

Approved: March 7, 2007
Date

MINUTES OF THE HOUSE ENERGY AND UTILITIES COMMITTEE

The meeting was called to order by Chairman Carl Holmes at 9:00 A.M. on January 25, 2007 in Room 241-N of the Capitol.

All members were present.

Committee staff present:

Mary Galligan, Kansas Legislative Research
Dennis Hodgins, Kansas Legislative Research
Mary Torrence, Revisor's Office
Jason Long, Revisor's Office
Rena Hansen, Committee Assistant

Conferees appearing before the committee:

Robert Freeman, Trade Wind Energy
Matt Gilhausen,

Others attending:

50 including the attached list.

Representative Rob Olson moved to introduce a bill regarding consumer protection and utilities. Representative Vern Swanson seconded the motion. Motion carried.

Presentation On:

Smoky Hills Wind Project

Robert Freeman, Trade Wind Energy, headquartered in Lenexa Kansas, (Attachment 1), presented a PowerPoint, updating the committee on the Smoky Hills Wind Project. Additionally, he presented a fact sheet on the Smoky Hill Wind Project (Attachment 2), and an article (Attachment 3) concerning the reliability of Wind Power. He noted that the average wind project takes anywhere from 2-4 years to get started with \$1-2 million dollars spent during that time to get the project going. Securing a purchase power agreement and transmission of energy are the bulk of the problem to get the wind projects up and running. There is a very low impact of the usage of the land. It generally takes about 2% of the land out of service. The first phase of the project will be done this year which is about 100 MW. They are authorized to add 250 MW to the grid but have contracts at this time for just 100 MW. One of the great aspects of this project is its location on I-70, both north and south of the highway. It will be really nice for the education about renewable energy to school kids and a possible tourism opportunity. It also has great access to the site for the construction machinery. He commented that wind energy production in Kansas is cheaper by far than coal energy with the Federal production tax credit in place. Coal enjoys a long list of tax subsidies. Additionally, some sort of carbon tax is coming to our country. He feels the market for wind energy is to the east for wind in Kansas, and not to the west because of the western grid. And not to the North and South because they have their own wind sources and would want to develop wind in their own states to keep the economic dollars within their borders.

Questions were asked and comments made by Representatives: Cindy Neighbor, Annie Kuether, Tom Moxley, Vaughn Flora, Peggy Mast, Oletha Faust-Goudeau, Josh Svaty, Forrest Knox, Rocky Fund, Margaret Long, Vern Swanson, and Rob Olson.

The next meeting is scheduled for January 26, with subcommittee meetings on HB 2033 and HB 2035 scheduled on adjournment of the house in rooms 231-N and 241-N respectively.

Announcements: HB 2037, HB 2038, and HB 2066 will be worked in committee tomorrow.

The next meeting is scheduled for January 26, 2007.

Meeting Adjourned by Vice-Chair Rob Olson.

HOUSE ENERGY AND UTILITIES COMMITTEE GUEST LIST

DATE: January 25, 2007

NAME	REPRESENTING
Bill Sneed	Tradewind
Matt Gilhousen	Tradewind
Frank Caro	Polsihelli law firm
Richard Plinsky	Lincoln County Land Owner
Carol McDowell	Talgross Ranchers
Paul Johnson	KeCath Conf
Ruth Suggs	Polunell Law
Paul Springle	
Suzanne Smith	Friends of Mc Dowell Creek
Margy Stewart	Flint Hills Environmental Preservation Coalition
Jose & Kent Baron	Talgross Ranchers & WPTF
Vigil Husman	Friend of the Smoky Hills
Joe Duke	KCBPU
PHIL WAGGS	KEPCO
TOM DAY	KCC
LARRY BEXA	MIDWEST ENERGY
Norah Homer	Smoky Hills windpower
Jean Schindler	Smoky Hills Wind Power
Jim & Laura Blanka	Ells to Hand Owner

