

BC Hydro relies on various data sources for relevant and accurate reporting of our Performance Measures. This includes, but is not limited to, internal financial records, external research findings, and association indexes. The Performance Measures have unique requirements for source data and accompanying considerations.

Since the 2018/19-2020/21 Service Plan, BC Hydro has:

- Moved the Safety Above All goal from Goal 4 to Goal 1 to better reflect our commitment to safety.
- Modified the wording of Goal 4, from “Continue British Columbia’s Leading Commitment to Renewable Clean Power”, to “Help Make Renewable, Clean Power British Columbia’s Leading Energy Source” to highlight BC Hydro’s support of the CleanBC plan to increase British Columbians’ use of cleaner energy in key sectors of the economy.
- Removed the New Clean Supply performance measure from the 2019/20 – 2021/22 Service Plan. We will develop a new measure to support and align with the Government’s new CleanBC plan.
- Modified two performance measures’ targets, SAIDI and Lost Time Injury Frequency, to reflect updated performance information.

The information below references the Goals and Performance Measures from the 2018/19-2020/21 Service Plan.

### Goal 1: Set the Standard for Reliable and Responsive Service

Objective 1.1 : BC Hydro will reliably meet the electricity requirements of customers and respond to their evolving expectations by planning and investing in the system to meet future needs and by consistently improving our service.

Description of Performance Measure	Rationale/Benchmarking Activities
<p><b>1.a SAIDI (System Average Interruption Duration Index)</b> is a utility standard measure of the total sustained outage duration (measured in hours) experienced by an average customer over the course of a year, excluding major events.</p>	<p><b>SAIDI &amp; SAIFI:</b> Annual targets are based on a number of factors including long-term historic reliability trending, current year performance, previous years’ investments and future years’ investment plans. Our reported reliability targets are based on specific values; however performance within 10 per cent is considered acceptable given the estimation uncertainty, the wide range of variations in weather patterns and uncontrollable elements that can significantly disrupt the electrical system. The reliability targets are, 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.</p> <p>Annually, BC Hydro participates in the Distribution Service Continuity benchmarking survey conducted by the Canadian Electricity Association (CEA) and the Transmission &amp; Distribution combined benchmarking study conducted by First Quartile Consulting.</p> <p><b>Key Generating Facility Forced Outage Factor:</b> A forced outage occurs when a generating unit fails to start on demand and/or fails to remain in service until shutdown. Forced Outage Factor is defined as the total forced outage time in a period relative to the total number of hours in the same period (usually one year). Annually, the Forced Outage Factor can be relatively volatile and through applying the historical five year rolling average it can smooth the range to provide a more stable measure for which targets can be set.</p>
<p><b>1.b SAIFI (System Average Interruption Frequency Index)</b> is a utility standard measure of how many sustained interruptions (longer than one minute) an average customer will experience over the course of a year, excluding major events.</p>	
<p><b>1.c Key Generating Facility Forced Outage Factor</b> measures the percentage of time key generating units are unavailable when they are needed due to internal unplanned causes. BC Hydro’s seven largest and key generating facilities are tracked for total forced outage time in a period relative to the total number of hours in the same period (usually one year).</p>	

<p><b>1.d Customer Satisfaction (CSAT)</b> is the percentage of customers – residential, small and medium-sized businesses and key accounts – who are satisfied or very satisfied with BC Hydro (as measured on a four-point verbal scale) in five equally weighted areas:</p> <ul style="list-style-type: none"> <li>• Value for money;</li> <li>• Commitment to customer service;</li> <li>• Providing reliable electricity;</li> <li>• Acting in the best interest of British Columbians; and,</li> <li>• Efforts to communicate with customers and communities.</li> </ul>	<p><b>CSAT:</b> BC Hydro maintains a minimum threshold target of 85 per cent for CSAT to ensure we have strong customer support.</p>
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<p><b>1.e Progressive Aboriginal Relations (PAR)</b> is a certification from the Canadian Council for Aboriginal Business. Given BC Hydro’s extensive footprint throughout the province, and its role as a Crown corporation, PAR gold-level certification confirms BC Hydro’s sustained effectiveness in Indigenous relations. The certification process evaluates four areas of performance: leadership actions, employment, business development and community relations.</p>	<p><b>Progressive Aboriginal Relations certification:</b> We successfully attained a gold-level certification from the Canadian Council for Aboriginal Business in 2018/19, which is valid for a three year period.</p>
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**Measurement**

**SAIDI & SAIFI:** The data gathered to measure our reliability measures is collected and validated in a process that starts with operational staff recording the start and end time of each power outage as well as the cause. Based on the location of the outage, the number of customers impacted is calculated automatically. This information is collected in a centralized database that allows outage records to be reviewed by managers regularly to ensure accuracy. Outages that impact a significant number of customers or involve lengthy repair times require a formal outage report to be written by an engineer and approved by management. Smart meters provide better outage visibility which helps in faster restoration of service.

