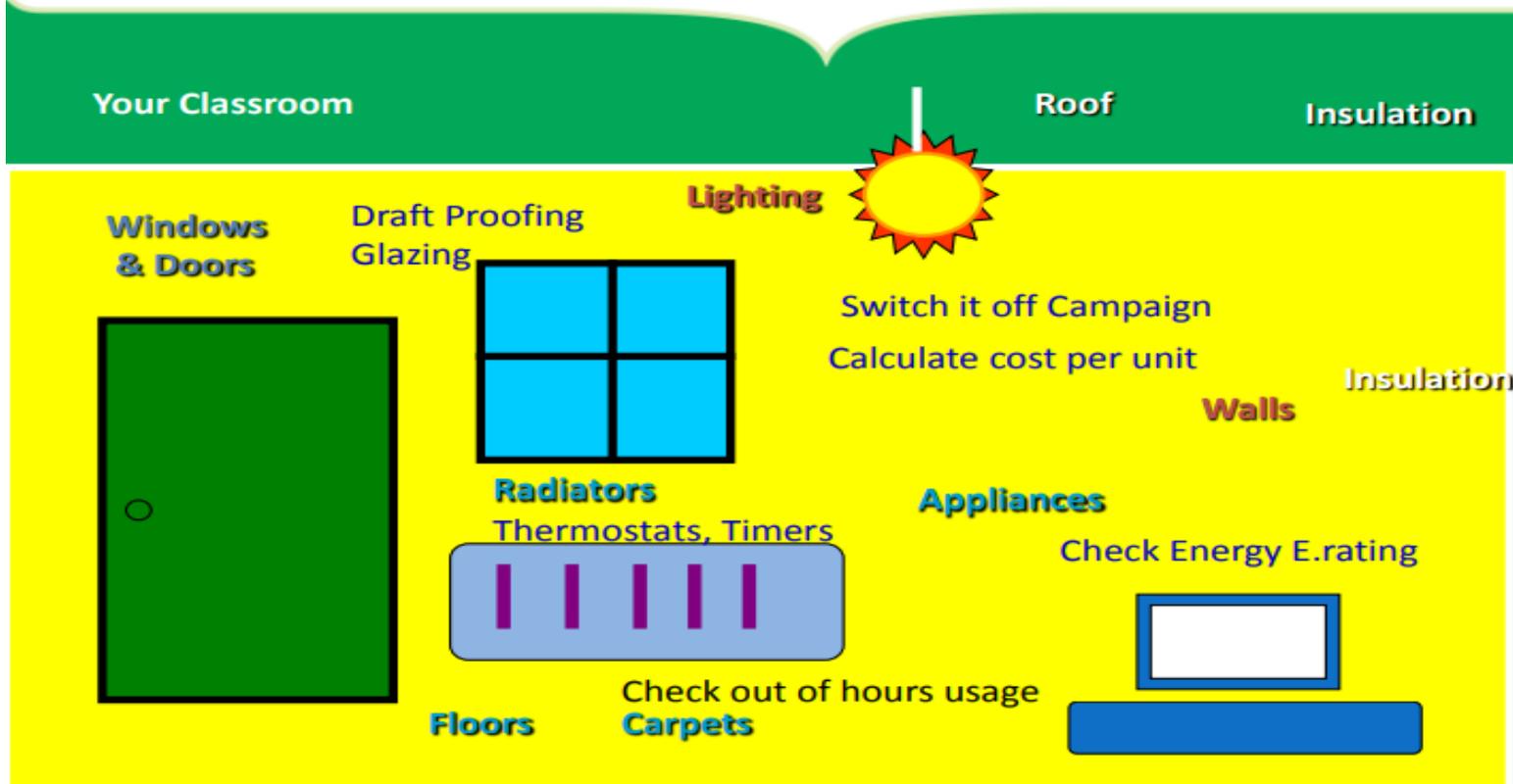
Take regular Meter Readings-bills, kwh, seasons  
Oil –harder to measure, count refills  
Appliance Survey  
Light Survey  
Standby Survey  
Thermostats – classroom temperatures  
Awareness Survey/Questionnaires

