Clean Power 2040

Powering the future

Integrated Resource Plan

Gathering customer and public input

FALL 2020

CS-675

BC Hydro
Power smart

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Background

We're developing the 2021 Integrated Resource Plan, which is our 20-year strategy for BC Hydro's integrated power system. The integrated power system plan lays out actions to meet potential future growth in customer electricity needs through conservation and energy management initiatives, upgrading BC Hydro's generation and transmission assets, and power acquisitions.

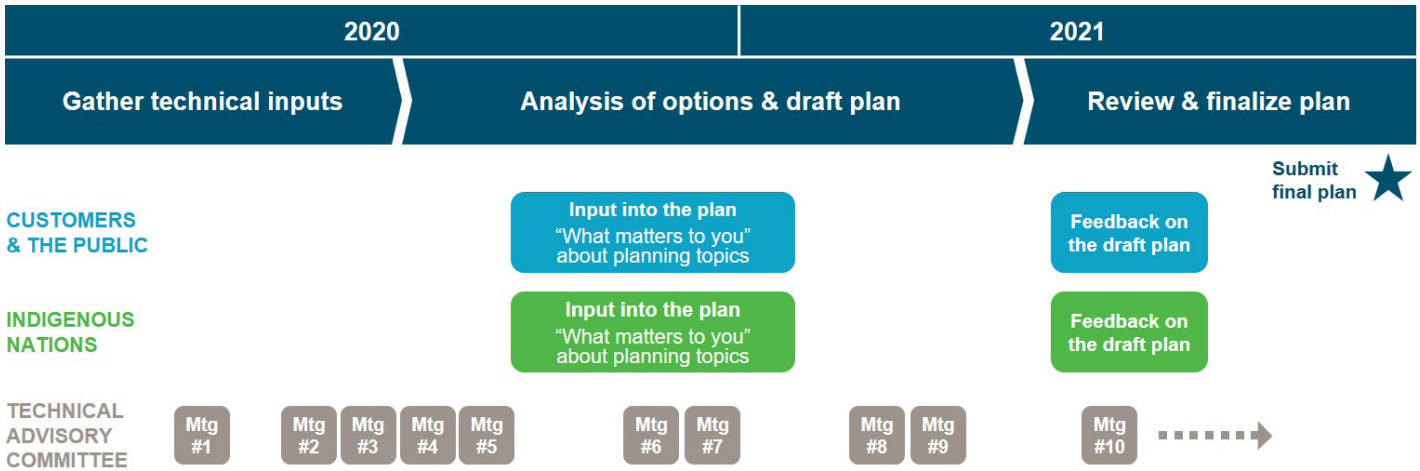
As part of plan development, during the fall of 2020 and winter 2020/2021 we gathered input from Indigenous Nations, customers and the public, and a Technical Advisory Committee on long-term planning topics. The purpose of this round of consultation was to find out 'what matters to people' about our various planning topics as we are developing the plan for the future of our power system. Results of this input—along with technical, financial and other environmental and economic development analysis – will inform our draft plan which will be released for feedback in late spring, 2021. This document reports on this first round of consultation with customers and the public.

What we did

From September 14, 2020 to February 2, 2021 we consulted with customers and the broader public, gathering input on long-term planning topics to inform the draft plan. The consultation was paused from late September and October to remain impartial during the period leading up to the provincial election, and activities previously booked during the election period were rescheduled once the election cycle had closed.

Take a read through the tables on the next page to see how we communicated to participants and the forums we used. Due to the COVID-19 pandemic, all consultation was carried out virtually.

Figure 1 – IRP input streams



FORUMS WE USED

On-line engagement surveys		We developed an on-line engagement survey to gather input. Our on-line engagement survey included an upfront overview setting our planning context and information on long-term planning topics. Survey questions elicited interests and priorities of participants in a way that provided easy input as well as open ended questions for elaboration. Given the involved nature of the planning context, a long version as well as a short version of the survey was offered to provide options that suit customers availability and interest level. The short survey was translated into Punjabi, Mandarin and Cantonese.
Digital dialogue (on-line focus group)		We held a two-day on-line focus group discussion that was conducted by a third-party consultant. It included 60 minutes of activity about the long-term planning topics. This forum intentionally sought a diverse representation of BC Hydro customers to provide additional insights to the consultation.
Regional local government meetings		Five 60-minute regional sessions were conducted for local government representatives to provide an overview of the planning topics. The five regions included — Northeast, North West, Southern Interior, Lower Mainland, and Vancouver Island. There was opportunity for questions and discussion. We also explained that the survey was available for them to provide additional input.
Public interactive workshops		We held three facilitated 90-minute interactive sessions, with an added 30 minutes of questions and answers. The session included polling on planning objectives, and an opportunity for participants to provide written input on 2030 to 2040 choices. Breakout groups allowed participants to discuss and provide written input on future supply choices.
Youth engagement		A facilitated 90-minute conference by a third party explored youth's perspectives on the future of electricity use. A specific youth engagement occurred given today's youth are tomorrow's energy consumers, BC Hydro customers, and decision-makers as well as those affected by decisions we make now.
Telephone Town Hall		A facilitated 60-minute interactive telephone conference using a third party hosting service provided opportunities for live question and answer and three polls based on our planning topics.
IRP Telephone Hot line		Available on the IRP public website and in meeting presentations allowing the public and customers to contact us.
CP 2040 email		Available on the IRP public website and presentation materials allowing the public and customers to contact us.

COMMUNICATION AND NOTIFICATIONS

To ensure awareness of the community consultation opportunities on our IRP, we used notification and communication tools to reach out to customers and the public.

	○ **IRP website**
	○ **Social media** (Twitter, Facebook, Instagram, You Tube)
	○ **Newsletters/email** ○ Connected newsletter (Sept 14, 2020); Article title: Have your say in B.C.'s Clean Energy Future
	○ **Email:** IRP mailing list (Sept 17, 2020) ○ Join the discussion, take our survey
	○ **Email:** Webinar invitation to local governments (November 13, 2020)
	○ **Email:** IRP mailing list (Nov 30, 2020) ○ Register for a workshop
	○ **Email:** IRP mailing list (January 21, 2021) ○ Reminder: take the survey
	○ **Email:** Net Metering customers (January 20, 2021) ○ Take our survey
	○ **Email:** Transmission Service Rate customers (January 21, 2021) ○ Take our survey

Who we heard from

Forum		Description
Online engagement surveys: Sept 10, 2020 to January 31, 2021		**5259 Short survey respondents:** ○ **95%** residential customers, **4%** business, **0%** industrial ○ **76%** from the Lower Mainland and Vancouver Island region ○ Primarily detached homes, and English as primary language ○ Mix of gender and age **804 Long survey respondents*:** ○ **93%** residential; **11%** business & industrial customers* ○ **72%** from the Lower Mainland and Vancouver Island region ○ Primarily detached homes, and English as primary language ○ **64%** male respondents, with a mix of ages *where results of business and industrial customers combined deviate materially from residential customers it is noted in the results.
Digital dialogue (online focus group): Sept 23, 24, 2020		**64** Randomly selected BC Hydro customers including a mix of gender, age, income, regionality, ethnicity, and inclusive representation from LGBTQ+ and persons with disabilities.
Local government meetings: ○ Northern communities (Dec 7, 8) ○ Southern Interior (Dec 9) ○ Lower Mainland (Dec 10) ○ Vancouver Island (Dec 14)		**25** Local governments and regional district representatives and staff from across the province. **1** Written submission.
Public interactive workshops: ○ Dec 15, 17, 2020 ○ Jan 14, 2021		**57** Open public sessions with no demographics or interest/association groups tracked.
Telephone town hall: Feb 2, 2021		**98** Open customer sessions with no demographics or interest/association groups tracked.
Youth conference: Feb 2, 2021		**29** youth ages 14 to 18 participated in a 90 minutes interactive session.

What we heard

This section reports back what we heard from customers and the public about each planning topic—and within each planning topic, what we heard from each forum. For longer sections, an overall summary is provided at the end of each section. As all planning topics were not covered in all forums, we've included input when it was covered. All supporting consultation materials, including presentation slides and meeting notes are found at **bchydro.com/cleanpower2040**.

A bit about the planning topics we sought input on

BC Hydro's electricity demand and supply outlook shows we have sufficient power to supply customers electricity needs for about the next ten years. To account for the different needs of the power system, planning topics were split into the first half of the planning horizon (when we have enough power) and the second half of the planning horizon (when we need new power supply). A focus for new supply was on dependable capacity options to meet electricity use at peak demand times as the most pressing need. We categorized our long-term planning topics into:

- Planning objectives
- Planning for the next 10 years (2020 to 2030)
  - Conservation and energy management
  - Managing existing supply portfolio
- Planning for the next twenty years (2030 to 2040)
  - Greater conservation and customer involvement
  - New local supply capacity options (batteries and pumped storage)
  - Upgrading our system (Rev 6)
- Planning for lower or higher demand

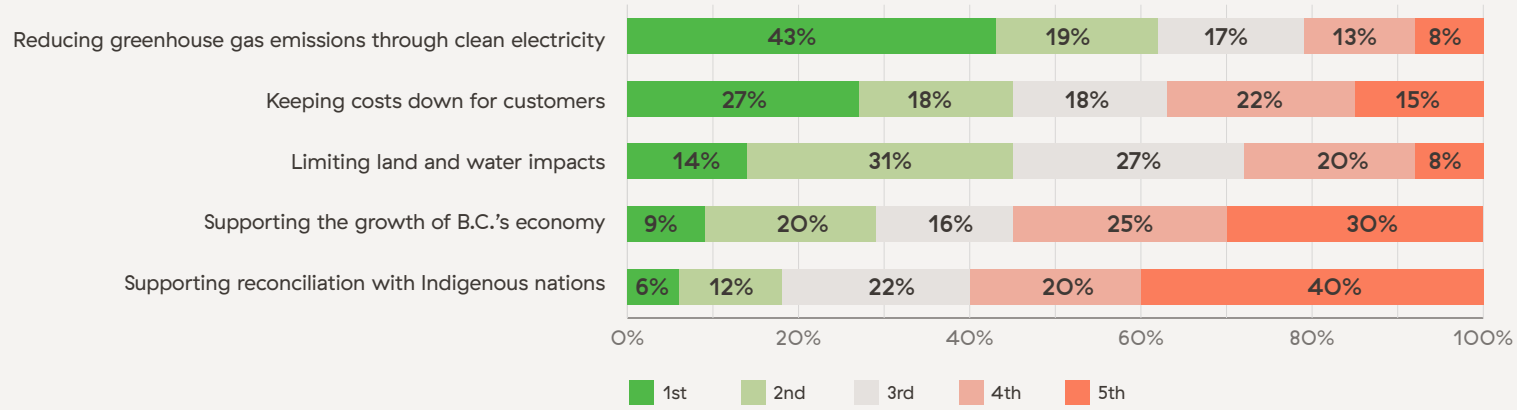
Planning objectives

Participants were asked to provide input on overall planning priorities by ranking their priorities by level of importance and providing additional priorities that they think we have missed.

Survey results

Question: Rank the following by how important each priority is to you

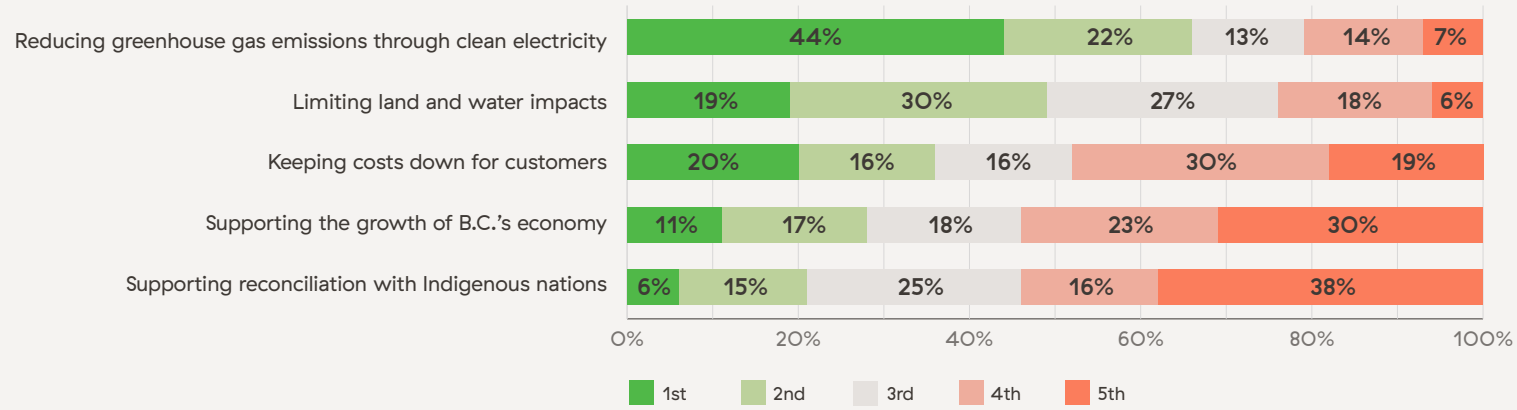
Short survey (4845 respondents)



43% of customers completing the short survey ranked reducing greenhouse gas emissions through clean electricity as their first priority, followed by keeping costs down for customers (27%). Limiting land and water impacts was ranked first or second by 45% of participants.

