



POLICY BRIEF - JANUARY 2016

PROVINCIAL CLIMATE ACTION PLANS AND LOCAL GOVERNMENTS - LESSONS FROM BC

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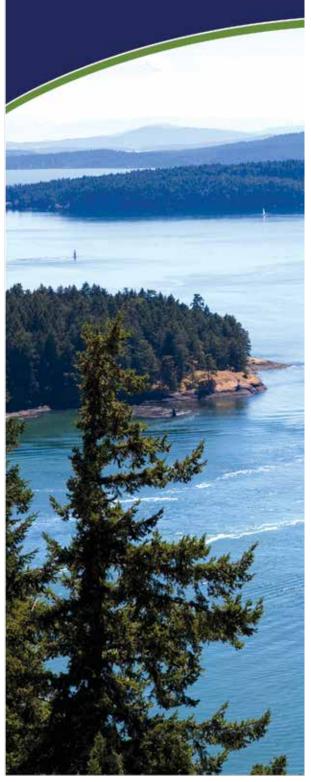
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ACRONYMS

Community Action on Energy and Emissions
Climate Action Revenue Incentive Program
Community Energy and Emissions Inventory
Community Energy and Emissions Modelling
Community Energy Managers
Community Energy Plans
Community Energy and Emissions Plans
Carbon Dioxide
Development Permit Areas
Federation of Canadian Municipalities
Green Communities Committee
Greenhouse Gas
Home Energy Rebate Offer
Innovative Clean Energy
Official Community Plan
Partners for Climate Protection
Public Sector Organization
Regional Growth Strategy
Sustainable Communities Program (BC Hydro)
Union of British Columbia Municipalities

KEY MESSAGES



- Given that Canada's local governments are responsible for more than half of greenhouse gas (GHG) emissions in the country, it is important for Provincial governments to collaborate with, support and enable action at the local government level in order to achieve provincial GHG emission reduction objectives. The Province of British Columbia's local government tools offer a model for other provinces looking to engage local governments as key partners in delivering on their GHG emission reduction targets.
- British Columbia has received global praise for its adoption of a province-wide carbon tax, but less profile has been given to a series of complementary tools aimed at supporting local government climate action, and the collaborative role of local governments. BC met its 2012 interim GHG reduction target of 6% below 2007 levels, in part due to the climate action tools rolled out in 2007-2008, but also due to the various initiatives that were already in place or were delivered by other parties, including those implemented by the local governments and crown corporations, most notably, BC Hydro.
- BC's local governments had already been demonstrating leadership in climate action at the time the Province's 2008 Climate Action Plan was launched. Sustainability, climate and energy manager staff in municipalities and regional districts became key collaborators with the Province; they co-created tools and initiatives, and they also worked amongst themselves to share ideas and resources.
- The Province of BC implemented complementary tools focused on empowering local government action by providing: (1) access to the necessary knowledge (in the form of emissions inventory data and a network of knowledge on best practices); (2) regulatory tools that expand local governments' authority with respect to emission reduction options; and (3) targeted funding and incentives. These tools include: the Local Government (Green Communities) Statutes Amendment Act, the Climate Action Charter, the Climate Action Revenue Incentive Program (CARIP), the Community Energy and Emissions Inventory (CEEI), the Green Communities Committee, the Climate Action Toolkit, and various funding programs.



- It would be difficult, if not impossible, to accurately evaluate the contributions each of the tools have made individually towards this progress. However, a number of indicators can be reviewed to demonstrate the effectiveness of the tools, such as the growth in the numbers of: Community Energy and Emissions Plans, reported community-wide actions, Climate Action Charter signatories, and carbon neutral government operations.
- Recent studies suggest that BC communities seem to face fewer challenges implementing energy and emissions initiatives compared to their provincial counterparts. This is likely in part a result of the Province's provision of regulatory tools such as the Local Government Act, and enabling tools such as the Community Energy and Emissions Inventory (CEEI).

THE ISSUE

British Columbia's Provincial Climate Action

In 2007, the Province of BC legislated targets to reduce greenhouse gas (GHG) emissions from a 2007 baseline by 33% by 2020 and 80% by 2050. Interim targets of 6% by 2012 and 18% by 2016 were subsequently legislated in 2008. A series of initiatives were launched in 2007-2008, including the 2008 Climate Action Plan, which were projected to achieve about 73% of the 2020 target.¹ The Province is now preparing a Climate Leadership Plan to build on the 2008 Plan, with an anticipated release in March 2016.

Most widely lauded of the initiatives rolled out over 2007-2008 is the province-wide carbon tax, which has received praise from the Organization for Economic Cooperation and Development, the World Bank and The Economist, amongst others.² In 2010, BC also became the first province in North America to achieve carbon neutrality across all of its Public Sector Organizations (PSOs).

BC's Revenue Neutral Carbon Tax

On July 1, 2008, BC became the first jurisdiction in North America to launch a broad-based tax on carbon. The tax covers about three-quarters of all GHG emissions in the province. (It applies to all emissions resulting from the burning of fossil fuels, but not including non-combustion carbon dioxide (CO_2) in industrial processes, methane emissions from natural gas extraction and transmission, methane and nitrous oxide emissions from agriculture and CO_2 emissions from forestry.) The tax rate started at \$10 per tonne of CO_2 equivalent emissions in 2008 and increased by \$5 per tonne each year for the next four years until it reached \$30 per tonne in 2012. It is slated to be frozen at this level until at least 2018.

The carbon tax is designed to be revenue neutral; initially this was achieved by redistributing carbon tax revenues back to residents and businesses through a reduction of corporate income taxes and personal income taxes, and through the provision of low-income tax credits. Over time, supplementary measures were added to address concerns from specific stakeholders. For example, an annual grant for northern and rural homeowners was added to address opposition to the carbon tax from communities who felt that they would be impacted to a greater extent because of a colder climate and lower levels of public transportation infrastructure.

Less profile has been given to the climate action initiatives launched over this time period that support and encourage local government action. These measures were developed with the acknowledgement that BC's local governments have control or influence over about 45% of GHG emissions in the province.³ This Policy Brief provides: (1) an overview of the existing momentum for climate action in BC; (2) a list of provincial policy tools supporting local government climate action; (3) the outcomes from these tools; and (4) a summary of the implications for policy makers. The brief was developed through interviews with practitioners and a review of published literature.

¹ Province of BC. (2008). Climate Action Plan. <u>http://www2.gov.bc.ca/assets/gov/environment/climate-change/policy-legislation-and-responses/climateaction_plan_web.pdf</u>

² R. Beaty, R. Lipsey, S. Elgie. (2014, July 9). The Shocking Truth about BC's Carbon Tax: It Works. The Globe and Mail. <u>http://www.theglobeandmail.com/globe-debate/the-insidious-truth-about-bcs-carbon-tax-it-works/article19512237/</u>

³ BC Climate Action Toolkit. (n.d.). Community Energy and Emissions Inventory Initiative http://www.toolkit.bc.ca/community-energy-and-emissions-inventory-initiative

THE KNOWLEDGE BASE

Existing Momentum and Favourable Conditions

The stage was set for the successful roll-out of BC's Climate Action Plan in 2008 because of a strong base of existing momentum and favourable conditions. BC's local governments had already been demonstrating leadership in climate action prior to 2007/2008. The first Community Energy Plans (CEPs) in Canada were prepared in Kamloops (1996) and the Fraser Valley Regional District (1998), and since then BC has continued to lead the country in community energy planning. BC was also advantaged with favourable political and social conditions. A confluence was emerging in which there was a drive for climate action and sustainability from all levels of government in BC. At the provincial level, Premier Campbell became personally committed to ensuring that BC took bold action on climate change; leading a right-of-centre government that had the support of the business community, he was well-positioned to successfully move an environmental agenda forward.⁴ At the local level, the emergence of sustainability, climate and energy manager staff in municipalities and regional districts was occurring. These staff became key collaborators with the Province; they co-created tools and initiatives and the staff in these positions collaborated to share ideas and resources.