Health and Safety



Wind  
Wind  
walls

## Environmental audit



- Electricity, oil & gas readings

### Reading the Gas Meter

**Dial Card Meter**

Cubic feet:      Each division: 10

Each Division				
	100,000	10,000	1,000	100
Per Revolution				
	1,000,000	100,000	10,000	1,000

**Digital Meter**

In the case of a five dial meter, count these

**8 7 6 5**

In the case of a four dial meter, count these



[www.energycustomers.ie](http://www.energycustomers.ie)



- Sample Environmental review

		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 (Review)	Electricity	1/11/11	30/06/12	140	35528 kwh	0.691 kwh	Kwh
	Gas						
	Oil (if possible)	1/11/11	30/06/12	140	16150 litres	0.314 litres	Litres
Year 2 (Latest Figures)	Electricity	1/09/12	28/02/13	108	16237 Kwh	0.409 kwh	Kwh
	Gas						
	Oil (if possible)	1/09/12	28/02/13	108	13308 litres	0.335 litres	Litres

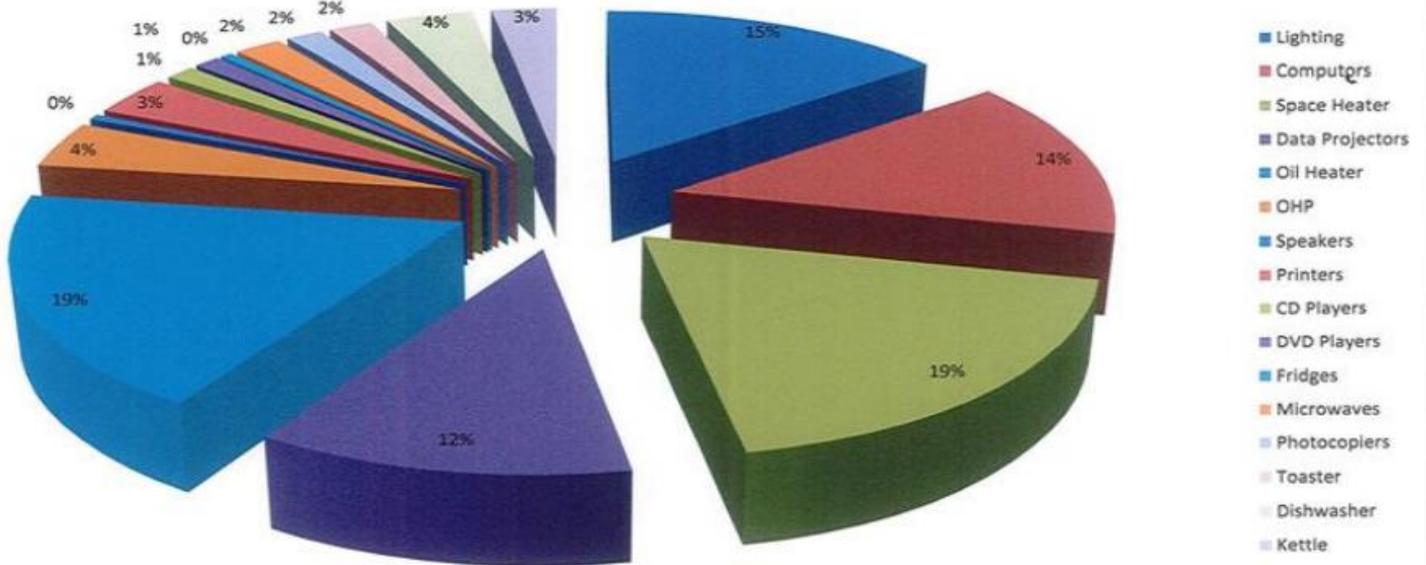
- Appliance Survey

### Map the school



## Energy Usage

**Energy Consumption:**  
Lighting, Heaters, Computers & Data Projectors account for 79%



Windows'u Etkin  
Windows'u etkinleştiri

### • Light Survey

**On average, lighting accounts for about 30% of school energy costs!**

- Count the lights
- Note their wattage
- Estimate how long they are left on for each day
- Types of Bulbs
- Natural Light Survey



- Standby survey

## Vampire Hunt!

Remember: It's an energy vampire if it has "active", "sleep/standby", or "off" modes.

If it can only be turned on or off (like a lamp), then it is a regular electronic device.

