



Winglette

WIND POWER FOR YOU...

Electricity

For you...

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—Wind conditions...



Model W03



PICTURE GALLERY

Here are **some ideas** on the practicalities on wind conditions which we think **will help you** to find a good location for your **Winglette** wind generator.

All **alternative energy**, ultimately **comes from the sun**. The sun heats the surface of the earth. Of this heat, about 1% to 2% is converted in to wind energy, which is 50 to 100 times more that the energy converted into biomass by all plants on the earth.

The **wind speed is extremely important** for the amount of energy a wind generator can convert into electricity. The energy content of the wind varies with the cube of the wind speed. For example, the power in a square meter of wind at a wind speed of 8 m/s, is about 314 Watts. At double the wind speed, that is 16 m/s, the power in a square meter of wind is about 2500 Watts. A simple conclusion from this phenomena, is that **one should consider all factors** that will **improve the average wind speed** for a given site.

Here are some factors to consider:

- **Surface roughness.** High above the ground level, the wind is hardly influenced by the surface of the earth. At lower levels the wind is greatly retarded by surface conditions like trees, buildings, and all kinds of vegetation. The more pronounced the roughness of the surface, the more will the wind be slowed down. If you site has rough surface areas, **go for a higher tower** to avoid gustier winds.
- **Turbulence.** Not only surface conditions, like trees and buildings causes turbulence, but changes in the weather patterns, day time and night time, and uneven terrain. Turbulence decreases the possibility of using the energy in the wind effectively for your **Winglette** wind generator. It also impose tear and wear on your machine. **So, minimize turbulence.**
- **Obstacles.** Obstacles, like buildings, and trees, decreases the wind speed down stream from the obstacle. The slow down of the wind increases with the height and width of such an obstacle. So, **stay upwind of any obstacles.** If

Testimonials.

In the end, it is what our customers say that really matters. Here are the comments of some of them:

Johnny Hanekom, Keetmanshoop, Namibia: The two (2) machines that I've bought, exceed all my expectations as far as power generation is concerned. I am really pleased with their performance, and I am planning to buy the third unit.

Johnny van der Linde, Groblershoop: We are retired on our farm outside Groblershoop, and have always experienced a shortage of electricity from the solar panels we had. With our Winglette wind generator now installed, we are seeking ways to utilize the abundance of power that's available now!

Nico Grobler, East Coast, Mozambique: We have a holiday home near Vilancuro, and are well pleased with our Winglette. Being a pilot for the South Africa Air ways, I just love the Winglette's modern technology and good looks!

downwind side of obstacles, consider a higher tower. Remember, trees keep on growing taller, towers not.

- **Tunnel effect.** On hills, for example, one might experience that wind speeds are higher than in the surrounding area. This is due to the fact that the wind is compressed on the windy side of the hill. Tunnel effects can also be found in valleys, and next to slopes of ridges. It is many times advantageous to consider these options for a good site for your **Winglette** wind generator.
- **Flagging.** If one observe trees, especially conifers or evergreens, you will notice that their growth are influenced by prevailing wind conditions. Strong winds can permanently deform the trees. This deformity is known as flagging. Ecologists have been using flagging in trees for many decades to ballpark wind speed for an area. **Look at trees and vegetation** for clues about wind speed and general wind directions.

These are some considerations to take into account when selecting a **good site for your Winglette** wind generator. Take your time to weigh all factors properly. You will be rewarded with a system that takes the best advantage of one of our **free gifts on Earth... the Wind.**

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