Annually, circuits are benchmarked to prioritize investment for sustained reliability improvement on the worst performing circuits. The most significant outages are reviewed regularly to ensure accuracy of data, effectiveness of restoration actions, and to better understand vulnerabilities. As a second check for accuracy, trends in recent performance measures are compared against past results and forecast performance. The Reliability Improvement team reviews the monthly performance measures and takes action when actual performance deviates from forecast.

**Key Generating Facility Forced Outage Factor:** BC Hydro has seven key generating facilities which are defined as plants with installed capacity greater than 200 MW. Together, they provide 90% of the average annual electricity generated by BC Hydro’s facilities. The measure aims to keep the Forced Outage Factor below 1.80% for the total number of hours generated per year in 2018/19. This measurement shows the trend of how the assets are performing and aligns with how asset management investments decisions are made to maintain asset reliability that is reflected in a low forced outage factor.

**CSAT:** Customer Satisfaction is measured through a survey.

**PAR:** The Progressive Aboriginal Relations certification process evaluates four areas of performance: leadership actions, employment, business development, and community relations. The level of certification (gold, silver or bronze) is supported by an independent, third party verification and is determined by a jury comprised of Aboriginal business people. Certification is for a three year period.

## Goal 2: Help make electricity more affordable for our customers

Objective 2.1 : BC Hydro customers will benefit from affordable, predictable rates while we manage our costs, explore innovative solutions to support our customers and make investments to maintain and expand our electricity system.

Description of Performance Measure	Rationale/Benchmarking Activities
<p><b>2.a Competitive Rates</b> measures BC Hydro's residential rates against other utilities across North America. The analysis is from the annual Hydro Quebec report, <i>Comparison of Electricity Rates in Major North American Cities</i>.</p>	<p>Pursuant to Rate Comparison Regulation under the <i>Clean Energy Act</i>, Ministerial Act No. 167, issued on June 28, 2011, BC Hydro provides an Electricity Rate Comparison Annual Report to the Minister of Energy, Mines and Petroleum Resources.</p>
<p><b>2.b Project Budget to Actual Cost</b> measures at an aggregate level actual costs of capital projects that were put into service compared to original approved full scope implementation budgets (excluding project reserve funds) over a five-year period.</p>	<p>BC Hydro regards <b>Project Budget to Actual Costs</b> as an important measure for evaluating its performance in delivering capital projects on budget and compares actual costs to full scope implementation budgets (excluding project reserve funds).</p>
<p><b>Measurement</b></p>	
<p>The <b>Competitive Rates</b> measure is based on survey information taken from the annual Hydro Quebec report, <i>Comparison of Electricity Rates in Major North American Cities</i>, which compiles monthly bills and average prices of 22 Canadian and U.S. Utilities. BC Hydro calculates a relative index for each usage level within the residential, small, medium, and large power categories and then calculates an average of the index to create an overall ranking. The rankings of the 22 participating utilities are then divided into quartiles to determine our ranking. The report is used as a benchmark to demonstrate that our bills are affordable and predictable compared to other major North American utilities.</p> <p><b>Project Budget to Actual Costs</b> is measured using a five year rolling data set of actual costs compared to original approved full scope implementation budgets in aggregate, excluding project reserve funds, for capital projects that were put into service during the period. The data includes Generation, Transmission Line and Substation, and large Distribution projects managed by Project Delivery, and the Smart Metering and Infrastructure Program and Properties projects for the last five years. 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.</p>	

### Goal 3: Continue British Columbia's Leading Commitment to Renewable Clean Power

Objective: BC Hydro will strengthen its legacy of renewable, clean power and conservation investments by expanding its energy-efficiency and conservation programs to include low-carbon electrification and by identifying and securing new, sustainable, responsibly generated, competitively priced energy and capacity options to meet future customer needs.

