Deeply understanding reactions to BC Hydro's Integrated Resource Plan

FINAL DETAILED REPORT -Findings from Online Qualitative Research

September 2020







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### WHAT WE WANTED TO FIND OUT Background and Objectives

BC Hydro wanted to deeply understand perceptions of British Columbians about various topics and ideas relating to the future of power generation in British Columbia, specifically plans around the Integrated Resource Plan (IRP) also called 'Clean Power 2040'.

This qualitative research was conducted concurrently with a broader quantitative survey.



### **HOW WE WENT ABOUT IT** Project Details

### 2-day online discussion; 60 minutes of activity

- Participants were provided a URL and logged in to the online discussion platform to complete their tasks
- Tasks were completed independently first, then participants were shown the responses of others in discussion groups of 10-12 people (balanced mix of gender/age/regionality/special interest) and encouraged to build on the ideas of others
- Professionally trained, online qualitative moderators from Upwords probed for clarity and added detail.
- Stakeholders could log in to the platform to observe the discussion.

### **Evaluated Ideas:**

- Power Smart Programs
- Time Varying Rates
- Demand Response (Smart Home Technology)
- 'Part 2' 2030-2040 early ideas



### WHO WE TALKED TO: PARTICPANT DETAILS

## 64 randomly selected participants completed this discussion. All were BC Hydro Customers.

Gender: 29 Female; 34 Male; 1 Other

#### Age:

20-34 years old – 22 participants 35-49 years old – 17 participants 50-64 years old – 24 participants 65+ years old – 1 participant

#### **Region:**

- 39 Lower Mainland (LML)/Fraser Valley
- 14 Vancouver Island/Gulf Islands
- 6 Southern Interior
- 3 Central Interior
- 1 Northeast
- 1 Northwest

#### Type of Dwelling:

26 – Apartment or Condo

- 28 Detached House
- 10 Townhouse/duplex/semi-detached
- 41 Own; 23 Rent

#### Income: 3 – Under \$25k 11 – \$25-49k 16 – \$50-74k 12 – \$75-99k 11 – \$100-149k 11 – Over \$150k

#### **Inclusive segments:**

4 – LGBTQ+
3 – Disability (requiring equipment/electricity dependent)

#### Ethnicity:

- 38 Caucasian
- 7 South Asian
- 6 Chinese
- 6 Middle Eastern
- 3 Indigenous
- 3 African or Caribbean Canadian
- 2 Japanese/Vietnamese
- 2 Ukrainian





### HOW TO INTERPRET THE FINDINGS

The findings of these interviews are qualitative in nature and cannot be projected to be statistically representative of the population.

They represent the views of a small group of people across British Columbia.

They are however valuable in providing **direction and insight** into the issues discussed.



### **KEY INSIGHTS**

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When planning for a clean electricity future both 'affordability' and focusing on 'clean, <u>minimally destructive</u> energy sources' were top of mind as important.



"

Two things immediately come to mind: **cost and environment**. My concern is **will I be able to afford it** but also **how will it effect the environment**.



'Affordability' was **highly subjective** generally focused on personal circumstance (what *I* can afford); current (September 2020) rates were considered affordable for some and expensive for others.

Minimizing 'Environmental Impacts' through clean minimally destructive energy sources:

Leveraging natural resources (wind, solar, water)

Minimal *negative* impact to land, water, wildlife
 AND communities/people

**Balancing** affordability (costs) with protecting the environment through clean energy sources **will be pivotal** in the future.

To me what is **most important is clean energy but at an affordable low-cost rate**. As much as I want to keep my energy use clean, if it becomes unaffordable then it's likely I will seek other forms of cheaper ways to generate energy (such as purchasing my own generator and using gasoline - which is very unclean). ALL IRP planning objectives were highly important; however three rose to the top;

\*Limiting land and water impacts \*Reducing greenhouse gas emissions through clean electricity \*Keeping costs down for customers





### The three top planning objectives fit directly with top of mind priorities:

The costumer cost affects me personally, individually, and regularly...The other items, while still important to me, are generally important to me for the benefit of the entire province and the manner in which that effects me.

Supporting reconciliation with Indigenous Nations as well as Supporting the growth of B.C.'s economy were seen as 'responsible' business practices for BC Hydro – highly important but less personally motivated for most.

Ideas that focused on EDUCATION and CONSERVATION in general garnered greater support







**PowerSmart** was the most strongly supported idea of those shared for 'Part 1: the first 10 years' of the Integrated Resource Plan. For 'Part 2: the later 10 years' *Greater Conservation and Customer Involvement* rose to the top.

**BOTH of these ideas felt strongly linked to conservation overall.** They both had a clear focus on raising awareness and educating consumers which was seen as promoting partnership and communication which helps ladder to transparency.

Conversely in Part 1, *Time Varying Rates* and *Demand Response* were more focused on cost saving and minimizing 'peak demand' specifically vs. conservation. 'Peak demand' was not clearly understood as or linked to conservation. 'Avoiding or deferring infrastructure upgrades' and 'Upgrading the system' was polarizing throughout



#### Those who supported upgrades:

 Understood maintenance was an inevitable necessity; cannot be avoided long term (over time all things need upgrading)

#### Those who were resistant:

 Were concerned about environmental, human and cost impacts

UPGRADES using the EXISTING INFRASTRUCTURE were preferred over replacement/new projects.

New infrastructure is expensive and always has a big impact on the local environment. I would rather improvement to current infrastructure rather than using up more green space.

### Avoid vague or unfamiliar terminology (jargon)



The following statements **lacked clarity** leaving customers unsure how to determine importance.



### **Power Smart**

- Ensuring there is **flexibility** to ramp up program as demand for power increases into the future
  - What does 'flexibility' refer to?
  - How do we ensure flexibility? What is the plan?
- Providing targeted opportunities to customers who need it most
  - What are targeted opportunities?
  - Who are these customers who need it most?
- Reducing some program offers until we need the electricity savings
  - What are 'program offers'?
  - Why would we want to hold off? Why wait?



### **Time Varying Rates**

- Accumulates peak demand reductions quickly
  - Why should I care about peak demand reductions?
  - What does this statement refer to or mean exactly?

Strong appreciation for BC Hydro's efforts to TALK to consumers/ask for their opinions, reflecting positively on the brand AND allowing customers to feel their voice has been heard.



Many described their experience participating in this project as 'thought provoking' and many felt they learned something new in the process.



I admire the efforts of BC Hydro to reach out to their customers for input.



I just wanted to **voice my appreciation for the opportunity to share my opinion and thoughts** on the matter from my perspective. **It is reassuring to know that BC hydro wants customer feedback before proceeding.** 

I had no idea any of this was in the works with BC Hydro, and **am pleasantly surprised by what I have learned here.** I hate to admit, but clearly I have been a bit of a blind consumer since "growing up" and this is more information than I have received (or perhaps made the time to read) in a long time. It **makes me hopeful that there are some positive developments in the works**! Thank you for including me :) – Female, Southern Interior, 35-49 years old



*I love that there is research being done with the general public about these issues.* ...Going forward this is going to be one of the most important issues, so I am glad we are starting to think about this now!



I'm **pleased to know BC Hydro is seeking this input. It makes me feel better** knowing they've consulted a wide range of opinions.

### **IDEA EVALUATIONS**

### **P1 – THE FIRST 10 YEARS (2020-2030)**

Where BC Hydro has enough clean electricity in their system to meet customer needs

### P2 – THE LATER 10 YEARS (2030-2040)

Where BC Hydro expects to need new supply

While all of the First 10 year ideas were appealing and widely supported, Power Smart received most positive gut reactions and the strongest support ratings



### **Power Smart**

Ability to **balance cost** saving/affordability with conservation efforts = sense of control = empowering.

- Appreciated for providing both EDUCATION and INCENTIVES
  - EDUCATION = COMMUNICATION &
     PARTNERSHIP which reflects
     POSITIVELY on the brand and helps
     ladder towards TRANSPARANCY
  - INCENTIVES pivotal to encourage change
- Promoting conservation with some of the BIGGEST ENERGY USERS suggested commercial = BIGGEST possible IMPACT



**Time Varying Rates** 

Appreciated for offering **cost savings**, however even though *positioned as a benefit*, this program felt more like an **unfair penalty system** in practice = perceived as **unfair**.

 Factors that focused on the individual (COSTS, FLEXIBILITY and CHOICE) were considered most important to mitigate perceived unfairness as many felt they would not reasonable be able to take advantage of this program without severe disruption to their lives.



### **Demand Response**

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 appeal.

Saving money on bills was the most important and compelling part of BOTH of these ideas

Clear focus on conservation (overall).

Focused on cost savings and minimizing 'peak demand' use specifically.

### 'Greater Conservation/Customer Involvement' felt most tangible and easily understood.

### **Greater Conservation & Customer Involvement**

- Easily understood (simple) and tangible
- Highlighted **partnership and communication** between BC Hydro and customers – laddering to **TRANSPARANCY**
- Focus on education and raising awareness ("no brainer")

### Upgrading the system

- Upgrades were preferred over replacement/new projects
- **Cost efficiencies** of upgrading the system were important proof points to garner support
- Hope that upgrades would make systems MORE sustainable/eco-friendly and efficient

### General lack of understanding and familiarity with both areas of new local storage options.

Pumped Storage	Batteries	
<ul> <li>Piqued interest – reasonable or compelling 'new' idea building on EXISTING hydro infrastructure</li> <li>STRONG negative response to impacts on aquatic habitats</li> </ul>	<ul> <li>Appreciated and understood as a back up for storing energy – especially if considered in combination with wind and solar power</li> <li>Strong concerns around environmental impacts of both production, storage and disposal (both unaided and aided)</li> </ul>	

### **KEY CONSIDERATIONS**

### **Key Considerations**



Ideas and topics related future power generation in B.C. – specifically the Integrated Resource Plan ('Clean Power 2040') - are more likely to resonate with BC Hydro customers if...:



...ideas are focused on meeting both: INDIVIDUAL needs related to AFFORDABILITY and

COLLECTIVE needs relating to ENVIRONMENTAL IMPACTS (land, • water and wildlife) and people of BC.



