BC Hydro and Power Authority

2022/23 – 2024/25 Service Plan

February 2022





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Board Chair's Accountability Statement



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The 2022/23 – 2024/25 BC Hydro Service Plan was prepared under the Board's direction in accordance with the *Budget Transparency and Accountability Act*. The plan is consistent with government's strategic priorities and fiscal plan. The Board is accountable for the contents of the plan, including what has been included in the plan and how it has been reported. The Board is responsible for the validity and reliability of the information included in the plan.

All significant assumptions, policy decisions, events and identified risks, as of January 31, 2022 have been considered in preparing the plan. The performance measures presented are consistent with the *Budget Transparency and Accountability Act*, BC Hydro's mandate and goals, and focus on aspects critical to the organization's performance. The targets in this plan have been determined

based on an assessment of BC Hydro's operating environment, forecast conditions, risk assessment and past performance.

Doug Allen Board Chair

BC Hydro and Power Authority

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Strategic Direction and Alignment with Government Priorities

In 2022/2023, public sector organizations will continue to align with and support the Government of British Columbia efforts in responding to the COVID-19 pandemic with a focus on protecting the health, social and economic well-being of British Columbians. Building on economic, environmental, and social strengths while looking to seize opportunities to improve outcomes for all British Columbians will be an important aspect of each Crown Agency's work as respond to COVID-19 and recover from devastating floods and wildfires. The policies, programs and projects developed over the course of this service plan period will align with the five foundational principles established by Government in 2020: putting people first, working toward lasting and meaningful reconciliation, supporting equity and anti-racism, ensuring a better future through fighting climate change and meeting our greenhouse gas reduction targets, and supporting a strong, sustainable economy that works for everyone.

This 2022/23 service plan outlines how BC Hydro will support the government's priorities including the foundational principles listed above and selected action items identified in the most recent <u>Crown Agency Mandate Letter to BC Hydro</u>.

BC Hydro is one of the largest electric utilities in Canada and is publicly owned by the people of British Columbia. We generate and provide electricity to 95 per cent of B.C.'s population and serve over four million people. The electricity we generate and deliver to customers throughout the province powers our economy and quality of life.

As a provincial Crown Corporation, BC Hydro reports to the Provincial Government through the Minister of Energy, Mines and Low Carbon Innovation. Government's expectations are expressed through the following legislation and policy:

- The *Hydro and Power Authority Act*
- The *Utilities Commission Act*
- The BC Hydro Public Power Legacy and Heritage Contract Act
- The Clean Energy Act
- CleanBC and the CleanBC Roadmap to 2030

Our mission is: we are here to safely provide our customers with reliable, affordable, clean electricity. Our Service Plan sets out a three-year plan with strategies, performance measures and targets, aligned with the priorities in the B.C. Government's <u>Mandate Letter to BC Hydro</u>, to fulfill our mission on behalf of our customers and the Province.

Climate change, technological advances and the evolution of customer energy use and expectations continue to transform our business. To help us navigate these ongoing developments and challenges, we developed our Five-Year Strategy to help us focus our efforts to maintain the service our customers count on, while also looking to the future of our industry, company and work. To get us where we need to be, we will focus on maximizing the opportunities of electrification, advancing reconciliation with Indigenous Peoples and helping B.C.'s economy recover from the effects of COVID-19. The Five-Year Strategy takes into consideration the environment we operate in, the strengths we have as an organization and the opportunities and challenges ahead.

We have aligned our Service Plan with our Five-Year Strategy to guide our work towards a refreshed vision: a cleaner, more sustainable future for all British Columbians. We have identified five goals for the Service Plan that reflect successfully delivering on our mission: we will deliver reliable power safely; we

will maintain and efficiently grow our load to support affordable and competitive rates for our customers and support achieving British Columbia's climate action targets; we will control our costs; we will strengthen our resilience and agility; and we will advance meaningful reconciliation with Indigenous Peoples.

We are continuing to act upon the outcomes and recommendations from the Comprehensive Review of BC Hydro to position BC Hydro for future success while meeting the Province's climate goals and controlling our costs to keep rates affordable for British Columbians. To make it easier and more affordable for people to efficiently use more of B.C.'s clean electricity instead of fossil fuels to power their homes, businesses and vehicles, BC Hydro will work with the Province to implement our Electrification Plan – A clean future powered by water. The plan proposes new programs and incentives to advance the switch from fossil fuels to clean electricity in homes and buildings, vehicles and fleets, businesses and industry, and to attract new innovative industries to B.C. We are also advancing affordability initiatives to help our customers save money on their electricity bills and continuing to focus on making it easier for our customers to do business with us.

To ensure sustained economic benefits for customers, we manage our capital portfolio with an emphasis on cost consciousness, respect for the environment and communities in which we work, with a particular focus on strengthening our relationships with Indigenous communities and advancing meaningful reconciliation with Indigenous Peoples.

BC Hydro will continue making investments to expand and maintain the electricity system to meet our customers' growing needs and expectations, while working toward our refreshed vision of a cleaner, more sustainable future for all British Columbians.

Operating Environment

As a utility that operates in a high hazard industry, we keep safety at the centre of everything we do. Our job is to safely keep the lights on for the people of B.C., and that means that every person working for BC Hydro and interacting with our system goes home safely each day. We are continuously working to improve our performance by sustaining and strengthening our Safety Framework.

Climate change is impacting the frequency and extremes of weather, precipitation and temperature events, reservoir inflow predictability and patterns in electricity demand and supply. These impacts require us to increase the resilience of our infrastructure, adapting how we plan and operate the system and being prepared to respond to severe weather events. BC Hydro will continue to provide reliable service and respond quickly and safely to customer outages. We will also continue to implement improvements on how we communicate outage information, as timely and accurate information is important to our customers and the communities we support.

The COVID-19 pandemic has presented unprecedented challenges for BC Hydro and our customers. However, it has also made our role as an essential service – providing clean, reliable and affordable electricity to our customers – more important than ever. As a Crown Corporation, we will continue to support the Province and our customers to help B.C.'s economy recover from the effects of COVID-19.

Site C is one of the most significant infrastructure investments undertaken in British Columbia in recent history. Site C will allow us to continue to provide the clean, reliable and affordable electricity that is vital to B.C.'s economic prosperity. BC Hydro is committed to completing Site C safely and meeting all compliance requirements, within the revised project schedule and budget.

BC Hydro is regulated by the British Columbia Utilities Commission (BCUC). As the independent regulator of BC Hydro, the BCUC reviews BC Hydro's costs, proposed rate increases, resource planning and almost all regulatory accounts, programs and capital projects. On August 31, 2021, BC Hydro filed the Fiscal 2023 to Fiscal 2025 Revenue Requirements Application with the BCUC. This application reflects our efforts to continue to deliver safe and reliable power, while keeping electricity affordable for our customers.

We know our clean electricity can make a significant positive impact on climate change and the environment by supporting the reduction of greenhouse gas (GHG) emissions. BC Hydro will support the Province's <u>CleanBC Roadmap to 2030</u>, which commits to reduce climate pollution and build a cleaner, stronger economy for people throughout B.C. The <u>CleanBC Roadmap to 2030</u> draws on B.C.'s abundant supply of clean and affordable hydroelectric power as an alternative to fossil fuels to reduce GHG emissions.

BC Hydro's Electrification Plan, currently under review with the BCUC as part of our Fiscal 2023 to Fiscal 2025 Revenue Requirements application, outlines how BC Hydro will be instrumental in building a sustainable economy in B.C. We will continue to support conservation efforts, while also offering programs and incentives to help British Columbians make the switch from fossil fuels to clean hydroelectricity to power their homes, businesses and vehicles. We will also work to attract innovative new industries to British Columbia and promote B.C.'s clean energy advantage, including reducing the time and cost for new customers to connect to our grid.

In December 2021, we submitted the Integrated Resource Plan to the BCUC. The Integrated Resource Plan includes the long-term plan and the near-term actions that BC Hydro intends to carry out to ensure that we can meet the future electricity needs of our customers over a 20-year planning horizon. The plan includes electrification scenarios to show how BC Hydro will take advantage of our clean electricity to support the Province's CleanBC climate action and economic growth objectives.

We continue to make significant investments to expand the system and maintain aging infrastructure, while prudently managing all costs to help keep electricity affordable for our customers. We work across teams, suppliers and experts to ensure thoughtful assessment of how to successfully deliver these projects on time and on budget while respecting the unique community, environmental and Indigenous interests associated with each project.

Operating, maintaining and expanding BC Hydro's extensive electricity system impacts a significant number of Indigenous communities across the province. We are working with Indigenous Nations to advance reconciliation and we continue to pursue meaningful, long-term relationships that better reflect Indigenous interests. With the historic passing of the *Declaration on the Rights of Indigenous Peoples Act* in November 2019, BC Hydro is working to implement the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), the Calls to Action of the Truth and Reconciliation Commission and the Draft Principles that Guide the Province of B.C.'s Relationship with Indigenous Peoples into our business.

