Manitoba and How it Should Move Forward

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Manitoba Energy Council

https://manitobaenergycouncil.ca

The Manitoba Hydro Act

(Initially 1961 with many updates since then)

- *Retail Supply of Power:*

15.2 No person other than the corporation shall engage in the retail supply of power in Manitoba

This has served the province well in the 20th Century. But what about the 21st Century?

This doesn't apply in other developed countries

The “Great Change”

The “Great Change” or as the World Economic Forum States it as “The Great Reset”

Where the energy of the future will be Electrification

Central to the future — to the smart city, the smart railroad, the smart highway, and the smart airport — is the electric supply. It is imperative that electricity supply be resilient

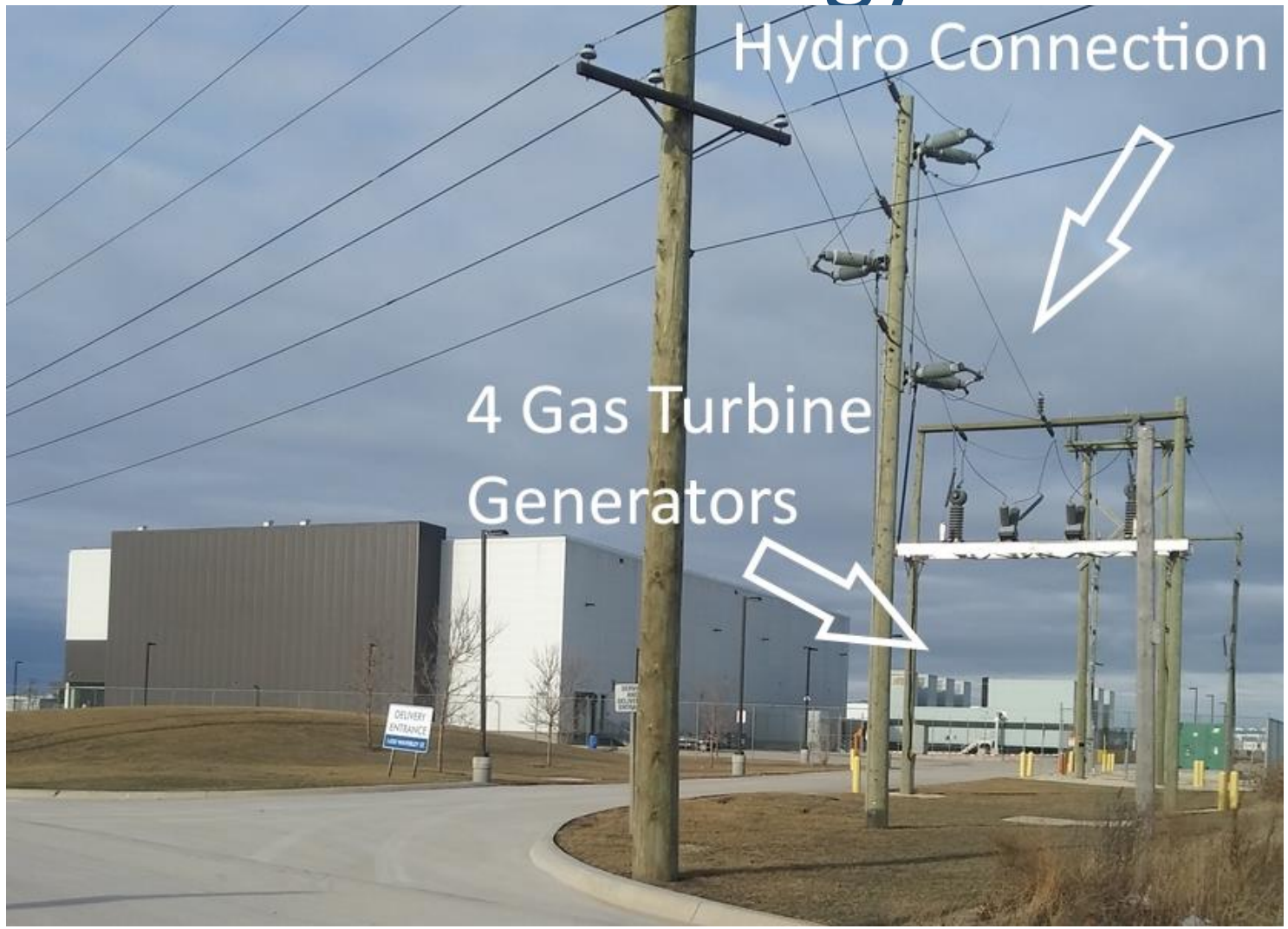
The “Resilience” of Electric Energy

With the blackouts Manitoba Hydro has somewhere almost every day, its electricity is not resilient. It is not set up for the “Great Change”. Its aging infrastructure must be replaced-even with cables.

