

# CITY OF ABBOTSFORD

## Climate Action Revenue Incentive Program (CARIP) Public Report for 2017



May 28, 2018



BC CLIMATE ACTION  
COMMUNITY 2016



# Climate Action Revenue Incentive (CARIP) Public Report for 2017

**Local Government:** City of Abbotsford

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The City of Abbotsford has completed the 2017 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2017 and proposed for 2018 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

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## 1.0 General Report Information

Climate action is a provincial priority and local governments are key partners in helping to reduce greenhouse gas (GHG) emissions and create complete, compact, energy efficient communities.

The Climate Action Revenue Incentive Program (CARIP) is a conditional grant program that provides funding to BC Climate Action Charter signatories equivalent to one hundred percent of the carbon taxes that they pay directly. This funding supports local governments in their efforts to reduce GHG emissions and move forward on achieving their charter goals.

The City of Abbotsford has completed the 2017 CARIP Public Report as required by the Province of British Columbia. The report summarizes community wide and corporate actions that the City has taken in 2017 and is proposing for 2018 to support the reduction of energy consumption and GHG emissions. The actions are separated into eight categories: Broad Planning, Buildings and Lighting, Energy Generation, Greenspace/Natural Resource Protection, Solid Waste, Transportation, Water and Wastewater, Other Climate Actions, and Innovation. The report encompasses a majority of the action items that the City has undertaken or is involved in to support GHG and energy reduction.

## 2.0 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. Summarized below are the City of Abbotsford’s responses to the inquiries pertaining to broad planning issues, and a summary of initiatives undertaken in 2017 and planned for in 2018.

General Broad Planning Questions	
What is (are) your current GHG reduction target(s)?	<b>40% by 2040</b>
Are you familiar with your community’s community energy and emissions inventory (e.g. CEEI or another inventory)?	<b>Yes</b>
What plans, policies or guidelines govern the implementation of climate mitigation in your community?	
<ul style="list-style-type: none"> <li>• Community Energy and Emissions (CEE) Plan</li> <li>• Community- Wide Climate Action Plan</li> <li>• Integrated Community Sustainability Plan</li> <li>• Official Community Plan (OCP)</li> <li>• Regional Growth Strategy (RGS)</li> </ul>	<b>Yes</b> <b>Yes</b> <b>Yes</b> <b>Yes</b> <b>Yes</b>
Does your local government have a corporate GHG reduction plan?	<b>Yes</b>

### 2.1 Broad Planning Actions

Community-Wide Actions Taken in 2017	
	Continued work on “Plan 200K”, an initiative that looks forward to the City reaching a population of 200,000 while considering the impacts of different development and land use scenarios on GHG emissions. This initiative takes improvements into account with respect to building energy efficiencies, vehicle efficiencies, solid waste diversion rates, and currently planned transportation infrastructure.

Community-Wide Actions Taken in 2017 - CONTINUED	
	<p>Completed stage 1 and stage 2 of the following neighbourhood plans as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• City Centre;</li> <li>• Historic Downtown; and</li> <li>• UDistrict.</li> </ul>
	<p>Completed stage 1 of the following master plans as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• City Wastewater;</li> <li>• City Water;</li> <li>• Drainage;</li> <li>• Fire Rescue Services;</li> <li>• Parks, Recreation &amp; Culture;</li> <li>• Transit; and</li> <li>• Transportation.</li> </ul>
	<p>Completed stage 1 and stage 2 of the following master plan as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• Abbotsford/Mission Joint Wastewater.</li> </ul>
	<p>Completed stage 1 of the following special studies as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• Industrial Land Supply; and</li> <li>• Willband Creek Integrated Stormwater Management Plan.</li> </ul>
	<p>Completed stage 1 and stage 2 of the following special studies as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• AgRefresh; and</li> <li>• Water Source Supply Study.</li> </ul>
	<p>Commenced work on the Urban Infill Study to clarify the City’s objectives and intent for the Urban 3 – Infill land use designation in the Official Community Plan (OCP), which applies to approximately 5,600 lots in existing neighbourhoods surrounding Abbotsford’s urban core. The OCP provides general direction for redevelopment within this land use; however more detailed zoning regulations and guidelines are needed to provide clarity.</p>
	<p>Commenced work on the Solid Waste Operating Management Plan to assess current operations and to consider options for changes and enhancements to the program.</p>
	<p>Implemented OCP policies when processing new development applications.</p>
Community-Wide Actions Proposed for 2018	
	<p>Continue progress on the following neighbourhood plans as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• City Centre;</li> <li>• Historic Downtown;</li> <li>• McKee; and</li> <li>• UDistrict.</li> </ul>