A few additional factors contributed to a favourable environment for the advancement of climate action at the local government level in BC, including:

- A growing concern for climate change in the public at large;⁵
- BC's plentiful access to low carbon hydroelectric power, which makes it easier for the province to achieve aggressive GHG emission reduction goals;⁶
- The presence of a strong base of expertise and programs within the province, in the form of an extensive network of practitioners in the climate and energy field, including non-government organizations, consultancies, utilities and staff at the government level; and
- The availability of funding opportunities from BC Hydro, the Province, and the FCM.

5 Harrision (2013). Ibid

6 Harrison (2013). Ibid.

⁴ Harrison, K. 2013. The Political Economy of British Columbia's Carbon Tax. OECD Environment Working Papers No. 63, OECD Publishing. <u>http://dx.doi.org/10.1787/5k3z04gkkhkg-en</u>

Local Government Climate Action Tools

Since 2007, a range of enabling, regulatory and funding tools have been rolled out by the Province to support local government climate action. Some of the most important tools are summarized below.

Key Enabling & Regulatory Tools:	Supporting Regulatory Tools:	Funding Tools:
 Local Government (Green Communities) Statutes Amendment Act (Bill 27) Climate Action Charter Climate Action Revenue Incentive Program (CARIP) Community Energy and Emissions Inventory (CEEI) Green Communities Committee (GCC) and Working Groups Climate Action Toolkit 	 Solar Hot Water Ready Regulation BC Building Code Revisions Landfill Gas Management Regulation 	 The Innovative Clean Energy (ICE) Fund SolarBC The Clean Energy Vehicle Program The Community Action on Energy and Emissions (CAEE) Program

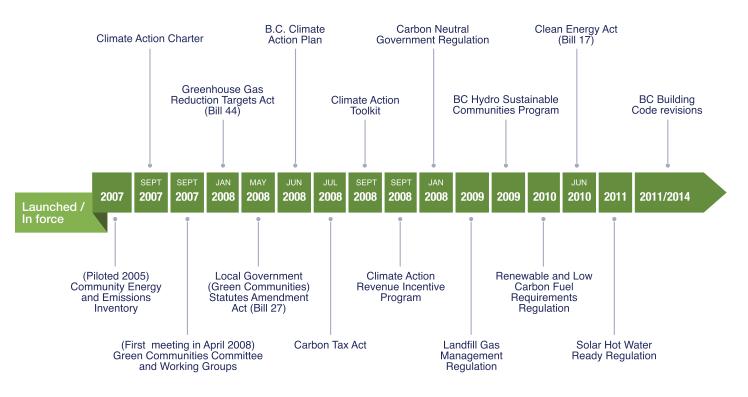
Key Enabling & Regulatory Tools

Local Government (Green Communities) Statutes Amendment Act (Bill 27)

This piece of legislation is arguably the most powerful of these tools. It requires local governments to set GHG emission reduction targets, policies and actions and it provides local governments important enabling tools to reduce GHG emissions associated with transportation and urban planning.

Four key legislative amendments were made through this act:

- i. It requires local governments to set GHG emission targets, policies and actions in their Official Community Plans (OCPs) and Regional Growth Strategies (RGSs).
- ii. It gives local government the authority to provide exemptions for off-street parking requirements in cases where developers include green elements; and it allowed for the use of off-street parking revenues inlieu of these exemptions to create a reserve fund for alternative transportation infrastructure.
- iii. It allows local governments to create Development Permit Areas (DPAs) for new developments and rehabilitation projects, which contain specific objectives and guidelines for GHG emission reduction, and energy and water conservation.
- iv. It provides local governments with broader authority to increase affordable housing, reduce GHG emissions and promote compact development by waiving or reducing development cost charges (DCCs) for projects that advance these aims.



Timeline: Implementation of Tools Supporting Local Government Climate Action

Program

Climate Action Charter

The Climate Action Charter is a voluntary tool, which local governments can opt to sign, and by so doing commit to the goals of:

- i. Achieving carbon neutral corporate operations by 2012.
- ii. Measuring and reporting on community GHG emissions.
- iii. Creating complete, compact and more energy-efficient rural and urban communities.

The Charter was launched at UBCM in September 2007, at which time 62 communities became initial signatories.⁷ As of 2014, 181 of BC's 190 local governments were signatories to the Charter.⁸

⁷ Office of the Premier, Province of British Columbia. (2007, Sept. 26). News Release: B.C. Communities Commit To Carbon Neutrality By 2012. <u>http://www2.news.gov.bc.ca/news_releases_2005-2009/2007OTP0139-001194.htm</u>

⁸ BC Ministry of Community, Sport and Cultural Development. (2014, November). CARIP 2013 Summary Report. <u>http://www.cscd.gov.</u> <u>bc.ca/lgd/library/CARIP_2013_Summary_Report.pdf</u>

Climate Action Revenue Incentive Program (CARIP)

CARIP was launched at the 2008 UBCM conference to act as an incentive to encourage local governments to sign on to the Climate Action Charter. It is a conditional program that provides a grant to local governments that have signed on to the Climate Action Charter, equivalent to 100% of their carbon tax costs. The grants are allocated based on actual costs from the previous year, thereby enabling local governments to recover all of their carbon tax expenditures. In 2012, about \$5 million in CARIP grants were paid out.⁹ The first required reporting year for grant recipients was 2010. Prior to launching CARIP, there were 62 signatories to the Charter and with the announcement of CARIP this number more than doubled almost immediately.

Community Energy and Emissions Inventory (CEEI)

The CEEI was developed to help local governments undertake energy and GHG emissions planning, and is now helping Charter signatories meet their commitment to measure and report on community GHG emissions. The CEEI became the first inventory of its kind in the world: it was piloted in 2005, and began providing data for all BC communities in 2009 (2007 data).¹⁰ The CEEI includes data collected by the Province on energy consumption and GHG sources from utilities, public agencies and other entities, and GHG emissions from on-road transportation, buildings and solid waste, as well as regional estimates for land-use change from deforestation and enteric fermentation from livestock. It also tracks supporting indicators to help evaluate local government progress to reduce community GHG emissions.

To further support local governments in their efforts to set GHG emission reduction targets, and to identify appropriate policies and actions, the Province also undertook a review of existing modelling tools being used by BC communities. The CEEM website (<u>http://www.toolkit.bc.ca/ceem</u>) provides an overview and comparison of these modelling tools, which have now been used by more than half of BC's local governments.¹¹

Green Communities Committee (GCC) and Working Groups

The GCC and its working groups were established to support Climate Action Charter signatories in meeting their commitments. Three groups comprised of representatives from the Province, BC Hydro, the provincial public transportation agency (BC Transit), the Metro Vancouver transportation authority (TransLink), the Union of B.C. Municipalities, and local and regional governments were created: (1) Carbon Neutral Working Group; (2) Working Group on Small Community Strategies and Actions; and (3) Working Group on Urban Strategies and Actions. These working groups provided input to support the GCC in developing a range of resources and guidelines.

The Climate Action Toolkit (Toolkit.bc.ca)

The Toolkit serves as a repository of best practices, strategic guidance, and tools, focusing on content of most relevance to BC local governments, including those developed by the GCC. The toolkit was initiated immediately upon creation of the GCC and was launched at the 2008 UBCM conference. The Toolkit has been an important avenue for the Province to communicate with local governments.