With thoughtful planning and prudent decision-making, BC Hydro is well positioned to safely provide reliable, affordable, clean electricity throughout B.C., today and into the future.

Performance Planning

Goal 1: Deliver Reliable Power Safely

This goal has been introduced to reinforce our commitment to safely provide reliable, affordable, clean power to our customers.

Objective 1.1: BC Hydro will safely and reliably meet the evolving expectations of our customers by prudently planning and investing in the system and improving our service.

This objective has been updated to align with Goal 1.

Key Strategies

- Continue to develop, implement, sustain, assure and improve safety processes and programs, in alignment with our Safety Framework.
- Improve how we learn from our performance and focus on preventing fatalities and serious disabling injuries.
- Protect the public from hazards around our reservoirs and dams through adherence to the Canadian Dam Association Public Safety Around Dams guidelines.
- Ensure the reliability and resilience of the generation, transmission and distribution system by effectively implementing capital, maintenance and vegetation programs to manage the overall condition of the power system and ensure supply to meet customer demand.
- Continue to make it easier for customers to do business with us through a series of customer facing
 improvements such as: engaging customers in our rate design and project planning processes;
 exploring new rate proposals to meet our customers' needs; and incorporating the Gender Based
 Analysis Plus lens to broaden our understanding of how policies and practices impact our
 customers.

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Performance Measures ¹	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target	
1.a Zero Fatality & Serious Disabling Injury ² [Loss of life or the injury has resulted in a permanent disability]	1	0	0	0	
1.b Lost Time Injury Frequency [Number of employee injury incidents resulting in lost time (beyond the day of injury) per 200,000 hours worked]	0.89	0.74	0.74	0.74	
1.c System Average Interruption Duration Index (SAIDI) ³ [Total outage duration (in hours) of sustained interruptions experienced by an average customer in a year (excluding major events)]	3.56	3.30	3.35	3.35	
1.d System Average Interruption Frequency Index (SAIFI) ³ [Total number of sustained interruptions experienced by an average customer in a year (excluding major events)]	1.57	1.38	1.38	1.38	
1.e Key Generating Facility Forced Outage Factor (%)	0.94	1.80	1.80	1.70	
1.f Customer Satisfaction (CSAT) Index ⁴ [% of customers satisfied or very satisfied]	85	85	85	85	

¹ Performance Measure descriptions, rationale, data source information and benchmarking are available online at www.bchydro.com/performance

Linking Performance Measure to Objective

- 1.a Achieving our target of Zero Fatality and Serious Disabling Injury supports our focus on preventing fatalities and serious disabling injuries.
- 1.b Lost Time Injury Frequency (LTIF) is an indicator of the likelihood of a full-time employee sustaining a time loss injury in a normal work year and is a comparable metric to other provincial organizations and the Canadian Electricity Association. An LTIF of one equates to a one per cent chance of a time loss injury for any given employee in a work year.
- 1.c &d Customer reliability is measured using the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). These, along with correlated cause analysis for customer outages, support targeted investment, planning and process improvements to meet our customers' needs for reliability.

²Zero Fatality and Serious Disabling Injury – BC Hydro's safety performance measures do not include contractor or public safety injuries or fatalities.

³ Reliability targets are based on specific values, however performance within 10 per cent is considered acceptable given the reliability projection modelling uncertainty, the wide range of variations in weather patterns and the uncontrollable elements that can significantly disrupt the electrical system. BC Hydro reports reliability under normal circumstances, because major events are not predictable and largely uncontrollable. The reliability measure is therefore based on data that excludes major events. BC Hydro reviews performance during major events and takes the performance into consideration in reliability improvement initiatives.

⁴ Customer Satisfaction Index (CSAT) is an index measuring customer satisfaction of BC Hydro's three main customer groups (residential, commercial and key accounts). The index is comprised of the five key drivers of satisfaction weighted equally across the three customer types.

By measuring the average number of service interruptions and number of hours of sustained interruptions experienced by the average customer in a year, we can track our ability to reliably meet the electricity requirements of customers.

1.e A forced outage occurs when a generating unit is unable to start generating or does not stay in service when needed. The Key Generating Facility Forced Outage Factor shows the trend of how the generation assets are performing and supports investment decisions to maintain asset reliability.

1.f The Customer Satisfaction (CSAT) Index measures customer satisfaction with BC Hydro on five key drivers: value for money; commitment to customer service; providing reliable electricity; acting in the best interest of British Columbians; and efforts to communicate to customers and communities. This measure gauges the degree to which BC Hydro is meeting customers' electricity and service needs.

Discussion

SAIDI, SAIFI, Key Generating Facility Forced Outage Factor and CSAT index performance measures have moved from Goal 2 in previous Service Plan documents to Goal 1 to align with the new goal and objective.

BC Hydro will not achieve its 2021/22 Zero Fatality & Serious Disabling Injury target due to a serious employee electrical contact incident in June 2021 that resulted in a permanent disability. In addition, BC Hydro is forecasting that it will not achieve its Lost Time Injury Frequency 2021/22 target due to increased lost time injuries. We are focused on preventing injuries and learning from our performance.

BC Hydro is forecasting that we will not achieve our 2021/22 SAIDI and SAIFI targets predominantly due to weather impacts, even after normalization for major storm events. Planned outages have had a significant impact on our SAIDI performance measure causing longer sustained service interruptions for our customers. Based on the number of tree-related outages we have experienced to date, we also do not expect to meet our SAIFI target. BC Hydro has allocated additional funding in 2022/23 to vegetation management to help reduce the frequency of tree-related outages.

SAIDI and SAIFI targets are based on several factors including long-term historic reliability trending, current year performance, previous years' investments and future years' investment plans, while also accounting for annual variability due to weather. The 2022/23 and 2023/24 SAIDI targets have been adjusted upward to account for impacts of the increasing number of weather-related outages and the longer planned outages on our system. The SAIFI targets remain stable to align with expected benefits from increasing distribution automation and other capital investments and planned increased investment in transmission and distribution vegetation programs.

There are seven Key Generating Facilities, representing those plants with installed capacity greater than 200 megawatts (MW). Together, they provide over 90 percent of the average annual electricity generated by BC Hydro's facilities. Key Generating Facility Forced Outage Factor is reported as a 60-month rolling average and defined as the total forced outage time in a period relative to the total number of hours in the same period. Annually, the Forced Outage Factor can be relatively volatile, and applying the historical 60-month rolling average smooths the range to provide a more stable measure for which targets can be set. The objective is to keep the Forced Outage Factor below 1.80 percent of the total number of hours per year, which demonstrates the effectiveness of BC Hydro's maintenance and capital investment programs.

Throughout 2022/2023 - 2024/2025, we will work to continue meeting a CSAT index of 85.0 by consistently improving customer experience and meeting customers' growing expectations based on their interactions with other organizations.

Goal 2: Grow our Load

This new goal is to focus on encouraging customers to switch to BC Hydro's clean electricity to electrify British Columbia's growing economy and support the reduction of GHG emissions to meet the Province's climate targets.

Objective 2.1: BC Hydro will maintain and efficiently grow our load to help keep rates affordable and competitive for our customers and support achieving British Columbia's climate action targets.

This is a new objective to align with Goal 2.

Key Strategies

- Subject to BCUC approval, implement our Electrification Plan to displace the use of higher carbon energy sources and grow existing and secure new load by attracting new industries to British Columbia and strengthening our interconnections capabilities.
- Support the growing clean transportation economy by promoting electric vehicle adoption and implementing measures that reduce customer connection costs, encouraging off-peak charging of electric vehicles and continuing to expand and improve charging infrastructure.
- Support customers with initiatives and rate structures that help them make smart energy choices through our energy management (e.g. energy efficiency and conservation programs) and low carbon electrification initiatives.
- Implement BC Hydro's GHG management plan to reduce emissions from BC Hydro's operations.
- Implement a 100 per cent clean electricity standard on the integrated grid to make BC Hydro's power even cleaner, ensure continued market access and increase the value of our product.
- Advance the Integrated Resource Plan, which details how BC Hydro will meet future load requirements of the system, while controlling costs.

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Performance Measures ¹	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
2.a Load Growth Supporting CleanBC (Gigawatt hours (GWh)) ² [Cumulative load growth in GWh to support CleanBC (fuel switching and new clean industries)]	N/A ³	900	2,100	3,800
2.b New Connected Commercial and Industrial Load (Megawatts (MW)) ⁴ [Cumulative additional MW from new or expanded commercial and industrial load]	N/A³	185	500	625
2.c GHG Emissions Reduction Electrification (million tonnes CO2e/year) ⁵ [Cumulative GHG emissions reductions from fuel switching and new clean industries]	N/A ³	0.61	1.35	2.08
2.d GHG Emissions Reduction – BC Hydro Operations (%) ⁶ [Cumulative GHG reductions from BC Hydro operations since 2007]	N/A ³	42	43	44
2.e Clean Electricity Standard (%) ⁷ [BC Hydro generated and acquired clean energy available to meet BC Hydro retail sales on the integrated grid over a fixed four-year period]	N/A ³	100	100	100
2.f Customer Interconnection Studies Completed on Time (%) [Completion of interconnection studies to allow customers to connect to BC Hydro's system]	80	80	80	80
2.g Demand Side Management Capacity (MW) ⁹ [Annual new incremental capacity (MW) savings from the energy conservation portfolio]	N/A ³	80	80	90

Performance Measure descriptions, rationale, data source information and benchmarking are available online at www.bchydro.com/performance.

