



Minnesota was one of the first states in the nation to enact legislation dictating the mix of electricity generation technologies private power companies must sell. Enacted in 1994, Minnesota required Xcel Energy to produce 125 MW of power using biomass sources by 2004.¹ Since then, Minnesota has imposed additional laws governing the power mix that Xcel Energy must provide to the states electric consumers.

In February 2007, Minnesota passed Senate File (S.F.) 4 which established a Renewable Portfolio Standard (RPS) that requires a portion of all retail electricity sold in Minnesota be derived from renewable sources, including energy from solar, wind, biomass and hydroelectric facilities smaller than 100 megawatts. Specifically, the law requires that renewable sources account for 12 percent of all retail electricity sales by 2012; 17 percent by 2016; 20 percent by 2020 and 25 percent by 2025 and after.²

A literature review shows that the U.S. Energy Information Agency (EIA), a division of the Department of Energy, in most cases projects costs at the low end of the range of estimates and capacity factor for wind at the high end of the range. EIA does not take into account the actual experience of existing renewable electricity power plants in its estimates.

BHI therefore applied its STAMP[®] (State Tax Analysis Modeling Program) to estimate the economic effects of the RPS mandate. Full methodology will be provided with the final study in late January, 2011.

The study provides three estimates of the cost of federal RPS mandates: low, average and high, using different cost and capacity factors estimates for electricity-generating technologies from the academic literature. Major cost findings include:

- The state's electricity consumers will pay \$2.294 billion more for power in 2025, within a range of \$865 million and \$3.526 billion, due to the RPS.
- Over the period of 2016 to 2025, SF 4 will cost Minnesota citizens an additional \$15.042 billion over conventional power, within a range of \$7.173 billion and \$22.828 billion.
- Minnesota's electricity prices will increase by an average of 2.34 cents per kilowatt-hour (kWh), or by 24 percent, in 2025, within a range of 0.88 cents per kWh, or by 9 percent, and 3.59 cents per kWh, or by 37 percent.

These increased energy prices will hurt Minnesota's households and businesses and, in turn, inflict significant harm on the state economy. According to the study:

- By 2025 Minnesota will lose an average of 11,271 jobs, within a range of between 4,539 jobs under our low cost scenario and 17,164 jobs under our high cost scenario.
- In 2025, the RPS mandate will reduce annual wages by an average of \$736 per worker, within a range of between \$297 per worker \$1,121 per worker.

¹ Minn. Stat. §216B.2424, Sec. 3.

² Minn. CHAPTER 110--S.F.No. 550 <https://www.revisor.mn.gov/laws/?id=110&year=2009&type=0>.

- Due to higher home energy costs, in 2025, annual real disposable income will fall by \$1.359 billion, within a range of \$547 million and \$2.07 billion.
- In 2025, the RPS will cost families an average of \$265 per year; commercial businesses an average of \$2,257 per year; and industrial businesses an average of \$70,681 per year. Over the 10 years, the average household ratepayer will pay \$1,814 in higher electricity costs; the average commercial ratepayer will spend an extra \$8,011; and the average industrial ratepayer an extra \$250,882.

Higher electricity costs may be justifiable if the environmental benefits outweigh the costs. However, it is unclear that the use of renewable resources, especially wind and solar, actually reduce GHG emissions. In fact, studies may show increased pollution due to wind variability.

- Wind and solar require significant fossil fuel-based backup power sources to accommodate variability in the availability of wind and sun for power conversion. A recent study found that wind power actually increases pollution and greenhouse gas emissions due to these required backup systems.
- Firms with high electricity usage will likely move their production, and emissions, out of Minnesota to locations with lower electricity prices and less stringent regulatory regimes. Exporting energy production and jobs will not reduce global emissions, but rather send production, jobs and capital investment outside the state, or even outside the country where net global emissions would almost surely be increased.

The series of laws implemented by Minnesota to create a RPS mandate based on the idea of promoting green energy polices is flawed. In reality these mandates are mere handouts to favored “green” energy producers. The policies promote only certain forms of renewable energy - costly ones - and ignore other potential renewable sources such as hydroelectric power. Therefore, the “expanded development of these resources” will not “meet the state’s electricity demand” but rather threaten the stability of the state’s electricity grid – raising electricity prices for consumers and businesses in Minnesota.

Supporters of the Minnesota RPS use a hidden tax approach that fails to undertake any reasonable cost benefit analysis. The Minnesota RPS puts the state’s robust competitiveness at risk. The Minnesota business community will most likely will see a reduction in its competitive advantage over domestic and international competitors. As a result, Minnesota will see slower growth in disposable income, employment and wages.

See the Full ATI/MNFMI Study of the Effects of Minnesota’s Renewable Portfolio Standard on the State Economy at <http://www.atinstitute.org/wp-content/uploads/2011/04/ATI-MNFMI-RPS-Study-April-2011.pdf>.