⁹ Ministry of Community, Sport and Cultural Development. (2012). Municipal Revenue Sources Review Local Government Grants Inventory. <u>http://www.cscd.gov.bc.ca/lgd/library/revenue_source_review/Local%20Government%20Grants%20Inventory.pdf</u>

¹⁰ Province of BC. (n.d.). CEEI Frequently Asked Questions. <u>http://www2.gov.bc.ca/gov/content/environment/climate-change/</u> stakeholder-support/ceei/faqs

¹¹ Personal communication with Ted Sheldon, Senior Policy Advisor, BC Ministry of Energy and Mines, October 16, 2015.

Other Relevant Policies

A range of additional tools were enacted by the Province which, although not directly aimed at local government have significantly influenced community-level action and/or GHG emissions. These include:

• Carbon Neutral Government Regulation:

This regulation applies to all Public Sector Organizations (PSOs), which includes all core provincial government ministries and agencies, as well as Crown corporations, schools, universities, colleges, hospitals, and health affiliates. The regulation requires PSOs to: "(1) Reduce emissions as much as possible each year; (2) Measure any remaining GHG emissions from buildings, vehicle fleets, paper use, and government travel; (3) Purchase an equivalent amount of emission reductions (offsets) to get to net-zero; and (4) Report on achievements."¹²

• Greenhouse Gas Reduction (Renewable and Low Carbon Fuel Requirements) Act/ Renewable and Low Carbon Fuel Requirements Regulation:

This regulation was designed to reduce the GHG emission intensity of transportation fuel by requiring a minimum of 5% renewable content in gasoline and 4% renewable content in diesel, and by requiring a 10% reduction in carbon intensity of these fuels by 2020.¹³

• Clean Energy Act:

This Act set the objective that at least 93% of electricity generation in the province be from clean or renewable resources and that at least two-thirds of future demand growth be met through conservation by $2020.^{14}$

Supporting Regulatory Tools

Solar Hot Water Ready Model Regulation

This regulation requires all new single family homes in communities which have adopted the regulation to be built in a way that accommodates future installation of solar hot water systems. The Province designed the regulation to be voluntary; local governments can choose to adopt it in their communities. This approach provides consistent provisions across the province while giving local governments the flexibility to adopt it. As of 2013, 48 communities adopted the regulation.¹⁵

BC Building Code Revisions

Revisions to the building code were made with the aim of achieving greater energy efficiency and GHG emission reduction. These measures came into effect late 2013 and 2014, and have the potential to increase energy performance for new buildings by up to 24%.¹⁶

16 Pond, Ellen. (2013, September). British Columbia needs local government innovation to meet its climate targets. Pembina Blog. <u>http://www.pembina.org/blog/749/</u>

¹² Province of British Columbia. Carbon Neutral Government Overview. <u>http://www2.gov.bc.ca/gov/content/environment/climate-change/policy-legislation-programs/carbon-neutral-government</u>

¹³ Province of British Columbia. (2015). Renewable & Low Carbon Fuel Requirements Regulation. <u>http://www.empr.gov.bc.ca/RET/</u> <u>RLCFRR/Pages/default.aspx</u>

¹⁴ Province of British Columbia. Bill 17 – 2010 Clean Energy Act. http://www.bclaws.ca/civix/document/id/complete/statreg/10022_01

¹⁵ Province of BC. (n.d.) Solar Hot Water Ready Regulation. <u>http://www2.gov.bc.ca/gov/content/industry/construction-industry/building-codes-standards/the-codes/other-regulations/solar-hot-water-ready</u>

Landfill Gas Management Regulation

This regulation phases in requirements for landfill gas capture to reduce methane emissions and optimize landfill gas recovery. It requires large landfills to evaluate landfill gas generation rates by 2011, and landfills generating 1,000 tonnes or more of methane to install landfill gas management systems by 2016.

Funding Tools

The Province funded a range of programs that directly and indirectly support local government actions to reduce community-wide emissions and emissions from their internal operations. Some of the most relevant programs include:¹⁷

- The Innovative Clean Energy (ICE) Fund, which supports renewable energy and energy efficiency projects, and includes the recently announced Community Energy Leadership Program.
- SolarBC, which provided rebates for the installation of solar hot water heaters in homes, municipal buildings, schools, social housing and First Nations communities.
- The Clean Energy Vehicle Program, which funded electric charging stations and provided rebates for purchase of clean energy vehicles.
- The Community Action on Energy and Emissions (CAEE) Program which provided grants for energy efficiency, transportation, alternative energy systems and waste management projects.

In addition, BC Hydro, a crown corporation, also launched its Sustainable Communities Program (SCP) in 2009, which has played a large role in engaging communities in energy and emissions management planning and project implementation. Through this program BC Hydro provides financial support and technical guidance to local governments on their energy and emissions planning and implementation initiatives. This Program is a tool through which BC Hydro is aiming to meet requirements under the Clean Energy Act to meet two-thirds of future demand growth through conservation by 2020 (see text box, above). The SCP has now funded more than 45 Community Energy and Emissions Plans (CEEP) and 26 Community Energy Manager (CEM) positions with local governments.¹⁸ Through the SCP, BC Hydro is now also funding community-based energy efficiency and conservation implementation projects; with the first round of funds being released in 2014.

BC Hydro and FortisBC are now also providing the Home Energy Rebate Offer (HERO), which provides a variety of rebates for homeowners undertaking a range of energy efficiency initiatives, and is serving to fill the gap left by the cancellation of the Province's LiveSmart program, which provided similar rebates to homeowners.

More detail on these and other relevant funding programs are included in Appendix A.

Outcomes from Provincial Climate Action Tools

Since 2012 the Province has lost momentum on its GHG emission reductions, due to a delay in the update of its 2008 Climate Action Plan. The 2008 Plan and associated tools did help the Province achieve its 2012

¹⁷ Many of these programs were announced in 2008, see: Office of the Premier, Province of British Columbia. (2008, Sept 24). Backgrounder: Support For Carbon-Neutral Communities. Retrieved from: <u>http://www2.news.gov.bc.ca/news_releases_2005-2009/2008OTP0235-001451-Attachment1.htm</u>

¹⁸ QUEST. (2015, JULY). National Report on Policies Supporting Community Energy Plan Implementation. <u>http://</u>gettingtoimplementation.ca/wp-content/uploads/2015/07/National-Report-on-Policies-Supporting-CEP-Implementation-July2015.pdf

interim GHG reduction target of 6% below 2007 levels, and to reduce per capita fossil fuel consumption by 16% between 2008 and 2012.¹⁹ However, in the absence of additional policies and actions, the Province will not meet its 2020 and 2050 targets.²⁰

Various initiatives were already in place or were delivered by other parties that contributed to emission reductions achieved to-date, including those implemented by the local governments themselves. These climate action tools have worked synergistically to reduce GHG emissions across the province, and it would be difficult, if not impossible, to accurately evaluate the contributions each of the tools have made individually towards this progress. There are, however, numerous secondary indicators that can be reviewed to demonstrate the effectiveness of the tools directed at local government action, and others, demonstrating the cumulative effectiveness of the programs developed by the Province and its partners.

Performance Indicators

Increase in Community Energy and Emissions Planning

Between 1996 and 2009 only 19 Community Energy Plans (CEPs) and/or Community Energy and Emissions Plans (CEEPs) were completed in BC. As shown in Figure 1, this number rose sharply in 2010 and 2011, with 25 plans completed in each of those years. As of mid-2015, 114 of BC's 190 BC local governments had plans in place, representing three-quarters of British Columbia's population.²¹ When compared to the rest of Canada, BC has always led in the development of CEPs/CEEPs. The rest of Canada has only half as many plans as BC's total, and the rest of the country has not seen as much of a dramatic increase over the period since 2009.