Question: Rank the following by how important each priority is to you

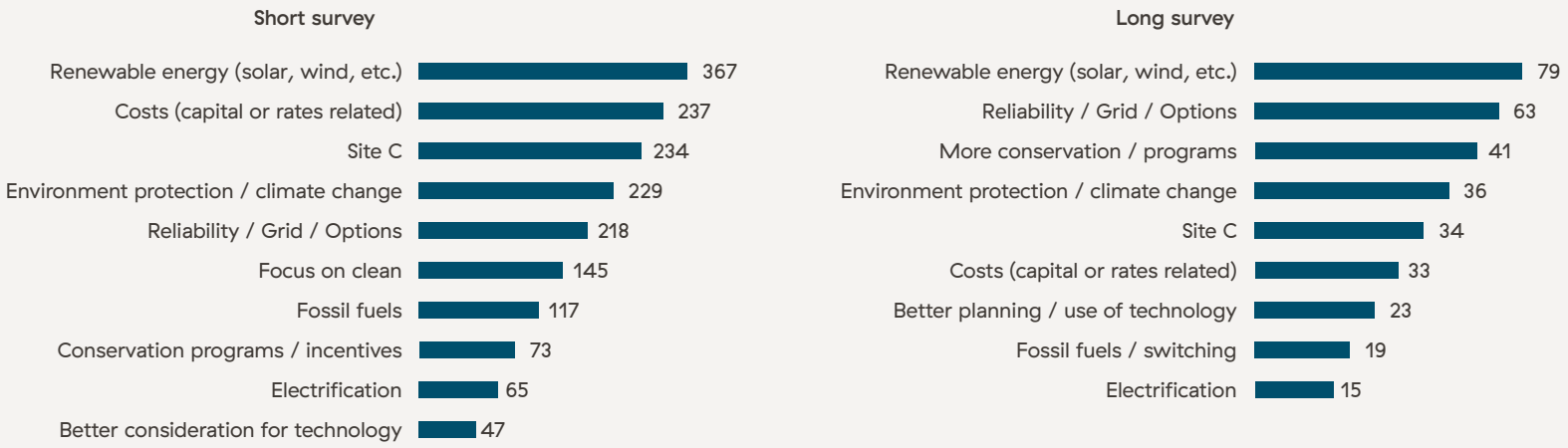
Long survey (643 respondents)



44% of customers completing the long survey ranked reducing greenhouse gas emissions through clean electricity as their first priority, followed by keeping costs down for customers and limiting land and water impacts each with about 20%. Limiting land and water impacts was ranked first or second by 49% of participants.

As a subset of the long survey participants, business and industrial customers (59 respondents) ranked reducing greenhouse gas emissions through clean electricity first, followed by keeping costs down for customers and supporting the growth of BC's economy.

Is there another priority that is important to you that is not listed here?



Additional comments collected in the short and long surveys when asked if there was another priority reflected similar themes. There was a strong theme of supporting renewable energy sources to help with climate action, with frequent mentions of wind and solar. Reducing fossil fuels, and the need for fuel switching and electrification were important themes, which align with participants' top ranked planning priority of reducing greenhouse gas emissions.

Connected themes included the desire to diversify our supply sources, and the support for increasing distributed power sources and customer generation such as net metering. These priorities were often connected to the idea of creating long-term electrical grid resilience and reliability.

The theme of costs (capital or rates related) focused on keeping rates affordable, opposition to two tiered rates and concern of BC Hydro spending on projects that drive costs up. Opposition to Site C was included as a theme, sometime stand-alone opposition and sometimes connected to increasing costs of the project or the desire to move from large hydro projects to other supply sources.

The need to prioritize conservation and efficiency was also mentioned as important to participants. Environmental protection was also a theme connected to limiting land and water impacts.

Digital dialogue (focus group)

All planning objectives presented were considered important by most. Limiting land and water impacts, reducing greenhouse gases through clean electricity, and keeping costs down for customers were of greatest importance.

Balancing cost/affordability with protecting the environment was a clear point of tension for many participants. The balance of these two priorities was pivotal —if costs were too high, some may seek alternate solutions regardless of how 'clean'. Only a few volunteered they would be willing to 'pay a little more' for a cleaner option. Supporting reconciliation as well as supporting the growth of B.C.'s economy were considered important as 'responsible' business practice for BC Hydro.

In terms of additional priorities, there was a strong desire for a clear focus on communication through education to encourage reduction/conservation, which was also connected to providing incentives. Many wished for greater transparency, which was linked with concepts of having a clearly defined plan and consulting with local communities and listening to customers. Some also expressed a desire for a focus on increasing accessibility of electricity service to remote areas in B.C.; a reliable distribution system that would be accessible to everyone.

Public workshops

Answer	Number	%
Reducing greenhouse gas emissions through clean electricity	36	33
Supporting the growth of BC's economy	25	23
Keep costs down for customers	20	19
Support reconciliation with Indigenous Nations	16	15
Limit land and water impacts	11	10

Overall, workshop participants listed reducing greenhouse gas emissions through clean electricity as their top priority, followed by supporting the growth of B.C.s economy. For many participants, when asked to choose their top two objectives, they suggested that all were important "I believe we need all of them."

Comments associated with planning priorities included supporting BC Hydro taking an active role in GHG reduction and electrification and managing uncertainty with climate change and climate adaptation. The potential value of exports was mentioned as supporting the overall growth of the economy, as well as the value of Independent Power Producers to B.C. and providing power to industry in the North were mentioned. Keeping costs low was also a theme.

In terms of additional priorities, electrical grid security and reliability, equity issues, and public engagement were mentioned as important.

Youth engagement

The youth engagement explored what was important for our energy future. Being environmentally and socially responsible in making choices for our electricity future was paramount for youth. Environmentally responsible was based on choices focused on decarbonizing power sources and protecting habitat. Socially responsible was connected to respecting Indigenous Nations, looking at electricity not from a commodity perspective, and undertaking ethical development. Youth participants put a high value on corporate responsibility and transparency.

Themes in making energy and electricity more sustainable in the future included using clean electricity, conservation and efficiency including increased legislative measures, using ethically and locally sourced power and including inclusive practices. Diversifying sources and distributed home level power were also important themes.

Regarding additional values, making our energy future accessible, affordable and equitable were primary values for youth. Aspects of these included participatory engagement and plans built with the community, respect for diversity, and being culturally considerate. Equitable distribution of efficiency incentives, equity across generations, and inclusive practices were also mentioned as important ideas to making energy and electricity more sustainable in the future.

Telephone town hall

Poll results showed participants ranking reducing greenhouse gas emissions through clean electricity as their top priority and keeping costs down for customers as number two followed by limiting land and water impacts.

Answer	Number	%
Reducing greenhouse gas emissions through clean electricity	22	37
Keeping costs down for customers	16	27
Limit land and water impacts	12	20
Supporting the growth of BC's economy	5	8
Creating economic development opportunities with Indigenous Nations	1	2

Local government sessions

Although there was no polling on planning priorities, a theme of electrical grid resilience arose through the sessions as well as general questions and interests in electrification and how that may affect local communities. There was interest in exploring how smaller scale, distributed generation may support electrical grid resilience going forward.

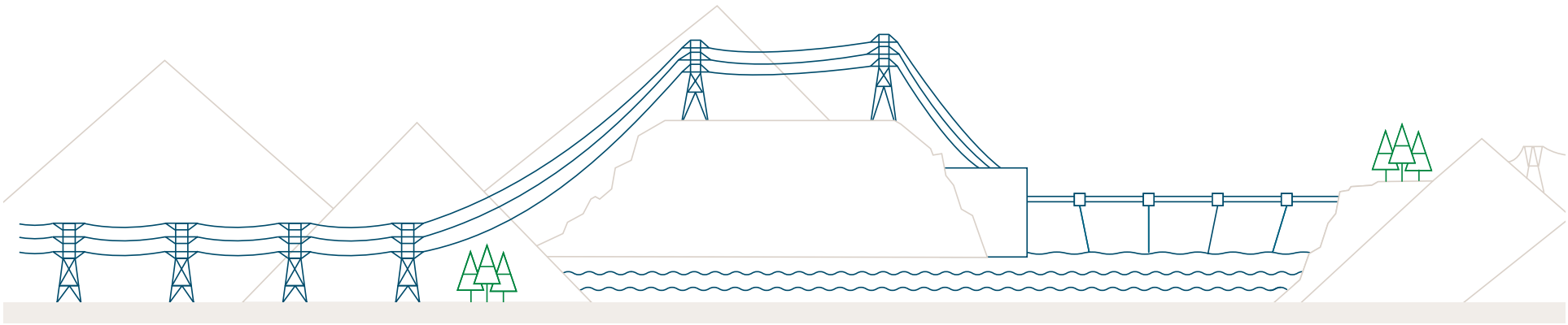
Summary

Participants' top–ranking priority across all forums was reducing greenhouse gas emissions with clean electricity. Many comments reflected a sense of urgency to take action on climate change to reduce GHG emissions. Many customers are looking for BC Hydro to play a role in promoting electrification. Keeping costs down for customers and limiting land and water impacts was the next level of planning priority.

Across all forums we heard that all five priorities were important. Public workshop participants ranked supporting the growth of BCs economy as second overall. In all forums the need for reconciliation with Indigenous Nations was also recognized.

In terms of additional priorities not listed but bubbling to the surface unaided, the importance of grid resilience and reliability came up regularly in discussions, often in conjunction with the opinion that moving towards distributed energy resources or diversifying our power sources would provide additional electrical grid resilience against climate change impacts such as severe weather events that can damage transmission lines.

In association with keeping costs down for customers and affordability, priorities of accessibility, and equity also arose as an underlying theme throughout the consultation forums.



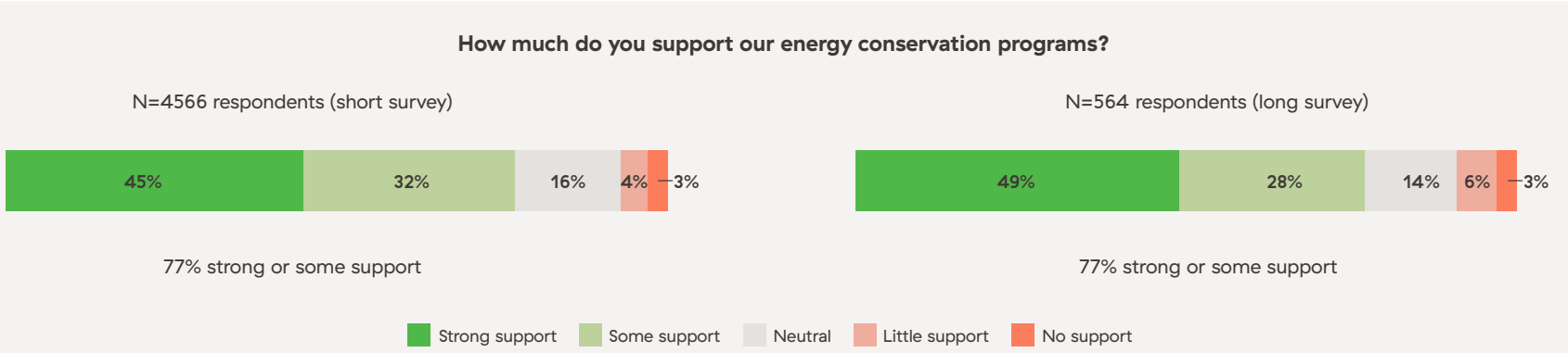
Planning for the next ten years 2020 to 2030

Participants were asked to provide input on choices to be made with respect to the future direction of conservation and energy management initiatives, as well as input on upcoming choices regarding expiring electricity purchase agreements and BC Hydro small plants at or reaching end of life.

ENERGY CONSERVATION PROGRAMS

Participants were asked about overall support for energy conservation programs and priorities with the future of energy conservation programs.