<b>Community-Wide Actions Proposed for 2018 - CONTINUED</b>	
	<p>Continue progress on the following master plans as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• Abbotsford/Mission Joint Wastewater;</li> <li>• Abbotsford/Mission Water.</li> <li>• City Water;</li> <li>• City Wastewater;</li> <li>• Drainage;</li> <li>• Fire Rescue Services;</li> <li>• Parks, Recreation &amp; Culture;</li> <li>• Transit; and</li> <li>• Transportation.</li> </ul>
	<p>Continue progress on the following special studies as part of the Plan 200K initiative:</p> <ul style="list-style-type: none"> <li>• AgRefresh;</li> <li>• Fishtrap Creek Integrated Stormwater Management Plan;</li> <li>• Housing Strategy;</li> <li>• Industrial Land Supply;</li> <li>• Water Source Supply; and</li> <li>• Willband Creek Integrated Stormwater Management Plan.</li> </ul>
	Continue progress on the Urban 3 – Infill Study.
	Continue work on the Solid Waste Operational Management Plan.
	Continue to implement OCP policies through new development applications.

## 2.2 Corporate Actions

<b>Corporate Actions Taken in 2017</b>	
	Continued use of energy accounting software to provide an efficient method of tracking the City's corporate energy consumption.
	Updated the City's Strategic Energy Management Plan as part of the City's partnership with BC Hydro's Energy Manager Program.
	Began development of a green fleet strategy to reduce GHG emissions associated with the City's vehicle and equipment use.
	Commenced work on energy and GHG reduction projects identified in the City's Facilities Energy and Greenhouse Gas Assessment and Reduction Plan. Details are outlined in the "Building and Lighting Action" portion of this report.
	Continued support for corporate anti-idling program.
	Continued environmental engagement of staff.
<b>Corporate Actions Proposed for 2018</b>	
	Continue use of energy accounting software to track the City's corporate energy consumption.
	Continue working on the green fleet strategy to reduce GHG emissions associated with the City's vehicle and equipment use.
	Review, prioritize and implement projects proposed in the City's Facilities Energy and Greenhouse Gas Assessment and Reduction Plan.
	Review and update the City's Corporate Energy Policy.
	Continue to support a corporate anti-idling program.
	Continue to support the environmental engagement of staff.

### 3.0 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. Summarized below are the City of Abbotsford’s responses to the inquiries pertaining to building and lighting initiatives undertaken in 2017 and planned for in 2018.

General Building and Lighting Questions	
Is your local government aware of the BC Energy Step Code?	Yes
Is your local government implementing the BC Energy Step Code?	Yes

### 3.1 Community-Wide Actions

Community-Wide Actions Taken in 2017	
	Began work on projects identified in the City’s Facilities Energy and Greenhouse Gas Assessment and Reduction Plan, which serves as an example to the community.
	Encouraged development within the existing Urban Development Boundary, as required by the OCP. The OCP Growth Plan notes that all future growth will be contained within the existing Urban Development Boundary, with 75% of future residential growth taking place in centres and existing neighbourhoods, and 25% of future residential growth taking place in new neighbourhoods.
Community-Wide Actions Proposed for 2018	
	Continue to lead by example in the community by undertaking energy and GHG reduction projects identified in the City’s Facilities Energy and Greenhouse Gas Assessment and Reduction Plan.
	Continue to encourage development within the existing Urban Development Boundary, as required by the OCP.
	Develop a strategy to create regulations, incentives, and remove regulatory barriers to reduce energy consumption in buildings.

### 3.2 Corporate Actions

Corporate Actions Taken in 2017	
	Partnered with BC Hydro through their Energy Manager Program to reduce electricity consumption in civic facilities and utilities.
	Updated the City’s Strategic Energy Management Plan as part of the City’s partnership with BC Hydro’s Energy Manager Program.
	Participated in a one day workshop called <i>High Performance Profits: How Builders, Manufacturers and Service Providers Can Find Opportunity in the BC Energy Step Code</i> .