TradeWind Energy Utilities Committee Presentation

Rob Freeman, CEO



January 25, 2007



TradeWind- Experienced IPP Development Team



- TradeWind (TWE) founded 2001
- Based in Lenexa, Kansas
 - Initial focus on our home state
- **2,000 MWs of active wind projects in development in five Midwestern states today**
- Owned by local Kansas investors and Enel S.p.A., based in Rome, Italy
- **TWE – Senior managers have 50+ years of Utility and Independent Power Project (IPP) experience**
 - Direct management of over 5,300 MWs of power projects, including coal, gas, hydro, wind, and bio-mass
 - Deep understanding of IPP and utility interfaces and operations
 - Experienced at managing both conventional and renewable power development, construction and operations



ENERGY AND HOUSE UTILITIES

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ATTACHMENT

1-1

TWE Forms Strategic Alliance with Enel

- Enel became TWE's largest minority shareholder in September 2006
- Enel S.p.A. is Italy's Largest Electric Utility
 - Enel is the third largest utility in the world
 - \$50 billion market capitalization as of 2006
 - \$40+ billion revenue per year
 - Over 53,000+ MWs of electric generation worldwide
 - ▶ **19,000 + MWs of renewable electric generation**
 - ▶ **Largest owner of renewables in the world**
- TWE and Enel also formed partnership for development, finance, construction and operations of wind projects
 - Enel will finance and own projects developed by TWE
 - Enel will provide wind turbines to TWE projects



ENERGY IN TUNE WITH YOU.



Wind Industry Growth Drivers

- Dramatic technology/cost improvements
- No fuel cost (price hedge)
- Energy security
- Sustainable
- Zero emissions
- Most cost effective of all renewables generation technologies today
- Federal/state policies
 - Aimed at concerns with climate change, dependence on foreign sources of energy, and sustainability



The US Potential of Wind Power

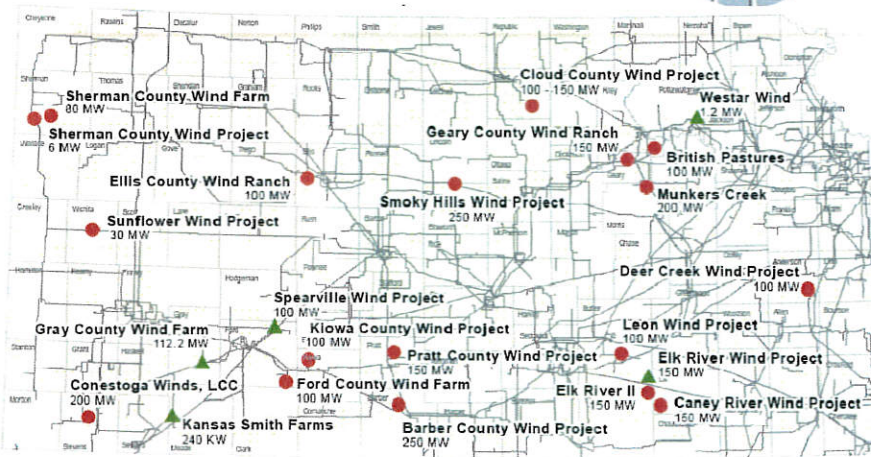


- ❑ Wind power is not, at this point, a replacement for "conventional" power
- ❑ However, many studies and real world experience tell us wind can provide as much as **20% to 25% of total electricity consumed in the US** without significant increased operating costs/challenges
- ❑ This qualifies as **core contributor** to future US generation portfolio
- ❑ **Kansas can be a major player in this industry**



KS Wind Projects Existing & Proposed

September 2006



366MW Online | 2,000+ MW Proposed | 3,500+ MW wind potential?



