

Fort Nelson Long-term Resource Plan



Fort Nelson Generating Station
Photo credit: Ryan Sparshu

Prophet River First Nation Meeting – March 26, 2024

Presenters: Alex Tu and Jen Thompson

Agenda

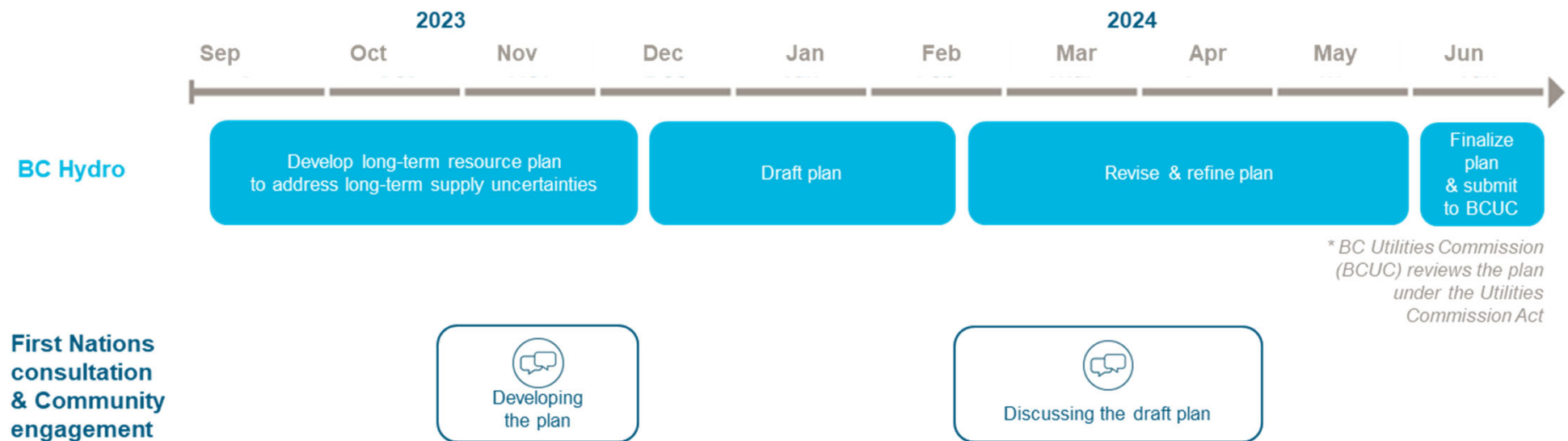
- What is a long-term resource plan (LTRP)?
- What we heard from First Nations and the community
- The draft plan for feedback
- Discussion and next steps

What is a long-term resource plan?

The earliest planning BC Hydro undertakes to meet future customer electricity needs

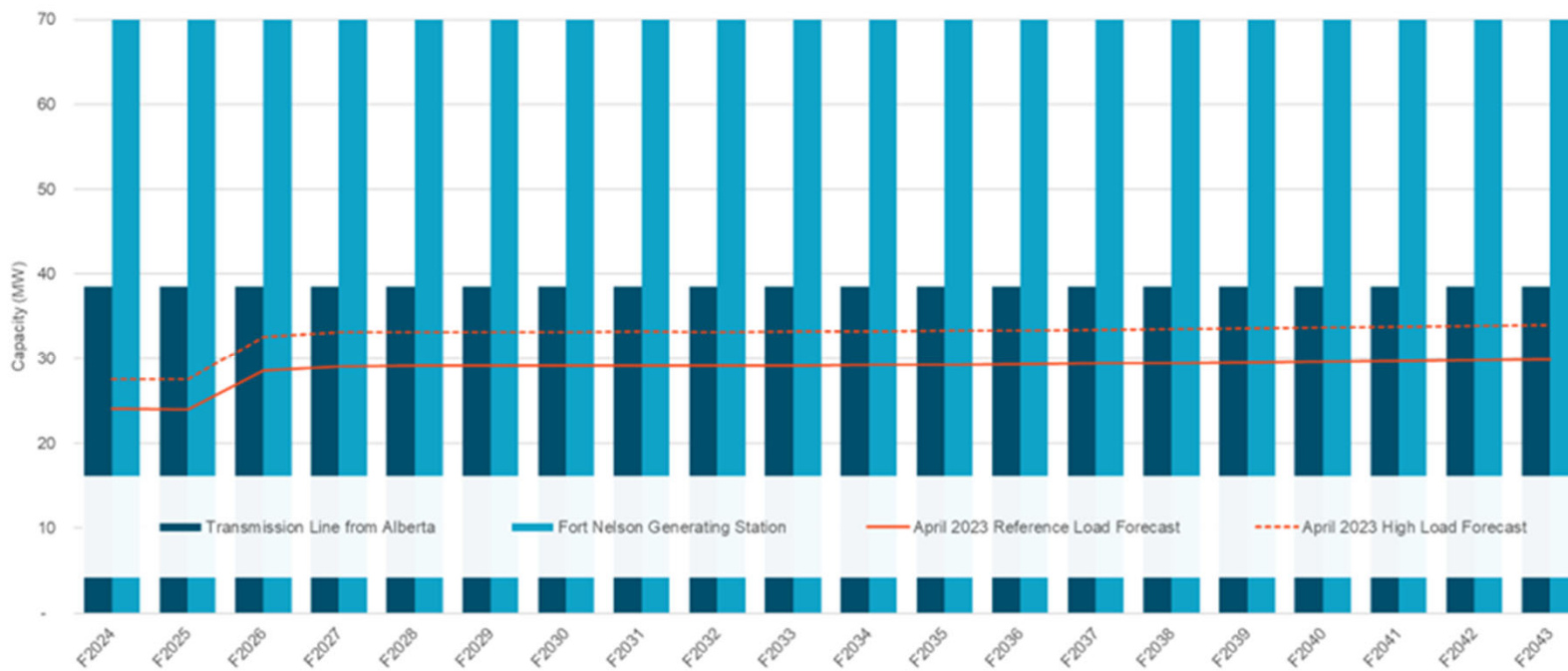
- Looks out into the future (up to 20 years), considers relevant policies and legislation and is submitted to the B.C. Utilities Commission
- Any specific projects are subject to separate consultation and approval processes
- Includes:
 - An assessment of future customer electricity needs
 - Plan to meet future needs, e.g., investments in infrastructure, acquisitions
 - Future technologies that we're exploring

