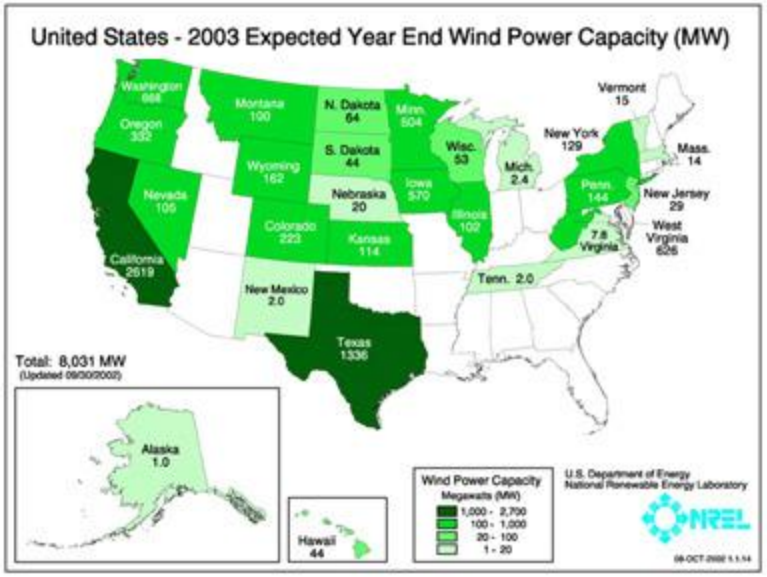
***Nebraska's Options...* Ways to Develop Windpower in the State** Click map for larger view neq_online/oct2003/oct2003.15.htm">



Although the wind energy resources in Nebraska are among the best in the country, very little recent wind development has occurred. There is one, pioneering commercial wind installation in the state: a 10.5 MW plant in Kimball built by the Municipal Energy Agency of Nebraska. But over the past several years in the states surrounding Nebraska, wind plants sized in the hundreds of megawatts have been built or are now in the construction phase. The primary reasons for this difference are that:

- unlike other nearby states, Nebraska has not enacted any policies to encourage wind development; and
- public ownership of the electric power system in the state precludes access to a federal wind incentive — the wind energy Production Tax Credit — that is available throughout the country.

While wind power costs have progressed to the point where some prospective projects are cost effective without any incentives, wind project developers have focused their attention in states that present a more favorable business climate for their activities. That is a part of the findings of a study commissioned by the Energy Office, with funds from the U.S. Department of Energy, to foster wind energy development in the state. An excerpted portion of the study's conclusions appears below. **Four Development Models** As requested by the Nebraska Energy Office, wind development was considered in the context of four different types of electric utility entities:

- large public power district,
- one or more smaller municipal utility systems,
- rural electric district, and
- Native-American jurisdiction.

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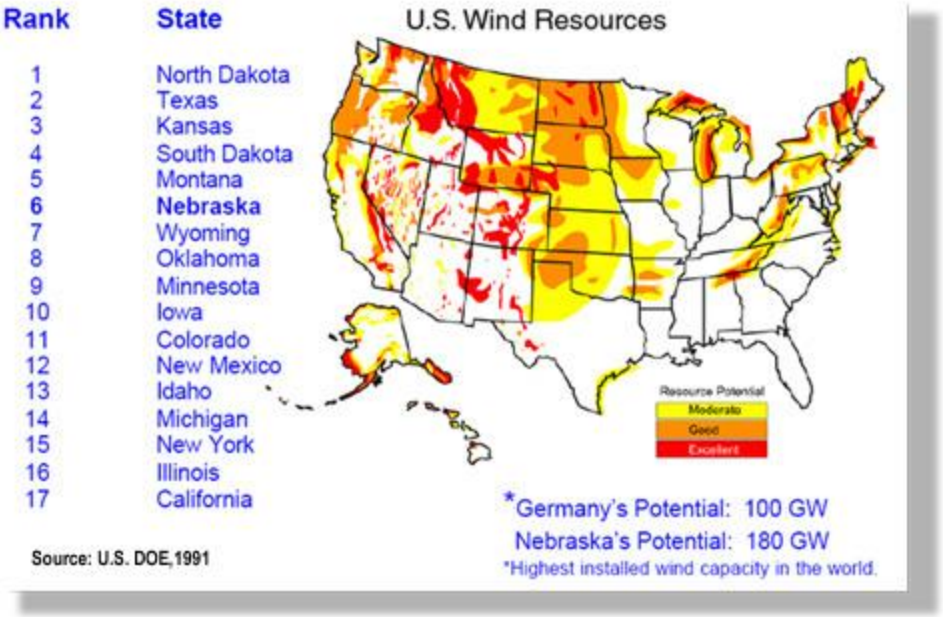


Nebraska has areas of excellent wind resource potential. The objectives were to recommend approaches that could be taken within the existing framework to move wind forward, and then to develop recommendations on measures the state could pursue to accelerate wind development in the state. **Wind in the Current Electric Power Framework:** The large public power districts will evaluate prospective wind projects on the basis of cost comparisons with conventional alternatives. The aim is to select the least cost option, with costs measured in conventional, direct terms. Non-monetized benefits and impacts, or externalities, are not considered. By statute, this is the procedure required for approval by the state's Power Review Board, which must approve any electric power project in the state before construction can proceed. Fortuitously, the Omaha Public Power District has just conducted an evaluation of this type, which provides a credible base case for wind plant consideration. Reasonable variations from the base case used in the study can result in selection of wind as the least cost alternative today for a number of projects. There are indications that this is beginning to occur. If one or more of the acceleration measures summarized below comes into play, then considerably more wind generation can be incorporated into the large public power district generation mix. The smaller municipal systems and rural electric districts will find it more difficult than the larger utilities to satisfy the current least-cost criterion that the Power Review Board must apply (The Legislature modified the least cost provisions during the session in 2003). This is so because the size of wind projects appropriate to their needs would generally be smaller, leading to higher wind energy costs.

