

FortisBC Long Term Gas Resource Plan (“LTGRP”) Community Engagement Sessions – Southern Interior

Date: Tuesday, November 23, 2021 – Southern Interior

Format: Virtual meeting via Teams

Note: These notes should be reviewed in conjunction with the presentation slides that were provided to attendees. Attendee questions have been numbered for ease of reference in future communications.

FortisBC Presenters:

- Ken Ross – Manager, Integrated Resource Planning and DSM Reporting
- Randy Sharpe – Community and Indigenous Initiatives Manager
- Diana Aguilar – Integrated Resource Planning Manager

These presenters or any FortisBC representatives can be contacted by emailing irp@fortisbc.com.

Community Attendees:

Individuals representing various groups were invited to FortisBC’s Southern Interior Long Term Gas Resource Planning (LTGRP) community engagement session including:

- Community planners and developers
- Energy managers and professionals
- Municipal community leaders and elected representatives
- School district representatives
- Large businesses / industrial customers
- Chamber of commerce / economic development organizations
- Community Associations

Overview of the Agenda:

1. Welcome and Introductions
2. Overview of the Resource Planning Process
3. Energy Planning Landscape in BC
4. Break
5. Demand Forecasting Methodology and critical uncertainties
6. Ongoing Resource Planning Work
7. Wrap-up and Next Steps

1. Welcome and Introductions

Session background included the following:

- What are the key energy planning opportunities that are top of mind for you?
 - Answers included: availability of renewable gas, affordability, community energy planning, expansion of gas system into new communities and in this shared service territory electricity planning such as EVs and related questions
- The importance of local partnerships is demonstrated by the REN Energy International Corp. project near Fruitvale. This project makes use of waste wood products to make syngas through gasification. This product is pipeline grade gas that will be brought on our system. This process will produce about one million GJs per year with an anticipated 20 year project life.
- FortisBC's long term overview of natural gas requirements
- The scale and magnitude of the renewable and low carbon gas supply that is being procured, the use of renewable gas in buildings, and recent supply updates
- System planning including updating system resiliency and reliability
- Elements of the long term vision will require applications and review through the BCUC regulatory process in the coming years

2. Overview of the Resource Planning Process

FortisBC provided background on the Long Term Resource Planning process. This Resource Plan will consider demand-side management (energy efficiency and conservation), the displacement of higher carbon fuels with natural gas (for example in providing transportation energy for medium and heavy duty vehicles and marine transportation), the incorporation of renewable and low carbon gas supply as well as system upgrades for this transition including upgrades for system resiliency and sustainment. The regulated planning process is transparent and open to any person or interested party to participate in. Long term resource planning at FortisBC is an ongoing process, including ongoing consultation and engagement. The 2022 Resource Plan is due for submission to the BC Utilities Commission (BCUC) by March 31, 2022. LTGRPs have historically been submitted in a three to five year cycle. However, due to the dynamic shifts in BC's energy landscape, it is anticipated that the next resource plan will be underway soon after submission of the 2022 plan. Please see slides 19 to 27 in the presentation for additional topics of discussion.

Attendee Questions (in bold) and FortisBC Responses (not bolded):

2.1 Attendee: How is the provincial electrification mandate incorporated into FortisBC's LTGRP process?

FortisBC: Great question - one thing not discussed yet is the recently announced CleanBC Roadmap and the extent to which it includes electrification. We have some electrification considered in the planning scenario, and the work we are doing on renewable and low carbon gas will be discussed later in the presentation. We don't believe the long term costs and assumptions of electrification are fully considered. We are working with our own electric utility and BC Hydro to more fully understand these considerations.

The LTGRP models a range of scenarios, each with different amounts of electrification assumed. The diversified energy scenario, in which both the gas and electric infrastructure in the Province continue to be used, maintained and expanded in order to reach carbon reduction goals is the scenario that FEI is planning to. This scenario incorporates some electrification as well as a transition to renewable and low carbon gas. FEI is also modelling a deep electrification scenario. Work undertaken by Guidehouse consultants, retained by FEI, on alternative energy pathways for BC indicates that over the longer term the diversified energy future is less costly and less risky (more resilient) than a deep electrification scenario. FEI continues to examine the long term cost impacts of these scenarios.

2.2 Attendee: The province is shifting their requirements for new construction to be electric or zero carbon by 2028. How will this be factored into your plan? I hope this is not the case as this requirement is even more challenging in colder climates.

FortisBC: In terms of CleanBC's policy for new construction, renewables need to be factored into this discussion to ensure our customers have access to affordable energy. The Renewable Gas (RG) tariff will be positioned to support new construction demands for low carbon energy. The FEI Renewable Gas Comprehensive Review will be filed with the BCUC in December, 2021.

Although not directly responded to in the meeting, FortisBC adds to these notes that it is not aware of a provincial 2028 deadline for new construction to be electric or zero carbon. There is a reference around new construction with strong focus on electrification, some discussion around natural gas heat pumps and net zero requirement. FortisBC will be engaging with the province on these discussions.