How will a resilient power supply be achieved?

The “Resilience” of Electric Energy

A Server Farm powered by Hydro but backed up by 4 expensive gas turbine generators for security of supply



The “Resilience” of Electric Energy

A resilient grid would survive a wide area ice storm like hit Quebec in 1998, killing 35 people, costing $3 billion, and power outages lasting up to 4 weeks.

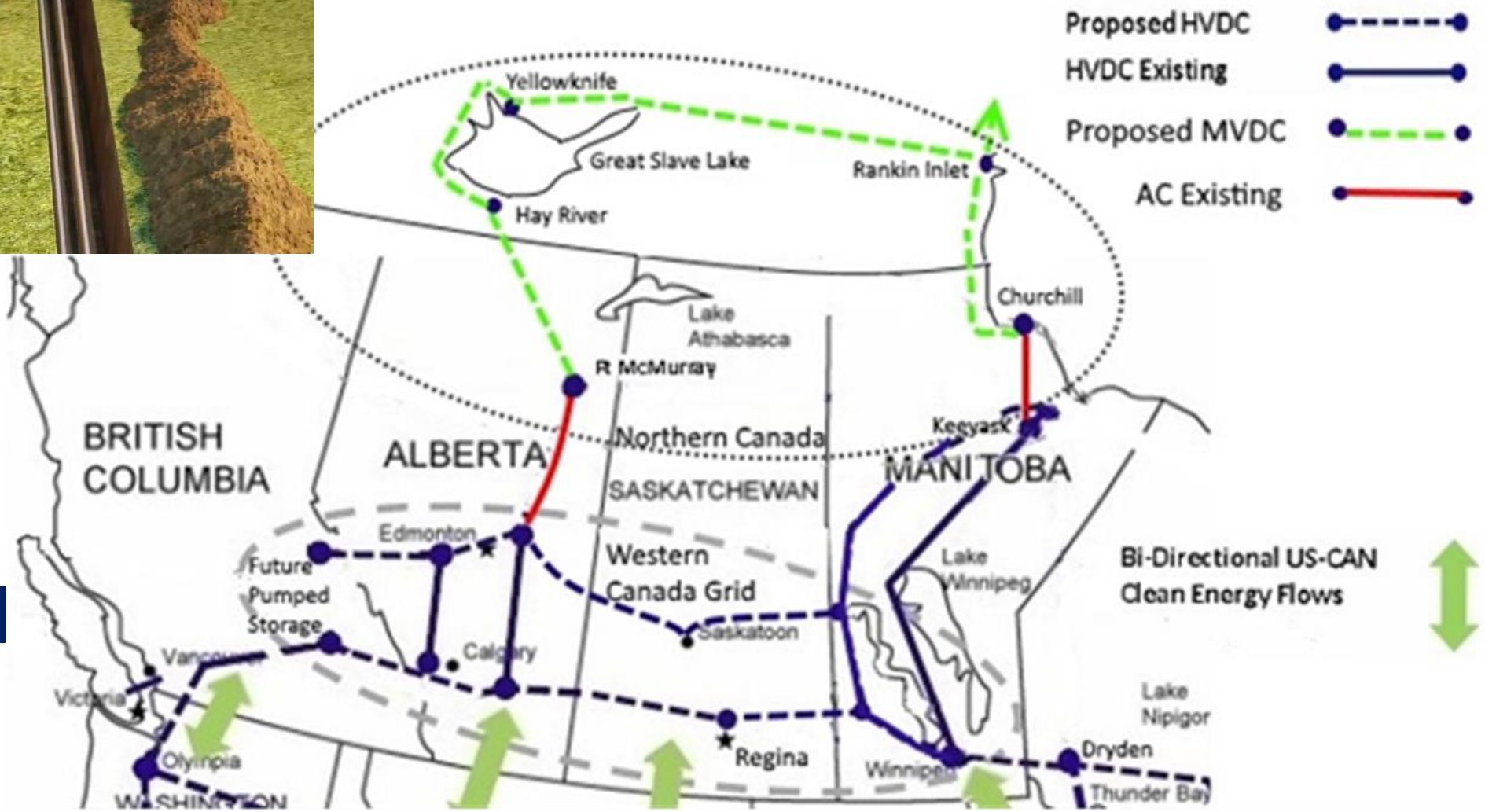
How to Achieve a Resilient Power Supply

1. *Continue to upgrade the electric distribution system*
2. *Change the Hydro Act to Open Access to the grid*
3. *This allows peer-to-peer electricity trading and home storage (batteries or electric car batteries)*

