



Wind in a Restructured Electric Industry

The success of wind power in a restructured electric industry will depend in part on the new market system's structure and effectiveness.

Many state legislatures and public utility commissions are considering fundamental changes in regulation of their electric industries. Their goal is to reduce government oversight of electricity markets and to instill greater competition and reduce costs incurred within the traditional monopolistic electric system. The success of wind power in a deregulated electricity industry will depend in part on the structure and effectiveness of the new market system.

Electricity is one of the few remaining large, regulated monopoly industries to be "restructured." The industry is complex for several reasons. Policymakers must be aware of the industry's commodity (electricity) and service (distribution and sales) characteristics. Because it is a highly capital intensive industry, restructuring could cause large producers to consolidate to cut costs, resulting in fewer participants and vulnerability to anti-competitive activity by large suppliers. Finally, because electricity production creates pollution, resource efficiency and environmental effects must be considered.

One challenge facing state policymakers is to include renewable resources, such as wind energy, in electric industry development. Though wind power offers many benefits over traditional generation methods, it undoubtedly will face many barriers to competing in a restructured electric industry. The number and nature of these barriers will depend on regulatory reforms and the final design of public policies for the restructured electric industry.

Further development and increased use of wind power may be impeded by the imperfections of market economies. For instance, a few large owners could dominate the market by influencing the rules of participation and by making capital expensive or difficult to obtain for others. To avoid this problem, policymakers may want to consider dividing ownership of the separate functions of electricity services (generation, transmission and sales) and limiting the ownership of assets under each of these entities to appropriate levels, determined by the size of the market.

Electricity produced by clean, renewable sources like wind may be attractive to customers who value environmental protection.

Other barriers to wind power in a restructured utility market could appear if competition and cost constraints push distributors to purchase electricity priced on short-term costs, which would favor traditional generation methods. Today's price of electricity -- generated with fossil fuel and nuclear material technologies -- may not accurately reflect long-term pollution costs. This problem may be partially addressed by allowing consumers a choice of purchasing electricity from different sources. This is called "direct access" or "retail wheeling." Electricity from clean, renewable sources like wind power may be particularly attractive to residential and commercial customers who value environmental protection.

For direct access to be successful and equitable for smaller customers, it may prove beneficial to establish a mechanism that aggregates the purchases by smaller customers. Options include customer service districts, competitive franchises or municipal joint power agencies. Under the existing utility

structure, policymakers might consider requiring utilities to offer resource portfolios designed to meet the needs and values of specific customer groups. Different combinations and variations of these two options also are possible.

Policymakers must ensure that electricity prices in a restructured market reflect environmental costs and risks.

Another challenge to policymakers is to ensure that electricity prices in a restructured market reflect long-term environmental costs and risks. Environmental costs can be included in market prices through the following methods:

- Adding pollution taxes at wholesale and retail levels;
- Adjusting prices paid to suppliers according to relative "cleanliness";
- " Expanding the number of pollutants that are regulated through emission permits;
- Requiring that a minimum percentage of supplier portfolios consist of renewables; and
- Mandating performance goals.

Wind energy will likely find more barriers to success in a restructured market. Increased competition will require electricity generators to find cost savings in all areas of operation, threatening research and development that frequently experience funding cuts under such conditions. Though technical progress has made wind energy cost competitive, further development of the resource could increase wind energy's contribution to total generation capacity. The prospect of fewer demonstration projects, due to competitive demands, could decrease demand for equipment (such as wind turbine blades) and create problems for equipment producers and suppliers. Finally, investors that are interested in wind development may find that such a project provides more benefits to the public in general (environmental and economic development benefits) than it does to the individual investor.

Tax credits for renewable energy projects could offset disincentives.

To offset disincentives to wind development, policymakers may consider implementing tax credits for renewable energy development, surcharges on electricity prices to pay for development and commercialization projects, private and public cooperative development projects, and "green" pricing options for electricity consumers. Requiring sellers of electricity to include a percentage of renewable energy electricity in their total supply and allowing sellers to trade renewable energy credits to meet the percentage requirements is a policy option that has been considered in some states.

If implemented, direct access may create additional challenges for wind energy. Customers may not receive complete information about the complex electricity options in which many sellers offer various goods and services using different mixes of technologies and fuels. short-- term price savings can mask the costs of long-term price volatility, as well as fuel and environmental risks. Requiring full disclosure of sources of power in supply portfolios could ensure that consumers receive adequate information and help to deter inaccurate marketing schemes. Requiring disclosure as a component of licensing may be an appropriate market control measure.

Deregulation of the electric utility industry is a complicated task. Policymakers will need to become familiar with the complex elements of utility markets in order to make decisions that protect public and private interests.

This brief was summarized by Jeff Dale, National Conference of State Legislatures, from a *Wind Energy Series Report* by Jan Hamrin, Hansen, McQuat & Hamrin Inc.

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