² The data sources for this measure vary depending on the sector as follows: electric vehicles (ICBC and BC Hydro load forecast), residential and commercial buildings (CleanBC program tracking), upstream gas and gas pipelines (customers, BC Hydro meters and program tracking), other industry including mining, LNG and district energy (customers, BC Hydro meters and program tracking) and new clean industry (BC Hydro meters).

³ These metrics will not be measured until 2022/23.

⁴ The data sources for this metric are BC Hydro's Energy Analytics Solution, Customer Care System and Customer Service staff.

⁵ The data sources for this metric are BC Hydro program records and load increases.

⁶ The data for this metric is collected by various BC Hydro groups as follows: Environment and Asset Planning (sulfur hexafluoride (SF6)/CH4); Supply Chain (paper use and air travel); Fleet Services (vehicle emissions); Properties (buildings); Asset Planning, Power Acquisitions and Treasury (Non-Integrated Areas and Independent Power Producers); and Operations (thermal).

⁷ The data sources are as follows: BC Hydro retail sales, metered output of BC Hydro owned generation and contracted resources and net clean deliveries associated with Powerex.

⁸ All supporting information and timelines for this performance measure are tracked by BC Hydro's Interconnections group.

⁹ Data sources for Demand Side Management targets are the Demand Side Management Plan. BC Hydro's Demand Side Management Plan is subject to BCUC review and approval.

Linking Performance Measure to Objective

- 2.a Load Growth Supporting CleanBC tracks growth in load (GWh/yr) related to CleanBC (fuel switching and new clean industries) and the progress of BC Hydro's strategy to electrify British Columbia's growing economy.
- 2.b New Connected Commercial and Industrial Load captures additional megawatts from new or expanded commercial and industrial load, incremental load growth at existing sites requiring a service upgrade or a change to the Electricity Supply Agreement and new operations at a brownfield site.
- 2.c GHG Emissions Reduction Electrification tracks greenhouse gas emissions reductions from fuel switching and new clean industries, where the use of clean electricity displaces the use of more carbon intensive fuels. This metric reflects BC Hydro's contributions to meeting the Province's climate targets.
- 2.d GHG Emissions Reduction BC Hydro Operations measures BC Hydro's progress in reducing GHG emissions related to its operations in the following areas: fleet; buildings; air travel; gas insulated equipment (SF⁶); Non-Integrated Areas (diesel generation); thermal (natural gas) generation and Independent Power Producers.
- 2.e Clean Electricity Standard measures the percent of clean energy available to meet BC Hydro retail sales on the integrated grid over a fixed four-year period. It includes measurement of BC Hydro generated clean energy, procured clean energy and net clean energy deliveries to the integrated power system associated with Powerex.
- 2.f Customer Interconnection Studies Completed on Time tracks BC Hydro's performance meeting the overall timeline for the completion of interconnection studies required for customers to be connected to the BC Hydro system.
- 2.g Demand Side Management Capacity reflects the annual new incremental savings from the energy conservation portfolio including programs, codes and standards, and conservation rates that measure BC Hydro's performance against annual energy targets. This measure also includes savings from capacity-focused initiatives such as programs and time-varying rates.

Discussion

These new performance measures are being introduced to support the Province's <u>CleanBC Roadmap to 2030</u>, which commits to reduce climate pollution through electrification. Maintaining and efficiently growing load is also critical to keep BC Hydro's rates affordable and competitive.

The Load Growth Supporting CleanBC performance measure includes all new fuel switching and clean industry load beginning in 2020/21. Annual load growth in gigawatt hours per year (GWh/y) will be measured for the following sectors: electric vehicles; residential and commercial buildings; upstream gas and gas pipelines; industry, including mining, LNG and district energy and new load on the CleanBC Industrial Electrification Rate. BC Hydro has set a target of 4,700 GWh per year of load growth by the end of 2025/26 in its Five-Year Strategy and set the Service Plan targets for 2022/23 – 2024/25 to achieve this goal. As this is a new performance measure, targets may be modified in future Service Plans.

New Connected Commercial and Industrial Load reflects the customer demand impact of new loads on the BC Hydro system. As this is a new performance measure, targets may be modified in future Service Plans.

The GHG Emissions Reduction Electrification metric uses the results from the Load Growth Supporting CleanBC metric to calculate an associated GHG benefit. The GHG emissions reduced or avoided through

electrification are calculated using project-specific estimates from BC Hydro program records where available or by applying average emission reduction factors to the load increase. As this is a new performance measure, targets may be modified in future Service Plans.

As a Crown corporation, BC Hydro will align and support the Province's climate goals. Targets for the GHG Emissions Reductions – BC Hydro Operations metric have been set to allow BC Hydro to exceed the 16 per cent provincial GHG emissions reduction target from 2007 levels by 2025.

The Clean Electricity Standard measures the amount of clean energy available to meet BC Hydro's retail sales over the measured period. A fixed four-year period of January 1, 2021 to December 31, 2024 has been chosen to balance annual variations in load and hydrology and is similar to the renewable procurement requirements in other jurisdictions. This measure incorporates BC Hydro generated clean energy, procured clean energy and net energy deliveries to the integrated power system associated with Powerex. The annual result is capped at 100 per cent of BC Hydro's retail sales, based on the cumulative results within the fixed four-year period.

The target dates for the Customer Interconnection Studies Completed on Time performance measure are compared to the actual completion dates to determine the percentage of customer interconnection studies completed on time. Given the increased volume of customer interconnections requests, maintaining a target of 80 per cent will require additional effort and investment. As this is a new performance measure, targets may be modified in future Service Plans.

BC Hydro calculates annual associated capacity savings that are related to the BC Hydro energy conservation energy savings. The Demand Side Management Capacity targets are derived from the Demand Side Management Plan and 2021 Integrated Resource Plan.

Goal 3: Control Our Costs

This goal focuses BC Hydro's efforts to address costs while continuing to make prudent investments to maintain and expand our electricity system to support our customers.

Objective 3.1: BC Hydro will manage costs to provide affordable and competitive rates.

This objective has been restated to align with this goal.

Key Strategies

- Advance Revenue Requirements Applications to the BCUC to achieve rate increases that are less than the projected provincial rate of inflation, on a cumulative basis, over the decade beginning in 2020/21.
- Working with the Province, continue delivering affordability measures, including demand-side management programs targeted to low-income households, to help our customers manage their electricity bills.
- Advance efficient and flexible rate design proposals with the BCUC to help keep customers' electricity bills affordable.
- Implement the outcomes of the Comprehensive Review to contain rate increases and control costs.
- Safely complete the Site C project within the revised budget by 2025.

- Implement our 10 Year Capital Plan so that our customers can continue to receive clean, reliable and affordable electricity.
- Continue to refine and enhance our systematic and disciplined project delivery methodology to ensure that our projects are put into service safely, on time, on budget and to a high standard of quality.
- Achieve benefits of improved procurement and supply chain management practices and tools by focussing on category strategies, contract and supplier management and supply chain related business process improvements.
- Achieve business process improvements that increases our efficiency and ability to meet growing expectations with existing resources.

Performance Measures ¹	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
3.a Affordable Bills – Residential ^{2, 3}	1 st quartile	1 st quartile	1 st quartile	1 st quartile
3.b Affordable Bills – Commercial ^{2, 3}	1 st quartile	1 st quartile	1 st quartile	1 st quartile
3.c Affordable Bills – Industrial ^{2, 4}	1 st quartile	1 st quartile	1 st quartile	1 st quartile
3.d Project Budget to Actual Cost: Cumulative Five Years ⁵	-4.74% on \$4.10 billion	Within+5% to-5% of budget excluding project reserve amounts	Within+5% to-5% of budget excluding project reserve amounts	Within+5% to-5% of budget excluding project reserve amounts
3.e Site C – Cost ⁶ [Total expected cost at or below approved budget]	\$16 billion	\$16 billion	\$16 billion	\$16 billion
3.f Site C – Schedule ⁷ [On or before first power date]	December 2024	December 2024	December 2024	December 2024

Performance Measure descriptions, rationale, data source information and benchmarking are available online at www.bchydro.com/performance.