Establish a team to discover where Energy Vampires exist in the school!



## Thermostats

The INTO recommends 18 degrees

The temperature should not fall under 16 degrees

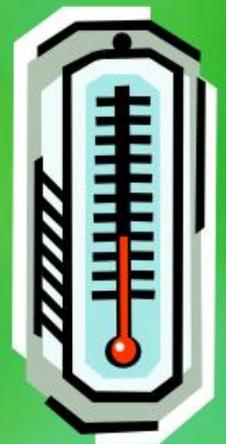
Costs rise by 8% for every 1°C increase

Ensure heating is adjusted over holidays, weekends

Ensure external doors are sealed

Keep radiators clear-reduces output

Boiler control



If you are opening windows in Winter because it is too stuffy, turn the thermostat down!

# Step 3: Action Plan

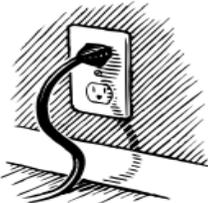


Action	Person/Group Responsible	Time Frame
Carry out a <b>Biodiversity Awareness Survey</b> to examine the level of awareness among students and staff	Green-Schools Committee	Early to mid September
<b>Habitat Map</b> the school grounds and do up a lot of the biodiversity in our school	Green-Schools Committee	Early to mid September

## Two overall objectives



### 1) Increase levels of awareness

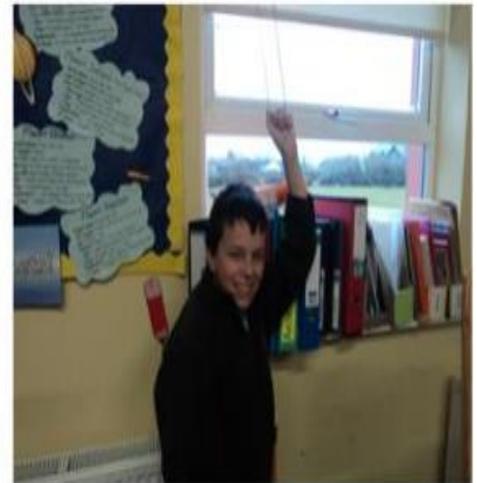


### 2) Practical improvements

Windows'u Etkin

## • Action Plan

- Start with no cost
- Switch it off campaign
- Standby campaign
- Check thermostat settings
- Check energy ratings if buying new appliances
- Switch to CFL bulbs
- Use plug strips
- Low Energy Days
- Tinfoil at the back of radiators
- Reorganise furniture
- Close blinds at night
- Make draft excluders from waste materials



- **Sample Action Plan**

Action	Person(s) Responsible	Timeframe	Status
Establish the Green Schools Committee	All teachers from 2 <sup>nd</sup> - 6 <sup>th</sup> class + staff from last year's committee	By end of October 2012 & 2013	Achieved
Conduct Environmental Review - 'Energy At Home' Questionnaire - Lighting Audit - Standby Survey - Temperature Survey - Draught & Insulation Survey - Appliance Audit	Green Schools Committee Whole School Community (parents/ guardians, pupils and staff)	By end of November 2012	Achieved
Display Environmental Review findings on Notice Board	Mrs. Fitzgerald's Class	By end of December 2012	Achieved
Make 5% reduction in electricity usage	Green Schools Committee	By March 2014	Achieved
Inform parents of aims for the program and encourage energy conservation at home	Green Schools Committee, Mrs. O' Leary, Melanie and Mrs. Butler	Termly	Ongoing
Make Energy- Saving Pledge	Parents & pupils	By end of November 2012	Achieved
Hold poster competition to devise Green Code	Green Schools Committee	Before Easter holidays	Achieved
Devise Energy-Saving Checklist for use in classrooms	Green Schools Committee	By end of January 2013	Achieved
Set up Green Schools Energy folder for	Ms. McDermott	October 2013	Achieved
Form an 'Energy Squad' to ensure Energy-Saving Checklist is being used in all classes	6 <sup>th</sup> Class	Weekly	Ongoing
Hold Christmas Raffle to encourage classes to use Energy-Saving Checklist.	Green Schools Committee	Before Christmas holidays	Ongoing
Take daily electricity metre readings	Lennon, Peter, Roman	Daily	Ongoing
Make display to show efforts to litter-free school yard	GS Committee & 6 <sup>th</sup> Class	Daily	Ongoing
Recycle old, unwanted computers	Mr. O'Brien & the Camara	6 <sup>th</sup> of February 2013	Achieved

## GOAL 1

To ensure that everyone in school is aware of the Green School Energy Programme and fully participate therein.