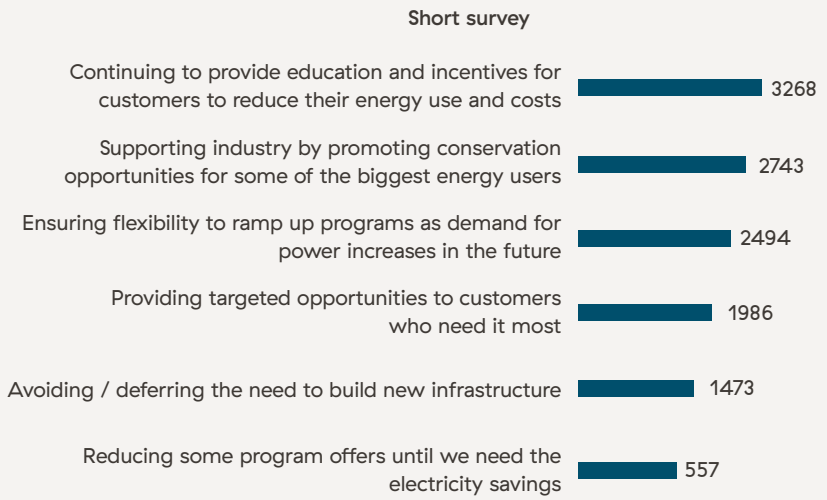
Survey results

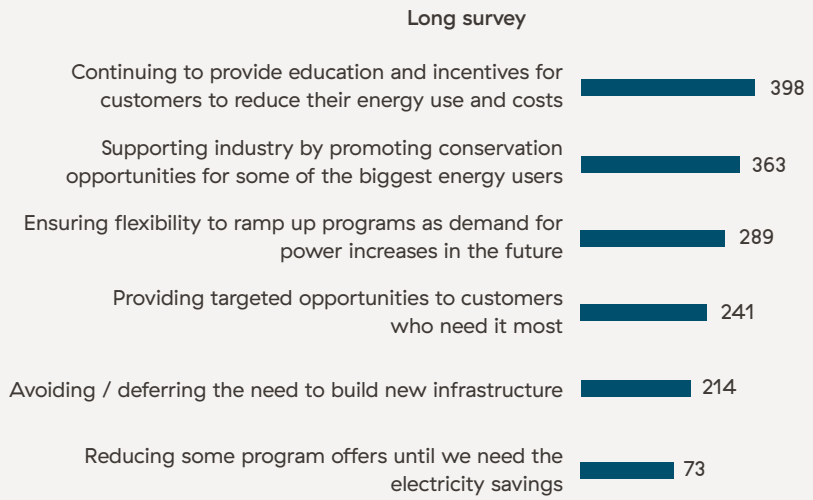


For both long and short survey results, 77% of participants indicated strong or some support for energy conservation programs, with a majority expressing strong support. Top priorities chosen for both surveys included continuing to provide education and incentives, followed by supporting industry by promoting conservation opportunities for some of the biggest energy users, and ensuring flexibility to ramp up programs as demand for power increases in the future.

As a subset of long survey participants, business and industrial customers responses were aligned with overall survey responses on this topic with 71% showing strong or some support. The priorities were ranked in the same order as the surveys.

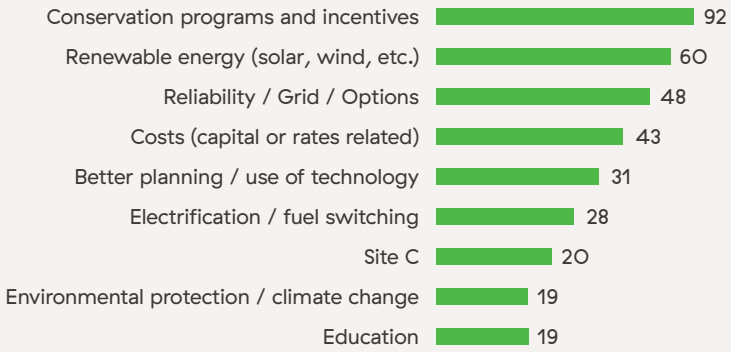
When thinking about the future of our energy conservation programs choose up to three priorities that are important to you (select up to three)





Both the short survey and long survey participants priorities choices aligned with the top-ranking priorities including continuing to provide education and incentives to customers to reduce their energy use and costs, supporting industry by promoting conservation for some of the biggest energy users, and ensuring there is flexibility to ramp up programs as demand for power increases in the future. For both survey respondents,reducing some program offers until we need electricity savings was the least chosen.

Is there anything else you'd like to add about what's important to you? (n=268 responses)



Of the comments related to the topic of energy conservation, the highest number of mentions expressed the importance or support of efficiency programs and related incentives and education. Additional topics included providing suggestions of where BC Hydro should focus efforts such as, explicitly target businesses and industry, add incentives for rooftop solar, promote fuel switching and education, focus more on capacity savings, and provide equity and transparency.

Digital dialogue (focus group)

While all of the first ten-year ideas (energy conservation, time varying rates and demand response) were appealing and widely supported, Power Smart received the most positive reactions and the strongest support ratings. People appreciated conservation programs for providing both education and incentives which translated to positive communication and partnerships.

Promoting conservation with some of the biggest energy users such as commercial customers was thought to provide the biggest possible impact.

Public workshops

For participants in the public workshops, current energy conservation programs were not an overall focus compared with other topics of interest such as electrification and economic development opportunities. Comments which did focus on energy conservation programs stated the importance of using electricity efficiently and the importance of conserving first. Providing incentives and education for people is considered important.

Participants also urged BC Hydro to consider keeping the programs in place and expand to emphasize capacity programs. Participants also mentioned switching program focus from conservation to fuel switching and low carbon electrification. Making programs simpler for electric vehicles and heat pump rebates/incentives was suggested. Some mention of not continuing with high cost programs.

Sample of what you said...

"Energy use reduction needs to be paramount—education and incentives."

"I'd like to see BC Hydro become a leader in pushing for stricter energy conservation standards in new building construction."

"I think flexibility in conservation programs is important particularly as low carbon electrification becomes more of a focus for organizations."

"PowerSmart has been encouraging conservation for 40 years. It has done a good job. It has plucked the low hanging fruit. It has reached the point of diminishing returns. Few new programs are cost effective. Re-direct that kind of effort and spending on Low Carbon Electrification."

"Continue to expand IER programs, continue to explore load shed opportunities for industries that can support."

Youth engagement

Energy conservation and efficiency were of interest in the youth forum. The idea of reducing electricity and promoting sustainable habits in B.C. was seen as important. Ideas included providing incentives to home owners to reduce electricity use, adding legislation and restricting use in terms of kinds and how much energy used was seen as needed, BC Hydro should lead the charge in efficiency, and inventing more technologies that increase energy efficiency. Providing more education in schools was also seen as important, being able to model sustainable changes immediately will inspire others to follow suit.

Telephone town hall

Participants were asked if they would participate in demand management programs of energy conservation, time varying rates and automated tools separately, together or not at all. Most participants (33%) indicated they would participate in all of them together. Energy conservation alone garnered 17% support as the sole avenue people were most likely to participate in.

Sample of what you said...

"Energy Conservation and Demand-side Management (DSM) important for cost savings."

"Incentives for customers to save costs."

"Provide efficiency improvement rebates (e.g. heat pumps from resistance electric, envelope improvements, etc.) to keep those using electricity using it efficiently and affordably."

"Continue energy conservation programs but definitely scale back higher cost initiatives."

"Maintain simple programs, increase level of long-term programs (insulation, heating, industry)."

"Would like to see the focus shift from conservation of energy to expanding our use of electric energy for EV's and replace fossil fuel sources of energy with green sources of electricity."

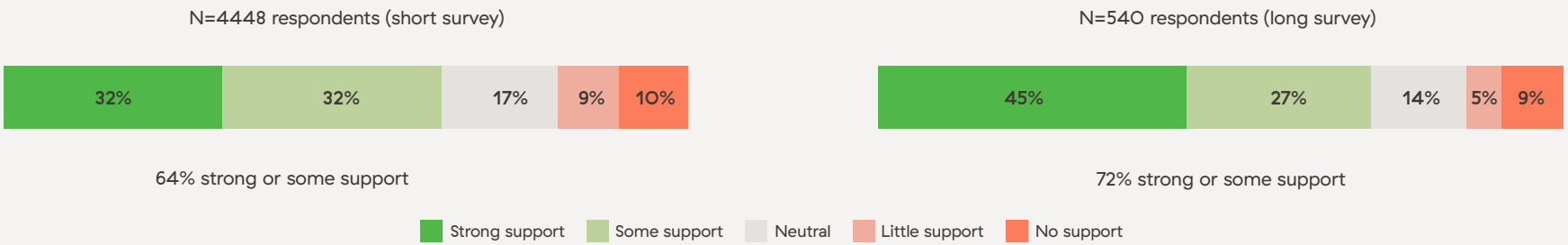
"No need to provide subsidies other than education. LED lights was not invented by BC Hydro. The market will work."

TIME VARYING RATES TO REDUCE PEAK DEMAND

Participants were asked about overall support for time varying rates and priorities with the future of time varying rates programs.

Survey results

How much do you support time varying rates?



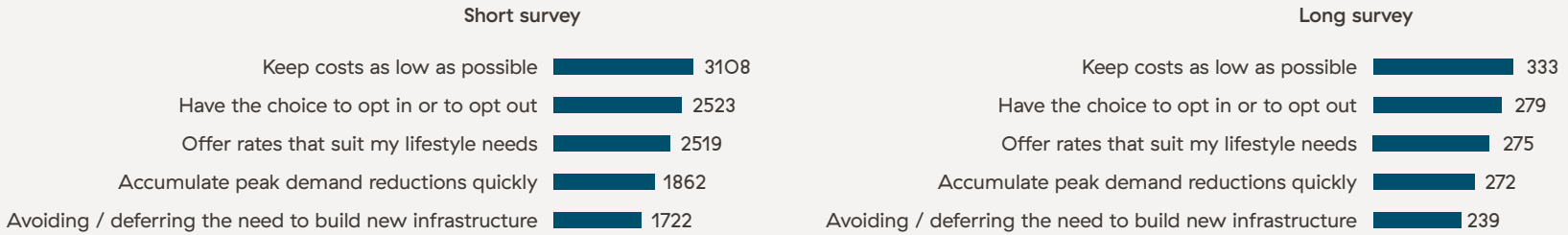
About two thirds of all participants indicated strong or some support for time varying rates. About 10% did not support time varying rates.

As a subset of the long survey, business and industrial customers (55 respondents) responses were aligned with overall survey responses on this topic. About 69% showed some or strong support—however, unlike the other long survey respondents, there was a higher number showing some (38%) rather than strong support (31%). About 10% showed no support.

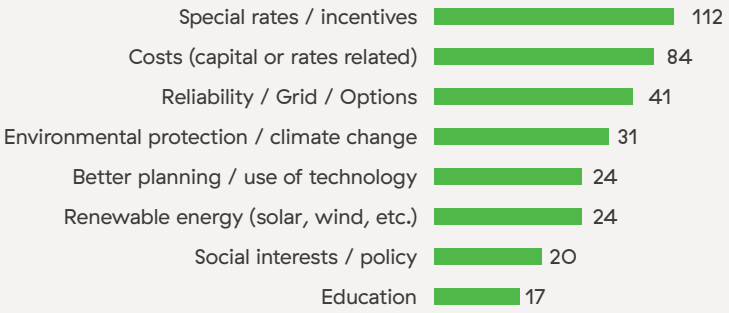
When thinking about the time varying rates, choose up to three priorities that are important to you

The priority of keeping costs as low as possible was ranked first for both survey results. For the short survey respondents, this was followed by having the choice to opt in and opt out and offer rates that suit my lifestyle needs ranked equally as runner up priorities. For the long survey participants, following priorities were more equally distributed, with avoiding the need for new infrastructure ranked second.

Is there another priority that is important to you that is not listed here?



Is there anything else you'd like to add about what's important to you?



Additional comments when asked if there was anything to add included themes of overall support for time varying rates as an incentive to shift electricity use and save costs. It was commented that time varying rates will support electrification activities, including electric vehicle charging. There was a theme of the need for careful planning including looking at other jurisdictions for learnings, to make the rates effective by choosing the 'opt out' option. The need for education and to make them easy to understand was expressed by participants. Also, the support to pair them with technology or with distributed power sources was mentioned.

Of those that did not support time varying rates, participants added comments in two general areas. First, participants felt strongly that rates will penalize people that cannot take advantage of them. Secondly, participants pointed to other ways BC Hydro could focus on to reduce peak electricity demand, for example, solar and battery storage use or focus on large energy users.

Digital dialogue (focus group)

There was overall support for the introduction of time varying rates. Customers appreciated them for offering cost savings, however concerns included that this program felt more like an unfair penalty system in practice.

