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**WIND ENERGY IN NORTH CAROLINA**

**Laura Sorensen**

Solar Dynamics



There's a change in the air and the old fashion windmill that helped grandma and grandpa mill the flour and get water from the well has come a long way. Indeed in the last 20 years, state –of-the-art wind turbines have become sleek and efficient, quiet, radio and television frequency –free and economically competitive with other sources of energy. And contrary to public gossip, small wind system reports of killing or injuring birds are rare. Statistically, a sliding glass door is a greater threat to birds than a small wind turbine. Another commonly misunderstood concern is aircraft. The FFA only requires lighting on 200ft. towers and small turbines are generally not above 100ft. The greatest benefits of using wind as an energy resource is the fact that it is free, does not emit harmful pollutants like fossil fuels, and does not require dangerous waste disposal like nuclear energy. Wind turbines are a big step towards independence from fossil fuels.

North Carolina is a great state for wind production. Our coastal area and mountain region offer abundant wind resources for large-scale wind farms and small wind turbines installed by farmers, small businesses, and homeowners. Our state incentive includes 35% tax credit with a cap of \$10,000 for residential wind systems and commercial cap of \$250,000 per installation. Considering the cost of a residential wind turbine can range from \$500 to \$25,000, this is a great incentive. The NC Green Power Program will purchase wind power from small and large producers and thanks to new net metering regulation from the NC Utilities Commission, larger utility companies are required to pay renewable energy producers retail prices for the excess energy they produce. North Carolina also has some of the best small wind research and public support programs in the country at The North Carolina Solar Center and Appalachian State University.

Just this summer, Louis and Talitha Mes installed a 10KW (10,000 watt) wind turbine that sits on a 100-foot lattice tower near Crabtree Mountain Gap. This is the first small wind system in Haywood Co. and first residential wind system to be a producer for the NC Green Power Program, a non-profit organization who support renewable energy producers financially. It will produce approximately 14,000 kilowatt hours annually, enough to power their home and more. This is a grid-connected system ensuring utilities back up. When the system produces more electricity than the household needs, the excess is sent and sold to Haywood EMC.

When installing a small wind turbine, it is generally advised to have at least one acre of land. The variables involved to decide on your particular wind system, are average yearly wind speed, tower height, and your electrical needs expressed in kilowatt-hours. An installer in your area and the wind turbine manufacture has detailed information to help you calculate your specific needs. Western North Carolina Small Wind Initiative, a public service program sponsored by Appalachian State University

and NC State Energy Office, has extensive information and offer classes, workshops, tours, and community events to the public. They also provide a testing sight and showcase of 6 small wind turbines on Beech Mountain that is open to the public.

To contribute to the use of renewable energies, you can sign up with NC Green Power Company for as little as \$4.00 a month. Go to [www.ncgreenpower.org](http://www.ncgreenpower.org) for more details.

*Laura and Ole Sorensen own Solar Dynamics, a renewable energy company installing and servicing wind turbines, solar heated water, radiant floor heat, and solar electrical systems. For additional information on Wind Turbines, the Western Carolina Green Building Council or to volunteer or Join the WNCGBC call 828-232-5080 or e-mail at [infowncgbc.org](mailto:infowncgbc.org) or [www.wncgbc.org](http://www.wncgbc.org)*