² In Hydro-Québec's 2021 Comparison of Electricity Prices in Major North American Cities report, monthly bills have been calculated based on rates in effect on April 1, 2021. In addition to Hydro-Québec, this comparative analysis of electricity prices across North America includes 22 utilities: 12 serving the principal cities in the nine other Canadian provinces, and 10 utilities in American states. The results are based, in part, on a survey to which 14 utilities (including BC Hydro) responded, and, in part, on estimates of bills calculated by Hydro-Québec. BC Hydro relies on the results as provided in the Hydro-Québec report to determine BC Hydro's rankings for the Affordable Bills performance measures. Further information about Hydro-Québec's report methodology can be found in Hydro-Québec's Comparison of Electricity Prices in Major North American Cities report.

³ BC Hydro calculates the Affordable Bills performance measure for residential and commercial customers as the median consumption level for residential and commercial customer classes compared to the equivalent power consumption sub-category from Hydro Quebec's annual report on North American electricity rates. The rankings of the 22 participating utilities are then allocated into quartiles. The 1st quartile ranking represents the six utilities that have the lowest monthly electricity bills on April 1 of a given year.

⁴ BC Hydro measures affordability within the industrial category based on the largest consumption level from Hydro Quebec's annual report on North American electricity rates.

⁵ This measure compares actual project costs at completion to the original approved expected cost budget for the project, not including project reserve amounts, for capital projects that were put into service during the five-year rolling period.

⁶ The output from the Cost Risk Analysis is identified and compared to the approved budget for the project of \$16 billion. Data sources include the following: quantitative information from the Project Risk Register; estimates developed by the project's Estimating, Scheduling and Cost team; input from risk owners and subject matter experts; and output from our risk software.

⁷ The output from the Schedule Risk Analysis is identified and compared to the approved first power for the project of December 2024. Data sources include the following: quantitative information from the Project Risk Register; estimates developed by the project's Estimating, Scheduling and Cost team; input from risk owners and subject matter experts; and output from risk analysis software.

Linking Performance Measure to Objective

3.a, b & c The Affordable Bills measures are based on BC Hydro's rankings in the residential, commercial, and transmission service rate categories in the annual Hydro Quebec report, Comparison of Electricity Prices in Major North American Cities. The report is used as a benchmark to demonstrate that our bills are affordable compared to other major North American utilities.

3.d Since 2015/16, BC Hydro has utilized the Project Budget to Actual Cost measure for the delivery of capital projects, with a target of actual project costs to be within +5 per cent to -5 per cent of the budget, excluding project reserves at the portfolio level. The +/- 5 per cent target is the same over the plan period, as it is the objective to have the entire project portfolio in service within this actual cost range. BC Hydro has consistently met this performance target, as we continue to prudently manage capital expenditures and keep rates affordable for our customers.

3.e & f The Site C Cost and Schedule metrics measure how we are progressing against our approved cost and schedule objectives for the Site C Project. Ensuring that the project is delivered on time and within budget will allow us to continue to provide affordable and competitive rates for our customers.

Discussion

The methodology for calculating Affordable Bills performance measures uses the median consumption level for the residential and commercial performance measures and the largest consumption level for the industrial performance measure. Median consumption level provides a better representation of the central tendency than average and the largest consumption level provides the best indication of BC Hydro's performance regarding rate competitiveness for large industrial customers.

The Project Budget to Actual Cost measure includes Dam Safety, Generation, Transmission Line, Substation and large Distribution projects, managed by BC Hydro Capital Infrastructure Project Delivery and Properties for the last five years. BC Hydro reports the past five years' performance annually at the portfolio level in delivering capital projects.

The new Site C cost and schedule performance metrics measure BC Hydro's ability to meet cost and schedule objectives for the Site C project. The documented approaches to performing schedule risk and cost risk analyses for the project will be followed to determine yearly performance.

Goal 4: Strengthen Our Resilience and Agility

This goal is being introduced to strengthen BC Hydro's abilities to manage through challenges, position our company to take advantage of opportunities when they arise and prevent disruptions to the essential service we provide our customers.

Objective 4.1: BC Hydro will enhance preparedness for threats like cybersecurity attacks, impacts of climate change, natural disasters and global pandemics to increase our strength and resilience to challenging conditions.

This objective aligns with the new goal.

Key Strategies

- Develop and implement the next phase of BC Hydro's resiliency strategy, building on significant recent investments and progress in strengthening our physical security and cybersecurity measures.
- Continue to implement robust compliance programs and assurance systems to ensure compliance with Mandatory Reliability Standards.
- Implement an updated vegetation management strategy to minimize reliability interruptions for our customers and increase compliance with Mandatory Reliability Standards.
- Strengthen our inclusivity by implementing our plan to build an inclusive, diverse and harassment-free workplace.
- Continue to implement and sustain a flexible work model for our office-based employees that
 incorporates learnings from the pandemic and supports further development of our workforce and
 properties strategies.
- Continue public education efforts on hazards associated with electricity and storm preparedness.
- Safeguard the system with risk-prioritized security solutions and prepare our operations with well-practiced emergency response plans to support system reliability and resilience.

Performance Measures ¹	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
4.a Employee Engagement Index (% index) ²	83	At or above Global Utility Index	At or above Global Utility Index	At or above Global Utility Index
 4.b Workforce Diversity³ (%) Women Visible Minority Indigenous People Persons with Disabilities 	 30 25 4.1 Progress towards 10 	 30 25 4.3 Progress towards 10 	 30 25 4.6 Progress towards 10 	 30 25 4.9 Progress towards 10
4.c Inclusion and Diversity Leadership Training (% complete) ⁴	45	75	100	100
4.d Operations Training Hours [Average hours per Operations technical employee incremental to safety training] ⁵	30	35	30	30
4.e Mandatory Reliability Standards Non-Compliance Reduction (%) [Non-compliance reduction compared to 2020/2021] ⁶	50	60	70	80

¹ Performance Measure descriptions, rationale, data source information and benchmarking are available online at www.bchydro.com/performance.

Linking Performance Measure to Objective

- 4.a The Employee Engagement Index measures the extent to which employees are motivated to contribute to business success and are willing to apply discretionary effort to accomplish tasks important to the achievement of business goals. An engaged workforce can have a significant effect on financial and operational results.
- 4.b Workforce Diversity is a measure of BC Hydro's workforce in the representation of women, visible minorities, Indigenous people, and people with disabilities. This metric helps measure our inclusivity within the organization.
- 4.c Inclusion and Diversity Leadership Training is a measure that assesses progress against people leaders completing Bias and Diversity, Safety and Inclusion, and Supporting Mental Health leadership training modules. This measure will inform how supported our leaders are to create an inclusive environment.

² Results are from a confidential biennial survey, administered by PwC, with survey items being ranked on a five-point scale. Results are presented based on Percent Favourable score, (Tend to agree and Agree). BC Hydro then compares its results to benchmarks of global utilities provided by PwC.

³ Employees are asked to respond to an optional survey, administered and maintained by BC Stats on behalf of BC Hydro requesting them to self-identify their ethnicity when they join BC Hydro. BC Hydro measures the participation of the four designated groups by their representation as compared to the available workforce in BC.

⁴ Results are determined by tracking participation of BC Hydro people leaders in the LEAD-133VT – Inclusive Leadership course at BC Hydro.

⁵ Results are measured by tracking employee time using two different object work types – one for tracking safety training and one for tracking other training.

⁶ The data source for all reliability standards compliance performance metrics and incidents is based on information provided by BC Hydro business groups. Reliability Standards incidents are reported to the Reliability Standards Assurance team and investigated to determine if the incident is reportable to Western Electricity Coordinating Council.

4.d Operations Training Hours is a measure of the hours of annual training completed by Operations technical employees, incremental to safety and regulatory training and represents an investment in workforce capability and resiliency.

4.e Mandatory Reliability Standards Non-Compliance Reduction is a measure that shows the percentage decrease in non-compliance incidents reportable to the Western Electricity Coordinating Council relative to 2020/21. This measure indicates continual improvement made in managing reliability standards compliance risks.

Discussion

Training and development, robust compliance, financial discipline, and strong safety performance all support resilience and ensure our people, assets and facilities are safe.

The Employee Engagement Index is a measure of our current employee engagement environment as compared to previous years. It also provides employees with the opportunity to share feedback on how things are working and solutions to solve problems we face.

Workforce Diversity is a measure of the diversity of BC Hydro's workforce in the representation of women, visible minorities, Indigenous people, and people with disabilities. The targets are based on available B.C. workforce in the subset of the labour market in the occupations we hire, as derived from the current census. This measure will inform areas where we need to focus our recruitment and retention efforts to ensure our workforce diversity reflects the available workforces in B.C. and the population that we serve. The targets may be modified in future Service Plan to reflect the most current census data.

The Inclusion and Diversity Leadership Training measure informs how supported BC Hydro's leaders are to create an inclusive environment and could inform what other training or tools are required. The targets have been set to achieve 100 per cent of BC Hydro's leaders completing the required training by 2023/24.

