CENTER OF THE AMERICAN EXPERIMENT

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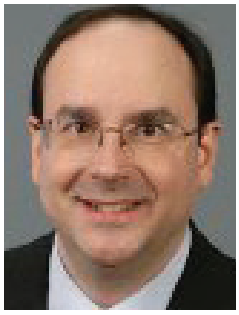
RETHINKING ENERGY

SUPPLYING COMPETITIVE ELECTRICITY RATES

Bill Glahn



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EXECUTIVE SUMMARY

The Problem

Not long ago, Minnesota's energy policy focused on providing "adequate and reliable services at reasonable rates." As a result, Minnesota benefited from low and competitive electricity prices. This gave Minnesota businesses an important advantage, spurred job growth and provided relief for strained family budgets. Over the past decade, however, Minnesota electricity prices rose faster than other states. Minnesota is now among the twenty states with the highest electricity prices.

It is no coincidence that Minnesota electricity prices started rising faster after state energy policy shifted its focus to subsidizing and mandating green energy. Green energy policies clearly contribute to Minnesota's rising prices. Xcel residential customers now pay about 5 percent of their bill for its energy efficiency program. Utilities regularly cite the state's renewable energy mandate as one reason why they need to raise rates.

Most Minnesotans are willing to pay a little more for electricity if it means more green-sector jobs and a cleaner environment. Unfortunately, green policies are not producing the new jobs and environmental benefits promised to Minnesotans.

Instead, higher electricity prices are eliminating jobs. In just the manufacturing sector, a penny per kilowatt hour increase in electricity prices by one estimate eliminates 15,700 Minnesota jobs. Inflation adjusted electricity prices did, in fact, rise by more than a penny since 2005. The number of jobs at risk far outweigh the 14,000 clean energy jobs said to exist in Minnesota.

Higher electricity prices also hit low-income households the hardest. Home energy costs account for 32 percent of income for Minnesota households below 50 percent of the federal poverty guideline. If our society truly cares about reducing the impact of income inequality, then energy affordability should be a high priority.

The driving force behind current green energy policy is the reduction of carbon emissions in an effort to address global climate change. Minnesota, however, is simply too small to make a difference. Eliminate all Minnesota emissions tomorrow and the growth in global emissions would replace the state's emissions in about a month. Without global action, the cumulative actions of Minnesota and the United States are meaningless. Even if there were meaningful global reductions in carbon emissions, any benefits remain far too speculative to justify the cost.

What Needs to Be Done

As the proverb says, when you find yourself in a hole, stop digging. Accordingly, the state's first step must be to stop adding new green energy mandates. Next, policy makers need to review existing policies and eliminate those that are not producing tangible benefits for electricity consumers.

Here are seven specific recommendations to move Minnesota toward more affordable and competitive electricity rates:

1. Set a state goal to reduce consumer electricity prices by 10 percent relative to U.S. prices within ten years and direct the PUC to meet the goal.

2. Start to move toward the goal of more affordable, competitive rates by repealing certain green energy policies.

3. Give the PUC the power to suspend current mandates to meet the affordability/competitiveness goal.

4. Cap the cost of Minnesota's green energy policies.

5. Hire a nationally recognized accounting firm to audit the costs associated with Minnesota's green energy policies.

6. Annually report on the total cost of Minnesota's green energy policies and programs.

7. The Minnesota Legislature should estimate the cost to consumers of all new energy legislation before passage.

THE PROBLEM

It began with the best of intentions. In 1974, when the Minnesota state legislature decided to bring electric utilities under state regulation, it gave regulators responsibility for providing energy consumers "with adequate and reliable services at reasonable rates."[1]

In the last forty years, the need for affordable, reasonable rates has not changed. Affordable energy rates remain vital to Minnesota's ability to compete and create high quality jobs. For most Minnesota families, energy represents the largest household expense after food, housing, and transportation.

Twenty years after the state started regulating electricity, Minnesota began drifting away from the goal of affordable, reasonable rates. In 1994, when Minnesota still ranked among the twenty states with the lowest electricity rates, the Minnesota state legislature approved the "Prairie Island" settlement. This deal allows the state's largest utility—Xcel Energy—to store radioactive waste at its nuclear power plants. In exchange, Xcel began making large, and unprecedented, expenditures on wind power and energy efficiency programs. Xcel's consumers paid for both sides of the transaction—funding new investments for storage at the state's two nuclear power plants and covering the costs of the wind power and conservation programs.

Another twenty years later, after experimenting with every fashionable green energy policy to come along, Minnesota today finds itself among the twenty states with the highest electricity prices. For all of the negative impact on affordability, these green energy policies have not produced any significant countervailing benefits for Minnesota ratepayers or citizens. Not in jobs created or environmental benefits. These policies enable Minnesotans who favor green mandates to feel good. However, these feel good policies come with the price tag of fewer jobs and significantly higher electricity bills for Minnesotans.

Electricity Prices in Minnesota are High and Rising

During the two decades since the State Legislature began layering on green energy mandates in 1994, the average cost of electricity to Minnesota consumers has risen from 7.17 cents per kilowatt hour (kWh) in 1995 to 11.94 cents per kWh in 2013, or by 67 percent. Electricity prices have also been rising across the country and across the West North Central Region[2], but Minnesota prices have been rising faster. Figure 1 shows that over the same period in which Minnesota's residential electricity prices increased by 67 percent, the West North Central region's average residential prices rose by 48 percent and the U.S. as a whole rose by only 44 percent. In 1995, Minnesota's residential energy prices were lower than the average residential electricity prices in the West North Central Region, lower than Iowa, Missouri and Kansas, but higher than the Dakotas and Nebraska. By 2013, Minnesota's residential electricity prices were the highest in the region. Looking at commercial and industrial electricity rates, Figures 2 and 3 show a similar

history of rising electricity rates relative to the region and the nation. Commercial rates in Minnesota rose 54 percent between 1995 and 2013, compared to a 44 percent increase in the West North Central region and 34 percent increase nationally. Industrial rates rose 64 percent in Minnesota between 1995 and 2013, which was again substantially higher than the increase experienced in the West North Central region (53 percent) and nationally (46 percent).