... EDUCATION, COMMUNICATION and PARTNERSHIP are highlighted, laddering to TRANSPARANCY, which increases trust



...CONSERVATION is talked about in general terms; people will more clearly link it to environmental impacts vs. when it is specific to peak demand



... use simple, consumer friendly, easily understood language (no jargon/vague terminology)

### **DETAILED FINDINGS**

### THE CONTEXT

upwords

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## For some, **unaided** impressions of BC Hydro were neutral: 'just another monthly bill'; others however described a mix of positive and negative brand impressions

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### **Key Drivers of POSITIVE Brand Impressions:**

- BC Hydro is positively associated as a large organization that provides reliable electricity/energy across the province
- The brand is appreciated for **energy saving initiatives** and efforts to educate their customers; seen as *"trying hard to be responsible"* (Male, LML/Fraser Valley, 50-64 years old);
  - Power Smart programs were top of mind for a few (unaided)
- Some consider hydro electric and therefore BC Hydro a 'clean' energy source, harnessing energy in a sustainable manner from a renewable natural resource (water; dams)
- Some volunteered BC Hydro costs are 'reasonable' or even inexpensive; this perspective was most prevalent among those who had a mix of energy sources in their home (e.g. hydro + gas) and/or who had recently moved to BC from another province (especially Ontario)
- A couple strongly appreciated **COVID relief** offered by BC Hydro

### **Key Drivers of NEGATIVE Brand Impressions:**

- Negative brand associations were rooted in BC Hydro having a perceived monopoly, government involvement in the organization ('crown corporation'; 'private-public') as well as large corporate salaries/bonuses for executives and CEOs. This bred a general sense of distrust among some.
  - With a 'monopoly' on providing electric energy in the province, BC Hydro was seen as having significant control
  - Negative associations with Christy Clark, Site C and 'BC Liberals looting revenue'
- Some felt costs were expensive/high especially those in Lower Mainland – Fraser Valley and/or rural regions
- A few were also negatively influenced by poor customer service experiences (long wait times, 'not helpful') or power outages

Note: in this research participants were NOT required to be favourable towards BC Hydro; this research reflects customers with a mix of in-going brand impressions.

## **Unaided** impressions of electric energy were also mixed, largely based on affordability – those who felt it was affordable were more favourable

### What people LIKE about electric energy:



- Electric energy was positively seen as affordable, reliable and consistent by some
  - 'Efficient' for a few
  - Inexpensive compared to Ontario specifically
- Appreciated by some as the **least environmentally destructive** option for energy readily available for the people of BC (vs. fossil fuels like natural gas or propane)
  - No fracking or air pollution
  - 'Sustainable' resource (hydro electricity specifically)
- Baseboard heaters were appreciated for allowing greater control by a couple

### What people do NOT like about electric energy:



- Others however, felt electric energy especially if it is the only or primary heat source was expensive
  - Baseboards for many were a source of frustration expensive to operate and ineffective/take too long to heat up; 'safety hazard' for kids (single mention)
- Those who had a **mix of energy sources** (gas, wood, electricity) appreciated the ability to minimize electricity costs/reduce and manage overall household bills
  - Gas especially appreciated as low cost, efficient and also useful during power outages

### 'Affordability' was highly subjective and generally associated with personal circumstance

- Factors that participants used to determine 'affordability' were largely based on personal circumstance/income, alignment with usage/service and variability:
  - Can I reasonably pay my bill each month relative to my income?
  - Are costs aligned with perceived usage/does it seem reasonable for the service I am getting (based on what I am using it for)?
  - How much variation is there?
    - year-to-year? month-to-month?
    - What are the costs for higher usage periods (i.e. Winter)?
- Some were concerned the cost of living is already high in BC; any increases to rates increases an already high cost of living.
- A few recognized they have some control over usage and (as a result) costs.

Personally I feel today's\* electricity rates are okay but I feel like it's slowly increasing over time as economic pressures weigh in. I don't really know how to calculate their rates to seem if it is affordable, but the factor I focus on is I know from the past monthly electricity bills were cheaper

- Male, LML/Fraser Valley, 20-34

I think today's\* electricity rate is affordable. However, during the winter, as my family use a lot of power to keep the house warm, the bill is high. I use the percentage of my income to pay for the electricity to consider the affordability.

- Male, LML/Fraser Valley, 50-64

"

Does it seem reasonable for the service I am getting? Is my bill so high I panic a little when I open it?... very subjective answers I know, sorry :)

– Female, Vancouver Island/Gulf Islands,35-49

### "

I feel like "affordable" is so subjective. I personally feel like our household electricity costs are higher than I would like them to be. I know I have an element of control over that, and there are some things that I could do that I don't... but we are comfortable financially and can afford it without worrying.

- Female, Southern Interior, 35-49



## **Unaided,** balancing cost/affordability with protecting the environment was a clear point of tension for many

### For most **COST and AFFORDABILITY** was top of mind as most important.

Two things immediately come to mind: cost and environment. My concern is will I be able to afford it but also how will it effect the environment. – Female, Vancouver Island/Gulf Islands, 50-64 years old



### However, CLEAN, MINIMALLY DESTRUCTIVE ENERGY was also strongly important for most.

- Leveraging natural resources (wind, solar, water)
- Minimal negative impact to land, water, wildlife AND communities/people
  - *For me, it would mean leaving the smallest*
- possible "footprint" on the environment. I would not want to see forests, water bodies or animals impacted in a negative way. – Female, LML/Fraser Valley, 50-64 years old

**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.



To me what is most important is clean energy but at an affordable low-cost rate. As much as I want to keep my energy use clean, if it becomes unaffordable then it's likely I will seek other forms of cheaper ways to generate energy (such as purchasing my own generator and using gasoline - which is very unclean). – Male, LML/Fraser Valley, 20-34 years old



I don't mind having to spend a tiny bit more if

- that means we collectively have a healthier world.
  - Male, LML/Fraser Valley, 20-34 years old

There was also some recognition and concern that increased demand through population growth and increased reliance on electricity due to greater availability and popularity of e-vehicles, e-bikes, e-lawn mowers, e-scooters, etc. would require additional resources.

Other key priorities (unaided) included:

- Education, communication and transparency
- Respectful of local communities; especially indigenous communities



I mostly just want to see that they are actively working on plans for the future, let me know what you are doing today that will benefit us in 20 years. – Male, LML/Fraser Valley, 20-34 years old

### PLANNING OBJECTIVES

When aided, all planning objectives presented were considered important by most; environmental impacts and keeping costs down were of greatest importance with respect to a clean electricity future

*Highest importance* 'Extremely important' for strong majority

> Limiting land and water impacts

Reducing greenhouse gas emissions through clean electricity

Keeping costs down for customers

Supporting reconciliation with Indigenous Nations

**Qualitative shift** in importance

Supporting the growth of
 Lesser importance
 B.C.'s economy
 upwords



# Many felt the planning objectives were connected and considered them all extremely important



I think they are all very important. I believe all companies need to care for the land and water as well as the air. ... Of course that may affect costs. It can be expensive to put in green measures. ... It's always good when a company can support the economy, so that's a no-brainer too. Keeping costs down is important. BC hydro shouldn't profit off customers as they are providing an essential product. As far as indigenous rights go, I fully believe that it's time BC citizens step and contribute to reconciliation.

- Female, Vancouver Island/Gulf Islands, 50-64 years old



For me, there is no factor that is more important than the other. All of these are extremely important in the grand scheme of planning for a clean electricity future.

- Female, North Vancouver, 20-34 years old

All the factor are equally important they are all connected. We need to have clean air, pure water good economy and safe lands so, people can continue to live on the lands surrounded by nature.

- Female, South Metro Vancouver, 50-64 years old



I believe they are all equally important because when we impact our economy, we impact our families economically and when we impact our environment, we in turn impact our health and wellbeing. - Female, Delta, 50-64 years old

## Environmental impacts were of the highest importance for the collective; keeping costs down for customers spoke directly to individual needs

Reducing greenhouse gas emissions through clean electricity

Limiting land and water impacts

Protecting the environment was pivotal for most as a **healthy planet was considered the MOST important resource into the future** – an important **collective issue for the greater good**. There was a strong sense that taking care of the environment/planet needs to be front and center to avoid additional 'irreversible damage' and ensure there is water and land for future generations to enjoy.

For some this was paramount:

When it comes to the earth, I think that's the most important thing to me. We can't focus on money, or other human factors until with do what's best for the earth...If we don't make changes to how we take care of our earth, it won't be there for us down the line. I think all the other factors are moot if we don't take care of the place that we live. – Female, LML/Fraser Valley, 20-34, LGBTQ+

Many would add 'wildlife' to this statement (limiting land, water and **wildlife** impacts) – specifically it was important that energy creation in the future does not destroy the natural habitat for fish (aquatic life) and animals along with other environmental impacts.

 A few recognized that any development will have an impact (negative and/or positive); to them, it was important that any project at least has the intent to minimize (limit) negative impacts.

- Gas emissions specifically related to reducing climate change and global warming for some.
- Reducing greenhouse gas emissions was seen as a direct RESULT (or a PRODUCT) of green energy.

#### **Keeping costs down for customers**

While environmental impacts were considered an important collective issue – **keeping costs down for customers spoke directly to the individual** = 'What's in it for me?'

As the only electricity provider keeping costs down was especially important for BC Hydro, given that customers do not have any other options (no competition).

Low costs were also important in the context of increased cost of living in general. Additionally given current events (COVID) many felt commercial costs have been shifted to the residential customers increasing use/needs for the individual.

The costumer cost affects me personally, individually, and regularly, and because of where I am at right now, I try not to veer far off from the scheduled budget we keep while we work towards our various goals. The other items, while still important to me, are generally important to me for the benefit of the entire province and the manner in which that effects me.

- Female, Southern Interior, 35-49

## Supporting reconciliation as well as supporting the growth of B.C. economy were considered 'responsible' business practice for BC Hydro

### Supporting reconciliation with Indigenous Nations



- More important for some than others; reflective of past behaviours ('righting past wrongs') and moving forward responsibly - in a deliberately conscientious way in the future; respect for Indigenous people should not be considered a 'constraint'
- For many, this was less about 'reconciliation' and more about communication, transparency and treating Indigenous people with respect; development should be mutually beneficial
  - For those who are Indigenous or First Nations, reconciliation was strongly important on a personal level
- Some wished for BC Hydro to take a **more active role** in supporting and providing services to Indigenous communities.
- A few however felt reconciliation and/or Indigenous Nations should not be a focus, that 'enough has been done already' in this regard and that First Nations should not 'dictate' priorities.
  - This perspective garnered considerable reactions and was generally unpopular.