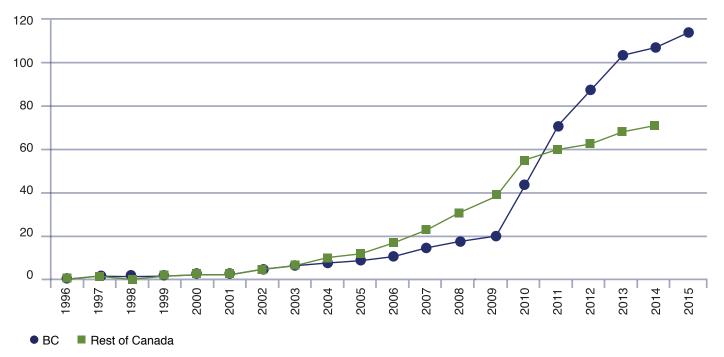


Figure 1: Increase in Community Energy Planning (Canada and BC) CEPs/CEEPs in Canada

19 Sauve, K. and Horne, M. Lessons from B.C.'s carbon tax. Corporate Knights Magazine. November 8, 2014. <u>http://www.corporateknights.com/channels/climate-and-carbon/b-c-carbon-tax-14154408/</u>

20 Province of British Columbia. (2014). Climate Action In British Columbia: 2014 Progress Report <u>http://www2.gov.bc.ca/assets/gov/environment/climate-change/reports-and-data/provincial-ghg-inventory-report-bcs-pir/2014-progress-to-targets.pdf</u>

21 Based on data collected for QUEST's Report: National Report on Policies Supporting Community Energy Plan Implementation, (2015, JULY). <u>http://gettingtoimplementation.ca/wp-content/uploads/2015/07/National-Report-on-Policies-Supporting-CEP-Implementation-July2015.pdf</u>

This suggests that the supporting tools announced since 2007 have likely contributed to the increase in energy planning at the local government level. Funding for CEEPs and CEMs through BC Hydro's Sustainable Communities Program and the development of the CEEI have likely played the largest roles in this increase. BC Hydro has funded nearly half of the CEEPs that were developed between 2010 and 2015. The CEEI and CEEM have also served to kick-start CEEPs, since the creation of the CEEI represents the removal of a significant barrier that had previously faced municipalities. Inventories require technical expertise, the establishment of agreements with utilities, and associated resources to prepare them. It has been estimated that the cost of developing an inventory in a medium-sized community is a minimum of \$10,000, and therefore that the CEEI has resulted in over \$1.5 million in avoided costs for communities, not including the additional costs associated with ongoing monitoring and reporting.²²

Local Government Corporate Emission Reductions

CARIP annual reports summarize GHG emission reductions achieved within a municipality's own corporate operations by participating Charter signatories. As of 2013, those local governments which submitted CARIP reports reduced their corporate GHG emissions by 51% through the purchase of offsets and/or by undertaking GHG reduction projects. This is up from 37% reported reductions in 2012.²³ Furthermore, a total of 36 municipalities were carbon neutral by 2013, achieved through a combination of in-house measures and through the purchase of offsets.²⁴ The reported actions are predominantly focused on buildings, lighting and vehicle fleets, for example, through the adoption of anti-idling measures and installation of electric vehicle charging stations.

Community Level Actions

CEEI data is currently available for 2007 and 2010, with 2012 data not yet released. Community-wide GHG emission reduction actions are reported as part of the CARIP program, however there is no quantification of the reductions achieved. According to the CARIP 2014 Annual Report, the total number of community-wide actions more than doubled between 2010 and 2013, with 1,167 actions reported in 2010 and 2,353 reported in 2013.²⁵ A broad spectrum of actions are reported, with a significant increase in a few key activity areas, including transportation (such as the development of bike lanes), organic waste diversion programs, and programs to increase the uptake of solar hot water systems.

²² QUEST. (2015, JULY). National Report on Policies Supporting Community Energy Plan Implementation. <u>http://</u>gettingtoimplementation.ca/wp-content/uploads/2015/07/National-Report-on-Policies-Supporting-CEP-Implementation-July2015.pdf

²³ BC Ministry of Community, Sport and Cultural Development. (2014, November). CARIP 2013 Summary Report. <u>http://www.cscd.gov.bc.ca/lgd/library/CARIP_2013_Summary_Report.pdf</u>

²⁴ BC Ministry of Community, Sport and Cultural Development, 2014. ibid

²⁵ BC Ministry of Community, Sport and Cultural Development, 2014. ibid

Performance Indicators for Individual Tools

Based on the research conducted for this brief, a series of performance indicators for the policy tools developed by the Province have been identified and are summarized on the table below.

Performance Indicators for the Province's Policy Tools Supporting Local Government Climate Action
Number of charter signatories (2014): 181 out of 190 municipalities ⁽¹⁾
Number of carbon neutral operations (2013): 36 out of 181 signatories ⁽¹⁾
Percent of local governments measuring emissions from corporate operations (2013): 92% of all reporting local governments ⁽¹⁾
Number of community wide actions reported in CARIP annual reports (2013): 2,353 (up from 1,167 in 2010) ⁽¹⁾
Percent GHG reductions achieved in corporate operations from CARIP participants (2014): 51, including offsets (up from 37 in 2013) ⁽¹⁾
Number of "idle free communities" (2013): Over 70 of 190 ⁽¹⁾
Number of electric vehicle charging stations installed as a result of the Clean Energy Vehicle Program: 975 (in 77 BC communities) ⁽²⁾
Number of clean energy vehicles purchased as a result of the Clean Energy Vehicle Program: 950 ⁽²⁾
Number of municipalities signed on to the solar hot water readiness regulation: 48 out of 190 municipalities ⁽³⁾
Percent of BC's CEEPs that include plans for renewable energy projects: 100 ⁽⁴⁾
Tennes GHG emission reductions (CO2e) per year from installing landfill gas capture systems about of

Tonnes GHG emission reductions (CO2e) per year from installing landfill gas capture systems ahead of requirements in Prince George and Salmon Arm: 30,000 (for each municipality)⁽⁵⁾

CARIP Grants paid out to municipalities (2012): about \$5 million⁽⁶⁾

Sources: (1) BC Ministry of Community, Sport and Cultural Development. (2014, November). CARIP 2013 Summary Report. http:// www.cscd.gov.bc.ca/lgd/library/CARIP_2013_Summary_Report.pdf; (2) Province of British Columbia. (2014). Climate Action In British Columbia: 2014 Progress Report: http://www2.gov.bc.ca/assets/gov/environment/climate-change/reports-and-data/provincial-ghginventory-report-bcs-pir/2014-progress-to-targets.pdf; (3) Province of BC. (n.d.) Solar Hot Water Ready Regulation. http://www2.gov. bc.ca/gov/content/industry/construction-industry/building-codes-standards/the-codes/other-regulations/solar-hot-water-ready; (4) Community Energy Association. (2015, July). Community Commitments to Renewable Energy in BC. http://communityenergy.bc.ca/ download/1282/; (5) Province of BC. (n.d.). Climate Action in BC. http://www2.gov.bc.ca/assets/gov/environment/climate-change/ policy-legislation-and-responses/climate-leadership-plan/bcclimateactionsummary.pdf; 6) Ministry of Community, Sport and Cultural Development. (2012). Municipal Revenue Sources Review Local Government Grants Inventory. http://www.cscd.gov.bc.ca/lgd/library/revenue source review/Local%20Government%20Grants%20Inventory.pdf

Other Significant Outcomes

The literature review and interviews of practitioners conducted in developing this policy brief identified a number of other important outcomes associated with the Province's climate action tools targeting local government action, including:

- Creating a business case for action.
- Adoption of the Development Cost Charges and Development Permit Area tools in the Local Government Act.
- Stimulating community level Carbon Funds and green business development.

