

**Building Connections** 

# **Service Plan**

For Fiscal Years 2010/11 to 2012/13

BC Transmission CORPORATION Building Connections

www.bctc.com

### Message from the Chair

Message from the Executive Chair of the Board to Minister of Energy, Mines and Petroleum Resources

#### March 2, 2010

On behalf of the Board of Directors, the management and employees of British Columbia Transmission Corporation (BCTC), we are pleased to submit our Service Plan for 2010/11 – 2012/13.

BCTC remains focused on maximizing the value of the provincially-owned power grid for the benefit of British Columbians. Through comprehensive long-term planning and a strong commitment to the provincial government's green economy goal, BCTC will prudently manage all aspects of its \$3.2 billion transmission infrastructure portfolio.

BCTC is a critical infrastructure provider and while sensitive to short-term economic realities, we also have to be aware of the long-term electricity needs of the province and ensure that the necessary transmission infrastructure is in place to support British Columbia's economy and quality of life.

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Our province has enormous potential in new clean, renewable, low carbon energy. The building and maintenance of electrical transmission infrastructure will be a key part of transforming BC into a clean energy

powerhouse. With the best minds on board, BCTC's long-term vision will stimulate new investment, industry and employment in the province.

Over the next three years, BCTC will remain focused on three main strategies:

- Market access: Enhancing BC's role in the Pacific Northwest by improving access and helping to advance regional plans that advance needed transmission investments;
- Long-term transmission planning: Advancing the needed transmission investments to support the long-term electricity needs of the province; and
- Operational excellence: Becoming the best at what we do by managing and operating the grid in the most cost-effective, reliable and sustainable manner possible.

BCTC's work is fundamentally important to helping our province meet its growing energy needs and respond to the serious challenge of climate change. BCTC's priorities for the coming year will include supporting BC as it looks at opportunities in the renewable, low-carbon electricity sector and implements its climate change policies. We will also deliver increased energy efficiency. Our commitment to green the grid with innovative technologies and the interconnection of clean and renewable power generation will ensure we remain an environmental leader in the power industry.

BCTC will continue to advance the Northwest Transmission Line by pursuing the studies and consultation required for the Environmental Assessment process. We will also pursue the potential for long-term economic expansion in the northeast region of BC, and the ability to mitigate greenhouse gas emissions through new transmission expansion and use of renewable, low-carbon electricity.

Looking ahead, the siting of our transmission projects continues to present significant challenges. BCTC has developed a comprehensive communications and consultation program to build relationships with First Nations, communities, and stakeholders across the province. Open and transparent consultation helps to achieve a higher level of public acceptance while improving project planning and facilitating regulatory timely approvals and construction.

Our province's transmission assets are a key facet of British Columbia's competitive advantage. With that in mind, over the next 10 years, a \$5.8 billion investment will be made to maintain and expand the province's transmission system to secure BC's long-term electricity needs.

In the current economic climate, BCTC is challenged to deliver increasing work programs while keeping costs fixed. For F2011, BCTC undertook a zero-based budgeting approach with the goal of maintaining operating, maintenance and administrative expenditures at F2010 levels. We are making every effort to manage expenditures and cost pressures so that they will have the least impact on the company's ability to deliver safe and reliable service.



We are proud of our accomplishments in the past year and excited about the opportunities ahead. BCTC continues to focus on creating value for our customers, our Shareholder and BC's economy. We look forward to making significant progress on our strategic initiatives in the coming year, supporting the Government's clean energy objectives and working with our stakeholders to plan and build for BC's future.

This 2010/11 - 2012/13 Service Plan for BCTC was prepared under the direction of the Board of Directors in accordance with the Budget Transparency and Accountability Act and the BC Reporting Principles. This plan is consistent with government's strategic priorities and overall Strategic Plan.

The Board is accountable for the contents of the plan including the selection of performance measures and targets. The performance targets within the plan have been determined based on an assessment of BCTC's operating environment, forecast conditions, risks, and past performance. Achievement of results may be influenced by factors that are beyond the company's control. All significant assumptions, policy decisions, and identified risks, as of 31 December 2009, have been considered in preparing the plan. The Board is accountable for ensuring BCTC achieves its specific objectives identified in the plan and for measuring and reporting actual performance.

David L. Emerson Executive Chair of the Board British Columbia Transmission Corporation

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A note on fiscal year references: BCTC's fiscal year ends on 31 March. The fiscal year ending 31 March 2011 is abbreviated F10/11. When space limitations require a shorter abbreviation, the number of the year in which the fiscal year ends is presented. Thus F11 refers to the fiscal year ending 31 March 2011.

### Significant developments since BCTC's 2009/10 service plan was tabled:

#### ---> Long-term planning

- For F2010/2011, BCTC's capital plan expanded to \$5.8 billion over 10 years, with more than 400 projects planned over the next decade to address the electrical transmission needs of British Columbia.
- BCTC ensured BC's interests were accurately represented in regional planning initiatives, including the Western Renewable Energy Zone (WREZ) initiative and Western Electricity Coordinating Council (WECC) transmission planning expansion initiative.
- BCTC's focus on long-term regional planning, such as the 30-year Metro Vancouver Supply Plan filed with the



Vancouver Supply Plan filed with the British Columbia Utilities Commission in September 2009, will ensure the electricity needs of communities are met for decades to come.

• BCTC is developing a 30-year transmission plan by modeling different future scenarios for electricity demand, by planning for the long-term health of the existing grid, and by identifying the new transmission infrastructure to meet that long-term growth plan. BCTC will provide this analysis into the Commission's Long-term Transmission Needs Inquiry when the proceeding re-commences in 2010.

#### Green energy potential



- BCTC connected the province's first wind power project to the 138 kV transmission line between Chetwynd and Dawson Creek. The Bear Mountain Wind Farm adds 100 megawatts of renewable energy to BC's electricity supply.
- BCTC completed over 80 studies for generators bidding into BC Hydro's bio-energy and clean power calls. These interconnection studies are key for generator owners and clean power generators to determine the technical and economic feasibility of connecting the power they produce to the grid.
- Customers in Western United States markets are seeking green energy and BCTC is exploring the feasibility of upgrades to the transmission system near Trail, BC. These upgrades will increase access to new renewable resources in the western region and improve reliability of interconnected networks. Substation and transmission line investments contribute to the reliability and capacity of British Columbia's system as well as improve access to the Western US market.

#### --> Expansion in the North



- BCTC advanced its Northwest Transmission Line (NTL) project. It completed the terms of reference, conducted consultation and completed field studies for this important 335-km transmission line expansion between Terrace and Bob Quinn Lake. BCTC has now finalized and submitted its application for an Environmental Assessment Certificate to the BC Environmental Assessment Office. On September 16, 2009, the Government of Canada announced a \$130 million commitment to priority funding from the federal Green Infrastructure Fund towards construction of the NTL. On the same day, the Province of British Columbia announced its partnership with the Government of Canada to electrify the North. Private sector funding is also anticipated for the construction of this \$404 million project.
- BCTC is supporting the provincial government in pursuing the potential for long-term economic expansion in the northeast region of BC, and the ability to mitigate greenhouse gas emissions through new transmission expansion and use of renewable, low-carbon electricity.

#### Accountability

- In 2009, BCTC continued implementation of its performance management framework, which was developed in 2008 in cooperation with the provincial government.
- BCTC supports the government in ensuring financial prudency and cost management across the public sector and has determined that it can manage the majority of F2011 costs within approved expenditure levels for F2010 despite expansion of the system. To manage costs within approved F2010 levels, the Corporation plans to offset some of the uncontrollable costs through an application for targeted deferral accounts.



### An Overview of BC Transmission Corporation

British Columbia is home to a wealth of clean, renewable energy opportunities that will drive our province's economy, meet our growing energy needs and help us deal with climate change. Transmission is the vital link that brings clean, renewable energy to consumers in BC and to establish BC's potential as the supplier of choice for clean power in North America.

#### → Benefit to the Public

# British Columbia Transmission Corporation is working to fully maximize the value of the electricity grid for the benefit of British Columbians

- BCTC is provincially-owned and fully-accountable to operate, maintain, and build the transmission grid to deliver safe, reliable and cost-effective power. BCTC is regulated by the British Columbia Utilities Commission to ensure ratepayer value and manages BC's aging transmission system within a fiscally responsible budget.
- The Corporation provides non-discriminatory access to the power grid for all generators.
- BC's grid is operated as part of the Western Interconnection to gain the benefits of reliability and access from the Western North American electrical grid interconnection.
- BCTC is a focused transmission company which plays a critical role in balancing the need to develop a comprehensive longterm plan to achieve the province's green economy goal with the need to prudently manage all aspects of an approximately \$1.1 billion annually transmission business (revenues and capital expenditures).
- To ensure that BC's transmission system remains one of the most advanced electricity networks in the world and serves as the foundation of our transition to a renewable energy-based economy, BCTC is actively implementing smart grid technologies within BC, including a state-of-the-art system control centre.
- BCTC leadership and compliance with Mandatory Reliability Standards now applicable across North America ensures British Columbians reap the benefits of a reliable electricity supply.

#### ---> Government Direction

#### Legislated Mandate and Enabling Legislation

BCTC's mandate is to operate, maintain, plan and expand the province's transmission system in a safe, reliable and cost-effective manner, and to ensure that transmission system planning is effective for British Columbia generation and distribution entities, neighbouring interconnected transmission systems and other eligible users.

BCTC was formed in May 2003 and began operations on August 1, 2003. The Minister for the Crown holds 100 percent of the shares of the corporation, ensuring BCTC is provincially accountable and cannot be sold.

- The Transmission Corporation Act and a number of designated agreements between BCTC and BC Hydro define BCTC's responsibilities.
- BCTC is regulated by the BC Utilities Commission.
- The Minister of Energy, Mines and Petroleum Resources is the Minister responsible for BCTC. A Shareholder's Letter of Expectations between the Minister and BCTC's Board Chair sets out the corporate mandate, high-level performance expectations, strategic priorities and the respective roles and responsibilities of the Shareholder and BCTC.
- A ten-member Board of Directors, appointed by the Shareholder, oversees the operations and management of the company.

More information about BCTC's mandate and enabling legislation is found at http://www.bctc.com/about\_bctc/standards\_ agreements/

#### **BC Energy Plan**

BCTC has a key responsibility to fulfill public policy objectives. The importance of BCTC's role in advancing energy policy was first introduced in the Government's 2002 Energy Plan. In 2007, the Government of British Columbia released its new energy policy, "The BC Energy Plan: A Vision for Clean Energy Leadership", in which BCTC has a major role.

BCTC's implementation of the BC Energy Plan is focused in four areas:

#### ---> Energy Security

The BC Energy Plan sets an objective for the province to become self-sufficient in electricity supply by 2016, and have an additional 3,000 gigawatt-hours (GWh) of insurance power annually as soon as practicable thereafter. A critical element in achieving the government's target for self-sufficiency is to ensure that transmission investments are made in a timely manner. Because transmission lead times are longer than generation lead times, the BC Energy Plan included policies requiring that adequate transmission infrastructure be built in advance of contracted need, and the Utilities Commission Amendment Act (2008) requires the BCUC to conduct a regulatory inquiry to determine the province's long-term transmission needs. BCTC will play a lead role in assessing and identifying transmission infrastructure investment over the next 30 years for this inquiry.

#### ----> Investing in Innovation

A key objective of the BC Energy Plan is to ensure that BC's transmission technology and infrastructure remain at the leading edge with the capacity to deliver efficient and reliable power to meet growing demand. We continuously bring new and innovative ideas to our electrical system. Our experts are developing new techniques, improving our equipment, and improving our methods, building on BC's rich heritage of electricity leadership. In 2008, BCTC developed a Transmission Technology Road Map as a strategic guide for achieving innovation on the grid. BCUC approved the Technology Roadmap and BCTC is implementing the Smart Grid with programs that improve the efficiency and reliability of the grid.