Notably, Minnesota's industrial rates leapt above the national average in 2013 after experiencing a 20 percent increase in just five years, all while U.S. rates declined by 2 percent. Moreover, ranking state electricity rates from most affordable to least, 2013 is also the first year Minnesota electricity rates rank in the bottom twenty states across all sectors. The state ranks 35th for residential rates and 34th for both commercial and industrial rates. This represents a huge change from 1990, when Minnesota ranked 16th for residential rates and 15th for both commercial and industrial rates.

Figure 1: Residential Electricity Prices (Cents/kWh)

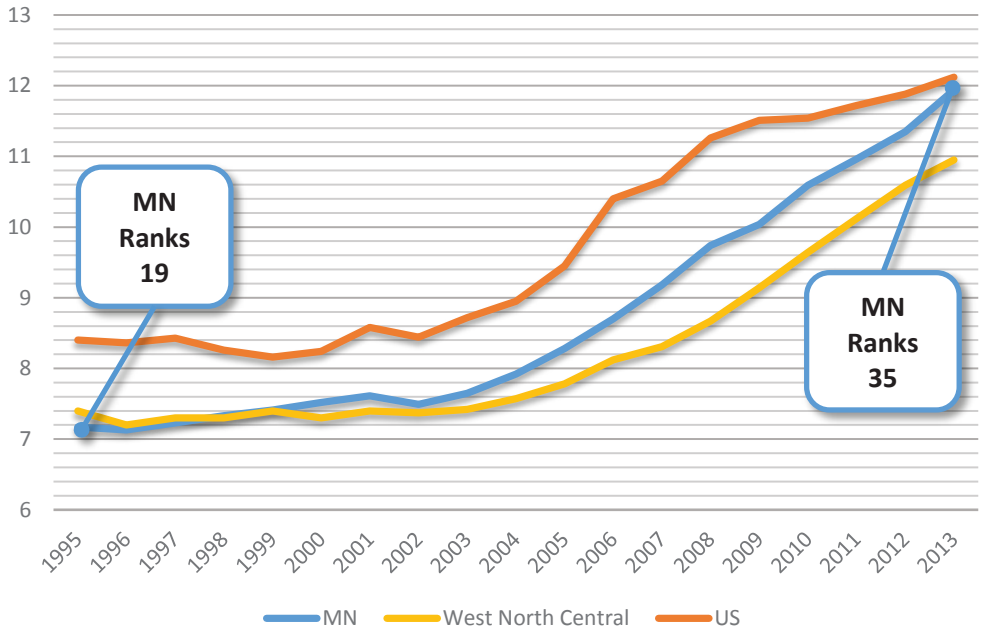


Figure 2: Commercial Electricity Prices (Cents/kWh)

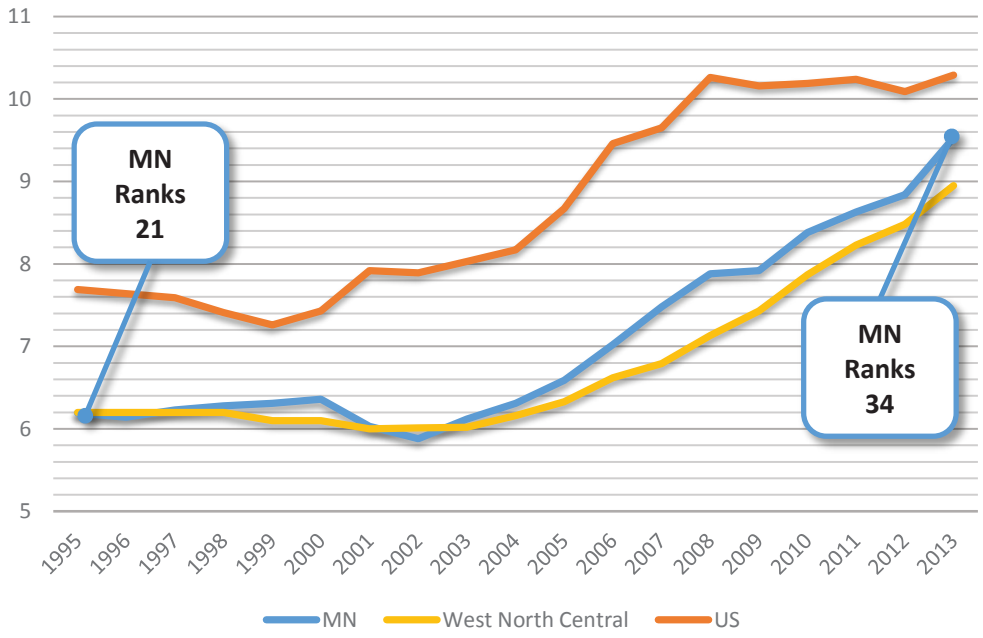
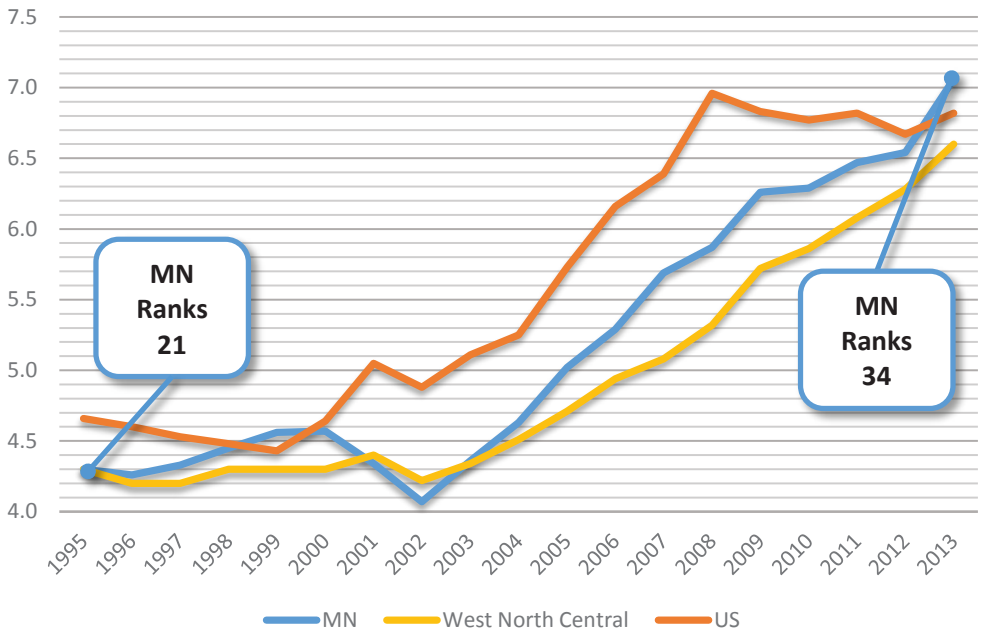


