The Choice is Yours

Although you might not be ready use the sun's rays to fry eggs on your sidewalk, there are many ways in which you can reduce energy consumption and conserve non-renewable resources around the home. Whether you choose passive or active strategies, or a combination of both, contributing to the reduction of your own carbon footprint is a noble cause. Electricity accounts for approximately 53% of the energy used in Australian household, but generates about 87% of the greenhouse gas emissions. This is because most electricity is generated through the use of non-renewable resources, such as the burning of fossil fuels. However, the Australian government is taking steps to reduce the carbon footprint due to household energy consumption. Last year a report by the Clean Energy Council found that more than $4 billion was invested into the renewable energy market last year, driving significant growth in the amount of Australian homes (almost 4 million) now powered by renewable energy. Similarly, government rebates are also available to offset the initial costs of installing renewable energy power systems. These systems mainly harness renewable energy sources such as the sun, wind and water. The most common energy systems used in Australian homes are wind turbines and photovoltaic (PV) modules. However, other systems that can be installed include microhydro power plant systems that harness energy from water movement. PV modules convert sunlight into electricity, constructed using a connected group of photovoltaic cells to form a usable and efficient system. These systems can become quite complex as technology progresses, with advances such as tracking PV modules that follow the sun's movement though the sky. After the initial cost of installation, PV systems are quite cost-effective. Without any moving parts, they require little maintenance and are very reliable, often lasting 20 years or more. They are often the best choice for individuals living in urban areas with no noise pollution and excellent space efficiency. Wind turbines are another Aussie favourite in providing renewable energy for the home. These mechanisms use the wind to turn a propeller which in turn drives a generator to produce electricity for the home. Wide variations in size, shape, energy output, and design accompany this module. The most common wind turbine is the horizontal axis turbine. This design incorporates blades like an aircraft propeller and a tail or vane to direct it into the wind. These are more optimal for home use than their much larger mounted turbine counterparts. Domestic wind generators are used in standalone power systems, used to charge the battery back. However, special consideration must be taken when deciding on this renewable energy system, as many factors influence its success and efficiency. If installing a home system seems impractical or an unattainable goal, a company growing in popularity may offer the solution you need. GreenPower enables households to buy accredited renewable energy, produced under stringent environment and reporting guidelines. Since 1997, more than 645,000 residential and commercial customers Australia wide have contributed to the reduction of greenhouse gases through electing GreenPower. This has resulted in an estimated decrease of 4.5 million tonnes of greenhouse gas emissions. However, efficiency works with conservation behaviour. Swapping out incandescent lightbulbs with compact fluorescents (CFs) or LEDs is just as important as improving your energy-use behaviours. Turning off the lights when you leave a room or keeping doors

closed when using an air-conditioning system can have a significant impact on the energy efficiency of your house. Other general strategies include:

- upgrade to energy efficient appliances, particularly fridges and freezers,

- externally heat the water for clothes and dishwashers with solar systems,

- use passive design building principles (i.e. proper insulation, placement of windows, etc) to minimise need for heating and cooling,

- identify 'phantom loads',

- often appliances such as your TV, computer, battery chargers still use power when "off." Put these on plug stops that can be turned off, or turn off the appliance at the wall.

Renewable energy in the home has become an increasingly popular subject as individuals have become more aware of their potential to contribute to preserving the environment. With many strategies, ranging from simple to complex, individuals can make energy efficient decisions to cater to their own specific needs. Now frying with the heat of the sidewalk isn't our only option.

References

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