Government has established the Innovative Clean Energy (ICE) Fund to foster the development of clean energy technologies. BCTC supported the British Columbia Institute of Technology's (BCIT) ICE Fund project to develop an intelligent electricity grid system, which will allow for testing of communication technologies, smart metering, smart appliances, and co-generation (thermal, turbine, wind and solar).

#### ----> Environmental Leadership

The BC Energy Plan emphasizes the increasing use of clean or renewable, low carbon energy in British Columbia. BCTC will continue to support BC Hydro and the Government in advancing green energy as part of British Columbia's climate action plan.

The BC Energy Plan has specific policy actions encouraging the development of clean and renewable power, particularly from wood biomass using timber affected by the mountain pine beetle and other underutilized wood residues. BCTC is facilitating interconnection of this new generation by providing interconnection processes, system studies, costing data, and other support as required on a timely basis.

#### ---- Conservation

The BC Energy Plan sets ambitious conservation targets to reduce the growth in electricity use within the province. The Plan states that 50 per cent of BC Hydro's incremental resource needs will be met through conservation by 2020. BCTC is committed to supporting BC Hydro's conservation targets by managing energy lost through the transmission of electricity.

### An Overview of BC Transmission Corporation

#### **Climate Action – Mitigation and Adaptation**

BCTC supports the Province of British Columbia in championing the proactive approach to address climate change. The Corporation strives to build new transmission infrastructure to support the Province's sustainable and clean energy development and overall emission reduction objectives.

BCTC has developed a strategic Climate Change Response Plan and filed its first Carbon Neutral report in 2009 in response to government's commitment to reduce carbon emissions by at least 33% below 2007 levels by 2020. To become carbon neutral, the Corporation will continue to reduce direct emissions through the use of low carbon fuels, replacement of GHG emitting equipment, energy conservation and efficiency along with the use of renewable and recycled products to achieve reductions for indirect emissions.

In conjunction with the provincial government's carbon neutrality requirement for all public entities in BC, BCTC continues to manage the existing transmission system to ensure system resiliency to climate change impacts. BCTC explores potential climate impact on the transmission system, including possible changes in wind patterns, vegetation and wildlife, sea level changes, and pine beetle infestation, and the impact of these factors on the safety, reliability, and cost-effectiveness of the system. These impacts and the ways to address those challenges will be considered in the capital planning process. BCTC has been recognized as a leader in climate change adaptation by the transmission industry.

#### ---- Core Business Areas

••• Planning the system:	••• Operating the system:
Planning for system upgrades and ensuring that BC has a reliable electricity supply for the future; facilitation of BC energy, climate and economic policy.	Ensuring the reliable transmission of electricity through wires and transmission facilities from our state-of-the- art control centre; interconnection to North America for reliability and economic benefits.
Building the system:	••• Maintaining the system:

BCTC is responsible to support the Shareholder's clean energy powerhouse objective by:

#### ---> Business Approach

BCTC's vision, mission, and strategies reflect its mandate. To improve understanding of the company's priorities, BCTC has defined "core" and "enabling" strategies. These strategies help guide BCTC's planning as well as help define resource requirements. BCTC's core strategies address challenges and opportunities presented by the company's operating environment. The three core strategies are:

- 1. Operational Excellence Continuous improvements to everything we do to manage the transmission system in a safe, reliable, cost-effective manner.
- 2. Market Access and Customer Service Creating the business rules and physical infrastructure to allow customers to reach their markets within and beyond BC, now and in the future.
- 3. Long-Term Capacity Build-out Building new and replacement transmission infrastructure based on a long-term view of BC's needs.

The four enabling strategies (Technology, Suppliers, Employees, Relationships) provide the critical building blocks that ensure BCTC succeeds in the implementation of its core strategies.







### An Overview of BC Transmission Corporation

#### ----> Business Profile

BCTC is responsible for transmission system operations, planning and asset management, including system expansion and asset replacement. The transmission system assets continue to be owned and financed by BC Hydro. BCTC owns the control centre assets required for operating and controlling the transmission system.

To view BCTC's primary roles, responsibilities and services please visit http://www.bctc.com/about\_bctc/roles\_responsibilities/.

For further information on BCTC's organizational structure, visit http://www.bctc.com/about\_bctc/organizational\_chart/.

#### British Columbia's High Voltage Transmission System

The transmission system receives power from approximately 60 generating stations across BC and through interconnections with Alberta and the U.S., and delivers it to approximately 400 delivery points throughout the province. The transmission system delivers over 50,000 GWh of energy to British Columbia and other markets.

British Columbians rely on an independent, open and effective transmission system that is interconnected to the Western region. BC's grid is part of the Western North American electrical grid interconnection, which provides over 800,000 GWh of energy to its markets. The operation and management of our grid does more than move reliable electricity between generator and consumer. Our interconnections with Alberta and the U.S. help us to improve system-wide reliability and to advance the benefits of the development and delivery of clean and renewable energy in western North America. BC's transformation into a green energy powerhouse stimulates new investment, industry and employment for British Columbians and supports climate action.

BC's high voltage transmission system consists of:

- Over 18,500 kilometres of transmission lines and underwater submarine cables
- 100,000 wood poles
- 22,000 steel towers
- approximately 300 substations
- 152 microwave and fibre-optic sites

The transmission grid in BC operates at voltages from 69 kV to 500 kV and stretches over 75,000 hectares of rights-of-way throughout the province, which ensures access for renewable and clean energy generators to interconnect with the grid network.



Most of the generation (production of electricity) comes from facilities in the northern and southern Interior of BC, while up to 80% of the load (consumption of electricity) is in the Lower Mainland and Vancouver Island.

BC's grid has been linked to Alberta and the United States for over thirty years:

- Two 138 kV lines and one 500 kV line connect BC to Alberta
- Two 500 kV lines and two 230 kV lines connect BC to the United States

More information about BC's bulk and regional electrical transmission system, including maps, is found at www.bctc.com/transmission\_system/

#### **Electrical Interties with Neighbouring Jurisdictions**

The transmission system is interconnected with transmission systems in Alberta and Washington State, providing opportunities for trade and improving the overall reliability of the system. The system is connected with Alberta by one 500 kV line from Cranbrook to Langdon Substation in Alberta and by two 138 kV lines from Natal substation near Sparwood to the Alberta system.

The interconnection between the BC system and Bonneville Power Administration's (BPA) transmission system in Washington State consists of two interties: the Westside Intertie (two 500 kV lines from Ingledow to BPA's Custer Substation near Bellingham) and the Eastside Intertie (two 230 kV lines, one of which is owned by Teck Cominco and operated by FortisBC).

#### Intra-provincial BC Interties

*Alcan Intertie* – The transmission system is connected to the Alcan transmission system in the Kitimat area by a single 287 kV line from Minette Substation near Kitimat to Alcan's substation.

*FortisBC Interties* – The Southern Interior regional system has a number of interconnections to FortisBC's transmission system. There are two 500/230 kV transformers at Vaseux Lake Substation near Oliver, two 230 kV transmission lines connecting Vernon to FortisBC's system, and interconnections at Kootenay Canal, Selkirk, and Nelway at the 63 kV and 230 kV levels.



#### **Delivery of Service**

BCTC performs a large portion of its operating and capital activities through contracts with third parties. Major contractors include BC Hydro Field Operations (approximately \$122 million per annum), BC Hydro Engineering (approximately \$55 million per annum), Accenture Business Services for Utilities (approximately \$6.8 million per annum), and others including SNC Lavalin and AMEC (approximately \$40.9 million).

### An Overview of BC Transmission Corporation

#### **BCTC Customers and Stakeholders**

BCTC's largest transmission services customer is BC Hydro, serving the majority of domestic electricity customers in British Columbia. Point-to-point wholesale transmission services are provided to BC Hydro, Powerex and a number of energy marketers who participate in electricity trade in Western North America. BCTC also provides services to BC Hydro to manage some distribution assets, operate its distribution system and dispatch its generating units. Total transmission revenues collected by BCTC from tariff services, non-tariff services and other cost recoveries exceed \$740 million per year. BCTC's own operating and asset-related costs are recovered as well as approximately \$520 million for BC Hydro's asset ownership costs and allowed return.



BCTC's principal stakeholders are its transmission service customers, including BC Hydro and other utilities, power generators, power marketers, industrial customers directly connected to the transmission system, as well as municipalities, and community and environmental groups. BCTC has an active process to ensure stakeholder views are considered throughout the planning and execution of projects and regulatory applications.

#### **First Nations**

BCTC is committed to developing positive and effective relationships with BC's Aboriginal peoples. BCTC works to increase mutual understanding and create long-term partnerships that will benefit BC's communities. We understand the importance of involving BC's First Nations in the planning of transmission projects and facilitating meaningful participation in project planning, review and development.

BCTC's Aboriginal Relations group works closely with BC Hydro's Aboriginal Relations and Negotiations department to ensure that First Nations interests and concerns about transmission are appropriately understood and addressed by both organizations.

#### **Location of Operations**

BCTC's corporate head office is located in Vancouver, with one system control centre in the Lower Mainland and a back-up control centre in the Southern Interior. These two state-of-the-art facilities became operational in F2008.

#### **Industry Associations**

BCTC is actively involved in North American organizations promoting the safe, reliable and cost-effective operation of the grid and expertise on transmission issues.

- Western Electricity Coordinating Council (WECC)
- North American Electricity Reliability Council (NERC)
- Canadian Electricity Association (CEA)
- Western Renewable Energy Zone (WREZ)
- Western Governors' Association (WGA)

#### ----> Corporate Governance

BCTC's Board of Directors is responsible for the governance and stewardship of the Corporation. The Board's role is to review and approve BCTC's strategic plan, set corporate objectives, monitor performance against those objectives and ensure processes are in place to identify, monitor and mitigate substantial business risks. The Board is responsible for full and timely disclosure of BCTC's financial and business performance, and the monitoring of material developments that could have a significant impact.

BCTC's Board has four standing Committees: the Audit Committee (AC), Human Resources, Safety & Environment Committee (HRSEC), Capital Review Committee (CRC) and Corporate Governance Committee (CGC). Terms of reference outlining respective roles and responsibilities for the Board, individual Directors, Board Committees, Executive Chair, the President and Corporate Secretary are available at http://www.bctc.com/about\_bctc/board\_executive/corp\_governance/.

Biographical information for Board members and senior management is available at http://www.bctc.com/about\_bctc/board\_executive/board\_of\_directors/.

Board & Committees	Executive Management
David Emerson, Executive Chair* & CEO	
William (Bill) Bakk (AC)	Janet Woodruff, Interim President
Nicole Byres (CGC Chair)	Bruce Barrett, VP, Major Projects
Richard Campbell (CGC, CRC)	Martin Huang, VP, System Operations
O'Brian Blackall (AC)	John Irving, VP & General Counsel
Joanne McLeod (CRC Chair, AC)	Doug Little, VP, Customer & Strategy Development
Margot Northey (HRSEC)	Julius Pataky, VP, System Planning & Asset Management
Bev Park (HRSEC, CRC)	Andrea Johnston, Director, Finance and Business Improvement
Gerald Wesley (CGC)	Tracey Arnish, Director, Human Resources
Ralph Winter (HRSEC Chair)	

Composition of the Board, its Committees and the BCTC executive team follows:

\* The Executive Chair is an ex-officio member of all Board Committees.

