

Clean Power 2040

Powering the future



Draft 2021 Integrated Resource Plan Gathering Feedback

Indigenous Engagement – North

June 22, 2021

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Draft 2021 Integrated Resource Plan Gathering Feedback

**Indigenous Engagement – Lower Mainland/Vancouver
Island**

June 23, 2021

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Draft 2021 Integrated Resource Plan Gathering Feedback

Indigenous Engagement – Southern Interior

June 24, 2021

Welcome & introduction

MS Teams reminders

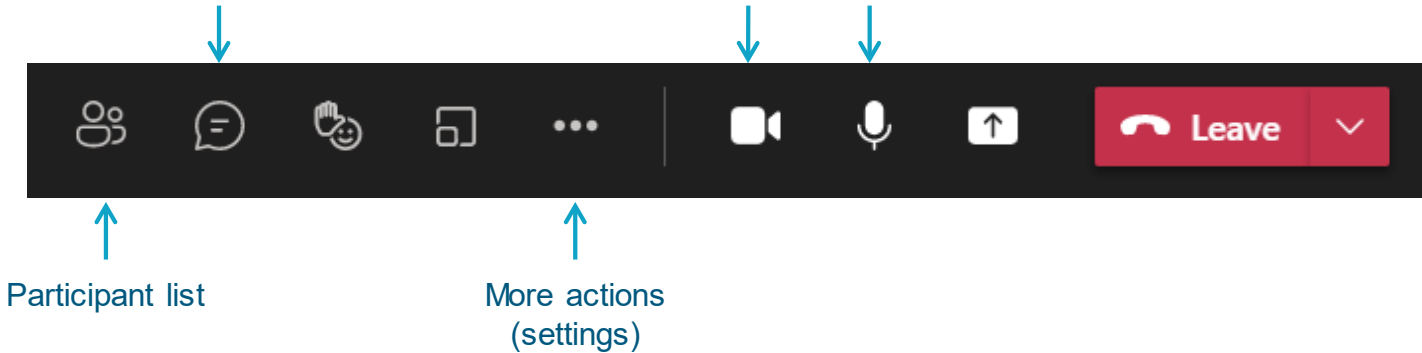
We'll be using a few basic tools, located at the top right-hand side of the screen

Use the meeting chat to:

- to ask questions
- to provide feedback

Video
on/off

Mute/
unmute



Virtual meeting etiquette



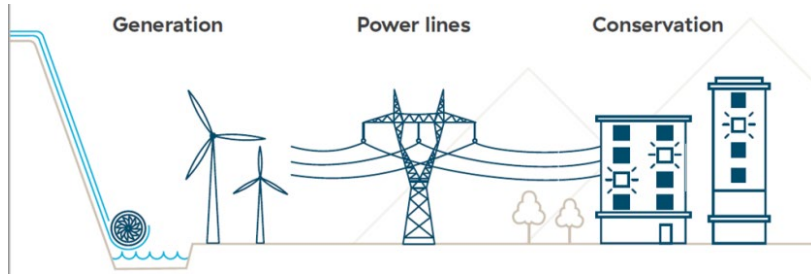
- Be respectful by listening to others and sharing time so that everyone gets heard
- Stay curious about new ideas
- Minimize distractions by “muting” when not speaking
- Use the chat function to seek input and ask questions
- We are not recording these sessions, and kindly ask that others do not record

Agenda

- Overview and recap: Integrated Resource Plan
- What we heard during Phase One
- **Discussion:** Reviewing the Draft Plan – do items align with your values and interests?
- **Discussion:** BC Hydro and UNDRIP– gathering your input
- Wrap up and next steps

What is an Integrated Resource Plan? (recap)

Actions we need to take now to meet future electricity needs



- Our 20-year plan to meet future customer electricity needs
- Province-wide plan for our integrated system
- Considers the Clean Energy Act and the CleanBC Plan
- Submitted to the BC Utilities Commission
- Projects are subject to separate consultation and approval processes

Where are we in the schedule?

After gathering input, we're now bringing you the draft plan for your feedback



Early engagement on planning

We want to engage you on plans before projects are initiated

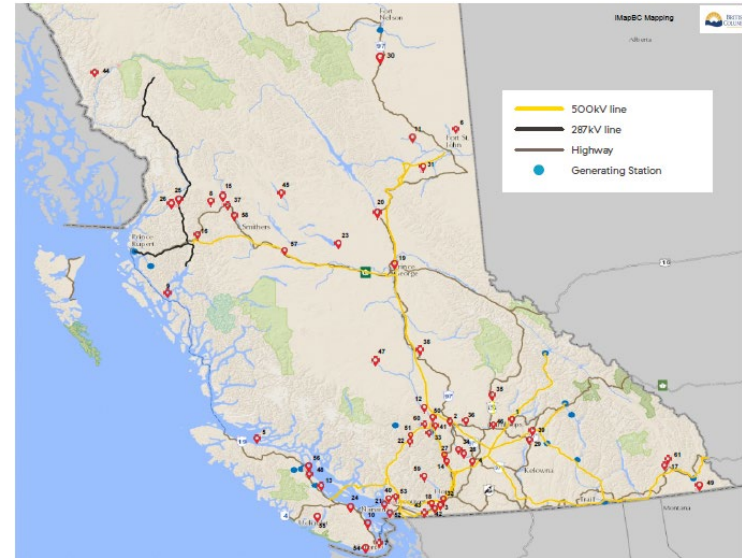
- The IRP is earliest opportunity to engage on plans to meet our customer's future electricity needs
- The IRP is updated periodically as conditions change (next IRP anticipated in about five years)

