How Nebraska Compares

According to the Energy Information Administration, federal production tax credits, renewable portfolio standards, natural gas costs, and climate change are factors driving wind development in the United States.

How does Nebraska compare in terms of number of megawatts (MW) generated by wind as a fuel source? Which states have a renewable portfolio standard (RPS)? And how much do Nebraskans pay for electricity compared to customers in other states?

KEY: **MW** = total megawatts installed **RPS** = Has a state goal or renewable portfolio standard **¢/kwh** = Average electric rate per kilowatt-hour for all classes

	MW	RPS	¢/kwh
Texas	5,605	Yes	10.59¢
California	2,484	Yes	12.34¢
Iowa	1,375	Yes	6.58¢
Minnesota	1,366	Yes	7.49¢
Washington	1,289	Yes	6.62¢
Colorado	1067	Yes	8.21¢
Oregon	964	Yes	7.34¢
Illinois	736	Yes	8.79¢
New York	707	Yes	15.86¢
Oklahoma	689	No	7.44¢
New Mexico	496	Yes	7.93¢
Kansas	465	No	7.31¢
Wyoming	349	No	5.56¢
North Dakota	345	Yes	6.48¢
Wisconsin	327	Yes	8.69¢
Pennsylvania	294	Yes	9.2¢
Montana	165	Yes	7.94¢
Missouri	163	Yes	6.42¢
South Dakota	98	Yes	6.2¢
Idaho	75	No	6.87¢
NEBRASKA	**72***	**No**	**5.47¢**
West Virginia	66	No	5.44¢
Hawaii	63	Yes	27.35¢
Maine	42	Yes	13.7¢
Tennessee	29	No	7.48¢

	MW	RPS	¢/kwh
New Jersey	8	Yes	14.11¢
Ohio	7	Yes	8.16¢
Vermont	6	Yes	12.26¢
Massachusetts	5	Yes	15.73¢
Michigan	3	Yes	8.8¢
Alaska	2	No	14.27¢
New Hampshire	1	Yes	14.11¢
Rhode Island	1	Yes	15.45¢
Utah	1	Yes	6.31¢
Arkansas	0.1	No	7.36¢
Alabama	0	No	7.82¢
Arizona	0	Yes	8.78¢
Conneticut	0	Yes	16.43¢
Delaware	0	Yes	11.9¢
District of Columbia	0	Yes	13.08¢
Florida	0	No	10.37¢
Georgia	0	No	8.48¢
Indiana	0	No	6.7¢
Kentucky	0	No	5.85¢
Louisiana	0	No	8.82¢
Maryland	0	Yes	12.34¢
Mississippi	0	No	8.33¢
Nevada	0	Yes	9.91¢
North Carolina	0	Yes	7.77¢
South Carolina	0	No	7.54¢
Virginia	0	Yes	7.25¢

* Elkhorn Ridge will add 80 MW to Nebraska's 72 MW in December 2008 for a total 152 MW.

NOTE: The renewable energy landscape is changing rapidly, and the 2008 information provided above collected from the American Wind Energy Association, Energy Information Administration and Database of State Incentives for Renewables and Efficiency may not reflect the current status of megawatts installed, state programs or kwh costs.

Factors Considered

Public power's responsibility is to add wind-powered generation in a way that is fair, economical, and advantageous to ALL Nebraskans. When a public power utility considers developing a new wind facility it must answer several questions:

- Is the facility needed? Do customers need more energy?
- How much will the new facility cost and what is the impact on electric rates?
- Is there proven wind availability in the location, and what kind of operational issues challenge the facility's performance (e.g. harsh weather impacts, spare parts, blade damage, etc.)?
- How much time is needed to complete the studies to assess the electrical capacity or the interconnection needs to a new substation or nearby transmission lines?
- What will it cost to upgrade the nearby transmission infrastructure in order to support the new wind facility? Who will pay for these upgrades?
- Are there potential conflicts with air traffic, endangered species, or migrating birds, and what permits, licenses or other regulatory approvals are required?
- How does the local community feel about the project?

Center photo: Lt. Governor Rick Sheehy is joined by representatives of the Municipal Energy Agency of Nebraska, Nebraska Public Power District, Omaha Public Power District, City of Ainsworth, and KBR Rural Public Power District for NPPD's Ainsworth Wind Energy Facility's ground breaking ceremony.

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Wind Power *in Nebraska*

It's *Your* Power.

Public Power's Role In Wind Development

Low cost. Nebraska's public power system and its generation resource mix keep Nebraskans' electric rates well below the national average. Ratepayer dollars are reinvested in system and equipment reliability for better customer service.

