Letter to the Editor: Topeka Capital Journal

I was born and raised in the Mississippi Delta. The last place that I dreamed I would ever live would be Kansas. There were no trees, no mountains, no lakes, no wildlife and certainly no beauty in the country. I came here because of an opportunity to practice medicine. When I got here 33 years ago I discovered Kansas. I found all of the things that I wanted here. I found the beauty of the Tall Grass. I found a place where I could stand on the top of a hill and see the horizon in every direction. I have spent hours driving to and walking through this state in every direction. It is a treasure of treasures. The Flint Hills are the brightest gem among many gems. The battle to protect them is going to be a long one. Please do everything in your power to keep this issue right in front of everyone's eyes. Unfortunately there are too many among us Kansans who don't even know what we have here. We all need to do everything we can to make everyone know what we have to protect.

Herman Solomon MD
Wichita, KS

THE STATE OF KANSAS IS UNPREPARED TO ADDRESS SITING QUESTION, THUS COMPANINES MUST WORK TOGETHER WITH MANY ENTITIES

The most disappointing aspect of this issue has been an absence of political and governmental leadership in the state of Kansas to establish planning and siting protocols for wind energy development. Tragically, the State of Kansas has abdicated all authority. Thus, there are no formal opportunities for residents to provide input, and no siting guidelines to establish common ground for developers and residents. In the long run this is likely to prove detrimental to the interests of developers by undermining public supports as conflicts arise. It also casts all other environmental, cultural and economic considerations "to the wind". It is likely to pit neighbor against neighbor. It creates a climate similar to that of the infamous "Oklahoma land rush", except in this instance there are no boundaries, rule or regulations to focus development to the most appropriate landscapes.

It is dismaying to note that wind energy advocates in some other parts of the country find it convenient to overlook the values of the prairie and plain states, as if to suggest that there are no ecological, aesthetic, economic or cultural resources here to consider. As an example, we note in an on-line debate forum sponsored by Science magazine that a Pennsylvania advocate suggested that the mountain ridges of that state should be avoided because extensive development would be "unacceptable to local residents". Then he went on to suggest that "We judge (that) the aesthetic and environmental concerns would push large-scale wind (developments) into the (hundreds of gigawatts of output) would be located in the Great Plains for "environmental, aesthetic, and economic considerations…" as it to suggest that the Great Plains are not worthy of equal consideration.

If the most spectacular prairie landscapes in Kansas are hit by a tsunami of large scale wind developments that proves to be destructive to other values, there will be an erosion of support for wind energy developments. Developments that substantially degrade the "last stand of tall grass prairie" as portrayed in the book and PBS special with that name will not be regarded for long as "green" energy.

The ecological values of the Flint Hills are also recognized as one of the "the last great places" in America by The Nature Conservancy, and as an area of conservation priority by the World Wildlife Fund and the National Wildlife Federation.

The Kansas legislature has given all "wind farm developer's 100% exemption from school, local and state taxes without any siting requirements to protect other values of public and private importance. If priceless natural and pastoral landscapes are destroyed, this will not be environmentally friendly "green energy" worthy of special state subsidies.

As it stands now, the fate of Kansas landscapes depends largely on the many landowners dedicated to the protection of the natural and pastoral character of their land. Flint Hills' ranch landowners have, historically, been among the best rangeland stewards. Additionally, reputable companies will have to set the standards for the industry. As we go forward, residents will need to urge elected officials and state agencies to provide leadership to establish planning and siting protocols that gibe citizen's opportunities to participate in decisions.

To whom it may concern:

Winds farms are coming to Kansas. I am not against generating electricity with wind power, but I am concerned about placing wind generators on the Flint Hills.

People how live in the Flint Hills work long hours for little pay their major reward is enjoying the view, the sight and sounds that nature provides and the stillness of the area.

The wind towers are 225 feet tall, lit with strobe lights, supporting three blades with a diameter of 200 feet. Overall visual height reaches 350 feet. The turbines rotate 15-20 revolutions per minute with tip speeds reaching 160 MPH or higher. The sound created has been compared to automobiles traveling down the highway. Future production models of wind turbines are larger, reach heights of 500 feet.