Factors that focused on the individual, such as costs, flexibility and choice were considered most important to mitigate perceived unfairness as many felt they would not reasonably be able to take advantage of this program without severe disruption to their lives.

Public workshops

Majority of comments supported time varying rates and, in particular, noted the importance with electric vehicle adoption and charging as well as helpful generally for peak demand management. Some mention of the need to provide customer choice, a look at equity issues, and encouraging BC Hydro to undertake analysis of the costs and benefits of such a program.

Local government meetings

Although there was no polling on support for time varying rates at these meetings, there were many questions and discussion about the electrification and the possible future of time varying rates. Support was expressed among some participants for time varying rates as a means to bring capacity onto the electrical grid. It was recommended that rate structures should support the push to electrification so it can become affordable.

Telephone town hall

Participants showed support for time varying rates by equally choosing participating and time varying rates and energy efficiency, time varying rates, and automation technologies as their top choices.

Summary

About two thirds of all participants expressed support for time varying rates, with participants who filled out the longer survey showing a higher percentage of strong support. Priorities included keeping costs low, having the choice to opt in or opt out, and offering rates that suit my lifestyle needs. Participants from across the forums indicated time varying rates as important for provincial electrification efforts. Providing up front planning was encouraged to ensure the rates would be effective. Concerns about fairness and equity were raised as some participants expressed strongly that time of use rates would unduly penalize those that cannot take advantage of the rates.

Sample of what you said...

"I moved to BC from Ontario and we had time varying rates. Worked well and I actually had no problem adjusting to them. Biggest help for working people was that weekends had no restrictions."

"I would completely support this if you would also eliminate step 2 rates for anyone who opts in for time varying rates."

"With growth in EVs, shifting charging to off-peak periods will be critical – TOU, EV charging rates or other incentives/ programs will help shift demand off peak and keep the need for new capacity infrastructure and costs down."

"Charging more for peak times seems to penalize those who work outside the home and can't afford to either have someone home during non-peak hours or hire someone (e.g. a cleaner)."

"Hydro needs to realize that people's lives & schedules are for the most part not a choice but a necessity governed by school, employment, daycare & other family considerations. BC residents should not be punished for using power at peak times. BC Hydro needs to recognize this & plan accordingly."

"Please act first against commercial abuses of electricity (too much cold AC, open doors, all lights open ALL night, we can't see stars in the sky anymore !) before asking us to reduce our showers time and others life quality times."

"Rate of day pricing drives customer control and involvement."

"Time of use billing is good but ensure that it doesn't hurt those already experiencing high energy burdens —help with load management."

"Time of Use Pricing (TOU) can help with adoption of electric vehicles, making charging overnight cheaper and balancing load at the same time."

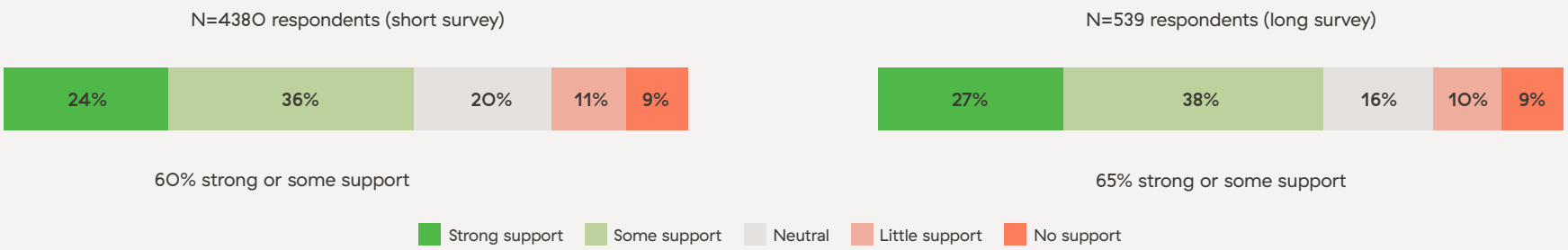
"Staff are supportive of time varying rates, and think it should be considered as part of a larger effort to reform rate structures so as to encourage low-carbon electrification and support equity."

DEMAND RESPONSE TECHNOLOGIES TO REDUCE PEAK DEMAND

Participants were asked about overall support for demand response programs (such as home automation tools) and priorities with the future of demand response programs.

Survey results

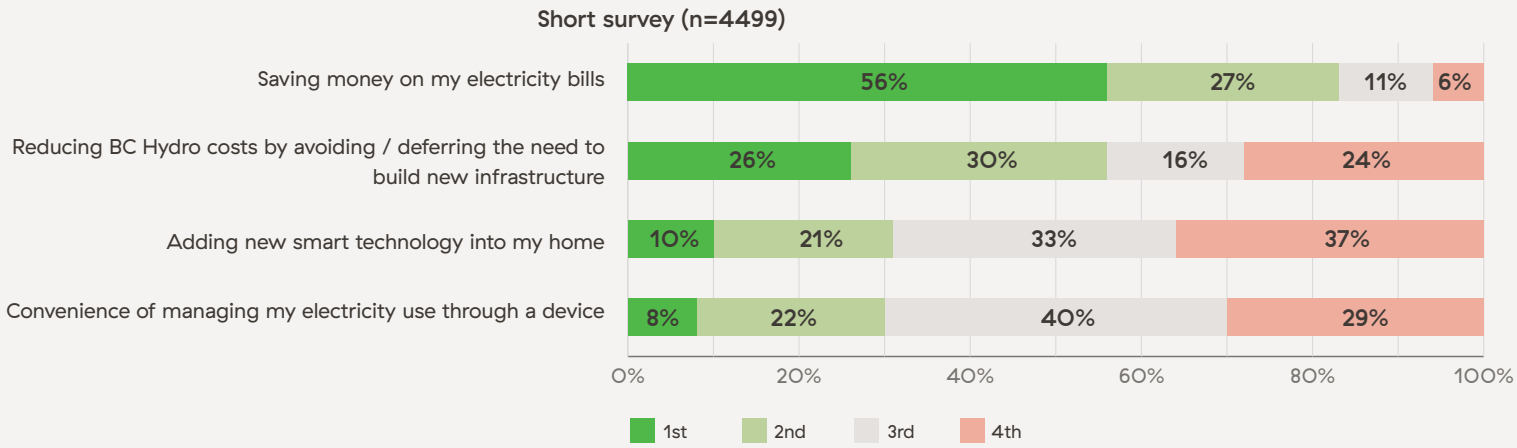
How much do you support introducing demand response technology to help you manage your electricity use?



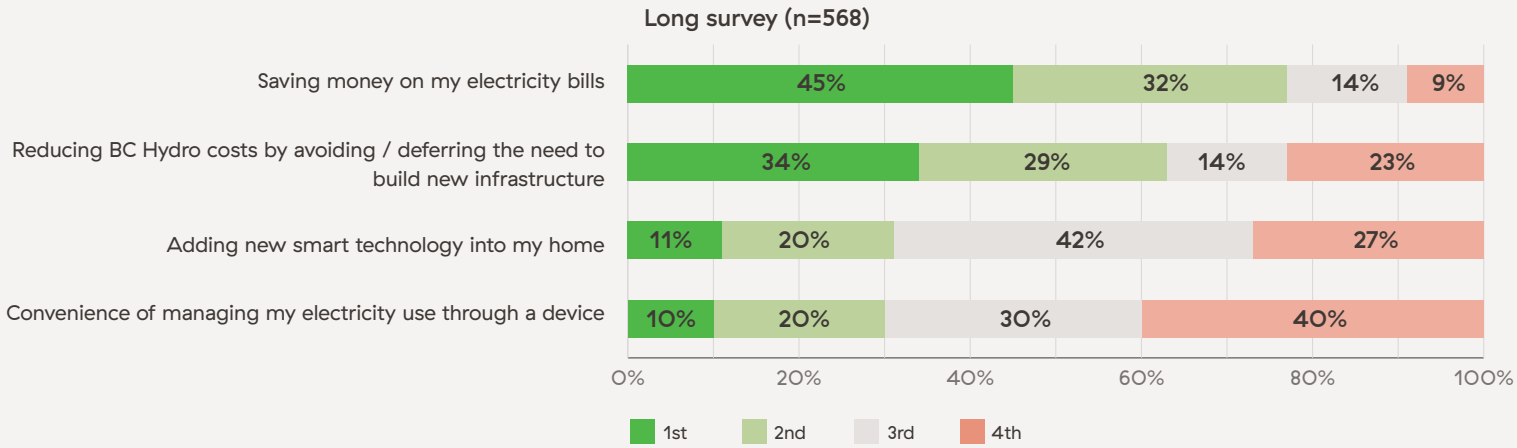
60% of short survey participants, and 65% of long survey participants indicated some support or strong support for demand response technologies. Contrary to the energy conservation and time varying rates responses which showed a higher number of 'strong support', demand response technologies received a higher number of 'some support' showing more of a cautious openness to their introduction and use. Just less than 10% did not support these technologies. 20% of short survey responses were neutral.

Business/commercial and industrial customers (55 respondents) responses were aligned with overall survey responses on this topic. A bit higher percentage (70%) showed some or strong support.

When thinking about introducing demand response in BC, rank the following by how important it is to you?

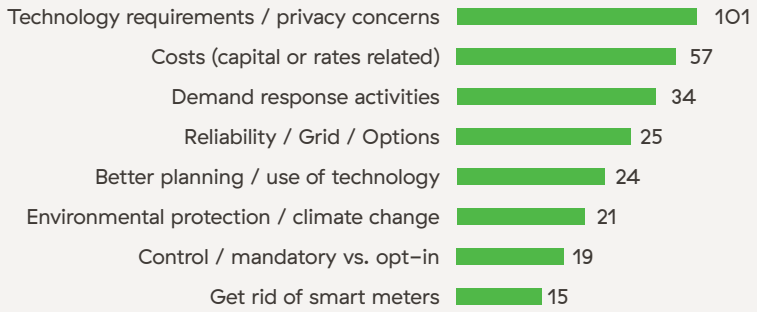


When thinking about introducing demand response in BC, rank the following by how important it is to you?



The top two priorities for both survey respondents were to save money on my bills and reducing BC Hydro's costs to avoid or defer new infrastructure.

Is there anything else you'd like to add about what's important to you?



The open-ended comments indicated support and opposition to the idea of demand response technologies was evenly split. The greatest theme in the written comments of those who voiced concerns focused on privacy and security issues. Participants pointed to the need for planning and education to ensure the tools are effective, or to link these tools with other options like time varying rates. Some participants expressed the desire for choice and control over the devices. A few comments focused on equity issues and the need to target big energy users.

Digital dialogue (focus group)

There was overall support for demand response technologies, particularly with those already familiar with and/or already using smart home technology were generally supportive; the biggest concerns related to cost and privacy.

While appreciated both for the potential for cost savings based on reduced use and convenience/ peace of mind, many felt the program required investment in and comfort with the technology making it appear exclusive. Some were also highly concerned about data privacy, limiting its appeal.

Public workshops

This planning topic was not a major focus of comments. Comments that were included supported the use of demand response technologies, suggesting that smart home technology can be used to reduce peak electrical demand, as well as comments that this technology is also able to be linked to home generation. Security issues were also mentioned.

Youth engagement

The use of home technology was discussed in the youth engagement. Some of the comments spoke to the desire for smart home devices to help with energy efficiency. Ideas and issues that arose included, is it using more energy and what is the intent of companies, data privacy, and the desire for transparency. Customization should be an option but having options for those not technically minded is also important.

Local governments

Similar to the public workshops, this planning topic was not a focus of interest. There was mention of the potential effectiveness to using demand response technologies in combination with rate options and mitigating equity issues.

Telephone town hall

Home and business automatic technologies was the least well liked as stand–alone tools to participate in (2% of participants would choose this first to participate in). 33% percent of participants stated they are equally likely to participate in demand response technology programs along with time varying rates and energy conservation programs.

Summary

The majority of survey respondents supported demand response technologies. Top priorities were saving money on my electricity bills followed by reducing BC Hydro costs by avoiding/deferring new infrastructure. Although the majority supported demand response technologies, this option showed the least overall support compared with energy conservation and time varying rates. It also garnered the highest neutral response, with the digital dialogue focus group input indicating it is the least well understood.

The greatest theme in the written comments from those who expressed little or no support focused on privacy and security concerns. It was suggested that careful planning and education will be needed, and some participants expressed their strong desire for choice and control over the devices. A few comments focused on equity issues as well as the need to target big energy users. Insights from the digital dialogue focus group showed many felt the program required investment in and comfort with the technology making it appear exclusive.

Sample of what you said...

"Smart devices are not secure, it could be catastrophic if it were hacked even on an individual scale not to mention on a larger scale."

