

Harnessing the wind

Text by Krista Gromalski | Photograph courtesy of Clemluddy Construction



Craig Smyth is owner and president of Clemluddy Construction (www.clemluddy.com, 570/ 226-2899) based in Hawley, PA. He is a Certified Green Professional of the National Association of Home Builders (NAHB), and is active in the regional business community and within the building industry. Smyth currently serves on the board of directors of the Wayne County Builders Association and is a past director of the Pennsylvania Builders Association. He was recently nominated to the board of the Wayne Economic Development Corporation and has been a member of NAHB's Remodelers 20 Club since 2001.

Our Country Home asked this expert about alternative energy, in particular wind energy, for homeowners in our region.



Rendering of a model home with windmill.

OCH: Is residential wind energy a realistic alternative for homeowners in the Upper Delaware Region?

CS: Although residential wind energy is dependent on certain conditions associated with your location, it can be a viable choice for many local homeowners. The ideal site conditions include a parcel that sits atop a ridge or mountaintop, with a clear area to the west.

OCH: How does a homeowner determine whether his or her property is right for installation of a residential wind turbine system? And, how is the turbine site selected if conditions are right?

CS: If you believe you have an appropriate site, the best way to determine your home's feasibility and to select the best-suited equipment is to contact a professional qualified alternative energy consultant. A knowledgeable builder should be able to refer you to a consultant.

OCH: Can a wind turbine system be connected to a home's existing heating or electrical components?

CS: Yes, the wind turbine is connected directly to your home's electrical service and is intended to supplement your electrical use.

OCH: What size wind turbine is appropriate for the average home?

CS: There are several options for residential wind turbines. Depending on your location and budget, the mast can be from 35 to 60 feet, and the blades range in size from a 12-foot to a 20-foot rotor diameter.

OCH: In general, will homeowners need to navigate local zoning ordinances when installing a residential wind turbine? If so, is there a source of assistance during this process?

CS: Your wind energy consultant or—if you are installing the wind turbine in conjunction with either new construction or a remodeling project—your builder will be able to assist you in securing permits along with the proper information for tax and energy credits.

OCH: What do residential wind turbine systems typically cost?

CS: As with most home projects, there are different models of residential wind turbines available for consideration. Take, for instance, a Skystream 3.7, which is rated at 2.4 kW and will provide the average home with 30 percent of its total electrical demand. The cost for this model is approximately \$18,000 and it qualifies for about 30 percent of the cost to be reimbursed in tax and energy rebates. The average payback of an initial investment on a model such as this is six to eight years.

OCH: Can the average home run solely on a residential wind turbine system, or is a supplemental power supply necessary?

CS: A homeowner can expect a residential wind turbine system to supplement his or her energy needs, but not to meet the home's total energy use.

OCH: Besides energy and cost savings, what are some additional benefits of residential wind power?

CS: By installing a residential wind turbine, you are being a good steward of the environment. Anything that we can do to reduce the negative impact we leave on the planet is positive.

OCH: Are most regional builders familiar with integrating a residential wind turbine system into a home's existing electrical system, or including one in a new home's design?

CS: Speaking solely for the team at Clemluddy Construction, we are continuing to educate ourselves in alternative energy sources and use of sustainable building techniques and materials as they become available to the consumer. It is our hope that our colleagues in the industry are keeping current on these important industry standards and practices as well.

OCH: How can homeowners encourage wider use of alternative power sources within the home building industry?

CS: Today's homeowners need to remain savvy and informed about new and emerging technologies available for building more sustainable housing. And, they need to present these options to builders for discussion and consideration. Like anything else, there is a cost associated with new technology, but when viewed in the long-term and the big picture, the benefits far outweigh the cost. Homeowners should remember that, like any other type of savings plan, there is an initial investment associated with alternative energy in anticipation of an expected return.

OCH: Where can a homeowner find installation and maintenance support for a residential wind turbine system?

CS: A professional qualified alternative energy consultant is the best source of this type of information. Clemluddy Construction is happy to refer homeowners to a qualified consultant.

OCH: In general, how does residential wind energy compare to solar options or other alternative energy sources?

CS: Because of the restrictive circumstances involved with locating a residential wind turbine system, solar power is an excellent partner, or a good alternative, to a wind system. Solar, however, also has its limitations due to site conditions. In addition to wind and solar energy options, geo-thermal heating and cooling has recently become more affordable for the average homeowner. With advances in technology and increased energy costs, the viability of using a ground source heating and cooling system has increased substantially.

OCH: Is there anything you would like to add?

CS: An important thing to remember is that there are some terrific homeowner incentives out there that can help to defray the costs of installing energy saving products into your home. And in the long run, these components will not only pay for themselves, but will also contribute to the conservation of our natural resources.