

Is Michigan finally hitting its stride?

Sean Brady and Kelley Welf • Apr. 1, 2014

According to the American Wind Energy Association (AWEA), Michigan's installed wind energy capacity is booming. Michigan made the top 10 lists in 2012 for both the most capacity additions, with over 600 MW added, and the fastest growth rate, at a whopping 162%. Although Michigan's wind resource cannot compare to that of powerhouses such as Texas, wind developers are eyeing the possibilities to develop in the state.

Let's explore what makes Michigan such a promising prospect. The stars started to align for Michigan when the state legislature enacted a modest renewable energy standard (RES) in 2008 of 10% by 2015. The Michigan RES also includes a Michigan Incentive Renewable Energy Credit (REC). This credit offers one-tenth of a REC for each megawatt-hour generated during the first three years of commercial operation for projects that use Michigan labor and another one-tenth of a REC for using Michigan-made equipment. Michigan also sits on the edge of the PJM Interconnection (PJM) power market. This provides developers the opportunity to sell their electricity into the energy markets of either PJM or the Midcontinent Independent System Operator (MISO).

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Establishing a base of manufacturing work takes a long time to develop, but having a policy like an RES provides manufacturers some assurance that there will be a market for them in the long term and helps mitigate the risk of their investment.

Further, the prospect of the Thumb Loop transmission project, a 140-mile Multi-Value Project (MVP) transmission line with four new substations, also provides assurance there will be adequate transmission capacity in Huron County and surrounding areas. The line is capable of supporting more than 5 GW of renewable energy capacity and will serve as a backbone for future interconnection of new generation sources in the region. Finally, the introduction of more cost-effective wind energy could make a meaningful impact to local ratepayers in Michigan - which had the highest electric rates in the Midwest in 2012, according to the U.S. Energy Information Administration's data. Michigan also boasts the second-largest electricity load in the MISO region, the 12th-largest electricity sales volume in the U.S. in 2012 and a skilled local workforce.

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By 2012 - four years into the program - the RES appeared to be working as intended. Michigan electricity providers were on their way to meeting the 10% requirement, and utilities and ratepayers were starting to see declines in prices associated with wind energy. These positive signals, coupled with a desire to create jobs and inject millions of dollars into the Michigan economy, led to an effort to increase the state's RES to 25% by 2025. The signs were encouraging. In September 2012, a Michigan-based polling firm showed that 55% of respondents favored the RES ballot initiative known as Proposal 3. That support eroded, however, as opponents of the bill spent millions of dollars to flood the airwaves with negative advertising and planted the seed that energy policy didn't belong in the state constitution.

Unfortunately, Proposal 3 failed to garner sufficient votes to pass. An exit poll conducted by Michigan Energy Michigan Jobs confirmed that voters were not against renewable energy but were opposing Proposal 3 because the method to change the law required amending the state's constitution. In fact, the poll showed that only 1% of voters said they opposed the proposal because they were against renewable energy, while 60% said they objected to the mechanism of amending the state constitution.

Proposition 3 aftermath

Following the defeat of Proposal 3, Gov. Rick Snyder, R-Mich., issued a special message on energy and environment in November 2012 and requested a series of seven energy forums to be conducted across the state. The forums would be used to gather information and public input that would help him set a comprehensive energy policy for 2014, which would include a focus on what renewable energy has done and can do for Michigan.

Wind on the Wires and numerous developers and environmental advocates attended many of these meetings to testify to the benefits that wind energy brings to the state and how wind energy plays a significant role in keeping electric prices low.

In February 2013, the Michigan Public Service Commission (MPSC) released its annual report on the implementation of the state's RES. The report confirmed what many already knew regarding the affordability of wind energy, but it went further. It also highlighted the success of the existing RES in driving energy projects in Michigan and aiding the economic growth in the state.

Last summer, the MPSC and Michigan Energy Office (MEO) compiled the information from interested stakeholders in Michigan and the Midwest into four separate reports covering the RES, energy efficiency, retail choice and additional energy issues.

By November 2013, MPSC Chairman John Quackenbush and MEO Director Steve Bakka released their reports on renewable energy, efficiency and electric choice for retail customers. The renewable energy report concluded that the state could substantially increase its concentration of renewable energy to 30% by 2035 and could reach such a target while staying under the current cost cap. In addition, the report

even went so far as to show that the state could achieve a 30% by 2035 target even if the cost caps were reduced by 50%.

A recent report concluded the state could substantially increase renewable energy totals by 2035.

