Trying to catch the wind

A Western N.C. man wants to start the state's first wind farm, but barriers are high

JOHN MURAWSKI, Staff Writer

A report about wind power in the Business section Friday reported the wrong power output for a wind turbine farm under consideration. If the turbines are built in the northerwestern corner of the state, they would produce enough electricity to serve 12,500 to 15,000 homes.

If Richard Calhoun gets his wish, Big Springs Mountain would sprout two dozen wind turbines rising nearly 300 feet into the sky in one of the windiest pieces of real estate in the state.

Erected at an altitude of 4,000 feet, the powerful turbines would generate enough electricity to serve 12,500 to 15,000 homes. It would be a substantial wind farm by any measure, on a scale unheard of in North Carolina.

Calhoun is a family doctor, Christmas tree farmer and Ashe County commissioner who owns the mountain in the northwestern corner of the state and wants to use his property to promote clean energy. In the process, he'd like to make a profit by selling the electricity to Blue Ridge Electric Membership Corp.

Calhoun expects to file his application in about two months with the N.C. Utilities Commission. The state agency must approve any project that will sell most of its electricity for public use.

"We have some of the highest average wind speeds in all the United States, over 20 mph on some of the highest ridges," said Dennis Scanlin, a technology professor at Appalachian State University who has been advising Calhoun. "The wind resources in Western North Carolina are outstanding and suitable for a utility-scale wind project."

Despite the abundance of a free natural resource, wind power has proven a hard sell in North Carolina.

Electricity here is cheap, making alternatives such as wind impractical. The state doesn't require utilities to use alternative energy, so operators have problems getting financial backing for products without a guaranteed market. And unlike the Midwest's high-wind regions in cornfields and other remote areas, North Carolina's best areas for wind happen to be in environmentally sensitive spots.

"The problems in North Carolina are the additional difficulty of developing the resources on the coast and in our mountains," said utilities commissioner Jim Kerr.

The state has a handful of small, experimental or private wind turbines, but nothing approaching commercial-scale wind utilities. A demonstration project at N.C. State University in Raleigh produces 1 kilowatt of electricity. Calhoun's wind turbines, by contrast, would be 2,000 times more powerful, generating 2 megawatts each. His wind farm would generate 50 megawatts.

Top alternate option

Wind power is now the leading alternative energy source in the nation. In some states, it produces electricity more cheaply than natural-gas power plants.

But Progress Energy and Duke Power use few natural-gas plants and make electricity cheaply with nuclear and coal plants. States with wind farms generally subsidize alternative energy with surcharges on customers' bills.

But energy prices are rising. The cost of generating wind power is dropping. And wind turbines are gaining general acceptance.

Now that the state's two Fortune 500 utilities want to build new nuclear reactors, wind advocates are hoping the climate here will change. Environmental groups are pressing state officials to require Progress Energy and Duke Power to commit to more renewable energy before spending several billion dollars on a new nuclear plant.

Less than 2 percent of North Carolina's electricity comes from alternative sources. About two dozen states have a minimum requirement, usually 10 percent, that has created a market for wind farms and other renewable energy.
Economics haven’t been the only barrier in this state.

The N.C. Mountain Ridge Protection Act, enacted in 1983, limits development on the gustiest mountaintops. Wildlife is another concern, as the giant whirling blades pose a mortal threat to flying bats and fowl, primarily night-flying songbirds.

There’s also uncertainty about how wind farms would be received in coastal areas, the state’s other prime area for wind. A large wind farm proposed in Nantucket Sound in Massachusetts has run into major opposition from U.S. Sen. Edward Kennedy and other prominent residents.

Wind advocates in North Carolina haven’t had a chance to test public acceptance of wind power on a large scale, but they expect some resistance if a major wind farm were proposed.

Calhoun thinks he can overcome the impediments. The land is his, and it’s not a major tourist area. He believes, as do other wind advocates, that an exemption in the Mountain Ridge Protection Act for windmills also applies to wind turbines.

The meaning of the ridge law is in dispute. The state attorney general issued a legal opinion in 2002 interpreting the law to disallow wind farms.

“Our position that North Carolina’s ridge law should be taken into consideration when making determinations on where to place windmill farms has not changed,” said spokeswoman Noelle Talley.

Utilities are required by federal law to connect with wind turbines and other private generators and buy their electricity. Progress Energy officials say wind power won’t come close to supplying the region’s rising demand for energy.

The new nuclear reactor under consideration for the Shearon Harris site would have a generating capacity of about 1,100 megawatts. Calhoun would have to install 550 of his 2-megawatt turbines to match the power produced by a nuclear reactor. Even then, Calhoun could only make electricity when the wind blows.

N.C. subsidies

North Carolina offers subsidies to producers of alternative energy through the N.C. Green Power program. The subsidies for wind power exceed the fees that utilities pay.

N.C. Green Power collects monthly contributions from utility customers and distributes the money to producers of electricity from solar and hydro-electric energy, wood waste and landfill methane.

To date, the program has been unable to sign up a single wind power generator because the few parties interested in wind power couldn’t get financing.

Now, after several years of false starts, N.C. Green Power expects to start subsidizing its first wind generator this summer. The small turbine in Nags Head will supplement power for the National Park Service and sell excess power to Dominion Power.

The 65-foot-tall unit will generate just 2.5 kilowatts and power a bathroom. It will be owned and operated by the federal government and subsidized by a nonprofit group, reversing a common scenario in which the government subsidizes a private concern.

“It takes a pioneer to pave the way,” said Maggy Inman, vice president and program manager at N.C. Green Power. “There’s always a first to show others how to do it.”

Staff writer John Murawski can be reached at 829-8932 or murawski@newsobserver.com.