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Fresh Energy science policy director: Minnesota leads nation in renewables

By Carrie Hitchcock

J. Drake Hamilton, science policy director for the St. Paul-based non-profit group Fresh Energy, begs to differ with those who don't think that her organization's goal of working toward a clean-energy economy can find success here in Minnesota.

That claim was made at a February legislators' town hall meeting in Park Rapids, when Representatives Steve Green and Matt Grossell both said that wind and solar energy solutions are too expensive and don't work in northern Minnesota.



Fresh Energy's Science Policy Director J. Drake Hamilton spoke of the progress made in Minnesota to grow renewable energy sources. *Photo submitted*

Hamilton was the speaker at a League of Women Voters-sponsored presentation in Park Rapids on Thursday, March 16, about renewable energy. She came armed with facts and figures that belied those legislators' claims.

Some of the reasons this state gets noticed on the climate and energy scene globally, she said, include the following:

- In the last 12 months, the retirement of seven coal units in Minnesota has been announced, which will reduce the amount of carbon dioxide generated in the state by 12.4 million tons per year, the equivalent of taking 2.4 million cars off the road.
- The conservative Brookings Institute announced that since 2000, even with the recession in 2008, Minnesota's GDP grew 23.1 percent, due in large part to the clean-energy sector, and carbon went down 3.6 percent. Hamilton called that "the decoupling of economic growth from carbon."
- Total wind energy use in the U.S. is 5.5 percent, while that in Minnesota is over nine percent.

- Eighty-two Minnesota-based companies work in the solar industry, 49 are in wind, and 16 are in both, having created at least 15,000 jobs worth more than \$1 billion in wages. Wages in the clean-energy sector are 42 percent higher than the state average, according to the Dept. of Employment and Economic Development (DEED).
- Minnesota-based Xcel Energy, the fourth largest utility in the country and the number one provider of wind energy in the country, recently called for RFPs for an expansion of their production by up to 1,500 megawatts, and received more than 80 proposals in response. CEO Ben Fowke estimated their customers could save \$1.15 billion over the period of those wind contracts.
- Cost declines in wind energy production had been down to 2.5 cents per kW hour. The proposals received by Xcel for its expansion included some at 2.2 cents; some costs from North Dakota have been down to 1.8 cents.

Hamilton has been with Fresh Energy for over 20 years, and has been recognized globally for her work toward a clean-energy future. In August 2015, she was one of 12 people in the country from outside of the Washington D.C. beltway, to be invited to the White House (one of the other 12 being Xcel's Fowke).

"I knew when I saw him [Fowke] there that we had won," she said, "because the only people in that room were those who support climate action."

Hamilton said she is passionate about educating people, both globally and locally, about what is being achieved in Minnesota. She said that her organization is well-respected in the Legislature because of its science based, business-friendly approach. "We want to make sure things are driven by the data," she explained, "and that we move forward with stuff that actually works."

Climate science

That data comes predominantly from the National Academy of Sciences, a group she said was formed in 1863 by President Lincoln, to offer advice and recommendations about medicine, technology and engineering.

Hamilton explained that the science shows that for the last 800,000 years or more and until recently, carbon dioxide (CO₂) levels had been between 170-270 parts per million in the atmosphere, with those variations coming, for example, during ice ages. Those levels are now at 410 parts per million, with a rate of change that she said is now untenable for the seven billion humans on Earth. She said the question now is how to move forward together as a species, particularly given that a large percentage of that seven billion live in "energy poverty."

Showing a slide of the decay of fossil fuel CO₂ emissions, she noted that she had driven to the presentation from St. Paul in a rental car that put out CO₂ from its tailpipe. She said that statistically, in 1,000 years, about 20 percent of those emissions would still be trapped in the atmosphere. "So does it matter how quickly we take action, ramp up and get to scale?" she asked. "Absolutely. We're in a race."

Power sector

Hamilton stated that with most of the CO2 emissions coming from the power sector, most of the solutions that offer “the biggest bang for the buck” are focused there. She reported that between 2004 and 2014, production of electricity in Minnesota dropped from about two-thirds to about one-half coming from coal. While that was happening, by 2014, about 18 percent of electricity production came from renewables, and as of this point in 2017, that has increased to 22 percent.

“Policy changes can make a big difference in a short period of time,” she declared. “And that’s why I was asked to come to the White House. Minnesota has shown what you can do!”