**Governance Practices** - The Board oversees BCTC's governance framework which consists of six guiding corporate principles and business policies. The guiding principles reflect BCTC's corporate values of *Innovation, Openness & Responsiveness, Accountability, Sustainability* and *Honesty & Integrity.* 

In 2005, the British Columbia Board Resourcing & Development Office established *Governance and Disclosure Guidelines for Governing Boards of British Columbia Public Sector Organizations* (http://www.lcs.gov.bc.ca/brdo/governance/ corporateguidelines.pdf). The Guidelines set out governance principles and disclosure practices for public sector organizations in BC. BCTC's Board ensures the organization's governance framework and disclosure practices continue to comply with the principles set forth in the Guidelines. Further information on BCTC's disclosure practices is available online at http://www.bctc. com/about\_bctc/board\_executive/corp\_governance/.

### Strategic Context

#### **BC Provincial Legislation and Policy**

During the past two years, the BC government has demonstrated its strong support for planning the transmission system in a timely manner. This has been achieved through legislation, policy direction and participation in regional initiatives. Importantly, the provincial government is also pursuing opportunities for BC to realize the potential of exporting the province's clean, renewable, low carbon electricity. This commitment to making the most of our opportunities in the renewable, lowcarbon electricity sector will help BCTC as it seeks to maximize the value of the electricity grid for the benefit of British Columbians.



The following table outlines the key policy issues and the strategic actions BCTC is undertaking as it plans for the future.

Strategic Issue	Context	Impact on BCTC
Long-Term Transmission Planning	<ul> <li>Utilities Commission Amendment Act 2008</li> <li>Enables the British Columbia Utilities Commission (BCUC) to better support, through regulation of public utilities such as BCTC, the principles and objectives of the BC Energy Plan. For BCTC, several provisions of this Act are particularly relevant.</li> <li>Long-Term Transmission Needs Inquiry: conducted by the BCUC under Section 5 of the Act, to determine the province's long-term transmission capacity and infrastructure needs.</li> <li>Long-term Resource Plans: the legislation enhances</li> </ul>	BCTC actively supports Government's objectives in advancing the Energy Plan. BCTC takes a leading role in the BCUC- lead Long-Term Transmission Needs Inquiry. BCTC expects to file its first long-term resource plan following the BCUC's Inquiry when the proceeding re-commences in 2010. BCTC also facilitates BC Hydro's procurement of independent generator energy by providing transmission services to the
	<ul> <li>requirements for public utilities to file long-term resource plans with the BCUC.</li> <li>Self-sufficiency: requires BC Hydro to achieve electricity self-sufficiency by 2016, with 3000 GWh per year of insurance energy as soon as practicable, but no later than 2026. BC Hydro's recent long-term resource plan anticipates meeting this requirement through demand side management, expansion of its own facilities, a combination of independent generator energy, and through the procurement of new independent generator energy.</li> </ul>	generators as outlined in the Open Access Transmission tariff (OATT).

Strategic Issue	Context	Impact on BCTC
Climate Change	<b>Greenhouse Gas Reduction (Cap and Trade) Act</b> Under the Act, a "cap" will be established for designated large emitters by issuing a limited number of tradable emission allowances for given periods of time. Each entity will only be allowed to create emissions equal to its allowance. Entities producing more emissions may acquire emission allowances from other entities that don't require them. It is intended that the specific operation of BC's program will be integrated into a broader regional program being developed by the Western Climate Initiative (WCI), of which BC is a member.	The government's program of environmental legislation aims to discourage large-scale thermal generation in favour of clean or renewable generation, which tends to be smaller and more remote. BCTC expects that relatively few thermal generation facilities will be constructed in BC and therefore BCTC's planning and interconnection activities will need to reflect a larger number of smaller and more geographically diverse generators.
Green Energy Economy	<b>Green Energy Task Force</b> The Green Energy Advisory Task Force and a new Cabinet Committee on Climate Action and Clean Energy are to ensure BC remains a leader in clean and renewable energy by developing resources, maximizing opportunities and establishing BC's potential as the supplier of choice for clean power. The Committee will continue to advance climate action as well as these new responsibilities. The task force will recommend a blueprint for maximizing BC's clean power potential, and whether it is feasible for B.C. to develop and implement an economically viable and environmentally sustainable export development policy.	BCTC will support the work of the Cabinet Committee and the Task Force by providing input on transmission key issues.
First Nations	Participation of First Nations in transmission planning and development in BC continues to change through a combination of court decisions and growing First Nation interest in energy planning. The provincial government continues to negotiate treaties to create certainty over Crown lands and resources and has committed to negotiating economic benefit agreements on lands and resources that include shared decision-making and benefit sharing.	BCTC will support government initiatives with First Nations and will ensure First Nations are involved early and meaningfully in the transmission planning process.
Domestic Electricity Opportunities/ Expansion	The Province of BC is seeking opportunities to promote economic development in Northern BC through electrification and transmission expansion, which will promote the use of renewable, low-carbon electricity and help mitigate greenhouse gas emissions. In cooperation with the federal government of Canada and the private sector, the Province of BC is working to advance the construction of the Northwest Transmission Line (NTL). The BC government is also assessing and pursuing the potential for long-term economic expansion in northeast British Columbia.	BCTC is advancing the NTL by pursuing studies and consultation required for the Environmental Assessment process and supporting the BC government in assessing new cost- sharing opportunities with industry and the Government of Canada. BCTC is also supporting the provincial government by assessing the need to expand transmission system to facilitate economic development in the northeast region of BC.

### Strategic Context

#### **Regional Clean Energy Markets**

Demand for electricity continues to grow rapidly across the Western region. The United States Census Bureau forecasts that over the next 20 years, the Pacific Northwest will be the fastest growing region in North America.

Like British Columbia, most jurisdictions that are part of the Western North American electrical grid interconnection have introduced energy conservation and efficiency programs to help reduce the rate of demand growth for electricity, and reduce the need to build new generation and transmission capacity. Even with aggressive demand side management, however, load forecasts suggest that a growing population will drive electricity consumption in the Western Interconnection causing a 25 per cent increase in demand over the next 12 years. Concerns over climate change, and government initiatives to reduce GHG emissions, will require that the electricity industry meet this growing demand with resources that are clean, renewable, or low carbon. With continued access to the North American electricity market and with the development of BC's clean and renewable energy and capacity, BC is well positioned to take advantage of these opportunities for the benefit of British Columbians.

The following table presents key strategic issues that impact BCTC and strategic actions the Corporation will take in response.

Strategic Issue	Context	Impact on BCTC
Climate change policies in the region drive increased demand for clean energy	Renewable Portfolio Standards (RPS) Nine out of 11 western US states now have Renewable Portfolio Standards (RPS) requirements that their load-serving utilities must meet. In general, RPS rules require that a specified percentage of energy delivered to customers in a year come from qualifying renewable sources. To meet their current RPS targets, states will look to acquire renewable energy from sources within their jurisdiction and from other jurisdictions such as BC. The Western Climate Initiative (WCI) Electricity generation accounts for a large percentage of GHG emissions in the Western Electricity Coordinating Council (WECC) (60% of total generation is from coal or other fossil fuels). The Western Climate Initiative (WCI) is a recent regional policy initiative that has utilities looking to clean, renewable, low carbon generating resources to meet load growth. Signatories to the WCI include seven states (Washington, Oregon, California, Arizona, Utah, Montana and New Mexico) and four provinces (British Columbia, Manitoba, Ontario, and Quebec). Western Climate Initiative Cap and Trade Program The WCI also aims to organize and streamline efforts to reduce GHG emissions by setting a goal for total allowable emissions and initiating a cap and trade program. WCI partners have set an overall regional goal to reduce GHG emissions by 15 per cent below 2005 levels by 2020, although many partners such as BC and California have established more aggressive medium-term reduction targets. BC's reductions are legislated in the Greenhouse Gas Reduction Targets Act (2007). The Act requires the province to reduce GHG emissions to 33 per cent below 2007 levels by 2020, and to 80 per cent below 2007 levels by 2050. Other partners have established similar mid- and long-term reduction targets.	In BC, only three percent of the province's GHG emissions come from electricity generation because of the largely hydro-based generation supply. The combination of RPS requirements and GHG reduction targets will stimulat the demand for low carbon energy in the Western Region. Jurisdictional RPS requirements vary in their approach to eligible sources of electricity. For example, not all states recognize small and large hydro as renewable sources of generation or may limit out of state resources, so eligibility of BC resources will vary. Yet, with the overall projected growth in electricity consumption and renewable portfolio standards constituting between 15 and 33 per cent of electricity used, it is expected that BC resources will be sought after to meet both of those needs. This means expanded market opportunities for clean energy in the Western Region. To facilitate access to those markets for clean energy for the benefit of British Columbia, adequate transmission capacity will be necessary. BCTC will have to plan the transmission system taking into account those regional economic drivers, in coordination with the Provincial government and stakeholders.

#### Strategic Issue

#### Context

Regional initiatives are underway to advance green energy procurement and transmission necessary to enable it Western Renewable Energy Zone (WREZ) Initiative This regional planning initiative is sponsored by the Western

Governors' Association and the US Department of Energy, and covers 11 western states, the provinces of BC and Alberta, and part of Mexico. The project's goal is to identify areas in Western North America that have utility-scale renewable energy resources and expedite the development and delivery of those resources to meet regional energy needs.

#### Western Electricity Coordinating Council (WECC)

WECC plans to advance long-term planning of the Western Region's electricity grid by developing 10- and 20-year regional transmission plans, plus a 10-year reliability plan. The plans will evaluate the long-term regional transmission capacity needs under a comprehensive set of load, resource, and policy scenarios and will include examination of technology costs, reliability impacts, and emissions conducted during the project. These plans will provide guidance for decisionmakers at all levels (project developers, siting authorities, utility regulators, and others) and will facilitate and accelerate the development of needed transmission infrastructure.

#### Impact on BCTC

BCTC actively participates in regional transmission planning activities to ensure BC's interests are well represented in any regional planning initiatives. BCTC is an active participant in the Western Governor's Western Regional Energy Zone (WREZ) initiative and the WECC processes.

### Strategic Context

#### ---> Internal Operating Environment

*Economy* - Economic uncertainties create planning challenges for BCTC and BC Hydro. With the recent economic downturn, cost control had become one of the key priorities for the Corporation. Yet, in companies with 20- to 30-year planning horizons, short-run economic recovery must be distinguished from long-run structural change. BCTC recognizes that it needs to rationally and cost-effectively expand the transmission system to position the system for growth of renewable resources. Long-term planning and construction of essential infrastructure needs to continue during times of economic uncertainty, and BCTC will identify the province's long-term transmission capacity and infrastructure needs both through its 10-year capital plan, filed with the BCUC, and through participation in the Long-Term Electricity Transmission Inquiry.

**Supplier and Contractor Management** – BCTC operates an outsourced business model for its non-core business needs. This requires that the majority of its capital and operations, maintenance, and administration work are provided by external service providers. This means BCTC relies on external resources to provide important but not core services, and presents a risk that activities outsourced are not performed as defined in the contracts or agreements, or are performed in a manner that is inconsistent with BCTC's strategies and goals. There is also a risk that BCTC is unable to procure the services and equipment it needs to enable on-time implementation of its capital or maintenance plans. To mitigate these risks BCTC is securing strategic long-term alliances with preferred engineering, maintenance, equipment providers. BCTC is also refining its standards, and has increased its capability for controlling and enforcing the application of these standards. In addition, BCTC continues to evaluate the feasibility of public-private partnerships for its major projects.