### Supporting the growth of B.C.'s economy



- Most considered helping support the growth of B.C.'s economy a fiscal responsibility for BC Hydro – especially given government involvement in the organization ('private-public' or 'crown-corp.' perceptions); supporting growth of the economy supports the residents of B.C.; a prosperous economy can help fund future projects
- Supporting economic growth most often suggested job creation but also providing benefits that would help the individual and the collective – supporting the 'working person' in B.C. not just supporting big businesses
- A couple however wondered if supporting growth was really the role of BC Hydro

While many felt the planning objectives were comprehensive, key factors missing for some included a focus on communication, education and transparency as well as accessibility

Communication, Education and Transparency



- There was a strong desire for a **clear focus on communication through education** to encourage reduction/conservation
  - This coupled with incentives was seen as the best possible way to support green energy and therefore was highly important to many
- Additionally, many wished for greater transparency
  - Clearly defined far reaching plan
  - Consultation with local communities; eliciting and listening to 'valued customers' feedback'
  - Consensus building

**Increased accessibility** 



Some also longed for a **focus on increasing accessibility to remote areas** in BC; a reliable distribution system that would be accessible to everyone

### PART 1 – THE FIRST 10 YEARS (2020-2030)

Where BC Hydro has enough clean electricity in their system to meet customer needs





Saving energy and money with energy conservation programs

Power

Smart

For more than 30 years, our Power Smart programs have played a key role in helping British Columbians reduce their energy use through energy efficiency education and providing incentives for purchasing energyefficient products.

When you try to be energy-efficient at home by doing things like turning off lights, washing your clothes in cold water and installing energy-efficient products, you reduce your electricity use and keep your bills down.

In addition to helping you save, Power Smart programs have also proven to be an effective way to reduce demand on BC Hydro's power system.



### Time Varying Rates

Managing your costs, shifting power demand with time varying rates (e.g. time of use)

Time varying rates are an effective way to shift electricity use patterns by charging customers a lower rate for electricity used during 'offpeak' times of day and a higher rate for electricity used during 'peak' times of day. We don't currently have time varying rates in B.C. but they're common among other utilities in North America.

For example, in B.C. we often see the highest demand for power in the evening as British Columbians are cooking dinner, watching T.V. and running their dishwasher. By charging a lower rate for electricity during other times of day, we can encourage British Columbians shift some of their energy-consuming activities, such as laundry or charging their electric vehicle to other times of day.

This can result in lower costs for you and also helps reduce the demand on BC Hydro's power system, helping to avoid upgrades to our infrastructure.

Time varying rates can be optional where you can opt-in to them, or a standard for all customers, but you have the option to opt-out.

		Optional: anyone can sign up for the rate	Default: anyone can choose to opt out
6	Performance	Limited ability to shift electricity use away from peak demand times due to lower participation.	Much greater ability to shift electricity use away from peak demand times as it's assumed most customers will participate.
	Infrastructure	May delay new costly infrastructure.	Greater ability to delay new cosily infrastructure.



### Demand Response

Using smart home technology to reduce electricity demand

Many utilities in North America work with customers directly to help them reduce their electricity use at peak times (when power use is the highest) by using devices to control when electricity is used. This is known as demand response and is enabled through home automation, commonly known as 'smart home' technology. You may be familiar with smart home tools, such as connected programmable thermostats, control switches or automated timers that can be managed through a device (e.g. a smartphone).

Introducing this type of home automation would also allow BC Hydro to provide you with more personalized advice, incentives and tips to help you reduce your electricity use, while also optimizing our electricity grid.

As a customer, demand response programs may be operated in different ways to help you save. Devices can be managed by you or managed by BC Hydro to optimize your electricity use and bill savings. While all of the *First 10 year ideas* were appealing and widely supported, *Power Smart* received most positive gut reactions and the strongest support ratings



### **'POWER SMART'**


*Power Smart* received strong positive gut reactions from most with virtually no negatives and had strong support from the vast majority



#### Presented Idea:

#### Saving energy and money with energy conservation programs

For more than 30 years, our Power Smart programs have played a key role in helping British Columbians reduce their energy use through energy efficiency education and providing incentives for purchasing energy-efficient products.

When you try to be energy-efficient at home by doing things like turning off lights, washing your clothes in cold water and installing energy-efficient products, you reduce your electricity use and keep your bills down.

In addition to helping you save, Power Smart programs have also proven to be an effective way to reduce demand on BC Hydro's power system.

# *Power Smart* was strongly appreciated for providing both education and incentives towards greater conservation

#### **Drivers of Appeal**

- Education and increased public awareness were seen as crucial components of conservation - customers long to understand the reasons conservation is important
- Education also translates to communication and partnership which helps ladder towards transparency
- Incentives were appreciated (saving money) and also pivotal to encourage change
- Power Smart programs are positioned as environmentally friendly AS WELL AS cost savings; the focus on conservation and education helps bridge the gap between what's in it for me (costs) and what does this mean for the greater community (environment/conservation)
- The idea of conservation (in general) was clearly understood as having the potential to positively impact the environment

#### **Questions/Concerns**

Primary concerns centered around impact, information, reach/fit and past experiences.

- ? Some questioned how much impact Power Smart initiatives have/could have; especially given the focus on residential consumption (vs. commercial/industrial)
- ? Others wanted **more information/specifics** clear targets/goals, how much impact Power Smart has had (past vs. present); while a few asked for more clarity around WHY more conservation was needed or why there were still rising costs despite efforts to conserve
- A few had negative past experiences with the program (did not see savings on bill; home rebates 'cumbersome'; new bulbs not as good/bright)
- x Power Smart **only felt achievable for some users not all** (unfair); not everyone can take advantage of appliance rebates; some initiatives are only geared towards home-owners, not applicable to renters

The Power Smart Program gives customers some ability to **balance cost saving/affordability with conservation** efforts – this **sense of control felt empowering**.

When describing personal experiences with *Power Smart* initiatives, the education component was most impactful, reflecting positively on BC Hydro; especially for those with kids or working in education

### "

I've seen the Power Smart displays at various festivals, making games for kids and providing info for adults. That's the best. Why did we start recycling? Because our kids came home and started policing our garbage cans! Same thing with seat belts way back.

- Male, LML/Fraser Valley, 65 years old

### "

I think that the **Power Smart programs make a difference.** They educate people and offer solutions and incentives to make the home more efficient. I have received pamphlets with my bills that I find informative. I have also enjoyed their booths that were set up at events such as the PNE. They made it fun and at the same time educated my children.

- Female, LML/Fraser Valley, 50-64 years old

### "

The BC Hydro Power Smart program came to my elementary school with the lighting bug program. **I remembered the lessons well into adult hood.** – Female, Vancouver Island/Gulf Islands, 35-49 years old

#### "

**Receiving information with my bill brings it back to my mind on a regular basis, which honestly helps because it is easy to get busy with life** and not realize that I have left the bathroom fan on upstairs, or all the lights in the basement, or even reminds me that I can have some enticing offers if I am looking for a new washing machine.

- Female, Southern Interior, 35-49 years old

I have had BC Hydro reps in schools and day camps, talking about renewable energy and how to save energy. **I really appreciated these efforts to educate the youth.** – Male, Southern Interior, 20-34 years old

#### "

Education is phenomenal for its ability to have a long term, significant impact. In fact, I am the product of some of this focus at a young age leading to an environmental focus in my life and education.

- Male, Southern Interior, 20-34 years old

I love this idea and it's something I follow closely, teach my kids about and try my best to adhere to. I do a yearly challenge to see if we can get our usage down. It's fun, I chat with friends about it and my husband and I enjoy it. It's exciting. I follow the links to the monthly or weekly giveaways and questions. I like learning about new tips, ideas and programs.

- Female, Vancouver Island/Gulf Islands, 35-49 years old

'Education & cost reduction' as well as 'promoting conservation with some of the biggest energy users' were considered most important relative to the future of *Power Smart* 



# Both 'Education & Incentives' and 'Promoting conservation for the biggest energy users' were considered part of a collective effort while laddering to transparency

Continuing to provide education and incentives for customers to reduce their energy use, and costs

- Providing education and incentives supported the idea of the necessity of a collective effort; greater outreach brings greater awareness = knowledge (awareness) is pivotal to encouraging change (an effective tool)
- Education = communication which in turn translates to partnership and transparency
- Meets the desire for a balance of conservation (reducing use) and affordability (cost savings/incentives)
- Incentives strongly supported = positive reinforcement greater potential for 'buy in' as humans are reward driven (want to know what's in it for me)
- Need for reminders to encourage continuous diligence easy to fall back into bad habits

Supporting industry by promoting conservation opportunities for some of the biggest energy users



- Focusing efforts on the biggest energy users = the greatest potential for impact
- Most understood the 'biggest energy users' to mean industry/commercial use – great desire for stricter controls and even penalties for industrial/commercial customers
- Many felt residential conservation efforts can only contribute so much; many would like to see commercial customers contribute more
  - A few wished for greater transparency from commercial customers about energy use (accountability)

# Some statements were held back by vague terminology; significance or importance was lower for those ideas that lacked clarity

Ensuring there's flexibility to ramp up program as demand for power increases into the future

- Some recognized demand has increased (and will continue to) especially with more and more new electricity-reliant technologies and therefore felt the ability to ramp up in the future was important.
- For others however this idea felt vague

   they asked for a clearer
   understanding of what demand would
   be as well as a clear plan as to how to
   prepare.
- Seen as important but slightly less overall.

### Providing targeted opportunities to customers who need it most

• Some felt those on a tight budget could benefit from greater assistance

 especially if they assumed 'those who need it most' was referring to them

- However, both 'targeted opportunities' and 'those who need it most' lacked clarity (vague); desire for greater specificity
- For a few this idea felt unfair opportunities should be available to everyone

### Avoiding or deferring the need to build new infrastructure

- Some felt new infrastructure was a necessity that cannot be avoided
  - Potential to be more costly later on

     why avoid or defer something that
     needs to happen (faulty
     infrastructure = problematic)
  - A few related this need to increased future demand – need to continue to evolve and grow/get ahead of the need
- Others however were concerned about potential environmental and financial impacts of building new infrastructure
  - A few were strongly opposed to building new dams – desire to reduce ecological footprint
  - Greater acceptance of improving existing infrastructure vs. building new

Reducing some program offers until we need the electricity savings

- Prevention was considered better than deferring.
  - Why wait?
  - Encouraging reduced usage should be part of on-going conservation efforts
- Vague 'program offers' was confusing for some; lacking clarity/meaning and therefore significance

### *'TIME VARYING RATES'*





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### Gut reactions to introducing *Time Varying Rates* were mixed; support leaned positive but was variable



#### Presented Idea:

Managing your costs, shifting power demand with time varying rates (e.g. time of use)

- Time varying rates are an effective way to shift electricity use patterns by charging customers a lower rate for electricity used during 'off-peak' times of day and a higher rate for electricity used during 'peak' times of day. We don't currently have time varying rates in B.C. but they're common among other utilities in North America.
- For example, in B.C. we often see the highest demand for power in the evening as British Columbians are cooking dinner, watching T.V. and running their dishwasher. By charging a lower rate for electricity during other times of day, we can encourage British Columbians shift some of their energy-consuming activities, such as laundry or charging their electric vehicle to other times of day.
- This can result in lower costs for you and also helps reduce the demand on BC Hydro's power system, helping to avoid upgrades to our infrastructure.
- Time varying rates can be optional where you can opt-in to them, or a standard for all customers, but you have the option to opt-out.

