January 19, 2023

Re: Senate Bill No. 2137

Dear Legislators,

My name is Jason Ulmer and I'm a resident of Bismarck, ND.

I'm testifying today in support of Senate Bill No. 2137 which proposes to add a member from the Solar Industry to the ND energy policy commission.

My experience in the solar industry is the result of installing a 100% off-grid power system at a rural business property I own. The off-grid system is one of few, if not the only, 100% off-grid business structures in the State of ND.

The reason for choosing solar energy as opposed to traditional electricity from a local Electric Coop was due to the costs of installing traditional power, and inability to procure easements from neighboring property owners for a traditional power system.

I have come to find that solar power is a viable source of energy in ND. The solar energy production results are much better during the summertime when ND experiences more daylight hours than in the wintertime when daylight hours are minimal. Therefore, I wouldn't solely rely on solar power as my only source of power during the winter months and recommend supplementing solar power with traditional energy sources, or a standby propane generator in my particular off-grid situation.

The solar panels produce energy which is then stored in 56KW/h battery system which generally holds 2-3 days of ordinary electrical usage when there is minimal sunlight to generate power. To date the propane generator has not been needed in the summer months due to longer daylight hours providing sufficient power. The generator has only been needed to supplement power in the winter months.

In the wintertime, the propane generator supplements the solar production and runs for about 1 hour to fully charge the battery for another 2-3 days when there is minimal sunlight producing on the solar panels or if it's snowing. A larger battery system could provide more hours/days of energy and is on my list for a potential solar expansion project in the future. The addition of more battery storage capacity would reduce the frequency of times the propane generator is needed to run in the winter.

When taking my off-grid example and applying it to a traditional grid-connected home, a person can see the implications for large scale conventional use. In a conventional grid-connected home, a homeowner could expect to experience reduced reliance on traditional energy sources in the summertime due to their solar production and battery storage. Any excess electricity could then be sold back onto the grid depending on each homeowner's power usage needs. Then in wintertime, the homeowner would rely mainly on traditional grid-power for most of their needs.

Further discussion is needed on selling the power generated by homeowner solar panels back onto the grid. I've not had personal experience with selling power onto the grid but have heard of frustration from others who've attempted to sell solar power back onto the grid in ND.

Having a member from the solar industry on the energy policy commission is the first step in making solar power relevant in the State of ND. Without a member on the commission ND will continue to fall behind other States in the industry. There are major negative implications of not having a solar representative on the commission which extends beyond power generation itself. There are also the lost opportunities for manufacturing and mining of natural resources in our State for production of solar panels and battery systems.

In summary, solar power is relevant in North Dakota when combined with traditional power sources. I don't see solar as the one-and-only answer going forward, we will absolutely need a majority of traditional power sources/fossil fuels in the energy mix. However, solar energy can allow us to reduce our reliance and amount of usage of traditional power sources/fossil fuels so that our fossil fuels can be leveraged further into the future. Solar energy can also provide jobs in manufacturing/mining/installation among other occupations here in our State.

Sincerely,

Jason Ulmer