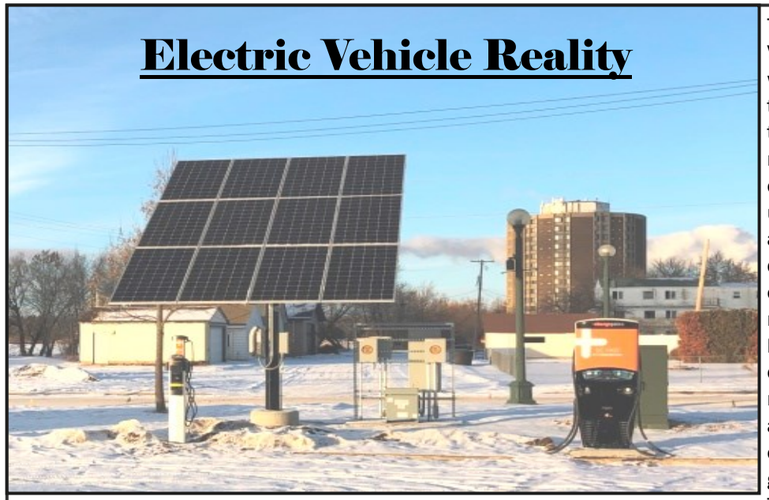
Electric Vehicle Reality



The age of Electric Vehicles (EV) may well be just around the corner. About two hours ago I got my first ride in one of these. I peeked under the hood, and asked a lot of questions. Those of you who know me know that I have been skeptical about this technology, but, as with any technology, over time, the kinks get worked out.

The classic example for us old-timers is the television. In 1958 when I was born it was black & white TV, color sets arrived in the early 70's, then cable, then non-human remotes, flat screens, high definition, now smart TV's and through all these advances the price point is about $350. Those of you in the younger set, just consider the advances in cell phone technology over the past 20 years. Where I'm going with this is that, as the various issues that EV's get addressed, they will become more and more attractive. So, let's think of the advantages and disadvantages. First, the cost. Yes these vehicles are currently a bit more expensive than the comparable gas driven vehicles. But, that higher up front cost may well be offset by lower maintenance costs. There are a lot fewer moving parts in an EV. No oil changes, no water pump, no radiator, no belts, hoses, no exhaust system, no spark plugs and ignition stuff. Over time it may well be that these avoided repair costs make up for the additional upfront costs. The big challenge at this time in the EV world is battery life, which, of course, translates to travel range. The current range on the Chevy Bolt is just short of 200 miles on a full charge. Currently people who own EVs use them largely for commuting. But, as a network of charging stations gets established throughout the state, people with EV's will be able to travel further. In January, Virginia, in partnership with MP, will be completing installation of an EV charging station. It is located in the parking lot across from the Veterans War Memorial near Bailey's Lake.

Those of you who remember 100 Watt incandescent light bulbs, ten 100 Watt bulbs draw power at a rate of 1kW, so if you leave them on for one hour they use 1 kwh of electricity (for which you pay about 11 cents). These fast charge EV charging stations charge at a rate of 50 kW – that's 500 light bulbs. I'm told that these EV cars, when cruising, use 20 kW. When you accelerate, the power draw hits 30kw and when you brake, by letting the motor do some of the braking, you can actually recharge the battery a bit. So, if the battery holds about 60 kWhs of power and you're using 20 kw. After about 3 hours the battery will be drained. At 60 mph, that's about 180 miles.

Now, the panels at the EV car charging station are capable of producing roughly 5 kW at peak production – a sunny summer day. So if a car battery holds 60kwhs of power it'd take twelve hours of full sun to charge an EV car (60kwh/5kw=12hr). Put frankly, those solar panels are only coincidentally providing a small portion of the power needed to charge an EV battery. The rest of the power comes predominantly from electric power plants that operate day in and day out, whether it's sunny or windy or not. In Virginia, roughly two thirds of the power we make is fueled by fossil fuels. So please, just because a solar panel is nearby, don't be lulled into thinking your Electric Vehicle is being charged by it alone.

Virginia Public Utilities

The VPU Quarterly is a customer newsletter published by the City of Virginia, Minnesota Department of Public Utilities.

VPU — QUICK NOTES

KNOW THE SMELL OF NATURAL GAS—BE SAFE!

If there is a faint smell of natural gas, call VPU at 218-748-7540.

If in doubt, leave the building immediately & call 9-1-1.

STREET LIGHT OUT?

If you notice a street light that is burnt out or flickering, please call VPU at 748-7540 so that we may get it fixed and keep our streets bright!

Before You Dig,
Contact Gopher State One Call

Dial l 8-1-1 or 800-252-1166 or www.gopherstateonecall.org

CHECK YOUR WALL PATCHES

If you have steam heat in your home, or an abandoned steam line to your home.....

Periodically check the wall patch where the steam enters your building for leaks.

If you have a vacant property please check property often, as damage can occur quickly...

Call 748-7540 with questions.

THE VPU QUARTERLY

January 2019

The VPU office will be closed on the following dates:

January 1, 2019
January 21, 2019
February 18, 2019

Harmless Squirrels... Are you NUTS???

Aren't they cute? Their fluffy tails flickering as they chomp a fallen apple. Scampering from tree to roof-top to tree again, then along a fence-top - all in a game to never touch ground. But when they do their high-wire acts on the City power lines and transformers, touching two wires at the same time, they become the ground. And that is a deadly situation. Here at the Utility , cute little squirrels are called nuisances. They are the cause of roughly half of all power outages in Minnesota. Trees account for a good portion of the remainder. But we've seen geese, distracted drivers, and oversized trucks cause outages, also. Less than 25% of power outages result from equipment failure.

2019 Rate Changes

The City will be implementing a $5.10 monthly service fee on its sewer commodity beginning with January's bill. This fee offsets costs related to sewer relocation associated with the Highway 53 relocation project, in addition to the City's renovations to its Wastewater Treatment Plant. The City's and Utility's multiple efforts to obtain State funding for utility relocation cost overruns were, unfortunately, unsuccessful.

Additionally, an increase of $0.17 per unit of sewer will be implemented in 2019 to offset costs of treating wastewater for sulphates and phosphorous as newly mandated by Federal and State regulatory agencies.

The Utility is planning no base rate changes for 2019. Steam customers in the Core Steam District will enjoy a 38% price decrease, which was implemented July 1, 2018 in conjunction with the termination of the Xcel biomass project.

Steam Conversion Update

With winter upon us, work on the conversion process has slowed to a trickle. A good number of HVAC contractors continue to do installations, so I am confident that we'll hit 300 plus completed conversions before we start again in May.

Deadlines for Conversion

The conversion deadline for the **Southside** conversion zone is **October of 2020**.
The conversion deadline for the **Northside** conversion zone is **October of 2021**.

Please note that throughout this conversion process the Utility will be operating and maintaining virtually the entire steam district even though steam sales have plummeted. With only a handful of customers remaining on the system, the losses are extreme and growing. The Utility cannot, with any level of prudence, sustain these losses any longer than is required. So we ask that you consider the seriousness of our deadlines.