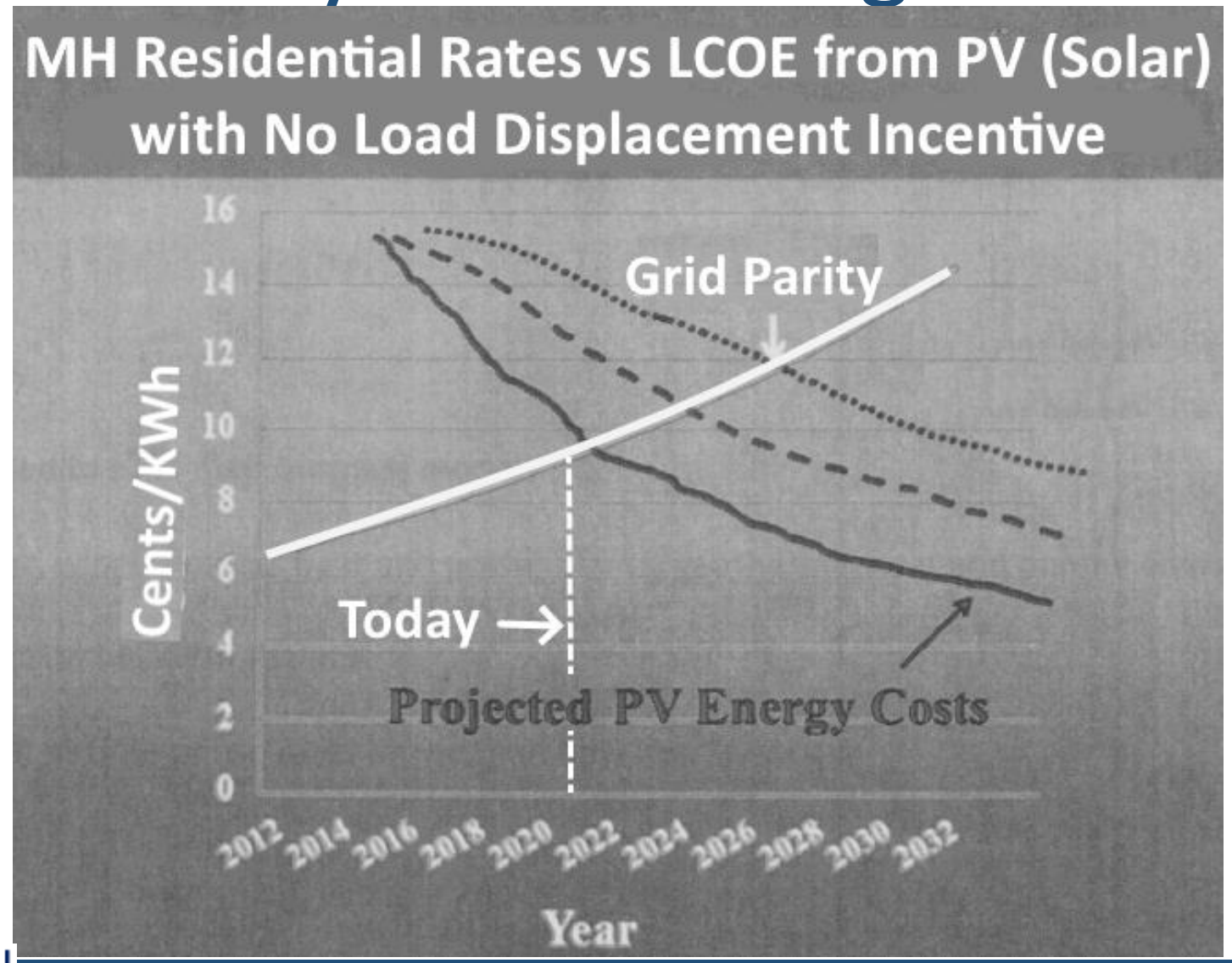
4. Distributed Energy Resources (DER) or Microgrids can bring resilience when the main grid fails

How to Achieve a Resilient Power Supply-Macrogrid

Use existing Right-of-way to minimize environmental impact



A Chart from Hydro Showing Solar Prices



What About Hydro's Costly Waswatim & Keeyask Generating Stations and Bipole III?