Figure 3: Industrial Electricity Prices (Cents/kWh)



Sources for Figures 1 through 3: Energy Information Administration, Electric Power Annual, Average retail price of electricity to ultimate customers, By state, by provider, annual back to 1990 (Dec. 12, 2013), available at http://www.eia.gov/electricity/data.cfm; and Energy Information Administration, Electric Power Monthly, Average Retail Price of Electricity to Ultimate Customers, Year-to-Date through December (various years), available at http://www.eia.gov/electricity/monthly/.

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Minnesota's Green Energy Policies Significantly Contribute to Rising Electricity Prices

As noted above, green energy policies became a priority in 1994 when the Minnesota state legislature approved the "Prairie Island" settlement, which required Xcel to make large expenditures on wind power and energy efficiency programs. Later, these renewable energy and conservation mandates were extended to the rest of the state's electric utilities. In fact, in each year from 2005 to 2013, the state legislature enacted additional mandates on the state's utilities; requirements to fund everything ranging from community energy projects, to global warming initiatives, to solar "gardens."[3] For the most part, other states have not added as many mandates. The debate in many states has in fact turned to rolling back green energy policies.[4] This year Ohio became the first state to freeze its renewable and energy efficiency mandates.[5]

While electricity prices are influenced by a number of factors, it is no coincidence that Minnesota's rates began rising faster than other states' rates at the same time state energy policy began focusing on subsidizing and mandating green energy.

If renewable electricity and other green energy policies were cost competitive, mandates would be unnecessary. Utilities would jump at the chance to implement green energy strategies to both save customers money and pump up their public image. But they aren't doing that.[6] Instead, in 2012, Xcel attempted to end its Solar Rewards program due to the high cost.[7]

Most of the recent requests for rate increases from Minnesota utilities cite green energy mandates as one reason for the need to raise rates.[8] As membership organizations with a duty to protect member interests, Minnesota's cooperative utilities have been the most forthcoming on the link between green energy policies and higher rates. Great River Energy reports that Minnesota's renewable energy standard (RES) cost $32 million in 2013, and they "are concerned additional mandates will burden our members with even more costs."[9]

The most recent evidence emerged from a settlement agreement between Xcel and utility regulators in North Dakota, in which Xcel admitted that it spread the cost of Minnesota's green energy policies across five states. North Dakota estimates Minnesota's policies cost North Dakota Xcel customers over $5 million a year. Mike Diller, the Director of Economic Regulation of the North Dakota Public Service Commission, provided this testimony on Minnesota's higher costs:

> It is no secret that Minnesota rules, laws and policies are highly influenced by various environmental groups and ideas. North Dakota has a renewable energy objective of 10% while Xcel Energy has a renewable portfolio standard (RPS) of 30% in Minnesota plus a recently added solar energy requirement of 1.5%. The environmental concerns of North Dakota are different than those of Minnesota

and the cost of compliance with the environmental and energy policies in Minnesota is becoming a burden to North Dakota ratepayers.[10]

With a number of Minnesota based utilities operating across state lines, other states may well seek to follow North Dakota's example. If so, Minnesota ratepayers will soon bear the full cost of these green energy policies.

The costs of the Conservation Improvement Program (CIP)—Minnesota's energy efficiency mandate—are the easiest to track. Every year utilities must report how much they spend on CIP and estimate how much energy the program saved. Xcel, for example, claims that their energy conservation programs save the equivalent of 1.71 percent of the electric utility's retail sales.[11] To achieve these savings, Xcel spent about $80 million in 2013.[12] Adding the cost of its performance bonus ($54 million) and interest ($298,021)[13] brings the total cost to ratepayers to something closer to $135 million a year.