# While the idea of *Time Varying Rates* was appreciated for offering cost savings, this program felt more like an unfair penalty system in practice

#### **Drivers of Appeal**

- Opportunities to save money/lower costs were appealing for some – considered a great incentive to change behaviour
- ✓ Some felt time varying rates would easily fit into their lives; possibly requiring some shifts and discipline but they would be willing and able to alter their schedules to 'fit' time varying rates (e.g. shift laundry to during the day)
- ✓ The choice to opt-in or out was pivotal to acceptance for some; freedom of choice
- A few had positive experiences with time of use elsewhere (Europe, Iran)
- A couple appreciated the focus on awareness around hydro use

#### Questions/Concerns

X The biggest issue with time varying rates was a **perceived lack of fairness**:

- Many felt they would not reasonably be able to take advantage of this program without severe disruption to their lives (e.g. some things cannot be shifted out of the evening – making dinner, watching TV; parents with kids; those with mobility challenges and/or renters with shared laundry) - this left them feeling unfairly penalized
- Current context: COVID has shifted the energy burden from the workplace to residential for some increased usage = increased costs without choice
- x A few felt this type of program would not make a REAL difference people would not shift behaviour; therefore, it **effectively becomes a way to increase rates/charge MORE**
- x A few expressed a **desire for more information** or specific details about cost savings before agreeing to opt-in
- x A few had **negative experiences** in other provinces with time varying rates (specifically Ontario) viewed more as a penalty system than an incentive program

**Fairness is important;** the people of BC do not want to be 'penalized' based on factors they cannot control (i.e. those with a 9-5 job, families/kids and/or shift workers felt they would be paying a premium for evening use) – Time varying rates were seen as exclusive

use) – Time varying rates were seen as exclusive.

# Fairness was a key factor; customers were concerned about being unfairly 'penalized' based on factors beyond their control

### "

There are certain activities that need to be done at certain times of the day. It's not exactly convenient to shift my dinner a few hours later to avoid using power during a peak time, for example. (...). If I'm going to watch a movie or play a video game, I'm going to do that once I get home from work, not in the early hours of the morning before I leave the house or in the middle of the day when I'm not even home.

- Male, LML/Fraser Valley, 20-34

### "

My worry or concern is that **I probably will get charged more** because I do make dinner in the early evening and we do watch TV at night. Those things cannot be shifted.

- Female, LML/Fraser Valley, 50-64

### "

Not a good idea. Not in favor. As a family with kids we have to follow a routine...If **6-8 are the peak time, we can not wait 9 pm to have dinner. That is bedtime**. [I am] against totally.

- Male, LML/Fraser Valley, 35-49

#### "

Many people do not have any choice in what time of day they do certain activities, so it doesn't seem fair or practical.

- Female, Vancouver Island/Gulf Islands, 35-49

#### "

But I'm also scared that it would punish people most in need who have no choice but to do their laundry, dishes, etc. during the evening because of constraints on their time. People who are working two jobs and only have time off in the evenings for example. I suppose if it were VERY clear that they could opt out and easy to do so I would feel better about it. - Female, LML/Fraser Valley, 35-49y

#### "

"I believe that people shouldn't be **penalized for doing something when they have to** (some families schedules are inflexible)... " - Male, Southern Interior, 20-34

#### "

...people generally use more power in the evening while cooking, watching TV, etc. I don't think we should all be penalized for this." - Female, LML/Fraser Valley, 50-64

#### Factors that focused on the individual (costs, flexibility and choices) were considered most important



# Low costs (affordability) had the potential to be motivating; support for *Time Varying Rates* was strongly associated with the ability to personalize participation (flexibility/choice)

Keeping costs as low as possible	Offers rates that suit my lifestyle needs	Provides customers with the choice to opt in	Standard for customers but provides customers with the choice to opt out
<ul> <li>Keeping costs as low as possible spoke directly to affordability, which was highly important to a strong majority</li> <li>Low costs provided the customer with a reason to support the idea of Time Varying Rates</li> <li>Some felt keeping costs as low as possible was especially important given high cost of living</li> </ul>	All three of these ideas were appred lifestyle dictates usage (i.e. work so Rates could feel punitive. However i the program felt more flexible and th • Rates that suit <i>my lifestyle</i> felt personalized and suggested flexible options to offer benefits for a variety of circumstances.	<ul> <li>ciated as offering flexibility and freedor</li> <li>chedule 9-5; families with kids; etc.); if F</li> <li>if given the OPTION to opt in (or out) with the option to opt in (or out) with the effore more like a 'BONUS' (for some of their control.</li> <li>Freedom of choice</li> <li>Opting in felt less underhanded (vs. opting out) for some; by requiring an opt in the act to participate would be intentional and if they had the option to opt out in the future that might encourage participation (trial period)</li> </ul>	<ul> <li>m of choice to customers. For many, ORCED to participate, Time Varying ith varying options based on lifestyle ) vs. a punishment for factors outside</li> <li>Freedom of choice</li> <li>The option to opt out however would likely MAXIMIZE participation as opting out would require intentional action</li> <li>If structured as an 'opt-out', communication and transparency are highly important to avoid appearing underhanded/sneaky</li> </ul>

Strong preference from many to maximize existing infrastructure before considering building new; 'peak demand' reductions lacked clarity and was therefore seen as lower importance

### Avoiding or deferring the need to build new infrastructure

As with *Power Smart*, reactions were mixed:

 Those who felt avoiding or deferring the need to build new infrastructure was extremely important would prefer maximizing use of existing infrastructure FIRST, before building new. New infrastructure is considered expensive/negative impact to the environment. A few also wanted to wait for newer technology before investing in infrastructure.

"

I would rather improvement to current infrastructure rather than using up more green space. – Male, LML/Fraser Valley, 35-49, Disability

New infrastructure is expensive and always has a big impact on the local environment. I also think our current power technology is old school, so we should avoid building a lot more of it. I hope for some energy technology revolutions in the near future that will make the current stuff obsolete. – Male, LML/Fraser Valley, 50-64, LGBTQ+

• Those who felt this was of lower importance recognized the need to maintain infrastructure and keep up with demand into the future may mean building new infrastructure out of necessity.

#### Accumulates peak demand reductions quickly



- This statement was vague/lacked clarity or reason to support; it was unclear why customers should care specifically about 'peak demand reductions' or 'accumulating peak demand reductions quickly'
- The idea of 'peak demand reductions' did not co-relate with conservation in general but more often was assumed to relate to discounted costs/rates.



I didn't understand this statement "Accumulates peak demand reductions quickly" – Female, Vancouver Island/Gulf Islands, 50-64



"

I don't understand what "Accumulates peak demand reductions quickly" refers to to be honest. – Male, LML/Fraser Valley, 35-49

I am guessing that "accumulates peak demand reductions quickly" means we get some type of discount during peak times if we can reduce our usage? – Female, LML/Fraser Valley, 50-64

### 'DEMAND RESPONSE'





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# Gut reactions to *Demand Response* leaned positive; while strong support from some, mixed support overall



#### Presented Idea:

#### Using smart home technology to reduce electricity demand

- Many utilities in North America work with customers directly to help them reduce their electricity use at peak times (when power use is the highest) by using devices to control when electricity is used. This is known as demand response and is enabled through home automation, commonly known as 'smart home' technology. You may be familiar with smart home tools, such as connected programmable thermostats, control switches or automated timers that can be managed through a device (e.g. a smartphone).
- Introducing this type of home automation would also allow BC Hydro to provide you with more personalized advice, incentives and tips to help you reduce your electricity use, while also optimizing our electricity grid.
- As a customer, demand response programs may be operated in different ways to help you save. Devices can be managed by you or managed by BC Hydro to optimize your electricity use and bill savings.

# *Demand Response* was appreciated for convenience and automation, but the program felt exclusive; many were uncomfortable with one or more aspects of this program

#### **Drivers of Appeal**

- Demand response was appreciated for automated conservation (reducing electricity use when it was not needed/controlling use, especially at peak times) = greater efficiency
- Some saw this program as an extension of other smart home tech. they already appreciated (e.g. thermostat, washer/dryer, lights)
- Some appreciated the **personalization** demand response offered – the program felt **catered to the individual**
- Potential cost savings were appreciated by some, helping to keep costs down
- A few liked the convenience and peace of mind provided by controlling energy use remotely

#### **Questions/Concerns**

- ? Demand response felt somewhat exclusive for many: initial costs to participate only accessible to those who can afford it who would pay for all of these smart home devices? who is responsible for making these changes? Only available for some/those comfortable with technology (concerns from those with older homes/renters)
- x Many also had concerns about privacy/data security (do not want to be hacked)
- x Many (older) were **uncomfortable** with the idea of **adding MORE technology**; already felt uncomfortable with the tech they have
- ? A few were concerned about **needing WIFI access** (low income; rural areas with unstable connection; older ages)
- x A couple felt uncomfortable with the idea of **notifications** about using too much (fear of being cut off or shamed); adding unnecessary stress

Those **familiar with** and/or already using **smart home technology** (e.g. programmable or smart thermostats) were **generally supportive of the idea** of demand response; the **biggest concerns** related to **cost** and **privacy**.

# "

Well, obviously, I want to save money. If I can get away with adding new stuff to my house: I will. As much as I like new things and new technology; I am also a little wary. I wonder about the costs and about the effectiveness. And of course, don't forget about the concern of devices "listening".