**Organization and People** - Operating, maintaining, building and planning the transmission system requires special skills and years of experience to develop senior technical and management expertise. Like other electric utility companies, BCTC continues to be at risk of losing critical skills as a result of workforce retirements. The highest vulnerabilities are in engineering skills and utility management skills.

Over the past year, BCTC's workforce experienced a slight increase in the average age as a result of attracting mid-career applicants to the company. The percentage of employees eligible to retire now and over the next 10 years has increased. This is attributed to employees who are eligible to retire choosing to continue to work. BCTC's attrition rate is higher than the average turnover rate of Canadian transportation and utility companies (6.9 per cent) for Fiscal 2009. This is primarily due to employees who retired upon the consolidation of the control centres. It is anticipated that the attrition rate will decrease in F2010.

BCTC will continue to be in strong competition for a limited supply of talent and will continue to focus its effort to increase its supply of job candidates from sources such as universities and internal development.

#### The following table presents BCTC's current employee demographic statistics.

	BCTC (as at March 31, 2009)
Average Age of Employees	44.9
% of employees currently eligible to retire with full benefits	12.5%
% of employees eligible to retire within 5 years	22.3%
% of employees eligible to retire within 10 years	36.8%
Historic annual attrition	F2007, 9.3%; F2008, 7.9% ; F2009 13.8% ; F2010, 4.2% (annualized)

### Goals, Objectives, Strategies, Performance Measures and Targets

BCTC's corporate goals state the direction the Corporation will take over a three-year planning horizon. The corporate goals are supported by a corresponding set of strategies, performance measures and targets. Definitions and the rationale for each performance measure are provided, as well as internal/external benchmarking measures that allow a comparison of performance over time. The measures track BCTC's progress in delivering on its key priorities and the results will be reported in the annual report.

#### Ensuring the Accuracy and Reliability of Performance Information

BCTC is diligent in ensuring the accuracy and reliability of performance information. Before a measure is chosen, historic data relating to the measure is reviewed to confirm the availability, thoroughness and accuracy of source data.

Financial information is provided through BCTC's audited financial results, while environmental and safety results are captured through BCTC's reporting systems in these areas. Reliability data are gathered in BCTC's operational databases and analyzed for the purpose of internal and external reporting. The employee and stakeholder surveys are conducted by third parties.

Internal reporting of results, including data collection and review of monthly performance, is done by staff trained in performance measurement. Results are subject to executive management review.

Wherever possible, BCTC seeks independent validation of performance results. Sources of independent validation include the Human Resources, Safety and Environment Committee of the Board of Directors, which reviews performance results quarterly. BCTC participates in a number of industry benchmarking initiatives for continuous improvement of its performance. However, benchmarking against comparable electricity transmission organizations is not always possible, given BCTC's unique business model. As a result, BCTC is working with industry trade groups and consulting firms to identify appropriate benchmarks and gather data.

#### Measures and Targets at a Glance

The following table summarizes BCTC's corporate performance measures and targets:

Goal	Measure	F2010 Target	F2011 Target	F2012 Target	F2013 Target
System Average Interruption Duration Index (SAIDI)* Total Transmission Expenditures (TTE) per GWh x km actual-variance to plan (%)		2.46	2.81	2.81	2.81
		n/a**	+/- 5%	+/- 5%	+/- 5%
	Safety – All Injury Frequency**	15 LTA	1.24	1.11	1.00
Reportable Environmental Incidents		19	12	11	10
2. Market Access & Customer Service	Aarket Access & Stakeholder Satisfaction		90%	90%	90%
3. Long-term Capacity Capital Projects On/Under Budget		69%	72%	75%	78%
Build-out	Capital Project Commitments On Time	87%	76%	79%	82%
4. Relationships	. Relationships Stakeholder Satisfaction		Same a	s Goal 2	
5. Employees	Employee Engagement	3.53	3.56	3.61	3.62

\* SAIDI is a reliability index which measures average duration of outages across all delivery points.

\*\* TTE is a new measure developed in F2010, therefore there was no target established for F2010.

\*\*\* In F2011 BCTC is transitioning to the new measure, All Injury Frequency rate. Prior to this BCTC was using a Number of Lost Time Accidents (LTA) as its safety measure.

Following is a presentation of BCTC's goals, strategies, performance measures and targets for F2010-F2013, as well as the rationale for each goal.

### GOAL 1: Operational Excellence

Continuous improvements to everything we do to manage the transmission system in a safe, reliable, and costeffective manner.

**Objectives:** Continuously improve overall system reliability and target specific areas of vulnerability. Contribute to competitive electricity rates through prudent financial management of transmission capital and operation expenditures. Continuously improve our environmental and safety performance.

#### **Rationale for this Goal**

Ensuring reliable transmission service is one of BCTC's fundamental responsibilities. Maintaining and improving transmission reliability requires a combination of cost-effective capital investments, astute operating procedures, and the use of new technologies that address customer needs and improve efficiency all the while reducing safety risks to the public, employees and workers on the system. BCTC's customer service efforts focus on all of our customers, including new and existing customers requesting service under BCTC's Open Access Tariff and BC Hydro tariff and non-tariff services.

#### Strategies

- Complete the 30-year plan to improve reliability and meet long-term electricity needs in Metro Vancouver. Develop similar plans for other priority areas.
- Complete a comprehensive review of BCTC's capital management program to increase BCTC's effectiveness in executing its multi-year capital program
- Advance reliability enhancement initiatives, including cost/benefit analyses of radial line upgrades, and development of a plan to reduce restoration times in metropolitan areas
- Continue implementation of critical infrastructure program for both physical and cyber asset security
- Ensure contractors meet BCTC's environmental and safety standards and continuously review our Safety and Environment Management Systems to reduce risks
- Implement loss reduction study recommendations to minimize energy losses on the transmission system in a cost effective manner
- Report BCTC's GHG emissions and our reductions and mitigation initiatives in BCTC's annual Carbon Neutral Report, pursuant to the Government's Greenhouse Gas Reduction Targets Act
- · Continue implementation of smart grid technologies on BC's high voltage electricity grid
- Complete Mandatory Reliability Standards Implementation for full compliance
- · Implement vulnerability improvement project to improve security and redundancy of electricity supply for our customers

#### Measure

**BCTC System Average Interruption Duration Index (SAIDI)** – SAIDI is a key measure of the reliability of the transmission system. It measures the average amount of time, in hours across all transmission delivery points, that service is interrupted in a year due to planned or unplanned outages. It excludes interruptions caused by generators and major external events that are out of BCTC's control. SAIDI assesses BCTC's effectiveness in providing high levels of service reliability from the point of receipt for transmission service to the point of delivery.

Historical Results and Performance Targets

Townster	Actual			Target			
largets:	F2007	F2008	F2009	F2010	F2011	F2012	F2013
BCTC SAIDI (hours per delivery point)	4.23*	2.43**	2.36	2.46	2.81	2.81	2.81

\* F2007 results included the effect of major weather events. Removing the extraordinary events would improve the results to 2.67 hours.

\*\* F2008 results included the effect of a major wildfire event. Removing this extraordinary event would improve the results to 2.14 hours.

#### Basis of Forecasts

BCTC has evaluated its target setting procedures for SAIDI and developed a more relevant approach to calculate an accurate and representative target. The SAIDI target is comprised of both controllable Planned outages plus unforeseen Forced outages with separate target setting methodologies for each. Forced outage targets are calculated as the average of the previous five years. Planned outage targets are determined analytically accounting for: capital and maintenance work volume, changes in safe work procedures and trade-off between customer outages and costs for work on smaller stations, radial lines and generator and transmission customer interconnections.



BCTC excludes from the SAIDI measure major external events that are beyond its control. BCTC has implemented significant operational initiatives over the past five years, and continues to identify operational efficiencies that maintain reliability levels with our aging transmission assets. Further SAIDI improvements will be achieved through major capital investment, such as upgrading radial lines. BCTC's current capital plan includes five radial line upgrades, but these lines will not come into service during the period covered by this Service Plan.

Currently, the only benchmark for Canadian transmission reliability is the Canadian Electricity Association's (CEA) annual study of the Bulk Electricity System (BES). The CEA's definition of SAIDI differs from BCTC's internal definition in three respects: the CEA uses a calendar year versus BCTC's fiscal year; the CEA includes generation source outages whereas BCTC does not; and CEA's calculation includes only unplanned outages while BCTC SAIDI includes both planned and unplanned outages. BCTC's SAIDI number best reflects the transmission component of operating the BC grid.

#### Measure

**Total Transmission Expenditures per GWh x km -** The measure addresses BCTC's contribution to competitive electricity rates through prudent management of transmission capital and operating expenditures. This efficiency measure is calculated by dividing total transmission operation, administration, maintenance, and sustaining capital expenditures, by the product of the amount of energy transmitted and the length of the transmission network. Annual performance will be measured by the percentage variance between actual results and the approved budget established at the beginning of the year.

Historical Results and Performance Targets

Townster	Actual			Target			
largets:	F2007	F2008	F2009	F2010	F2011	F2012	F2013
Total Transmission Expenditures per GWh x km actual -variance to plan (%)	3.21%	-0.21%	-2.22%	+/-5%	+/-5%	+/-5%	+/-5%

#### Basis of Forecasts:

The targets for the measure will be set based on detailed plans and budgets created by BCTC, approved by the Board annually, submitted to the BCUC. Targets are a percentage range around planned operation, maintenance, administration, and sustaining capital expenditures. BCTC strives to avoid cost overruns, and to enforce discipline in budgeting. In setting the targets for the Total Transmission Expenditures per GWh\*km, management considers the cost management risks associated with maintaining the aging transmission system, the projected energy throughput and the growth of the system.

The trend of the measure can be benchmarked to other members of the Canadian Electricity Association as part of ongoing benchmarking activities. The measure was recommended in the previously completed Performance and Benchmarking Framework review.

### GOAL 1: Operational Excellence

#### Measure

**Safety: Lost-Time Accidents and All Injury Frequency** – BCTC will be transitioning to a new safety measure in F2011. The All Injury Frequency (AIF) rate will comprise the total number of lost-time injuries, including fatalities, and medical treatment injuries that occur over the year, calculated per 200,000 hours of work time annually. This measure will include BCTC's own employees as well as all service provider employees that work directly on the transmission system. The measure will provide a more accurate assessment of the amount of safety incidents based upon the amount of work performed. It can also be benchmarked against other (CEA) utilities.

#### Historical Results and Performance Targets

Taxaata	Actual			Target			
largets.	F2007	F2008	F2009	F2010	F2011	F2012	F2013
All Injury Frequency Rate	n/a	n/a	n/a	n/a	1.24	1.11	1.00

#### Basis for Forecasts:

To calculate the target, data was complied for the three largest operational areas for the current year and the last two years for exposure hours and the number of applicable safety incidents reported to BCTC. Target setting for F2011 through F2013 is based on the relevant performance data and applying a 10 per cent performance improvement over each year based on the average of the previous periods as shown in the table below. Regardless of the overall performance, any fatality during the year will result in BCTC not meeting its safety target.

#### Benchmarking

The CEA tracks safety performance metrics. BCTC submits annual performance results to the CEA on the following industry-wide metrics: all injury frequency rate, lost-time injury frequency rate and lost-time injury severity rate. BCTC's F2011 and subsequent year's combined employee and contractor AIF targets should establish BCTC in the top quartile performance category for the CEA members while demonstrating leadership in contractor safety performance by the inclusion of contractor data.

#### Measure

**Reportable Environmental Incidents -** This measure tracks BCTC's environmental performance against the environmental standards and regulations set by various federal and provincial regulatory agencies, as well as agreements with agencies.

