

Kansas Renewable Energy & Energy Efficiency '05 Conference



Kansas: The Progress of Power

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□ TradeWind Energy, LLC Overview

- Started company in 2001 in Lenexa, Kansas
- Formed Midwest partnership with **Padoma** Wind Power out of San Diego
 - ▶ Experienced senior management team with 40+ completed wind projects
- Focused initially on the state of Kansas for wind project development opportunities
 - ▶ Three active projects:
 - **Smoky Hills Wind Project, Lincoln and Ellsworth Counties**
 - **Caney River Wind Project, Elk County**
 - **Deer Creek Wind Project, Anderson County**
- TradeWind's management team includes several former senior management members of Aquila, Inc. (Kansas City based) that ran Aquila's conventional power plant development group in the US, Canada and Europe
 - ▶ Over 4,000MW's acquired/ developed – including gas, coal, and bio-mass projects
- The TradeWind/Padoma partnership now has active projects in four states in the Midwest with approximately 1,200MW's of wind power projects in development
- TradeWind is also pursuing opportunities with bio-mass projects around the US

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- ❑ TradeWind corporate offices in Lenexa, Kansas
- ❑ LEED certified building in Lenexa, includes wind turbines, recycled and low VOC building materials, and energy efficient design components



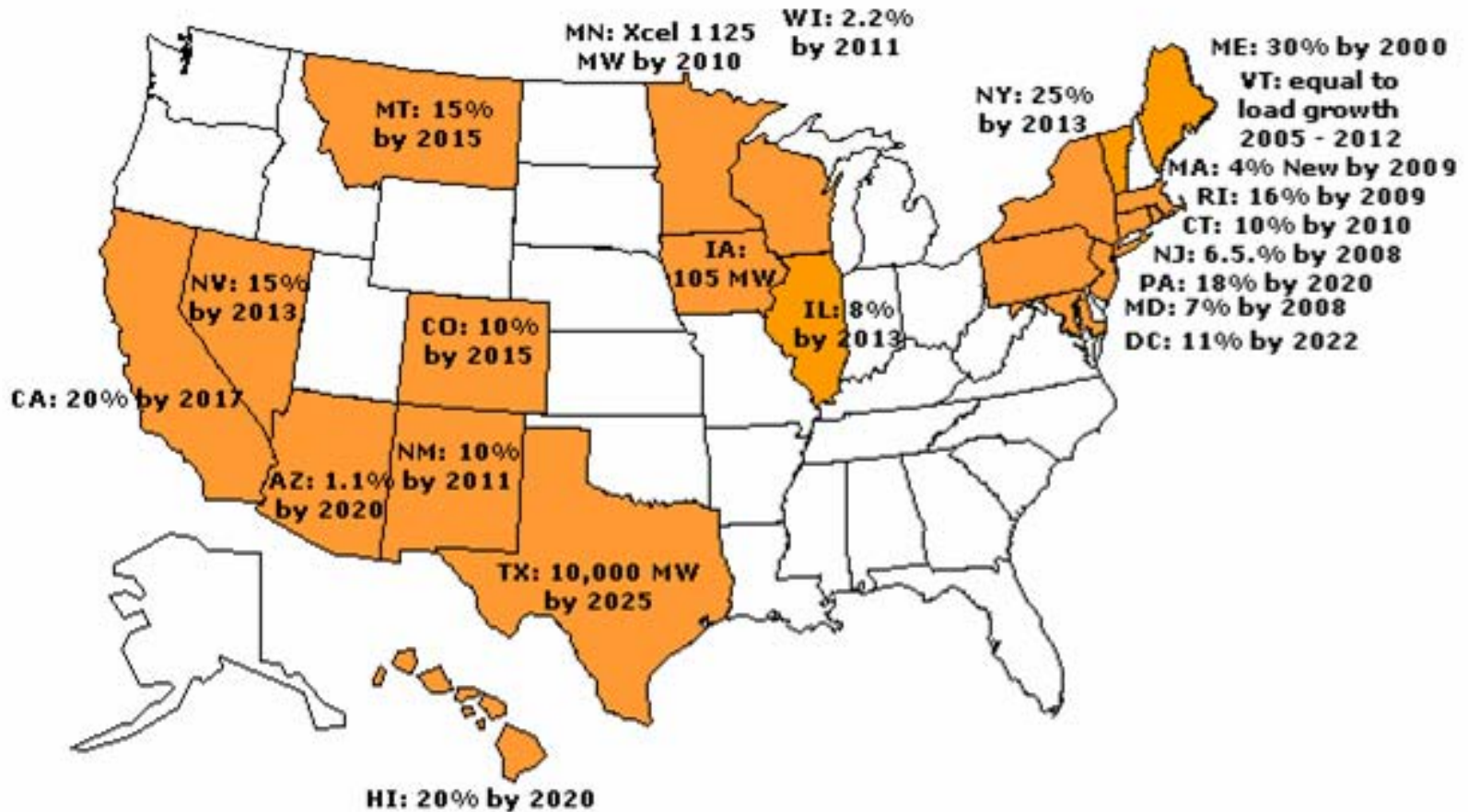
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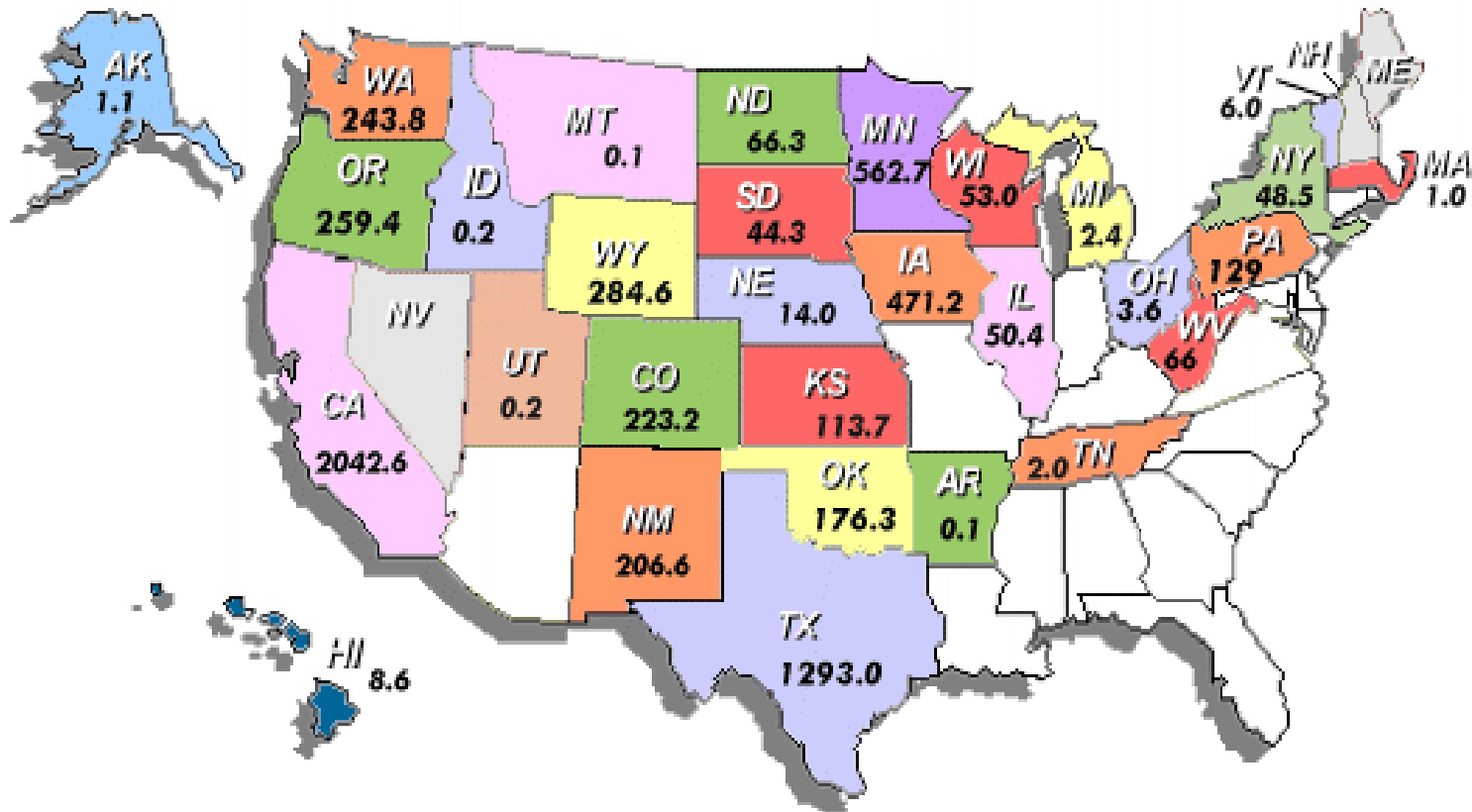
■ Current State of the Wind Industry in the US