Female, North Vancouver, 50-64



# Support for Demand Response was greater for those already familiar with 'smart' home technology; those less comfortable with technology overall were less supportive overall

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"

#### Familiar with Smart Home Tech

I already use so called "smart appliances and devices" daily from a digital, programmable thermostat to an on-demand water heater to a smart fridge. Not only have they improved the quality of my life, They have definitely saved me a bunch of money. – Male, LML/Fraser Valley, 35-49

We have used a programmable thermostat successfully for years which automatically have the heat come on a half hour before we generally get up in the morning and turns off the heat when we go to work etc. I think other devices could be a big help. – Female, Vanc. Island/Gulf Islands, 50-64

"

"

I love this. We moved to smart home tech a year or two ago and its been awesome. We saw a decrease in our bill right away. Even just little things like the lights going out when we leave, the heat decreasing but you program it to come on just before you get downstairs in the morning or when you should be home is awesome. – Female, Vanc. Island/Gulf Islands, 35-49 Knowledge/comfort gap presented a big barrier for some (especially older); many felt they would need individualized support

I'm kind of a tech moron, don't even have a cell phone, but if BC Hydro could design a plan for me according to my needs that would save me money and save electricity, I'd be all for it.
— Male, Vanc. Island/Gulf Islands, 50-64, Lower Income

BC has an **aging population** that **may not have the knowledge** of how to use it, or anyone to help them.

- Female, Vanc. Island/Gulf Islands, 35-49
- I can safely say though, that I would have to help my mom (77) a lot with this before she got the hang of it lol, not to mention my in-laws who don't even have the internet!
- Female, Southern Interior, 35-49

The other part of it is our lack of comfort with new technology. If anything could help, I guess it would be having someone actually coming into my home and sitting with me to guide me through the process of setting things up. Doing it over the phone just wouldn't work for me. Whenever I have to do things over the phone, I absolutely hate it. I think my blood pressure must go almost off the scale. It is something I avoid at all costs. I may be my personal way of operating, it may be my age, it may be a fear of technology.....who knows. – Female, Central Interior, 50-64

### Saving money mattered most, mixed reactions to the idea of adding technology



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### Affordability and convenience drove interest for some; however many were hesitant towards adding smart technology to their homes – the benefits did not outweigh the concerns or perceived risks

#### Saving money on my electric bills

- Saving money spoke directly to affordability, which continued to be of highest importance (what's in it for me?)
- However, many wondered HOW Demand Response would help them save money, especially with the ADDED costs of introducing smart technology to their homes.
  - A few assumed rebates would be available; if offered rebates must be easily accessible (not onerous)

#### "

The most important to me is saving money, but not at the expense of spending more money on technology pieces in my home. – Female, Vanc. Island/Gulf Islands, 35-49

### Convenience of managing my electricity use through a device

- Those who were more open to introducing demand response saw convenience as a primary benefit (even 'a luxury')
- Managing electricity through a device (remotely) offered peace of mind for some (can check phone remotely to see if remembered to turn something off)
- For many however the idea of demand response was **not a priority**

#### "

Being able to set the heat in the house the when I wake up in the morning and when I get home at night would be a great luxury for me! I think the whole convenience of it while helping reduce bill costs is great! – Female, LML/Fraser Valley, 20-34

#### "

As for managing smart technology in my home, it just isn't a priority or natural aptitude for me, so it is not a service I would value.

- Female, Vanc. Island/Gulf Islands, 35-49

#### Reducing BC Hydro's costs by avoiding or deferring the need to build new infrastructure

- Reactions to avoiding or deferring the need to build new infrastructure were similar for *Demand Response* as in previous ideas presented – perspectives remained consistent: if they supported infrastructure with one idea, they supported it with all
- However adding details around reducing costs did have the potential to increase interest/support in this type of initiative

#### "

My stance on infrastructure has not changed, if we need to build it for growth, then that is a necessary project. However, I know that is costly to taxpayers and I would love to see long lasting options that reduce costs in the long run.

- Male, LML/Fraser Valley, 20-34

#### Adding new smart technology to my home

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- Many were hesitant towards technology – perceived benefits were not enough (no unmet need)
  - Have enough tech. in their lives already and/or do not like the idea of relying too heavily on technology – especially for things they are able to manage themselves
  - Concerns about **device 'listening'** (privacy)
- Some were open to the idea but would need convincing:
  - Clear benefits to the environment
  - Costs savings
- Those in favour were generally familiar/accustomed to smart home tech; they appreciated the convenience and peace of mind of having control remotely – both for reduced consumption but also for comfort (e.g. heat turns on before out of bed) and safety (e.g. can turn on lights before come home without having to leave them on)

### PHASE 2 – THE LATER 10 YEARS (2030-2040)

Where BC Hydro expects to need new supply

#### **Phase 2 Details**

#### Continuing to power the future with clean electricity

- When we think about the future of the province's power system, there are many things to consider.
- Ten to twenty years from now, we may see a gap between how much electricity BC Hydro can generate with their
  existing clean electricity resources and how much electricity they're going to need to meet the needs of their
  customers. To ensure BC Hydro can continue to provide clean, reliable power to their customers, they are planning for
  this possibility now.
- We're fortunate in B.C. to have a large hydroelectric system that is powered by water that we can ramp up or ramp down almost instantaneously in response to changes in the demand for power from our customers. Our large reservoirs also allow us to store water for when demand is the highest, like in the colder, darker winter months.
- Looking ahead, we want to ensure we continue to rely on clean, renewable resources and perhaps look at other options beyond hydroelectricity, such as wind or solar. However, the challenge with this type of generation is it is intermittent, meaning it only generates when the sun is shining, or the wind is blowing.
- As we plan for the future and how we'll continue to meet demand from our customers with clean, renewable power, there are three ways we can do this:



#### Considerations

- While conservation efforts are usually the most cost effective and have the least environmental impact, the price of implementing conservation increases as you do more.
- Upgrades or additions to BC Hydro's existing system likely are the next cheapest option, followed by pumped storage. However, the prices of batteries are falling quickly and may be competitive in the 2030s.
- Resources like batteries and pumped storage can be put close to areas with high demand with minimal environmental footprint, and would limit the need for upgrades or additions to the transmission system. However, there are environmental concerns over battery creation and disposal.
- Pumped storage comes with its own environmental footprint as well as impacts to aquatic habitat.

All ideas were strongly supported, 'Upgrading the system' received the most hesitation (initially)



\*\*Note –support rating indicates pre-consideration support based on the ideas alone

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# When ranked (after sharing the considerations) 'Greater Conservation/Customer Involvement' rose to the top; 'Upgrading' was more strongly supported over both new local storage options

#### **Presented Ideas:**

- While conservation efforts are usually the most cost effective and have the least environmental impact, the price of implementing conservation increases as you do more.
- Upgrades or additions to BC Hydro's existing system likely are the next cheapest option, followed by pumped storage. However, the prices of batteries are falling quickly and may be competitive in the 2030s.
- impacts to aquatic habitat.
- Resources like batteries and pumped storage can be put close to areas with high demand with minimal environmental footprint and would limit the need for upgrades or additions to the transmission system. However, there are environmental concerns over battery creation and disposal.
- Pumped storage comes with its own environmental footprint as well as impacts to aquatic habitat.



Q. Rank these ideas base on how supportive of them you are\*\*

### 'Greater Conservation/Customer Involvement' felt most tangible and easily understood; Upgrading the EXISTING infrastructure was strongly preferred over replacement/new projects

Greater Conservation/ Customer Involvement	Upgrading the system
<ul> <li>Promoting partnership and communication – customer involvement seen as vital for success of any program (buy in); easiest way forward</li> <li>Education and raising awareness key ("no brainer") – important for everyone to understand their role in conservation and energy use</li> <li>Conservation = critical for sustainable resource use; less use = more efficiency</li> </ul>	<ul> <li>Many recognize upgrading the system is inevitable and cannot be avoided long term (over time all things need upgrading)</li> <li>Upgrades preferred over replacement/new projects</li> <li>Hope that upgrades would make systems more sustainable/eco-friendly and efficient and include new technologies – solar, wind, etc.</li> </ul>
<ul> <li>? What about commercial customers? Strong desire from some to buckle down on the biggest users; residential use only a piece of the pie = minimal impact overall</li> <li>x Some concern customer involvement cannot be relied upon</li> <li>x Others were concerned specifically about time varying rates, shifting costs on to the customer, home automation (privacy concerns) or exclusive programs like solar (not accessible to all)</li> <li>x Renters and those living in condos/apartments may not have the ability to add solar panels/generate their own power</li> </ul>	<ul> <li>x Pre-considerations, many had concerns about cost (taxation, increased rates) and effectiveness;</li> <li>NOTE: after seeing the 'considerations' (specifically that this is one of the least expensive options) support increased</li> <li>x Potential impacts on environment: wildlife, land and Indigenous communities continued to be of concern</li> <li>When understood as building NEW, 'upgrading' was seen as a last resort – strong preference to use existing infrastructure FIRST (not building NEW unless necessary)</li> </ul>

# New local storage ideas piqued interest; however many required MORE information to determine support; questions and concerns focused around costs and environmental impacts

	New local storage – Pumped Storage	New local storage - Batteries
Drivers of Appeal	<ul> <li>Pre-considerations, many THOUGHT this idea seemed more environmentally friendly (until made aware of impacts to aquatic life/habitats)</li> <li>This idea piqued interest – a 'reasonable' or compelling 'new' idea potentially building on existing hydro infrastructure</li> </ul>	<ul> <li>✓ The idea of batteries (in general) was well understood as a back up/buffer for peak times/emergency use offering some a sense of security</li> <li>✓ Appreciated as a possible way to store wind or solar power</li> </ul>
Questions & Concerns	<ul> <li>x Concerns about environmental impact unaided (flooding? impact to waterways?); after seeing the considerations there was STRONG negative response to impacting aquatic habitats</li> <li>? Efficiency questions - does it use more energy than it produces?</li> <li>? How much does it cost? (sounds 'expensive')</li> <li>? General lack of understanding or familiarity – requiring more information <ul> <li>? Has this been successful elsewhere?</li> <li>? Infrastructure needs? Noise?</li> <li>? Ease of implementation?</li> </ul> </li> </ul>	<ul> <li>x Concerns about environmental impact (in production and disposal) – both aided and unaided</li> <li>x Concerns about costs and added infrastructure</li> <li>? General lack of understanding or familiarity – many longed for more information/details <ul> <li>? Storage needs/infrastructure requirements</li> <li>? Impact of storage (On health? Environmental?)</li> <li>? How long do they last? What about long-term solutions?</li> <li>? Has this been successful elsewhere?</li> <li>? Ease of installation &amp; use?</li> </ul> </li> </ul>

### IMPACT OF CONSULTING BRITISH COLUMBIANS

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# Strong appreciation for BC Hydro's efforts to talk to consumers/ask for their opinions; discussion was 'thought provoking' and many felt they learned something new in the process

### "

I admire the efforts of BC Hydro to reach out to their customers for input. – Female, Vanc. Island/Gulf Islands, 50-64 years old

#### "

"

I'm pleased to know BC Hydro is seeking this input. It makes me feel better knowing they've consulted a wide range of opinions. – Male, LML/Fraser Valley, 50-64 years old

*I just want to say thanks. I think BC Hydro is doing a good job. I am happy that they are considering so many options and are planning ahead for the future.* - Female, LML/Fraser Valley, 50-64 years old

#### "

I just wanted to voice my appreciation for the opportunity to share my opinion and thoughts on the matter from my perspective. **It is reassuring to know that BC hydro wants customer feedback before proceeding.** I do have faith that BC hydro will do their best to make an environmentally sound decision and costs will be reasonably weighed. – Female, Vanc. Island/Gulf Islands, 35-49 years old

#### "

My final thoughts are my **kudos to the BC Hydro Power Smart program**. I really love reading their blog and tips on power saving.

