

Is Wind Power for Me?

By Till Schilling

Cutting costs is what I am all about. I am a conservative at heart and especially when it comes to conserving what is in my wallet. I recently had the chance of a life time to make a dream come true; several, actually. I bought a small 15 acre Farm with a lovely old farm house on it. Having 2 teenage daughters, I knew I had to expand the old house a bit before moving in.



Living in the countryside requires a house to be more than a town or city home is. The choices for easy energy hookup are far fewer, and the cost of maintenance and upkeep tend to be far higher. I knew that I had to find ways to cut the running cost as well as maintenance cost, if I was going to reduce monthly payments to a minimum.

This led me to find out where my recurring expenses were originating from. Energy in the form of electricity as well as propane gas is needed to be able to enjoy the comforts that our 21st century amenities allow us. If one is not careful or aware, the bills for energy can skyrocket.

The 4 main concerns were

1. Heating the house,
2. Cooling the house,
3. Kitchen and laundry required energies,
4. Water efficiency.

It was here where I became immersed into the world of building 'green', 'energy star' efficiency, heat/cool loss reduction, and water flow consciousness.

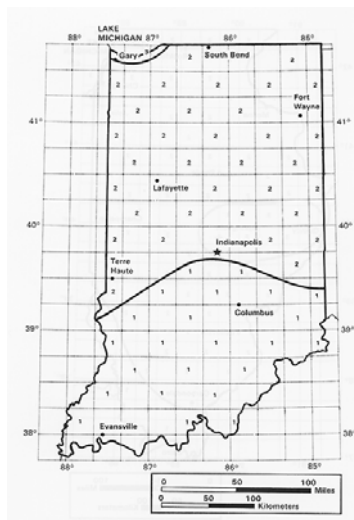
While it would expand the scope of this article to dwell on each one of the subjects, and the choices available to us are as varied as apple pie & thanksgiving turkey recipes, I would like to briefly comment about my choices.

I chose to use the combination of a Geothermal heating/cooling unit with an energy recovery ventilator to dramatically reduce the demand to control the indoor climate. Proper insulation and green building techniques further reduce energy consumption. But I also felt that living on a plot of land with so much potential, I had to tap into a now very affordable energy source, i.e. wind. I chose a Skystream™ 3.7 1800W Wind Generator.

While there are many possibilities and choices on the market for such setups, I chose to install a unit that would actually tie right back into the grid, and on windy days either reduce consumption; or during the night with reduced use, or non use, feed the grid and credit me with the energy produced.

As with the geothermal unit, the upfront investment (*and it really is an investment*) for a wind turbine is still rather high. Although the general price for one has dramatically dropped in the last years, the whole project needs to be taken into account.

Should you think about investing in such an idea, here is what I have learned:



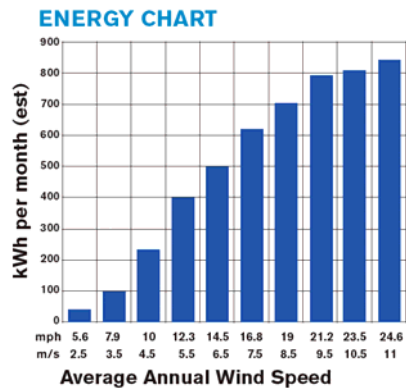
1. A thorough location and wind assessment for the chosen site is needed. The Indiana wind map as well

as the local Airport wind data may give us a good idea of the time it might take for a good return on investment. A good value is anywhere between 7 to 12 years, at current market prices for energy.

2. It pays to do the job right and not cut corners. Although the generator head with blades and inverter were bought for \$6000 to \$7000, one has to take into account that the generator needs to be up in the air at a minimum of 30ft, ideally 45 to 60 ft; so a tower is needed. Since I did not want guy cables all over the place I chose a monopole. There are many types of towers available.
3. This tower needs to be anchored adequately to the ground. A cement base with anchor bolts needs to be set into place. The dimensions of the tower and the base are predetermined by the lay of the land and the composition of the soil.
4. The whole setup needs to be tied into the house energy panel through a breaker; so distance between the tower and the house also play a role, as different type of wire size needs to be laid into the ground.

While it is exiting to get caught up in the technical data, it is also important to realize that to be a true conservative, you have to work on both sides of the equation. Not just produce more yourself, but also reduce the use of energy use as much as possible. Here is where it pays off to have a thorough inspection done by a professional. Careful analysis of your historical consumption data as well as an on-site evaluation can by itself significantly reduce the amount of energy used and needed. Every appliance as well as potential insulation issues can conserve your long term financial wellbeing. New construction is most blessed by such an evaluation, as this point is the most economical moment to implement energy conservation efforts. Every dollar spent here, can and will

translate into a plentiful return in conservation alone.



Taking into account that I have minimized my energy use, and am now in a position to even generate a healthy portion of it myself, the rate of return is accelerated even more so.

No one knows what the future of energy might bring, but one thing is sure. Those golden days of sweet cheap energy are gone. Wind power together with solar power are two of the greatest growth generating fields in our economy. Tapping into wind energy is as old as it is efficient.