#### Historical Results and Performance Targets

Targoto	Actual			Target			
Targets:	F2007	F2008	F2009	F2010	F2011	F2012	F2013
Reportable environmental incidents	13	9	12	19	12	11	10

#### Basis of Forecasts:

The environmental performance targets reflect the anticipated amount of work to be performed. A baseline frequency was established based on historical performance. The F2009 performance target was established by applying the baseline frequency against the upcoming capital projects, minus a 10 per cent improvement factor. As a result of revisions to the Federal Polychlorinated Biphenyls (PCB) regulations enacted in September 2008, new reporting requirements were introduced. BCTC adjusted the target in F2010 for this measure to reflect an expectation of increased number of reportable environmental incidents due to the more stringent PCB criteria. In F2010 there has been a significant effort put into mitigation to reduce the number of reportable oil incidents and this performance has been seen in the third quarter of F2010 with a sharp decline in the frequency of these incidents.

#### Benchmarking:

The CEA environmental benchmarking studies measure the volume of spills, not the frequency of reportable incidents, making a direct comparison challenging. Adding to this issue, standards for environmental incident reporting can vary by province. As a result, BCTC uses historical performance data and root cause analysis of asset performance to determine areas for improvement.

### GOAL 2: Market Access & Customer Service

**Objectives:** Support the development of electricity policies in BC and in the region. Deliver on our commitments to customers, providing timely and efficient service. Promote greater integration of BC with the Western markets.

#### **Rationale for this Goal**

Access to BC's transmission system provides benefits to electricity market participants and BC Hydro ratepayers, and it is BCTC's mandate to ensure the system is developed and used in an efficient manner that will help realize those benefits.

#### Strategies

- Facilitate new clean or renewable generation in BC by providing effective and efficient interconnection service for new generators being contracted through BC Hydro's clean power procurement process
- Administer tariff changes to remain compliant with the Open Access Transmission Tariff, as directed by the BCUC in its recent decision
- Expand market services, such as dynamic scheduling and the Area Control Error (ACE) Diversity Interchange services, to other jurisdictions in the Western Interconnection
- Provide exemplary operational services to BC Hydro's generation and distribution lines of business under the respective Service Agreements and to BC Hydro's transmission-connected customers
- Play a lead role in the BCUC inquiry into the province's long-term transmission needs and incorporate the inquiry's findings into BCTC's Long-term Transmission Vision document
- Actively participate in regional planning initiatives to identify opportunities to increase regional transmission capacity, including studies of expanded transmission between British Columbia and California
- Support British Columbia's participation in the WECC and WGA processes to ensure the province's resource potential is recognized as conceptual regional transmission plans are developed to deliver the region's renewable energy to load centres
- Support the government's clean energy powerhouse objective through the development and implementation of strategies that grow BC's new clean, renewable, low-carbon energy potential along with new investment, industry and employment in the province

#### Measure

*Stakeholder Satisfaction* – Satisfaction with BCTC's performance from the perspective of government and commercial stakeholders, where satisfaction is defined as positive and neutral responses. This measure addresses customer service as one of the key priorities for BCTC.

#### Historical Results and Performance Targets

Townster		Actual		Target			
Targets:	F2007	F2008	F2009	F2010	F2011	F2012	F2013
Stakeholder Satisfaction	91%	87%	89%	90%	90%	90%	90%

#### Basis of Forecasts:

Based on actual performance, the average Stakeholder Satisfaction rating over BCTC's first five years of operation has been 89 per cent. BCTC implemented an improvement factor of 1 per cent for F2010. Considering that 90 per cent reflects a high level of stakeholder satisfaction, the target is maintained at 90 per cent for F2011 – F2013. BCTC believes that with the upcoming construction associated with implementing the Capital Plan, and general public's concerns over the sitting of transmission infrastructure, achieving these targets for stakeholder satisfaction will be challenging.

#### Benchmarking:

Because of BCTC's unique business model, there are no comparable peers for benchmarking the stakeholder satisfaction measure. BCTC tracks its performance year over year and uses this historical measure to determine trends in stakeholder satisfaction. Efforts are underway to refine the measure and find appropriate benchmarking strategies.

### GOAL 3: Long Term Capacity Build-out

**Objectives:** Ensure appropriate transmission investment decisions are made to meet the long-term needs of BC. Deliver our capital projects on time and on budget.

#### Rationale for this Goal

BCTC is responsible for managing British Columba's transmission infrastructure and expanding that infrastructure to meet future needs. BCTC's service extends beyond providing open access in response to customer requests by becoming more aware of customers' requirements in advance of service requests. This acknowledges the different timeframes for developing transmission compared to generation, and anticipates the growth of transmission to realize electricity market opportunities.



#### **Strategies**

- Play a lead role in the BCUC inquiry into the province's long-term transmission needs and incorporate the inquiry's findings into BCTC's Long-term Transmission Vision
- Advance work on major transmission infrastructure projects, including the Interior to Lower Mainland (ILM) project, the Central Vancouver Island (CVI) project, and the Vancouver City Central Transmission (VCCT) project.
- Complete environmental studies and begin engaging First Nations and stakeholders regarding transmission upgrades in Northwest BC
- Implement loss reduction study recommendations to minimize energy losses on the transmission system
- Continue implementation of Smart Grid technologies on BC's high voltage electricity grid
- Consider innovative transmission technologies in our long-term planning scenarios
- Continue all activities necessary to ensure that our capital program is delivered on time and on budget, including filing Certificate of Public Convenience and Necessity applications with the BCUC
- Support the government in advancing the Northwest Transmission Line by pursuing studies and consultation required for the Environmental Assessment process and working with the Shareholder in assessing new cost sharing opportunities with industry and the Government of Canada in order to complete the project
- Continue to support the government in assessing and pursuing the potential for long-term economic expansion in the northeast region of British Columbia, and the ability to mitigate greenhouse gas emissions through new transmission expansions and the use of renewable, low-carbon electricity

#### Measures

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*Capital Projects On/Under Budget:* A time-series measure that compares the actual cost of completed projects compared to the initial budget costs on a project-by-project basis, weighted by cost of project, to determine whether projects were completed on or under budget.

*Capital Projects Critical Commitments on Time:* Measures BCTC's ability to meet critical commitments on time, on a project-by-project basis, weighted by cost of project.

#### Historical Results and Performance Targets

Targoto	Actual			Target			
largets.	F2007	F2008	F2009	F2010	F2011	F2012	F2013
Projects Complete On/Under Budget	n/a	n/a	69%	69%	72%	75%	78%
Critical Commitments On Time	n/a	n/a	87%	87%	76%	79%	82%

#### Basis of Forecasts:

To manage this strategic priority as a corporate performance measure, BCTC uses two performance measures: per cent Projects Completed On/Under Budget and per cent Critical Commitments Met on Time. The capital cost measure of % Projects Completed On/Under Budget is based on projects completed in a fiscal year and is calculated based on the actual project capital costs compared to the initial approved budget costs. The capital project schedule measure of % in-service dates met has been initially defined as in-service dates met for all growth capital projects and for capital projects in the Service Level Agreement for Substation Distribution Assets.



Since these are new performance measures, target setting is based on historical baseline performance. Targets for F2011 to F2013 are based on the results from F2009 and F2010, which were 72 per cent for Projects Completed On/Under Budget and 76 per cent for Critical Commitments Met on Time. The targets also reflect the challenges of stakeholder acceptance of projects and the uncertainties this presents to timelines and budgets. Management will be evaluating these new measures after the first full year of implementation to ensure that the results are reflective of long term capacity build-out performance. The measures encourage the right behaviour requiring that departments have detailed performance measures that support delivery of capital projects on time and on budget. Further work may be required to improve data quality, streamline reporting and refine the definition of these measures.

#### Benchmarking:

BCTC will track its performance year over year using this time series measure to determine trends in long-term capacity build-out.

### GOAL 4: Relationships

**Objective:** Build open and constructive relationships with stakeholders and First Nations.

#### Rationale for this Goal

BCTC places a high value on its relationships with stakeholders and First Nations and considers these relationships critical to the company's success. This goal recognizes the importance of establishing the organization's credibility and position in the industry, both within BC and within the broader region. Strategies under Goal 4 provide the building blocks that ensure BCTC succeeds in achieving its other goals.



#### Strategies

- Continue to develop and implement a strategic communications direction for the organization which involves building in First Nations and stakeholder considerations as early as possible in our planning and engagement activities, and ensuring we reach the communities where existing and future transmission system impacts are greatest
- Develop positive relationships, promote business opportunities, and develop the business capacity of Aboriginal communities and businesses
- Sustain a positive, open and cooperative relationship with First Nations and all our stakeholders, including the BCUC, customers, stakeholder groups and industry associations
- Maintain effective communications with the Shareholder on BCTC's business objectives and operations
- Continue to utilize communications and consultation processes to promote openness and transparency with the Corporation's stakeholders and First Nations

#### Measure

#### Stakeholder Engagement

Historical Results and Performance Targets

Townshi	Actual           F2006         F2007         F2008		Target				
larget:			F2009	F2010	F2011	F2012	
Stakeholder Satisfaction	As reported under Goal #2, Market Access and Customer Satisfaction				ction		

### **GOAL 5: Employees**

Objective: Attract, develop, and retain a highly skilled and engaged workforce.

#### **Rationale for this Goal**

In order to execute BCTC's mandate, the company needs to invest in the recruitment, renewal, development and growth of employee capabilities. BCTC's intent is to continuously improve our performance by setting high goals, being driven to achieve them, and taking accountability for our actions and results. Strategies under Goal 5 provide critical building blocks that ensure BCTC achieves its other objectives.



#### Strategies

- Through long-term resource planning, monitor current and anticipated future workloads to ensure they are balanced against appropriate resources through a rigorous approach to business and strategic workforce planning
- Develop internal talent by providing growth opportunities through enhanced individual development planning, integrated succession management, rotational assignments, a mentorship program, and structured training for operators and engineers
- Continue to expand efforts on knowledge management across the organization
- Further build management capability through development offerings focused on enhancing leadership across BCTC
- Continue to develop our employment reputation in the market, further leverage existing and new talent markets, expand the pool of available resources and increase effectiveness in sourcing those resources through connections with post-secondary institutions and students
- · Maintain focus on effective recognition and further leverage internal communications across the organization

#### Measure

*Employee Engagement Index* is the overall mean score, calculated by equally weighting the mean scores of the four pillars of productive engagement (Alignment, Capability, Resources, and Motivation). Each of the four pillars comprises a set of questions with a maximum score of five.

#### Historical Results and Performance Targets

Toursets	Actual			Target			
Target:	F2007	F2008	F2009	F2010	F2011	F2012	F2013
Employee Engagement Index (max. score 5.0)	3.55	3.53	3.61	3.53	3.56	3.61	3.62

#### Basis of Forecasts:

The F2011 target is calculated based on the five-year rolling average plus a 0.05 improvement factor for target for each subsequent year.

#### Benchmarking:

This year, BCTC transitioned the engagement survey to another vendor and therefore the Watson Wyatt WorkCanada Engagement Index benchmark is no longer available. BCTC is reviewing its new vendor's benchmarks and will continue to transition the survey over the next year so that appropriate external benchmarking data can be utilized.

### Summary Financial Outlook for the Service Plan Period

#### Based on F10 Q3 Forecast

This Financial Summary highlights the key financial information pertaining to BCTC's own operations and includes BC Hydro Transmission Capital Expenditures (financed and owned by BC Hydro). As a regulated utility, BCTC's plans, including financial requirements, are subject to prudence review by the British Columbia Utilities Commission (BCUC). Forecast net income is based on the allowed return on a deemed capital structure and an approved rate of return.

