NPPD's Approach to Utility Scale Wind Development





Renewable Energy Development Business Manager
November 9, 2010
Kearney, NE

Presentation Take-Aways

- 1. NPPD is supportive of wind generation for Nebraska load and for export to other states.
- 2. NPPD has developed wind generation over the last decade and has plans to add wind generation over the next decade.
- 3. NPPD interacts with landowners, wind developers, and our customers to find ways to minimize the short and long term rate and risk impact.

- √ Public Power Principles
- √NPPD's Role in Wind Development
- √NPPD's Pace in Wind Development
- √NPPD's Involvement with Landowners
- √NPPD's Involvement with Private Developers

Public Power Principles

- Nebraskans are the owners and customers of our public power system
 - You have a voice
 - Board sets direction
 - Keep rates low
 - Keep reliability high
- How are we doing?
 - Nebraska is in the "top 10" of affordable electric rates in the nation at 7.16 cents/kWh (Source: EIA, 2009)
 - NPPD continues to meet reliability goals (generation, transmission)

✓ Public Power Principles
✓ NPPD's Role in Wind Development
✓ NPPD's Pace in Wind Development
✓ NPPD's Involvement with Landowners
✓ NPPD's Involvement with Private Developers

NPPD's Role in Wind Development

Described as both leading and cooperative

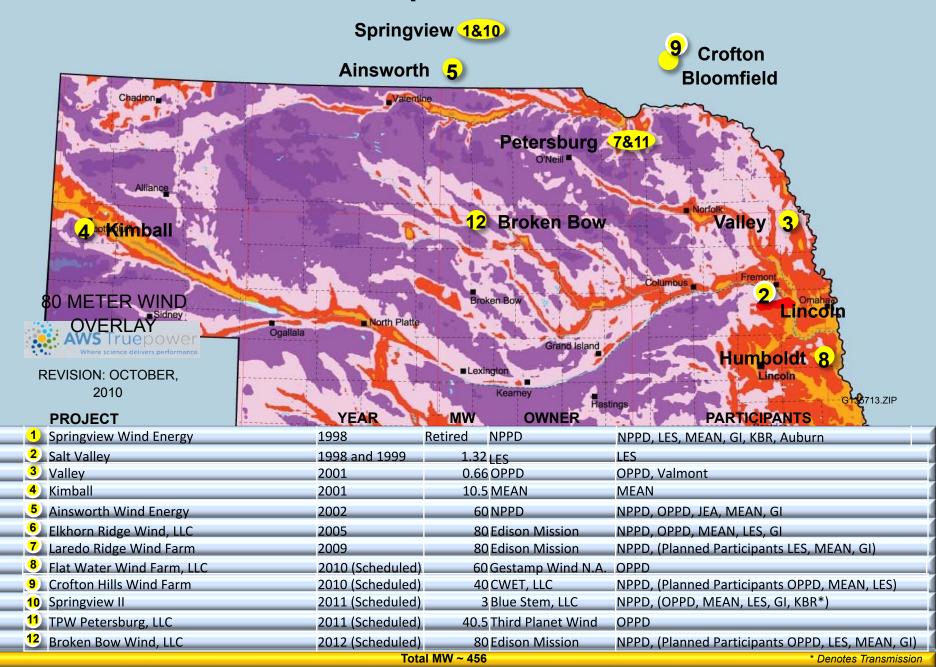
Given opportunities of wind...

- ✓ Mostly Class 4 wind and a lot of Class 5 Wind (Nebraska is ranked between 3rd and 6th for potential)
- ✓ Reduced CO emissions
- ✓Income opportunities for landowners
- ✓ Jobs created in rural Nebraska
- ✓ Potential attraction of manufacturers to the state
- ✓ Wind power can be geographically dispersed
- ✓ Very minimal amount of waste/no water

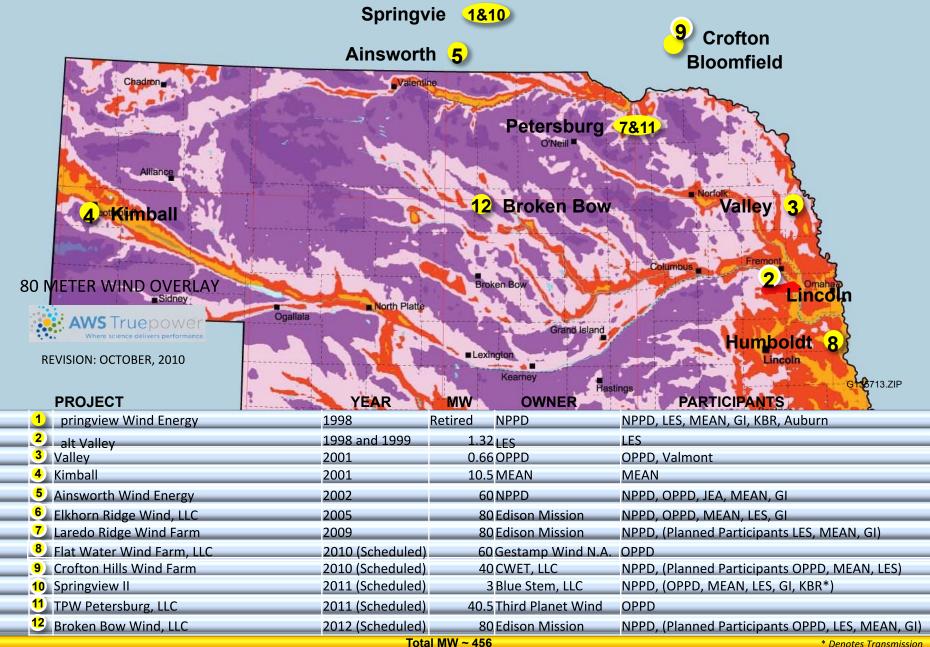
Given the challenges of wind...

