FENN REA

FENN RURAL ELECTRIFICATION ASSOCIATION

NEWSLETTER

April 2022 – Issue 101

Canada's Electricity Grid Will Need Substantial Changes to Help Achieve Net Zero in 2035

Reports and studies indicate Canada will need to improve its power generation and distribution systems if it's to meet both the rising demand for electricity, driven partly by the uptake of electric vehicles (EVs), and the 2035 climate goals.

Changes/modifications will be required to every aspect of the provincial and territorial power generation and distribution systems to reliably meet the projected demand.

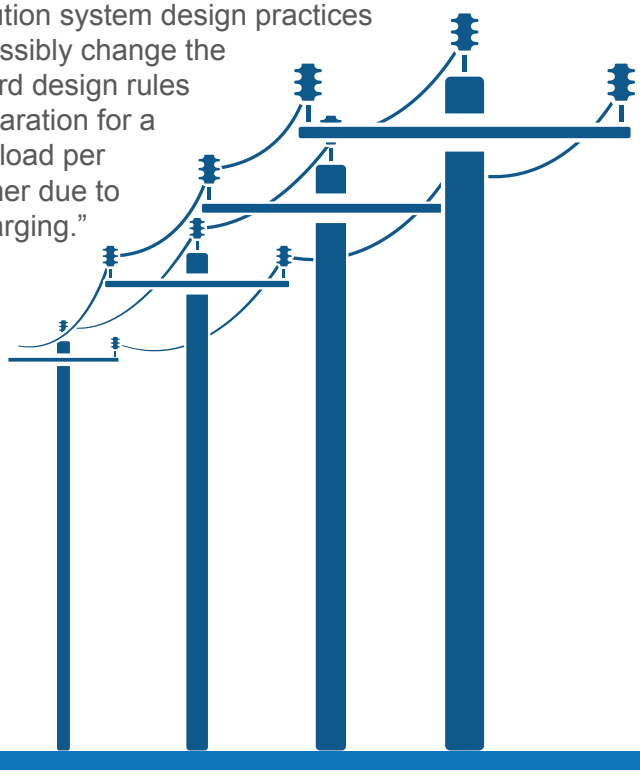
The federal government has set a deadline of 2035 for achieving net-zero electricity generation. To meet this target, power generation capacity will have to double or triple by 2050, to displace existing fossil fuel generation and meet growing demand. There is also the suggestion that as much as 75 per cent of that additional power will need to come from wind and solar.

Canada's electricity systems will also need more battery storage and be nimble enough to adjust to peaks in demand as both vehicles and many home heating systems switch to electric. Reports suggest there are systems in this country that are not equipped to manage that increased demand, as well as the timing of that demand, and that could create some real issues. An example was provided of an urban resident who wanted to upgrade to a faster charger for their Electric Vehicle (EV) but their neighbourhood wouldn't be able to accommodate the extra load if their and other households also upgraded. The same challenge can apply rurally.

A Canadian Climate Institute report suggests the federal government should adopt a "broad policy framework" within which provinces and territories would operate. Other options are to possibly consider strengthening the price on carbon for the sector and ban the construction of gas-fired power plants. Simultaneously the report calls for all levels of government to not burden ratepayers with the costs of helping the sector meet net-zero, saying that governments should defray those costs.

In 2020, Natural Resources Canada hired an external consulting firm to study the EV readiness of the Canadian grid. The study found at the wholesale/transmission system level, the best practices adopted by utilities and systems operators included piloting time-differentiated rates to influence charging behaviour and boosting visibility of EVs in their service territory.

Additionally, the study concludes that utilities should be looking for ways to acquire and improve their ability to forecast EV charging loads, refine their load profile, and that at the grid distribution system level, Canadian utilities and systems operators need to study and employ various load management solutions. The study also recommends that "utilities should undertake a thorough review of their distribution system design practices and possibly change the standard design rules in preparation for a higher load per customer due to EV charging."



For power outages, emergency power troubles and service requests, contact the distribution system operator for FENN REA: **ATCO Electric**
Phone toll-free: 1-800-668-2248

FENN REA
Box 31,Fenn, Alberta T0J 1K0
Phone: c/o Philip Jarmin, 1-403-740-9384
Email: fennrea@gmail.com
www.fennrea.com

Battle River Power Coop
Member Care & Billing
Box 1420, Camrose AB T4V 1X3
Phone toll-free:1-877-428-3972
Email: brpc@brpower.coop
www.brpower.coop

Are You Ready for an Electric Tractor?

Farm equipment is poised to undergo a revolution with manufacturers exploring electrification, automation and artificial intelligence and some farmers taking the chance to pioneer the new technologies.

Canadian farms supply food to hundreds of countries around the world and the industry is critical to the global supply chain. Renowned as “the breadbasket of the world,” Canada’s agricultural industry has been identified by the federal government as “one of the sectors with the highest economic growth potential.”