"I worry about the privacy and safety concerns that are currently known with regard to internet connected devices."

"Seminars, either in person, once COVID–19 is under control, or virtually with speakers who can explain HOW a smart home can benefit the individual, and good Q&A afterwards or during is essential in creating converts."

"I will support the use of technology only if I have complete, exclusive control of it."

"Although I generally support adding demand response technology to manage electricity use, I am not someone who wants a lot of gimmicky crap. It needs to work, be simple to monitor (and control by the end user if needed), not be intrusive/ work behind the scenes."

"Time of day rates as discussed in the previous section will drive customers to use smart technology to reduce their costs."

"Smart home technology can integrate local generation, storage and smart loads to optimize the system with out users having to worry about it."

"What can appliance makers and Hydro do to ensure security and prevent hackers overloading the grid for example by turning everyone's A/C on."

"Id want it to be completely transparent, have me to be able to see what's in it, oversee what it does and have a killswitch if necessary."

"I want my house to be one big Alexa that does what I ask."

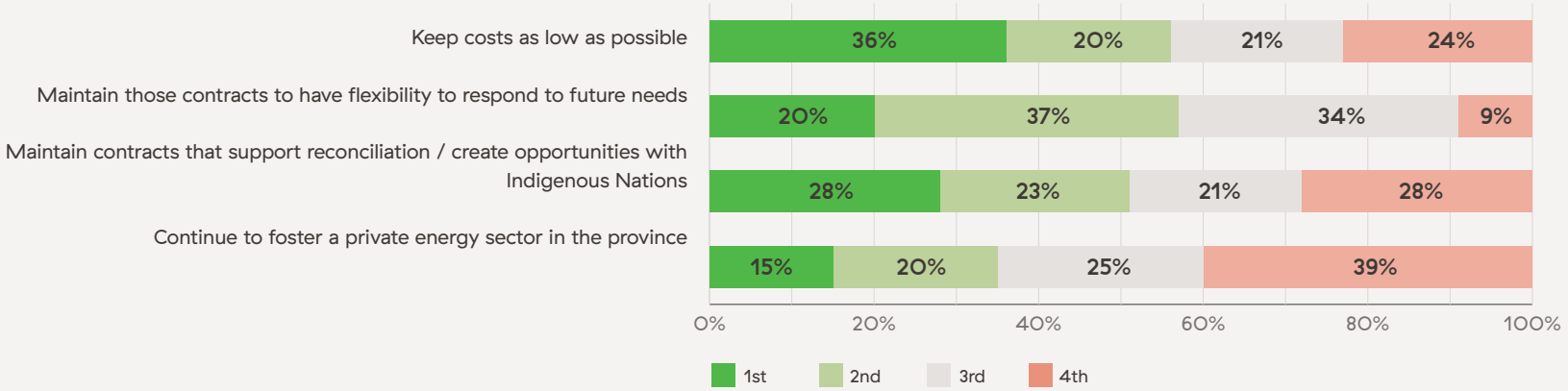
"Load management technologies (e.g. BC Hydro's ability to control water heater timing) can also help with removing the burden of peak load shifting from the consumer to the utility. Ensuring these load management technologies are available, especially to those who are facing high energy cost burdens relative to their household incomes will improve equity in time varying rates."

EXPIRING ELECTRICITY PURCHASE AGREEMENTS

Participants were asked about their priorities for renewing electricity purchase agreements and were provided an opportunity to add anything else that is important about this topic. The topic of expiring electricity purchase agreements was covered in the long survey, public workshops and local government meetings.

Survey results

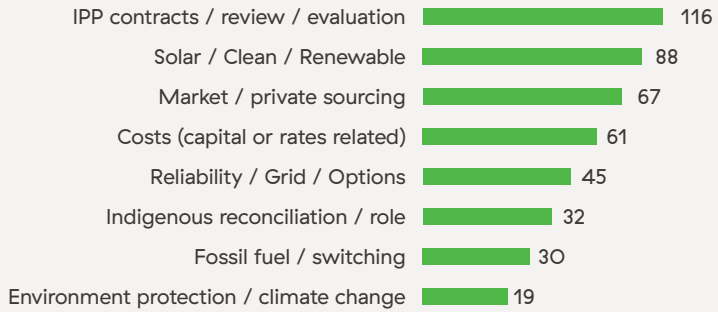
When thinking about whether BC Hydro should renew electricity purchase agreements rank the following by how important each aspect is to you (n=566)



In terms of top priorities, keep costs as low as possible was the highest ranking top priority followed by maintain contracts that support reconciliation and create economic opportunities with Indigenous Nations and then maintain those contracts to have flexibility to respond to future needs.

As a subset of the long survey, business and industrial customers (57 respondents) ranked keep costs as low as possible followed by maintain those contracts to have flexibility to respond to future needs.

Is there anything else you'd like to add about what's important to you?



The most common theme expressed support for renewing contracts that add value to the system and are cost effective. In many cases, value was noted as providing dependable power at the times when it is needed (i.e. dependable capacity / base load energy. Renewing clean and renewable power contracts and phasing out natural gas–based facilities was a strong secondary theme. Some comments felt run of river and biomass facilities did not provide the value and should not be renewed. A number of comments supported moving away from large Independent Power Producers (IPPs) towards more distributed / local community contracts.

There was about an equal split of comments (about 50 each) between positive and negative sentiments about private Independent Power Producer (IPP) agreements. Negative comments about IPPs is that the contracts have been too costly, while positive comments focus on providing partnerships with Indigenous Nations and improving system resilience and local community benefits. There were some comments—about an equal spilt—between participants who opposed private power ownership and those that opposed public power ownership.

Public workshops

The topic of expiring electricity purchase agreements elicited a number of comments from participants. Comments included supporting IPP renewals at a reasonable price and those that provide system value (reasonable sometimes spoke to higher than market price for participants in this workshop). Comments mentioned that many provide economic value to communities and Indigenous Nations as well as providing increased system resilience by diversifying supply. Comments also mentioned it made sense to renew contracts as the infrastructure was already in place. There was encouragement for BC Hydro to engage early with IPPs. Some mention on not renewing if they are not cost effective.

Some participants questioned what will happen to facilities that do not have their contracts renewed and what options are available for them, for example how they can access markets.

Local governments

There was some interest in expiring electricity purchase agreements. It was mentioned that the environmental damage was done with IPPs so it made sense to make the most of that resource to maximize the energy. It was also commented that IPPs will likely be less lucrative in the future than they have in the past with the change in market pricing and value. Others questioned the status of IPPs and whether there was a timeline to target 100% renewable electricity.

Sample of what you said...

"I would put emphasis on renewing those contracts that alleviate BC Hydro's peak demand requirements."

"Private solar and wind power generated should be prioritized."

"We have been paying too much for this private supply for too long."

"Indigenous power generation opportunities are extremely important to me."

"Having these partnerships can help add resilience to BC's power system and create economic opportunities and power security for communities."

"Expiring EPAs should be renewed to support local communities, jobs (renewable), First Nations."

"IPP power costs are dropping dramatically. Good value for rate-payers."

"Renegotiate expiring contracts with an intent to get reasonably priced electricity."

"Power purchase agreements with indigenous communities should be given special consideration if their communities depend on them."

"Expiring agreements should not be renewed if their cost is too high, and careful consideration should be given to finding new supplies that help with the overall needs in the grid."

Summary

Participants top planning priorities regarding expiring EPAs was to keep costs as low as possible followed by maintain contracts that support reconciliation / create opportunities with Indigenous Nations and maintain those contracts to have flexibility to respond to future needs. The most common themes referred to renewing contracts that add value to the system at more cost-effective rates. In addition, renewing clean and renewable power contracts and phasing out contracts that use natural gas was a theme.

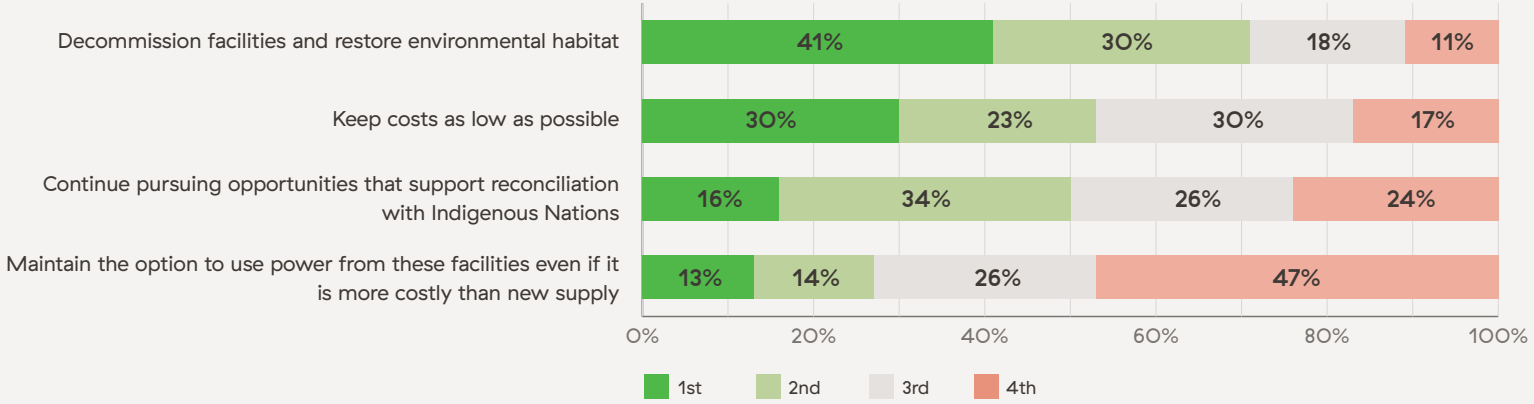
There was about an equal split of comments (about 50 each) between positive and negative sentiments about private Independent Power Producers. Negative comments about existing contracts is that they have been too costly, while positive comments focus on providing partnerships with Indigenous Nations and improving system resilience and local community benefits. A number of comments supported moving away from large IPPs towards more distributed / local community contracts.

BC HYDRO SMALL PLANTS AT OR REACHING END OF LIFE

Participants were asked about their priorities for BC Hydro small plants at or reaching end of life and were provided an opportunity to add anything else that is important to participants via an open comment box. The topic of BC Hydro small plants was covered in the long survey, public workshops and local government meetings.

Survey results

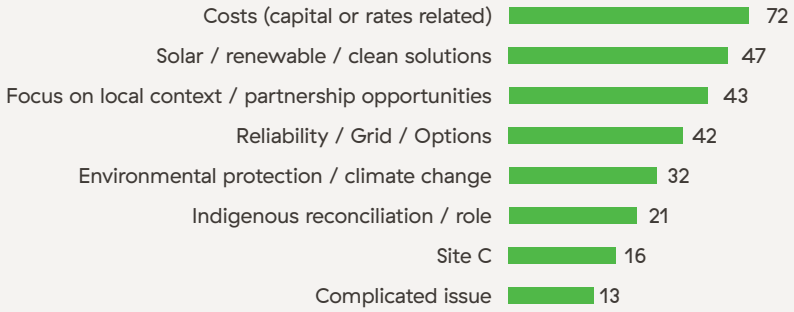
When thinking about these small hydro plants that are at, or reaching end of life, rank the following by how important each aspect is to you (n=563)



Regarding priorities for these small plants, decommissioning and restore the environmental habitat was the highest ranked priority followed closely by keeping costs as low as possible with these two priorities making up about 70% of top rankings. Pursue opportunities that support Indigenous Communities was a strong secondary priority.

As a subset of the long survey, business and industrial customers (57 respondents) ranked keeping costs as low as possible and decommissioning and restore the environmental habitat as an equal priority.

Is there anything else you'd like to add about what's important to you?



With respect to open-ended comments, the majority of comments from participants were concerned about containing costs and impact on rates and environment (favoured decommissioning and restoring habitat). A secondary theme from customers was that BC Hydro should focus on newer, more viable alternatives to these aging plants.

Some participants expressed desire for BC Hydro to work with communities and/or Indigenous Nations to explore local options for end of life assets. Many comments associated with a preference also indicated a need for further analysis of costs and benefits and may need to look at each on a case by case basis.

Public workshops

In general, participants of the public workshops expressed support for evaluating these sites on a case by case basis to determine the best and most cost-effective decision. Decommissioning and restoring habitat was of interest, as well as divesting if it made sense and could provide an innovative solution, including providing system resilience and support for Indigenous Nations and communities.

Summary

In ranking priorities for BC Hydro small plants at or reaching end of life, decommission facilities and restore the environmental habitat was the highest ranked priority followed by keeping costs as low as possible. Continue to pursue opportunities that support reconciliation with Indigenous Nations was a third priority. There was little support to maintain the option to use power from these facilities even if it is more costly than new supply.