Action	Person / Group responsible	Time
Questionnaire to be sent home re energy use	Green Team	Nov / Dec 2009
'Turn it off' and 'Shut the door' signs to be displayed throughout the school	Green Team	Nov 2009 + announcements to be made at regular intervals over intercom.
Inform parents of work in school re energy and keep children informed re progress	Green Team	Ongoing
Appoint Energy Warden in each class to switch off lights check standby status and blinds daily	Class teacher	Nov 2009

## GOAL 2

To discover the amount of electricity and oil being used each day / week / year and to try and reduce consumption of both.

Action	Person / Group responsible	Time
Appoint Energy Wardens	All classes	Ongoing
Close blinds at 3pm	Energy wardens	Daily
Turn off lights and appliances when not in use	Energy wardens	Ongoing
Close outside doors at break	Energy warden in 3 <sup>rd</sup> and 4 <sup>th</sup> classes	Ongoing
Count number of light switches, radiators, sockets, doors & windows in school	Green Team	Nov
Record ESB meter daily for a week	Green Team / Joan	February and March
Record temperature outside and inside over a month	Green Team	Nov
Price of electricity for a day / week is calculated and displayed on Noticeboard	Joan	Nov
Purchase Energy Meter from ECO Shop to make school visually aware of energy use.	Joan	Feb
To switch off hot water in all of the classrooms	Mrs Rooney	Oct

### GOAL 3

To improve awareness of amount of energy used at home and develop children's knowledge of energy production and cost.

Action	Person/group responsible	Time
Questionnaire drawn up for home	Green Team	Dec
Questionnaire sent to pupils homes	Green Team	Jan
Results noted on Green School Notice Board	Green Team / Joan	Feb
Report and Energy Saving websites & ideas sent home	Green Team / Joan	March
Guzzler Workshop for Junior Classes	Mrs Cunningham	Feb
Workshop for senior students on energy use	Mrs Cunningham	Jan