The ecology of the hills can be fragile when extensively damaged. Installation of each tower requires steel reinforces concrete slab 25 to 30 feet deep. A road will be constructed to each site and the electrical cables will be buried three feet underground. If these generators do not prove to be successful, clean up and restoring the grass takes years and can never be brought back to its original status. Placing structures on farm ground is less destructive as compared to the rocky Flint Hills.

These wind turbines are expensive, 1.2 to 1.5 million dollars each. Even if these turbines could operate constantly at maximum power, which they undoubtedly won't, to generate and equal amount of power as Wolf Creek Nuclear plant would require 790 turbines costing over one billion dollars. Wind farms operate in the area of 30-40% efficiency.

Wind generating companies are give tax credit of 1.8 cents per kilowatt and the State of Kansas does not require any property tax on these structures.

Land owners are well paid for the placement of the towers. Many absentee landowners of Flint Hills' grassland are not affected by the sights and sounds of the turbines.

It would be unfortunate if the uniqueness of the Flint Hills is changed by giant, man-made pinwheels.

If you have any concerns about placement of wind turbines, plan on attending the special hearing of the Zilkha Renewable Energy Midwest #2, LLC, seeking a conditional use permit for a wind farm two miles east of Rosalia, Kansas. The exact date of the hearing has not been set by will be sometime after July 11, held in the Butler County Court House fourth floor meeting room. Question and or comment can be directed to the Butler County Planning/Development office at (316)322-4325 or e-mail www.tkennemer.com

Arlan Stackley, El Dorado

Dear Editor,

Jim Holy had it right when he spoke of the need to preserve the serenity of the Kansas Flint Hills. It seems to me that all of us are pressured with so much rushing about in these times that we should value a place that causes us to pause and be refreshed.

Wayne Walker of Zilkha Energy had it wrong when he put down the prairie east of Rosalia. You cannot travel that road without being caught by the view of the hills as they break down into the eastern slopes of Greenwood County or rise toward the summit in Butler County. For a little while, the scene reminds the traveler of a more peaceful and less rushed world.

I have seen these giant windmills in the short grass hill of Montana. The towers are visible for miles and are only another reminder of our industrial and busy selves.

I believe that Commissioner Randy Doll, Commissioner Bill Shriver and Commissioner Will Carpenter are the high type of public officials who have a clear view of what is best for Butler County and Kansas and all who pass this way and will vote not to allow this intrusion.

Ted Farmer, El Dorado

Answers from Glenn Schleede

Somehow, I seem to have misled you a bit about the relationship between generation from wind turbines and other generation sources. I'll try two things:

1. Refer you to a rather technical explanation of the way things work – prepared by real experts. This is a response from a company called Electrode to a request for proposals from a group called the Utility Wind Interest Group – which s a bunch of utilities that are faced with the technical task of dealing with the output of "wind farms." You can find that at: http://www.bpa.gov/power/pgc/wind/uwig%5Fproposal%5Fshort.pdf

2. Give you my explanation – which is less technical but probably not as clear and precise as 1, above.

First, electricity s generally not stored because there are no known ways of storing large amounts of electricity. (Batteries are limited). Therefore, electricity must be produced as it is used for demanded. In effect, approximately the same amount of electricity must be produced and "fed" into the electricity grid as the amount that is being used by all the electric customers served by that grid.

Second, the grid must be kept "in balance" in terms of such technical considerations as "frequency," "voltage," etc. This means that the output of some of the electric generation units that are feeding electricity into the grid must be increase or decreased as customer demand increases ad decreases. There is some tolerance for "imbalances" (e.g.., variation in frequency, voltage, etc., but this tolerance id quite limited).

Third, the total demand for electricity in a particular "grid area" (called a control area) will vary widely. The lowest demand period probably would be on a weekend night in the fall or spring when industrial and commercial enterprises are not operation and when residential use is low because air conditioning heating demand is low and washers, dryers and dishwashers are not operation. (Electric generation companies generally try to schedule maintenance on their generation units during these low demand periods.)

