2011

Wind & Agriculture

For centuries wind power was used on farms to grind grain into flour and pump water from wells. As electricity and fossil fuels became cheaper and more widely available, harnessing the wind's power for these purposes became less common. However, in recent years support for renewable energy has increased, along with awareness of the negative environmental impacts of fossil fuel combustion. Some farmers in windy areas now have the opportunity to raise crops or livestock while simultaneously using their lands to host wind turbines.

Wind Can Provide Supplemental Farm Income

The increasing prevalence of big agribusiness and cheap imported food has caused significant difficulties for small American farmers.[1] Harvesting their wind resources can help farmers survive when profit margins for other crops are tight. According to the U.S. Department of Energy, farmers who lease land for utility wind scale projects receive on average about $2,000 per year, per wind turbine, for the use of their land. [2] Farmers can also choose to negotiate a percentage (e.g. 2%-3%) of the gross income from the turbines as payment.[3] A wind turbine typically takes up roughly a half-acre,[4] and farmers can grow crops and pasture right up to the base of the turbines. The Union of Concerned Scientists estimates that by leasing a small portion of their land for utility-scale wind turbines, typical farmers or ranchers with good wind resources could increase the economic yield of their land by 30%-100%.[5]

Photo Credit: EDP Renewables. Lewis County, NY

Preserving Farmland Benefits the Environment

As profits from farming have declined, and land values have risen, some farmers have sold parcels of land for residential or commercial development.[6] But leasing a small portion of one's farm for wind energy development can provide an alternative with fewer negative effects.

Family farming is a more environmentally friendly land use than suburban residential development. Sprawling suburban development increases air pollution by increasing automobile traffic, the leading cause of air pollu-

1. Sanaz Memarsadeghi and Raj Patel, Ph.D., *Agricultural Restructuring in the United States: Who wins, who loses?* Policy Brief No. 6 (Oakland, CA: Institute for Food and Development Policy / Food First, 2003). http://www.foodfirst.org/pubs/policy/pb6.pdf
2. United States Department of Energy, 2007. *Electricity From the Wind: The New Cash Crop,* http://www.eere.energy.gov/windandhydro/windpoweringamerica "The New Cash Crop"
3. United States Department of Energy, 2005. *Electricity From the Wind: What Landowners Should Know.* http://www.eere.energy.gov/windandhydro/windpoweringamerica "What Landowners Should Know"
4. http:// www.nrel.gov/analysis/power_databook/calc_wind.php
5. United States Department of Energy, 2007. *Electricity From the Wind: The New Cash Crop,* http://www.eere.energy.gov/windandhydro/windpoweringamerica
6. Howard Frumkin, MD, DrPh, "Urban Sprawl and Public Health," *Public Health Reports* 117 (2002) 201-17.
7. United States Department of Energy, 2007. *Electricity From the Wind: The New Cash Crop,* http://www.eere.energy.gov/windandhydro/windpoweringamerica

tion.[7] It also increases water pollution by creating more impervious surfaces and increasing the use of oil and other automotive toxins, resulting in increased pollution runoff into streams.[8] Suburban residential development also, perhaps counter-intuitively, usually increases the levels of pesticides used per acre compared to farms.[10]

Photo Credit: EDP Renewables. Lewis County, NY

Recognizing the farmland protection benefit of harnessing power from the wind, in 2002 the federal government amended the Farm Bill to give farmers an option to place wind turbines and wind-monitoring devices on lands protected under the Conservation Reserve Program (CRP).[10] When wind turbines are sited on CRP lands, impacts to sensitive ecosystems such as wetlands are taken into consideration on a site-specific basis.[11]

Farmers should be fully engaged in any activity that impacts the farm, and constructing wind turbines is no exception. Road construction, soil compaction, and fragmenting pastures are all site-specific issues farmers should work with the wind developer on. NYSERDA and the New York State Department of Agriculture and Markets have produced a guide to help farmers with these and other issues. The document is available online at : http://www.powernaturally.org/programs/wind/toolkit/7_visualimpactupfront.pdf

Are You a Farmer Interested in Wind Power?

There are several different models for developing wind energy on farms. Farmers can invest in a small wind turbine for their own electricity needs, join with neighboring landowners for a cooperative wind farm, or lease land for a larger-scale wind energy development.

For more information, visit the website of the New York State Energy Research and Development Agency (NYSERDA) at www.powernaturally.org.

8. United States Environmental Protection Agency Office of Water, "Managing Stormwater Runoff to Prevent Contamination of Drinking Water," *Source Water Protection Bulletin* EPA 816-F-01-020 (2001).
9. Abrams, R., Attorney General of NY. "Toxic Fairways: Risking Groundwater Contamination From Pesticides on Long Island Golf Courses," Environmental Protection Bureau. (1991).
10. 16 U.S.C. § 3832(a)(7)(B) (2006); 7 C.F.R. § 1410.63(c)(3) (2007).
11. FSA Handbook 2-CRP, page 12-25, ¶ 282 (Nov. 8, 2005), *available at* http://www.fsa.usda.gov/Internet/FSA_File/2-crp.pdf

For more information or to download a copy of this report, go to www.pace.edu/school-of-law/nywec

ACE NY
ALLIANCE FOR CLEAN ENERGY NEW YORK, INC.
Promoting Clean Energy, A Healthy Environment And A Strong Economy For The Empire State.

CITIZENS CAMPAIGN FOR THE ENVIRONMENT

Pace Energy and Climate Center
PACE LAW SCHOOL