She stressed the bipartisan nature of many of those policy changes, beginning with 2007’s “Next Generation Energy Act,” supported by a reported 91 percent of the Legislature and signed into law by Republican Gov. Tim Pawlenty. That law required that any entity that sold electricity in the state had to get at least 25 percent of it from renewables by 2025. Currently, more than 21 percent comes from renewable resources.

“I think every utility in the state at that time stood before the Legislature and said, ‘If you do this, the lights will go out in Minnesota,’” Hamilton said, chuckling. “My favorite threat was that if that standard were imposed, people would move to South Dakota! Now every utility is meeting this standard ahead of schedule. Minnesota Power met it 10 years ahead of schedule.”

Gov. Dayton recently introduced another bill to increase that level to 50 percent by 2030. Hamilton said that will create even more jobs.

“While total employment since 2000 in Minnesota has grown about 11 percent,” she said, “because of the renewable energy standard and energy-savings goals, clean energy employment has grown 78 percent. Wind turbines have about 7,000 parts, lots of which could be manufactured in almost any town in Minnesota. About three-quarters of those components are made in the U.S., and we want to make sure more of them are made in towns here.”

She said that there now are four times as many jobs in wind and solar as in coal, and that no utility company is planning to build any new coal plants.

“There isn’t going to be a revival of coal, because the economics don’t work,” she stated. “In Minnesota, in many cases wind can even outcompete natural gas. Maybe this needs to be a message going out to Washington, D.C. We don’t want to be making false promises to coal miners. We want to be responsibly helping them transition to jobs in clean energy, in their neighborhoods and that pay at the same scale.”

Hamilton pointed to other Minnesota companies who have committed to renewables. She said that General Mills has invested \$100 million across their supply chain in energy efficiency and renewables, and has set carbon reduction goals throughout that chain as well.

The company sent representatives to the Paris Climate Summit last year. Hamilton was there, too, and said that of the 40,000 people attending, only one entity, General Mills, had thought to bring farmers to the summit who were looking for ways to more responsibly sequester carbon in the soil.

“GM is one of the over 600 companies who wrote to the new president a week after the election, pointing out that there’s a multi-trillion-dollar market in renewable energy,” Hamilton said. “They asked that the U.S. not turn away from this set of opportunities.”

Other Minnesota companies diversifying into both wind and solar energy include Mortenson Construction, builders of the new Vikings stadium, and Blattner Energy, which installs 80 percent of the renewable energy systems in North America.

Hamilton decried the fact that very few people are aware of these companies, and called for citizens to make sure their state legislators become aware.

“Wind and solar farms are being built in our rural communities,” she said. “We want to have people stay in their communities and raise their families, but we want good, high-paying jobs like these for them. This is the greater Minnesota story.”

Local stories

After Hamilton’s presentation, a few local residents spoke of their experiences with renewable energy, one man saying that he lives off the grid with a small, standalone solar system.

He countered some legislators’ claims that solar can’t work in northern climes by reporting that on cold, sunny days in January, his system produces about 22 percent more electricity. “The colder it is, the more they produce,” he said. “Conductivity in the solar panels is enhanced by the cold.” That increased efficiency was confirmed by Hamilton.

Steve Randolph from Ponsford asked about the arguments against solar and wind. Hamilton acknowledged that two main ones are what happens at night when the solar is off, and how to keep the lights on when the wind isn’t blowing.

The man with the small solar system quipped that he sleeps when the solar is off, but added that he has batteries that last up to three days in heavy cloud cover. Hamilton explained that Minnesota is part of a large electric grid, running through the Midwest from Canada down to the Gulf of Mexico. She said the grid itself acts as battery storage, and that within the grid’s footprint, there are 200 wind farms.

“Somewhere on that grid,” she said, “the wind is always blowing, and everyone is connected by power lines. It took a little bit of work, but it’s like having a farm to-market road if you’re a farmer. If you can’t get your product to market, you’re not going to succeed.”

Phil Sailer from Park Rapids said that when he installed his solar unit, electric companies had to pay him for his energy what they would charge him if he was using theirs. He asked about current legislation

regarding electric co-ops now being able to charge customers like him monthly fees, which some reportedly are already doing.

Hamilton explained that Minnesota was the first state in the country to enact what's called a "net metering law," which said that the co-ops had to buy any power customers put into the grid and pay them back for any excess. With some co-ops now charging those monthly fees, the Minnesota Public Utilities Commission had begun investigating their legality. A current bill, SF 234, would take away any independent regulator's ability to look into the charges, reportedly allowing the co-ops to charge whatever they want.

More information on Fresh Energy and its programs can be found at www.fresh-energy.org