Male, LML/Fraser Valley, 50-64 years old

#### I love that there is research being done with the general public about these issues.

(...) If BC Hydro doesn't consult the public, the public will complain. I'm sure they will complain anyways, but it is nice that they are going out and inquiring. Going forward this is going to be one of the most important issues, so I am glad we are starting to think about this now! – Male, Southern Interior, 20-34 years old

#### "

*I like the information provided. I think most of us have an opinion on how things should be but don't necessarily have all the facts. This is why I believe that knowledge, education (...) and participation is super important when it comes to energy consumption.* – Female, LML/Fraser Valley, 20-34 years old

#### "

Doing this survey I realized that there's a lot I don't know about BC Hydro's plan for the future. It hadn't occurred to me that we may have an energy shortage in the future, so that was interesting. It's encouraging that Hydro is looking ahead to come up with solutions now. – Female, Vanc. Island/Gulf Islands, 50-64 years old

#### "

I had no idea any of this was in the works with BC Hydro, and **am pleasantly** surprised by what I have learned here. I hate to admit, but clearly I have been a bit of a blind consumer since "growing up" and this is more information than I have received (or perhaps made the time to read) in a long time. It **makes me hopeful that** there are some positive developments in the works! Thank you for including me :) – Female, Southern Interior, 35-49 years old

#### "

**BC Hydro is a reputable company,** and it is **nice to know they are doing a research and taking in account the environment**. Whatever the plans may be (if they chose battery/pumps), it will not make my opinion of BC Hydro different.

- Male, LML/Fraser Valley, 35-49 years old

Reminder: in this research participants were NOT required to be favourable towards BC Hydro as part of recruitment criteria

# THANK YOU

Bronwen Ward Director of Insights 705-345-1258 bronwen@upwords.ca upwords

### APPENDIX

Discussion Guide for Reference

#### Discussion Guide – details, confidentiality and introductions

#### upwords

- TO BC Hydro: KC Sato
- FROM Bronwen Ward, Layla Shea
- DATE September 17
- SUBJECT BC Hydro - Integrated Resource Plan - Final Approved Guide for Programming

#### Details:

#### **Research Objectives:**

To deeply understand customer perceptions and opinions on topics related to the Integrated Resource Plan, also known as Clean Power 2040.

#### Project Details:

- Field dates
- 2 'days' September 22 and 23
- Sample Size: 70 participants recruited aiming for 60+ completes in English only
- · Participants will be divided into 6 'discussion groups' of 10-12 people; groups will be balanced with a mix of gender/age/regionality/special interest represented in each.

#### Stimulus - final stimulus to be delivered to Upwords by EOD PT Friday September 18

#### Activity Plan:

The activity plan that follows represents a sort of "script" that the moderator will upload into the discussion platform. Participants will respond to each of the tasks. The moderators will then be able to probe where necessary for further detail.

#### Programming Notes - for platform programming only:

- · To eliminate bias this discussion will be set up so that all of the activities are partially masked. After first completing tasks independently, participants will be shown the responses of others in their discussion group (limit to groups) and encouraged to build (respectfully) on the ideas of others. Each person will see the responses of 10-12 other people only as to not overwhelm or fatigue them with too many people to interact with while still allowing for building of ideas.
- · Programming notes and details will be delineated throughout this guide in grey text
- · Programming note: All activities will be programmed to be completed sequentially (prerequsite only); activities will not autoforward
- · Each group of participants will complete one mark-up only as noted in the guide below

#### Moderator Notes:

 Probes and areas to 'listen for' have been delineated throughout this guide in blue, noting these areas are not programmed into the platform for the live discussion in-field, but are instead considerations to be factored into the discussion as appropriate.

Task Activities and Questions		
	Pre discussion	
CONFIDENTIALITY AGREEMENT AND CONSENT	PLEASE READ THE FOLLOWING IN DETAIL THEN CLICK 'ACCEPT' BELOW TO CONFIRM YOU HAVE READ AND UNDERSTOOD THIS AGREEMENT AND CONSENT TO THE TERMS WITHIN	
(UPWORDS UPDATED VERSION 2019)	In consideration of Upwords considering you, the undersigned, for participation in one or more of Upwords' research studies, you agree with Upwords as follows:	
	<ul> <li>Your privacy will be protected in accordance with Upwords' privacy policy available at www.upwords.ca/privacy. Your personal information will remain confidential and will not be sold or distributed to a third party except with your consent.</li> <li>You consent to Upwords collecting personal information from you during and in connection with your voluntary participation in our qualitative research</li> </ul>	
	activities. This may include your name, place of residence, household composition, product or service usage information and your perspectives and opinions on various topics. • You agree that Upwords may collect this personal information from you in	
	writing or orally, by way of pictures you may provide us, by personal observation of you, and/or by video or audio recordings of you and your comments.	
	<ul> <li>You consent to Upwords using this personal information for its qualitative research and training and disclosing it to Upwords' client for this project for their research purposes.</li> </ul>	
	<ul> <li>You hereby consent to Upwords and its client for this project reproducing, copying, or otherwise using your image, name, oral statements and likeness or any material based upon or derived therefrom, in whole or in part, in any media, for research or training purposes.</li> </ul>	
	<ul> <li>You agree to keep all information disclosed to you through this study CONFIDENTIAL. This applies to all information you may receive from us, including the contents of the discussion and anything you are shown during our discussion, including advertising and marketing ideas and concepts.</li> </ul>	
	packaging, and new product and service ideas. YOUR OBLIGATION TO KEEP THIS INFORMATION CONFIDENTIAL MEANS THAT YOU CANNOT DISCUSS OR DISCLOSE ANYTHING THAT WAS DISCUSSED OR SHOWN TO ANOTHER	

Homepage ANNOUNCEMENT message – Welcome!	I confirm I have read and understand this agreement. I agree with and consent as set out above. Must click 'Accept' to access discussion [Moderator to post welcome video with expectations for participants] Instructions to include: Professional moderator and consultant do not work for the organization sponsoring this research No right or wrong answers, as you work your way through the tasks if there is something that is unclear or confusing to you please let us know Not trying to sell you anything, nor will we in the future Additional expectations and navigation details There will be around 1 hour of activities for them to complete, they can choose to complete it all at once or they can break it into pleces to complete over the next
	coupie days – ali tasks will be open and available as or bam P1 Tuesday September 22
	Section Title: Getting Started
~ 5 mins	Since we are going to be spending a bit of time together, it's only appropriate that we introduce ourselves! Please click 'Respond' to continue. Note: In this task and some of the other activities in our project once you post your response you will be able to see the responses of some of the others in our discussion group – if you have something in common let them know  if you don't see anyone else's response, that just means you are the first to complete this task: JPlease try to login a bit later and check out what others are saying. When you are ready to continue click on the next available task in the activity list on the right side of your screen. QUESTIONS: Write a paragraph introducing yourself to me. Within your paragraph make sure you include the following details; First name or what you like to be called Who else (if anyone) likes in your household (don't forget the pets!)
	<ul> <li>What you do with all your time (work, play etc.)</li> <li>One word that a friend might use to describe you and the reasons why that word is appropriate (or not!).</li> </ul>

PERSON.