Creating a Business Case for Action

In some communities the carbon tax, Charter and CARIP have been proactively used to build a business case for renewable energy and energy efficiency initiatives. These tools have facilitated the creation of a stronger argument for adopting low carbon projects due to their potential to reduce energy costs (taxes); and for charter signatories it can serve to reduce the requirement for offsets, provide an opportunity to work towards carbon neutral commitments, and facilitate access to grants. This business case can serve as a tool to engage and gain the support of decision-makers and community members at large.

A Carbon Talks dialogue of twenty thought leaders from business, government, academia and non-profits identified one of the strengths of the carbon tax to be that: "GHG reduction policies that had perhaps been voted down in city councils or failed upon implementation are being given a boost by the advancement of an economic argument to carry them out. Municipalities were spurred to action on policies that may have otherwise remained dormant for decades."²⁶

A recent review of renewable energy commitments in BC conducted by the Community Energy Association found that renewable energy projects are included in 100% of BCs CEPs/CEEPs, and that there is strong momentum for adoption of these initiatives. In particular, BC is poised for significant uptake of district energy opportunities, further supported by the recent completion of two successful examples that demonstrate the potential for two new approaches:

- 1. small scale biomass heating, as demonstrated in Enderby, BC; and
- 2. a modular approach to district energy, as implemented in the City of North Vancouver's Lonsdale District Energy System, which is expanded only as demand grows.

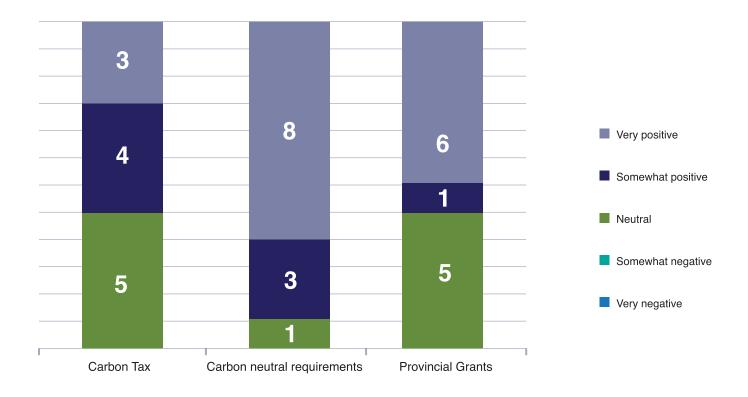
(Source: Community Energy Association. (2015, July). Community Commitments to Renewable Energy in BC, and personal communication with Ted Sheldon)

26 Carbon Talks, SFU Centre for Dialogue. (2012, August). BC Carbon Tax Review. <u>http://resources.carbontalks.ca/other/CarbonTalks-CarbonTaxReviewSubmission.pdf</u>

Case study research conducted for the Meeting the Climate Change Challenge (MC3) initiative in 2011-2013 indicated that the Charter played a significant role in driving climate innovation as it became a tool to engage decision-makers in emission-reducing activities, and in many communities it stimulated the development of corporate emissions inventories.²⁷

A 2012 survey and case study review of Charter signatories conducted by the Pembina Institute²⁸ sought to evaluate the impact that the carbon tax, the carbon neutral requirements in the Charter, and provincial grants were having on influencing decision-making related to low carbon projects. Figure 2 summarizes the results of this survey, which indicated that the Charter's carbon neutral requirements had the most significant impact on influencing decision making amongst the 12 survey participants. The impact of the tax was perceived to be lower largely because the rate was felt to be too low to influence decision-making.

Figure 2: Perceived Impact of Policy Tools on Local and Regional Government Decision-Making Amongst Pembina Survey Participants²⁹



27 Royal Roads University. (2013). M C 3 Final Progress Report. www.mc-3.ca

28 Shah, T. (2012, September). The Impact of the Carbon Tax on Local Government Low-Carbon Projects in B.C.. The Pembina Institute. <u>http://www.pembina.org/pub/2373</u>

29 Shah, T. (2012, September). The Impact of the Carbon Tax on Local Government Low-Carbon Projects in B.C.. The Pembina Institute. <u>http://www.pembina.org/pub/2373</u>

The case study interviews conducted by the Pembina Institute corroborated the MC3 findings. The City of Dawson Creek's former Director of Corporate Planning and Sustainable Development, Emanuel Machado, stated that "carbon neutral requirements helped build corporate and community understanding about the impact and cost of energy".³⁰ This opinion was echoed by Marty Paradine, Fort St. John's Community Energy Manager, who stated that "The carbon neutral requirements, as defined in the Climate Action Charter, are also helping to build corporate and community understanding about the impacts of various energy sources, their production, consumption and associated environmental and economic costs and opportunities."³¹

A number of municipalities have factored in the avoided costs of carbon taxes and offset purchases into the decision-making process for evaluating low carbon projects. For example:

- Langley installed a geo-exchange heat system on its Water Treatment Plant in 2010, which resulted in an avoided \$12,000 in natural gas costs, \$2,500 in carbon tax payments (at \$30/tonne), and \$2,000 of annual carbon offset purchases. CARIP funds were also used to finance the project.³²
- Delta retrofitted its Sungod Recreation Centre and estimated that the municipality will save \$267,216 in avoided carbon tax payments between 2012 to 2030 (assuming a rate of \$30 per tonne), representing almost 35% of the total project costs; as well as \$501,544 from avoided carbon offset purchases, representing almost 67% of project costs.³³

DCC/DPA Tools

Amendments to the Local Government Act through Bill 27 empowered local governments to waive or reduce DCCs for projects that are designed to have lower GHG emissions; and to adopt DPAs for the purpose of creating developments that have lower energy, GHG and water impacts. A number of municipalities have begun to use these tools, for example:

- The City of Powell River provides a 50% reduction in DCCs for LEED gold/platinum buildings, and exempts certain green building categories.³⁴
- The City of Penticton created a DCC bylaw that provides a 50% reduction for developments that meet a specified performance level against a sustainability checklist that includes solar hot water, photovoltaics, geoexchange and wind options.³⁵
- The District of North Vancouver created an energy conservation and GHG emission reduction DPA that asks developers to install district energy compatible systems.³⁶

31 Shah, T. (2012) City of Fort St. John: Passivhaus. Pembina Institute http://www.pembina.org/reports/ctax-casestudy-fortstjohn.pdf

32 Shah, T. (2012) Township of Langley: Geoexchange heating system. Pembina Institute. <u>http://www.pembina.org/reports/ctax-casestudy-langley.pdf</u>

33 Shah, T. (2012). Corporation of Delta: Sungod Recreation Centre Energy Conservation Retrofit. Pembina Institute <u>http://www.pembina.org/reports/ctax-casestudy-delta.pdf</u>

34 City of Powell River. Development Cost Charges Consolidated Bylaw 2230, 2009. <u>https://powellriver.civicweb.net/document/1405/</u> Concolidated%20Development%20Cost%20Charges%20Bylaw.pdf?handle=3F0617B2BF93445B917CCB88EB72B6A1

35 The Corporation of the City of Penticton. Development Cost Charges Reduction Bylaw No. 2010-11, amended April 22, 2014. <u>http://www.penticton.ca/assets/City~Hall/Bylaws/Land~Use/Development%20Cost%20Charge%20Reduction%20%28Bylaw%202010-11%29.pdf</u>