BCTC is committed to continuing investment in British Columbia's transmission technology and infrastructure to ensure adequate transmission is in place to meet current and long-term electricity needs of the province. At the same time, BCTC will drive its core strategy around operational excellence and continuous improvement to limit impact on to the ratepayers of British Columbia; especially given the prevailing tough economic conditions.

To that end, in preparing the F2011 Plan, management closely scrutinized all Operation, Maintenance and Administration (OMA) costs to achieve its goal of managing these costs within F2010 levels, despite the natural cost pressures associated with an increase of nine per cent of transmission assets under management and a base of managed assets with an average age of over 30 years. Through a rigorous budgeting process, BCTC has determined that it can manage the majority of its F2011 costs within approved expenditure levels for F2010 by exercising fiscal prudency and operational excellence.

As a result, BCTC will not be submitting a full revenue requirement application for F2011 expenditures, and instead, will apply for a deferral treatment to recover certain exceptional cost items not included in BCTC's F2009/F2010 revenue requirement. In this way, BCTC will be able to manage costs within approved F2010 levels.

(\$ millions)	F2009 Actual	F2010 Forecast	F2011 Forecast	F2012 Forecast	F2013 Forecast
Revenues	237.8	233.7	233.7	245.9	254.3
Expenses					
Operating Costs	(211.7)	(213.2)	(208.6)	(214.7)	(225.3)
Asset Related Costs	(23.9)	(21.1)	(21.2)	(24.1)	(22.9)
Net Income from Operations	2.2	(0.6)	3.9	7.1	6.1
Other Income	0.1	0.4	0.6	0.2	0.3
Net Income before Deferrals		(0.2)	4.5	7.3	6.4
Deferral Accounts	4.8	7.2	3.1	0.0	0.0
Net Income	7.1	7.0	7.6	7.3	6.4
BCTC Capital	18.7	19.0	14.3	14.7	14.9
<b>Debt</b> (including capital leases)	73.5	78.4	73.3	73.3	73.2
Retained Earnings	30.9	37.9	43.5	44.3	44.5
Dividend	-	-	2.0	6.5	6.2
Debt to Equity Ratio	59:41	58:42	55:45	53:47	53:47
Allowed Rates of Return**	11.38%	13.05%	13.05%	13.05%	11.42%

#### Financial Summary \*

\* The above financial information, including forecast information, was prepared based on current Canadian Generally Accepted Accounting Principles (GAAP).

\*\* The allowed rate of return for F2010 – F2012 reflects direction from the shareholder to deliver higher returns than F2009 to be achieved through cost management. The allowed rate drops in F2013 to reflect the removal of the directive.

#### Review of Revenues and Expenses

#### **Revenues:**

BCTC earns Transmission Services revenues for services provided under its Open Access Transmission Tariff (OATT) and Service Fees revenue for services provided in accordance with Service Level Agreements (SLAs) and other contracts. Revenues are forecast to be lower in F2010 and F2011 compared to F2009 due to:

- a. Lower expenses relating to purchases of ancillary services for OATT customers;
- b. Lower depreciation due to the retirement of control centres and systems replaced by the System Control Modernization Project (SCMP); and
- c. Lower Service Fees and Other revenue in F2011 due to the completion of services for the Northwest Transmission Line (NTL) project in F2010.

Revenues in F2012 and F2013 are forecast to increase significantly due to:

a. Higher operating costs primarily driven by maintenance work programs and information technology sustainment costs.

#### **Operating Costs:**

Operating costs are forecast to increase in F2010 largely due to BCTC's participation in the Long-Term Electricity Transmission Inquiry under Section 5 of the BC Utilities Commission Amendment Act (recovered through the deferral account). Operating costs are forecast to increase in F2012 and F2013 primarily due to increase in information technology sustainment costs and increase in maintenance work program costs.

#### **Asset Related Costs:**

Asset related costs include depreciation, taxes, grants in lieu of taxes, and finance charges associated with the assets owned by BCTC. The decreases in depreciation and amortization in F2010 and F2011 are primarily related to the retirement of assets within the existing control centres that were replaced with the completion of the System Control Modernization Program (SCMP). In F2010 these costs decrease as control centre assets (replaced with new assets from SCMP) reach their end of life, and then increase in F2012 when new information technology assets go into service. Finance charges are expected to remain steady over the forecast period as debt is predominantly at a fixed rate.

#### **Deferral Accounts:**

Deferral accounts accumulate the difference between the BCUC approved amounts and actual revenues and costs for recovery from or refund to customers through future rates. In addition to BCTC's existing deferral accounts for revenue and expenses relating to cost of market, regulation, emergency maintenance and the Section 5 inquiry, BCTC received approval from the BCUC in F2010 for two new deferral accounts relating to Aboriginal relations and Polychlorinated Biphenyl (PCB) mitigation. BCTC has also applied to the BCUC a deferral for capital related OMA Information Technology sustainment costs for F2011.

#### **Dividends:**

BCTC's dividend policy is currently under review. In the interim, BCTC's dividend forecast mirrors the BC Hydro policy, which allows for payment of a regular dividend of up to 85 per cent of net income, subject to cash flow and provided the actual yearend ratio of debt to equity is not less than BCTC's deemed structure of 59.3 per cent / 40.7 per cent. The F2012 forecast dividend payment of \$6.46 million, which is based on F2011 results, is higher than the F2010 Service Plan forecast of \$5.9 million due to higher forecast net income (\$7.6 million as opposed to \$6.9 million).

#### Debt:

BCTC's financing plan includes both long-term and short-term debt through facilities established with the Ministry of Finance. Debt levels are forecast to remain steady over the forecast period. BCTC plans to use cash from operations to finance capital expenditures, which are forecast to decline slightly and then level off, supplemented by an intermittent and modest short-term borrowing program.

### Summary Financial Outlook for the Service Plan Period

(\$ millions)	F2009 Actual	F2010 Forecast	F2011 Forecast	F2012 Forecast	F2013 Forecast
Short-term Borrowing	-	5.0	-	-	-
Long-term Borrowing	70.0	70.0	70.0	70.0	70.0
Total Borrowing	70.0	75.0	70.0	70.0	70.0
Capital Leases	3.5	3.4	3.3	3.3	3.2
Total Asset Related Debt	73.5	78.4	73.3	73.3	73.2

#### Future Outlook

BCTC does not foresee its future financial outlook to change significantly as its cost structure, capital investments and debt levels are expected to remain stable.

#### Key assumptions and sensitivities for the financial forecast are as follows:

> Financial Assumptions	Sensitivities
<b>1.Regulatory:</b> BCTC earns a higher rate of return on equity through the period F2010 to F2013 as directed by the shareholder.	A 1 per cent change in the allowed return on equity will change annual net income by \$0.6 million in F2010 to F2013
<ul> <li>2. Costs:</li> <li>The F2010 forecast includes approved COPE and IBEW Collective Agreement increases and other Board approved allowances for salary and wage increases. The overall labour cost increase is 3 per cent for F2010. The overall labour cost increase is estimated to be 3 per cent for F2011.</li> <li>2.1 per cent annual inflation on non-labour expenses other than BC Hydro and Accenture Business Services during the forecast period is partially offset by 1 per cent productivity improvements.</li> </ul>	A 1 per cent change in labour costs will change expenses by \$0.5 million in each year. A 1 per cent change in inflation on non-labour expenses will change expenses by \$0.7 million.

### **Capital Forecast**

BCTC is accountable for investments in the transmission system assets that continue to be owned and financed by BC Hydro. BCTC owns and finances capital assets that are required to operate the transmission system. The F2010–F2013 transmission capital expenditure forecast is contained in the table below.

#### Transmission Capital Expenditure Forecasts Capital Expenditures - Q3 Forecast

	F2009	F2010	F2011	F2012	F2013
(\$ millions)	Actual	Forecast	Forecast	Forecast	Forecast
Sustain	116.0	193.9	171.6	187.0	181.1
Growth	368.3	289.1	479.2	606.4	650.3
Assets Owned by BCTC	18.7	19.0	14.3	14.7	14.9
Total Transmission Expenditures Managed by BCTC	503.0	502.0	665.1	808.1	846.3
Less: Substation Distribution Assets	90.0	84.3	128.6	178.2	114.9
Total Transmission Assets before CIA	413.0	417.7	536.5	629.9	731.4
Contributions in Aid (CIA) of Construction	(18.4)	(10.1)	(49.2)	(51.8)	(48.7)
Total Net Transmission Systems Capital Expenditures	394.6	407.6	487.3	578.1	682.7

The Transmission System capital expenditure forecast is composed of three major portfolios:

#### → (i) Sustaining Capital Portfolio

The Sustaining Capital portfolio invests in existing transmission system assets to:

- Maintain reliability of equipment at design levels;
- Address known safety and environmental issues; and
- Optimize life cycle costs.

Overall, Sustaining Capital investments are forecast to increase over the forecast period primarily due to:

- Higher number of assets in end-of-life conditions and deteriorating asset health that require increased asset replacements;
- · Changes to environmental regulation resulting in increased expenditure on Environmental Risk Mitigation programs;
- Increased focus on improving the resilience of the transmission system to withstand severe events such as storms, seismic issues, fire and flood; and
- Cost escalation due to a tight equipment and construction market for transmission businesses.

Please note that a one-time expenditure on substation land acquisitions (\$24.5m) has resulted in an increase in the forecast amount for F2010 compared to the forecast reported on the previous Service Plan.

#### (ii) Growth Capital Portfolio

The Growth Capital portfolio objectives are to:

- 1. Expand the system capacity to meet load growth;
- 2. Provide generation dispatch flexibility;
- 3. Connect new generators;
- 4. Meet point-to-point transmission service obligations; and
- 5. Plan for uncertainty while ensuring projects are affordable as well as socially and environmentally acceptable.

Significant Growth Capital investment is needed to meet future transmission requirements as domestic load continues to increase, and there is the impetus to integrate new clean or renewable generation resources.

### **Capital Forecast**

The major Growth Capital projects included in the forecast period are:

#### ---- Interior to Lower Mainland (ILM) – projected to be in-service by October 2014: \$599 million

The project will install a series compensated 255 km, 500 kV transmission line (5L83) between Nicola Substation (near Merritt) and Meridian Substation (in Coquitlam). This will reinforce the Interior to Lower Mainland bulk transmission system to meet load growth in the Lower Mainland, ensure existing transmission commitments are met and transport increased generation resulting from projects planned in the South Interior. The ILM Project received a Certificate of Public Convenience and Necessity (CPCN) from the British Columbia Utilities Commission in August 2008. Following the decision, several First Nations filed leave to appeal the BCUC decision to the BC Court of Appeal. In February 2009 the BC Court of Appeal issued its decision suspending the CPCN, stating that the BCUC ought to have considered the adequacy of First Nations consultation at the time the CPCN decision was made. The BCUC initiated a process to assess the adequacy of consultation with First Nations as of the date of the CPCN decision; an oral hearing was held in January 2010, and the reconsideration decision is expected sometime this under the judicial review petitions in BC Supreme Court challenging the Environmental Assessment Certificate (EAC) for the ILM Project. The petitions will be heard together by the court this year. The EAC was issued in June 2009, by the Minister of Energy, Mines and Petroleum Resources and Minister of Environment. The project is still scheduled to be in-service by the fall of 2014.

#### Vancouver City Central Transmission (VCCT) – projected to be in-service by April 2012: \$201 million

The project consists of an enclosed 230/12 kV substation in the Mt. Pleasant area of the City of Vancouver and two new underground 230 kV transmission lines connecting the new substation to the existing transmission network. The project is required to serve growing loads in the Mt. Pleasant/False Creek area and to maintain adequate reliability to other areas of central Vancouver. The project will serve to replace one aging underground transmission circuit reaching the end of its useful life and to improve reliability of service to the existing Cathedral Square and Sperling Substations. BCTC filed a CPCN application with the BCUC in September 2009 and the project is currently under review.

