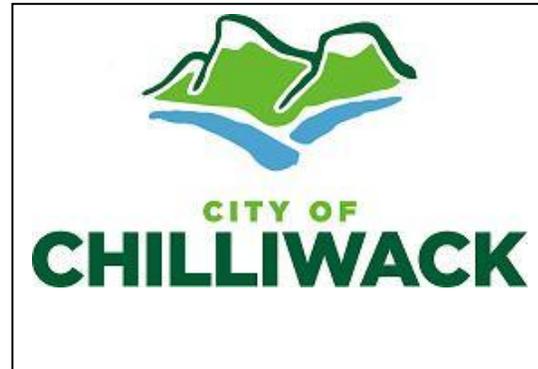


# Climate Action Revenue Incentive (CARIP) Public Report for 2016

**Local Government: City of Chilliwack**

**Report Submitted by: City of Chilliwack**  
**Name: Clark Dudzik**  
**Role: Environmental Services Specialist**  
**Email: [dudzik@chilliwack.com](mailto:dudzik@chilliwack.com)**  
**Phone: 604-793-2719**



**Date: May 31, 2017**

The City of Chilliwack has completed the 2016 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2016 and proposed for 2017 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

## 2016 BROAD PLANNING ACTIONS

### Broad Planning Actions

Broad Planning refers to high level planning that sets the stage for GHG emissions reductions, including plans such as Official Community Plans, Integrated Community Sustainability Plans, Climate Action Plans or Community Energy Emissions Plans. Land use planning that focuses on Smart Growth principles (compact, complete, connected, centred) plays an especially important role in energy and GHG reduction.

Community-Wide Actions Taken in 2016	
	Continued to support the densification process through the Official Community Plan (OCP) 2040 and applications within the urban corridor.
	Engaged the public and community, including dialogue with First Nations, as part of compact development planning.
	Through the development review process, new commercial and industrial developments were requested to include bike racks to encourage and support cycling to work.
Community-Wide Actions Proposed for 2017	
	The City is undertaking a secondary suites study to examine options for increasing secondary rental suites through the community to support densification goals.
	The City is proceeding with a neighbourhoods plan for areas surrounding the Downtown and Fairfield Island to guide future infill development decisions making.

Corporate Actions Taken in 2016	
Corporate Actions Proposed for 2017	

### Broad Planning

What is (are) your current GHG reduction target(s)?	<b>Reduce GHG Emissions by 20% per capita from 2007 levels by 2020.</b>	
Has your local government used the Community Energy and Emissions Inventory (CEEI) to measure progress?		<b>Yes</b>
What plans, policies or guidelines govern the implementation of climate mitigation in your community?		
• Community Energy and Emissions (CEE) Plan		<b>Yes</b>
• Climate Action Plan		<b>Yes</b>
• Integrated Community Sustainability Plan		<b>No</b>
• Official Community Plan (OCP)		<b>Yes</b>
• Regional Growth Strategy (RGS)		<b>No</b>
• Do not have a plan		<b>No</b>
• Other:		<b>No</b>
Does your local government have a corporate GHG reduction plan?		<b>Yes</b>
Does your local government have a climate reserve fund or something similar?		<b>No</b>

## 2016 BUILDINGS AND LIGHTING ACTIONS

### Building and Lighting Actions

Low-carbon buildings use the minimum amount of energy needed to provide comfort and safety for their inhabitants and tap into renewable energy sources for heating, cooling and power. These buildings can save money, especially when calculated over the long term. This category also includes reductions realized from energy efficient street lights and lights in parks or other public spaces.

Community-Wide Actions Taken in 2016	
Community-Wide Actions Proposed for 2017	

Corporate Actions Taken in 2016	
	Released a Request for Proposals (RFP) to upgrade half of the existing lighting system at the Chilliwack Heritage Park buildings.
	Upgraded metal halide floor lighting to LED lighting throughout the various civic buildings.

<b>Corporate Actions Proposed for 2017</b>	
	Complete the upgrade of half of the lighting at the Chilliwack Heritage Park buildings prior to the end of the year.
	Continue to upgrade metal halide floor lighting to LED lighting throughout the various civic buildings.

## 2016 ENERGY GENERATION ACTIONS

### Energy Generation Actions

A transition to renewable or low-emission energy sources for heating, cooling and power supports large, long-term GHG emissions reductions. Renewable energy including waste heat recovery (e.g. from biogas and biomass), geo-exchange, micro hydroelectric, solar thermal and solar photovoltaic, heat pumps, tidal, wave, and wind energy can be implemented at different scales, e.g. in individual homes, or integrated across neighbourhoods through district energy or co-generation systems.