36 Community Energy Association. (2013, July). Policy Options for District Energy Ready Buildings: District of Peachland. <u>http://www.peachland.ca/events/attachments/evID1549evattID1694.pdf</u>

³⁰ Shah, T. (2012) Dawson Creek: Solar Hot Water System Project at City Hall. Pembina Institute. <u>http://www.pembina.org/reports/</u> <u>ctax-casestudy-dawson-creek.pdf</u>

The District of Tofino has DPA guidelines for new developments on district-owned lots that require overall
residential energy use to be reduced 20–25% below the District's 2008 average residential energy use
level.³⁷

At this point there has been no analysis of the impact associated with the uptake of these enabling tools, however a recent survey conducted by the Community Energy Association found that BC communities seem to face fewer challenges with respect to implementation of energy and emissions initiatives, compared to counterparts in other provinces, which they speculated is because there is a "perception that local governments in BC may have a greater level of authority than in other jurisdictions," and that the local governments feel supported by the Province in their energy and climate actions.³⁸

Carbon Funds

There is now widespread adoption of Carbon Funds by Charter signatories as a tool to reduce the requirements for offset purchases. Typically the monies that would have been spent on offsets are entered into a fund that is used for municipal operations and/or community GHG emission reduction initiatives. Many of the signatories deposit their CARIP grants into these funds. These funds provide the capacity to reinvest money locally rather than purchasing offsets from projects outside of the community. Some of these local initiatives do not meet international standards for carbon offsets and thus are not officially recognized by the Province. However, they still represent a move in the right direction.

In 2007, the District of Saanich created North America's first municipal Carbon Fund.³⁹ This initiative was launched prior to the Charter, however the Charter has created the impetus for a growing number of local and regional governments to adopt this approach.

Some municipalities have taken their Carbon Funds one step further by imposing a carbon levy as a means of financing an expanded fund. In 2011, the City of Dawson Creek Council approved its Carbon Fund Policy, imposing a \$100/tonne levy on the municipality's corporate emissions. It prescribed an annual increase of \$5/ tonne, or in accordance with increases to the B.C. Carbon Tax, whichever is greater. The levy is partially offset by the CARIP grant. Collected funds go into the Dawson Creek Carbon Fund, which are invested in corporate and community GHG emission reduction projects.⁴⁰ In 2013, North Cowichan created a 0.5% property tax levy to create a Climate Action Reserve Fund.⁴¹

The Community Carbon Marketplace⁴², launched in 2012, is an innovative community-based carbon exchange initiative that provides an avenue for local governments to purchase local offsets, while simultaneously supporting local low carbon business and entrepreneurial ventures. The marketplace has offset offerings in Comox and Duncan, and was recently launched in the City of Richmond.

³⁷ Community Energy Association. (2013, July). Policy Options for District Energy Ready Buildings: District of Peachland. <u>http://www.peachland.ca/events/attachments/evID1549evattID1694.pdf</u>

³⁸ Community Energy Association. (2013, August). Community Energy and Emissions Plan Research: General Research Summary of Findings. <u>http://communityenergy.bc.ca/download/327/</u>

³⁹ District of Saanich. (n.d.). Carbon fund. http://www.saanich.ca/living/climate/fund.html

⁴⁰ City of Dawson Creek. Carbon Fund Policy, approved by June 28, 2011. <u>http://www.dawsoncreek.ca/wordpress/wp-content/uploads/news/proposed-policy-update-carbon-fund-policy/Carbon-Fund-Policy.pdf</u>

⁴¹ UBCM. (2013). COMMUNITY EXCELLENCE AWARDS. http://www.civicinfo.bc.ca/practices_innovations/l&i-ca-northcowichan.pdf

⁴² See "The Community Carbon Marketplace" at: http://www.communitycarbonmarketplace.com/carbon_community/

Lessons Learned

A range of factors have contributed to the success of the tools the Province adopted to support climate action by local governments. In particular, attention was given to ensuring that the policy tools empowered local governments, fostered collaboration and contributed to knowledge sharing. There have also been a number of challenges identified during the roll out and implementation of the initiatives, some of which may be addressed in the Province's next Climate Leadership Plan which is currently being developed.

Balance of Mandatory and Voluntary

The tools developed to engage local government in BC's climate action agenda included both mandatory and voluntary elements, with the intention of ensuring a minimum level of participation, but also providing local governments flexibility in forming their own unique action plans. The mandatory component was the requirement that local governments set GHG emission targets, policies and actions in their OCPs and/or RGSs. This became an important tool to ensure that all municipalities created targets that they would be held accountable for. The remainder of the tools are voluntary although in order to receive CARIP grants, municipalities must sign the Climate Action Charter and thereby adopt the commitments contained within the Charter. The Charter itself however is designed to be flexible, requiring a commitment, but it does not contain binding targets that have been legislated. That is, the commitment to become carbon neutral by 2012 is presented as a goal, but the Province has not required communities to meet this target in order to receive the CARIP grant. Instead, communities are expected to demonstrate progress toward achieving carbon neutrality within their own corporate operations by measuring their emissions and by taking action in this direction.

The Province's goal in creating these tools was to focus on empowering and supporting local governments rather than prescribing specific actions. However, some criticisms have been levelled at this approach. Many local governments have indicated a preference for the Province to provide more specific guidance on what to do and how to do it, for example, by providing specific targets and identifying the actions that would be required to meet those targets.⁴³ Many local governments also found it challenging to evaluate the GHG impact of emission reduction initiatives, and to evaluate the validity of community-based emission reduction initiatives. Over time the Province, with the support of the Green Communities Committee and local governments, has developed guidelines to better assist municipalities in accurately evaluating these initiatives.

Carbon-Neutral Framing

The Charter encouraged local governments to commit to carbon neutrality, which has been an easy to communicate call to action. There have been advantages and disadvantages to this approach. One potential drawback is that a carbon-neutral focus may direct action towards the purchase of offsets rather than on in-house GHG reduction initiatives. In practise, however, it appears that the majority of communities have invested in local GHG reduction measures to keep money within their communities. Unfortunately, many of these local initiatives do not qualify as official offsets as they do not meet international protocols; and therefore local governments investing in these unverified offsets cannot use them towards their carbon neutral goals.

⁴³ Personal communication with Ben Finkelstein, Manager – Communities and Built Environment, BC Climate Action Secretariat, July 22, 2015

Low Carbon Reinvestment

Currently there are no stipulations as to how CARIP grants are to be spent. These funds could be a significant driver for climate action if such requirements were attached to the grants. A number of communities have already voluntarily taken this approach, such as Dawson Creek, Langley, Metro Vancouver, Saanich, Vancouver and Whistler.⁴⁴ For these communities the grants provide valuable guaranteed funds for staff and initiatives focused on renewable energy and energy efficiency.

Provide Certainty

As previously noted, some local governments are using the carbon tax, Charter and CARIP to help build the business case for renewable energy and energy efficiency initiatives. However, the delay in updating the 2008 Climate Action Plan has created uncertainty surrounding the carbon tax and the Province's commitment to supporting local government action. This uncertainty is weakening the arguments local governments can present to their Councils and community members. A commitment to increase the tax over time would therefore strengthen the business case for action. Preliminary results on public consultation for the Climate Leadership Plan are revealing a high level of support for an increase in the carbon tax.⁴⁵ Furthermore, a large number of local governments are asking for this commitment. At the Union of British Columbia Municipalities (UBCM) conference in September 2015, the City of New Westminster put forward a resolution to increase the carbon tax \$5/year from 2018 to 2030 raising it to \$95 per tonne, and to reinvest the additional tax collected into climate initiatives. This resolution was narrowly defeated, but 47.6 per cent voted yes.⁴⁶

Communication, Collaboration and Knowledge Sharing

The Province established the Green Communities Committee in conjunction with the creation of the Charter, through which representatives of local governments and other partners were engaged to co-develop a range of supporting materials and communication tools. The Climate Action Toolkit is the primary communication vehicle to provide this information and tools.

