

**Increasing Minnesota's Renewable Electricity Standard:  
A Powerful Opportunity to Regain Minnesota's Leadership on  
Renewable Energy**

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**Before the  
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Communications**

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Chair Prettner Solon and Members of the Committee:

Thank you for this opportunity to appear before you today. My name is Steve Clemmer. I'm the Research Director of the Union of Concerned Scientists Clean Energy Program and manager of our Midwest renewable energy project. While I currently live and work in Massachusetts, I'm a native of Minnesota. I grew up in Edina and graduated from Gustavus Adolphus College.

I'm here today on behalf of UCS and the Clean Energy Minnesota coalition. UCS is the leading science-based nonprofit of more than 75,000 citizens and scientists working for a healthy environment and a safer world, with over 1,700 members in Minnesota. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and secure responsible changes in government policy, corporate practices, and consumer choices.

Our clean energy program focuses on encouraging the development of clean and renewable energy resources, such as wind, solar, geothermal, and bioenergy, and on improving energy efficiency. UCS has been a leading analyst of and advocate for renewable electricity standards at the state and federal levels. We have played an active role in discussions of renewable standard adoption and implementation before legislatures and commissions in most of the 21 states that have enacted standards.

My comments today will provide a brief description of the policy, describe how renewable electricity standards have been a key driver of renewable energy development in the U.S., and highlight the potential economic and environmental benefits of adopting a standard of 25 percent by 2020 in Minnesota.

### **A renewable electricity standard is an effective market-based policy**

A renewable electricity standard, also sometimes called a renewable portfolio standard, is a minimum requirement for electric utilities to gradually increase the amount of renewable energy—such as wind, solar, and bioenergy—in their electricity supplies. The renewable electricity standard is a market-based policy that creates competition among renewable generators, providing the greatest amount of clean power for the lowest price and creating an ongoing incentive to drive costs down. The steady, predictable, and long-term clean energy market supported by a renewable electricity standard enables developers to obtain lower-cost financing and achieve economies of scale and production that make renewable energy technologies more competitive.

U.S. citizens already benefit from similar standards in other sectors of the economy. Energy efficiency standards for buildings and appliances, for example, are common at the state and federal level. The airline, automobile, food, tobacco, and pharmaceutical industries must also follow standards that ensure public safety, economic stability, and environmental protection. These standards help society achieve goals and meet needs—such as clean, safe, sustainable, and affordable energy—that might otherwise go unattained.

We believe that a renewable electricity standard is the foundation of a package of complementary and market-oriented clean energy policies. A renewable standard is designed to

benefit the lowest cost technologies that are the closest to commercialization. Policies, such as net metering, incentives, and tariffs, are needed to encourage the development of higher cost emerging technologies that show significant long-term promise, such as solar photovoltaics and advanced bioenergy technologies, and to support projects that encourage local ownership, such as community based energy development. Policies that recognize the environmental benefits of renewable energy technologies, such as requiring reductions in global warming, mercury, and other emissions from fossil fuel power plants, are also needed to put renewable energy on a more level playing field with conventional energy technologies. Other policies are needed to overcome specific market barriers such as the lack of transmission capacity for wind power and transmission rules that unfairly penalize wind.

While Minnesota has already adopted many of these policies, much more could be done. In particular, as the new Minnesota wind integration study demonstrates, major new transmission investments will likely be needed to get wind power from rural areas to load centers under a 25 percent renewable standard. Transmission projects often take many years to plan and receive necessary approvals, while wind projects can be developed in as little as one to two years. Therefore, Minnesota needs to prioritize and accelerate development of new transmission lines and upgrades for wind. This will help ensure that the renewable energy targets are met in a timely fashion and the economic and environmental benefits to Minnesota are realized.

### **State renewable electricity standards are a key driver for renewable energy development in the U.S.**

Renewable electricity standards have emerged as an effective and popular tool in the United States and elsewhere. Twenty-one states plus Washington, DC, have adopted standards, and the U.S. Senate has voted for a national renewable standard three times since 2002. Other countries such as Australia, China, Italy, Japan, Pakistan, Sweden, and the United Kingdom, as well as several provinces in Canada, have also adopted renewable electricity standards.