Local control. Public power means Nebraskans have a voice in decisions made by their local utility. Customers/owners have input into how their money is invested in the system that serves them, including investments made in wind-powered generation.

Much of the wind development in other states has been mandated by state regulators, even though wind power was not the lowest-cost option.

Reliability. Because electricity is used every hour of every day, Nebraska's power supply and delivery must be reliable.

Traditional generation sources (e.g. coal, nuclear) remain necessary, since wind is an intermittent fuel source (not available all the time).

Nebraska has wind. In fact, the state ranks 6th in America for wind development potential.

While cognizant of their low-cost, not-for-profit obligation to customers, Nebraska's public power utilities are actively pursuing economical opportunities to incorporate more renewable resources into the state's generation mix.

The first wind-powered generation facility was constructed near Springview in 1998. It remains a demonstration site for learning more about wind generation technologies.

Five other facilities are owned and operated by Nebraska's utilities, and power purchase agreements have been signed between public utilities and private wind-generation developers to add more wind power to the resource mix.

Owning and operating their own facilities, while purchasing from others, proves Nebraska's utilities are committed to incorporating more wind power into the state's generation mix while achieving a minimal impact on customers' rates.

Nebraska's utilities:

- Have collectively invested nearly $100 million in the construction and operation of five wind-powered facilities throughout Nebraska over the past 13 years.

Municipal Energy Agency of Nebraska's wind facility near Kimball, Neb.

- Have signed agreements with private wind developers to purchase the power generated from community-based or private wind-powered generation facilities.
- Have assisted other renewable energy projects with transmission studies, interconnections, or advice regarding location, design, permitting, procurement, construction, and operation of wind facilities.
- Monitor legislative initiatives, such as carbon constraints and renewable mandates, that could dramatically affect the cost effectiveness of future wind developments, and advocate federal and state incentives for the development of wind-powered generation by public power utilities.
- Analyze wind availability throughout Nebraska to stay abreast of sites with the most wind potential.
- Seek engineering and research solutions involving wind energy, biomass, fuel cells, generation efficiency and conservation, carbon sequestration, hydrogen, and other technologies that take advantage of Nebraska's domestic resources.

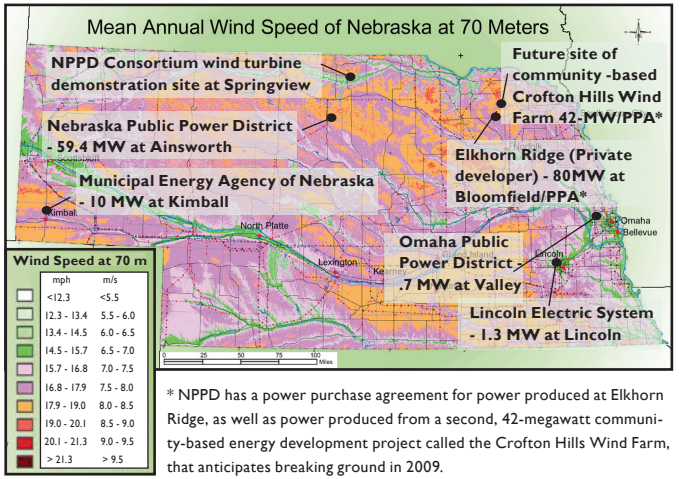
NPPD's Ainsworth Wind Energy Facility

Below: Sen. Fischer, Gov. Heineman, Sen. Preister, and Sen. Schrock join members of the Nebraska Public Power District's Board of Directors at the Ainsworth Wind Energy Facility's dedication in October 2005.

Need-To-Knows About Wind

- **B**ecause the wind does not blow all of the time, it cannot be relied upon for providing Nebraskans electricity around the clock. Back-up generation from coal, nuclear and natural gas power plants is required.
- Regardless of Nebraska's sixth-ranked potential for wind-powered generation, the basic infrastructure (e.g. back up generation, transmission and distribution power lines construction, etc.) remains a critical part of meeting Nebraska's power needs.

Source: Nebraska Energy Office



* NPPD has a power purchase agreement for power produced at Elkhorn Ridge, as well as power produced from a second, 42-megawatt community-based energy development project called the Crofton Hills Wind Farm, that anticipates breaking ground in 2009.

- Statistics show that the wind blows more often at night and during winter, when customers traditionally use less electricity.
- Locations with the best wind are often in sparsely populated areas that have less transmission infrastructure needed for wind-powered generation facilities.
- Upgrades to transmission line infrastructure needed to serve a new wind-powered facility could cost between $250,000 to $1 million dollars per mile.