

2021 Long Term Electric Resource Plan (LTERP) & 2022 Long Term Gas Resource Plan (LTGRP) – Osoyoos

October 9, 2019

Green items denote follow-up questions for FEI. FEI's responses use **bold black** font.

1. Introductions

- a. Attendees expressed interest in the following topics:
 - i. Energy cost considerations and operations practicalities in rural communities – specifically, trade-offs and synergies between greenhouse gas (GHG) abatement, capital cost, and operations cost (including ease of operation) for residential new construction.
 - ii. Low carbon energy solutions for multi-family residential and income qualified apartment buildings.
 - iii. Opportunities for cost savings and GHG emissions abatement in the transportation sector.

2. Resource Planning and British Columbia's (BC) Energy Systems

- a. Attendees were unaware of CleanBC and updated provincial plans for energy and GHG policy.

3. Electricity Planning Dialogue

- a. Attendees discussed various opportunities and considerations around EVs:
 - i. Much interest exists in the availability of rebates for installing Level 2 charging stations in private parking lots – one consideration is how to measure how much energy is used by individual station users and apportioning the cost fairly.
 - ii. Level 3 direct current (DC) fast charging stations can bring business to rural communities if they are located along transit routes – in Scandinavia, such stations are designed to occupy customers for about 30 minutes and to generate revenue from them.
 - iii. As the basic network of Level 3 DC fast charging stations is deployed, range anxiety among EV owners is likely to be replaced with charging congestion anxiety – if cargo trucking electrifies, this will have a major impact on fast charging infrastructure along highways (this may either cause more congestion or reduce congestion by motivating further investment in infrastructure).
- b. Attendees also discussed distributed generation and storage opportunities and considerations:
 - i. The electric system is not 100% reliable at the moment – some short outages do occur despite all planning and prudence that supports electricity supply, transmission and distribution.
 - ii. Extreme weather events associated with climate change may increase the risk of electricity outages in the long term:
 1. Utilities should proactively tackle this issue rather than focusing on repairs when outages do occur – a preventative approach will likely be cheaper than a reactive approach.

2. Weather can have a significant impact on energy demand for some end uses – for example, irrigation electricity demand can fluctuate by 25% depending on annual weather patterns.
- iii. Outages that do not exceed a few hours and occur at today's frequency are acceptable if they could help mitigate costs of the electricity system in the future – special care needs to be given to protecting critical end users (e.g. hospitals and care homes).
- iv. Energy customers could install storage systems at their premises to mitigate the impact of outages and to contribute to smoothing peak electricity load:
 1. This could especially be an opportunity for new construction as battery costs fall in the future.
 2. If the capital cost of such systems is high, utilities may be able to contribute to them in exchange for some control over how these systems operate in order to help smooth peak electricity load.
 3. Storage systems could help smooth EV charging load peaks if EVs are charged from the systems and the systems themselves are charged at a constant and persistent rate from the electricity grid:
 - a. Utilities could manage storage sites in an integrated fashion in order to reduce the energy burden on hydroelectric dams and thus support their flow management function.
 - b. The role of the hydroelectric utility may change in the face of climate change in the long term.
 4. Some customers are interested in solar photovoltaic (PV) installations when doing roof replacements.
 5. Utilities should actively engage customers about these opportunities and considerations.
- c. Finally, attendees expressed their preferences about the provenance of electricity supply:
 - i. For covering future supply resource needs, FortisBC has the option to invest in electricity generation in BC or to purchase electricity from the regional supply market.
 - ii. Purchases from the regional market can be cheaper than local generation – US renewable generation is supported by tax credits.
 - iii. Market purchases may be 100% renewable or could include a portion of fossil-fueled electricity generation.
 - iv. Attendees recognize that climate change is a global issue and that energy affordability plays an important role in BC – they support FortisBC purchasing relatively cheaper electricity from the regional market, especially if these purchases can be verified to be renewable electricity.
 - v. Attendees feel that regional market purchases should not reach a level where they would compromise the reliability of FortisBC's electricity supply portfolio – they note geopolitical instability as a basis for this concern and also highlight that impacts of climate change may shift market dynamics in the long term.
 - vi. One attendee noted a preference for being environmental but cost and reliability are the first priorities.

4. Natural Gas Planning Dialogue

- a. Attendees were unaware of the role the natural gas system can play for GHG abatement via renewable natural gas and hydrogen injection – attendees noted that hydrogen production via electrolysis may compete with other end uses for cheap electricity.
 - b. One attendee noted that BC Housing was favoring electric heat pumps (since these are viewed as ‘greener’ than natural gas) but wondered if renewable gases could provide a balance of being cheaper and green – one further attendee noted that renewable gases could provide portfolio diversity to the gas system, like distributed generation for electric utilities.
 - c. Attendees also commented on fuel choices for the transportation sectors:
 - i. Diesel vehicles have high maintenance costs – electrification would help solve this issue and diesel/EV hybrid powertrains exist already.
 - ii. Natural gas for transportation is a solution for the medium and heavy duty transportation sectors – globally, certain heavy duty segments are moving towards electrification (e.g. mining equipment in jurisdictions with good solar PV resources).
 - d. Finally, attendees expressed their opinions about current and future energy performance codes and standards:
 - i. Residents of the City of Vancouver are experiencing unexpected price spikes for renovation projects due to the impact of energy performance requirements during larger renovations.
 - ii. An opportunity is available in existing dwellings in rural communities that have very low energy efficiency – these dwellings may be candidates for deep retrofits or even replacement (some do not have any insulation in their building envelope at all).
- 5. General Feedback and Next Steps**
- a. Attendees support FortisBC’s steps towards providing further feedback opportunities via FortisBC’s Online Input Network – they note that a prize draw for network participants may be a key method for boosting participation.