It is important for employees in Operations to complete technical and leadership training, in addition to mandatory safety and regulatory training, to maintain the skills required to work safely and efficiently and maintain system reliability. Equipment at stations is also becoming increasingly complex with a variety of new and legacy equipment to maintain and operate. BC Hydro will continue with training to enable employees to complete technical and pilot crew leadership training in 2022/23. Training will return to 2021/22 levels beginning in 2023/24.

The Mandatory Reliability Standards Non-Compliance Reduction measure targets have been set to indicate continual improvement made in BC Hydro's management of reliability standards compliance risks. Incremental investments will be made, so a downward trend is expected year-to-year, due to the implementation of reliability standards enhancements.

Goal 5: Advance Reconciliation with Indigenous Peoples

As a Crown corporation, BC Hydro has an important role to play supporting the Province's commitment to reconciliation. We recognize that mutually beneficial relationships with Indigenous Nations are critical to operating and growing our system of clean electricity.

Objective 5.1: BC Hydro will advance reconciliation by continuing to invest in and build mutually beneficial and stronger relationships with Indigenous communities.

This objective is to support the new goal.

Key Strategies

- Meet our commitments in our Relationship Agreements and continue to work together with Indigenous communities to further reconciliation to create sustainable benefits. This includes renewing existing Relationship Agreements and finalizing additional agreements with Indigenous Nations most impacted by BC Hydro infrastructure.
- Implement BC Hydro's UNDRIP plan to demonstrate our commitment to reconciliation and to increase awareness and understanding of reconciliation and UNDRIP among BC Hydro employees.
- Explore opportunities to meet or exceed our Indigenous procurement and employment commitments.
- As part of the CleanBC plan, partner with the Province and the federal government to develop a plan to help remote communities, with a focus on Indigenous communities, reduce or eliminate diesel generation and replace it with energy from cleaner sources.
- Increase opportunities for Indigenous Nations to participate in BC Hydro's planning decisions at a regional level, including co-designing approaches to minimize impacts on the land base.

Performance Measures ¹	2021/22 Forecast	2022/23 Target	2023/24 Target	2024/25 Target
5.a Indigenous Procurement (\$ million) ² [Cumulative total beginning in 2014/15]	795	880	930	970
5.b Indigenous Employment (%) ³	4.1	4.3	4.6	4.9
5.c Indigenous Awareness Training at BC Hydro (% complete) ⁴	48	55	63	71
5.d Progressive Aboriginal Relations Certificate ⁵	Gold	Gold	Gold	Gold

¹ Performance Measure descriptions, rationale, data source information and benchmarking are available online at www.bchydro.com/performance.

² The data source for the performance measure is a report generated by BC Hydro's Supply Chain team that includes the value of direct and indirect procurement, contracts issued and contract spend.

³ Data on our workforce diversity and available workforce are calculated and stored with BC Stats.

⁴ Course completion will be measured by tracking the course participation in INDIG-101 and/or INDIG-201.

⁵ Progressive Aboriginal Relations is a certification program by the Canadian Council of Aboriginal Business. It is reviewed on a three-year cycle.

Linking Performance Measure to Objective

5.a Indigenous Procurement is a measure of the total cumulative dollar value of procurement at BC Hydro done with Indigenous Nations beginning in 2014/15. Consistent with BC Hydro's Indigenous Contract and Procurement policy, this measure demonstrates BC Hydro's support for the long-term economic interests of Indigenous peoples in British Columbia by committing to directed procurement opportunities. This supports our relationship agreements, impact benefit agreements and other arrangements with Indigenous groups.

5.b Indigenous Employment supports efforts to increase the percentage of Indigenous BC Hydro employees so that it is representative of the Indigenous population of B.C. This measure helps advance our Inclusion and Diversity strategy and supports the Truth and Reconciliation Commission's Calls to Action, and our Statement of Indigenous Principles.

5.c Indigenous Awareness Training evaluates BC Hydro's workforce awareness of Indigenous culture and supports BC Hydro's goal of advancing reconciliation by increasing the number of employees who understand their role in reconciliation.

5.d The Canadian Council of Aboriginal Business's Progressive Aboriginal Relations (PAR) Gold certification offers validation of BC Hydro's continuous improvement and focus on enhanced Indigenous relations. With BC Hydro's extensive footprint throughout the province, and our role as a Crown corporation, the comprehensiveness of the PAR certification acts as a measure for us to ensure our policies and practices across the company appropriately reflect Indigenous interests and our employees understand the importance of building and maintaining strong relationships with Indigenous Peoples.

Discussion

The Indigenous Procurement performance measure represents opportunities for Indigenous Nations to share in the benefits of the work that BC Hydro does to build, operate, and maintain the system. BC Hydro has set a target for Indigenous procurement totalling \$1 billion by the end of 2025/26. As of the end of 2020/21, the value of direct Indigenous procurement contracts was approximately \$750 million. The targets for 2022/23 – 2024/25 have been set to help BC Hydro achieve its goal of awarding an additional \$250 million of procurement to Indigenous Nations by 2025/26.

The 2022/23 – 2024/25 targets for Indigenous employment have been set in order to achieve BC Hydro's goal of increasing Indigenous employment by 25 per cent from 2020/21 levels (from 4 per cent to 5 per cent), by 2025/26. This measure will also help determine if process changes are needed at various stages of the employee career cycle so that our employee population is reflective of the working population in B.C.

The Indigenous Awareness Training measure assesses progress towards having 80 per cent of all BC Hydro employees completing INDIG-101 and/or 201 training over a five-year time period starting in 2021/22. This will help improve diversity and reconciliation, specifically around providing cultural awareness training and tools to our managers enabling reconciliation, as well as employee retention and recruitment.

The Canadian Council of Aboriginal Business' PAR is a certification program designed to help Canadian businesses benchmark, improve and signal their commitment to progressive relationships with Indigenous communities, businesses and people. It evaluates four areas of performance including: leadership actions;

BC Hydro and Power Authority

employment; business development; and community relations. PAR certification provides a high degree of assurance to Indigenous communities, as certification every three years is supported by an independent third-party verification and is determined by a jury comprised of Indigenous businesspeople. BC Hydro has attained the highest, gold-level designation from the Canadian Council for Aboriginal Business since 2012.

Financial Plan

Summary Financial Outlook

Consolidated Statement of Net Income ¹ (\$ millions)	2021/22 Forecast	2022/23 Budget	2023/24 Budget	2024/25 Budget
Domestic	5,615	5,571	5,827	6,107
Trade	1,645	1,602	1,459	1,281
Total Revenues	7,260	7,173	7,286	7,387
Operating Costs				
Cost of energy	2,858	2,912	2,925	2,975
Personnel expenses, materials & external services ²	1,333	1,397	1,427	1,476
Amortization and depreciation	1,078	1,036	1,063	1,112
Grants and taxes	278	292	306	320
Other	109	105	97	96
Finance charges	785	577	541	634
Total Expenses	6,440	6,318	6,359	6,613
Net Income before movement in regulatory balances	819	855	927	774
Net movement in regulatory balances	(138)	(143)	(215)	(62)
Net Income	681	712	712	712
Other Selected Financial Information				
Dividends	-	-	-	-
Net Debt ³	26,225	28,386	30,526	31,487
Equity	7,049	7,761	8,473	9,185
Capital Expenditures	3,632	4,131	4,244	2,967

¹ Table may not add due to rounding.

² These amounts are net of capitalized overhead and consist of the following:

		2022/23	2023/24	2024/25
Domestic Base Operating Costs	915	927	947	979
Other	<u>418</u>	470	480	497
	1,333	1,397	1,427	1,476

Other largely consists of Powerex & Powertech operating costs, IFRS-ineligible capital overhead, and expenses subject to regulatory deferral.

³ Debt figures are net of sinking funds and cash and cash equivalents.

Key Forecast Assumptions, Risks and Sensitivities

Key Assumptions ¹	2021/22 Forecast	2022/23 Budget	2023/24 Budget	2024/25 Budget
Growth and Load				
B.C. Real Gross Domestic Product Growth (%) ²	3.0	3.8	2.7	1.8
Domestic Sales Load Growth (%) ³	3.6	1.3	3.7	3.4
Load and System Exports:	2.0	1.0	0.7	
Domestic Sales Volume (GWh)	52,957	53,626	55,636	57,512
System Exports Volume (GWh)	6,726	6,248	4,995	3,669
Line Loss and System Use (GWh)	5,056	5,540	5,641	5,782
Total Load and System Exports (GWh)	64,739	65,413	66,272	66,963
Energy Generation				
Total System Water Inflows (% of average)	99.5	100.0	100.0	100.0
Sources of Supply:				
Hydro Generation (GWh)	46,193	46,198	46,176	45,953
System Imports (GWh)	2,094	2,326	3,690	4,579
Independent Power Producers and Long-term Purchases (GWh)	16,236	16,600	16,093	16,117
Thermal Generation & Other (GWh)	217	289	313	313
Total Sources of Supply (GWh)	64,739	65,413	66,272	66,963
Average Mid-C Price (U.S.\$/MWh)	62.77	51.18	47.57	45.43
Average Natural Gas Price at Sumas (U.S.\$/MMBTU)	5.08	4.07	3.32	3.22
Financial				
Canadian Short-Term Interest Rates (%) ⁴	0.19	0.50	1.11	1.55
Canadian Long-Term Interest Rates (%) ⁴	2.20	2.68	2.77	2.96
Foreign Exchange Rate (U.S.\$:Cdn\$) ⁴	0.8008	0.7981	0.7953	0.7958

¹ Table may not add due to rounding.