Who we heard from during Phase One

64 Indigenous Nations and Organizations participated in Phase One of consultation





- Participation from across the province
- 84 participants attended regional workshops
- 59 survey responses
- Report from the First Nations Energy & Mining Council

<https://www.bchydro.com/toolbar/about/planning-for-our-future/clean-power-2040/indigenous-consultation.html>



What we heard during Phase One

Supporting Reconciliation is a top priority

- Reconciliation should not be treated like other IRP objectives
- Indigenous peoples are interested in all IRP objectives presented in Phase One
 -  Keeping costs down
 -  Limiting land and water impacts
 -  Reducing green house gas (GHG) emissions
 -  Support the growth of B.C.'s economy
- There was a lot of interest in BC Hydro's plan to implement UNDRIP

The Draft Integrated Resource Plan

Planning to meet future energy and capacity needs

Two important terms

Energy

The amount of electricity customers consume throughout the year.

Gigawatt hours (GWh)



Capacity

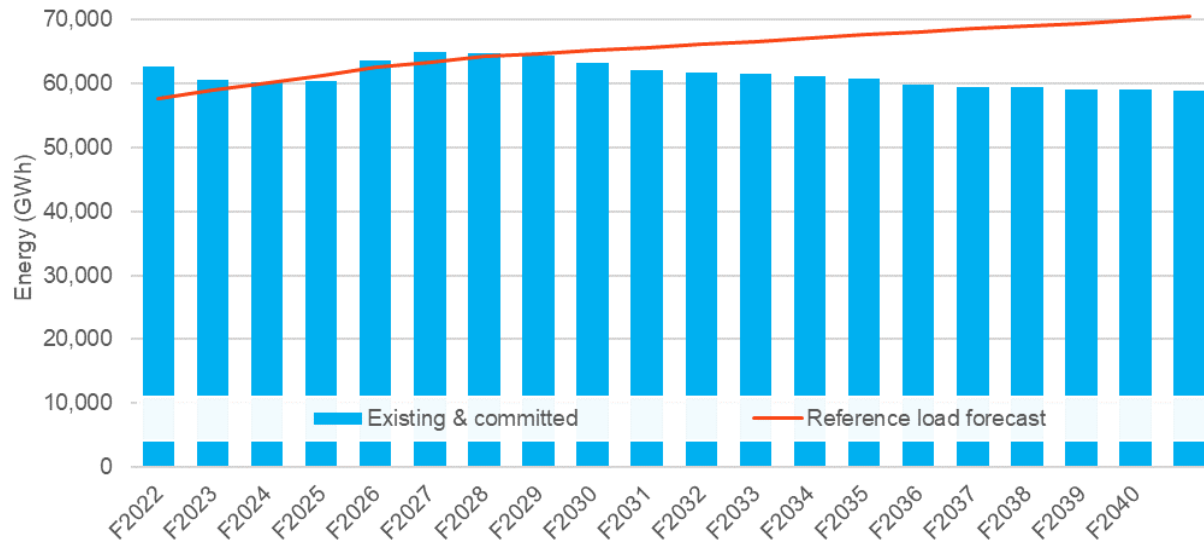
The ability of our system to meet the maximum amount of electricity used at any moment.

Also known as “**peak demand**” from a customer electricity use perspective.

Megawatts (MW)