- ✓ Public Power has a competitive disadvantage from federal tax credits (Private developers get 2.1 cents/kWh)
- ✓ New wind is higher priced than existing coal generation.
- ✓ Transmission designed and built for Nebraskans/not rest of the country
- ✓ Wind Farm siting concerns Endangered species, air traffic, etc.
- ✓ Nebraska does not need more generation capacity at this time
- ✓ Non-dispatchable (not available all the time, we cannot turn wind on) and must be backed up by base load generation

Wind Development in Nebraska



Wind Development in Nebraska

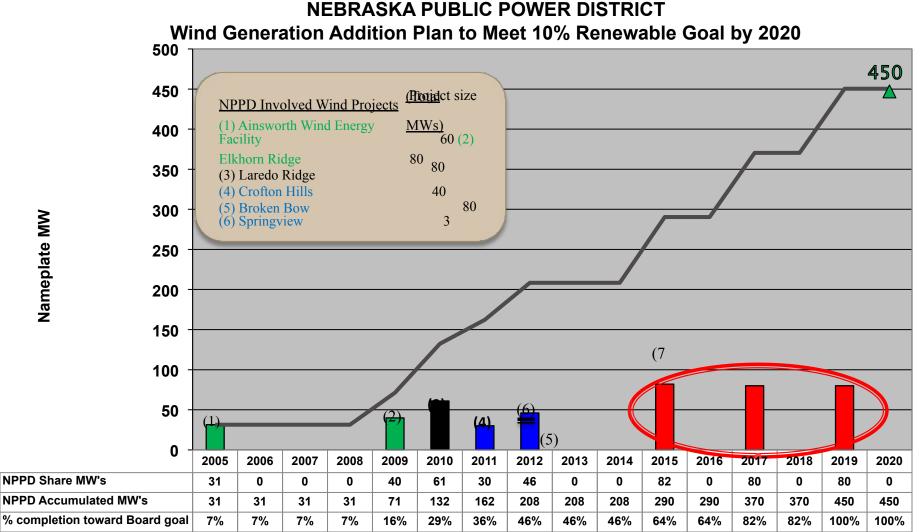


* Denotes Transmission

- √ Public Power Principles
- √NPPD's Role in Wind Development
- √NPPD's Pace in Wind Development
- √NPPD's Involvement with Landowners
- √NPPD's Involvement with Private Developers

NPPD's Pace in Wind Development

✓ Described as "prudent"



- √ Public Power Principles
- √NPPD's Role in Wind Development
- √NPPD's Pace in Wind Development
- √NPPD's Involvement with Landowners
- √NPPD's Involvement with Private Developers

NPPD's Involvement with Landowners

- Obtaining low cost renewable wind power <u>starts</u> with good site selection practices
 - Good wind
 - Low cost to connect wind farm to transmission system
 - Identify any environmental concerns
- When we identify sites that show promise, we meet with landowners to gauge their level of interest
- If enough landowners in the subject area are interested, we work out an arrangement where we study the wind on the landowner's property
- Since we have been studying sites for two years now, we have a feel for which sites can bring the lowest cost wind power.

✓ Public Power Principles
✓ NPPD's Role in Wind Development
✓ NPPD's Pace in Wind Development
✓ NPPD's Involvement with Landowners
✓ NPPD's Involvement with Private Developers

NPPD's Involvement with Private Developers

- Obtaining low cost renewable wind power continues with working with private developers
- NPPD issues a Request for Proposal (RFP) to developers requesting power cost bids using one of the landowner sites (a developer can use their own site too).
- NPPD selects developer based on bids and credentials and negotiates the final Power Purchase Agreement (PPA)

NPPD's Involvement with Private Developers (cont'd)

√NPPD & ratepayers benefit

- Developer takes on financial and operational risk (pay only for power output)
- Predictable wind pricing for 20 years
- o Diversified fuel (wind) is a hedge as other fuel costs increase
- Can help address potential climate change legislation

Presentation Take-Aways

- 1. NPPD is supportive of wind generation for Nebraska load and for export to other states.
- 2. NPPD has developed wind generation over the last decade and has plans to add wind generation over the next decade.
- 3. NPPD interacts with landowners, wind developers, and our customers to find ways to minimize the short and long term rate and risk impact.

Questions?

John O'Connor jwoconn@nppd.com (877) 946-3632