<b>Community-Wide Actions Taken in 2016</b>	
<b>Community-Wide Actions Proposed for 2017</b>	

<b>Corporate Actions Taken in 2016</b>	
	Completed the installation of second Biogas Boiler at the Wastewater Treatment Plant (WWTP) in order to capture more biogas and provide reliability to run the system continuously with Biogas.
	Used Biogas from the first boiler to heat WWTP digesters.
	Obtained budget cost estimate to convert WWTP biogas into pipeline natural gas.

<b>Corporate Actions Proposed for 2017</b>	
	Design and tender to install a stand-alone biogas heating system to run the proposed industrial high strength pre-treatment facility at the WWTP.
	Hire a consultant to conduct a feasibility study to evaluate option to use biogas for the following potential biogas uses: <ul style="list-style-type: none"> <li>o combined heat and power via reciprocating internal combustion engines</li> <li>o biogas upgrading to biomethane for sale to natural gas utility</li> </ul>

<b>Energy Generation</b>	
Is your local government developing, or constructing: <ul style="list-style-type: none"> <li>• A district energy system</li> <li>• A renewable energy system</li> </ul>	No No
Is your local government operating: <ul style="list-style-type: none"> <li>• A district energy system</li> <li>• A renewable energy system</li> </ul>	No No
Is your local government connected to a district energy system that is operated by another energy provider?	No
Are you aware of the Integrated Resource Recovery guidance page on the <a href="#">BC Climate Action Toolkit</a> ?	Yes

## 2016 GREENSPACE/ NATURAL RESOURCE PROTECTION ACTIONS

### Greenspace Actions

Greenspace/Natural Resource Protection refers to the creation of parks and greenways, boulevards, community forests, urban agriculture, riparian areas, gardens, recreation/school sites, and other green spaces, such as remediated brownfield/contaminated sites as well as the protection of wetlands, waterways and other naturally occurring features.

<b>Community-Wide Actions Taken in 2016</b>	
	370 trees were planted throughout the City.
	Performed the greening of 2 roundabouts on Prest Road and along 3 boulevard corners on Princess Avenue.
<b>Community-Wide Actions Proposed for 2017</b>	
	135 trees have been planted thus far, which includes replacement trees from storm damage.

	Fall planting of 115 trees.

Corporate Actions Taken in 2016	
Corporate Actions Proposed for 2017	
	Greening of the new City Operations Center. Plant 90 trees within the City Operations Center property.

Greenspace	
Does your local government have urban forest policies, plans or programs?	Yes

## 2016 SOLID WASTE ACTIONS

### Solid Waste Actions

Reducing, reusing, recycling, recovering and managing the disposal of the residual solid waste minimizes environmental impacts and supports sustainable environmental management, greenhouse gas reductions, and improved air and water quality.

Community-Wide Actions Taken in 2016	
	Continued with planning the curbside compostables diversion program.
	Coordinated “April is Earth Month” events with volunteer groups and schools, with an emphasis on waste management (recycling and composting education, community clean ups). Staged “Waste Reduction Month” (October) with schools.
	Reduced greenhouse gas emissions from the Bailey Landfill by 9,700 tonnes CO <sub>2</sub> e through the Landfill Gas Management System.
	Promoted two City-Wide Garage Sales to encourage reuse.
	Issued an RFP for the new Curbside Collection Contract commencing May 1, 2017. The new contract will include the pickup of source-separated compostables.
	Designed and started constructing a Compostables Transfer Station at the Bailey Landfill site.
	Issued an RFP for Compostables Processing Services to commence May 1, 2017. The new contract

	will include processing of compostables that are transferred from the Compostables Transfer Station.
<b>Community-Wide Actions Proposed for 2017</b>	
	Complete construction of the Compostables Transfer Station at the Bailey Landfill site and commence use of the facility on May 1.
	Commence the new Curbside Collection Contract and Compostables Processing Services on May 1.
	Continue waste reduction programs and community engagement regarding compostables diversion.
	Initiate a new provincial curbside recycling program through a contract with Recycle BC. The program will start March 1 and will allow for additional items to be recycled through the Curbside Collection program.
	Continue reducing greenhouse gas emissions from the Bailey Landfill through the Landfill Gas Management System.
	Continue working with the Fraser Valley Regional District on an overall regional waste diversion strategy, including compostables diversion for all sectors.

