



This electric vehicle owned by Sioux Valley Energy is used as a fleet vehicle for the cooperative but also serves to educate members about EV technology and performance.

Electric Vehicles in SD

Electric Co-ops Working to Build Fast Charging Stations

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General Motors turned a lot of heads earlier this year when the auto industry titan announced its intention to phase out all gas and diesel engines by 2035. GM made sure its message was loud and clear by running ads during the Super Bowl.

Not to be outdone, Ford CEO Jim Farley soon followed suit by announcing the company's plans to invest \$29 billion in the development of autonomous vehicles (AVs) and electric vehicles (EVs) by 2025. And against a backdrop of companies like Tesla and Workhorse seeing triple-digit stock gains, President Joe Biden rolled out plans to turn the entire 650,000-vehicle federal government fleet to all electric.

With a solid upward trend in support of E-mobility and electric vehicles sweeping the globe, electric cooperatives throughout the region are doing their part to provide the power those vehicles will need to carry their passengers from Point A to Point B.

According to Ben Pierson, manager of beneficial electrification at Sioux Valley

Energy, the state's electric cooperatives are facing a chicken-and-egg proposition in deciding whether - and how much - to invest in an industry that's still in its early stages. Pierson has been involved in rallying support for the formation of a DC fast charging network that will make it easy for EV drivers to navigate across and throughout the state. The stations will be placed 75-100 miles apart but will have to be constructed before the demand is fully materialized. He has received interest from groups representing tourism, economic development, transportation and state government.

Pierson has been working with municipal and investor-owned utilities to build out the infrastructure, with an emphasis on making sure there are enough charging stations along I-90 to get travelers from one side of the state to the other with confidence. Stations will also be installed along the I-29 corridor in Brookings and Watertown in Phase 1, with plans to include a station in Vermillion as part of Phase 2. Pierson points out that "range anxiety" is a major obstacle for consumers and early adopters who are considering the purchase of an EV. Presently, EVs

make up less than 1 percent of the total U.S. vehicle fleet while 10 percent of the vehicles sold in Europe last December were pure electric.

A recent study by the Energy Policy Institute at the University of Chicago indicated that EVs are driven about half the distance - an average of 5,300 miles a year - compared to conventional internal combustion engine vehicles. One conclusion taken from the study is that EV owners see those vehicles as complements to their transportation needs instead of a replacement for their conventional cars.

"When industry giants like Ford and GM are making a commitment to electric vehicles, that's a huge indicator that EVs are more than just a passing fad and are something we should invest in," Pierson said. "But like any industry transformation, it can be a frightening proposition for people to experience a paradigm shift like this. With our members in mind, we're committed to staying out ahead of the wave and doing what we can to make sure the power delivery infrastructure is in place when the other pieces and parts of the total picture emerge."

DC Fast Charging Infrastructure Plan



Utilities are in the process of conducting siting plans and ordering equipment needed to install the network of charging stations. In the state Legislature, lawmakers favored a \$50 annual fee on electric vehicles which don't contribute the gas tax revenue that goes toward construction and maintenance of road and highway infrastructure. Presently, there are roughly 400 EVs on South Dakota roadways.

"We're just tremendously excited to be a part of this project," Pierson said. "Our goal is to help our members in any way we can and we want to be there on the ground floor as the industry continues to expand."

Collaborating with Pierson is Robert Raker, manager of public relations at West River Electric. They are working with utilities throughout South Dakota

and Minnesota to build out the DC fast charging infrastructure. The plan is to initially focus on major highways and interstates and then branch out from there.

The way Raker sees it, getting involved in constructing a charging station network is a sound investment in the economic growth and development of cooperative communities. He said cooperatives are leading the way by purchasing EVs of their own as demonstration models for their members and also as part of the cooperative's fleet. West River Electric's Nissan Leaf is used for business purposes throughout the day and is quite the attraction at community events on the weekends. He noted that co-ops have a long history of innovation and progress.

"Many co-ops are formulating plans to

migrate their light-duty service vehicles to EV," Raker said. "Co-ops have always been at the tip of the innovation spear. We were the first to bring power to rural South Dakota and we made sure people had access to power in order to run their farms, homes and appliances...things that would make their lives easier while allowing their communities to prosper."

Part of West River's overall EV strategy, Raker said, is to address the issue of whether the escalating number of EVs will increase stress on the electric power grid.

"EVs make the perfect load for co-ops," he said. "They can be charged during off-peak hours so they are not detrimental to the grid. Like it or not, EVs are coming. We can't change the wind so we'll have to adjust our sails."

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