#### → Northwest Transmission Line Project (NTL) – earliest projected in-service date is Fall 2013: \$404 million

The project consists of a new 287 kV transmission line from the existing Skeena Substation near Terrace to a new substation to be constructed near Bob Quinn Lake, a distance of approximately 330 km. The purpose of the project is to extend transmission service into a large area of northwest BC not yet connected to the grid. The new line would facilitate economic development in the region including mining and green power generation, plus serve to get small communities off diesel generation and on clean, green power supply from the BC grid. In September 2008, the provincial government committed \$10 million to continue environmental studies, First Nations and public stakeholder consultation and conceptual design for the project. In September 2009, the federal government announced up to \$130 million in capital contributions to the project. In January 2010, BCTC submitted an Application for an Environmental Assessment Certificate for NTL to the BC Environmental Assessment Office. Discussions are continuing with private sector project proponents for potential additional capital contributions. Construction in the form of right-of-way access and clearing could start as early as late summer 2010.

#### Columbia Valley Transmission Project (CVT) – projected to be in-service by October 2012: \$145 million\*

Formerly known as 'Golden 69 kV System Reinforcement,' the project consists of constructing a new 230kV transmission line, approximately 112km long, between Invermere BC and Golden BC; a new substation near Golden BC; a new 69kV transmission line, approximately 3km long, between the new substation and existing substation in Golden BC; plus related improvements at substations in Invermere and Golden. Rapid load growth has created a forecast transmission capacity deficiency in the Golden area. To address this deficiency, the CVT project is scheduled to be in-service by October 2012. The project will also improve reliability to communities in the valley between Invermere and Golden by backfeeding to the existing 69kV transmission system. BCTC applied for CPCN in January 2010 and construction is expected to start in fall 2010, with projected in-service date of October 2012.

<sup>\*</sup> The Columbia Valley Transmission Project's cost estimate has been revised to \$154 million as per BCTC's recent Certificate of Public Convenience and Necessity filing with the BC Utilities Commission.

#### Dawson Creek/Chetwynd Area Transmission (DCAT) – projected to be in-service by October 2013: \$132 million

The project consists of new 230/138 kV facilities in the Dawson Creek/Chetwynd area to increase available transmission capacity. Recent natural gas development activities and green power projects have dramatically increased transmission requirements in the region and have used up the existing surplus transmission capacity. Without near-term transmission upgrades, transmission capacity constraints could limit further area development projects. BCTC is working to get a solution in service as soon as practical. Consultation with public stakeholders and First Nations is scheduled to begin in February 2010. Conceptual design, cost estimates and environmental analysis are beginning now. BCTC intends to file a CPCN application for the project in the fall of 2010 and to begin construction in the spring of 2011. The in-service date is presently targeted for fall of 2013.

#### Seymour Arm Series Capacitor Station (SASC) – projected to be in service by October 2013: \$58.3 million

The SASC project includes the installation of a 500kV series capacitor station on the 5L71/72 transmission lines north of Seymour Arm. The station will allow BC Hydro to securely deliver the generation output of the Mica Generating Station after the installation of Unit 5. The station site selection process began in January 2008 as part of BC Hydro's Mica 5/6 Project definition phase. The early selection of a site was required because of the inclusion of the station in BC Hydro's Mica 5 BC Environmental Assessment application. BCTC Major Projects led the site evaluation effort, which concluded in October 2008. BCTC is planning to submit the CPCN application for SASC in the fall of 2010, following BC Hydro's receipt of the Mica 5/6 EAC certificate and their submission of the Mica 5 CPCN application.

#### Central Vancouver Island (CVI) – projected to be in-service by October 2010: \$91 million

The Central Vancouver Island project consists of a new 230/138 kV substation near Nanaimo and a new 12 km double circuit 230 kV transmission line connecting the new substation to the existing 230 kV lines between Dunsmuir and Sahtlam substations. Without this project, the 138 kV regional transmission systems serving the east side of Vancouver Island between Qualicum Beach and Ladysmith will experience overload conditions by year 2010. The proposed project will also provide for the future needs of this rapidly growing region. This project received a Certificate of Public Convenience and Necessity (CPCN) from the BCUC in December 2008. Construction is well underway and on schedule for a fall 2010 in-service date.

#### Southern Interior Series Compensation (SISC) – projected to be in-service by October 2014: \$61 million

The SISC project includes the construction of a 500 kV series capacitor station immediately adjacent to each of two existing 500 kV lines in the Southern Interior. One station would be near Summerland and the other near Edgewood. This project will be needed to accommodate forecast generation additions in the Southern Interior, such as Columbia Power Corporation's plans to construct a second powerhouse at Waneta Dam on the Pend d'Oreille River south of Trail. The project schedule is uncertain until such time as the schedules for the Waneta Expansion or other generation projects are firmed up. There will be a public review of this project before construction begins

#### → (iii) BCTC Capital Portfolio – Assets Owned by BCTC

BCTC capital expenditures over the forecast period are primarily in the area of information technology, including:

- Replacement of the Market Operations Business System (\$10.1 million)
- Implementation of systems changes (\$1.8 million)

Other significant information system projects include creating data centre redundancy as part of the BCTC business continuity plan and other ongoing system sustainment projects.

### **Risks and Opportunities**

BCTC has established a risk management framework and process to identify, analyze, assess, evaluate and treat risks in relation to its corporate goals and operations. The Board oversees the framework and the process used by management, including the methodology used in assessing risks.

BCTC recognizes that the strategic changes in the business environment has potential to foster uncertainty. BCTC regularly analyzes these uncertainties and their potential impacts and develops plans to enhance organizational resiliency and our ability to leverage opportunities that may result. On an annual basis, BCTC conducts risk assessment workshops to identify, analyze, and evaluate adverse events and potential opportunities that will have impact to its corporate objectives. The Risk Management Committee, which is comprised of executive leadership team members from across the organization, validates the results of the workshops, confirms prioritized risks and approves mitigation plans.

This section discusses the corporate risks of BCTC – those that are perceived to have a material impact on the achievement of its corporate goals as well as on the execution of its major build-out projects. A detailed risk treatment plan has been developed for each of these risks and for every major build-out project.

Risk	Issue	Risk Treatment
First Nations' Relationship Risk	BCTC plans, operates and expands the transmission system on First Nations reserve lands, treaty settlement lands and traditional territories. Positive relationships and meaningful consultation is required to implement BCTC's capital plan and operation and maintenance activities.	BCTC works in collaboration with BC Hydro to consult with First Nations on its Capital projects. BCTC has an Aboriginal Business Development program to increase business opportunities and build the capacity of Aboriginal businesses.
Public Acceptance Risk	Like any utility, the planning, building and operation of a transmission system carries with it an inherent risk that the general public and various stakeholders may not readily accept certain infrastructure projects and as such, BCTC's corporate reputation and business objectives may be jeopardized from time to time.	BCTC has ongoing proactive communications, community relations and consultation processes to promote openness and transparency with the Corporation's stakeholders and to help manage public expectations. A strategic communications direction has been developed and is being implemented for F2011.
Customer Expectations Management Risk	In light of BC Hydro's recent Call for Clean Power, there will be a number of new requests for interconnections studies. There is a risk that commitments with customers in terms of timeliness of studies, construction of interconnection facilities, and costing accuracy are not met or effectively managed.	BCTC is implementing improvements in the end-to-end interconnection process (e.g. Project Portfolio Management) in order to meet the expectations of customers under the Open Access Transmission Tariff (OATT) and the new Standard Generator Interconnection Agreement (SGIA).

Risk	lssue	Risk Treatment
Strategic Adaptability Risk	There is a risk that any new public policy with a short implementation time frame could strain organizational capacity.	Management will review new public policies to ensure adequate organizational capacity is in place to implement any new government policy.
Contractor Management Risk	BCTC relies heavily on service providers and contractors to support the execution of its capital, operations and maintenance plans, thus it faces the risk that outsourced work is not carried out as defined in the contracts or agreements or performed in a manner that is not consistent with its strategies or goals. Failure to manage contractors will have an impact on operational excellence targets.	BCTC is continuously improving its operating procedures to provide contractors with more clarity on BCTC's standards and processes for safety, environmental and work quality requirements. In addition, as service providers also administer procurement on behalf of BCTC, periodic reviews and audits of the procurement policies and procedures of service providers will be undertaken.
System Reliability Risk	Unexpected events (e.g. extreme weather or system events of interconnected jurisdictions) may negatively affect the transmission system reliability performance.	BCTC has categorized the criticality of delivery points and is continuously monitoring asset health and performance to manage risk according to the criticality levels. In addition, BCTC Capital Plan addresses, where appropriate, reliability risks.
Human Resources Risk	Given the persistent scarcity of skilled labour in BC, there is a risk that BCTC is unable to attract, develop, and retain an engaged and highly skilled workforce.	In anticipation of the labour market pressures that come with the improving economy, BCTC will continue to implement succession and resource planning, as well as other innovative recruitment, attraction and retention strategies to meet its evolving skills and competency requirements.
Environment and Safety Risk	There is a risk that inadequate environmental and safety practices exposes BCTC to liabilities arising from environmental compliance and commitments voluntarily agreed to by BCTC and thus affecting corporate targets on safety and environment.	BCTC will continue to conduct Operational Reviews which verifies the safety and environmental practices of service providers and contractors. Review results are being used to further improve business processes.

On an ongoing basis, BCTC monitors the above-mentioned risks and reports changes to management. A Risk Report Card is prepared for the Risk Management Committee on a quarterly basis to track changes in the risk environment, changes in risk trends, and progress of risk mitigation plans. The Audit Committee of the Board of Directors is provided quarterly with an update on key changes in the risk profile and progress on the risk management program.

### APPENDIX 1: Shareholder's Letter of Expectations

The Shareholder's Letter of Expectations between the Shareholder (the Government of British Columbia) and BCTC is an agreement on the respective roles of each, including the corporate mandate, high-level performance expectations, public policy issues and strategic priorities. The letter also provides direction from the Shareholder to BCTC to take specific actions. The following table lists those directions and BCTC's responses. The Shareholder's Letter of Expectations is reviewed and updated as required.