<b>Corporate Actions Taken in 2016</b>	
	Implemented pilot compostables diversion programs at City Hall and Chilliwack Library.
<b>Corporate Actions Proposed for 2017</b>	
	Continue to expand compostables diversion at other municipal facilities.

<b>Solid Waste</b>	
Does your local government have construction and demolition waste reduction policies, plans or programs?	<b>Yes</b>
Does your local government have organics reduction/diversion policies, plans or programs?	<b>Yes</b>

## 2016 TRANSPORTATION ACTIONS

### Transportation Actions

Transportation actions that increase transportation system efficiency, emphasize the movement of people and goods, and give priority to more efficient modes, e.g. walking, cycling, ridesharing, and public transit, can contribute to reductions in greenhouse gas emissions and more livable communities.

<b>Community -Wide Actions Taken in 2016</b>	
	Promoted a two-week sustainable commuting challenge.

	7.0 kilometers of new bike lanes were constructed.
	City-owned electric vehicle charging stations were used 337 times in 2016.
	230 meters of concrete sidewalk was installed.
<b>Community-Wide Actions Proposed for 2017</b>	
	Continue with sustainable commuting challenge.
	3.0 kilometers of new bike lanes.
	386 meters of new concrete sidewalk.
	Increase the frequency of the Route 1 bus service to 15 minutes frequency at peak times on weekdays.
	Increase the frequency of the Route 3 bus service to 30 minutes frequency at peak times on weekdays.
	Incorporate an extension for Route 8 bus service along Keith Wilson Road to Lindy's Drive on weekdays and weekends.
	Provide a weekday bus service to Yarrow, Greendale, and industrial/employment areas.

<b>Corporate Actions Taken in 2016</b>	
	Meter reader employee used an electric car to read meters.
	Continued with vehicle right-sizing.
	Staged a two-week sustainable commuting challenge.
<b>Corporate Actions Proposed for 2017</b>	
	Continue to use electric car for reading meters.
	Continue with vehicle right-sizing and procure hybrid vehicles for bylaw enforcement.
	Continue with sustainable commuting challenge.

<b>Transportation</b>	
Does your local government have policies, plans or programs to support:	
• Walking	Yes
• Cycling	Yes
• Transit Use	Yes
• Electric Vehicle Use	Yes
• Other (please specify)	No
Does your local government have a transportation demand management (TDM) strategy (e.g. to reduce single-vehicle occupancy trips, increase travel options, provide incentives to encourage individuals to modify travel behavior)?	Yes
Does your local government have policies, plans or programs to support local food production (thus reducing transportation emissions)?	Yes

## 2016 WATER AND WASTEWATER ACTIONS

Managing and reducing water consumption and wastewater is an important aspect of developing a sustainable built environment that supports healthy communities, protects ecological integrity, and reduces greenhouse gas emissions.

<b>Community-Wide Actions Taken in 2016</b>	
	Conducted an annual water loss study for the water system to determine water losses and take further actions to reduce losses as per the study findings.
	Enforced summer water sprinkler restrictions. Prepared and implemented water efficient community plan.
	Issued rebates on low flush toilets, sold discounted home water conservation kits and rain harvesting barrels. Educated the general public through radio and newspaper advertisements, City of Chilliwack website, etc.
<b>Community-Wide Actions Proposed for 2017</b>	
	Conduct an annual water loss study for the water system to determine water losses and take further actions to reduce losses as per the study findings.
	Implement the summer water sprinkler restrictions program. Continue to implement the water efficient community plan.
	Continue to issue rebates on low flush toilets, sell discounted home water conservation kits and rain harvesting barrels. Educate the general public through radio and newspaper advertisements, City of Chilliwack website, promote participation in trade fairs, etc.

<b>Corporate Actions Taken in 2016</b>	
	Took measures to reduce inflow and infiltration issues in the wastewater system to reduce flows during rainfall events.
	Hired a consultant to complete a pre-design study for the Wastewater Treatment Plant (WWTP) inlet works upgrade which will ultimately be equipped with more energy efficient processing equipment and increase the hydraulic grade line to facilitate future flows to run by gravity throughout the treatment plant without the need for a pumping system.
	Installed two groundwater drinking water wells in the Marble Hill area in the Eastern Hillside to reduce energy consumption for pumping water from the valley floor to the higher elevations.
	Installed two Automated Meter Intelligence (AMI) "collector" sites to enhance the City's Water Loss Management program. The system became operational in 2017, and situations such as backflow events, water leaks, and low/no flow conditions are now flagged as the data is transmitted, rather than as follow-up to quarterly readings.
<b>Corporate Actions Proposed for 2017</b>	
	Continue to take measures to reduce inflow and infiltration issues in the wastewater system to reduce higher flows during rainfall events.