We're working towards completing the Fort Nelson Long-term Resource Plan in spring 2024



The Fort Nelson system

We have enough supply for 20 years and we're planning on decarbonization



What we heard: Planning objectives

General support for our planning objectives, while making sure that reliability of supply remains the paramount focus of the long-term resource plan

What we heard	How is this incorporated into the draft plan
Reliability of supply is a top-of-mind concern throughout the community	The LTRP will only consider portfolios of resources that ensure reliable supply even if the largest source of generation is out
Supporting local economic development and how the community could feed back into the grid was of interest	We'll prioritize solutions that use local resources

What we heard: Risks & uncertainties

Concern about long-term risks to secure supply, as well as short-term risks to the operation of existing generation

What we heard	How is this incorporated into the draft plan
Climate change regulations are coming and likely will impact the region, including the economics of operating Fort Nelson Generating Station	We'll be decarbonizing the Fort Nelson electricity system to align with future regulation.
Wildfires are a risk to existing infrastructure	Wildfire risk will not be included in our LTRP – this risk is being addressed by BC Hydro operational plans to ensure FNG is ready

What we heard: Options

Some options are more attractive than others

What we heard	How is this incorporated into the draft plan
Geothermal seems to have the most potential.	The draft plan includes BC Hydro taking action to advance and learn from the existing geothermal initiative at Clarke Lake.
Carbon capture might be further along than anticipated.	The draft plan includes BC Hydro taking action to understand what carbon capture would look like when incorporated to the Fort Nelson Generating Station.
Decentralizing the system to not focus on only one or two supply options	The draft plan includes looking at alternative resources that may be able to meet part of the demand in the community.
Interconnection to the BC Hydro Integrated System is of interest	We've added a new resource option, and will monitor electrification initiatives in the Montney to understand the potential to extend the BCH grid to the Fort Nelson region

Anything we missed?

How we're preparing for a low-carbon future

Our draft plan has four main elements to ensure we are prepared

1. Support the advancement of a geothermal pilot
2. Investigate carbon capture technology and its application at Fort Nelson Generating Station
3. Continue to monitor and assess other electricity resource options
4. Timing of the next long-term resource plan

Advancement of a geothermal pilot

A geothermal pilot will give us knowledge and operational experience with a resource new to B.C.

2024 and onwards

Monitor geothermal progress towards a workable technical solution to the problem of natural gas in the reservoir.

2025 - 2032

Pilot geothermal generation of up to 10 MW to confirm reliable and cost-effective operation.

2030 - 2032

Evaluate total sustainable geothermal generation potential from the Clarke Lake reservoir.

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How does this action to explore the advancement of a geothermal pilot align with your values and interests?

Investigate carbon capture technology at FNGS

Investigations and studies will help us understand how this emerging technology can be incorporated into our existing facility

2024

Forward-looking assessments and technical review of carbon capture approaches for combined cycle gas-turbine facilities.

2025

Engineering and feasibility studies to determine appropriate scale and approach to carbon capture for the Fort Nelson Generating Station (FNGS).

2026 - 2031

Investigate what would be required, and if favourable, to advance a pilot for carbon capture technology (possibly at a sub-scale level) at the Fort Nelson Generating Station.

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How does this action to investigate carbon capture technology align with your values and interests?

Monitor and assess other resource options

Helping us understand if conditions substantially change that would make these alternatives more attractive

Monitoring
and
assessment

- Advancements in the use of renewable natural gas.
- Sequestration and utilization advancements, discussions and potential collaborations with industry.
- Industrial activities and the status of transmission connections to the integrated system and/or transmission to Alberta.
- Status of biomass opportunities.
- Other intermittent renewable resources (e.g., solar, wind)
- An assessment of demand-side measures (such as Power Smart programs that promote efficient use of electricity) prior to the next Fort Nelson Long-term Resource Plan.

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How does this action to monitor and assess other options align with your values and interests?

Timing of the next long-term resource plan

We'll take between now and 2032 to improve our understanding of the supply options available

2032 is our expected timing for the next long-term resource plan

- We see changes are coming to the Fort Nelson system by 2042 when we'll need to re-examine the role of the Fort Nelson Generating Station.
- Some of our options to replace or augment the Fort Nelson Generating Station will take up to 10 years to deploy, so our decision about which option makes sense is due by 2032.
- We'll take between now and 2032 to improve our understanding of the supply options available.
- However, if things change, we'll act earlier.



How does the timing of the next long-term resource plan align with your values and interests?

Thank you and expected next steps

We'll look to file with the B.C. Utilities Commission in June 2024

- **March and April 2024** First Nations, community, and stakeholder engagement sessions
- **April 12, 2024** Survey closes – view it at www.bchydro.com/FortNelsonLTRP
- **June 2024** Submit final Fort Nelson Long-term Resource Plan to the B.C. Utilities Commission

➔ Contact us at energy.planning@bchydro.com





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