



DEEP DIVE

## Road to 100: How one man's mission to power his hometown by wind created a Northwest Missouri boon

The town of 1,200 was the first in the country to be able to power all of its electricity from wind resources. Now, the county is booming in wind production.

By Catherine Morehouse

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*This is the first of a four part series based on Utility Dive visits to cities that produce more renewable power than they consume. All four installments can be found here.*

**A**TCHISON COUNTY, MISSOURI — In the early 2000s, Eric Chamberlain was leading a funeral procession toward southern Minnesota when he saw several wind turbines spinning slowly over the low Iowa bluffs.

"On the way back, I pulled off. I did not pull off during the procession. I was very polite — I did not pull the hearse over," he told Utility Dive while driving down the Rock Port, Missouri, street he grew up on, toward the four turbines that made the town of just over 1,200 famous. "But on the way back, I stopped at a local newspaper, which is always a good clearinghouse for information, and asked about some of the wind projects."

Chamberlain's childhood home is on top of a bluff where the wind seems to blow constantly. Harnessing that energy seemed like something Rock Port could figure out. So, he bought some maps charting Missouri's wind flow, borrowed a monitoring tower from the state's Department of Natural Resources (DNR) and began what he calls his "part-time hobby" apart from his main job running a family-owned funeral home.

That "hobby" in 2008 brought 5 MW of wind under the town's ownership, over twice the average MWs the town typically consumes at any given time, making Rock Port the first city in the U.S. to have the capacity to generate 100% of its electric power from wind resources.

Since then, Chamberlain has helped bring a number of projects to wind-heavy northwestern Missouri, generating \$6 million annually in tax benefits for Atchison County, adding dozens of jobs and giving landowners predictable annual lease payments at a time when heightened floods and storms can devastate an agricultural community.

## **5 MW of fame**

For a time, Chamberlain was just monitoring data from the tower and sending it to the state.

"But, of course, small town, that was in like November of '06. And they put an article in the paper: 'Chamberlain to study wind.' And of course that drew a lot of jokes 'cause everybody knows me," he said.

That article made him the go-to man for wind development in the county, which companies were already scoping out. Tom Carnahan

from Wind Capital Group (now out of business) contacted him to see if he'd been approached by any other groups.

Wind Capital wanted to build a multi-million dollar wind project that would sell power to local electric co-ops east of the city. Chamberlain agreed to help with landowner agreements, but had a better idea for siting.

Rock Port gets its power through a co-op pool with 26 other communities that buy large blocks of power. The town also had its own generation facility, though that was mostly just used for backup at the time.

"So my thought was that Rock Port, within its city limits ... could put up some wind turbines for the community and feed it right into their own power grid without going out on a transmission line," said Chamberlain.

When he asked potential partners about it, they doubted it would work, he said. "And what they were saying was the economics would not be real sensible."

But things began to churn in the city's — and Chamberlain's — favor. Construction equipment and crew could all come from Rock Port. The project's corporate partner, John Deere, already had its turbines purchased. John Deere Renewables was later sold to Exelon, which now owns the farm.

"And at the exact same moment in time, the Missouri Municipal Power Pool put out a request for renewable energy," which the project's 5 MW met, he said. So for 11 years, Rock Port has been feeding the wind power from its four turbines straight into the power grid. The city pays for what it uses and the excess power is transmitted through town and sold through the power pool.

Without a corporate partner, the city would never have been able to pay for the \$90 million project, said Chamberlain. John Deere gets the tax credits, but the city receives around \$50,000 per year from avoided transmission costs and line loss charges, since the power is produced right in town. And it cost them nothing to build.



*Three of Rock Port's four wind turbines. | Credit: Catherine Morehouse, Utility Dive*

The project earned the town international attention. Chamberlain has been interviewed by everyone from National Public Radio to Japan's Fuji TV, which was interested because Japan relies almost exclusively on imports for its electricity.

While coverage was generally accurate, the city faced the same misconception (based on headlines) others do — that being 100% renewable-capable is the same thing as running on 100% renewable energy 24 hours a day, seven days a week.



Conservative political commentator Rush Limbaugh made fun of the town in a July 2008 episode, after the city had made headlines. But Chamberlain said Limbaugh's key punchline was something the city never claimed.

"Rock Port has the *capacity* to produce more energy in a year than they use. Does it happen on a daily basis? Absolutely not. Does it happen on a weekly or monthly basis? No," he said.

When the wind doesn't blow, the local co-op that manages Rock Port and other Missouri cities' electricity demand and production pulls power from traditional sources. In Missouri, that could easily be coal, which makes up the majority of the state's power.

"But it doesn't negate the fact that a very, very significant majority of our power comes from renewable resources *and* any of that renewable that we don't use, we're providing to somewhere else," said Chamberlain. "So that was the point that Mr. Limbaugh did not understand. And he didn't ever call and ask me. He just thought that we were so stupid that when the wind wasn't blowing, we couldn't watch TV."

## **Wind-to-farms**

In Rock Port, three landowners get lease payments for the four turbines stretched across the 25-year contracts. The four turbines hum unassumingly above the four properties, and Chamberlain says they've essentially become a part of the landscape for the town.

"Now, if you are real quiet you can hear it," he said of the sound.

And in the absolute stillness that is the rolling hills of farmland just off the intermittently buzzing highway, sitting in full silence for

several seconds you can hear the turbines' low whoosh.

"A grain dryer is louder," he pointed out. (It was.)

Atchison County, Missouri, is home to over 5,200 residents, according to a 2017 census, and houses 251 wind units. As wind farms started popping up in the late 2000s due to falling wind power prices and more efficient turbine technology, there was some understandable trepidation from the predominantly agricultural community, mostly centered around how construction might impact land.