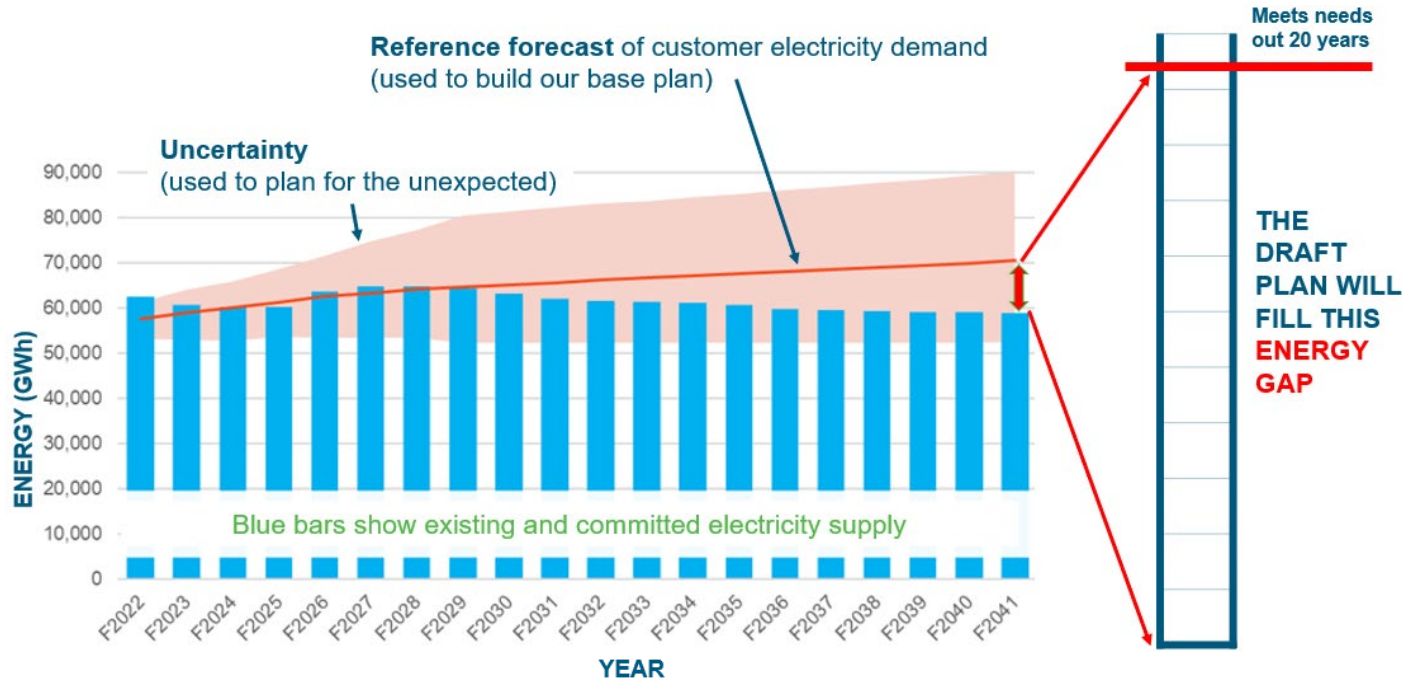
Energy: 20-year outlook of supply and demand

We expect to have enough resources to meet B.C.'s energy needs for about 10 years