Nonetheless, in interviews of local government staff conducted by the Pembina Institute in 2012, there remained a general a lack of understanding about the purpose of the tools (the carbon tax, the Charter, Bill 27 and CARIP) amongst interviewees.⁴⁷ In particular it was not well understood how the tools were designed to work together and some participants indicated that requirements were vague.⁴⁸ This situation could possibly have been averted by rolling out the tools as a comprehensive package from the outset.

It is also important to maintain on-going dialogue with local government staff and support capacity building. Given that the charter has been in place for eight years, there is now an increasing challenge associated with staff change-over and retirement. As a result, in some cases, new staff are not adequately informed about the program and may be less committed to participating. Therefore, ongoing engagement and education is critical in order to ensure maximum participation.

48 Shah, T. (2012, September). The Impact of the Carbon Tax on Local Government Low-Carbon Projects in B.C.. The Pembina Institute. <u>http://www.pembina.org/pub/2373</u>

⁴⁴ MacNab, J. (2012, September). Carbon tax encourages municipal climate action in British Columbia. Pembina Blog. <u>http://www.pembina.org/blog/650</u>

⁴⁵ Personal communication with Ben Finkelstein, Manager – Communities and Built Environment, BC Climate Action Secretariat, July 22, 2015

⁴⁶ Nagel, J. (2015, September, 26). Cities vote against carbon tax hike. New Westminster Record. <u>http://www.newwestrecord.ca/news/</u> <u>cities-vote-against-carbon-tax-hike-1.2069279</u>

⁴⁷ Shah, T. (2012, September). The Impact of the Carbon Tax on Local Government Low-Carbon Projects in B.C.. The Pembina Institute. <u>http://www.pembina.org/pub/2373</u>

In addition, on-going reporting required through CARIP is one such tool for engaging with Charter signatories, and acts as a tool for keeping climate action at the top of minds.

Support Smaller Municipalities

Meeting Charter commitments, including meeting reporting, planning and implementation requirements, is typically more challenging for smaller communities given their more limited resources. For example, many smaller, northern communities are still using diesel generators but due to the high costs of transition to alternative power sources and lack of access to the grid they lack the resources to make this transition to low carbon power sources. Therefore targeted initiatives to address the unique challenges faced by small communities are needed. One such avenue could be the creation of partnerships for implementation and knowledge sharing. For example, exploring opportunities for new ventures or non-profit organizations to build local capacity and implement low carbon solutions. There may also be opportunities for larger communities to partner directly with smaller local governments to share knowledge and resources.

Funding and Incentives Drive Action

Uptake of the Charter amongst local governments was slow at first, but the launch of the CARIP grant resulted in the majority of local governments signing the Charter. In general, the areas in which the Province provided funding and supporting programs are where the most action was taken and major gains were made. For example, significant progress was made in terms of conversion to more efficient fleet vehicles as a result of the E3 Fleets program, and the uptake of EV charging stations through the Clean Energy Vehicle Program. Even a small amount of funding can make a big difference, particularly given that these funds can be used to leverage funds from additional sources. The funding programs can become a tool for staff to engage local government decision makers by getting the issue on Council agendas. Towards the end of the 2008 Climate Action Plan agenda horizon, the funding programs have become more limited, and the current public consultation for the next Climate Leadership Plan is indicating that continuation and expansion of these funding opportunities is a priority area for survey respondents.⁴⁹

Link with Existing Successes and Initiatives

Many local governments saw the Charter as an opportunity to address sustainability in their communities.⁵⁰ The requirements within Bill 27 for local governments to establish GHG reduction targets, policies, and actions within their OCP and RGS could be considered a tool to help formalize this linkage. Linkages with other sustainability objectives and existing initiatives can be identified explicitly as an instrument to enhance the uptake of the tools. In many cases local governments already had comprehensive energy and emissions planning initiatives underway, and it is important to build from these successes and avoid duplicating effort. In particular, when the Charter was launched it ran in parallel with the FCM PCP program. More effort could have been made to identify ways to streamline and dovetail the two initiatives. If similar initiatives are pursued in other provinces, it would be beneficial to work directly with the FCM to launch the program.

⁴⁹ Personal communication with Ben Finkelstein, Manager – Communities and Built Environment, BC Climate Action Secretariat, July 22, 2015

⁵⁰ Personal communication with Ben Finkelstein, Manager – Communities and Built Environment, BC Climate Action Secretariat, July 22, 2015

Measurement is the First Step Towards Action

As previously noted, prior to the CEEI, the creation of inventories was often a significant barrier for local governments, especially smaller municipalities. In order to create this inventory it was essential to have the support of utilities, and this can be best achieved when the utilities themselves obtain value from the initiative. For example, before the CEEI, utilities found they were spending a lot of time responding to requests for energy consumption data. It is now much more efficient with the Province compiling and circulating this information, it is also more efficient to negotiate over privacy issues all at once. The inventory also ensures data is interpreted consistently. Going forward, relationship building continues to be essential, particularly with providers of fossil fuel energy sources who may be resistant to share data, the provisioning of which may result in the drive to reduce consumption of their fuel source.

Empowerment of Local Action

As previously noted, the Community Energy Association reports that there appears to be fewer barriers to climate and energy action at the local government level in BC, compared to its provincial counterparts. The inclusion of enabling tools in the Local Government Act (2008) relating to DCCs, DPA, and parking requirements, are one example of how the Province has sought to empower local governments to take action at the local level. The CEEI, which is the first provincial wide inventory of its kind has also proven to be an invaluable tool for local governments.

IMPLICATIONS FOR POLICY MAKERS

This Brief provides an overview of lessons learned from the Province of BC's implementation of tools (regulatory, enabling and funding) to support local government climate action. These tools have made important contributions towards the Province meeting its 2012 interim GHG emission reduction target. Based on these lessons learned, the following conclusions for Canadian policy makers can be made:

- Given that Canada's local governments are responsible for more than half of GHG emissions in the country,⁵¹ it is important for Provincial governments to collaborate with, support and enable action at the local government level in order to achieve provincial GHG emission reduction objectives. The Province of BC's local government tools offer a model for other provinces looking to engage local governments as key partners in delivering on their GHG emission reduction targets. The BC climate action approach involved implementation of a set of complementary tools which focus on empowering local government action by providing: (1) access to the necessary knowledge (in the form of emissions inventory data and a network of knowledge on best practices); (2) regulatory tools that expand local governments' authority with respect to emission reduction options; and (3) targeted funding and incentives.
- 2. It can be useful to provide local governments with flexibility in forming their own unique action plans, however in many cases it is important to acknowledge that there may be limited in-house resources and expertise. In these cases specific guidance on what to do and how to do it can accelerate action, for example by providing specific targets and identifying the actions that would be required to meet those targets.
- 3. It is important to build from existing strengths, capacities and initiatives, especially those that are already yielding successful results. For example, the growing number of sustainability and energy manager staff at the local government level can be active partners with Provincial governments. Furthermore, a provincial climate action plan can build from and enhance existing programs offered by a variety of partners including, for example, the FCM and utilities.