2.3 Attendee comment: Especially in rural communities, and colder regions of the province, we support the benefits of a Diversified Energy Plan since the costs of electricity are already high and future infrastructure requirements may result in non-affordable energy especially in these areas. Homeowners can barely get by right now - we have an affordable housing crisis in the country and if utility bills double this will be a significant impact to the end user.

FortisBC: We are looking at costs and rate impacts as best we can in our LGTRP, including within our shared service territory. We don't always know beyond our utilities how the costs are being modelled and accounted for. For FEI these costs will be examined in our resource planning scenarios.

3. Energy Planning Landscape in BC

FortisBC provided background on BC's energy landscape. It is important to note that natural gas supplies more energy than electricity. As such, it will be challenging to displace this magnitude of energy through electrification. Residential and commercial buildings are responsible for 10% of provincial GHG emissions. In 2018, FortisBC released their [Clean Growth Pathway to 2050](#) that charts a pathway for FortisBC to contribute to achieving the provincial climate action goal of 80 per cent GHG emissions reduction by 2050. On October 25, CleanBC released their [Roadmap to 2030](#). At this time, FortisBC is still determining how these new targets will impact long term energy planning. However, the goals of the

CleanBC Roadmap are already supported by FortisBC's long term vision of renewables and low carbon gas, energy efficiency and other initiatives. FortisBC will continue to build upon the Diversified Energy Plan, keeping the gas infrastructure in place for affordability and resilience. Although FortisBC submits their Resource Plans on about a four year cycle, it is likely that the next resource plan will be underway immediately upon submission of the 2022 plan in response to the dynamically evolving energy landscape and urgent demands of climate change. Please see slides 28 -50 in the presentation for additional topics of discussion.

3.1 Attendee: In reference to the \$100 Billion additional costs for the Electrification Pathway over the Diversified Energy Plan, recognizing that new electricity infrastructure is required beyond 2030 – how can we translate this cost to electricity rates? Many homeowners are already struggling financially. Housing affordability is of great concern in all regions of BC, and utility bills will make-up an even greater portion of household disposable income.

FortisBC: Noting that the study and its findings are for the Province at large, we are working on trying to understand these costs over time and BC Hydro is expected to submit their Integrated Resource Plan in December. At this time we do not know all the factors that will impact rates and how they will be assessed. FortisBC will be doing our best to model the rate impacts of the Diversified Energy Plan and the Electrification Pathway. Both pathways will have an upward impact on rates. FortisBC is continuing to examine and understand the cost and rate impacts of these alternative scenarios for both gas and electricity customers across the province as more information becomes available through resource planning submissions to the BCUC and other activities.

3.2 Attendee: What is the solicitation process to FortisBC to develop renewable natural gas facilities in local regions?

FortisBC: Our procurement process has evolved over time. In the early stages, we put out a call for expressions of interest and worked on projects with the highest expectation for readiness and success. Currently, it is a bit more of an "open season" wherein we are getting a lot of opportunities crossing our path and are conducting a lot of investigations to identify projects that are ready to contract and implementation. If you have a project in mind, please review our website [Become a Renewable Natural Gas supplier \(fortisbc.com\)](https://www.fortisbc.com/become-a-renewable-natural-gas-supplier) or contact any FortisBC representative in community relations or key account managers and we will introduce you to the RG business development team. We are aggressively expanding our supply. Our supply in 2021 will be tripled over 2020 and expected to be tripled again in 2022.

[The Surrey Biofuel Facility](#) is a very large facility that generates biogas and compost in a closed loop system. Another similar project is under way in the Capital Regional District where biomethane will be produced in the new sewage treatment system. We are always looking to further our partnerships with local governments and Indigenous communities.

In terms of organic waste to renewables through microbial digestion, both bio-methane and compost can be generated in the process. FortisBC's intention is to take advantage of as much locally produced resources as we can reasonably and cost effectively access. This is a good way for FortisBC to work with government at all levels to achieve Clean BC's GHG emission reduction goals.

FortisBC: Which critical uncertainties are of most interest to you? Which ones represent new opportunities or challenges for you?

- 3.3 Attendee resides in a region shared by all three utilities, FEI, FBC and BC Hydro. Rural customers, in particular are very concerned about the high costs of energy bills. Many would appreciate access to the gas system for affordability benefits. Already this region experiences reliability issues through system outages. Although environmental concerns and the need for climate action through community energy plans are paramount, full electrification poses risks. There are liability concerns, reliability of EVs, lack of charging stations, and routine power outages pointing to risks associated with only one source of energy for thermal heating, power and transportation.**

FortisBC: As EV charging stations are expanded, there still seems to be concerns on range and access to electricity. In terms of system and rate impacts, we are looking at a case study in our shared services territory, to understand costs, benefits, logistics and infrastructure needs for electrification versus a diversified energy plan. In terms of the gas system, we need to further expand storage, diversity in pipelines and supply for increased resiliency. Distributed energy resources, such as hydrogen hubs, can serve local regions. The need for resiliency was especially evident after the Enbridge pipeline incident in 2018. There will be cost impacts to all energy transition scenarios, and it will take time to develop these longer range planning scenarios. Affordability, resiliency and the urgency for GHG emission reduction must all be factored into resource planning.