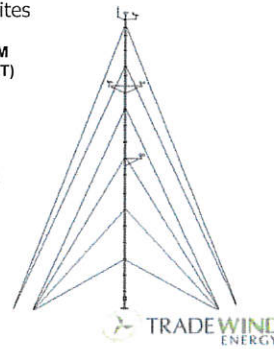
Selecting Good Wind Sites

- ▣ Many considerations go into selecting project sites
 - Wind resource
 - Environmental impacts
 - Transmission capacity
 - Access to markets
 - Community acceptance
- ▣ **TWE analyzed over 25 Kansas locations** before selecting its sites

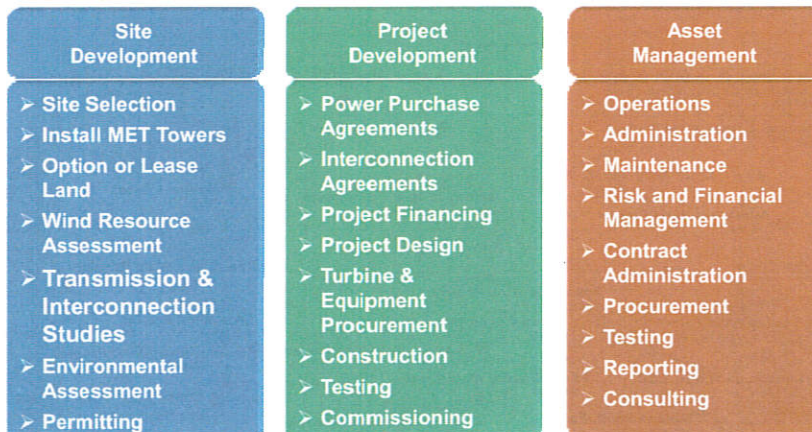
Finding Sites Involves More Than Just Strong Wind



Anemometer & 50M Meteorological (MET) Tower



The Wind Development Process



Site Layouts and Land Use

- Low impact on farm and pasture land
 - All turbines, roads, and other facilities use approximately 2% of the land.
 - Remaining land continues to be used for agricultural purposes.
- Turbines are spaced ~ every 1000 feet.
- The turbines are not fenced and are not impacted by grazing animals or farming.



Smoky Hills Site Overview

- A 250+ MW site (signed interconnection; leases; completed development)
- Phase I 100MWs
- Contracts signed with BPU and Sunflower

Smoky Hills Phase I Schedule

- I. Geotechnical work has commenced
- II. Break ground May 2007
- III. Turbine erection – 3Q 2007
- IV. Commercial Operation 4Q 2007



Project Location

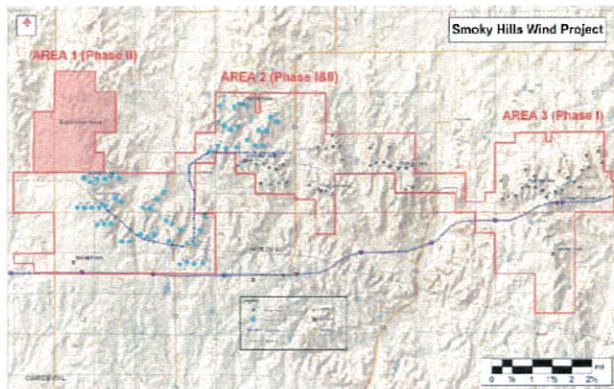


- Project straddles I-70
- 25,000 vehicles per day drive through the site
- High wind capacity factor (energy output) site delivers low cost energy to local utilities
- Opportunity to create a "destination point"

Location on Interstate Highway 70 showcases the Kansas commitment to wind energy



Overview of Project Facilities



- 250+ MW site
- Interconnected to the MWE Knoll/Summit 230 kV system
- 25,000 acres leased (40 leases including over 100 individual landowners)
- I-70 corridor provides good access for construction and operations

Detailed optimization of turbine arrays, power collection system design, and construction costs to reduce delivered power cost.