	Continue to work with the consultant to complete the pre-design study for the WWTP inlet works upgrade, which will ultimately be equipped with more energy efficient processing equipment and increase the hydraulic grade line to facilitate future flows to run by gravity throughout the treatment plant without the need for a pumping system.
	Continue to upgrade the water system in the Marble Hill area to service additional hillside areas through Marble Hill groundwater wells to reduce energy consumption on pumping.
	Design and tender an industrial high strength pre-treatment facility at the WWTP which will equip with more energy efficient processing equipment and gravity flow system to reduce pumping cost.
<b>Water Conservation</b>	
Does your local government have water conservation policies, plans or programs?	<b>Yes</b>

**2016 CLIMATE CHANGE ADAPTATION ACTIONS**

**Climate Change Adaptation Actions**

For local governments, adaptation to a changing climate can take the form of changes in policy, management, technology and behaviour that minimize negative impacts or exploit opportunities. It can involve both “hard” and “soft” solutions, including: changes in infrastructure engineering, planning, zoning, bylaws, and public education.

<b>Climate Change Adaptation Actions Taken in 2016</b>	
<b>Climate Change Adaptation Actions Proposed for 2017</b>	

<b>Resources you have used to support climate change adaptation (e.g. <a href="#">Plan2Adapt</a>, <a href="#">Preparing for Climate Change: Implementation Guide</a>)</b>	

**In 2016 did you consider climate change impacts in any of the following areas? (check if yes)**

Risk reduction strategies	No
Risk and Vulnerability assessment	Yes
Asset management	No
Infrastructure upgrades (e.g. stormwater system upgrades)	Yes
Cross-department working groups	No
Emergency response planning	Yes
Land-use policy changes (eg. OCP, DPA)	No
Economic diversification initiatives	No
Ecosystem-based approaches (incl. shorelines)	No
Incentives (e.g. property owner reducing stormwater run-off)	No
Public education and awareness	No
Research (e.g. mapping, participation in studies)	Yes
Other (Please Identify):	

## 2016 OTHER CLIMATE ACTIONS

### Other Climate Actions

This section provides local governments the opportunity to report other climate actions that are not captured in the categories above.

Community-Wide Actions Taken in 2016	
Community-Wide Actions Proposed for 2017	

Corporate Actions Taken in 2016	

<b>Corporate Actions Proposed for 2017</b>	

<b>Other</b>	
Are you familiar with the <a href="#">Community Lifecycle Infrastructure Costing Tool (CLIC)</a> ?	<b>Yes</b>
Have you used CLIC?	<b>No</b>

## INNOVATION AND PEER-TO-PEER LEARNING

### **Innovation**

This section provides the opportunity to showcase an innovative Corporate and/or Community-Wide GHG reduction or climate change adaptation activity that your local government has undertaken and that has had or has the potential to have a significant impact. Projects included here may be featured as success stories on the B.C. Climate Action Toolkit and/or shared with other local governments to inspire further climate action. Please add links to additional information where possible.

<b>Community-Wide Innovative Action</b>
<b>Corporate Innovative Action</b>

### **Programs, Partnerships and Funding Opportunities**

Local governments often rely on programs, partnerships and funding opportunities to achieve their climate action goals. Please share the names of programs and organizations that have supported your local government’s climate actions by listing each entry in the box below.

<b>Programs and Funding</b>
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## 2016 CARBON NEUTRAL REPORTING

Local governments are required to report on their progress in achieving their carbon neutral goal under the Climate Action Charter. Working with B.C. local governments, the joint Provincial-UBCM Green Communities Committee (GCC) has established a common approach to determining carbon neutrality for the purposes of the Climate Action Charter, including a Carbon Neutral Framework and supporting guidance for local governments on how to become carbon neutral.

Prior to completing this survey, please ensure that you are familiar with guidance available on the B.C. Climate Action Toolkit website, especially *Becoming Carbon Neutral: A Guide for Local Governments in British Columbia*.

### Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2016?	<b>Yes</b>
If your local government measured 2016 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from services delivered <u>directly</u> by your local government:	4,450
If your local government measured 2016 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from <u>contracted</u> services:	284
<b>TOTAL A: CORPORATE GHG EMISSIONS FOR 2016</b>	<b>4,734 tCO<sub>2</sub>e</b>

### Reporting Reductions and Offsets

To be carbon neutral, a local government must balance their TOTAL corporate GHG emissions by one or a combination of the following actions:

- undertake GCC-supported Option 1 Projects
- undertake GCC-supported Option 2 Projects (community GHG emissions reduction projects that meet project eligibility requirements)
- purchase carbon offsets from a credible offset provider

**If applicable, please report the 2016 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e)) being claimed from Option 1 GHG Reduction Projects:**

<b>OPTION 1 PROJECTS</b>	<b>REDUCTIONS</b>

Energy Efficient Retrofits	
Solar Thermal	
Household Organic Waste Composting	
Low Emission Vehicles	
Avoided Forest Conversion	
<b>TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2016</b>	<b>0 tCO2e</b>

If applicable, please report the names and 2016 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO2e)) being claimed from Option 2 GHG Reduction Projects:

OPTION 2 PROJECT NAME	REDUCTIONS
<b>TOTAL C: REDUCTIONS FROM OPTION 2 PROJECTS FOR 2016</b>	<b>0 tCO2e</b>

If applicable, please report the number of offsets purchased (in tonnes of carbon dioxide equivalent (tCO2e)) from an offset provider for the 2016 reporting year:

(NOTE: DO NOT INCLUDE ANY FUNDS THAT MAY BE SET ASIDE IN A CLIMATE ACTION RESERVE FUND)

OFFSET PROVIDER NAME	OFFSETS

<b>TOTAL D: OFFSETS PURCHASED FOR 2016</b>	<b>0 tCO2e</b>
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**TOTAL REDUCTIONS AND OFFSETS FOR 2016 (Total B+C+D) = 0 tCO2e**

### **Corporate GHG Emissions Balance for 2016**

Your local government's Corporate GHG Emissions Balance is the difference between total corporate GHG emissions (direct + contracted emissions) and the GHG emissions reduced through GCC Option 1 and Option 2 projects and/or the purchase of offsets.

**CORPORATE GHG EMISSIONS BALANCE FOR 2016 = (A – (B+C+D)) = 4,734 tCO2e**

**If your Corporate GHG Emissions Balance is negative or zero,  
your local government is carbon neutral.  
CONGRATULATIONS!**

## **GCC CLIMATE ACTION RECOGNITION PROGRAM**

### **Green Communities Committee (GCC) Climate Action Recognition Program**

The joint Provincial-UBCM Green Communities Committee (GCC) is pleased to be continuing the Climate Action Recognition Program again this year. This multi-level program provides the GCC with an opportunity to review and publicly recognize the progress and achievements of each Climate Action Charter (Charter) signatory.

This year a new recognition level has been added – **Level 3: Accelerating Progress on Charter Commitments**–. Recognition is provided on an annual basis to local governments who demonstrate progress on their Charter commitments, according to the following:

**Level 1 – Demonstrating Progress on Charter Commitments:** for local governments who demonstrate progress on fulfilling one or more of their Charter commitments

**Level 2 – Measuring GHG Emissions:** for local governments that achieve level 1, and who have measured their Corporate GHG Emissions for the reporting year and demonstrate that they are familiar with the Community Energy and Emissions Inventory (CEEI)

**Level 3 – Accelerating Progress on Charter Commitments:** for those local governments who have achieved level 1 and 2 and have demonstrated undertaking significant action (corporately or community wide) to reduce GHG emissions in the reporting year (ie: through undertaking a GHG reduction project, purchasing offsets, establishing a reserve fund).

**Level 4 - Achievement of Carbon Neutrality:** for local governments who achieve carbon neutrality in the reporting year.

**For purposes of Level 3 recognition, if applicable, please identify any new or ongoing corporate or community wide GHG reduction projects (other than an Option 1 or Option 2 project) undertaken by your local government that reflects a significant investment of time or financial resources and is intended to result in significant GHG reductions:**

<b>PROJECT NAME:</b>

**Based on your local government's 2016 CARIP Climate Action/Carbon Neutral Progress Survey, please check the GCC Climate Action Recognition Program level that best applies:**

<input type="checkbox"/>	Level 1 – Demonstrating Progress on Charter Commitments	
<input checked="" type="checkbox"/>	<b>Level 2 – Measuring GHG Emissions</b>	<b>YES</b>
<input type="checkbox"/>	Level 3 – Accelerating Progress on Charter Commitments	
<input type="checkbox"/>	Level 4 - Achievement of Carbon Neutrality	
<input type="checkbox"/>	Not Sure	