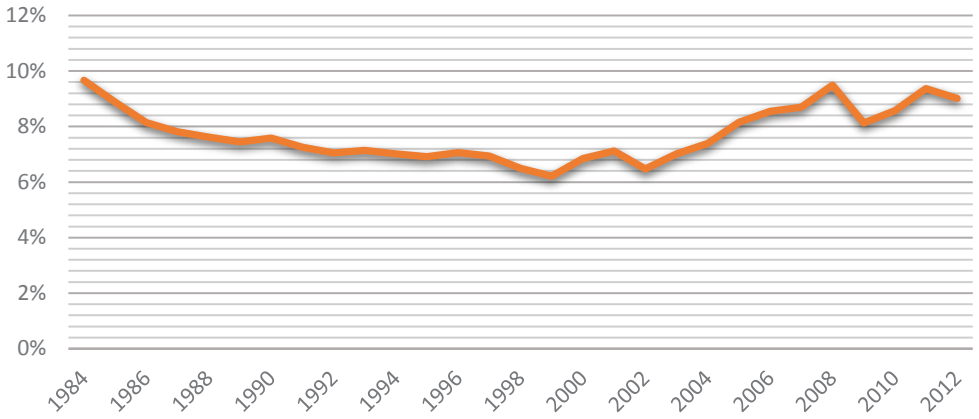
Based on Xcel's electricity rates, the cost per kWh of its CIP program works out to 5 percent of the cost of a typical retail residential consumer's bill.[14] Consumers are, therefore, paying 5 percent of their total bill for programs which reduce electricity needs by 1.71 percent.

Expensive Electricity Eliminates Jobs

The price of electricity is a critical factor in economic development. For many businesses, electricity is one of their top costs. Combined, Minnesota manufacturers spend over $1 billion a year on electricity. Lower energy costs would directly translate to lower costs of goods and services, making Minnesota businesses more competitive.

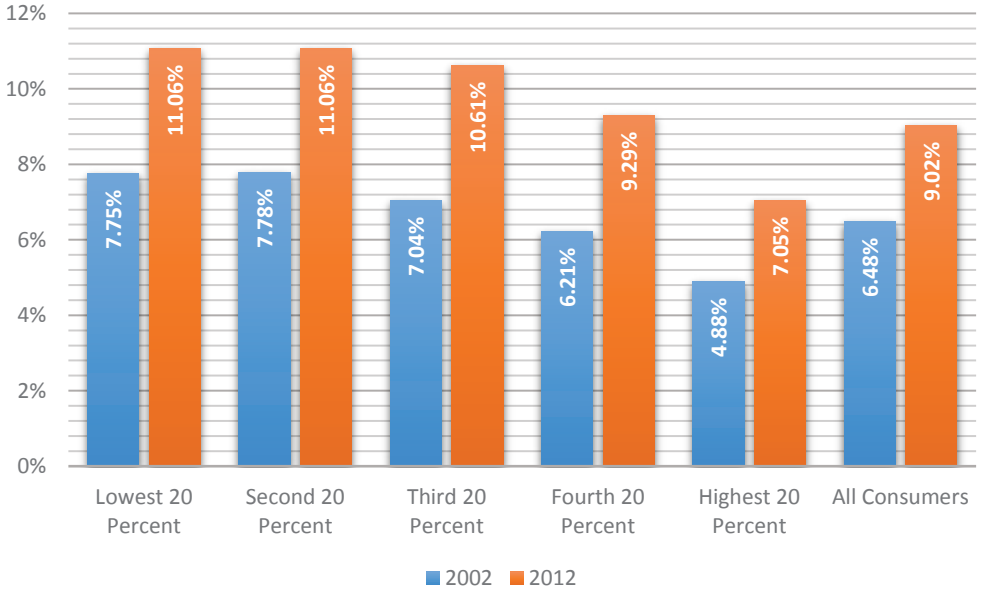
Unfortunately, with Minnesota's energy costs rising faster than elsewhere, Minnesota's businesses are now less competitive and good jobs are disappearing as a result. Drawing from a national study released by the Kentucky Energy and Environmental Cabinet, Center of the American Experiment's Peter Nelson estimated job losses due to rising electricity prices for various sectors of Minnesota's economy in a 2013 study. Each penny per kilowatt hour in increased electricity prices translates to a loss of 15,700 jobs in the Minnesota manufacturing sector alone.[15] And over the past ten years, inflation adjusted electricity rates for the industrial sector did, in fact, rise by more than a penny. These manufacturing job losses alone exceed the 14,000 jobs said to exist in Minnesota's clean energy sector.[16]

Figure 4: Energy as a Percent of Average Annual Expenditures, 1984-2012



Source: Bureau of Labor Statistics, Consumer Expenditure Survey, available at http://www.bls.gov/cex/.

Figure 5: Share of Consumer Spending on Energy in the U.S. by Income Quintile, 2002 and 2012



Source: Bureau of Labor Statistics, Consumer Expenditure Survey, available at http://www.bls.gov/cex/.

Expensive Electricity Hits Minnesota's Low-Income Households Hardest

High electricity prices tend to harm the poorest families the most because they spend a larger share of their income on energy. For most families, energy is the largest expenditure next to food, shelter, and transportation. U.S. families at all points on the income scale are spending a larger portion of their budgets on energy than they were a decade ago, as shown in Figures 4 and 5.

Fisher Sheehan and Colton—a law and economics research and consulting firm that advocates for affordable energy—calculates an "affordability gap" for Minnesota and other U.S. states. The firm reported in May of 2014:

> Home energy is a crippling financial burden for low-income Minnesota households. Minnesota households with incomes below 50% of the Federal Poverty Level pay 32% of their annual income simply for their home energy bills.[17]

If our society truly cares about reducing the impact of income inequality, then energy affordability should be a high priority.

Benefits Do Not Justify Higher Prices

So what value do Minnesotans get from higher energy rates? Not much.

After twenty years of expanding green energy mandates and subsidies, the clean energy sector employs less than one half of one percent of the state's workforce. Remember, Minnesota loses more *manufacturing* jobs to a penny increase in electricity prices than the *entire* green energy workforce.

The driving force behind current green energy policy is the reduction of carbon emissions in an effort to address global climate change. However, nothing the state of Minnesota can do will have any measurable impact on global carbon emissions.