#### Discussion Guide – context setting and planning objectives

			Please click 'Respond' to continue.	1.3 Factors	INTRODUCTION:
	1		Note this activity will be completed privately – you will not see the responses of others in our discussion and they will not see your response. After completing this activity please click on the next activity in the list on the right side of your screen to continue.		Now I'm going to show you some specific factors here related to priorities for BC Hydro with respect to planning for a clean electricity future – you may or may not have mentioned some of these in the last activity.
	Client note: this task is used as a warm up for participants, we will be coding participant regions based on their screener specs to correspond with the BC Hydro District map (see anneally for reference)		QUESTIONS:		Please click 'Respond' to continue.
	Discussion Activities		When you think about BC bludes what comes to mind? Tell are aputhing you think of Do		Note: This activity is set up so that once you past your response you will be able to see the
1.0 Your Home	INTRODUCTION:		this quickly so it's just off the top of your head and don't look up any info on it <sup>(2)</sup> . What top of mind thoughts pop into your mind when you hear 'BC Hydro'?		responses of some of the others in our discussion. Pieze read what others in your discussion group are saying and comment (respectfully of course @) where appropriate.
Set as private – no participant	In our discussion today we will be talking all about services and utilities for your household that you might pay for each month.		Open-ended: Essay		If you don't see anyone else's response, that just means you are the first to complete this
interaction	Please click Respond to continue				task :) Please try to login a bit later and check out what others are saying.
	Note this activity will be completed privately - you will not see the responses of others in		Client Note: Here we will be establishing a base line for impressions about BC Hydro.		When you are ready to continue click on the next available task in the list on the right side
	our discussion and they will not see your response. After completing this activity please click	1.2 Priorities	INTRODUCTION:		of your screen.
	on the next activity in the list on the right side of your screen to continue.		In our discussion today we are going to not only focus on BC Hydro, but more specifically we will be talking about B.C.'s clean energy future.		QUESTIONS:
	QUESTIONS:				Please indicate on the below scale of 1-5 how important EACH of the following factors is to
			BC Hydro is fortunate in B.C. to have a large hydroelectric system that provides clean		you personally with respect to BC Hydro planning for a clean electricity future.
	Let's focus specificially in on the kind of energy you use to heat your home and water.		power to nomes and ousnesses in the province. Commung to provide clean, reliable		Insert Matrix
	some of the ways in which you might heat your nome/water include: natural gas, wood, propane, diesel, electricity, etc		looking at the lowest cost options to meet new demand and also consider other planning		
			priorities to make choices on how to best meet future need.		Rows - randomize:
	What kind of energy do you use to heat your home and/or water? And, how do you feel about the kind of energy you are currently using?		Please click 'Respond' to continue		Keeping costs down for customers Reducing greenhouse gas emissions through clean electricity
	Open-ended: Essay		Note: This activity is set up so that once you post your response you will be able to see the responses of some of the others in our discussion. Diagram and what others in your		Limiting land and water impacts Supporting reconciliation with Indigenous Nations
	Please click the 'submit' button to post your response to the discussion. When you are		discussion group are saying and comment (respectfully of course G) where appropriate.		Supporting the growth of B.C.'s economy
	finished click on the next available task in your list to continue.		If you don't see anyone else's response, that just means you are the first to complete this		Columns
1.1 This provider	INTRODUCTION		task :) Please try to login a bit later and check out what others are saying.		<ul> <li>5 - Extremely important</li> </ul>
and this provider					• •
Set as private - no	For the rest of our discussion we are going to be focusing on one energy provider		When you are ready to continue click on the next available task in the list on the right side		* 2
participant	specifically: BC Hydro. As you work your way through the tasks please DO NOT look up ANY information about this company or any others we might discuss here. It is super		of your screen.		<ul> <li>1 – Not at all important</li> </ul>
	important that we simply understand what you currently know and think - this is not a		QUESTIONS:		Tell me about your responses above. What specifically makes some factors more important
	test		With this is mind i'd love to hear shout your priorities here. What is most important to		than others for you personally?
			YOU with this in mind is note to hear about your promites herewhat is most important to YOU with respect to BC Hydro planning for a clean electricity future?		Open-ended – Essay
			Open-ended – Essay		And, what if anything is missing from this list? Without repeating your earlier coments
			Client Note: here we will be listening for their top of mind priorities; listen for clean		sheare any other factors that are important that should be considered priorities from your

upwords

perspective.

electricity to come up here organically

#### Discussion Guide – Power Smart

	Open-ended – Essay		What is your gut reaction to BC Hydro's Power Smart programs (collectively) today? Are the ideas in this program more of a thumbs up. Thumbs down or Thumbs somewhere in	Γ		Please indicate on the below scale of 1-5 how important EACH of the following factors is to you personally when thinking about the future of BC Hydro's Power Smart programs.
			the middle?			to reaction of the second of the second of the reaction of the second of
	Client Note: we are recommending assessing intensity in the qual to add a layer of depth to					Insert Matrix
	the overall learnings. Here specifically we will be listening to understand what contributes		Insert poll – single select			
	to the weight - what makes one/some of these factors more important than the others		<ul> <li>Thumbs up</li> </ul>			Rows - randomize:
	specifically; watch for the weight that is placed on clean electricity - aiming to understand		<ul> <li>Thumbs in the middle</li> </ul>			Reducing some program offers until we need the electricity savings
	how much emphasis people put on CLEAN		<ul> <li>Thumbs down</li> </ul>			Continuing to provide education and incentives for customers to reduce their energy
1.4 Power Smart 1	INTRODUCTION:		in the second second stall are about record second second			use, and costs
			In the space provided tell me about your response.			Ensuring there's flexibility to ramp up program as demand for power increases in the
	This initiative for BC Hydro is called the integrated Resource Plan, also known as		Please make sure to include:			Tuture Supportion industry by promotion concentration connectivation for some of the biggest
	CleanPower 2040, and will include planning for the next 20 years. BC Hydro is currently		What, if anything, you like about this idea			supporting industry by promoting conservation opportunities for some of the biggest
	1. The first 10 years where they have enough clean electricity in their system		<ul> <li>Any worries or concerns you have about it</li> </ul>			Providing targeted opportunities to customers who need it most
	to meet customer needs		<ul> <li>And, anything that you are confused about or do not understand</li> </ul>			Avoiding or deferring the need to build new infrastructure
	<ol><li>And, the later 10 years where they expect to need new supply.</li></ol>					
			I'd also appreciate if you can share a story or example of how BC Hydro's Power Smart			Columns
	Let's focus on the first part of this plan (the next 10 years) firstplease review the		programs are personally applicable to your life and the ways in which BC Hydro's Power			<ul> <li>5 - Extremely important</li> </ul>
	description below in detail.		Smart programs impact you personally today.			• 4
						• 3
	Saving energy and money with energy conservation programs		Open-ended – Essay			* 2
			Moderator note: listen for the following - in each of the subsequent sections (1.4 - 1.12)			<ul> <li>1 – Not at all important</li> </ul>
	For more than 30 years, our Power Smart programs have played a key role in helping		Listen for understanding of the concents vs. value			
	British Columbians reduce their energy use through energy efficiency education and		<ul> <li>Past participation in BC Hydro programs and the impact</li> </ul>			Tell me about your choices. What specifically makes some of these factors more important
	providing incentives for purchasing energy-efficient products.		Concerns/excitement/indifference			than others for you personally when thinking about the future of BC Hydro's Power Smart
	When you to its he energy officient at herea by dates things like turning off lights working		<ul> <li>Applicability to their lives today</li> </ul>			programs r
	your clothes in cold water and installing energy efficient products you reduce your	1.5 Power Smart 2	INTRODUCTION:			Open-ended - Essay
	electricity use and keep your bills down.					open ended anoty
			Let's continue to think about BC Hydro's Power Smart programs here			Moderator note: Listen for confusion around language (e.g. program offers)
	In addition to helping you save, Power Smart programs have also proven to be an effective		As BC Mudro expects to have ensuch power to meet demand over the past 10 years and	1	1.6 Power Smart 3	INTRODUCTION:
	way to reduce demand on BC Hydro's power system.		the PowerSmart programs do require ongoing investment, they have a decision to make			
			and want your input.	5	Set as private – no	Please click 'Respond' to continue.
	Please click 'Respond' to continue.			F	participant	
	Note: This activity is set up to that once you not your second you will be -blobs		Please click 'Respond' to continue.	1	nteraction	Note this activity will be completed privately – you will not see the responses of others in
	Note: This activity is set up so that once you past your response you will be able to see the					our discussion and they will not see your response. After completing this activity piedse circk
	discussion aroun are savian and comment (respectfully of course (2) where appropriate		Note: This activity is set up so that once you post your response you will be able to see the			on the next activity in the list on the right side of your screen to continue.
	ascassion group are saying and comment (respectively of course of where appropriate.		responses of some of the others in our discussion. Please read what others in your			QUESTIONS:
	If you don't see anyone else's response, that just means you are the first to complete this		ascussion group are saying and comment (respectfully of course $\odot$ ) where appropriate.			
	task :) Please try to login a bit later and check out what others are saying.		If you don't see anyone else's response, that just means you are the first to complete this			How much do you personally support the idea of continuing BC Hydro's Power Smart
			task @ Please try to login a bit later and check out what others are saying.			programs into the future?
	When you are ready to continue click on the next available task in the list on the right side					
	of your screen.		When you are ready to continue click on the next available task in the list on the right side			Insert Poll
			of your screen.			<ul> <li>Strong support</li> </ul>
	QUESTIONS:					<ul> <li>Some support</li> </ul>
			QUESTIONS:			Neutral

### Discussion Guide – Time Varying Rates

	<ul> <li>Little support</li> <li>No support</li> </ul>			Note: This activity is set up so that once you post your response you will be able to see the responses of some of the others in our discussion. Please read what others in your discussion group are saying and comment (respectfully of course) where appropriate. If you don't see anyone else's response, that just means you are the first to complete this task :) Please try to login a bit later and check out what others are saying. When you are ready to continue dick on the next available task in the list on the right side.
1.7 Time	INTRODUCTION:           Now I'd like to discuss another idea with you, still considering plan - that is: the first 10 years where they have enough clement customer needs.           Please review the below description in detail.           Managing your costs, shifting power demand with time varying rates are an effective way to shift electricity us customers a lower rate for electricity used during 'off-peak' for electricity used during 'off-times of day. We don't curr B.C. but they're common among other utilities in North Amed For example, in B.C. we often see the highest demand for ps Columbians are cooking dinner, watching T.V. and running to know rate for electricity during other times of day, we can e shift some of their energy-consuming activities, such as laur vehicle to other times of day.           This can result in lower costs for you and also helps reduce to power system, helping to avoid upgrades to our infrastructure.	ng the first part of BC Hydro's an electricity in their system to rying rates (e.g. time of use) e patterns by charging times of day and a higher rate ently have time varying rates in erica. wer in the evening as British heir dishwasher. By charging a incourage British Columbians driv or charging their electric the demand on BC Hydro's re.		What is your gut reaction to the idea of introducing time varying rates in B.C.? Are the ideas in this program more of a thumbs up, Thumbs down or Thumbs somewhere in the middle?         Insert poll – single select       • Thumbs up         • Thumbs up       • Thumbs in the middle         • Thumbs up       • Thumbs in the middle         • Thumbs up       • Thumbs in the middle         • Thumbs in the middle       • Thumbs in the middle         • Thumbs in the middle       • Thumbs in the middle         • Thumbs in the middle       • Thumbs in the middle         • Thumbs in the space below, tell me about your reaction to the idea of introducing time varying rates in B.C.? And the last idea, please include:         Please make sure to include:       • What, if anything, you like about this idea         • Any worries or concerns you have about it       • And, anything that you are confused about or do not understand         Once again I'd appreciate if you can share a story or example of how time varying rates might be personally applicable to your life and/or the ways in which this might impact you personally.
	Time varying rates can be optional where you can opt-in to trust customers, but you have the option to opt-out.         Optional: anyone can sign up for the rate         Image: the option of the rate cost of the	them, or a standard for all Default: anyone can choose to opt out thy peak metability to shift electricity as jumed most customers will participate. enter ability to delay new shy inflastructure.	1.8 Time continued	Open-ended – Essay INTRODUCTION: Let's continue to talk about time varying rates here Please click 'Respond' to continue. Note: This octivity is set up so that once you post your response you will be able to see the responses of some of the others in our discussion. Please read what others in your discussion group are saying and comment (respectfully of course @) where appropriate. If you don't see anyone else's response, that just means you are the first to complete this task :) Please try to login a bit later and check out what others are saying. When you are ready to continue click on the next available task in the list on the right side of your screen