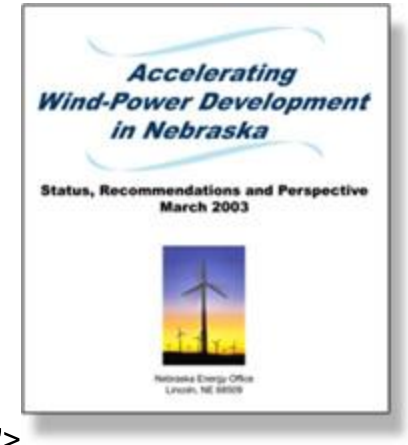
Rural electric systems would benefit from joint projects (photo: Kimball, NE)

These smaller utility entities could move forward by pursuing joint projects, thereby aggregating electrical load and pooling assets such as attractive plant sites, power plant operating experience and financing capability. The rural electric districts are not likely to pursue a wind project independently, because these entities have no history of power plant ownership and operation. Instead they are much more likely to participate in joint projects. Tribal entities may also benefit from joint pursuit of wind projects with a wholesale electricity provider or one of the smaller utility entities. A number of smaller municipalities would prefer to start small with wind in order to minimize their risk exposure — even though higher wind energy costs would result. **Policy Options for Consideration:** Several policy options for Nebraska are presented that would accelerate the introduction and use of wind power in the state. All but one of these options are likely to be revenue neutral with respect to the state's budget. The first option is to **generalize the least cost statute** that governs the Power Review Board's decision process. This would allow consideration of currently non-monetized benefits of clean renewables like wind power; including, for example:

- cleaner air and water resulting from emissions reductions,
- reduced health risks and costs,
- fuel diversity and energy security, and
- economic benefits from developing and utilizing an indigenous resource as opposed to exporting dollars to import fuels.

While these benefits are difficult to quantify, even a very small allowance for them would often be sufficient to tip the scales in favor of wind. With respect to budget impacts, this measure would have no impact on state or local revenues. Initially, it might result in a small but nearly imperceptible increase in local electricity rates; but in the longer run the net economic impacts are likely to be positive as the expected benefits materialize. (The Legislature exempted wind projects of 10 megawatts or less from least cost compliance provisions).

Springview, Nebraska The second option is to **allocate transmission costs for new wind plants over the entire transmission network in the state.** This would reduce the effective capital cost of wind plants when comparing with conventional alternatives — perhaps by about 5 percent — and is similar to a provision already operating in Texas. This measure would have no impact on state or local revenues, and would have a negligible impact on electricity rates throughout the state. A third option is to enact a **sales tax exemption for renewable generation**. This also would reduce the effective capital cost of a wind plant by about 5 percent and ease the least-cost burden. Electricity rates would not be affected, but there would be a resulting loss in state revenue. If 600 megawatts of wind generation were built over a ten-year period — which is about 10 percent of the state's generation — then the revenue loss would average approximately $3 million per year. A fourth option is to institute a **state production incentive for wind power**. At a level of 1¢ a kilowatthour over a 30-year plant life, this would compensate for the inapplicability of the federal Production Tax Credit in Nebraska. If 600 megawatts of wind were then installed in the state, this would require revenue at peak of about $18 million per year. However, several options exist for reducing and even eliminating this impact on state revenues. First, any payments received from the federal Renewable Energy Production Incentive, or as a result of tradable federal tax credits that might materialize in the future, could be applied to offset the proposed Nebraska incentive. These measures are highly uncertain, however. A more attractive and reliable option would be for the state to offer green tags to those wishing to purchase the environmental attributes of wind energy. Markets for these tags are being established today, and green tags are being sold at prices in the range of 1 to 2¢ a kilowatthour of generated electricity. Hence it is likely that Nebraska can finance a production incentive entirely through the sale of green tags, thus



avoiding any negative impact on state revenues. reports/accel_wind.htm"> It is important to remember that some wind projects are likely to make economic sense in Nebraska today without any incentives. Therefore, those wishing to pursue projects on their own without participating in, or waiting for, any incentive program should be allowed the flexibility to operate outside of the framework of any incentive program that might be enacted. One other incentive program that has been highly successful in other states is the Renewables Portfolio Standard, which stipulates that a specific portion of retail electricity supply must come directly or indirectly from renewable sources in conformance with a specified time schedule. It is likely that a Renewable Portfolio Standard could work well for Nebraska, but there is clearly a strong distaste for mandated programs in the state. Consequently the chances of legislative success are lower for this incentive option than for the others discussed. **On the Web** A complete text of Accelerating Wind-Power Development in Nebraska: Status, Recommendations and Perspective can be found at reports/accel_wind.htm">reports/accel_wind.htm #"> Home Energy Loans Energy Statistics mailto:energy1%40mail%2estate%2ene%2eus"> Contact Us State of Nebraska Home disclaimer.htm"> Disclaimer feedback2.htm">Webmaster