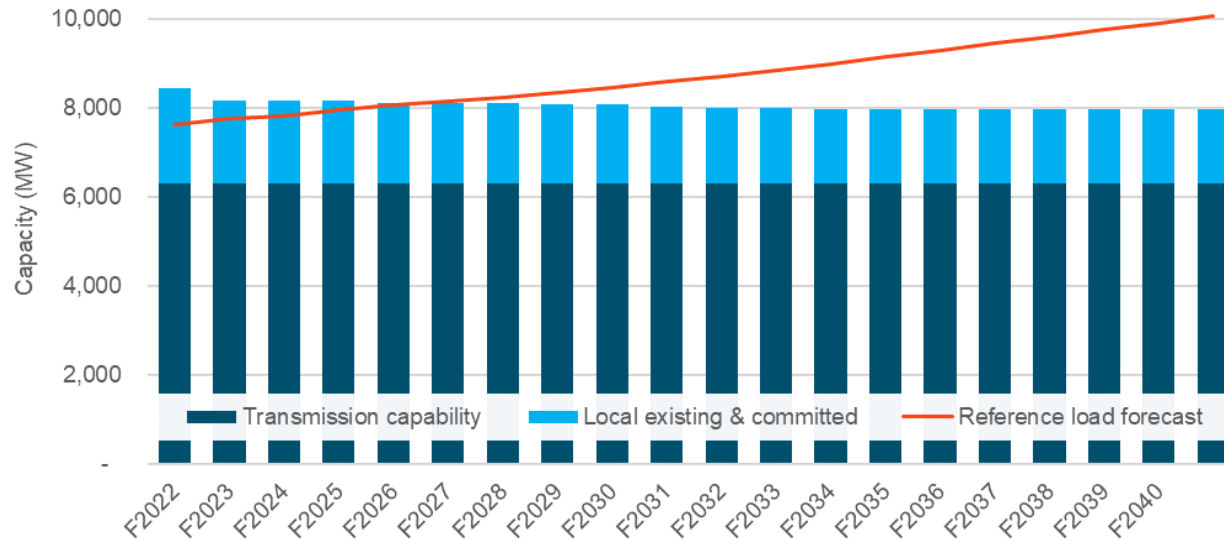
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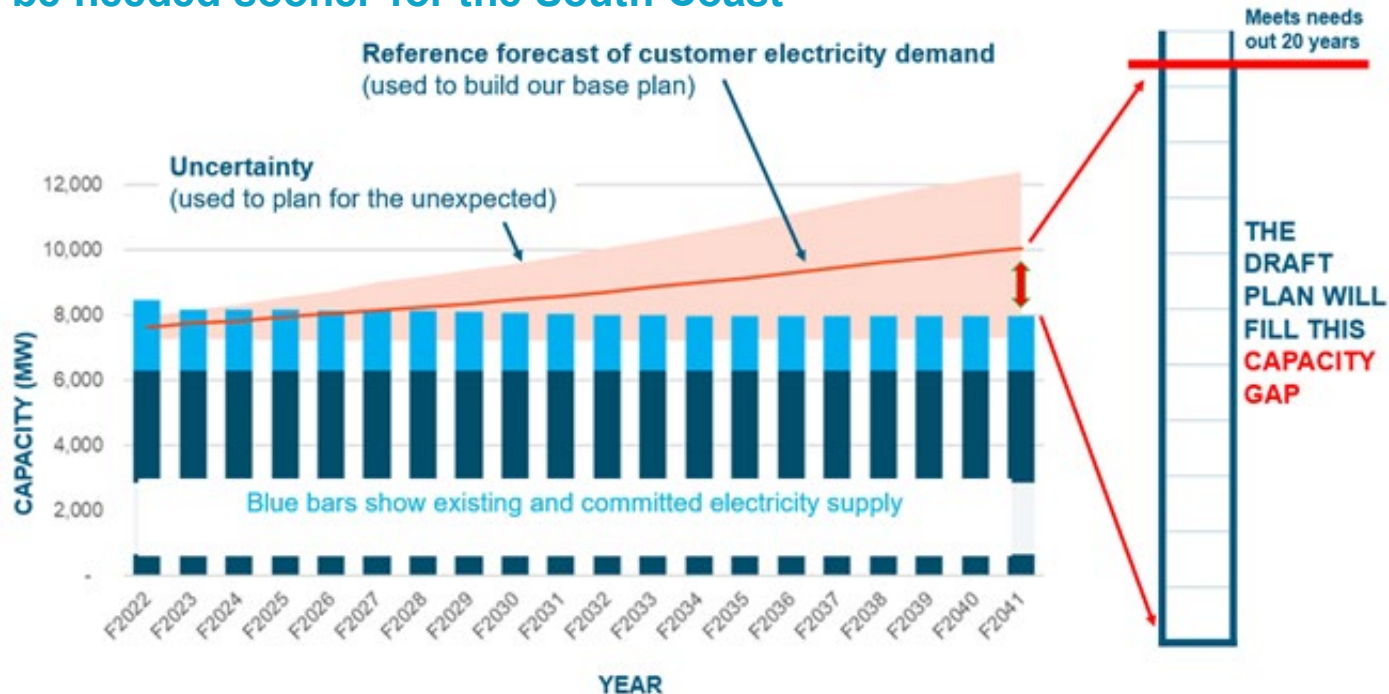
South Coast capacity: 20-year outlook

We expect to have enough system capacity for more than 10 years, however it will be needed sooner for the South Coast



South Coast capacity: 20-year outlook

We expect to have enough system capacity for more than 10 years, however it will be needed sooner for the South Coast



The full draft IRP describes these steps



The Draft Plan

The Draft Plan meets energy AND capacity needs

We'll walk through each part of the plan and hear your feedback

Energy
conservation

Voluntary
time-varying
rates &
supporting
programs

Renewing
electricity
purchase
agreements

Transmission
system
upgrades

Future
resources

Small
BC Hydro
plants

Planning
for the
unexpected

Energy conservation programs

Our Power Smart programs have been around for many years

What it is

- Energy efficiency education, support to manage energy use, and providing incentives for purchasing energy-efficient products
- Customers can save on their bills
- Programs are flexible

What we heard in Phase One



Energy conservation programs

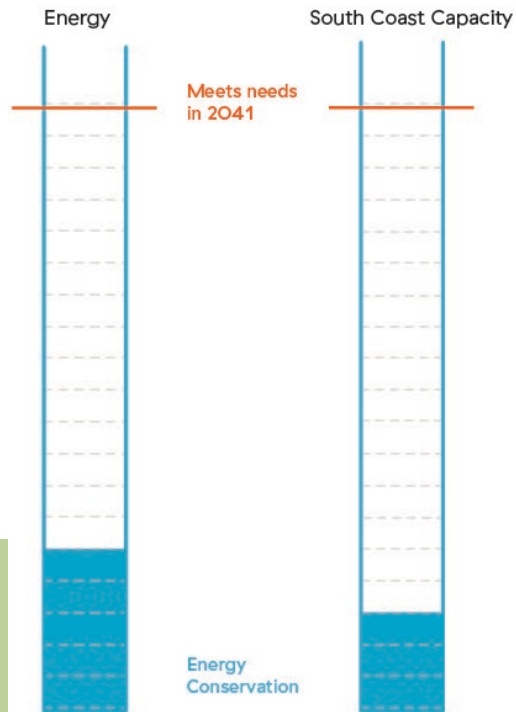
DRAFT PLAN: Keep our current level of energy conservation programs and prepare to ramp up



- Low cost relative to other supply alternatives.
- Energy conservation is flexible so we can increase or decrease effort when needed



- Limits land and water impacts by avoiding or deferring building physical power infrastructure



FEEDBACK

Does this item align with your values and interests?
What other feedback do you have?

