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Watt's Up?

New Reliable Power Bill Plans to Make Montana Electricity Safer and More Efficient

Improving the Ability of Utilities to Prepare for and Respond to Increased Energy Demands and the Impacts of Drought, Ice and Snow while reducing the Occurrences of Wildfires

Transmission lines can fail due to a variety of reasons, most commonly caused by: weather events like extreme wind; ice accumulation, heavy snow, which can damage the lines or towers; other factors include tree limbs that contact a line and cause an arc which can in turn lead to wildfires; animal interference-mostly bird nests; equipment failure; corrosion; and human error; all leading to potential power outages or disruptions in electricity transmission.

A "transmission line failure" refers to a disruption in the high-voltage power lines that carry electricity over long distances from power plants to distribution points, while a "distribution line failure" occurs on the lower voltage lines that deliver electricity directly to homes and businesses from the substation. Although transmission failures are much rarer than distribution failures, when they happen, they can have huge consequences, such as the 2018 Camp Fire that destroyed 18,000 structures, killed 85 people and destroyed Paradise, CA.

Loss of life and property are not the only casualties of fires. The longer-term consequences affect the future of homeownership as insurance carriers raise rates everywhere to cover the costs of catastrophic losses due to wildfires, hurricane and other natural disaster claims. Carriers also are known to cancel coverage or pull out of insuring certain markets.

Senator Daniel Zolnikov of Billings, MT understands these issues and through his bill (currently LC 0322) is proactively trying to get the Montana Legislature to look at legislating the use of improved transmission products to reduce the chance of wildfires in Montana. Zolnikov understands the need to reduce the chance of wildfires to keep insurance costs as reasonable as possible so as not to exacerbate the difficulties Montanans face in achieving homeownership.

"It's about being prudent and proactive to reduce the exposure Montanans have to wildfires. Although we have luckily avoided the intense fires of California, Montana still has hundreds of wildfires every year, which in turn make insurance costs ridiculously expensive and impractical."

Among the provisions in Zolnikov's bill, would be to require utility companies, when replacing transmission lines, to use newer technology transmission lines made from carbon fiber technology v the 100-year-old aluminum clad steel core lines that are still being used to this day. These new lines are roughly twice as expensive, but have the ability to carry twice the capacity of electricity, with 40% less line loss-meaning more power is delivered to the recipient of the power instead of lost along the way; and to boot, this new technology reduces the chance of wildfires from transmission lines by 60%. Line loss decreases mean projections for when new power plants need to go online can be pushed further out. This results in significant cost-savings to consumers because the costs of building more capacity is enormous and that cost gets passed to consumers on their electric bills.

"Wall Street is going green whether you like it or not and what the states that surround Montana do in their legislatures affects Montana directly. I'm trying to address the trends with available technology to stay ahead of the curve and not only save Montanans money, but also lives and property," Zolnikov noted.

Energy demand in Montana and around the country is exponentially increasing and the permitting process to build new power plants or install solar or wind turbines can take decades. Zolnikov sees the need to improve efficiency immediately to bridge the gap between where we are now in our energy needs and where we will be within a few short years. "While we are attempting to build out new power facilities, which takes many years to do, this transmission line technology will buy us the time we need to continue providing reliable power until the new power facilities go online. If we don't take these steps now, I don't see how we avoid brown-outs and black-outs like what California is experiencing."

Add to this the legalization of marijuana in Montana and the push for crypto-currency and AI data centers and we are looking at the need to add a tremendous amount of energy production to Montana and the target for that placement is for 'green' energy on agricultural land.

Zolnikov is trying to get ahead of the curve with Bill LC 0322 by making the current transmission of power produced in Montana more efficient. With better planning for our future energy grid, we can hope to not only save Montana agricultural land, but also meet the energy demands in Montana and reduce the risk of transmission line generated wildfires that jeopardize the safety of lives and security of private property.

Zolnikov's bill pulls together several immediate needs in the Montana energy sector-to improve reliability of our grid while also providing for improved efficiency and safety of our energy transmission. LC0322 is not only a common-sense bill, but one that will save lives and property and showcase Montana as a leader in the country utilizing advance technology in transmission lines that will lead the way to a cleaner and more powerful grid for Montana and the states it powers.

The resources, reforms, and improvements contained in this legislation are precisely the types of advancements the state and the country need to advance to meet the needs of making Montana and America great again.

Zolnikov's concerns about the lack of implementation into these technologies is evident, "Some places have lines that were put up in the early 1900. It is like using Model T technology in the era of self-driving cars." Zolnikov exhorts, "Why are we replacing old technology with the same 100 year old technology when the advancements in transmission lines address core issues that have an immediate impact on every Montanan in the state. Legislators need to be concerned about the true costs to consumers of using dramatically less efficient systems, as well as, being concerned about wildfire mitigation, grid reliability, less energy loss and having twice the carrying capacity. This helps our constituents achieve lower overall energy and insurance costs, not to mention improving public safety." He adds, "The cost of these newer transmission lines can be quickly recouped because you normally have to replace the pole which requires a new permit and sometimes even lawsuits. This technology allows new cable to be placed on existing towers as maintenance, reducing the need for re-permitting while giving you twice the carrying capacity."

Utilities do not have financial incentives to save electricity. The incentives come from the valuation of their assets which increase more when they build power plants. As Zolnikov puts it, "Utility companies are not incentivized to find efficiencies, they are incentivized to build more capacity." Line loss decrease means their projections for new power plant building decreases and that doesn't help the utilities bottom line.

"Utilities are already replacing lines all the time, the aim of my bill is to get them to stop using technology that gets them the equivalent of 5 miles per gallon, when there are alternatives that deliver 20 miles per gallon," Zolnikov added. That might cost them more per gallon right now, but the efficiency and other safety and cost savings are worth it."

These carbon fiber core conductors also have fiber optic technology that can sense when portions of the line are overheating, or in contact with vegetation and quickly pinpoint and alert crews to where repairs needs to be made. This results in either no down-time or shorter down-time for lines and quicker mitigation on issues like wildfires. "That's technology that can reduce liability and result in lower insurance costs for the utilities, as well as, the public," Zolnikov emphasized.

Zolnikov likes to think long-term and employ technology in places where its effective use produces multiple benefits. He exhorts these benefits by stating, "This technology allows us to not only address wildfire liability, but be able to make cost effective decisions for the future of our energy grid."