
Cars Pollute Too!

The faster one drives the more fuel one consumes. For example, one spends 25% more on fuel when driving at 65 miles per hour rather than 55 miles per hour;

Avoid sudden pressing of the gas or brake pedals unnecessarily and you would save 5 to 10% on fuel;

Switch off the engine in traffic jams and you would save on fuel and air pollution;

Try and combine more than one errand in one journey. You would save on fuel as the car's engine would be operating closer to its optimum temperature range;

Do not leave unnecessary loads in the car boot;

For short distances, consider walking to your destination rather than driving. You would also be doing some sports!!

Arrange with one of your classmates to go to school together in one car;

'Hybrid' cars have an engine and an electric motor. When driving for long distances, one would use the engine and simultaneously charge the batteries but for short distances and in town centers, one could use the electric motor and save on environmental pollution and fuel.

Nowadays one can also use Alternative fuels such as Bio-Fuels, which would do much less harm to the environment than conventional fuels.

In the future, it will also be possible to use transport that runs on Hydrogen gas. By means of *Fuels Cells*, hydrogen is transformed to electricity that drives the car's motor without polluting the environment.

Other Useful Links:

<http://www.inforse.org/europe/schools.htm>

http://www.inforse.org/europe/inforseeducation/school_resources_home.htm

<http://www.geocities.com/meereamalta>

<http://home.um.edu.mt/ietmalta>

<http://www.solcomhouse.com/>

<http://www.agores.org/default.htm>

<http://www.cat.org.uk/>

<http://www.aboutbioenergy.info>



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What Are Greenhouse Gases and What Effect Do They Have on Our Environment?

Our Earth's atmosphere consists of several gases that keep it in balance to support life on our planet. These gases block certain harmful sun's radiation from reaching us and allow others to pass through. Some energy remains trapped and warms up the Earth in accordance with this sensitive balance. This is known as the *Greenhouse Effect*.

In our daily lives we use fossil fuels extensively for our energy needs, industries and transport, all leading to an increase in carbon dioxide emissions into the atmosphere. We have also destroyed thousands of acres of forests that used to keep the balance of oxygen and carbon dioxide in the atmosphere. As a result, carbon dioxide has increased by about 25% over the past 200 years. This has in turn, increased the greenhouse effect and is causing what is known as *Global Warming*.

The final effect is that the Climate has changed and desertification has increased. Scientists also claim that extreme weather conditions such as flooding, hurricanes and other natural phenomena have become more often and persist for a longer period of time.

Each one of us can contribute to reduce the negative effects on the environment by reducing our consumption of fossil fuels, practice energy conservation and use renewable energy sources, thus contributing towards a more balanced ecosystem.

Recycling Makes Sense

On many occasions one can make use of waste. For example, food remains and organic products may be easily converted to fertilizers for plants and trees.



Stop and Think!

Another example is the conversion of newspapers into logs for burning in fireplaces. This may be done using the *Log Maker* as seen in the photograph below.



Another example that is being implemented abroad is the recycling of scraped television and computer screens. The melted glass is transformed to other useful objects such as vases and glasses.



The Sun Gives Warmth

The Sun's energy may be used to heat water without need for gas or electricity.



LOOK!



A photograph of a *Solar Water Heater* on top of a roof in Malta



Stop and Think!

Depending on the extent to which hot water is used from a Solar System, one can save up to 20% of the Electricity Bill of an average Maltese family.



Electricity from the Sun

The use of *solar cells* similar to those that we see in solar calculators can produce electricity on a large scale.



A photograph of the first privately owned solar electric system in Malta

The use of *solar photovoltaics* is very popular all over the world even though the costs are still high. One of the main advantages of this technology is that one can start with a small system and enlarge it at a later stage without major alterations.



Don't use Solar Electricity to heat water. It is much more efficient to use a solar water heater for that purpose.