"In agricultural areas, the farm, the land is not only their annual income, it represents their largest investment. It represents their retirement, it represents their inheritance," said Chamberlain.

"That's significant to allow a firm onto your property with a long-term multiyear lease. And the first thing [developers] do is drop the blade of a bulldozer in and start making a pathway to where they need to go."



*Credit: Catherine Morehouse, Utility Dive*



*Credit: Catherine Morehouse, Utility Dive*



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To put up a turbine, you need a road to reach the site and that road has to be wide enough to ship a crane and other large construction equipment through. A single turbine plus the road needed to construct it takes up around three quarters of an acre.



The growth of wind in the county in the past decade, then, is evidence not only of the economic benefits, but also how minimal the land impact is, said Chamberlain, pointing to still-flourishing crop fields stretching miles out.



*Cows don't mind the turbines, according to Chamberlain and Rock Creek wind farm site supervisor Corey Martin. "They follow turbine shadows like a sundial" for shade on hot, sunny days, said Martin. | Credit: Catherine Morehouse, Utility Dive*



*Credit: Catherine Morehouse, Utility Dive*

At around \$6,000 in annual lease payments, approximated by the Missouri DNR, stretched over a quarter century, plus compensation for any crop damages, the math seems to work out for most who are given the option in this corner of the country.

In fact, if projects are being developed in the area, most farmers would prefer the turbines are sited on their land where they can get the lease money, according to Chamberlain. The larger controversy now is if a landowner signs an agreement and then finds out they won't have a turbine sited on their property, whether because of county siting restrictions, cell phone tower interference or something else.

### **Avoiding 'a painful experience'**

The benefits of wind power here in corn and soybean country are good jobs and a resulting boost to the economy, as well as the critical lease payments. But wind developers run under a different business model and as a result are not always as conscious of local impacts, according to Chamberlain.

"For me, I've known these landowners since 2008 because I worked on this project in 2008 and they've all got my phone number. There are land agents who've come in and said, 'I guarantee you'll get two towers.' That's not true," said Chamberlain. "And then they're gone. And that's a problem. ... If you're not truthful up front, that's going to come back to be a painful experience."

The Tenaska project Chamberlain helped develop uses a more socialized leasing system where landowners get a per acreage

royalty payment based on any participation in the project, which at a minimum could just mean having underground cables run under the land. Landowners with a turbine sited will receive additional payments per MW sited on their property.

Cooperative leasing agreements may become more important as the landowner mindset shifts from opposition to turbine siting to realizing the economic benefits. Especially as weather uncertainty rises.

"Most of the land [in Atchison County] is very tillable and farmable, except when it's underwater," said Chamberlain.

Last spring, Rock Port was one of the many communities impacted by the unprecedented flooding across the Midwest. Eight months later homes and land still lay drowning all down the stretch of Interstate 29, from Omaha, Nebraska, to Rock Port, Missouri, and beyond.





*Just off Interstate 29, land remains underwater from the unprecedented heavy spring rains that caused mass amounts of flooding, bursting dams and levees across the region, drowning highways, land and infrastructure and destroying homes, businesses and agriculture. | Credit: Catherine Morehouse, Utility Dive*



*Credit: Catherine Morehouse, Utility Dive*



*Credit: Catherine Morehouse, Utility Dive*





*Credit: Catherine Morehouse, Utility Dive*



*Credit: Catherine Morehouse, Utility Dive*

Just past a fireworks store off the Rock Port exit, acres of dark brown land are still not fully recovered from complete submersion. A bushel of over half a million soybeans spontaneously combusted

and burned for weeks right there, putting the town on front page headlines again.

Chamberlain said he'd never seen anything like it.



*The dark brown land was underwater all summer, according to Chamberlain. At a nearby storage facility, half a million soybeans burned for weeks. | Credit: Catherine Morehouse, Utility Dive*

"The levies aren't repaired, so next spring we expect the same thing," he said. "There are people who haven't been back in their homes for months and there's some issues with FEMA about whether or not they get reimbursed for flood damage because our population is not high enough. We don't have enough houses damaged."

### **An economic boost**

As communities struggle to rebuild, the growing wind industry is one avenue of new income, not just in consistent, annual lease payments, but in jobs.

"In a lot of small towns in the United States, not necessarily just Missouri, industry is lacking," Rock Creek wind farm site supervisor Corey Martin told Utility Dive. "Manufacturing plants are closing up or we just don't have the resources necessarily to bring in a lot of stuff."

The 300 MW Rock Creek wind farm owned by Enel is less than 20 miles from Rock Port, near the city of Tarkio, Missouri.

Amid economic uncertainty, wind is "one resource that we can actually use," Martin said.

Martin moved to Tarkio, Missouri, 15 years ago and started his career with wind manufacturer Suzlon when he was 18. Then, he worked at Avangrid for almost a decade before applying for a management position at Enel.

"I've never actually had to leave Tarkio for my job, which is pretty unheard of," he said.



*Corey Martin (left) and Sage Jones (right) are the site supervisor and assistant site supervisor, respectively, of the Rock Creek wind farm near Tarkio, Missouri. Jones grew up in Tarkio and Martin has lived in the town since he was 15. | Credit: Catherine Morehouse, Utility Dive*

The Rock Creek Wind Farm, the largest wind project in the state at 150 units and 300 MW, employs 19 people permanently, the majority of which live in Tarkio, Missouri, where the project's offices are headquartered in a previously abandoned Shopko. The building will soon house employees for a second Enel project — the White Cloud wind farm, a 236.5 MW wind project slated to begin construction this year.

Atchison County permanently employs around 32 men and women in the wind industry.

"Those people buy houses, they put their kids in school, they eat at the restaurants," said Chamberlain. "I mean, the economic spin offs are substantial for a rural county."