	If you don't see anyone else's response, that just means you are the first to complete this task :) Please try to login a bit later and check out what others are saying.
	When you are ready to continue click on the next available task in the list on the right side of your screen.
	QUESTIONS:
	What is your gut reaction to the idea of introducing time varying rates in B.C.? Are the ideas in this program more of a thumbs up, Thumbs down or Thumbs somewhere in the middle?
	Insert poll – single select
	o Thumbs up
	<ul> <li>Thumbs in the middle</li> </ul>
	<ul> <li>Thumbs down</li> </ul>
	In the space below, tell me about your reaction to the idea of introducing time varying rates in B.C As with the last idea, please include:
	Please make sure to include:
	what, if anything, you like about this idea
	Any worries or concerns you have about it
	<ul> <li>Mill, anything that you are comused about or op not understand</li> </ul>
	Once again I'd appreciate if you can share a story or example of how time varying rates
	might be personally applicable to your life and/or the ways in which this might impact you
	personally.
	Onen anded - Essay
d	INTRODUCTION:
	Let's continue to talk about time varying rates here
	Please click 'Respond' to continue.
	Note: This activity is set up so that once you post your response you will be able to see the responses of some of the others in our discussion. Please read what athers in your discussion group are saying and comment (respectfully of course ) where appropriate.
	If you don't see anyone else's response, that just means you are the first to complete this task :) Please try to login a bit later and check out what others are saying.
	When you are ready to continue click on the next available task in the list on the right side

	Please indicate on the below scale of 1-5 how important EACH of the following factors is to you personally when thinking about time varying rates
	Insert Matrix:
	Rows - randomize  Provides customers with the choice to opt in  Standard for customers but provides customers with the choice to opt out (Client note: we separated out choice to opt in from default option with the choice to opt out to see which if either resonates more)  Keep costs as low as possible  Accumulates peak demand reductions quickly  Avoiding or deferring the need to build new infrastructure  Offers rates that suit my lifestyle needs
	Columns • 5 - Extremely important • 4 • 3 • 2 • 1 - Not at all important
	<ul> <li>Tell me about your choices.</li> <li>What specifically makes some of these factors more important than others for you personally when thinking about introducing time varying rates in B.C.?</li> <li>If you rated more than one of these factors a '5 - Extremely important' make sure to include which is MOST important to your personally with respect to time varying rates and the reasons you feel that way.</li> </ul>
	Open-ended – Essay
	Moderator note: Listen for questions about subsidizing/it doesn't apply to me; fairness listen only
1.9 Time once more Set as private – no participant	INTRODUCTION: Please click "Respond" to continue.
interaction	Note this activity will be completed privately – you will not see the responses of others in our discussion and they will not see your response. After completing this activity please click on the next activity in the list on the right side of your screen to continue.
	QUESTIONS:
	How much do you personally support the idea of introducing time varying rates in B.C.?

QUESTIONS:

### Discussion Guide – Demand Response

	Insert Poll		What is your gut reaction to the idea of introducing demand response (smart technology) in B.C.? Are the ideas in this program more of a thumbs up, Thumbs down or Thumbs		Reducing BC Hydro's costs by avaiding or deferring the need to build new
	<ul> <li>Strong support</li> </ul>		somewhere in the middle?		infrastructure
	Some support				in ast actore
	Neutral		Insert poll – single select		Columns
	Little support		o Thumbs up		5 – Extremely important
	<ul> <li>No support</li> </ul>		o Thumbs in the middle		e 4
			o Thumbs down		. 3
1.10 Demand	INTRODUCTION:		W-W		. 2
Response			Tell me about your gut reaction to introducting demand response. Remember to include all		<ul> <li>1 – Not at all important</li> </ul>
	I have one more idea for discussion while thinking about the first part of BC Hydro's plan -		the details:		
	as a reminder that is: the first 10 years where they have enough clean electricity in their		<ul> <li>what, it anything, you like about this idea</li> </ul>		Use the space provided to tell me about your responses above.
	system to meet customer needs.		Any wornes or concerns you have about it		What specifically makes some of these factors more important than others for you
			<ul> <li>And, anything that you are confused about or do not understand</li> </ul>		personally when thinking about introducing demand response (smart technology)
	Please review the below description in detail.		As any low by share a stars as suggested of how demand support which he approach.		in B.C.?
			As previously, share a story or example or now demand response might be personally applicable to your life and/or the ways in which this might impact you necessarily		<ul> <li>If you rated more than one of these factors a '5 - Extremely important' make sure</li> </ul>
	Using smart home technology to reduce electricity demand		approache to your me anapor the ways in which this hight impact you personally.		to include which is MOST important to your personally and the reasons you feel
			Open-ended = Essay		that way.
	Many utilities in North America work with customers directly to help them reduce their		oben-einen - essak		
	electricity use at peak times (when power use is the highest) by using devices to control	1.11 Demand	INTRODUCTION:		Open-ended – Essay
	when electricity is used. This is known as demand response and is enabled through home	Besnonse continued			
	automation, commonly known as 'smart home' technology. You may be familiar with smart	nesponse continued	Let's continue to talk about demand response (smart technology) here		Client note: we are recommending a matrix here to get a sense of weight and add depth to
	home tools, such as connected programmable thermostats, control switches or automated		eet s contentae to ten about demand response (sindet teennords); neretii		the overall learnings; the 'top' ranked factor is better understood through quant where we
	timers that can be managed through a device (e.g. a smartphone).		Please click 'Respond' to continue.		can use the qual to layer in depth around intensity of importance while listening for areas
					of confusion
	introducing this type of nome automation would also allow BC Hydro to provide you with		Note: This activity is set up so that once you post your response you will be able to see the	1.12 Demand	INTRODUCTION:
	more personalized advice, incentives and tips to neip you reduce your electricity use, while		responses of some of the others in our discussion. Please read what others in your	Response once more	
	also optimizing our electricity grid.		discussion group are saying and comment (respectfully of course) where appropriate.		Please click 'Respond' to continue.
	As a system as demand response programs may be executed in different your to help you			Set as private – no	
	As a customer, demand response programs may be operated in dimerent ways to help you		If you don't see anyone else's response, that just means you are the first to complete this	participant	Note this activity will be completed privately - you will not see the responses of others in
	save, bevices can be managed by you or managed by bc hydro to optimize your electricity		task @ Please try to login a bit later and check out what others are saying.	interaction	our discussion and they will not see your response. After completing this activity please click
	ase and num saunitis				on the next activity in the list on the right side of your screen to continue.
	Please click 'Respond' to continue.		When you are ready to continue click on the next available task in the list on the right side		OUPPTIONE
	Hease click Respond to continue.		of your screen.		QUESTIONS:
	Note: This activity is set up so that ance you post your response you will be able to see the		QUESTIONS:		How much do you personally support the idea of introducing demand response (smart
	discussion are up are source and commant (respectfully of course (2) where responses in your				technology) in B.C.?
	ascussion group are saying and comment (respectfuny of course wy where appropriate.		When thinking about introducing demand response (smart technology) in B.C. how		
	If you don't see anyone else's response that just means you are the first to complete this		important are each of the following aspects to you personally?		Insert Poll
	a you don't see anyone else's response, that just means you are the just to complete this				<ul> <li>Strong support</li> </ul>
	task :/ Preuse try to login a bit later and check out what others are saying.		Insert Matrix		<ul> <li>Some support</li> </ul>
	When you are ready to continue click on the part available task in the list on the right side				Neutral
	of your screen		Rows – randomize:		Little support
9	of your screen.		Adding new smart technology into my home		<ul> <li>No support</li> </ul>
			Saving money on my electricity bills		
			Convenience of managing my electricity use through a device (e.g. a smartphone)		

#### Discussion Guide – Phase 2 - Unaided


## Discussion Guide – Phase 2 – Considerations, Final tasks and Stimulus



	When you are ready to continue click on the next available task in the list on the right side of your screen.	
	QUESTIONS:	
	Knowing that these options have very different environmental, financial, and economic profiles. In what ways, if any, do these added considerations impact your impressions of these ideas for managing peak electricity demand in the 2030s to 2040s?	
	Open-ended – Essay	1.16 Than Wrap Up
	Now that you have all the information $\bigcirc$ Rank these ideas based on how supportive of them you are – the one that you are MOST supportive of should be at the top of your list.	Set as priv participan
	Insert ranking – randomize options Greater conservation and customer involvement New local power sources – BATTERIS New local power sources – PUMPED STORAGE Ubarradine the sustem	interactio
	Tell me about your ranking • What makes you feel most supportive of the one you put at the top? • What about the ones in the middle? • And, don't forget to tell me about the one at the bottom of your list – what makes you feel last support of that idea specifically?	
	Open-ended – Essay	
ghts	INTRODUCTION:	
no	Thank you so much for all that you have shared with me in our discussion here – I really appreciate your detailed thoughts and feedback and value the opinions you have shared with me here.	Appendix
	We have talked a lot over the past couple of days about BC Hydro's integrated Resource Plan (GeanPower 2040) and I've asked a lot of specific questions. I'd love to hear if there's anything else year'd like to share with me about this topic. If you have any questions (I can't promise to be able to answer them), I'd love to hear about that too.	7
	Please click 'Respond' to continue.	
	Note this activity will be completed privately – you will not see the responses of others in our discussion and they will not see your response. After completing this activity please click	۲

on the next activity in the list on the right side of your screen to continue.

QUESTIONS:

	Please use this space for any additional thoughts, comments or questions you might have. If there is something that you feel we missed here please make sure to tell me about that too!
	Open-ended – Essay
	Client note: we are setting this task to be completed privately to allow participants to feel their voice/questions/concerns have been heard while avoiding unintentional suggestions or negativity specifically related to Site C – Moderator to defer to BC Hydro for response to any Site C questions specifically.
lank you and Jp	INTRODUCTION:
private – no	Moderator to post thank you, remind participants to complete follow up questions and advise on incentive payment expectations.
tion	Reminder to come back and check out what others are saying in the discussion.
	Include: • Your input will help BC Hydro shape their plan for the future. They look forward to sharing a draft of their plan with you in Spring 2021 for your feedback • For more information about this topice [Insert details for how to get more information]
	QUESTIONS:
	Please take a moment to share your feedback about participating in this project.

on - District Map for reference

Open-ended: Essay - OPTIONAL





Graphic 1.6 - optional vs. default