Energy from the Wind

In many countries wind is being used to generate electricity by means of *Wind Turbines*. These machines mainly consist of blades that are rotated by the wind and a generator that is connected to the blades' rotor. Small Wind Turbines are normally connected to charge batteries of isolated systems that may be far from the Electric Grid. Other larger systems are connected directly to the grid and produce clean electricity.



LOOK!



A small wind turbine

Wind Turbines may be installed on land or at sea. The first type of turbines is called *Onshore* while the latter is termed *Offshore Wind Turbines* respectively. One of the advantages of *Offshore* Wind Turbines is that they do not use land that

may be useful for other purposes. On the other hand, they require specific seabed conditions and larger investment capital.



Stop and Think!

Some people claim that Wind Turbines are noisy. The table below shows a typical comparison between wind turbine noise and other noises from different sources.

Noise Source	Indicative Noise Level (dB [A])
Least Detectable Noise by Human Ear	0
The Countryside at Night	20-50
Quiet Room at Night	35
Wind Farm from a Distance of 350 metres	35-45
Main Road from a Distance of 5 kilometres	35-45
Passing Car at a speed of 65 km/h from a Distance of 100 metres	55
A Busy Office	60
Conversation	60
Passing Van at a speed of 50 km/h from a Distance of 100 m	65
Busy Traffic in Town	90
Pneumatic Jigger from a Distance of 7 m	95
Airplane from a distance of 250 m	105
Unbearable Noise	140

Extract from information found on the website: www.auswea.com.au



Save on Water Consumption

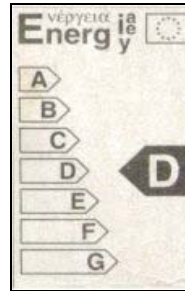
In Malta, about 50% of potable water comes from Reverse Osmosis Plants that transform seawater to drinking water. The process uses a large amount of electricity and hence, when we save water we are also saving electricity.

How Can You Save Water

When Washing	Where possible, take <i>showers</i> instead of full baths and you would save about 160 litres every time! Close the mixer while soaping yourself or brushing your teeth.
Washing Machine	Avoid washing at less than full load.
Dripping	Check that all taps and toilet flushing systems close well.
When Washing Floors	Avoid excessive wetting of floors, because besides saving on water, one would control the relative humidity at home, which is one of the main reasons for feeling cold on a nice winter day.
Flushing	Today's modern flushing <i>toilet</i> systems consume less water. If you don't have one of these, then you may put small glass bottles inside the flushing, filled with water and you will get a similar effect. Avoid using the <i>toilet</i> as a <i>bin</i> .

Saving at Home

Every time that you decide to buy a new appliance, look for the "Energy Label" that looks similar to the photo below:



The most efficient appliances would carry the Large Letter A. Other letters imply higher consumption of electricity with G being the highest. Appliances holding an Energy Rating of A or B are not necessarily more expensive than others.

Use Energy Saving lights especially in rooms that are used frequently.

Switch off lights that you don't need.

Ensure that the thermostat of your electric water heater (geyser) is set to not more than 60 °C. Higher temperatures would consume more power and ultimately the hot water would again be mixed with cold water for showering and washing.

Close doors and windows when you are cooling or heating a room by means of an air conditioning unit. If you leave them

open, you would only be trying to heat or cool outdoors as well.

To Reduce Heat Gain in summer:

- Use all means to shade walls, doors and windows;
- Louvered windows must be placed on the outer part of the building and not behind glass windows.
- Use insulating material on roofs and in walls.
- Cover roofs with temporary shading material, placed few inches above roof level;
- Close windows and doors throughout the morning and open them at night to allow cooler air into the building.

To Reduce Heat Losses in winter:

- Use double glazing apertures throughout;
- Ensure proper sealing between apertures and walls, and you would reduce the chances of cold air infiltration;
- Seal doors especially those facing the prevailing wind direction.
- Use dehumidifiers. Many times one feels cold in Malta due to high relative humidity inside the house;

Can you think of other measures to do yourself?