

BC Hydro Resource Options Update Scope & Approach Session

Summary Notes for September 16, 2019

Includes post-session comments and consideration of feedback

AGENDA

- Introduction to BC Hydro's resource options database
- Supply-side updates
 - New to database
 - Existing database updates
 - Emerging resources
 - Database elements
- Process and schedule

ATTENDEES

- BC Hydro: Kathy Lee, Alex Tu, Magdalena Rucker Anne Wilson
- BC Sustainable Energy Association (BCSEA): Bill Andrews, Tom Hackney
- British Columbia Utilities Commission: Kristine Bienert, Yolanda Domingo, Nicole Simon
- Clean Energy BC: Isabelle Deguise, Martin Mullany, Judith Sayers
- Ministry of Energy, Mines & Petroleum Resources: Katherine Rowe, Paul Wieringa

SESSION NOTES

At the session, BC Hydro shared the “Resource Options Update: Scope and Approach Session” presentation with attendees. Kathy Lee presented the context slides, Alex Tu presented the supply-side update slides, and Anne Wilson presented the process and timing slides. The following notes capture the key issues and feedback from the session discussions – grouped by agenda item and aligned with the presentation slides.

Introduction to BC Hydro’s resource options database

- It was clarified by BC Hydro that the resource options inventory will include both distribution and transmission resources.
- There were questions about the demand-side management (DSM) options workstream. BC Hydro clarified the conservation potential review document will be updated, and will be based on the latest load forecast (June 2019 load forecast). This work will take two to three months. BCSEA expressed interest in whether there will be opportunity for engagement. BC Hydro is reviewing how to feed a review of the DSM options into the Integrated Resource Plan (IRP), to provide opportunities for comment.
- It was noted that Clean Energy BC is in a difficult situation – they may not be as forthcoming until the Government Review Phase II outcomes are known.

Supply-side options updates – Overview of the three tiers

- It was clarified that BC Hydro will not be investigating detailed questions of project ownership or development (i.e., who may own and build the resource option) – the technical and financial characteristics of a resource option will be a high level representation of a typical or generic development, irrespective of who builds.
- There was a question as to whether BC Hydro was seriously looking at small nuclear modules. It was clarified that BC Hydro is watching emerging technologies as they advance.
- There was a question with regard to emerging technologies – are we going to keep the ‘3 year proven out’ clause? It was clarified this was a clause in the Standing Offer Program, which is now suspended. The IRP will need to consider whether a technology can be reliably counted on.

Supply-side options updates – New to the database

Solar

- It was clarified that the options update includes PV solar, and that hot water heaters are addressed on the demand side.
- A concern was expressed about the exclusion of rooftop solar. BC Hydro stated that rooftop solar is intended to be addressed as part of the IRP; however, that feedback can be consideration. It was confirmed that while where resource bucket rooftop solar ends up is yet to be determined, rooftop solar/distributed solar will be a resource option considered as part of the IRP.
- It was mentioned that it is difficult to get costs as there has not been a competitive call that shows the true costs. BC Hydro is looking to update representative and generic costs such as equipment costs etc. and will not be assessing the acquisitions aspects.

- It was suggested – regarding rooftop solar, distributed generation, net metering – that the cost and risk to the utility be examined, and that BC Hydro include the rate of defection, demand and fixed costs in rate schedules being reviewed.
- Regarding the 12 solar sites in B.C., it was asked if BC Hydro is looking at sites close to distribution, as well as remote areas? It was clarified that BC Hydro will look across the whole province – working with the National Renewable Energy Laboratory (NREL) to determine which are the best solar sites.
- There was a question as to whether BC Hydro is incorporating land ownership in the costs, as ownership will definitely influence cost. BC Hydro clarified the dataset does not include that; however, that is something we can look at in the engagement and uncertainty analysis – how costs may differ with ownership.

Batteries

- It was mentioned when FortisBC developed their IRP, they had a complex duration curve showing how the resource was used and valued. Will BC Hydro look at value in a way that we can compare resources in an apples-to-apples manner? BC Hydro confirmed that the IRP would cover different resource characteristics to help with resource comparisons.
- There was a question as to whether BC Hydro will be looking beyond Canada as we have very little experience within B.C., and definitely need to look elsewhere for developments. It was confirmed the resource option update will be looking outside of B.C.