State-level commitments to renewable energy vary greatly across the country. Some states—such as California and Maine—have historically been and continue to be leaders in the use of renewable energy technologies. Many other states, including (but not limited to) Colorado, Iowa, New York, Texas, and Minnesota, have made great strides in recent years, significantly increasing their use of wind, solar, and bioenergy.

While most standards have been enacted too recently to fully evaluate their effectiveness, a number of studies have found that state-level renewable standards are and will continue to be the primary driver of new renewable energy development in the United States. In fact, nearly half of the total wind development installed in the US between 2001 and 2005 has resulted from state standards, according to Lawrence Berkeley National Lab. We project that state renewable standards will result in the development of 40,000 MW of new renewable capacity in the U.S. by 2020, providing enough electricity to meet the needs of 25 million typical households and reducing global warming emissions equivalent to taking 15.5 million cars off the road.

The most successful renewable standard so far may belong to Texas, where nearly 2,200 megawatts (MW) of new renewable energy capacity have been installed since the requirement

was signed into law in 1999 under then-Governor Bush. In 2001, more wind power was installed in Texas than had been installed in the entire country in any previous year. Texas has already exceeded its original standard of 2,000 MW of new renewable capacity by 2009 three years ahead of schedule and recently surpassed California as the new wind power capitol of the US. As a result of this success, the legislature in August 2005 increased the standard to 5,000 MW of new capacity by 2015. Eight other states—including Minnesota —have also revisited and increased or accelerated their standards.

In Minnesota, Xcel Energy has acquired about 600 megawatts (MW) of wind and bioenergy to meet its renewable requirement. When combined with its wind purchases to meet renewable standards in other states and a relatively small contribution from voluntary programs, Xcel is now proudly referring to itself as the largest retailer supplier of wind in the U.S. In Wisconsin, where all utilities have to meet a renewable standard, utilities had secured enough renewable generation to meet their original targets through 2011, prompting the state raise the targets in 2006. And Iowa has met and exceeded its relatively low renewable standard.

More information on state renewable electricity standards is included in a fact sheet in your packet and on our website at [www.ucsusa.org](http://www.ucsusa.org).

**Adopting a renewable electricity standard of 25% by 2020 would allow Minnesota to regain its national leadership on renewable energy.**

If Minnesota's renewable policies have been so successful, why should it adopt a higher target and make it a requirement for all utilities? While the policies Minnesota adopted in 1994 and 2003 have made it a national leader in wind energy development, other states have since made stronger commitments to increase renewable electricity. By our estimates, Minnesota has moved from near the top to the middle of the pack over the past few years in terms of state commitments to new renewable generation as a percent of total electricity use. Adopting a standard of 25 percent by 2020 would allow Minnesota to regain its national leadership. The new wind integration study for Minnesota shows that this target can be achieved without any adverse impacts on reliability and at a relatively modest cost.

Changes to the renewable energy objective (REO) are also needed to create more of a market-based mechanism with fewer regulatory burdens. The current policy of encouraging utilities other than Xcel to make "good faith efforts" to meet an "objective" has involved significant regulatory oversight and administrative costs. Adopting a requirement with strong enforcement provisions and penalties for non-compliance for all utilities would provide more certainty and help instill more confidence in the market, while reducing regulatory costs.

Governor Pawlenty supported including penalties for non-compliance when he announced his new clean energy initiative last month. Senator Anderson's bill proposes language that is similar to what has been working well in Texas. So far, Texas has not had to impose any penalties, as electricity suppliers have been able to comply with the standard at a relatively low cost. If utilities are engaging in prudent long-term procurement practices, penalties should rarely, if ever, be required.