Smoky Hills' Project Attributes



- **100 landowners** participating
- Site "footprint" is approximately **40% tilled/60% grazed**
- **On interstate highway**
- Completed project (250MWs) will only take about **100-125 acres of land out of service**
- **Broad community support** for project
- Will generate enough electricity to **power approx. 120,000 Kansas homes**
- **\$Millions will flow into local economy**
- **Jobs**

Note attached project description sheet



Photo Montage of Smoky Hills



Highway 14
Facing South, 0.5
miles to nearest
WTG



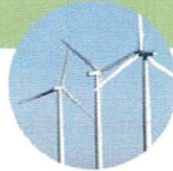
Photo Montage of Smoky Hills



Looking North
East from county
road, nearest
WTG <1 mile



Broad Economic/Policy Observations



- **Wind power is in fact the right economic choice for the long run for Kansas**
 - **With federal Production Tax Credit (PTC) – wind is cheaper today than new coal plant by large margin**
 - ▶ Without PTC, hard to say... (coal tax subsidies, carbon taxes, environmental controls, transportation, fuel cost volatility, etc...)
 - ▶ Construction costs for new coal have gone up dramatically in last year, pushing close to the cost of building gas fired generation now
 - **Wind is a great hedge against volatility of all other generation options**
 - ▶ Fixed price wind contracts for 20 years
 - ▶ Fuel is free
 - ▶ No security concerns (disruptions to supply)
 - ▶ No emissions
- **The cost of "firming wind" (i.e. what is available to run when no wind?) is well documented at between \$1/MWh and \$5/MWh – very inexpensive**
 - **No need for project redundancy** beyond what is already in reserve margins generally
 - **Think "negative load"** in large system characterized by continuous load fluctuations
 - Utilities know how to manage load fluctuations!
 - **See attached article** on integration of wind power into utility systems



Economic/Policy Observations Continued



- ▣ There is **sufficient development of wind sites in Kansas today to easily achieve the governor's target** of 10% penetration by 2010 and beyond
- ▣ Kansas would be well-served to **spread wind development around the state** for diversification purposes (grid stability, operating considerations, weather patterns, access to markets, etc...)
- ▣ **Export markets for wind will likely be more to the eastern US**, than north, south, or west
- ▣ Kansas should be pursuing not only development of transmission and wind projects, but also the **attraction of manufacturing associated with the wind industry**.
 - ▣ Tremendous synergies with our aerospace, manufacturing, and engineering industries, as well as our geographic location and transportation systems
 - ▣ To be successful this will take a demonstrable commitment to wind development/particular technologies
- ▣ **We do need more transmission**...including to west Kansas, for multiple reasons



Thank You!





Smoky Hills Wind Project Fact Sheet

Issue Date:

January 1, 2007

Project Name:

Smoky Hills Wind Project, Phase I

Project Developer:

The developer of the Smoky Hills Project is TradeWind Energy, LLC ("TradeWind"), which is headquartered in Lenexa, Kansas. The senior managers of TradeWind have a combined 50 years experience in the independent power development business including acquisitions and project development across the United States, Europe, Canada, and the Caribbean, as well as significant regulated utility experience. The Smoky Hills project has been in development by TradeWind for about four years. For more information on the company please go to our website: www.tradewindenergy.com



Project Ownership:

The project will be owned by Enel North America, Inc. the wholly owned subsidiary of Enel, SpA. Enel, SpA is the third largest utility in the world, and the largest owner of renewable generation in the world, with some 19,000MWs of renewable generation that it owns and operates. Enel North America is headquartered in Boston. TradeWind will have a continuing financial stake and operations role with Enel for the 20-year life of the project. For more information on Enel please go to their website: www.enelnorthamerica.com

Project Financing:

Enel will provide 100% of the project capital costs.

Project Location:

West of Salina, Kansas about 20 miles, and just north of Interstate 70 on both sides of Highway 14. The Project will be in both Lincoln and Ellsworth Counties.