Agriculture in Canada accounts for 6.7% of national GDP and 12.5% of national employment (Stats Can data from 2016). With over 193,492 farms across Canada, the industry’s machines also account for roughly 18% of agricultural emissions.

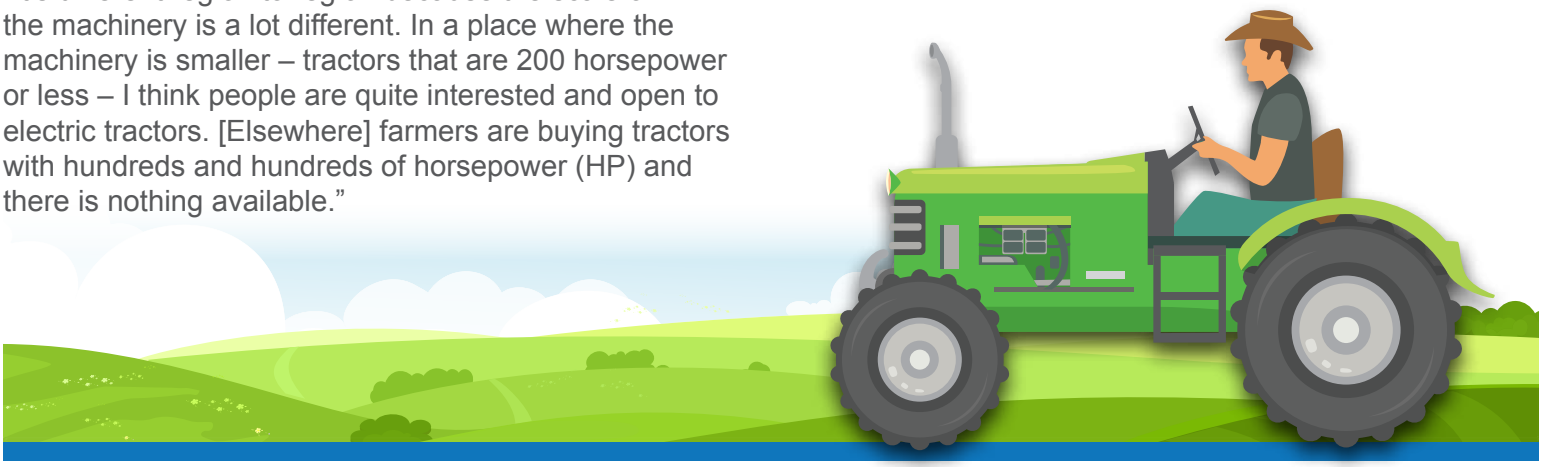
However it’s on the technology side – especially with tractor electrification – that Canada is falling short, though it’s not for lack of interest. The problem of finding a machine to fit the size of job is not a problem unique to Canada. Other countries around the world grapple with farms that stretch over thousands of acres and require specialty equipment.

Darrin Qualman, National Farmers Union director of climate crisis policy stated in a recent interview, “It’s different region to region because the scale of the machinery is a lot different. In a place where the machinery is smaller – tractors that are 200 horsepower or less – I think people are quite interested and open to electric tractors. [Elsewhere] farmers are buying tractors with hundreds and hundreds of horsepower (HP) and there is nothing available.”

The good news is manufacturers are rising to that challenge and producing tractors to fill that HP need. For example, John Deere announced it has developed a high-performance, autonomous, fully electric tractor. The electric cable-powered agricultural machine, which provides up to 400hp (300kW) of power in total, is known as GridCON.

While there remains a premium for going electric, manufacturers insist that is offset by long-term gains. If an electric tractor is in operation for decades, the owners are going to see a positive return on their investment with savings in fuel and maintenance, savings in labour costs and increased usage efficiency with the “smart” features baked into the machine.

Industry organizations around the world are increasingly pushing manufacturers for options and governments for purchase incentives, while trade shows offer opportunities for farmers to look at the machinery of the future. The most difficult hurdle for both manufacturers and farmers to overcome in the transition to electric is time. Farm machinery can take 30 to 50 years to turn over, which would mean decades to get equipment changed out. With the federal government signalling zero-emission mobility as a growing priority, where does electric agricultural equipment fit in?



Regulated Rate Option (RRO)

The RRO rate may increase or decrease from month to month as it is priced on the open market and subject to many factors relating to supply and demand. If you do not have a contract with an electricity retailer, then you receive the default RRO rate.

For April 2022, the RRO is priced at $0.09482 per kWh, which is reflected on your enclosed bill. For May 2022, the Battle River Power Coop monthly RRO billing rate for FENN REA members is $0.11572. The RRO rate is also listed on www.fennrea.com.

Members are free to purchase electricity services from a retailer of their choice. For a list of retailers, visit ucahelps.alberta.ca or call 310-4822 (toll free in Alberta).

Information on **FENN REA’s Code of Conduct Compliance Plan** can be found on our website: www.fennrea.com