Buoyed by this positive report, Snyder stated in his annual energy speech last December that over the next two years, he wants to work with the state legislature to improve energy efficiency, increase renewable energy production, and lower residential and industrial energy bills. He expressed his desire to transition from coal to natural gas and renewables and to help residential and industrial users keep their electricity prices down. Although the governor acknowledged that it would be difficult to pass a comprehensive energy policy in 2014 because it's an election year, he said that he hopes to have legislation in place in 2015, when the existing RES reaches its 10% peak.

Since Snyder's energy speech in December 2013, the 2014 MPSC report on the implementation for the state's RES has come out, and the mandate continues to show remarkable progress. Wind energy has been the primary source of new renewable energy in Michigan. According to the MPSC's report, at the end of 2013, the RES has resulted in the development of 1.1 GW of utility-scale wind projects in operation in Michigan. The most recent contracts approved by the MPSC for new wind capacity have levelized costs in the \$50/MWh to \$59/MWh range, half of the levelized cost of the first few renewable energy contracts approved in 2009 and 2010. DTE Electric's renewable energy surcharge was reduced 85%, from \$3 per meter per month to \$0.43 per meter per month, effective January 2014.

Consumers Energy has a case pending at the MPSC that would reduce its renewable energy surcharge to zero. In all, 46 Michigan electric providers have no surcharge for customers at all.

At the end of 2013, there was approximately 1.16 GW of operating wind capacity in Michigan, and the MPSC reports there are four more projects under construction that should bring online an additional 312 MW by the end of this year.

Technological advancements, such as taller hub heights, improved aerodynamics and longer blades (100+ meter rotor diameters), mean much higher capacity factors than ever before and allow wind farms to effectively operate in more locations than they could a few years ago. Advanced control mechanisms that can control the pitch and yaw of a turbine can help increase power output of turbines as well. These advancements make states with moderate wind resources, such as Michigan, viable contenders for development.

Michigan has experienced direct financial benefits from the states' growth in wind energy. According to AWEA, Michigan has seen capital investments of more than \$1.9 billion into its economy from wind energy. Annual land lease payments add another \$2.8 million per year.

Michigan has also attracted significant new investments in energy manufacturing, building on its engineering expertise and modernized machining capabilities. With 40 manufacturing facilities providing turbines, gears, steel, fabrication and other supplies for the industry, Michigan has become one of the main hubs of wind manufacturing in the country. In fact, Monroe, Mich.-based Ventower will be providing all of the turbine towers for the Big Turtle Wind Farm, located in Huron County. This wind farm will have at least 50% of the total cost of the project, including materials, components, logistics and labor, sourced in Michigan.

Outlook

More encouraging news comes from a January poll released by the Michigan Conservative Energy Forum. The survey confirms the appetite for renewables is still strong by showing broad and strong support for clean energy policies in the state. And, with approximately 3% to 4% of Michigan's electricity being provided by wind as of 2013, there's lots of room for growth.

A look into the poll reveals even more good news: Bipartisan support for clean energy policy continues. Such policy is a winner across the political spectrum, with 75% of the electorate preferring "a candidate who wants to promote more use of clean, renewable energy such as wind and solar power" Even Republicans surveyed expressed, by a margin of 2:1, that they would favor a candidate who supports renewable energy and energy efficiency over coal.

Wind energy topped the list of sources of energy that voters want to encourage, with 54% of those surveyed choosing wind power first. Michigan voters, including conservative voters, described wind energy in overwhelmingly positive attributes. They used such words as "clean," "safer," "opportunity," "renewable" and "the future" and said wind is something that "will have to be part of the mix of our energy solutions."

The best news of all is that 78% of voters support a policy that would require Michigan's electric utilities to transition away from generating electricity mostly from coal and instead have at least 30% of the state's electricity come from renewable energy sources such as wind, solar and hydropower energy by 2035. Michigan voters also said if it were up to them, an average of 57% of their energy would come from renewable sources.

The Union of Concerned Scientists (UCS) released a report on March 12, 2014, that supports the voters' desire for more renewables. The report, entitled "Charting Michigan's Renewable Energy Future," states that by continuing to ramp up renewables at the same 1.5% annual growth rate as called for in the existing RES, Michigan could boost its in-state renewable energy production to 32.5% by 2030. Best of all, it comes with a price tag of virtually zero.

According to the report, consumers are projected to see their electric rates increase only 0.3% over the course of 15 years. Also, the UCS says this investment in renewables would inject \$9.5 billion in new capital investment into Michigan's economy between 2016 and 2030.

In 2008, Michigan entered the renewable energy market cautiously, with its conservative 10% by 2015 RES. Years later, electric rates are decreasing, surcharges are being eliminated, there have been no problems integrating renewables into the grid, and study after study shows that the state can easily manage an increase in the RES up to 30% by 2035. Michigan still boasts a strong manufacturing workforce to support the industry. And, most of all, Michigan residents want more renewable energy.

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