² Economic assumptions based on calendar year, 2021/22 from Ministry of Finance September 2020 First Quarter Report; 2023/24 to 2024/25 from Conference Board of Canada – August 2020. These economic assumptions are consistent with the economic assumptions used in the Load Forecast, which was prepared in December 2020.

³ Includes the impact of Demand Side Management programs. Excludes system exports.

⁴ Financial assumptions from Ministry of Finance, October 2021.

Sensitivity Analysis

Factor	Change	Approximate change in 2022/23 earnings before regulatory account transfers (in \$ millions)
Hydro Generation (GWh) ¹	+/- 1%	20
Customer Load ²	+/- 1%	25
Electricity/Gas trade margins ³	+/- 10%	30
Purchases from Energy Purchase Agreements		
(EPAs) ⁴	+/- 1%	10
Interest rates – variable debt	+/- 100 basis points	35
Interest rates – hedges of future debt issuances ⁵	+/- 100 basis points	+550/-650
Discount rates – Post- employment benefit plan current service costs ⁶	+/- 100 basis points	+22/-28

¹ Assumes a change in hydro generation is offset by a corresponding change in system imports or exports.

Management's Perspective on the Financial Outlook

In August 2021, BC Hydro filed a three-year revenue requirements application with the BCUC for 2022/23 to 2024/25. BC Hydro expects a decision in late calendar 2022 or early calendar 2023 which may change the financial projections for revenues and expenses.

The current financial projections for revenues and expenses through 2024/25 were approved by the BC Hydro Board of Directors and submitted to the Ministry of Finance in January 2022.

The COVID-19 pandemic continues to adversely impact global economic activity and has contributed to significant volatility in financial markets. The pandemic could have a sustained adverse impact on economic and market conditions and could adversely impact BC Hydro's future performance if it were to cause a prolonged decrease in customer load, volatility in electricity/gas trade margins and interest rates, difficulty accessing debt, project delays and project cost escalations.

While BC Hydro engages in emergency preparedness (including business continuity planning) to mitigate risks, the persisting uncertainty of this situation limits the ability to predict the ultimate adverse impact of COVID-19 on BC Hydro's performance, financial condition, results of operations and cash flows.

This plan contains forward looking statements, including statements regarding the business and anticipated financial performance of BC Hydro. These statements are subject to a number of risks and uncertainties such as customer load, interest rates, electricity/gas market conditions and our ability to deliver our capital projects on-time and on-budget. These and other risks and uncertainties may cause actual results to differ from those contemplated in the forward-looking statements.

² Assumes a percentage change is applied equally to all customer classes. Assumes a change in customer load is offset by a corresponding change in system imports or exports.

³ Trade revenues less trade energy costs.

⁴ Assumes a change in purchases from EPAs is offset by a corresponding change in system imports or exports.

⁵ Relates to unrealized gains/(losses) on interest rate hedges of future debt issuances. Note that hedging gains and losses serve to offset variation in annual interest rates costs when amortized through the Debt Management Regulatory Account. Sensitivity is based on notional value of hedges outstanding and market interest rates as of December 31, 2021.

⁶ Discount rates based on the yields of AA Canadian Corporate bonds.

Capital Expenditures by Year and Type and Function

(\$ millions)	2021/22 Forecast	2022/23 Forecast	2023/24 Forecast	2024/25 Forecast
Capital Expenditures by Type ¹				
Sustaining	1,175	1,163	1,154	1,322
Growth	2,457	2,968	3,090	1,645
Subtotal – BC Hydro Capital Expenditures before CIA	3,632	4,131	4,244	2,967
Contributions-in-Aid (CIA) ²	(159)	(188)	(186)	(177)
Total – BC Hydro Capital Expenditures net of CIA	3,473	3,943	4,058	2,790
Generation	377	301	311	500
Transmission and Distribution	974	1,024	1,113	1,082
Properties, Technology and Other	231	284	258	249
Site C Project ³	2,050	2,522	2,562	1,136
Subtotal – BC Hydro Capital Expenditures before CIA	3,632	4,131	4,244	2,967
CIA	(159)	(188)	(186)	(177)
Total BC Hydro Capital Expenditures net of CIA	3,473	3,943	4,058	2,790

^{1.} BC Hydro classifies capital expenditures as either sustaining capital or growth capital:

[•] Sustaining capital includes expenditures to ensure the continued availability and reliability of generation, transmission and distribution facilities. It also includes expenditures to support the business, such as vehicles and information technology.

[•] Growth capital includes expenditures to meet customer load growth and other business investments. Growth capital includes expenditures to expand existing generation assets as well as expand and reinforce the transmission and distribution system, and includes Site C.

² Contributions in aid of construction are amounts paid by certain customers toward the cost of property, plant and equipment required for the extension of services to supply electricity.

^{3.} Site C project expenditures excludes charges subject to regulatory deferral and certain operating expenditures.

Projects over \$50 million

BC Hydro has the following projects, each with capital costs expected to exceed \$50 million, listed according to targeted completion date. These projects have been approved by the Board of Directors.

Major Capital Projects (over \$50 million)	Targeted Completion Date (Calendar Year)	Project Cost to Dec 31, 2021 (\$ millions)	Estimated Cost to Complete (\$ millions)	Anticipated Total Cost (\$ millions)
Projects Recently Put Into Service				
Peace Region Electricity Supply (PRES) Project This project was needed to provide sufficient transmission system capacity to serve load growth and increase the reliability of electricity supply to existing customers in the South Peace. This project facilitated reductions in provincial greenhouse gas emissions by enabling electrification of natural gas production, processing, and compression. *The total cost represents the gross cost of the project and has not been netted for potential Federal Government contributions.	2021 In- Service	\$214	\$2	\$216*
LNG Canada Load Interconnection Project This project was to facilitate the interconnection of LNG Canada's facility. A new double circuit 287kV transmission line was constructed from Minette Substation (MIN) to LNG Canada's facility and system reinforcements at MIN were also implemented. Under BC Hydro's standard tariffs, the customer was required to pay for a portion of this project's costs. *The total cost represents the gross cost of the project and has not been netted for a customer's contribution of \$24M.	2021 In- Service	\$79	\$3	\$82*

Major Capital Projects (over \$50 million)	Targeted Completion Date (Calendar Year)	Project Cost to Dec 31, 2021 (\$ millions)	Estimated Cost to Complete (\$ millions)	Anticipated Total Cost (\$ millions)
Projects Recently Put Into Service				
Bridge River 2 Upgrade Units 7 and 8 Project	2021 In-	\$71	\$7	\$78
This project replaced the two generators and other related equipment to restore the historical operating capacity. Units 7 and 8 were placed into service in 1960, were unreliable and in poor and unsatisfactory condition.	Service			
Ongoing				
South Fraser Transmission Relocation Project*	TBD	\$27	\$0	\$27
This project is intended to relocate certain sections of two 230kV transmission circuits (Circuit 2L62 and Circuit 2L58) from their present location adjacent to Highway 99 and in the George Massey tunnel to accommodate the replacement of the tunnel. These two 230kV circuits form a critical part of BC Hydro's transmission network supplying power to customers in Richmond, Delta and the Greater Vancouver area. *The anticipated total cost was previously reported as \$76 million. As a result of the announcement regarding Government's Fraser River Tunnel Project on August 18, 2021, BC Hydro is reassessing crossing options. Once this reassessment is complete, a revised estimate of the anticipated total cost for the resulting project will				
be provided.				
Downtown Vancouver Electricity Supply: West End Strategic Property Purchase This project is to acquire property rights to build and connect a new underground substation that will upgrade the aging electricity system in downtown Vancouver.	2022 Targeted In- Service	\$68	\$13	\$81