Minnesota is simply too small to make a difference. The state's energy-related carbon emissions (93.4 million metric tons) represent 1.66 percent of U.S emissions (5,631.3 million metric tons) and 0.3 percent of global emissions (31,502.4 million metric tons).[18] Our emissions are less than those of the Central Asian country of Uzbekistan. For additional context, consider that it took just 32 days in 2011 for the growth of global carbon emissions to equal Minnesota's total emissions.[19] If Minnesota were to completely eliminate its carbon emissions, it would take about a month for growth elsewhere to add those emissions back.

The distinction between green energy laws and environmental protection laws

While Minnesota's economy needs affordable energy to remain robust and competitive, Minnesotans also value and demand a clean environment. Setting the right balance between affordable and environmentally responsible energy is no easy task. The task, however, is not so hard in regards to policies that promote green energy to reduce carbon emissions.

Reducing carbon emissions produces zero local benefit because the reductions are miniscule and irrelevant on a global scale. This is still true if you believe reducing global carbon emissions will produce some benefit, considering there is no concerted and coordinated global action to reduce carbon emissions. Without global action, the cumulative actions of Minnesota and the United States are meaningless. But even if there were global action, any benefits remain far too speculative to justify the cost.

This report makes a distinction between green energy laws and environmental protection laws. Generally speaking, green energy laws aim to mitigate climate change by reducing carbon emissions, while environmental protections laws aim to reduce specific pollutants, such as mercury, that are proven to harm the environment. Understanding this distinction is essential to setting an appropriate balance between environmental responsibility and affordability. While there is usually a sound or at least measurable cost-benefit justification for environmental protection laws, the same cannot be said for green energy laws.

Because Minnesota's emissions are miniscule on a global scale, any reduction will not impact Minnesota's climate. Indeed, local actions to reduce carbon dioxide emissions will not produce local benefits. There are types of emissions, such as sulfur dioxide or mercury, where local action has a local effect. Carbon dioxide is not one of them.

Furthermore, Minnesota's efforts to reduce carbon emissions may actually be backfiring. There is some evidence that substituting renewable generation for coal results in more coal being shipped to China where power plants have a higher carbon emissions intensity.[20] At the very least, this adds emissions from transporting Wyoming and Montana coal a much longer distance. But coal demand also drops when Minnesota stops buying it. As Kellogg School of Management professor Bård Harstad explains, if a country participating in carbon reductions "reduces its demand for fossil fuel, the world price declines and nonparticipating countries find it optimal to purchase more oil or fossil fuels."[21]

Ultimately, it's difficult to justify any green energy policy that imposes a measurable economic cost because there's so much uncertainty in establishing the benefits, if there are any, from curbing carbon emissions. A 2010 National Research Council study, commissioned by the Energy Policy Act of 2005, acknowledges that attempts to measure the benefits of reducing carbon dioxide remain speculative.

> Given the uncertainties and the still preliminary nature of the climate-damage literature, the committee finds that only rough order-of-magnitude estimates of marginal climate damages are possible at this time. Depending on the extent of future damages and the discount rate used for weighting future damages, the range of estimates of marginal global damages can vary by two orders of magnitude, from a negligible value of about $1 per ton to $100 per ton of CO2-[equivalent].[22]

As one analyst summarized, "In other words, you can get any number you want."[23] Without a reliable method for demonstrating a benefit, there is no reasonable cost-benefit justification for Minnesota to devote resources to force a transition to green energy.

To the extent the state of Minnesota is interested in doing something to help its citizens deal with climate change, a better policy would involve steps to adapt to actual climate change as it appears, regardless of why the climate is changing.

It turns out that many of the benefits claimed for this suite of green energy policies are at best oversold (e.g., green jobs and energy efficiency) and at worst non-existent (e.g., effect on climate change). We need to reorient state energy policy toward outcomes with measurable benefits for all Minnesotans rather than emotional benefits for a few.

LIKELY CONSEQUENCES OF NOT ACTING

This report documents the increase in electricity prices in Minnesota and demonstrates the link between state energy policy and those price increases. Unfortunately for Minnesota's electricity consumers, more price increases are on the way based on current policy.

It will be some time before Minnesota ratepayers feel the full impact of mandates enacted in the middle of the last decade. Though Minnesota's green energy policy shift began in 1994, it was not until 2002 that Minnesota electricity prices turned upward. This likely reflects normal implementation delay between the policy goals set forth in the Prairie Island Settlement and the impact of those policies. Similarly, Minnesota has yet to experience the full cost of the green energy policies implemented in the latter half of the last decade.

As of 2013, Xcel reports generating 18 percent of electricity from renewables and every other utility reports generating 12 percent, which means Xcel still has 13.5 percentage

points to go by 2020 and other utilities have 14.5 percentage points to go by 2025.[24] Additional renewables to meet the remaining mandate will almost certainly be more expensive.

- New wind developments will likely be less productive because the most productive wind sites are already developed, although improved technology will offset this factor at least in part.
- Opposition and, therefore, the cost to siting new wind and transmission is growing as wind projects enter areas with higher population density.
- Generous federal subsidies for wind, which benefited Minnesota ratepayers (although they also cost them as federal taxpayers), lapsed at the end of 2013 and are unlikely to be renewed in the near future. Without such subsidies, Minnesota energy consumers will bear a much higher cost to fulfill the remainder of the existing Renewable Energy Standard.
- Finally, the 2013 solar power mandate is just now starting to phase in, and will result in a far higher costs than previous wind mandates.

While much of the cost associated with green energy mandates may already be "baked in" in terms of contracts signed and projects under construction, current policy is directing Minnesota to bake even higher costs into future rates. It is also directing utilities to spend more and more money on ineffective energy efficiency programs. If current policy persists, Minnesota will undoubtedly experience even higher electricity rates relative to the rest of the country. This will make Minnesota businesses less competitive and further strain the finances of low- and middle-income families. By reversing course now we can still avoid *future* price increases associated with past energy policies.