The highest demand period is likely to be in the mid-afternoon on a hot weekday in August when commercial and industrial enterprises are operation and air conditioning load is highest.

Some generation units can be configured so that their output is increased or decreased automatically so that the grid is kept in balance (Automatic Generation Control or AGC.) when the variation in minute-to-minute demand is relatively small. When demand changes significantly, however, some generating units must be either put "on line" (begin feeding electricity into the grid) or taken "off line" (stop feeding electricity into the grid.) In some cases, these actions can be accomplished by the grid operators (controller) from the place grid operation is headquartered. In other cases actions may be needed on the part of personnel located at generation plants.

Some generation capacity is always kept "in reserve." That is, some generation units are "on line" and feeding electricity into the grid but are operation at less than their peak capacity. These can be sped up or slowed down to keep things in balance. Some generating units are often kept running and synchronized with the grid but are not actually putting electricity into the grid. This is done so that they can be "instructed" to begin feeding electricity into the grid on a few minutes' notice. These conditions are generally referred to as "spinning reserve."

If the grid operators are expecting a significant increase in demand (beyond what can be satisfied by units in "spinning reserve," they may order generating companies to have their units in "hot standby" reserve. For example, a coal-fired steam-electric unit which takes hours rather than minutes to be brought up to full generation capacity may be started up and be running at a very low level without injecting any electricity into the grid – so that it will be ready when it is needed.

Two things should be noted especially at this point:

a. Units that are running in "spinning reserve" mode (i.e., not producing at their peak capacity or are connected to grid and synchronized but not injecting electricity) are running at producing at less than their peak EFFICIENCY. Efficiency is measured in terms of the unit's ability to convert Btu of energy (from coal, oil, gas, etc.) into k@ electricity. Conversion efficiency varies widely among efferent type unity (e.g., steam electric, combined cycle, simple cycle) and the "speed" of the unity (i.e., is it being run at low output or high output). Conversion efficiency is generally highest (i.e., fewer Btu per kW) when the unit is running at or near its peak capacity.
b. Emissions (sulfur dioxide, nitrogen oxides, carbon dioxide from fossil-fueled units) also vary with unit efficiency AND output. A unit that is running and synchronized but not putting electricity into the grid will give off some low level of emissions. A unit that is producing but not at its full capacity will be giving off a greater volume of emissions. The least amount of emissions per kW of output is likely to occur when the unit is operating near its peak capacity.

Now, factor in the impact of the electricity that is produced from wind turbines. In general, their output varies depending on wind speed. They may be producing no electricity, or at their peak rated capacity, or, most likely, something in between. The electric grid to which they are connected must be kept in balance. This means that OTHER units must be sped up or slowed down to account for the changes in the output from the wind turbines.

Note also that the output form wind turbines increase and decrease as wind speed changes.

Remember that there is some LIMITED tolerance for frequency, voltage, etc. to be "out of balance." Therefore, if only one or two wind turbines are producing, a larger number are at low level, and/or wind speed is quite constant, it may not be necessary to make significant adjustments in other generation units. In other works, the demand placed on the "back up" generating units depends on the volume and variation in output from the wind turbines.

You also referred to the "Danish Dilemma." The situation in Denmark differs substantially from the US becau7se they have a large amount of combined Heat and Power (CHP) units. CHP units produce electricity but their waste heat (the heat no used to heat water to produce steam from steam turbines or to spin gas turbine) is used for space heating (i.e., often steam fed through pipes to heat homes, offices, schools, hospitals, or commercial buildings). In Denmark, these CHP units must be kept running so that heat is available. The Danes have run into problems because they have a lot of BOTH wind turbines (which ten to produce more during cold weather and at night when the wind blows) and CHP units (which are needed more at night during cold weather).

Denmark has other problems with transmission and grid management but the one described above is probably the one referred to as the "Danish Dilemma."

We have very little CHP in the US – even though it tends to be a very efficient way to use energy. CHP was not "built in" when our cities and generation plants were planned and constructed and it is very expensive to convert to CHP once everything is in place. Also, CHP requires a lot of detailed "central planning" and control which is not something that the people of America crave.

Glenn Schleede