Voluntary rates and demand response programs

Time-varying rates can help customers lower their bills

Voluntary time-varying rates – what it is?

- Targets shifting electricity use out of periods of highest electricity demand (after dinner, cold winter evenings), freeing up needed capacity
- How can it help to lower bills?
 - Time-of-use rate
 - Critical peak pricing

What we heard in Phase One



Supporting demand response programs

Programs combined with time-varying rates to be more effective and convenient

Demand response programs – what is it?

- Education, incentives and automated devices to support customers to shift their electricity use to different times
 - Home and business owners
 - Electric vehicle drivers

What we heard in Phase One



Voluntary rates and supporting demand response

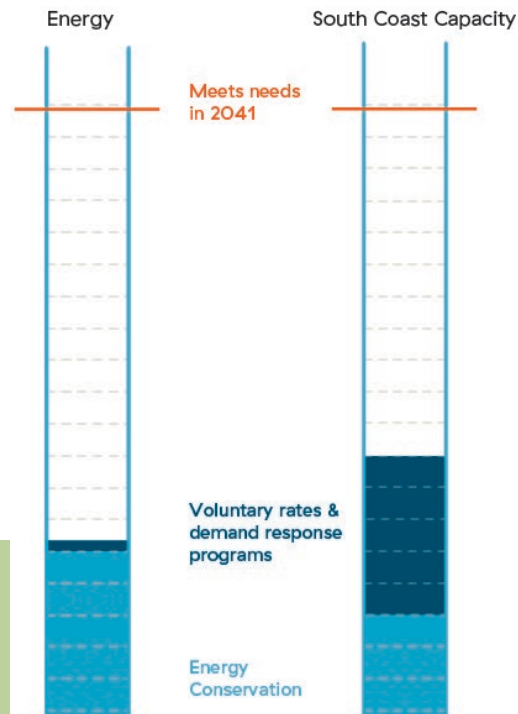
DRAFT PLAN: Pursue voluntary timing-varying rates and supporting demand response programs



- Low cost relative to other supply alternatives
- Customers can take advantage of lower electricity rates
- As voluntary, customers don't have to participate



- Limits land and water impacts by avoiding or deferring the construction of new power system infrastructure



FEEDBACK

Does this item align with your values and interests?
What other feedback do you have?

Renewing electricity purchase agreements

About 20 contracts with Independent Power Producers are expiring in the next five years

What is it?

- While we don't need this additional power now, we're offering a renewal at market-based prices, which are lower than when we signed the original contracts

What we heard in Phase One



Renewing electricity purchase agreements

DRAFT PLAN: Offer market-based renewal option for contracts expiring in the next five years



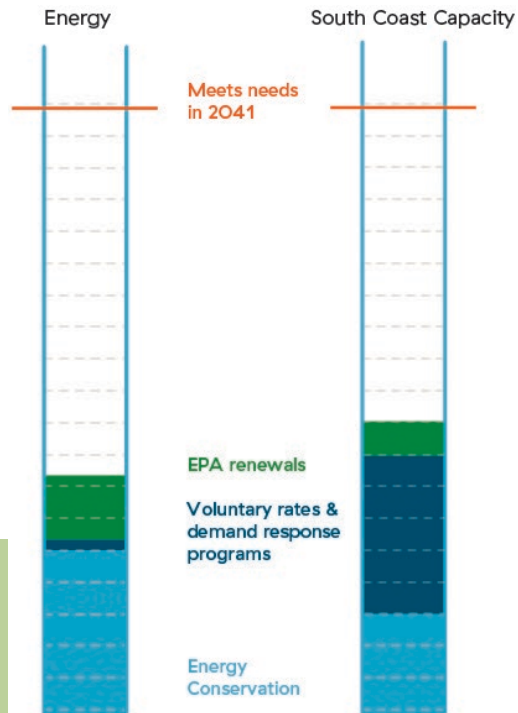
Brings us more power than we need now, but helps to keep costs down because we can sell the power we don't use for a similar price that we paid for it.



Helps limit land and water impacts by making use of existing facilities



Helps facilities continue to operate until we need the electricity in future.



FEEDBACK

Does this item align with your values and interests?
What other feedback do you have?