Supply-side options updates – Existing database updates

- There was a question as to whether inflating costs for biomass wood would be sufficient. BC Hydro clarified that a fiber availability study was undertaken last year, and we will not be updating fiber availability again this year. BC Hydro clarified inflation or escalation factors would only be applied to things like equipment or construction.
- It was mentioned that wind costs have been overinflated – without a competitive bid – where will BC Hydro be getting updated wind costs? BC Hydro will use public information from sources such as the Department of Energy, and take a view of pricing through call processes from other jurisdictions, and look at factors through a B.C. lens.
- It was mentioned another big factor to consider in the update is permitting costs – characterizing permitting costs including environmental assessments, crown rental rates, basic fees gets to be very expensive.
- It was clarified that BC Hydro will look at costs projects (i.e., cost declines) and note significant uncertainties.

Supply-side updates – Database elements

- It was mentioned that BC Hydro may want to look at value of dispatchability. It was confirmed that is a question to look at in the IRP.
- It was mentioned for economic development attributes that we may want to look at indigenous opportunities. That is something for BC Hydro to consider as part of the IRP.
- There was a question as to whether BC Hydro looks at the life of technology. BC Hydro confirmed that is accounted for.

Process and schedule

- There was a question as to how we are engaging First Nations. BC Hydro acknowledged engaging with First Nations is an important component of the IRP, and is in the planning stages. It was also noted that BC Hydro can follow up with the participant (who raised this comment) for names of industry experts.

Session closing

- BC Hydro thanked the participants for their comments, and invited participants to provide additional comments by September 23, 2019.

POST SESSION COMMENTS

Comments were received from Clean Energy BC, Fortis BC and BC Sustainable Energy Association and are summarized as follows:

- Clean Energy BC will pause their participation in the resource options update until the outcome of the Government Review Phase II is known.
- Clean Energy BC stated that BC Hydro will not be able to ascertain any true pricing as that information is commercially confidential, unless BC Hydro has conducted a tendering process. As an example, it was mentioned that two proponents might own identical adjacent solar sites, or wind farm sites, yet will have different financing mechanisms, different abilities to gear and different ROE requirements that mean the capital costs are academic.
- FortisBC suggested including smaller sized pumped storage (e.g., 100 to 200 MW) in the resource options inventory.
- BC Sustainable Energy Association suggested to include distributed, small, clean energy generation (such as a Net Metering 'Plus'). It was noted that a Net Metering 'Plus' (also known as small distributed energy resources) has elements of both a demand resource and a supply resource. Also noted that in addition to solar PV that Net Metering 'Plus' would include other clean technologies such as micro hydro. It was recognized that Net Metering, and a Net Metering 'Plus', has implications on the cost of service and cost recovery side. It would be useful to have the resource options database attributes available for Net Metering 'Plus' so it can be compared with other supply and demand resource options (along with other information such as community impacts).
- BC Sustainable Energy Association questioned the different streams within BC Hydro's IRP development. i.e., what are the processes for "additional updates" on Resource Smart, DSM energy and capacity, and transmission (including distribution), and what will be the points of contact?

CONSIDERATION OF FEEDBACK

Feedback	BC Hydro's consideration of feedback
A concern was expressed about the exclusion of rooftop solar.	In response, roof-top solar will be included as a resource option, and the solar workstream will include an assessment of the technical and financial characteristics of the rooftop solar resource in B.C.
Any resource options characterization and costs will be academic without a competitive call which is needed to show the true costs.	The resource options update is a process of ascertaining representative costs and performance of generic resources that can be used for planning purposes – particularly for comparisons between options.
In terms of economic development attributes, we may want to look at Indigenous opportunities.	The resource options estimate costs of generic resources; indigenous opportunities can be considered in the IRP.
How is BC Hydro engaging First Nations?	First Nations engagement is an important component of the IRP, and is currently in the planning stages. First Nations with technical expertise are included in the resource options update along with other technical experts.
Suggestion to include a smaller sized pumped storage (100-200 MW).	In response, BC Hydro will add several smaller sized pumped storage resources into the resource inventory.
Include net metering ('plus') as a resource option, which would include other small distributed resources, and include other information such as community impacts. It is considered both a demand resource and supply resource.	BC Hydro will include the cost of roof top solar and small-scale batteries in the resource options database. The potential of these resources will be considered at the IRP analysis phase, and BC Hydro will further consider how community impacts can be discussed and evaluated.
Suggestion to provide more clarity on the streams of the resource options update: such as DSM options, transmission and distribution and resource smart options.	The resource smart options and transmission options have traditionally been undertaken 'in house' and reported out on at the end of the process. The DSM options have traditionally been vetted through the Energy Conservation & Efficiency Committee. In response, BC Hydro is considering how to provide more information on these options and any opportunity for consultation.