- Broad political support, and public acceptance
- PTC renewed through '07. Senate push for RPS defeated, though
- TradeWind expects continued government support for renewable energy investment
- Approximately 20 states have an RPS now
- Wind power production costs are interesting, if not directly competitive (depending on your location), without considering broader strategic, economic and social implications of this form of energy
 - ▶ Current price pressure upward on wind turbines, but this will swing back the other way
- You could ultimately see as much as 60,000 to 80,000 MW's of wind developed in the US (over a current base of around 8,500MW's by year end)
- TradeWind's position on all of this: **Critical need for evolving energy policy in this country, with appropriate goals including diversification of our energy supply; cleaner forms of energy; energy independence; cost control; and robust transmission**
 - ▶ Government plays a vital role in supporting proven but immature industries such as wind power
 - ▶ Wind power should be in the mix! It is very capable of a material contribution to our overall energy needs
- **TradeWind is very bullish on the opportunities around wind power for the next 5 to 10 years in the US**

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- Midwest Wind Market.
 - Many states in the Midwest are actively pursuing investment in wind power
 - ▶ Iowa, Minnesota, Illinois, Oklahoma, Kansas, South Dakota, Colorado
 - ▶ Wind economics in most of the Midwest states will be sufficient to get wind projects built within their own borders
 - ▶ State political /regulatory approach varies:
 - RPS
 - PUC adopted renewable standard
 - No state solution, but strictly market- based
 - State incentives/grants/tax abatements
 - ▶ **Kansas is ranked in the top three states for wind power potential nationally**, but is lagging other states in development of this resource
 - **Kansas will produce some of the cheapest wind power of any location in the nation because of the characteristics of its wind resource (high speed, low turbulence)**

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■ Kansas.

■ Market Status and Observations

- ▶ 110 MW's operating, 150MW's in construction, 100MW RFP for '06
 - Total capacity of 360MW's currently foreseeable
- ▶ Governor's stated target is 1,000MW's of wind for Kansas
- ▶ Significant wind developer participation in this market
- ▶ Kansas investor owned utilities are interested in wind power, but must view it almost entirely on a life cycle cost per MWh basis
- ▶ There is no consensus around the cost of "generation following" to support intermittency

■ **Suggested solutions** to speed up the wind market progress in Kansas:

- ▶ **Other strategic, economic and social attributes of wind power have to become part of the debate and decision making process in Kansas**
- ▶ **There should be guidelines established for analyzing the cost per MWh of "generation following" for inherent intermittency of wind**

- **Consideration of the macro economic benefits** to the state of Kansas of 1,000MW's of wind power, especially while considering the **environmental benefits, generation portfolio diversification**, and the **independence** associated with wind power, make this a "no-brainer" for the state to pursue. TradeWind believes the economic benefits to the state would be very significant
- Potential for export of wind power to other states as a long term goal?

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□ Summary.

- TradeWind's view is that there is no putting the genie back in the bottle on wind in the US.
- **Kansas needs to participate in a big way...** because there are significant dollars involved, and because with wind power there is the opportunity for Kansas to be a leader in shaping the energy solutions of tomorrow...particularly with this resource
- TradeWind believes there is strong public support for this around the state
- **The question of whether or not to do more wind power has to include considerations beyond just the cost per MWh calculation inherent in the utility review process, and in fact must include broader strategic, economic and social considerations like state-wide generation portfolio diversification, total economic impact, and energy independence**
- **There needs to be some consensus reached on how the economics of wind energy are going to be viewed and calculated,** particularly with respect to determining the cost of "generation following"
- **The regulators and/or legislature will have to in some way "clear the path" for this industry to fully develop in Kansas**
- Delay could dilute the opportunity to attract manufacturing to Kansas for wind turbines and component parts, and potentially could result in missing the existing federal tax subsidies that exist for wind investment. They may not be around for ever. Also, other states are making their move now
- **It's the right thing to do!**