> Shareholder's Direction	BCTC Alignment
Comply with the Shareholder's requirements to make the Public Sector carbon neutral by 2010, including: accurately defining, measuring, reporting on and verifying the greenhouse gas emissions from the Corporation's operations; implementing aggressive measures to reduce those emissions and reporting on these reduction measures and reduction plans; and offsetting any remaining emissions through investments in the Pacific Carbon Trust, which will invest in greenhouse gas reduction projects outside of the Corporation's scope of operations	<ul> <li>Continue development of our Integrated Climate Change Response Program, including: <ul> <li>Assessment and auditing of BCTC emissions relative to defined BC government inventory protocols commencing in F2009, with annual audits every year thereafter; and</li> <li>Report and document BCTC emissions and reduction and mitigation initiatives in BCTC's annual Carbon Neutral Report to government.</li> </ul> </li> <li>Continue BCTC's Green Commuting Program that encourages employees to use public transit, bike or carpool to work.</li> <li>Implement employee engagement program with the goal of reducing BCTC's carbon footprint, and the carbon footprint of employees in their home environment.</li> </ul>
Support the Shareholder's clean energy powerhouse objective by helping to develop and implement strategies aimed at developing BC's new clean, renewable, low-carbon energy potential to stimulate new investment, industry and employment in the province	<ul> <li>Facilitate new clean or renewable generation in BC by providing effective and efficient interconnection service for new generators being contracted through BC Hydro's clean power procurement process.</li> <li>Support British Columbia's participation in the Western Renewable Energy Zone (WREZ) process to identify renewable resource potential in the Western Interconnection and to ensure the province's resource potential is recognized as conceptual transmission plans are developed to deliver the region's renewable energy to load centres.</li> </ul>
Support the Shareholder in advancing the Northwest Transmission Line by pursuing studies and consultation required for the Environmental Assessment process and working with the Shareholder in assessing new cost sharing opportunities with industry and the Government of Canada in order to complete the project	<ul> <li>Conduct studies and consultation required for the Environmental Assessment process.</li> <li>Submit NTL Environmental Assessment (EA) application at the end of January 2010 and begin construction in the fall of 2010, subject to EA approval.</li> <li>Work with the Shareholder in assessing new cost-sharing opportunities with industry.</li> </ul>

> Shareholder's Direction	···→ BCTC Alignment
Continue to support the Shareholder in assessing and pursuing the potential for long-term economic expansion in the northeast region of British Columbia, and the ability to mitigate greenhouse gas emissions through new transmission expansions and the use of renewable, low-carbon electricity	• Assess the need to expand transmission system to facilitate economic development in North East part of the province by electrification of Horn River Shale gas processing and transportation to reduce GHG emissions and allow the Horn River basin to be developed in a manner consistent with provincial energy policy.
	<ul> <li>Report BCTC's GHG emissions and our reductions and mitigation initiatives in BCTC's annual Carbon Neutral Report, pursuant to the Government's Greenhouse Gas Reduction Targets Act.</li> </ul>
Fully participate in the ongoing British Columbia Utilities Commission (Commission) led inquiry into long-term transmission requirements and in other regulatory processes under the direction of the	<ul> <li>Lead evidence to support inquiry into long-term transmission needs of the province, and incorporate inquiry findings into BCTC's first Transmission 2040 Long-term Transmission Vision document</li> </ul>
Commission related to transmission planning and capital projects	<ul> <li>Continue to support evidence requirements for BC Hydro's Long-Term Acquisition Plan.</li> </ul>
Continue to lead British Columbia's involvement in exploring and evaluating opportunities for increasing the Province's transmission capacity to improve access to external markets	<ul> <li>Continue discussions with Bonneville Power Administration and Alberta Electric System Operator to identify opportunities to expand regional transmission.</li> </ul>
	<ul> <li>Continue to expand dynamic scheduling and Area Control Error (ACE) Diversity Interchange.</li> </ul>
	• Continue participation in Western Governors Association (WGA) Western Renewable Energy Zone (WREZ) initiative to identify areas in Western North America that have utility-scale renewable energy resources and expedite the development and delivery of those resources to meet regional energy needs.
	<ul> <li>Continue participation in working group to evaluate benefits of the proposed Canada-Northwest-California (CNC) transmission project.</li> </ul>
Continue to work with its neighbouring transmission companies to enhance trade opportunities by pursuing such regional initiatives as harmonizing business practices, and improving system planning and expansion procedures to reduce seams and increase the capacity of the grid	• Actively participate in regional planning initiatives to identify opportunities to increase regional transmission capacity, including studies of expanded transmission between British Columbia and California.
	• Support British Columbia's participation in the Western Renewable Energy Zone (WREZ) process to identify renewable resource potential in the Western Interconnection and to ensure the province's resource potential is recognized as conceptual transmission plans are developed to deliver the region's renewable energy to load centres.
	<ul> <li>Participate in North West regional planning activities, including Western Electricity Coordination Council's transmission planning work in the Pacific North West, to ensure British Columbia's electricity resources are incorporated into regional</li> </ul>

transmission plans.

## APPENDIX 1: Shareholder's Letter of Expectations

→ Shareholder's Direction	> BCTC Alignment
Continue to enhance access to markets for British Columbia produced electricity	<ul> <li>Subject to BCUC approval, adopt and administer tariff changes to remain compliant with the Open Access Transmission Tariff.</li> <li>Expand market services such as dynamic scheduling and the</li> </ul>
	Area Control Error (ACE) Diversity Interchange services, to other jurisdictions in the Western Interconnection.
Continue to implement actions, working with the Ministry of Energy, Mines and Petroleum Resources as necessary, to support the objectives of British Columbia's Energy Plan: A Vision for Clean Energy	<ul> <li>Incorporating technologies into BCTC's new control centre, including an innovative new distribution management system to improve operating efficiency and reliability, and to facilitate deployment of Smart Grid applications.</li> </ul>
<ul> <li>Leadership (Energy Plan), including actions that will:</li> <li>Ensure British Columbia's transmission technology and infrastructure remains at the leading edge and has the capacity to deliver power efficiently and reliably to meet growing demand;</li> <li>Ensure adequate transmission is in place to meet the long-term electricity needs of the province, to ensure the transmission grid can integrate new clean and renewable energy sources and can accommodate the energy and capacity requirements needed to meet the Government's self-sufficiency objective;</li> </ul>	<ul> <li>Lead evidence to support BCUC inquiry into long-term transmission needs of the province, and incorporate inquiry findings into BCTC's first Transmission 2040 Long-term Transmission Vision document.</li> </ul>
	<ul> <li>Implement loss reduction strategy to support conservation and energy efficiency goals.</li> </ul>
	Implement a regime to remain consistent with North American electricity reliability standards.
	<ul> <li>Continue studies to ensure BC's transmission system is able to integrate clean or renewable generators (such as wind).</li> </ul>
	<ul> <li>Implement next stages of BCTC's Transmission Technology Roadmap.</li> </ul>
<ul> <li>Contribute to energy conservation efforts by establishing and implementing a loss reduction strategy; and</li> </ul>	
<ul> <li>Maintain consistency with North American reliability standards and participate in standards development to ensure BC's interests are represented</li> </ul>	
Ensure sustained asset health, reliability and security of the transmission system	Carry out BCTC's 10-year, \$5.8 billion Capital Plan.
	<ul> <li>Develop strategy and criteria for when to reinforce radial lines based on reliability benefits, criticality of load and cost.</li> </ul>
	<ul> <li>Continue implementation of critical infrastructure program consistent with prevailing industry standards for both physical and cyber asset security.</li> </ul>

> Shareholder's Direction	BCTC Alignment
Ensure that there is adequate transmission capacity available to reliably serve domestic and electricity trade needs, and that all eligible transmission users have non discriminatory access to this capacity, subject to approval by the Commission	• Subject to BCUC approval, adopt and administer tariff changes to remain compliant with the Open Access Transmission Tariff, including the collaborative planning process (FERC 890).
	<ul> <li>Play a lead role in the BCUC inquiry into the province's long- term transmission needs and incorporate the inquiry's findings into BCTC's Transmission 2040 Long-term Transmission Vision.</li> </ul>
	Advance work on major transmission infrastructure projects.
	<ul> <li>Continue to identify and pursue candidate Transmission</li> <li>Expansion Policy (TEP) projects by working with stakeholders.</li> </ul>
	Complete the 30-year plan to improve reliability and meet long- term electricity needs in Metro Vancouver.
	<ul> <li>Consider innovative transmission technologies in our long-term planning scenarios.</li> </ul>
Control the operation of generating units to the extent necessary to ensure short term transmission system reliability	Complete the 40-year plan to improve reliability and meet long- term electricity needs in Metro Vancouver.
	<ul> <li>Provide exemplary operational services to BC Hydro's generation and distribution lines of business under the respective Service Agreements and to BC Hydro's transmission-connected customers.</li> </ul>
	<ul> <li>Continue a joint BC Hydro/BCTC initiative to develop a strategic direction for reliable supply to urban areas.</li> </ul>
	<ul> <li>Advance reliability enhancement initiatives, including cost/ benefit analyses of radial line upgrades, and development of a plan to reduce restoration times in metropolitan areas and measurement of reliability vulnerability.</li> </ul>
	<ul> <li>Develop a long-term technology strategy and action plan for System Operations to enrich the functionality of the existing system and to ensure that it will remain leading edge.</li> </ul>
Implement actions necessary to maintain British Columbia's competitive electricity rates as established in the Energy Plan	Continue cost-effective system operations.
	<ul> <li>Support efficient trade of BC's generation sources through strategic transmission investment and participation in regional initiatives.</li> </ul>
Continue to enhance open access transmission tariffs that promote private sector opportunities in wholesale electricity supply and facilitate direct purchase of electricity by large users, subject to the approval of the Commission	<ul> <li>Upon BCUC approval, implement new provisions to the industry standard Open Access Transmission Tariff to ensure alignment with regulatory and policy direction of neighbouring jurisdictions</li> </ul>
	<ul> <li>Continue to monitor tariff pricing practices to ensure they meet ratemaking objectives.</li> </ul>
	<ul> <li>Continue to identify and pursue candidate Transmission Expansion Policy (TEP) projects by working with stakeholders to identify projects with net benefit to ratepayers.</li> </ul>

# APPENDIX 1: Shareholder's Letter of Expectations

> Shareholder's Direction	BCTC Alignment
Continue to enhance wholesale transmission rates that promote maximum use of the transmission grid through appropriate pricing, subject to the approval of the Commission	<ul> <li>Upon BCUC approval, implement new provisions to the industry standard Open Access Transmission Tariff to ensure alignment with regulatory and policy direction of neighbouring jurisdictions.</li> </ul>
	Continue to monitor tariff pricing practices to ensure they meet ratemaking objectives.
	<ul> <li>Continue to identify and pursue candidate Transmission Expansion Policy (TEP) projects by working with stakeholders.</li> </ul>
	Continue cost-effective system operations.
	<ul> <li>Support efficient trade of BC's generation sources through strategic transmission investment and participation in regional initiatives.</li> </ul>
Continue to utilize communications and consultation processes to promote openness and transparency with the Corporation's stakeholders and First Nations	<ul> <li>Continue consultation activities with First Nations, communities and stakeholders.</li> </ul>
	<ul> <li>Continue the Aboriginal Business Development Program to increase contracting and employment opportunities for Aboriginal people and businesses.</li> </ul>
	<ul> <li>Continue implementation of the Public Awareness Program, which includes strategic, integrated communications and consultation programs designed to gain broader public understanding and acceptance of the need and benefits of transmission projects.</li> </ul>
Work with Shareholder to identify current or upcoming transmission issues that could require provincial policy development , and assist with implementation of any such policies	Continue to support the BC Energy Plan, particularly with Policy     Actions 12, 13, 14.
	<ul> <li>http://www.energyplan.gov.bc.ca/PDF/BC_Energy_Plan.pdf</li> </ul>
	Continue to hold regular meetings with MEMPR staff.
	<ul> <li>Continue to hold quarterly meetings with the Minister of Energy, Mines and Petroleum Resources.</li> </ul>
The Board will annually assess its appointment process to ensure succession results in both renewal and continuity of Board membership and provide the results of this assessment to the Shareholder for consideration	• The Shareholder, as required under the British Columbia Business Corporations Act, appoints BCTC's Board members annually. Prior to the annual appointment, communications are held between the Board Chair and the Minister Responsible on Board renewal considerations.
	<ul> <li>The Board, through its Corporate Governance Committee, maintains a succession framework and incoming director orientation program to facilitate the orderly transition of Board members over time.</li> </ul>



### About BCTC

BC Transmission Corporation (BCTC) is the Crown corporation that manages the province's publicly owned electrical transmission system. It's BCTC's job to move electricity from where it is generated to the communities where it is needed.

Suite 1100, Four Bentall Centre 1055 Dunsmuir Street Vancouver, BC V7X 1V5 Tel. 604.699.7456 Fax 604.699.7333 www.bctc.com