WHAT NEEDS TO BE DONE

As the proverb says, when you find yourself in a hole, stop digging. Accordingly, the state's first step must be to stop adding new green energy mandates. Next, policy makers need to review existing policies and eliminate those that are not producing tangible benefits for state electricity consumers.

Here are seven specific recommendations to move Minnesota toward more affordable and competitive electricity rates:

Recommendation 1: Set a state goal to reduce consumer electricity prices by 10 percent relative to U.S. prices within ten years and direct the PUC to meet the goal.

Minnesota's energy policy is familiar with goals. Utilities must aim to meet certain energy saving goals annually and must meet renewable energy goals by as early as 2020. As implemented by state regulators, these goals override the original purpose of state regulation—"reasonable" electricity rates. It's time to rebalance the goal of Minnesota energy policy and reintroduce affordability and competitiveness as goals for electric

utility companies in Minnesota. To that end, the state should set a goal to reduce retail electricity prices by 10 percent relative to U.S. prices within ten years.25 For instance, Minnesota industrial prices are now 104 percent of the U.S. price. We should aim to bring rates down to 94 percent of the U.S. within a decade.

Ten percent is not a random number. A 10 percent reduction would bring Minnesota close to its historically competitive position across all sectors. And competitiveness is key. If Minnesota were to reduce rates by 10 percent while the rest of the country reduced rates by 10 percent or more, then Minnesota businesses will not be in a more competitive position.

Recommendation 2: Start to move toward the goal of more affordable, competitive rates by repealing certain green energy policies.

To help utilities start moving toward the goal of more affordable, competitive electricity rates, the state should immediately repeal the green energy policies and programs outlined below. These policies were passed either with no economic analysis or with faulty "broken windows" thinking and should be repealed.[26]

Conservation Improvement Programs (CIP): For nearly two decades, Minnesota law has required utilities to spend, at a minimum, a fixed percentage of their revenue on energy conservation through the CIP. By its very nature, the minimum spending requirement (MSR) is arbitrary. In addition to the MSR, the Next Generation Energy Act of 2007 requires utilities to work toward energy saving goals. These energy saving goals are even more arbitrary than the MSR. It's one thing to require utilities to spend the same amount of revenue; it's quite another to expect the same energy-saving results. While utilities annually report substantial energy savings under this program, these savings likely overstate the effectiveness of the program. Much of the energy savings would have occurred without the program as businesses and families already have a powerful financial incentive to save on the cost of energy. Indeed, other states have achieved similar and even greater energy savings without a similarly generous program. Thus, CIP likely socializes energy efficiency costs among all ratepayers that would have occurred anyway. This is simply not fair to those who pay and yet receive no direct benefit, especially low-income families. As noted above, Xcel's CIP amounts to 5 percent of a typical residential consumer's bill. Eliminating CIP would, therefore, immediately cut rates by about 5 percent, which would be a strong step toward meeting the goal to reduce electricity prices by 10 percent.

Renewable Energy Standards (RES): The State of Minnesota mandates that electric utilities obtain a significant amount of their energy needs from renewable sources. Depending on the utility, a requirement exists stating that 25 to 31.5 percent of all energy must come from qualifying types of renewable power. As a practical matter, it turns out that the vast majority of renewable

energy acquired by state utilities has come from wind power. As explained above, this mandate has played a strong role in raising electricity rates. Investor-owned utilities regularly cite the mandate as a reason for needing to raise rates and many of the state's cooperative electric utilities report that the mandate has cost their customers tens-of-millions of dollars. With Minnesota utilities already supplying 14.8 percent of electricity from renewables, it's time to declare "Mission Accomplished" and move to other goals.

Solar Mandate: In 2013, the state legislature passed an additional requirement that utilities obtain a further 1.5 percent of their total energy requirements from solar power. The mandate continues to work its way through the regulatory system, but will impose significant costs on utility ratepayers. If solar power were cost competitive, such a mandate would not be needed. It should be repealed.

Community-Based Energy Development: In 2005 the legislature passed a Community-Based Energy Development (C-BED) Tariff. Utilities are required to consider community-based renewable energy projects to help satisfy their renewable energy requirements when they need to construct or purchase a new generation facility. The legislature has revised the mandate time and again in the years since its original passage, in order to make the mandate workable. It should be scrapped entirely. Xcel's settlement with North Dakota revealed this policy may be costing much more than expected. C-BED, according to estimates by North Dakota regulators, accounted for $2 million of the more than $5 million in additional costs due to Minnesota energy policies.[27]

Recommendation 3: Give the PUC the power to suspend current mandates to meet the affordability/competitiveness goal.

Politically, it will be difficult to fully repeal the green energy policies and programs described above. Short of repeal, the PUC should be given the power to suspend current green energy policies in order to achieve the goals for affordable and competitive electricity rates. Suspensions could be statewide or specific to certain utilities based on their unique position. Green energy policies pose different burdens on utilities based on their generation mix, consumer demand projections and customer base.

Recommendation 4: Cap the cost of Minnesota's green energy policies.

Unlike many other states that capped the cost exposures of their ratepayers, Minnesota does not limit the cost of its renewable energy mandates or energy efficiency programs. The legislature should enact a "ratepayer safety valve." This would require that each utility, when seeking PUC approval of a power purchase agreement for renewable energy or a proposal to construct or purchase a renewable energy project, certify that the contract or project (including any infrastructure required to support the project) will not cause rates to increase. In addition, it should require the PUC to waive the application of any energy

mandate if a utility certifies to the PUC that it is unable to meet the mandate without requesting a rate increase.