## *Step 4 – Monitoring & Evaluation*

Meter Readings

Energy Wardens

Follow-up Survey

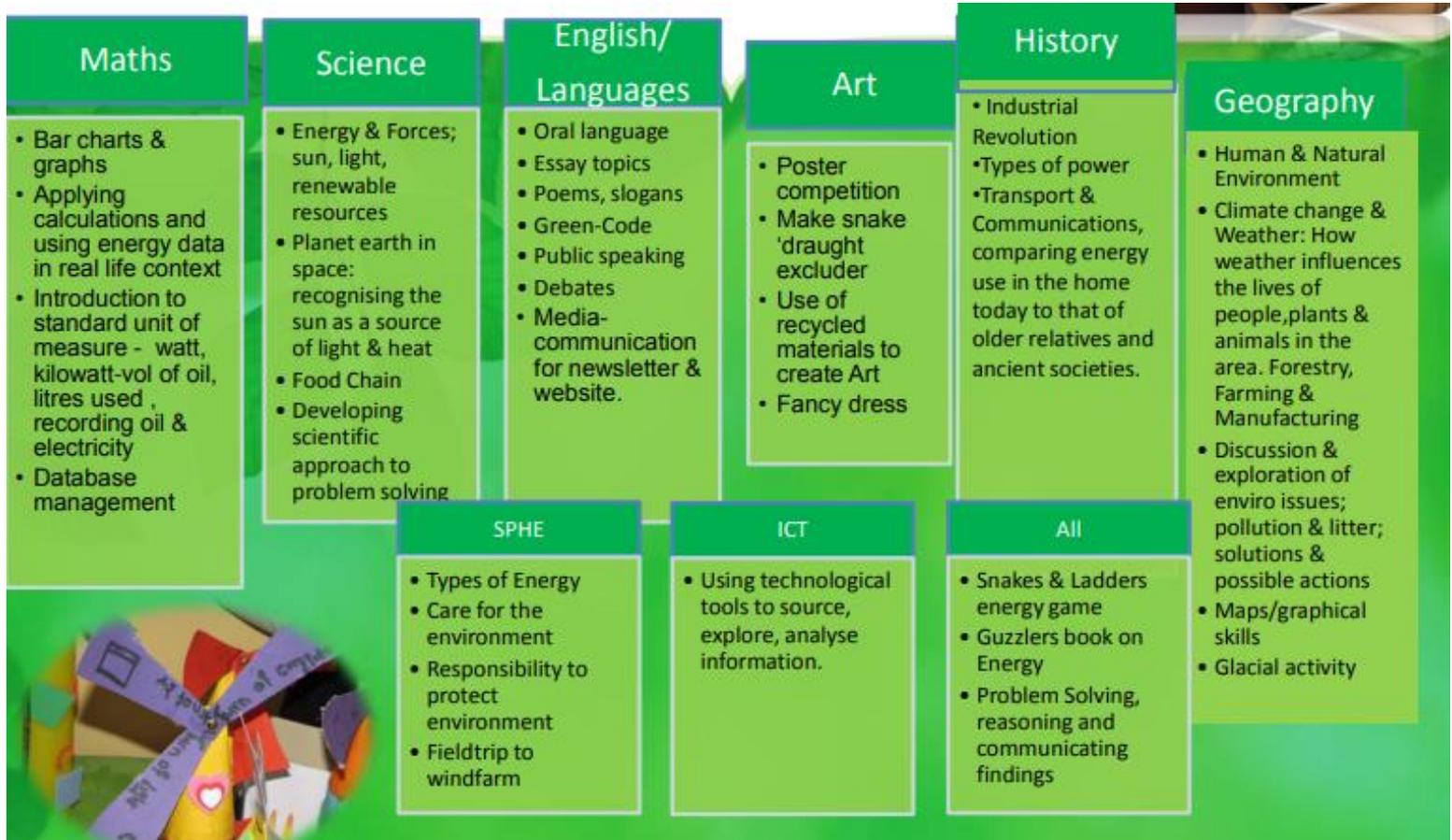
Monitor progress

Check and Revise Action Plan

Notice board – graphs/pictures



# Step 5 - Curriculum links



## • Teaching resources

- Junior & Senior infants- colour posters & poems on saving energy, reading, Energy from food, toys that use power, acting out scenes when there was no sun/light, understanding the transfer of energy & its conservation.
- Energy chain lesson plan; how all energy is derived from the sun. Sun-Wheat-Chicken-Egg-Person,
- Sun – Ancient forests –Oil –Oil well – Car – CO2 then renewable- sun's energy -wind-turbine- electricity
- Renewable energy: Show pictures of different forms of energy and ask students to guess what they are (wave/geothermal/solar/wind/electrical) Send them on an Energy hunt-in teams of 3 aim to find as many sources of energy as possible.
- Fossil Fuel hunt
- Climate change: Effect of melting ice caps: Place ice cubes in plastic tub. Show effect on sea(water) & land (plasticine mountains)
- Greenhouse effect: Glass jar, thermometers, picture of greenhouse (outside on sunny day) Blanket & action cards



# Step 6 - Informing & Involving

- 
- GS Notice Board
  - Local Press
  - School Newsletter
  - Website
  - Send Energy Saving Tip of the Month to all Parents and Members of the Board of Management via webtext.
  - Make use of website to ensure transition to homes, text a parent service, assign pr officer amongst committee.
  - Day of Action
    - Low Energy day
    - Switch it off Campaign
    - Visit to nearest power station or windfarm
    - Find out if any of the pupils have renewable energy sources at home and see if a visit would be possible?