We've met the next 10 years electricity needs

These first three items are expected to meet our energy and capacity needs for about 10 years

Energy conservation

Voluntary rates &
supporting programs

Renewing electricity
purchase agreements

Transmission system upgrades

Transmission upgrades will be needed from the Interior of B.C. to the South Coast

What it is

- Additions and enhancements to our existing transmission facilities
- They are not new transmission lines
- Will still have the earliest engagement with affected Indigenous Nations

What we heard in Phase One

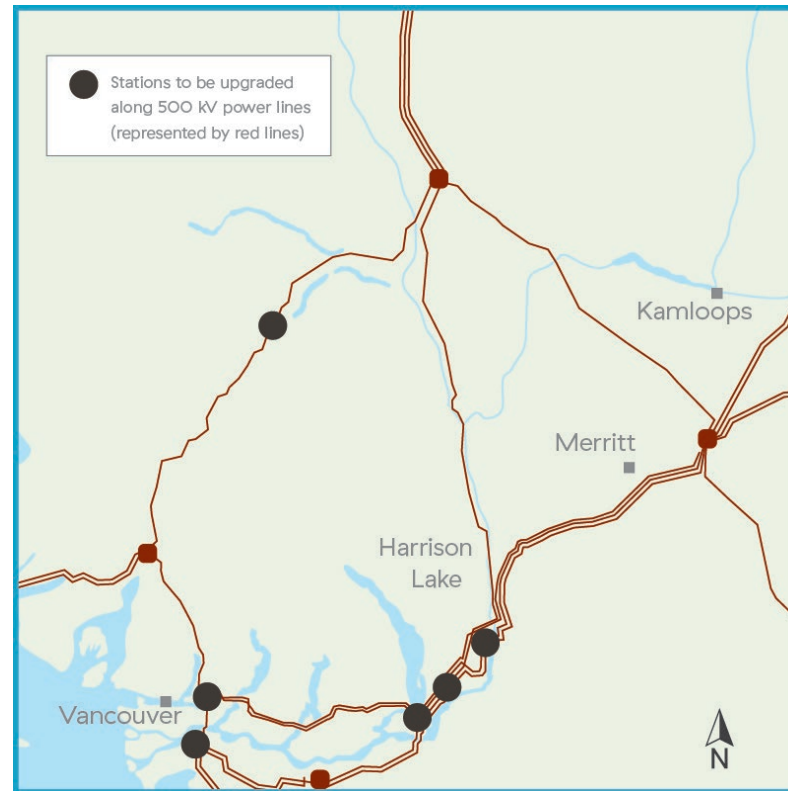


Transmission system upgrades

Preliminary upgrade plan involves two steps

Step 1: Replaces and adds equipment to six existing stations.

Step 2: Add up to five new capacitor stations. Locations to be determined.



Transmission system upgrades

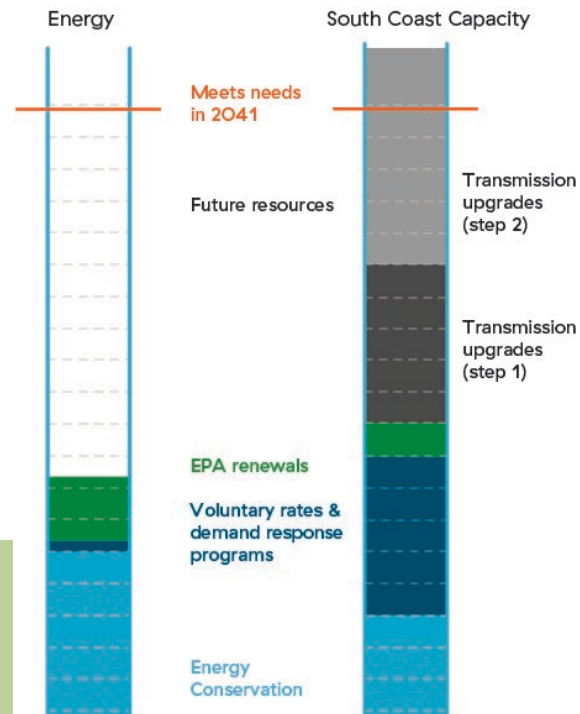
DRAFT PLAN: Advance the first step of upgrades for transmission to the South Coast and prepare to initiate a second step. Undertake early engagement with Nations.



- Provides a large amount of capacity relative to other resources.
- Low cost relative to other capacity supply alternatives.



- Limits land and water impacts relative to building new transmission lines or new pumped storage hydro facilities in the South Coast.



FEEDBACK

Does this item align with your values and interests?
What other feedback do you have?