Major Capital Projects (over \$50 million)	Targeted Completion Date (Calendar Year)	Project Cost to Dec 31, 2021 (\$ millions)	Estimated Cost to Complete (\$ millions)	Anticipated Total Cost (\$ millions)
Wahleach Refurbish Generator Project This project will improve the reliability of the generator at Wahleach Generating Facility, and its scope includes replacement of the stator and rotor poles, refurbishment of the remaining major components, and a combination of new, replacement, and refurbishment of the auxiliary components. The project also includes the installation of a new powerhouse crane and structural upgrades to the powerhouse building.	2022 Targeted In-Service	\$35	\$16	\$51
Mica Replace Units 1 to 4 Generator Transformers Project This project will address the reliability and safety risks of the Unit 1-4 Generator Step-up Unit transformers at the Mica Generating Station, which are nearing end of life. There is a heightened reliability and safety risk from continuing to operate these transformers in an underground powerhouse as they age.	2022 Targeted In-Service	\$57	\$23	\$80
G.M. Shrum (GMS) G1 to 10 Control System Upgrade This project will replace the controls equipment, provide full remote control capability from the remote control center, and rectify deficiencies in the current system. The condition of the legacy controls for the GMS generating units, which were originally installed in the 1960s and 1970s, is of growing concern due to increasing maintenance requirements, lack of available spare parts and decreasing reliability. The controls are well beyond their expected life, which causes operating problems and increases the risk of damage to major equipment.	2022 Targeted In-Service	\$60	\$15	\$75

Major Capital Projects (over \$50 million)	Targeted Completion Date (Calendar Year)	Project Cost to Dec 31, 2021 (\$ millions)	Estimated Cost to Complete (\$ millions)	Anticipated Total Cost (\$ millions)
Mount Lehman Substation Upgrade Project This project will increase the firm capacity of the Mount Lehman Substation to address safety and asset health concerns at both the Clayburn and Sumas Way substations.	2023 Targeted In-Service	\$40	\$18	\$58
Street Light Replacement Program The program will convert approximately 95,000 BC Hydro owned and maintained High Pressure Sodium and Mercury Vapour street lights to Light Emitting Diode (LED) street lights. This is required to meet federal polychlorinated biphenyl (PCB) environmental regulations by the end of 2025, manage increasing operations and maintenance costs, and better meet our customers' expectations. Lights have started to be converted and conversions will be complete in 2023.	2023 Targeted In-Service	\$27	\$48	\$75
5L063 Telkwa Project This project will increase the reliability and reduce the safety risks of the 500kV radial transmission line (5L063) that provides service for customers in Northwest British Columbia. A portion of the 5L063 line will be relocated away from the current area of unstable terrain.	2023 Targeted In-Service	\$25	\$41	\$66
Mica Modernize Controls Project This project will address the reliability, maintainability, and operability of the Units 1-4 exciters, governors, unit controls and control room controls at the Mica Creek Generating Station.	2023 Targeted In-Service	\$37	\$19	\$56

Major Capital Projects (over \$50 million)	Targeted Completion Date (Calendar Year)	Project Cost to Dec 31, 2021 (\$ millions)	Estimated Cost to Complete (\$ millions)	Anticipated Total Cost (\$ millions)
Capilano Substation Upgrade Project This project will address the existing asset health, reliability, safety, and environmental issues associated with the Capilano Substation, and to ensure that the capacity of the substation meets the long term area needs. The project will also introduce a 25kV source to enable 25kV voltage conversion and facilitate the execution of other future substation projects in the North Shore area.	2024 Targeted In-Service	\$26	\$61	\$87
Vancouver Island Radio System Project This project will replace the end-of-life BC Hydro telecommunication system on Vancouver Island with a modernized system to improve reliability and increase communication capacity. Upgrades will be completed at 38 substations and microwave repeater sites and the project will also include installation of a new microwave radio link.	2024 Targeted In-Service	\$31	\$22	\$53
Sperling Substation (SPG) Metalclad Switchgear Replacement Project This project will address the existing asset health, reliability and safety risks associated with the 12kV 60 series feeder section and the bulk oil breaker in the 12 kV 70/80 series feeder section, insufficient electrical clearances in the 60 series feeder section, and arc flash safety risks associated with the 12kV indoor metalclad switchgear.	2025 Targeted In-Service	\$11	\$43	\$54
Natal – 60-138 kV Switchyard Upgrade Project This project is to address reliability, regulatory and safety risks at the Natal substation as the 60-138kV switchyard equipment is at end of life and requires replacement.	2025 Targeted In-Service	\$5	\$79	\$84

Major Capital Projects (over \$50 million)	Targeted Completion Date (Calendar Year)	Project Cost to Dec 31, 2021 (\$ millions)	Estimated Cost to Complete (\$ millions)	Anticipated Total Cost (\$ millions)
Site C Project*** This project will construct a third dam and a hydroelectric generating station on the Peace River approximately seven kilometres southwest of Fort St. John. It will be capable of producing approximately 5,100 gigawatt-hours of electricity annually and 1,100 megawatts of capacity. Site C will provide clean, renewable and cost-effective power in B.C. for more than 100 years. **Planned in-service date for all units. **Site C project total anticipated cost and project cost to date include capital costs, charges subject to regulatory deferral and certain operating expenditures. ***As approved in June 2021, the Site C project budget is \$16 billion with a project in-service date of calendar year 2025. BC Hydro continues to manage significant risks to the project such as the ongoing COVID-19 pandemic and the potential impacts to on-site construction activities. The Site C Project continues to work with the Project Assurance Board, Mr. Milburn, Ernst & Young Canada, and the Technical Advisory Board to manage these project risks.	2025* Targeted In- Service	\$8,359	\$7,641	\$16,000**

Appendix A: Additional Information

Corporate Governance

Information about Corporate Governance can be found at:

http://www.bchydro.com/about/accountability_reports/financial_reports/service_plan.html.

This includes all information detailed in the Best Practice Guidelines: Governance and Disclosure Guidelines for Governing Boards of British Columbia Public Sector Organizations:

- Board of Directors
- Executive Team
- Code of Conduct
- Board Governance Manual

Organizational Overview

Information about BC Hydro's organizational overview can be found at:

https://www.bchydro.com/toolbar/about.html

This includes links to information about BC Hydro's operations, governance and mandate.

Appendix B: Subsidiaries and Operating Segments

Active Subsidiaries

As wholly owned subsidiaries, and like BC Hydro itself, Powerex Corp. and Powertech Labs Inc. follow best practices in corporate governance and subsidiary activities align with BC Hydro's mandate, strategic priorities and fiscal plan.

Powerex Corp

Powerex Corp., an energy marketer, is a wholly owned corporate subsidiary of BC Hydro and a key participant in wholesale energy markets across North America. Powerex's business consists of trading wholesale power and natural gas, environmental products (renewable energy credits or other similar products), carbon products (allowances and other similar products), ancillary energy services, and financial energy products.

Through its contractual agreements with BC Hydro, Powerex supports BC Hydro's system requirements by importing and exporting energy. Powerex also markets, through a contractual agreement with the Province, the Canadian Entitlement to the Downstream Power Benefits under the Columbia River Treaty.

The Chief Executive Officer (CEO) of Powerex reports directly to the Board of Directors of Powerex. The Chair of the Powerex Board ensures the Board of BC Hydro is informed of Powerex's key strategies and business activities. The Powerex CEO also informs the BC Hydro President & CEO and Executive Team of Powerex's key strategies and business activities.

Powerex operates in competitive and complex wholesale energy markets, which can cause net income in any given year to vary significantly. Market, economic and weather conditions, reduced hydro system flexibility, unrealized mark-to-market gains or losses and the strength of the Canadian dollar can materially impact Powerex net income. The Service Plan forecast includes annual trade income from

Powerex of approximately \$225 million per year for 2022/23 to 2024/25, based on the average earnings over the last five fiscal years. For more information, visit powerex.com.

Board of Directors:

- Len Boggio Chair
- Sam Drier
- Valerie Lambert
- Marilyn Mauritz
- Chris O'Riley
- Catherine Roome

Powertech Labs Inc.

Powertech Labs Inc., operating in Surrey since its inception in 1979, is a wholly owned subsidiary of BC Hydro. Powertech is internationally recognized as technical experts in a range of fields related to the electric utility and clean energy industries and offers services and solutions including performance and type testing, asset lifecycle management solutions, engineering studies, and power system modelling and analysis to energy clients, including BC Hydro, and other sectors globally. Powertech is also a technical leader in hydrogen energy, providing certification, performance, and safety testing services for hydrogen components and systems, as well as the design and construction of innovative hydrogen vehicle refueling systems.

The President and CEO of Powertech reports to Powertech's Board of Directors. The Powertech Board is chaired by BC Hydro's President and CEO and its Directors include senior Executives and Board members of BC Hydro.

The Service Plan forecast includes annual net income from Powertech ranging from approximately \$3 to \$4 million per year for 2022/23 to 2024/25. For more information, visit powertechlabs.com.

Board of Directors:

- Chris O'Riley Chair
- Melissa Holland
- Kip Morison
- Vasee Navaratnam
- John Nunn
- David Wong

Other Subsidiaries

BC Hydro has created or retained a number of other subsidiaries for various purposes, including holding licences in other jurisdictions, to manage real estate holdings and to manage various risks. Three of these subsidiaries are considered active:

BCHPA Captive Insurance Company Ltd.

Procures insurance products and services on behalf of BC Hydro.

Columbia Hydro Constructors Ltd.

Administers and supplies the labour force to specified projects.