1. *As recommended in the Wall Report, reduce the levy approaching $0.5 billion/yr Hydro pays the Treasury*
2. *Do this by transferring to a government fund $13.7 of the approaching $30 billion from Hydro's debt. This would reduce the levy by $0.14 billion/yr reducing Hydro rate escalations but increasing taxes*
3. *Hydro's high cost generation becomes competitive*

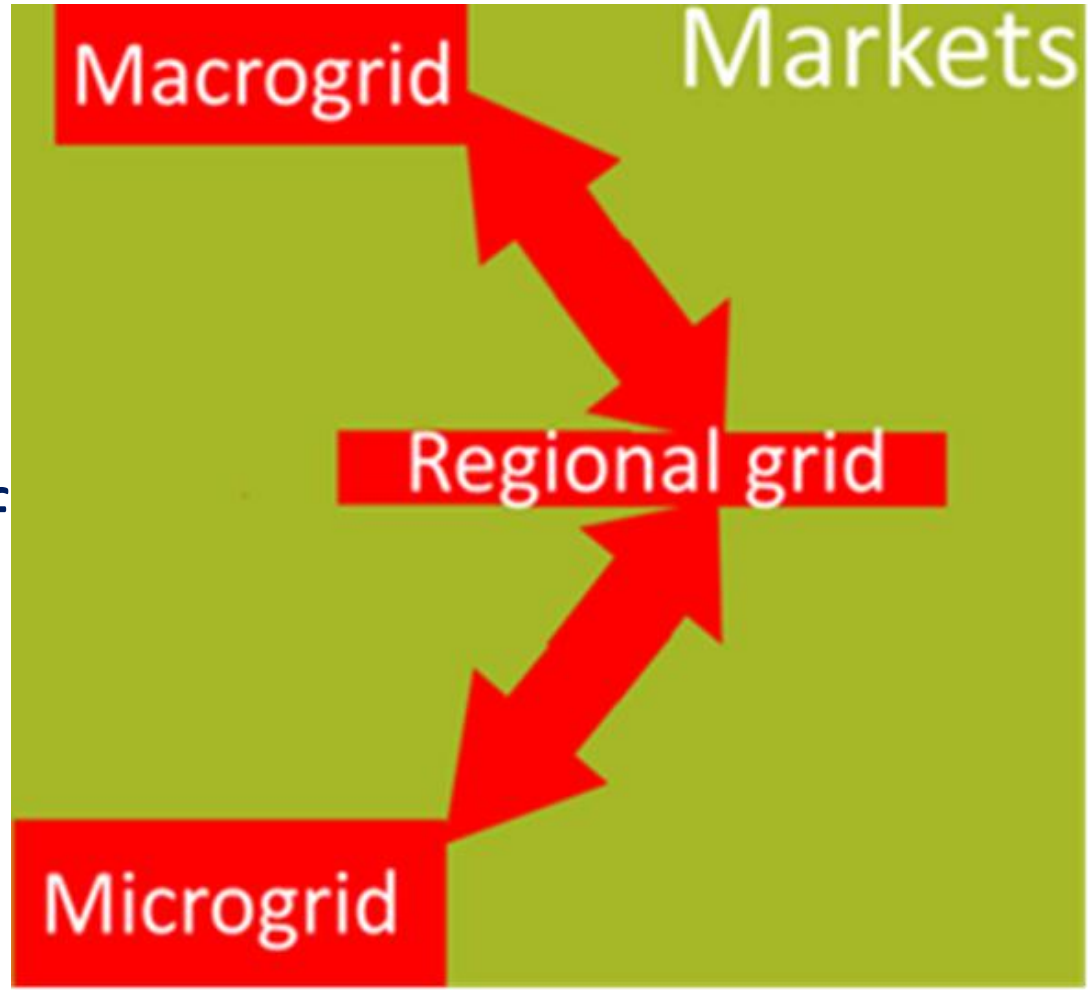
What Does a Resilient Grid Look Like?

Example: Shenzhen of 10 million

16,000 electric busses, 22,000 electric taxis, 100% independent, 100% electric

The Grid of the Future Opens up Markets with Profits

- Electric energy markets can be integrated between local (microgrids), regional (the provinces & territories) and then transcontinental with an expanded macrogrid
- This requires provinces to move out of "Balkanization" so far as trading electric energy is concerned
- Hydro can provide an energy storage market for wind & solar generators



In Summary:

1. *Plan much needed resiliency into the grid*
2. *Revise the Manitoba Hydro Act for Open Access*
3. *Transfer a bulk of Hydro debt to the province*
4. *Plan and construct a profitable, acceptable to the environment, Western Canada Grid*
5. *Establish an electric market system from individual up to provincial and inter-provincial participation*