- 3.4 Another attendee expressed hesitancy in relying on only one system with the associated risks. There are costs for the infrastructure required for FortisBC electric to upgrade. A lot of school district facilities are already maxed out on supply and demand cannot grow without major renovations and upgrading electrical systems on site. With these additional energy costs how do we continue to have funding for education and classrooms? Energy efficiency initiatives such as building retrofits are part of the approach, but building upgrades are also capital intensive.**

FortisBC: Reminder to attendees to please reach out to FortisBC representatives for information about Conservation and Energy Management rebates and any other information.

- 3.5 In terms of having both gas and electricity in homes, one attendee noted that they personally sought out the dual system for their own home. They suggest that the province may regret this electrification decision after five years of implementation based on the risks of relying on one system.**

4. Break

5. Demand forecast methodologies and critical uncertainties

Historically, we forecasted demand based on a “Business as Usual” time series scenario projected to be a gradual incline over time in response to customer growth. The methodology has now switched to a data intensive end use scenario where we build from the ground up forecasting what our customers will use over time. This provides an updated Reference Case scenario, similar to Business as Usual, but built from the ground up. We can still have growth on the system and decarbonize our supply through

Demand Side Management's energy efficiency initiatives, Renewable and Low Carbon gas, transportation and Carbon Capture and Storage. The scenarios are built to project a variety of different outcomes twenty years into the future. This is a time of great change as our customers' energy needs evolve and FortisBC decarbonizes the gas supply. Please see slides 54 to 68 in the presentation for additional topics of discussion.

6. Ongoing resource planning work

The practicalities of procurement of supply and impacts to the system for the transition to renewables and low carbon gas is being actively evaluated at FortisBC. In the short term we may be displacing gas through purchases outside BC. However, we are working on BC-based supply opportunities wherever we reasonably can. The RNG can come on quite seamlessly and hydrogen can be blended at lower percentages. However, in time we will require hydrogen dedicated pipelines and hydrogen hubs. Although all details for this transition will not all be worked out for this resource plan, we will explain how the gas infrastructure will be used to deliver renewable and low carbon gas along with natural gas and how this mix is expected to change over time as this transition is implemented. The next resource plan after this 2022 LTGRP will then be able to examine these details further. Please see slides 70 to 76 in the presentation for additional topics of discussion.

6.1 Attendee: FortisBC seems comfortable with increased demand? What about large battery storage and partnerships?

FortisBC: Yes, it is expected our gas system will be able to sustain increased demand. In terms of battery storage, we are looking at this in the Long Term Electric Resource Plan. We see storage playing a role in the Diversified Energy Plan. This is important for FortisBC. Battery storage will be important to the overall energy system (gas and electricity) for resiliency.

Attendee noted that the diagram in Slide 45 did not include battery storage. FEI will pass this comment along to project team for future consideration in updating the diagram. Attendee was provided with diagram from Long Term Electric Resource Plan (LTERP) that displayed battery storage.

6.2 Attendee: FortisBC is currently sourcing some of their renewable gas in the US and other regions. Can FortisBC consider a more circular economy by working with local regions on liquid waste or organic waste processes... creating our renewable natural gas in the communities where we are using it?

FortisBC: Yes. We are very interested in developing these projects locally. The Surrey Biofuel project is one example of the circular economy. Municipal waste goes into a digester and resulting methane is brought on to the system. The trucks are fueled by compressed renewables which are used to collect organics. Another example is the Capital Region District, the RNG is used to heat buildings and fuel their trucks. A City of Vancouver project is under development in partnership with the Province of British Columbia. We need to be mindful of both scale and costs to balance the volume and price that allows us to pass along to the customer reasonably. The vision of the diversified scenario is to have more energy resources closer to the end user, though pipelines and storage resources will still be required.

6.3 Attendee: Agreed. Locally sourced energy should be able to keep costs lower. Attendee will connect with FortisBC representatives for potential opportunity for a local project.

Additional information provided following the session: this item has been actioned.

7. Wrap-up and next steps

Notes will be distributed to participants for their feedback and then posted to the LTGRP section on FortisBC.com.

FEI's LTGRP submission deadline is March 31, 2022. Our FortisBC Electric Long Term Resource Plan is now under regulatory review. BC Hydro's Integrated Resource Plan (IRP) is to be submitted in December, 2021. We encourage all interested attendees to be part of the regulatory process for both the BC Hydro IRP review and the FortisBC LTGRP review. This can be as simple as a letter of comment through to a more formal process to sign up as an intervener. This is a critical time for developing a coordinated and collaborative long term energy system for BC so we encourage everyone to get involved.

Session adjourned.