Tongass Power and Light Company

Provides electrical power to Hyder, Alaska from Stewart, B.C. due to its remoteness from the Alaska electrical system.

Nominee Holding Companies and/or Inactive/Dormant Subsidiaries

BC Hydro's remaining subsidiaries either serve as nominee holding companies (indicated with an *) or are considered to be inactive/dormant. The inactive/dormant subsidiaries do not carry on active operations. As of December 31, 2021, these other subsidiaries consisted of the following:

- 1. British Columbia Hydro International Limited
- 2. British Columbia Power Exchange Corporation
- 3. British Columbia Power Export Corporation
- 4. British Columbia Transmission Corporation
- 5. Columbia Estate Company Limited*
- 6. Edmonds Centre Developments Limited*
- 7. Fauquier Water and Sewerage Corporation
- 8. Hydro Monitoring (Alberta) Inc.*
- 9. Victoria Gas Company Limited
- 10. Waneta Holdings (US) Inc.*
- 11. 1111472 BC Ltd.

Appendix C: Crown Mandate Letter from the Minister Responsible

June 15, 2021

Mr. Doug Allen Chair BC Hydro 18th Floor, 333 Dunsmuir Street Vancouver, BC V6B 5R3

Dear Mr. Allen:

On behalf of Premier John Horgan and the Executive Council, I would like to extend my thanks to you and your board members for the dedication, expertise and skills with which you serve the people of British Columbia.

Every public sector organization is accountable to the citizens of British Columbia. The expectations of British Columbians are identified through their elected representatives, the members of the Legislative Assembly. Your contributions advance and protect the public interest of all British Columbians and, through your work, you are supporting a society in which the people of this Province can exercise their democratic rights, trust and feel protected by their public institutions.

You are serving British Columbians at a time when people in our province face significant challenges as a result of the global COVID-19 pandemic. Recovering from the pandemic will require focused direction, strong alignment and ongoing engagement between public sector organizations and government. It will require all Crowns to adapt to changing circumstances and follow Public Health orders and guidelines as you find ways to deliver your services to citizens.

This mandate letter, which I am sending in my capacity as Minister responsible for BC Hydro on behalf of the Executive Council, communicates expectations for your organization. It sets out overarching principles relevant to the entire public sector and provides specific direction to BC Hydro about priorities and expectations for the coming fiscal year.

I expect that the following five foundational principles will inform your agency's policies and programs:

Ministry of Energy, Mines and Low Carbon Innovation Office of the Minister

Mailing Address: PO Box 9060, Stn Prov Govt Victoria, BC V8W 9E2 Telephone: 250 953-0900

- Putting people first: We are committed to working with you to put people first. You
 and your board are uniquely positioned to advance and protect the public interest,
 and I expect that you will consider how your board's decisions maintain, protect and
 enhance the public services people rely on and make life more affordable for
 everyone.
- Lasting and meaningful reconciliation: Reconciliation is an ongoing process and a shared responsibility for us all. Government's unanimous passage of the Declaration of the Rights of Indigenous Peoples Act was a significant step forward in this journey one that all Crown agencies are expected to support as we work in cooperation with Indigenous peoples to establish a clear and sustainable path to lasting reconciliation. True reconciliation will take time and ongoing commitment to work with Indigenous peoples as they move towards self-determination. Guiding these efforts, Crown agencies must also remain focused on creating opportunities that implement the Truth and Reconciliation Commission's recommendations through your mandate.
- Equity and anti-racism: Our Province's history, identity and strength are rooted in its diverse population. Yet racialized and marginalized people face historic and present-day barriers that limit their full participation in their communities, workplaces, government and their lives. The public sector has a moral and ethical responsibility to tackle systemic discrimination in all its forms and every public sector organization has a role in this work. All Crowns are expected to adopt the Gender-Based Analysis Plus (GBA+) lens to ensure equity is reflected in your operations and programs. Similarly, appointments resulting in strong public sector boards that reflect the diversity of BC will help achieve effective and citizen-centred governance.
- A better future through fighting climate change: Announced in December 2018, the CleanBC climate action plan puts our Province on the path to a cleaner, better future by building a low-carbon economy with new clean energy jobs and opportunities, protecting our clean air, land and water and supporting communities to prepare for carbon impacts. As part of the accountability framework established in CleanBC, and consistent with the Climate Change Accountability Act, please ensure your organization aligns operations with targets and strategies for minimizing greenhouse gas emissions and managing climate change risk, including the CleanBC target of a 50% reduction in public sector building emissions and a 40% reduction in public sector fleet emissions by 2030. Your organization is expected to work with government to report out on these plans and activities as required by legislation.

• A strong, sustainable economy that works for everyone: I expect that you will identify new and flexible ways to achieve your mandate and serve the citizens of BC within the guidelines established by the Provincial Health Officer and considering best practices for conducting business during the pandemic. Collectively, our public sector will continue to support British Columbians through the pandemic and economic recovery by investing in health care, getting people back to work, helping businesses and communities, and building the clean, innovative economy of the future. As a public sector organization, I expect that you will consider how your decisions and operations reflect environmental, social and governance factors and contribute to this future.

The Crown agencies and Board Resourcing Office (CABRO), with the Ministry of Finance, will continue to support you and your board on recruitment and appointments as needed, and will be expanding professional development opportunities in 2021/22. The Governing in the Public Interest online certificate program is now available, and all board members are encouraged to complete this new offering.

As the Minister Responsible for BC Hydro, I expect that you will make substantive progress on the following priorities and incorporate them in the goals, objectives and performance measures in your 2021/22 Service Plan:

- Provide leadership in advancing CleanBC's climate and economic development objectives, including electrification, fuel switching, and energy efficiency initiatives in the built environment, transportation, mining, oil and gas, and other sectors.
- Keep electricity affordable by ensuring that rates do not increase above inflation, on a cumulative basis, over the next decade.
- Continue delivering affordability measures that support BC's Poverty Reduction Strategy, including demand-side management programs targeted to low-income customers, in a manner consistent with new and emerging CleanBC policies.
- Maintain or improve customer satisfaction by providing timely and responsive service.
- Safely complete the Site C project within the lowest cost and approved schedule, and implement the recommendations of the Milburn Report, reports from independent dam safety experts, other directions from the Minister responsible, and provide quarterly progress and other reporting to Treasury Board and the BC Utilities Commission.
- Continue to implement government direction resulting from the Comprehensive Review of BC Hydro. Priority initiatives for 2021/22 should include:

- Supporting the implementation of the BC Hydrogen Strategy;
- o Expanding BC Hydro's network of electric vehicle DC fast-charging stations;
- Supporting clean technology innovation through Powertech;
- Increasing industrial electrification by making it easier and faster for customers to connect to the electricity grid; and
- Re-investing new low carbon fuel standard credit revenues in transportation electrification infrastructure, incentives and programs.
- Develop a short-term electrification plan that builds on the key results of the Comprehensive Review of BC Hydro and supports CleanBC.
- Working with customers, develop efficient and flexible rate proposals for BC
 Utilities Commission review that will incent greenhouse gas emission reductions and keep rates affordable.
- Actively market 100% clean energy through Powerex to realize new trading opportunities and income for the benefit of BC Hydro ratepayers.
- Partner with the Province and the federal government to implement the CleanBC Remote Community Energy Strategy to help remote communities, with a focus on Indigenous communities, reduce diesel use and replace it with clean energy.
- Work with the Province to secure additional federal funding and bring into service transmission projects that will reduce or avoid greenhouse gas emissions and help meet its climate goals.

Each board member is required to sign the Mandate Letter to acknowledge government's direction to your organization. The signed Mandate Letter is to be posted publicly on your organization's website in spring 2021.

I look forward to continuing to work with you and your Board colleagues to build a better BC.

Sincerely,

Original signed by Minister.

Bruce Ralston

Date: June 15, 2021

Minister

BC Hydro and Power Authority

Doug Allen,	Len Boggio,	Daryl Fields,	Valerie Lambert,
Chair	Director	Director	Director
Irene Lanzinger,	Nalaine Morin,	John Nunn,	Catherine Roome,
Director	Director	Director	Director
Chris Sanderson,			

cc: Honourable John Horgan, Premier

Lori Wanamaker, Deputy Minister to the Premier, Cabinet Secretary and Head of the BC Public Service

Heather Wood, Deputy Minister and Secretary to Treasury Board, Ministry of Finance Douglas S. Scott, Deputy Minister, Crown Agencies Secretariat, Ministry of Finance Fazil Mihlar, Deputy Minister, Ministry of Energy, Mines and Low Carbon Innovation

Len Boggio, Director, BC Hydro

Daryl Fields, Director, BC Hydro

Valerie Lambert, Director, BC Hydro

Irene Lanzinger, Director, BC Hydro

Nalaine Morin, Director, BC Hydro

John Nunn, Director, BC Hydro

Catherine Roome, Director, BC Hydro

Chris Sanderson, Director, BC Hydro

Chris O'Riley, President and Chief Executive Officer, BC Hydro