In addition, there is some evidence that the market does not perceive Minnesota's renewable energy objective to be firm enough to attract new renewable energy businesses and manufacturing capacity compared to the stronger requirements adopted in other states. For example, a few years ago, the Spanish company Gamesa—the third largest wind turbine manufacturer in the world—was considering locating its North American headquarters and production facilities on Minnesota's Iron Range. However, in 2004, they decided to locate the plant in Pennsylvania, creating 1,000 new jobs and \$40 million in new investment over five years. The CEO of Gamesa credited the Pennsylvania renewable standard as one of the main reasons why they chose to locate the manufacturing plant there.

Using tradeable renewable energy credits as a means of compliance is another effective market-based approach that Texas, Wisconsin, and several other states have implemented. Under this approach, a certificate or credit is issued to owners of renewable energy facilities for each unit of renewable generation. Utilities would be required to purchase a sufficient number of credits to meet their renewable obligation in a given year.

This approach would give utilities greater flexibility in meeting their requirement by allowing them purchase credits rather than owning or procuring the generation directly. It could also increase market liquidity, which would help lower the cost of meeting the standard.

The Minnesota Public Utilities Commission has the authority to establish a program for tradable credits under current law. They can also facilitate the trading of credits with neighboring states if those states establish a renewable standard with a similar definition of eligible technologies or renewable energy as Minnesota. State officials are currently participating in discussions with officials and stakeholders from other states to design and implement the Midwest Renewable Energy Tracking System (M-RETS). This system will track renewable energy generation located within the state and provincial boundaries of Minnesota, Iowa, North Dakota, South Dakota, Wisconsin, Illinois, and Manitoba. It will provide a transparent mechanism for tracking sales of credits between renewable energy generators, utilities, and consumers to help verify compliance with state renewable standards and for voluntary programs. The system is expected to be launched in July 2007.

### **Increasing Minnesota's renewable electricity standard to 25 percent by 2020 would provide significant economic and environmental benefits**

Increasing Minnesota's standard to 25 percent would greatly diversify Minnesota's electricity mix. Minnesota is heavily reliant on imported coal and nuclear power, which currently provides 92 percent of the state's electricity needs. By contrast, Minnesota has the technical potential to generate more than 13 times its current electricity from homegrown renewable energy sources, according to data from the U.S. Department of Energy's national laboratories.

Diversifying Minnesota's electricity with renewable energy would provide many important economic and environmental benefits for the state. It would make Minnesota more energy self-sufficient by reducing its reliance on imported coal and natural gas. It would provide insurance against rising fuel prices and the cost of future environmental regulations, such as state or national limits on global warming and mercury pollution. It would create new high-tech jobs in

a rapidly growing industry, with significant export potential. And it would provide an important source of income for farmers and rural areas.

A recent UCS study of implementing a national renewable electricity standard of 20 percent by 2020 illustrates some of these benefits for Minnesota. This study found that under a 20 percent national standard, Minnesota would increase its non-hydro renewable capacity to 4,750 MW by 2020, producing enough electricity to meet 24 percent of its projected needs. We estimate that this level of renewable development would:

- create over 5,000 new permanent jobs in manufacturing, construction, operation, maintenance, and other industries or 40 percent more jobs than producing the electricity from fossil fuels.
- generate \$1.7 billion in new capital investment, \$383 million in income to farmers and rural landowners, and \$126 million in new local tax revenues
- save consumers \$500 million in lower electricity and natural gas bills

The study found that consumers would save money because competition from renewable energy would reduce the need for more natural gas and coal to produce electricity, thereby exerting downward pressure on prices. Lower natural gas prices also results in lower home heating bills, lower fertilizer costs for farmers, and savings for businesses that use natural gas. More information on this study is included in a fact sheet in your packet.

In conclusion, surveys have shown that Minnesotans want more clean renewable energy and overwhelmingly support a renewable electricity standard as a mechanism for achieving this. Polling completed in 2005 shows that 78 percent to 87 percent of Minnesotans support a strong renewable electricity standard. A strong, market-friendly standard would allow Minnesota to regain its national leadership on renewable energy, while providing significant economic and environmental benefits for the state.

For all these reasons, we respectfully urge the Committee to support an increase in Minnesota's renewable electricity standard to 25 percent by 2020.