Project Interconnection:

The project will interconnect to the Midwest Energy 230kV transmission line in Ellsworth, County.

Project Size:

100 MWs (phase I)

Project Turbines:

1.8MW V80 turbines manufactured by Vestas.



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80 meter hub height, with 80 meter blade diameter.

Landowners and Acreage Involved:

Approximately 15 landowners and 10,000 acres will be involved in the phase I project.

Construction Timeline:

Commence construction March of 2007. First turbines arrive at the site in August of 2007, and the project will be completed in November/December of 2007.

Government Incentives:

It is expected the project will utilize the federal production tax credit and accelerated tax depreciation for wind generation, along with the Kansas property tax exemption for renewable energy projects. There are no other state or federal incentives involved in the project.

County Payments:

The project expects to pay Lincoln and Ellsworth Counties a combined approximately \$300,000 per year for 10 years for phase I, and an additional proportionate amount based on installed MWs for future phases of the project.

Utility Buyers:

Sunflower Electric Power Cooperative and the Kansas City, Kansas Board of Public Utilities. Additional buyers will be announced in the first quarter of 2007. The project is moving forward based on the utility commitments that have been made.

Future Phases:

TradeWind does anticipate building future phases of the project that will bring its total size to 250MWs when complete. The fully developed project at this size will generate enough electricity in an average year to power approximately 120,000 Kansas homes.

Key Project Attributes:

- The phase I project will generate enough electricity in an average year to **power approximately 45,000 Kansas homes.**
- The Smoky Hills project is believed to be the most energetic site of any wind project site in development in the state of Kansas.
- The project (phase I) will only take approximately **60 acres of land out of service to build**, including all land for roads, turbine foundations, and maintenance buildings. The rest of the approximately 10,000 acres leased for the project (phase I) will still be farmed and ranched exactly as it was before the project was constructed.



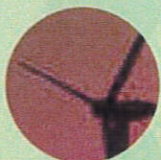


- Approximately **40 percent of the entire 250 MW project footprint is tilled ground**, with the remaining 60 percent of the site being grazed pasture.
- The project is **ideally located on a major Interstate highway**, creating significant opportunities for education and tourism around renewable energy production, plus ease of access to and from the project site.
- The project is expected to have **no material affect on any Threatened and Endangered species** of birds or animals based on third party studies commissioned by TradeWind.
- The project, **when all phases are complete, will have some 100 landowners** participating and collecting royalty payments from the project.
- The project will utilize **significant local labor and materials** for its construction and operations.
- The project **fits well with the surrounding area in terms of the existing infrastructure and commercial activities.**
- The project enjoys **broad community support.**
- The project is believed to be **ideally located in order to obtain firm transmission service** to all potential utility markets around Kansas.
- The project will generate **significant economic benefits to the local community**, in addition to the large number of landowners that are participating in this project.
- The project is being built because it represents the **low cost option for wholesale electricity** purchases for the utility-buyers, in addition to the significant environmental benefits of the project.
- **The project (phase I) will offset approximately 312,000 tons of carbon dioxide emissions per year, 1,000 tons of NOx per year, and 1,400 tons of SO2 per year.**
- When all phases are built, this will be one of the largest wind projects in the country, located on an Interstate highway that has **some 22,000 cars per day** driving by. **This will showcase the commitment of the state of Kansas to renewable energy production.**

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January 16, 2007

Is Wind Power Reliable?

by Carl Levesque

Q: How can wind energy provide a large share of a utility or a country's electricity supply if you can't count on the wind to blow all the time?

A: This is a question that utilities are looking into closely now that wind energy has emerged as a mainstream option for new power generation. Based on experience in Europe and on a growing number of studies, the answer is that while wind energy's variable output can pose challenges -- these can be successfully managed with the right procedures.