Sample of what you said...

"Where we can restore fisheries by decommissioning, that should be done."

"It should perhaps be decided on a site-by-site basis based on a cost-benefit and cumulative impacts analysis."

"Use triple bottom line accounting: financial costs/benefits, social/health costs/benefits, environmental costs/benefits (including climate change and biodiversity loss)."

"If it's only 1% of energy output, it should be pretty straightforward math on whether they can be decommissioned. I think that BC Hydro should set a precedent on trying to preserve the environment as best we can, even if it means costs increase a little."

"Needs a proper evaluation considering triple bottom line."

"Sell to third party or decommission."

Planning for the next twenty years 2030 to 2040

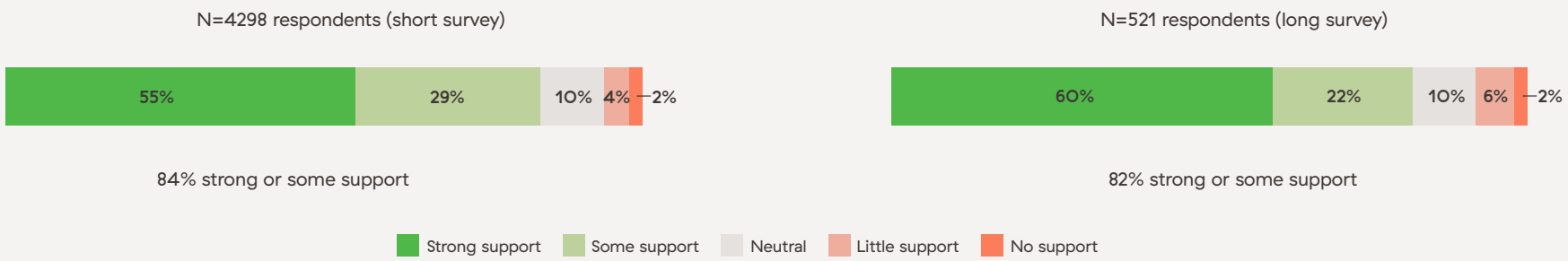
Participants were asked to provide input on three broad pathways to meeting future electricity needs: greater conservation and customer involvement (focused on demand management and customer participation), new local supply choices (focused on capacity choices of batteries and pumped storage), and upgrading the system (focused on capacity choices of a new sixth unit at Revelstoke generating station and potential transmission upgrades).

GREATER CONSERVATION AND CUSTOMER INVOLVEMENT

Participants were asked their level of support for the pathway of greater conservation and customer involvement as a way of meeting future electricity needs. The long survey provided an opportunity to state reasons for the level of support chosen. Public workshop participants were asked what mattered to them about this pathway.

Survey results

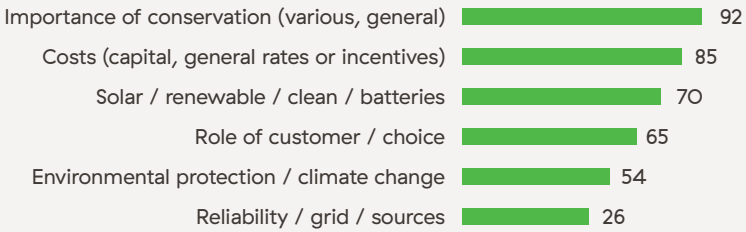
How much do you support Greater Conservation and Customer Involvement?



Over 80% of both short and long survey respondents supported greater conservation and more opportunities for customer involvement. This was the most supported pathway, which also had the highest percentage of strong support.

As a subset of the long survey, for business and industrial customers (54 respondents), about 70% either had strong or some support for this pathway. Of these participants, 12% showed little support and 0% of respondents put no support.

Tell us why you chose this level of support?



In reflecting on the reasons for support for this pathway, most respondents focused on the importance of conservation and improving efficiencies and reducing peak demand as the right thing to do, as it is less costly and has a lower impact on the environment.

A secondary reason favoured customers contributing to the system through by customer generated solar or solar combined with batteries. The reasons were varied, and included environmental reasons, interest in self supply and participation and/or providing electrical grid resilience through local power sources. Another secondary reason for supporting this pathway was the concept of customer participation and involvement which instills a sense of responsibility and active participation in our electricity future and decisions.

Digital dialogue (focus group)

Greater conservation and customer involvement felt like the most tangible and easily understood. The area of focus for these participants was primarily conservation and participating in conservation activities. Drivers of appeal for this pathway included promoting partnership and communication, and customer involvement which was seen as vital for success of any program and easiest way forward. Education and raising awareness were also key (identified as "no brainer") as participants felt it was important for everyone to understand their role in conservation and energy use. Conservation was also seen as critical for sustainable resource use.

Public workshops

Comments were quite varied in this forum. Greater energy efficiencies made sense along with time varying rates and innovative technologies. Many comments supported the idea of customer-based generation such as rooftop solar with local storage. Continued net metering opportunities were supported. Generating close to load and allowing customer participation cited as important factors for customer-based generation.

Sample of what you said...

"Conserving energy and decreasing our use always helps. Makes our footprint smaller which is good."

"It's the right thing to do."

"Demand-side management needs to be the cornerstone of all future planning."

"I want to install solar for environmental reasons but don't feel supported in it currently."

"BC Hydro must look to growing their infrastructure as well as examining and encouraging residential and community level generation."

"Hoping battery technology will advance dramatically and that the price will drop so residents and commercial buildings can install solar panels and have battery back up. Would also like BC Hydro to explore micro-grids and the sharing of community solar power."

"It's important to give people opportunity for involvement and investment in their own and BCs grid."

This pathway received favourable comments suggesting that it will drive technology innovation. Combining customer-based generation with technologies to help understand and control load was mentioned. A number of comments pointed to desire for community resiliency, and a need for government support. There were mentions of equity issues and encouraging BC Hydro to look at infrastructure needs with increased demand management. There was a mention of ensuring long-term-cost effectiveness with solar given the California experience (of negative pricing during the day).

Youth engagement

Future power sources and future technology needs for future living were discussed in the youth engagement. In terms of technology, the idea of distributed generation and small-scale storage arose, with solar most frequently mentioned. Both in terms of using rooftops for solar panels along with community solar grids. The use of most rooftops for solar panels, and a generator for each house. Portability was also a concept that came up, such as solar portable charger. Exercise equipment that charges batteries and phones was commented on. Mini wind turbines to power small things like your phone charger. Traditional means like increasing home insulation to prevent heat/energy loss to improve energy efficiency was also mentioned.

Local governments

The topic of greater conservation and customer involvement generated interest at local government meetings. Several participants stressed the importance of encouraging residential customers to do more at home whether it be through electricity conservation or installation of small generators (solar panels, wind turbines). Some participants expressed a desire for BC Hydro to move away from the next 'large hydro project' to small scale, customer involved and localized options.

Interest in the future of net metering was also expressed. There was also interest in local power generation at the municipal level as a way for municipalities to produce their own power needs but also lower their costs. This was seen as a way for BC Hydro to give back to communities. It was also suggested BC Hydro develop a system where they can provide customers up front funding for technologies that help reduce or offset costs (e.g., heat pumps, battery storage, etc.) and the customers could pay it back via their BC Hydro bill to lower overall demand on system.

Telephone Town Hall

Provide more options for even greater conservation and ways for customers to control their electricity use came out second choice overall for participants of the telephone town hall. A number of questions from participants focused on net metering and the use of solar panels, sometimes connected to the issue of electrical grid reliability. Participants were also interested in education and incentives for energy conservation and helping large customers, one participant did not like the idea of time of use, and another was interested in hearing the kinds of rates being considered.

Summary

Over 80% of all survey respondents either expressed strong or some support to the greater conservation and customer involvement pathway. For both surveys, the majority of participants expressed strong support over some support. This option was favoured over local sources (batteries and pumped storage) and upgrades to the system, with the exception of the subset of business and industrial customers where upgrading the system was favoured.

Sample of what you said...

"Should be credit/rebate for new houses built to net zero standards. Not just for energy upgrades for old houses."

"I think that combining things like solar (energy production), time of use (TOU), and demand response all have great potential. Need to target demand response to such things as EV charging."

"Customer generation is very important."

"Great for driving innovation."

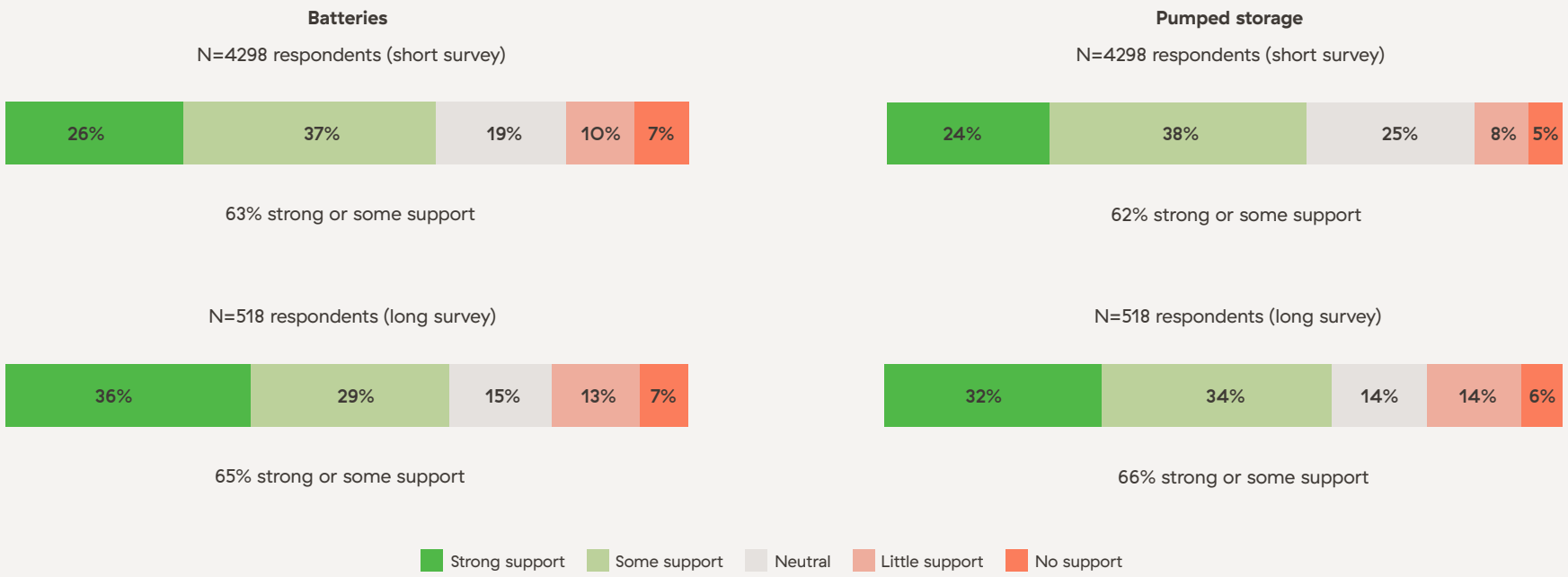
"The issue I have with relying on energy too much is that there are big consequences if the power goes out. Maybe we need a back up power storage for every house or neighborhood for when the power goes out."

NEW LOCAL SUPPLY SOURCES (BATTERIES AND PUMPED STORAGE)

Participants were asked their level of support for the pathway of new local supply sources as a way of meeting future electricity needs. The long survey provided an opportunity to state reasons for the level of support chosen. Public workshop participants were asked what mattered to them about this pathway.

Survey results

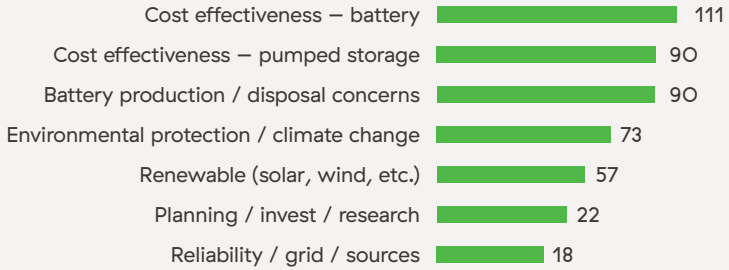
How much do you support batteries and pumped storage?



Over 60% of both short and long survey respondents supported the use of batteries and pumped storage as a local distributed solution. For pumped storage, there was a higher percentage of some support versus strong support in both surveys. For batteries, there was a higher percentage for some support in the short survey results and a higher percentage of strong support in the long survey results.

As a subset of the long survey, business and industrial customers (55 respondents) responses were generally aligned with overall survey responses on this topic. A lower percentage (60%) showed some or strong support for these technologies.