Future resources

We expect to need future resources in the second half of the 20-year planning period

What it is

No decisions on future resources are being made in this IRP, but options could include:

- More renewals of expiring Electricity Purchase Agreements (about 50)
- Upgrades to BC Hydro facilities
- New clean energy resources

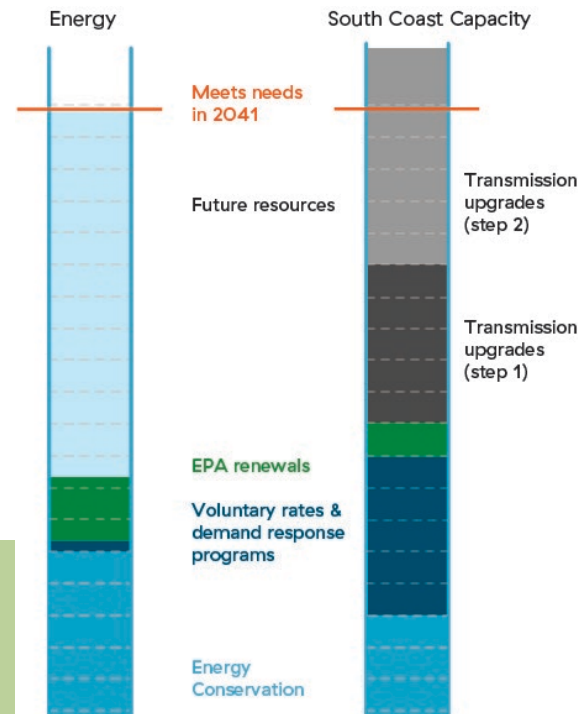
What we heard in Phase One



Future resources

DRAFT PLAN: Beyond the elements identified above and after demand-side measures, plan to acquire new resources

- Specific decisions on these resources are not needed, allow us to retain flexibility
- We anticipate decisions on some of these future resources will be addressed in upcoming integrated resource plans (the next IRP in about five years)
- As now, we will again consult and propose plans with the latest information available
- As the pandemic has shown, a lot can happen between now and then



FEEDBACK

Does this item align with your values and interests?
What other feedback do you have?

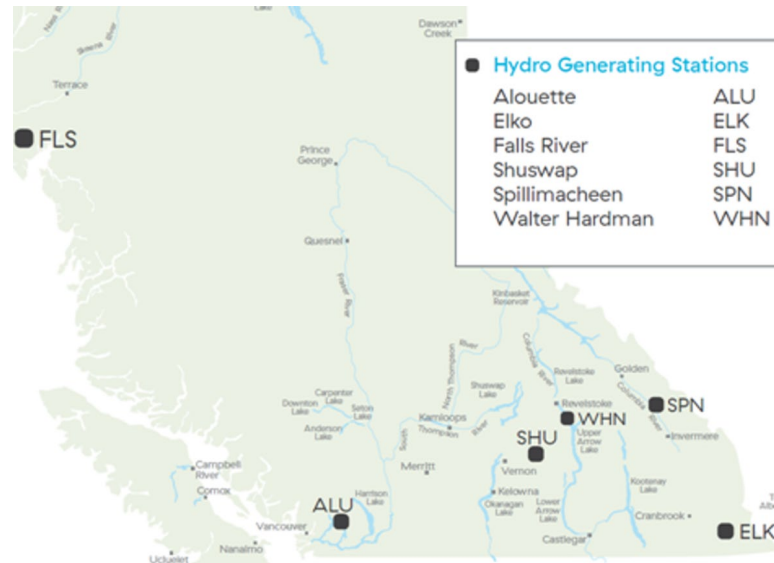
Small BC Hydro hydroelectric facilities

Several BC Hydro small plants are at or reaching end of life – making up less than 1% of our power generation

What it is

- Facility by facility review to decide whether to decommission or refurbish (either BC Hydro or divest to a third party to refurbish)
- Engage local Indigenous Nations on decisions

What we heard in Phase One



Small BC Hydro hydroelectric facilities

DRAFT PLAN: Undertake a process to evaluate what to do with small generating facilities on a case-by-case basis according to the proposed schedule



- Using a case-by-case staged approach allows us to manage costs
- A later decision allows BC Hydro to respond based on future needs

Facility	Schedule
Shuswap	Analysis in progress
Elko	2025
Spillimacheen	2029
Alouette	2030
Falls River	Operating – date not set
Walter Hardman	Operating – date not set