The fact is, any energy technology has its special characteristics, and so utility and transmission system managers have always adapted to accommodate them. For example, when nuclear power was introduced, system managers had to adjust operations to ease the integration of a large, non-dispatchable, single source of electricity that could suddenly trip off-line; in fact, even today, they typically set their "reserve margin" at the level of the largest nuclear plant on their system.



Carl Levesque

Moreover, nuclear and coal plants can generate a lot of power on a continuing basis, but cannot be easily ramped down or up to meet variable demand. They need to be supplemented with dispatchable technologies like natural gas. And while natural gas and oil power plants are flexible and easy to use, their fuel cost is volatile and increasingly high, so they are best used for "peaking" and designed to remain idle if not needed, sometimes for long periods of time.

As for wind power, it is not typically used to meet peak electric loads but it makes a large contribution to the amount of electricity that is generated and consumed over time: wind's benefit is in providing energy, diversifying supply, saving fuel, and reducing carbon and other emissions. The fact that the output from wind farms is variable does not mean that wind farms need dedicated "back-up" or "storage" -- the power system already has reserves and typically only a modest amount of additional reserves may be needed to handle wind.

The European countries that lead in wind have successfully built up this clean energy source to the point where it provides 20% or more of the electricity supply in Denmark and some states in Western Germany and Spain. That share is similar to the percentage of electricity supplied by nuclear power in the U.S. (20%) or natural gas and hydropower combined (25%). What's more, these countries have done so without a high degree of integration planning.

It is only now, at these levels, that utility managers and operators in some of those regions are finding that preparation for the integration of more wind power becomes more important. Such preparations include improved forecasting, expansion of transmission capacity, adding load following and reserves, and cooperation between regional power markets.

With wind supplying under 1% of electricity generation, the U.S. has not yet reached similar levels of wind penetration and could readily welcome large amounts of wind power. Yet there have been many more studies and debates about integration issues in the U.S. than in Europe. The studies confirm that wind's variability can be successfully managed, and that the larger the control area, the more diverse the generation mix, and the less discriminatory the transmission access and distribution rules, the more wind the region can accommodate.

Leading the list of reports and studies on this issue was a paper released by the three associations that together represent all of the nation's electric utilities: the Edison Electric Institute, the American Public Power Association, and the National Rural Electric Cooperative Association. Given that it was these noteworthy groups who were releasing the document, the paper marked a watershed moment for wind power.

It is available along with many other resources at the Utility Wind Integration Group's web site, www.uwig.org.

According to the report, wind resources do have impacts on the system, but those impacts "can be managed through proper plant interconnection, integration, transmission planning, and system and market operations."

The report suggests that with new equipment design and the proper plant engineering, wind generation can actually improve system stability in response to a major plant or line outage. As for the need for wind power to be "backed up" by extra fossil fuel facilities because of wind's variable nature, the report stated that, "Since wind is primarily an energy - not a capacity - source, no additional generation needs to be added to provide back-up capability provided that wind capacity is properly discounted in the determination of generation capacity adequacy."

Other reports around the country have offered similar evidence of wind's reliability. A study conducted for the New York State Energy Research and Development Authority and the New York Independent System Operator (NYISO) examined possible impacts of integrating wind power capacity equal to 10% of the state's peak load. The study found that, given the NYISO's large balancing area, mix of resources, and existing processes, such an increase could be accommodated in the state without special measures-and even would reduce system operating costs, largely due to fuel savings.

Meanwhile, results of the brand-new Midwest Wind Integration Study, which was required by the Minnesota legislature in 2005 to evaluate reliability and other impacts of higher levels of wind generation, show that with the right procedures in place, utilities can incorporate wind power into their resource portfolios in an amount comprising up to one-fourth of their delivered energy without sacrificing reliability and with only minor costs.

These are just a few of the studies, in fact, confirming wind power's reliability and feasibility on a large scale. For more, see <http://www.uwig.org/>

For further Information

- » [American Wind Energy Association](#)
- » [Send a question to Carl Levesque](#)

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