Description of Performance Measure	Rationale/Benchmarking Activities
<p><b>3a. Energy Conservation Portfolio (New Incremental GWh/year)</b> Reflects the annual new incremental electricity savings resulting from the Demand Side Management portfolio results including programs, codes and standards and conservation rates.</p>	<p><b>Energy Conservation Portfolio Energy Savings (New Incremental GWh/yr)</b> is a reflection of performance within the current period and as such, is not impacted by past performance and/or adjustments made to energy savings in prior years. In some cases, the timing of savings for anticipated codes and standards and timing of large customer projects can shift, which will cause actual incremental energy savings to vary from the targets that have been set for the period.</p>
<p><b>3b.</b>The <b>Clean Energy</b> measure represents a minimum threshold generation output in accordance with the B.C. Government's requirement that at least 93 per cent of electricity generation in the province be from clean or renewable resources. Consistent with B.C. regulation, this measure does not include electricity to serve demand from facilities that liquefy natural gas for export.</p>	<p>The <b>Clean Energy</b> target aligns with the objectives set forth in the 2010 <i>Clean Energy Act</i>. BC Hydro does not benchmark its results for this performance measure against other utilities.</p>
<p><b>3c. New Clean Supply</b> measure reflects the percentage of new supply agreements for greenfield generation projects entered into that are from clean or renewable resources. The target is that 100 per cent of new supply projects for the integrated grid must come from clean or renewable sources.</p>	<p><b>New Clean Supply</b> is measured on an annual basis by assessing the percentage of new projects on the integrated grid that are from clean and renewable resources within each year.</p>

#### Measurement

BC Hydro undertakes a comprehensive approach to estimating energy conservation savings. Depending on the initiative, there can be up to four distinct areas of activity that ultimately contribute to the confirmation of energy conservation savings estimates: technical reviews of programs and energy conservation projects; site inspections on a sample of projects; measurement and verification of project performance; and evaluation of programs, conservation rates, building codes and product standards.

The Clean Energy performance measure represents the minimum threshold generation output in accordance with the B.C. Government's requirement that at least 93 per cent of electricity generation in the province be from clean or renewable resources. The generation data is reviewed and verified internally at BC Hydro for reliability, consistency and data integrity. While actual output of the non-clean resources in the system supports system reliability and can vary depending on market conditions and inflows to our reservoirs, we expect that the actual performance will remain close to 98 per cent.

## Goal 4: Safety Above All

Objective: Safety at BC Hydro is a core value. We are committed to ensuring our workforce goes home safely every day, and that the public is safe around our system.

### Description of Performance Measure

**4a. Zero Fatality and Serious Injury** is a measure of an incident where there has been a loss of life or the injury has resulted in a permanent disability (for which a disability pension has been received or is expected).

**4b. Lost Time Injury Frequency (LTIF)** is a standard Canadian Electricity Association measure and is defined as the total number of employee Lost Time injuries per 200,000 hours worked. Lost time injuries are those where the employee was absent beyond the day of injury.

**4c. Timely Completion of Corrective Actions (%)** is defined as the percentage of safety corrective actions closed within 30 days of the original scheduled due date on an annual basis, with an aim to improve over time.

### Rationale/Benchmarking Activities

The measure of **Zero Fatality and Serious Injury** is unique to BC Hydro and is not benchmarked against other Canadian Electricity Association (CEA) member utilities.

The CEA does report on fatalities. BC Hydro had one of the nine fatalities among CEA members in the eight-year period from 2010 to 2018. We also have had eight on the job employee fatalities since 1999.

**LTIF** is defined in the CEA Standard and generally harmonized with the U.S. Occupational Safety and Health Administration Standards for safety statistics. BC Hydro benchmarks its LTIF performance against available CEA composite results.

**Timely Completion of Corrective Actions:** The purpose of this measure is to track corrective actions that have been put in place from safety incidents (injuries and near misses) and safety audits to improve our safety performance. It demonstrates that we are a learning organization with a focus on improving practices in a timely way from identified deficiencies that have a direct impact on the safety of our workforce. The CEA does not report on the timely completion of corrective actions.

BC Hydro will continue to benchmark its safety results against CEA participants. In parallel, BC Hydro will explore opportunities to use other benchmarking associations. We will also begin to use leading indicators such as Serious Incident and Fatality Frequency to further mitigate safety risks.

### Measurement

**Zero Fatality and Serious Injury / LTIF:** The data source for all safety performance metrics are incidents reported through the Incident Management System. To ensure accuracy and reliability of the data, each incident is reviewed to ensure that it meets the CEA reporting criteria, the correct injury category and seriousness has been assigned. This approach does exclude a small number of accepted WorkSafeBC claims that do not meet the CEA reporting criteria. BC Hydro's safety performance measures do not include contractor or public safety injuries or fatalities.

**Timely Completion of Corrective Action Plans:** The data source for Timely Completion of Corrective Actions Plans are the records of corrective action resulting from incidents and from audits in the Incident Management System. The definition used for Timely Completion of Corrective Actions was changed in the 2018/19-2020/21 Service Plan. The new definition removes the 30 day buffer and the performance measure is now defined as the percentage of safety corrective actions closed on or before the scheduled due date on an annual basis, with an aim to improve over time.