FEEDBACK

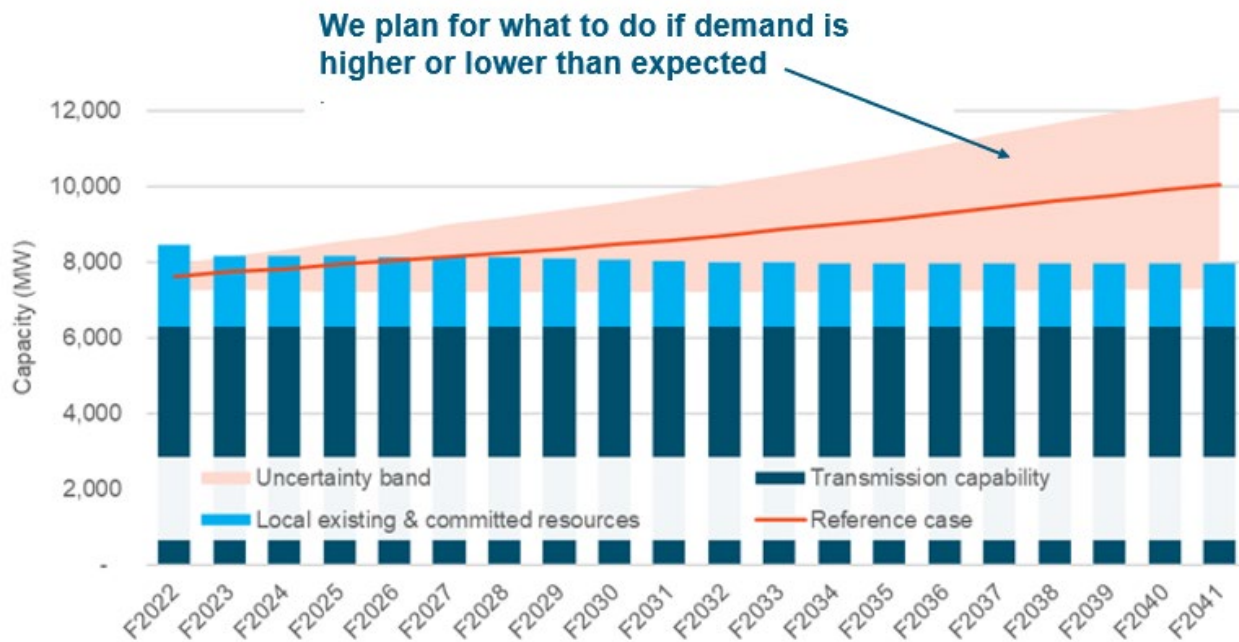
Does this item align with your values and interests?
What other feedback do you have?

Contingency plans

Preparing for the unexpected

Planning for the unexpected

Contingency plans consider what to do if electricity demand is higher or lower than expected



Planning for the unexpected

The plan considers different scenarios. We have three completed for our draft IRP.

Contingency plan scenarios	Draft IRP	Final IRP
Low demand forecast scenario (electricity demand stagnates)	Yes	Yes
Accelerated North Coast LNG scenario (electrification of industry in the North)	Not yet	Yes
Accelerated electrification (increased fuel switching from gas to electric for cars and home)	Yes	Yes
Variation: Delays of transmission upgrades along the South Coast	Not yet	Yes
Variation: Under-delivery of energy efficiency programs and time varying rate savings	Yes	Yes

Utility scale batteries in South Coast

Our base plan puts us in a good place to address uncertainties, with one additional item of utility-scale batteries being proposed

What it is

- Utility-scale batteries operate just like a smart phone or electric vehicle batteries but at a much larger scale – the size of a warehouse
- Utility scale batteries can store power to be used when customer demand is high
- When demand is low (i.e. overnight) they can be recharged

What we heard in Phase One



Utility scale batteries in South Coast

DRAFT PLAN: Explore utility-scale batteries and prepare to deploy by 2029

- Start on utility-scale batteries early so we can reliably incorporate this technology into our power system
- Allows BC Hydro to be prepared if the capacity needs increase much more than expected, our selected resources don't perform as well as planned

FEEDBACK

Does this item align with your values and interests?
What other feedback do you have?

Reconciliation and Implementing the UN Declaration of the Rights of Indigenous Peoples (UNDRIP)

We want to hear from you

BC Hydro is developing an UNDRIP Plan

BC Hydro's plan to implement UNDRIP will be broader than IRP

- During Phase One there was a lot of interest in how BC Hydro plans to implement UNDRIP
- Engagement on the IRP is one of many ways to support reconciliation
- Our business is more than the IRP and our UNDRIP plan will be broader than the IRP
- In addition to feedback on the draft IRP we want to hear your input as we develop our UNDRIP plan

We have a mandate to implement UNDRIP

- Our approach is informed by our relationships with Nations
- Our specific mandate and context as a regulated Crown utility helps define our role in advancing reconciliation

UNDRIP is a document containing 46 articles that cover a wide range of topics.

Some of UNDRIP's articles are related to BC Hydro's business, and others fall outside our work.

We've grouped the topics we think relate to our work into five broad themes.

We want your input

We have identified five themes that we think relate to UNDRIP and our work

- Respectful Relations
- Social and Cultural Well-Being
- Decision-Making
- Water, Lands, and Resources
- Economic Relations

INPUT

Are these the right themes?

Have we missed anything?

What are some ideas for advancing reconciliation under each area?

Thank you & next steps

Next steps for IRP and UNDRIP plans

Your feedback will inform our plans

- We will circulate a meeting summary for your review and comment
- We ask for your comments by July 31, 2021

2021 Integrated Resource Plan

- Final plan will be submitted to the BC Utilities Commission (BCUC) by December 31, 2021
- Consultation Summary Report will be sent to you and included in the filing to the BCUC

UNDRIP Plan

- We will follow-up when we have more information on an UNDRIP plan

INPUT

Any closing comments?

Thanks for participating

- Please take the IRP survey
- Provide input by email at CP2040.Indigenous@bchydro.com
- Call us at 1-877-461-0161 (extension 3) if you have any questions