Tell us why you chose this level of support?



Comments reflected diverse views on these options. While some favoured one technology over the other, or thought both options seemed reasonable, there were also comments explicitly opposing both of them. A small minority of customers called out the fact that lack of knowledge made it difficult to answer these questions.

With batteries, customer support favoured the flexibility of placement, smaller physical footprint compared to large capital infrastructure, and an important aspect of distributed systems.

Customers opposing batteries cited harmful environmental impact in terms of production, materials used, and disposal, as well as shorter life cycle vs. large capital infrastructure.

With Pumped storage, customer support was often dependent on degree of environmental protection provided, cost effectiveness, and consideration of impact on local communities.

Opponents cited environmental impact, geographical limitations, and dependency on climate.

Sample of what you said...

"Smaller environmental footprint for batteries which are becoming increasingly efficient. More small scale jobs. Battery recycling is also improving or investment could be put into reusing existing batteries. The technology is changing rapidly. We need to think now with tomorrow's mindset."

"Battery storage technology is developing quickly and will allow localized grids that do not require increasing transmission line infrastructure."

"Battery technology is advancing rapidly and will be less than other options or very close to other options when the time arrives it is imperative to install it. We should be funding local research in battery and solar technologies which will be a large part of our future world. A new venture for Powertech?"

"I support any storage option that allows greater penetration of renewable energy."

"Cost and battery technology need to significantly improve to be part of a large scale supply management scheme."

"They won't last forever and disposing of them is a problem. Keep to our current system and upgrade to keep it modern."

"I am concerned about the unmeasured effects of battery use – what is the environmental cost of mining and refining the materials used in battery production and their disposal?"

Digital dialogue (focus group)

There was a general lack of understanding of these storage options. Pumped storage was seen as a reasonable or compelling 'new' idea when it was building on existing hydro infrastructure. There was a strong negative response to impacts on aquatic habitats when thinking about building new. For batteries, participants appreciated and understood the use of batteries as a back up for storing energy, especially if considered in combination with wind and solar power. Strong concerns were expressed around environmental impacts of production, storage and disposal of batteries.

Public workshops

Pairing of battery storage with renewables like wind and solar garnered a lot of support in comments. The idea of resilience and diversification in comments supporting local capacity options. Local power sources reduce need for transmission and provide more local jobs. Comments supported battery technology, with some mention of environmental concerns. Some mention of support for pumped storage but also that it is currently hard to price and some comments not in favour of this technology for environmental and cost reasons.

Summary

Almost two thirds of participants supported the use of batteries and pumped storage as a local distributed solution. This response saw the highest neutral percentages which may indicate less is known about these technologies. Greater interest in the use of batteries was expressed in the public workshops and in the long survey results, including pairing batteries with renewable resources. Concerns were raised about the environmental impacts of both technologies.

Sample of what you said...

"Pumped hydro systems once built can last for a hundred years. Battery demand will skyrocket in the next few years, straining raw material supplies we need for electric cars."

"Pumped storage is a proven method, while battery storage is a newer thing. They both have negative impacts on the environment, and I don't know enough about either of them to have a strong opinion."

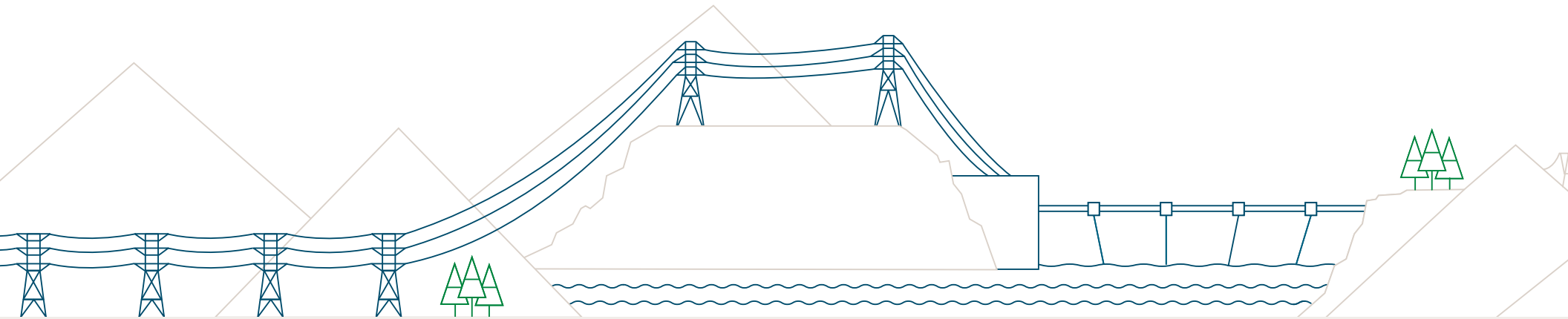
"Pumped storage environmental impacts seem significant. I think you should advance alternatives before looking at this option."

"The environmental impact of pumped storage doesn't justify its construction, especially if the cost of batteries may drop by the time the project actually breaks ground."

"Battery technology is improving all the time, can be deployed incrementally and more cheaply, can be deployed locally at the municipal level, First Nation or even individual consumer level."

"Local Capacity resources may provide a more cost-effective alternative to developing significant transmission infrastructure."

"Private sector Pumped Storage is complicated to price."

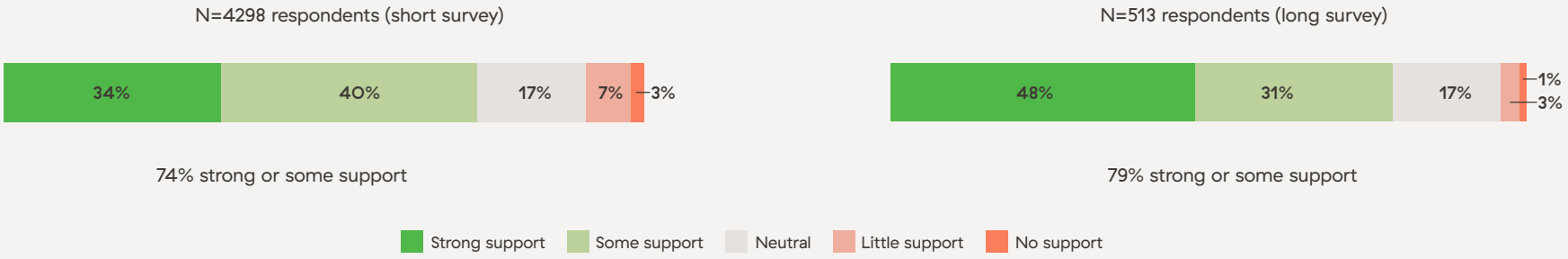


UPGRADING THE SYSTEM

Participants were asked their level of support for the pathway of upgrading the system (Revelstoke 6 with potential transmission upgrades) as a way of meeting future electricity needs. The long survey provided an opportunity to state reasons for the level of support chosen. Public workshop participants were asked what mattered to them about this pathway.

Survey results

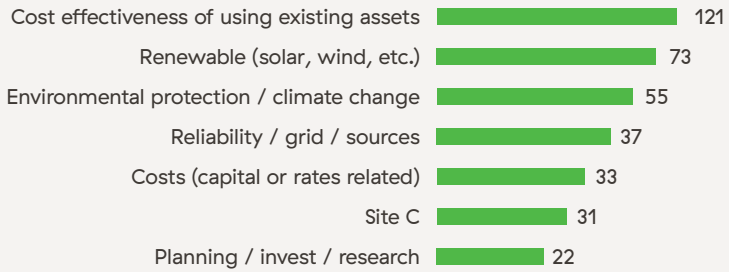
How much do you support upgrading the system?



About 75% of participants from both surveys provided strong or some support for upgrading the system with Rev 6 and potential upgrades to transmission.

As a subset of the long survey, for business and industrial customers (53 respondents), a higher percentage (89%) showed strong or some support for this pathway. In addition, customers in regions outside of the Lower Mainland and Vancouver Island supported upgrading the system and greater conservation and customer involvement equally (80% support for both).

Tell us why you chose this level of support?



The highest number of comments which favoured this pathway pointed to it making sense as least cost and lower environmental impact with space for a sixth unit already at Revelstoke. Of those that supported this pathway, there were also concerns and questions expressed about the need and cost for additional transmission. In addition, a number of customers stated that, although they were in favour of the Revelstoke 6 project, they were opposed to any more large dams.

Many comments not supporting this pathway suggested they would prefer moving to distributed generation which is closer to the load as they had concerns about transmission and reliability under severe weather events.

Public workshops

Comments related to Revelstoke 6 upgrades were in general support of the upgrade as a cost effective resource, makes sense and the system is an anchor to renewable energies. Comments supported transmission upgrades as a way to increase system resilience and/or ensuring our system is resilient to climate change impacts. There was also a general theme of moving towards distributed resources. A number of comments pointed to the need for a cost benefit analysis to show cost comparisons with other options. The idea of enhancing transmission to Alberta to increase trade was also raised during this topic discussion.

Summary

About 75% of participants from both surveys provided strong or some support for upgrading the system with Rev 6 and potential upgrades to transmission. Those supporting this pathway pointed to favouring cost effective upgrades as making good sense.

Sample of what you said...

"Adding to existing plants is good management as long as the economics are done properly."

"Upgrading the existing dam to the previously designed capacity seems like the most logical plan."

"Power line upgrades will have significant costs, both financial and environmental. Power lines are vulnerable to natural disasters, much more so than solar panels and batteries close to the loads."

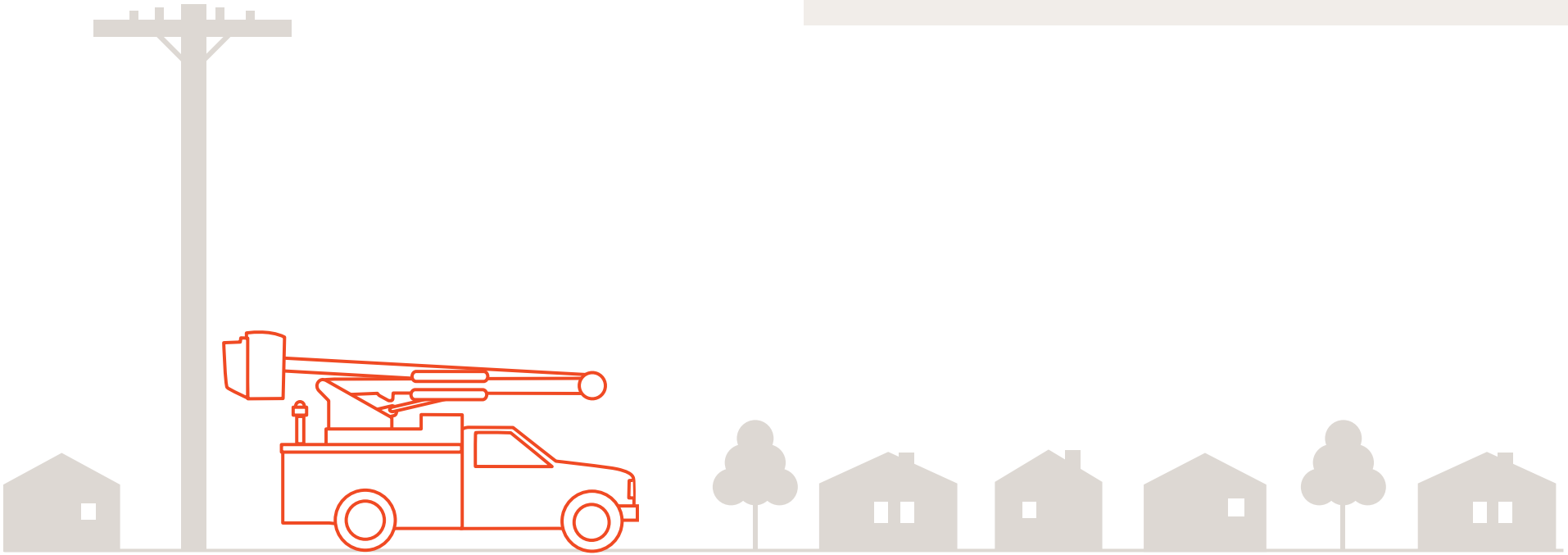
"REV is a long way from the Lower Mainland, the load center of Hydro's system. The Lower Mainland is already too reliant on long vulnerable transmission lines."

"Need to consider climate change adaptation – we need to make sure our system is resilient to wildfires, floods and storm surges."

"If REV U6 is the most cost–effective increase on capacity it should certainly be pursued, also considering its predictable energy while solar and wind are not predictable."

"Revelstoke Unit 6 looks like an obvious option to pursue, but what about more power lines to Alberta and to the US to make our system able to trade more power?"