If, as the proponents of such mandates often argue, the mandates do not increase electricity prices, then such a safety valve would have little effect. But if, as we argue, these mandates are a source of the substantial change in Minnesota's electricity prices, then such a safety valve would protect ratepayers and at least help to limit the seemingly endless rise in Minnesota electricity rates.

Recommendation 5: Hire a nationally recognized accounting firm to audit the costs associated with Minnesota's green energy policies.

As initial efforts to estimate the rate impact of the RES show, various methodologies deliver widely divergent results. Xcel reports virtually no rate impact at the same time it agrees to settle a complaint arguing that Minnesota policies cost Xcel ratepayers in North Dakota millions. Minnesota's energy efficiency programs also report dubious savings considering Minnesota hasn't become any more energy efficient relative to other states. Moreover, the process of developing any methodology to measure costs is heavily influenced by special interests that repeatedly understate the costs of the policies they promote. Cost estimates developed through an essentially political process are highly suspect. To get credible cost estimates, the state should hire a major accounting firm with appropriate experience to audit how Minnesota reports the costs attributable to green energy policies and to standardize the methods used to calculate those costs.

Recommendation 6: Annually report on the total cost of Minnesota's green energy policies and programs.

In spite of the expectation that energy costs will rise due to green energy policies and the evidence that costs are indeed rising as a result of Minnesota's energy mandates and regulations, no one is measuring the overall cost and its impact on ratepayers. Utilities have begun reporting on the cost of the RES and, though probably the largest cost driver, it is just one of many state policies with the potential to increase electricity rates. Unfortunately, information on how green energy policies affect consumer rates is fragmented across a number of different regulatory proceedings, and there is no established framework to bring this information together in a way that's useful to policy makers, consumers, and regulators. Obviously this information would be useful. Policymakers will need this information to make sound decisions in the future. Consumers deserve this information to understand why their energy bills are increasing. Finally, and most importantly, regulators need this information to know whether to modify or delay green energy regulations as this report recommends.

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Recommendation 7: The Minnesota Legislature should estimate the cost to consumers of all new energy legislation before passage.

Any legislation that impacts the state's pocket book requires a revenue note from the Department of Revenue or a fiscal note from a state agency in order to give lawmakers the data they need to make an informed decision. However, the impact of proposed legislation on the pocketbooks of families or businesses is not always considered. To better inform decision making, the Minnesota Legislature should estimate the cost to consumers of all proposed energy legislation.

LIKELY RESULTS

If Minnesota repeals, or at least suspends, the mandates identified in this paper, we can expect electricity prices to continue rising for the next few years as the pipeline of projects contracted or committed to under current policies come online. But then the cost curve will start to level out, eventually declining as older projects come off contract and are replaced by cost competitive sources, whether renewable or otherwise. Because a major part of electricity prices are driven by large capital investments, recovering from bad policy decisions takes time, but the sooner we start, the sooner recovery will begin.

Eliminating CIP, currently at 5 percent of Xcel's residential rates, would be a solid start. There are still capital costs associated with CIP and so an immediate 5 percent rate reduction isn't likely, but a 2 to 4 percent reduction is certainly possible. On other fronts, there's no telling what regulators and utilities will propose to lower rates when directed and empowered to make low rates a priority. 10 percent is doable, given the authority to do so.

Most importantly, legally shifting Minnesota's energy priority to more competitive rates will send a strong message that Minnesota is open for business expansion. Minnesota's green energy policies have sent a clear signal to businesses: Expect higher electricity rates in the future. Resetting Minnesota's priorities will give businesses confidence that Minnesota intends to take full advantage of the lower-cost energy resources available in the region. That confidence is necessary for business, and especially energy intensive business, to expand and create high quality jobs for Minnesota

ENDNOTES

[1] Minn. Stat. § 216B.01, available at https://www.revisor.mn.gov/statutes/?id=216B.01.

[2] The West North Central Region includes Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas. It is one of the regions used by the United States Energy Information Agency to analyze regional trends in energy use and prices.

[3] For a list of Minnesota's green energy policies, see Database of State Incentives for Renewables & Efficiency, "Minnesota: Incentives/Policies for Renewables and Efficiency," at http://www.dsireusa.org/incentives/index.cfm?re=0&ee=0&spv=0&st=0&srp=1&state=MN. *See also* Brian Bakst, "Xcel Energy Plan to Steer 'Solar Gardens' Push," *Pioneer Press*, September 27, 2013, available at http://www.twincities.com/news/ci_24191383/xcel-energy-plan-steer-solar-gardens-push.

[4] Steven Mufson and Tom Hamburger, "A Battle is Looming Over Renewable Energy, and Fossil Fuel Interests are Losing," *Washington Post*, April 4, 2014, available at http://www.washingtonpost.com/business/economy/a-battle-is-looming-over-renewable-energy-and-fossil-fuel-interests-are-losing/2014/04/25/24ed78e2-cb23-11e3-a75e-463587891b57_story.html.

[5] John Funk, "Ohio Energy and Efficiency Rules Frozen for Two Years as Gov. John Kasich Signs Legislation," *The Plain Dealer*, June 13, 2014, available at http://www.cleveland.com/business/index.ssf/2014/06/ohio_renewable_energy_and_effi.html.

[6] The only exception is Minnesota's energy efficiency mandate, which conflicts with a utility's interest in selling more electricity.

[7] Leslie Brooks Suzukamo, "Xcel Energy Plans to Phase Out Solar Rebate in Minnesota," *Pioneer Press*, June 1, 2012, available at http://www.twincities.com/business/ci_20761224/xcel-energy-phase-out-solar-rewards-program-minnesota.