## • Health and Safety

### Health and Safety



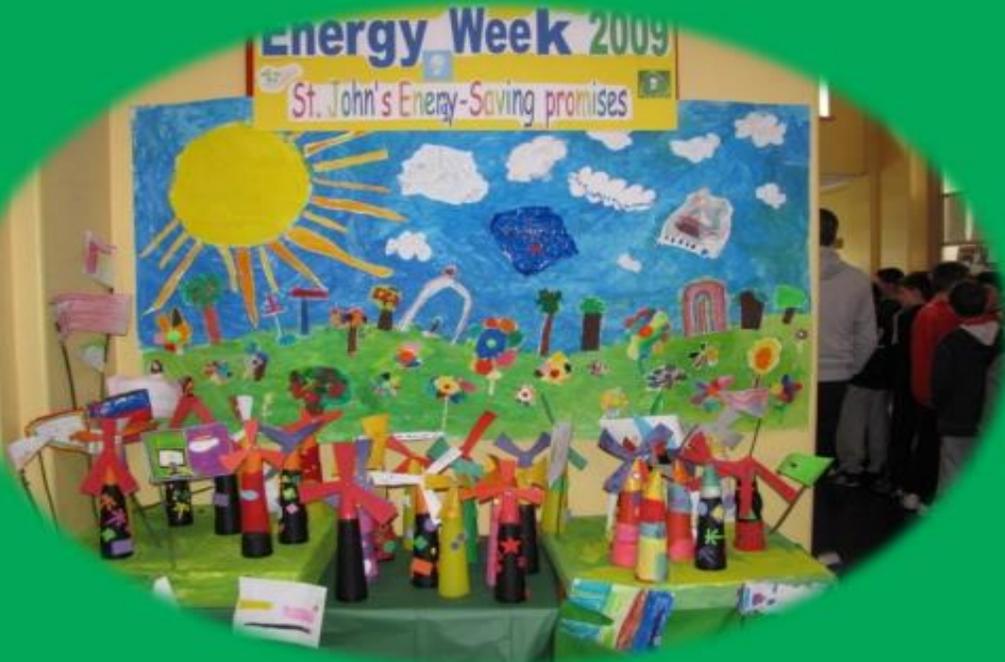
- Health and Safety Policies
- Supervision
- Ventilation and Lighting
- Hot Water
- Be aware of dangerous areas and insurance policies



## Low energy days

Today is a  
Low Energy Day.  
Don't turn on the  
switches!

## Raising Awareness-Energy week



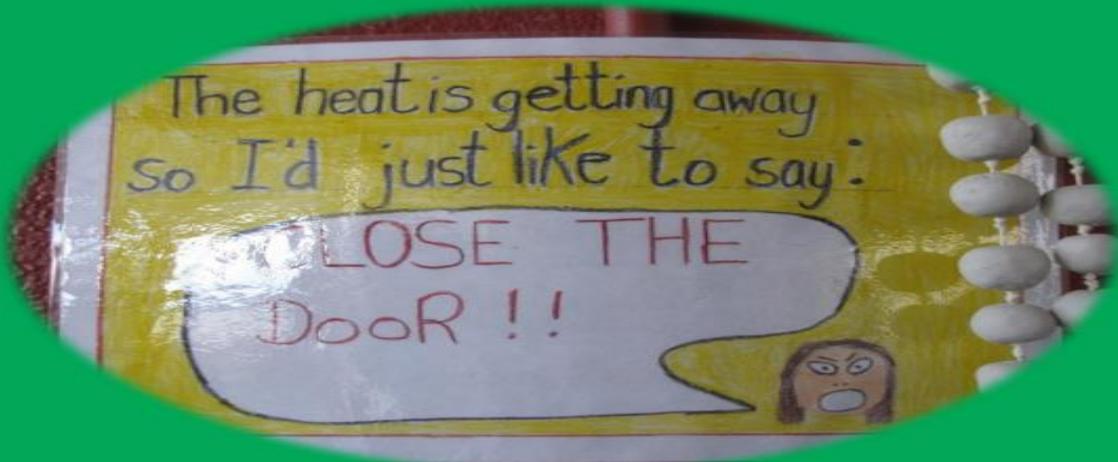
## Fancy dress!



## Poster competitions



## Reminders!



# Step 7- Green Code

Aim: To state the objectives that demonstrate the school's commitment to environmentally-friendly actions

- Competition
- Rap/song/poem
- Display on Green-Schools Notice Boards

*"Don't kill a watt, save a lot"*

*St. Louis NS, Rathkenny*

*Reduce Bord Gais,*

*Save the Dosh!*

*Baltydaniel NS, Mallow*

*"When it's bright, switch off the light"*

*Billis NS, Cavan*