APPENDIX A: PROVINCIAL FUNDING PROGRAMS SUPPORTING LOCAL GOVERNMENT CLIMATE ACTION IN BC

Program	Amount	Description
Innovative Clean Energy (ICE) Fund	\$77.8 million between 2008-2010	The ICE Fund is financed through a levy on certain energy sales and is focused on "achieving energy, economic, environmental and GHG reduction priorities, and to advance B.C.'s clean energy sector." ⁵² The program includes funding for the Clean Energy Vehicle Program, Community Energy Leadership Program, and between 2008-2014 it funded technology pre-commercialization projects (including bioenergy, geothermal, solar and other alternative energy projects). ICE Fund projects between 2008-2014 achieved a reduction in GHG emissions of over 324,000 tonnes, and have created 240 ongoing jobs. ⁵³ In 2015 the ICE Fund was extended to provide \$1.24M in funds for round two of the Community Energy Leadership Program, which will provide funding for renewable energy capital projects or energy efficiency projects (eight projects will be funded in 2015).
SolarBC	\$5 million in 2008	A program operated by the BC Sustainable Energy Association (BCSEA) between 2008-2013 that provided rebates for the installation of solar hot water heaters in homes, municipal buildings, schools, social housing and First Nations communities. As a result of the project BCSEA has created a network of 32 Solar Communities that continue to promote the use of solar technologies. ⁵⁴
Clean Energy Vehicle Program	\$14.3 million invested in 2011 (expanded in 2015)	The program supported the purchase of 950 electric vehicles and the development of about 1,000 charging stations in B.C. between 2011-2014. The program provides residents, businesses, non-profit organizations and local governments a rebate for the purchase of clean energy vehicles (up to \$5,000 off the pre-tax sticker price for qualifying new battery electric, fuel-cell electric, and plug-in hybrid electric vehicles and up to \$6,000 for a hydrogen fuel cell vehicle). ⁵⁵

54 BCSEA. (n.d.). SOLARBC. http://www.bcsea.org/solarbc

55 Clean Energy Vehicles for BC. Clean Energy Vehicle Program. (2015.) https://www.cevforbc.ca/clean-energy-vehicle-program

⁵² Provides rebates to homeowners to help cover the cost of insulation, and ventilation and space and water heating upgrades. (<u>http://www.fortisbc.com/Rebates/RebatesOffers/HomeEnergyRebateOffer/Pages/default.aspx</u>)

⁵³ Provides rebates to homeowners to help cover the cost of insulation, and ventilation and space and water heating upgrades. (<u>http://www.fortisbc.com/Rebates/RebatesOffers/HomeEnergyRebateOffer/Pages/default.aspx</u>)

Community Action on Energy and Emissions (CAEE) Program	\$930,000 in 2008	Ran from 2005-2010 as a pilot program initiated by the Ministry of Energy, Mines and Petroleum Resources and partners (The Province, BC Hydro, Fortis and the Community Energy Association of BC), and administered by the Fraser Basin Council. It provided grants to 54 communities for energy efficiency projects in public and private sector buildings, transportation, alternative energy systems, waste management and related emissions. ⁵⁶
Energy Efficient Building Strategy	\$80 million in 2008	The 2008 Strategy included: \$20 million in funding for clean energy projects in remote communities; \$60 million LiveSmart (rebates and incentives for energy evaluations, and energy efficiency upgrades); the CAEE (see above). ⁵⁷
Remote Community Implementation Program		Introduced as an independent program under the CAEE Program; it ran from 2009-2013 and was aimed at helping BC's remote communities reducing their dependence on diesel generation through funding capital costs relating to clean energy systems (i.e., hydro, wind and solar energy). ⁵⁸
Bike BC	\$31 million in 2008	Funded projects to build and improve cycling infrastructure in communities across B.C.
Towns for Tomorrow	\$70 million from 2006- 2013	Provided funding for small municipalities for community infrastructure projects that address climate change and other sustainability issues. Each project received 80% of costs up to a maximum of \$400,000. 201 projects have been funded (<u>http://www.townsfortomorrow.gov.bc.ca/</u>).
LocalMotion	\$40 million over (2006- 2012)	Through this program the Province shared costs with municipalities (50/50) for capital projects including bike paths, walkways, greenways, community playgrounds and improved accessibility for people with disabilities. 122 projects were funded (<u>http://www.localmotion.gov.bc.ca/</u>).
Green City Awards	\$500,000	In 2007-2008, the Province profiled and provided cash awards to communities with "leading-edge" initiatives that were making their communities greener and healthier.

⁵⁶ Fraser Basin Council. (n.d.) Community Action on Energy & Emissions. http://www.fraserbasin.bc.ca/ccaq_caee.html

⁵⁷ BC Ministry of Energy, Mines and Petroleum Resources. (2008.) The Energy Efficient Buildings Strategy: More Action, Less Energy. http://www.empr.gov.bc.ca/EAED/Documents/EEBS-2008-Web.pdf

⁵⁸ Fraser Basin Council. (n.d.). Remote Communities Implementation Program. http://www.fraserbasin.bc.ca/ccaq_rci.html

Building Canada Fund /	\$136 million provincial funding (topped up by Federal commitments to \$272 million) in 2008	Under the Building Canada Fund, the Province and the federal government jointly provided funding for infrastructure projects, including green energy and waste and water systems for communities with populations of less than 100,000. In 2014 this program was replaced with the New Building Canada Fund - Small Communities Fund (NBCF-SCF), with a federal/provincial cost share of \$109 M each between 2014-2024. (http://www2.gov.bc.ca/gov/content/transportation/funding-programs-and-engagement/funding-grants/small-communities-fund).
Regional Economic Trusts	\$285 million in 2008	Three regional economic trusts were initiated, with the Province providing start-up capital: Northern Development Initiative Trust (\$185 million), Southern Interior Development Initiative Trust (\$50 million), and North Island-Coast Development Initiative Trust (\$50 million). Although not exclusively targeting climate change mitigation, these trusts make investments in locally-developed projects, including energy projects. (http://www2.gov.bc.ca/gov/content/ employment-business/economic-development/developing-your-community/services/regional-economic-trusts)
Enhanced Transit Options	\$20.5 million in 2008	An additional \$20.5 million in funding was invested in BC Transit in 2008 to improve transit service and buy 48 new buses for 26 transit systems.
Bioenergy Network	\$25 million start-up grant in 2008	Funded a network to encourage research and development of wood- waste cogeneration, biofuel production and wood pellet production. As of 2015, the network has invested \$15 million in 17 capital projects. (http://bcbioenergy.ca/who-we-are/overview-and-mandate/)
The Infrastructure Planning Grant Program		Local government grants of up to \$10,000 for planning projects related to sustainable community infrastructure, provided through Ministry of Community, Sport and Cultural Development. (<u>http://www.cscd.gov.bc.ca/lgd/infra/infrastructure_grants/infrastructure_planning_grant.htm</u>)
BC Hydro Sustainable Communities Program	Initiated in 2009	The Sustainable Communities Program, initiated in 2009 has a number of funding offers: Communities with populations of greater than 75,000 are eligible to apply for: 50% of the total cost of a CEEPs up to a maximum of \$60,000; 50% of the costs for a CEM up to a maximum of \$50,000 for a two-year period, and 50% of the total eligible costs for energy efficiency and conservation implementation projects up to a maximum of \$50,000 or 25% of the total eligible costs for energy efficiency and conservation policy projects up to a maximum of \$25,000.
HERO (Home Energy Rebate Offer) (BC Hydro and FortisBC)	Initiated in 2014	Provides rebates to homeowners to help cover the cost of insulation, and ventilation and space and water heating upgrades. (<u>http://www. fortisbc.com/Rebates/RebatesOffers/HomeEnergyRebateOffer/</u> <u>Pages/default.aspx</u>)