"Transmission upgrades are over due and would allow more diversification in generation."

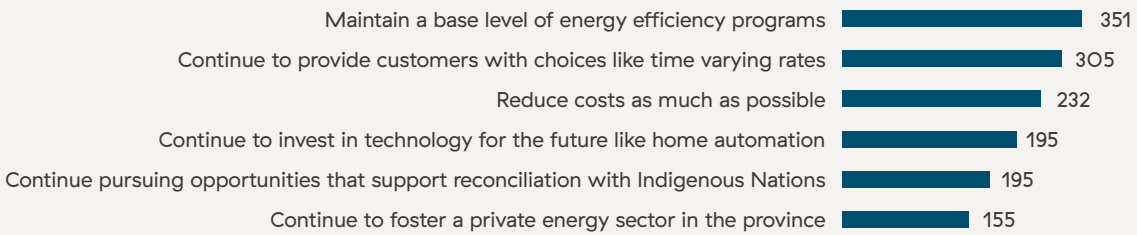


Planning for uncertainty

Participants were asked their priorities if electricity demand was lower or higher than expected. This question was only asked in the long survey and not a topic in the public workshops. In both cases, an open-ended question provided opportunities for additional comments.

PRIORITIES IN A LOWER DEMAND SCENARIO

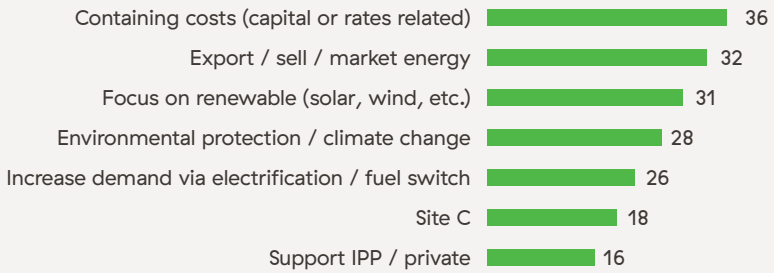
If demand is lower and BC Hydro has less revenue, choose up to three priorities that are important to you (n=510)



Participant's highest priority when demand was lower was to maintain a base level of energy efficiency programs, along with continue to provide customers with choices like time varying rates.

As a subset of the long survey, business and industrial customers (148 mentions) were aligned with overall survey responses.

Is there anything you'd like to add that is important to you?



A high number of participants comments suggested that BC Hydro look to use the excess power by increasing trade and exporting to jurisdictions such as Alberta and the US, which will help reduce greenhouse gas emissions beyond our borders. The idea of using this extra power to incent electrification was also mentioned in connection with incenting demand.

Many participant comments also suggested this scenario of lower demand in the future was not likely considering the push for electrification in response to climate change impacts. A theme of comments also included being responsive in the future with smaller scale, distributed generation that can respond to changing demand; a call to halt Site C dam; and the importance of continued work on conservation and efficiency programs.

Some comments referred to private power ownership, with some supporting IPP industry while others suggested reducing private power in BC.

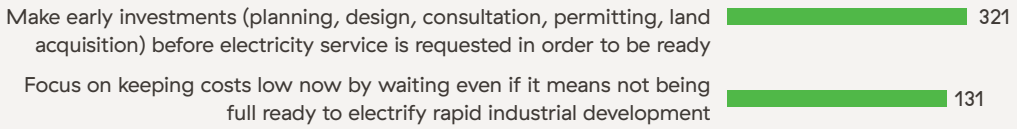
Summary

Participant's highest priority when demand was lower was to maintain a base level of energy efficiency programs, along with continue to provide customers with choices like time varying rates. In terms of the comments provided, the importance of containing costs was the most frequent.

The idea of finding ways to export surplus power to other markets which would help with overall greenhouse gas reductions was a theme across the consultation. Many participants suggested a low scenario is not likely to happen given expected electrification activities.

IF DEMAND IS HIGHER THAN EXPECTED

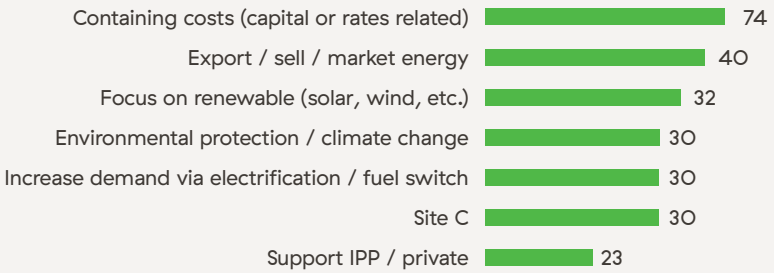
Choose the priority that is important to you (n=452)



The results of this question showed that the strong majority of participants (about 73%) preferred making early investments (design, planning, consultation, permitting and land acquisition) before electricity service is requested in order to be ready over participants (27%) who chose keeping costs low now even if it means not being fully ready to electrify rapid industrial development.

As a subset of the long survey, business and industrial customers (48 respondents) were aligned with overall survey results.

Is there anything you'd like to add as we prepare for higher demand?



There were various interpretations about this question. Some participants were responding to higher load in general across the system, others were responding to increased industrial load in the north and it was difficult to distinguish between the two.

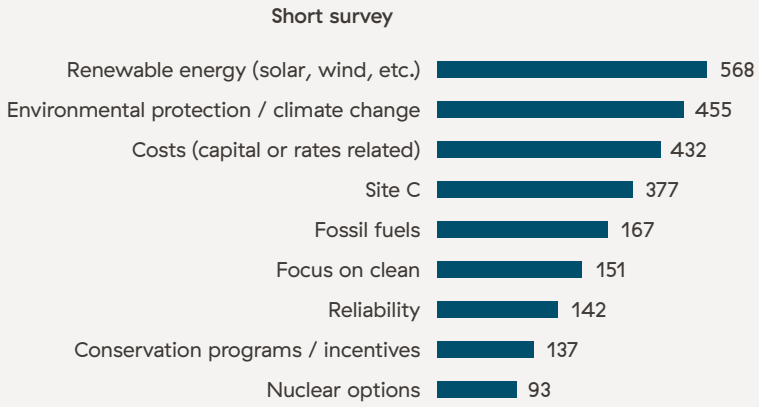
Of the majority of respondents that were promoting making early investments, reasons focused on that being prepared makes sense. Many comments spoke to moving to renewable, distributed generation and raised a number of generation options for future investment (solar, geothermal, nuclear, etc.). A number of comments supported helping to advance electrification. A number of comments also continued to emphasize the importance of conservation and efficiency, as well as opposition to Site C.

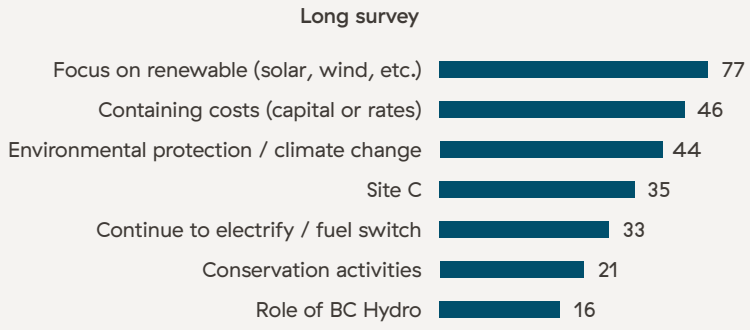
Of those comments that chose a focus on keeping costs low, primary reasons were split three ways between not wanting to support LNG and fossil fuel emitting sectors, that the future industrial load is unpredictable, and companies should bear more of the costs and show commitment prior to moving ahead.

What else is important for people as we develop the plan?

Participants were provided an open-ended opportunity to provide input on what else is important to them as we develop our plan.

A number of recurring themes emerged across the consultation forums, and also across the planning topics when participants were given an opportunity to provide open ended comments. Given the similarities between additional comments of the short and long survey responses, a summary of themes combining the two are found below.





Future electricity supply choices (renewable energy and distributed energy generation)

The consultation planning topics focused primarily on how we will meet future peak demand through choices that provide dependable capacity. The options of battery storage and pumped storage, and upgrading Revelstoke Generating Station are ways to meet future electricity peak demand. We did not focus on new electricity supply options as that is not our more pressing planning issue.

Participants were very interested in energy supply choices. There was a very strong theme for continued and expanded use of renewable energy in the future, with an emphasis on wind and solar power as a way to take climate action and reduce greenhouse gas emissions to protect the environment from climate change.

We heard a desire for a diversity of resource options as we move into the future as a way to provide electrical grid resiliency and allow for customer involvement and participating in a clean electricity future. There was much interest and questions around various kinds of resource options. Solar and wind were raised most often, other sources including nuclear (small modular nuclear) and geothermal were also often raised, in addition to other sources such as tidal and ocean current. The role of hydrogen in our energy future was also of interest.

A connected theme mentioned was that it is time to move away from hydroelectric power, which was sometimes linked to environmental reasons—protection of salmon habitat—and sometimes linked to moving from large hydro projects to smaller scale options.

Electrification

The need to pursue electrification and take climate action was a continued strong theme across open ended comments in the surveys as well as all consultation forums. BC Hydro taking a more active role in promoting electrification activities was also a theme. There was a great interest in what electrification will look like going forward and questions regarding what the electricity demand forecast has assumed with respect to increased electricity use due to fuel switching, the pace of electrification and whether BC Hydro is ready to meet new demand due to electrification activities.

Contain costs, keep rates affordable, and continue conserving first and protecting the environment.

In terms of containing costs, there were continued mentions of keeping rates affordable, opposition and concerns about two stepped rates, the need for time

Sample of what you said...

"You seem to have a progressive attitude which is good. However, you need to move beyond hydro-electric power and concentrate more on developing other renewable sources of energy."

"You guys gotta add Small Modular Nuclear Reactors to the plan. New Brunswick is already moving in this direction."

"I get that Nuclear power is taboo, but the ecological footprint is going to be much less than anything but the smallest hydro solution."

"We have lots of ocean access and geothermal points. Both are potential sources of energy that have not been mentioned. Keep those in mind."

"Prioritize solar, wind and battery storage. Including micro grid solar and battery storage for towns, neighborhoods and individual homes."

"Please create a process to interact with B.C's private sector large-scale solar developers as part of all future planning."

"Local governments can / should be strategic partners as BC Hydro moves forward in distributed generation as well as driving adoption of conservation / DR / electrification programs."

"BC Hydro should be pushing harder for electrification of the province, not only to fill the electricity surplus but to support climate action."

"I know that electricity planning is an extremely difficult task and there are pros and cons to every option. But I think our number one priority has to be fighting climate change and doing everything we can to limit global warming."

"Ultimately, the goal should be to keep costs down for customers, while preserving the environment."

"Again, I cannot emphasize the need to reduce energy consumption enough"

"Conservation, conservation, conservation."

"Consider an on-going support for seniors living on fixed incomes."

"Keep it affordable, simple, secure and healthy and promote it that way."

"Stop two rates for electricity that favours those using natural gas to heat houses and water."

"Cancel Site C and no more talk of new dams ever in this province".

of use rates, in addition to cost of electrifying homes. Continuing to prioritize conservation activities and providing incentives and education was another theme raised throughout the survey. The need for education and continued strong approach to conservation was a continued theme. The theme of balancing costs with environmental protection was also important for participants.

No more large dams

Throughout the consultation, we heard participants asking BC Hydro to halt or cancel Site C. In addition, many comments suggested that Site C should be the last large hydro project and urged BC Hydro to move onto other means of generating power that are smaller and more local scale. A number of comments from survey participants wondered why we did not have a survey question on Site C. Questions about how Site C fit into the planning were raised in other forums and it was explained the Site C project is a committed resource (being built) and the long-term planning process looks to new options after committed projects.

Final comments

A number of comments supported BC Hydro continuing to provide reliable power and appreciated providing input. The desire for participation and transparency in BC Hydro planning was expressed. Some comments appreciated the survey, while others questioned its usefulness.

Sample of what you said...

"I appreciate that you are seeking public input. Maybe a name change to BC Electricity would help clarify your mandate with the public."

"This was a terrible survey....Way too much to read and some parts were confusing. Not a good way to gather information. Folks want to save money, help protect the environment and have electricity available if and when they need it. It's very simple."

"Continue to do the same smart business you've done in the past. We all need to weather the immediate short term issues, and be ready for when economic growth returns. This survey demonstrated you are thinking about the right things."

"Thank you for letting me have my say on the future of energy and BC Hydro."

Thank you to all who participated in these consultations. Your input will be considered as we prepare the draft IRP. For more information about the IRP and the next phase of consultation, please visit bchydro.com/cleanpower2040

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