[8] Peter J. Nelson, *Recommendations for Promoting Affordable and Competitive Energy Rates in Minnesota* (Center of the American Experiment, February 2011): p. 12, available at http://www.americanexperiment.org/sites/default/files/article_pdf/CAE_Energy%20BP%20%28web%29.pdf.

[9] Great River Energy, *Renewable Energy Position* (March 2014), available at http://www.greatriverenergy.com/aboutus/pressroom/doc083738.pdf. *See also* Dairyland Power Cooperative, "Renewable Energy Cost Impact Report," *In the matter of Dairyland Power Cooperative's Utility Renewable Energy Cost Impact Report To fully comply with Minnesota Statute §216B.1691, Subd. 2(e)*, Minnesota Public Utilities Commission Docket No. E-999/CI-11-852, (October 24, 2011) (estimating the RES increased wholesale rates by 6.6 percent); and Dan Gunderson, "Wind Power Surplus Blamed for Spike in Rural Electricity Costs," *MPR News*, November 23, 2010, available at http://www.mprnews.org/story/2010/11/23/wind-power-electricity-rates (reporting Minnkota Power lost over $20 million due the RES).

[10] Mike Diller, "Direct Testimony on Behalf of the North Dakota Public Service Commission Advocacy Staff," *In the Matter of the Comprehensive Settlement Agreement*, North Dakota Public Service Commission Case No. PU-12-813 (January 2014), available at http://www.psc.nd.gov/database/documents/12-0813/168-030.pdf.

[11] Xcel Energy, *2013 Status Report & Associated Compliance Filings: Minnesota*

Electric and Natural Gas Conservation Improvement Program, Minnesota Public Utilities Commission Docket No. E,G002/CIP-12-447, (April 1, 2014): p. 1.

[12] *Id.*, p. 2.

[13] *Id.*, p. 21, lines 3 and 14.

[14] As of December 2013 when new rates were established, the CIP tracker reports the program costs $0.005986 per kWh ($0.003051/kWh charged through the base rate and $0.002935/kWh charged through the CIP recovery adjustment rider). *Id.*, p. 21, lines 5 and 7. At $0.005986, the CIP accounts for 4.99 percent of the $0.12/kWh residential customers are paying. This assumes Xcel's current average rate is about the same as the state average rate of $0.1194 in 2013, as it was in 2012.

[15] Peter J. Nelson, *Energy Mandates Will Eliminate Minnesota Jobs* (Center of the American Experiment, May 2013), available at http://www.americanexperiment.org/sites/default/files/article_pdf/Energy%20Mandates%20Will%20Eliminate%20MN%20Jobs.pdf.

[16] Elizabeth Dunbar, "Dayton Calls for Eliminating Coal from Minnesota's Energy Production," *MPR News*, July 17, 2014, available at http://www.mprnews.org/story/2014/07/17/dayton-calls-for-eliminating-coal.

[17] Fisher Sheehan & Colton-Public Finance and General Economics, *Home Energy Affordability Gap-Current Year Affordability Gap Data* (May 2014), available at http://homeenergyaffordabilitygap.com/03a_affordabilityData.html.

[18] U.S. Energy Information Administration, *International Energy Statistics*, Table: Total Carbon Dioxide Emissions from the Consumption of Energy (Million Metric Tons), 2010, at http://www.eia.gov/countries/data.cfm; and U.S. Energy Information Administration, *State Energy-Related Carbon Dioxide Emissions by Year (2000-2010)* (May 2013), available at http://www.eia.gov/environment/emissions/state/analysis/pdf/table1.pdf.

[19] Global carbon dioxide emissions growth in 2011 was 1076.27 million metric tons, or 2.95 million metric tons per day.

[20] *See, e.g.,* Peter J. Nelson, *The Economic, Environmental, and Legal Imperative for Repealing Minnesota's Ban on New Coal-Fired Power* (Center of the American Experiment, May 2, 2011), available at http://www.americanexperiment.org/sites/default/files/article_pdf/MN%20Ban%20on%20New%20Coal-Fired%20Power.pdf.

[21] Adam Hinterthuer, "Buy Coal? Purchasing the dirty fossil fuel could help fight climate change," *Kellogg Insight*, May 2, 2011, available at http://insight.kellogg.northwestern.edu/article/buy_coal/.

[22] National Research Council, *Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use* (National Academies Press, 2010): p. 305, available at http://www.nap.edu/catalog.php?record_id=12794.

[23] Chip Knappenberger, "Coal: 'Externalities' Can be Positive, Not Only Negative," *MasterResource*, March 7, 2011, at https://www.masterresource.org/externality-debate/coal-externalities-knappenberger/.

[24] Minnesota Department of Commerce, *Summary of 2013 Minnesota RES Compliance through Retirement of Renewable Energy Credits*, Minnesota Public Utilities Commission Docket No. E999/PR-14-12 (June 6, 2014).

[25] The length of the period to accomplish this goal requires consideration of costs already incurred to satisfy green energy mandates and contracts in place. In took many years for Minnesota to lose its competitive position and it will take many years to gain it back. We estimate that it will take 10 years to bring about a 10 percent reduction. It may take fewer years considering the substantial and immediate savings available from eliminating the CIP.

[26] The parable of the broken window was first used by Frederic Bastiat in his famous 1848 essay, "What is Seen and What is Not Seen." Frederic Bastiat, *Selected Essays on Political Economy* (Irvington-on-Hudson, New York: The Foundation for Economic Education, 1995), available at http://www.econlib.org/library/Bastiat/basEss1.html.

[27] Mike Diller, Direct Testimony on Behalf of the North Dakota Public Service Commission Advocacy Staff, *In the Matter of the Comprehensive Settlement Agreement*, North Dakota Public Service Commission Case No. PU-12-813 (January 2014): p. 8, available at http://www.psc.nd.gov/database/documents/12-0813/168-030.pdf.

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