The Use of Wind Turbines in South Africa

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Many of us associate a wind turbine with sustainable farming as we regularly see them spinning ferociously on grassy hill tops in rural areas. The truth is that wind turbines have now been specially adapted for residential use and they can be used in addition to other energy efficient products to reduce oneâ€™s carbon footprint.
A wind turbine operates by converting energy produced by wind into kinetic energy that we can use as electricity in our home. Turbines consist of a rotor, a generator and gear box and are modeled aerodynamically in order to receive optimum wind to convert into electricity. When the blades of a wind turbine capture the kinetic (or moving) energy they begin to power a mechanism that runs from the rotor to the generator. The generator of the wind turbine then converts that energy into electricity.

Wind turbines are divided into two functioning categories: vertical axis turbines and horizontal axis wind turbines. If you purchase a horizontal axis, you will have to situate the turbine so that it is facing into the wind. A vertical axis turbine does not necessarily need to be facing into the wind to function. For a wind turbine to function at its maximum capacity and convert energy from one form to another, wind speeds surrounding the turbine need to reach a speed in excess of 16kph, so a wind turbine would only benefit an individual living in a relatively windy area.

If you speak to any South African sustainable energy expert, it is guaranteed that a vast amount of them will advise that the disadvantages outweigh the advantages when it comes to utilising wind turbines in a suburban area. This is owing to the fact that in heavily populated residential areas, wind turbines are not able to function at their optimum efficiency level and you might find that the energy the wind turbine produces is erratic which makes tings inconvenient.Â A positive alternative to using a wind turbine to generate energy for your home is the use of solar energy products. By changing your regular home products to solar power products you will:

â€¢Â Â Â Save money: after the initial set up cost of installing solar powered products in your home, the energy provided is free. Typical payback period for investing in solar power in SA is about 7-10 years, after which you can expect free electricity for an additional 20-30 years. Â
â€¢Â Â Â Save on maintenance costs: Solar powered products are low maintenance and their usage time can last for up to 30 years.
â€¢Â Â Â Live peacefully: Solar powered products are silent â€“ unlike a wind turbine that can make a large amount of noise, so energy products are silent and will not disturb your lifestyle.
â€¢Â Â Â Reduce your carbon footprint: solar powered products are safe and environmentally friendly â€“ therefore reducing yo carbon emissions and contributing to preserving the environment.

Using a wind turbine in an area where there are no surrounding houses or buildings will let the turbine work at its prime capacity but as many of us live in residential areas where our homes are closely situated next to each other, solar powered products will ultimately provide you with more regular solar energy than a wind turbine.Â Information provided by:Â David Ackerman for Sustainable. Â You can find a previous article on wind turbines and how Gerhard Jacobs has successfully built his turbines here .Â Â