<b>Corporate Actions Taken in 2017 - CONTINUED</b>	
	<p>Completed work on Year 1 energy and GHG reduction projects identified in the City’s Facilities Energy and Greenhouse Gas Assessment and Reduction Plan:</p> <ul style="list-style-type: none"> <li>• Completed Direct Digital Control (DDC) optimization at the Matsqui Recreation Centre (MRC);</li> <li>• Installed security interconnect at MRC;</li> <li>• Conducted feasibility study on the conversion of high pressure sodium (HPS) street lights to Light-Emitting Diode (LED) technology;</li> <li>• Installed occupancy ventilation and heating control at the Abbotsford Centre;</li> <li>• Optimized demand controlled ventilation at the Abbotsford Centre;</li> <li>• Implemented a reduced schedule and optimal start at the Abbotsford Centre;</li> <li>• Retrofitted incandescent lamps to LED lights at the Abbotsford Centre;</li> <li>• Upgraded fluorescent T8 lighting to LED fixtures at the Abbotsford Centre;</li> <li>• Implemented motion sensors for common areas and washrooms at the Abbotsford Centre;</li> <li>• Implemented a reduced lighting schedule at the Abbotsford Centre;</li> <li>• Optimized HVAC holiday schedules at City Hall; and</li> <li>• Upgraded existing lighting to LED fixtures at the Abbotsford Mission Recycling Depot.</li> </ul>
<b>Corporate Actions Proposed for 2018</b>	
	Review, prioritize and implement projects proposed in the City’s Facilities Energy and Greenhouse Gas Assessment and Reduction Plan for completion.
	Use the Climate Action Reserve Fund (CARF) to fund projects identified in the City’s Facilities Energy and Greenhouse Gas Assessment and Reduction Plan.
	Continue partnership with BC Hydro through their Energy Manager Program.
	Undertake a study on the feasibility of the Energy Step Code adoption.

#### 4.0 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 neighborhoods through district energy or co-generation systems. Summarized below are the City of Abbotsford’s responses to the inquiries pertaining to energy generation, and a summary of initiatives undertaken in 2017 and planned for in 2018.

<b>General Energy Generation Questions</b>	
<p>Is your local government developing, or constructing:</p> <ul style="list-style-type: none"> <li>• A district energy system</li> <li>• A renewable energy system</li> </ul>	<p><b>No</b></p> <p><b>No</b></p>
<p>Is your local government operating:</p> <ul style="list-style-type: none"> <li>• A district energy system</li> <li>• A renewable energy system</li> </ul>	<p><b>No</b></p> <p><b>No</b></p>

<b>General Energy Generation Questions - CONTINUED</b>	
Is your local government connected to a district energy system that is operated by another energy provider?	<b>No</b>
Are you aware of the Integrated Resource Recovery guidance page on the <a href="#">BC Climate Action Toolkit</a> ?	<b>Yes</b>
Are you familiar with the 2017 " <a href="#">List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?</a> "	<b>Yes</b>

#### 4.1 Community-Wide Actions

<b>Community-Wide Actions Taken in 2017</b>	
Supported development projects proposing alternative energy use.	
<b>Community-Wide Actions Proposed for 2018</b>	
Continue to support development projects proposing alternative energy use.	

#### 4.2 Corporate Actions

<b>Corporate Actions Taken in 2017</b>	
Continued methane capture for space and process heat production at the JAMES Wastewater Treatment Plant.	
Contracted land application to beneficially use biosolids.	
Continued use of geothermal energy at the Reach.	
<b>Corporate Actions Proposed for 2018</b>	
Continue methane capture for space and process heat production at the JAMES Wastewater Treatment Plant.	
Continue to contract land application to beneficially use biosolids.	
Continue to use geothermal energy at the Reach.	

### 5.0 Greenspace/Natural Resource Protection 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. Summarized below are the City of Abbotsford’s greenspace and natural resource protection initiatives undertaken in 2017 and planned for in 2018.

<b>General Greenspace Questions</b>	
Does your local government have urban forest policies, plans or programs?	<b>Yes</b>
Does your local government have policies, plans or programs to support local food production?	<b>Yes</b>

## 5.1 Community-Wide Actions

<b>Community-Wide Actions Taken in 2017</b>	
	Encouraged the inclusion of community gardens in proposed developments.
	Created two new parks in the Auguston area (Shadbolt Park and Emily Carr Greenway).
	Continued implementation of the Natural Environment Development Permit (NEDP) and Steep Slope Development Permit (SSDP) area guidelines to help conserve greenspace during development.
	Continued work on a comprehensive update to the Zoning Bylaw to align it with the new policies/visions of the updated OCP.
	Continued to work on the review of urban agriculture under the AgRefresh initiative.
	Restoration of various park areas with volunteers and community partnerships including the Fraser Valley Watershed Coalition, Fraser Valley Conservancy, Abbotsford Mission Nature Club, and the Abbotsford Ravine Park Salmon Enhancement Society.
	Provided education and initiated bylaw enforcement regarding invasive species reported on private property, including efforts aimed at reducing the spread of Knotweed.
	Partnered with the FVRD in their Invasive Weed Control Program targeting Wild Chervil, Tansy Ragwort, Giant Hogweed and Knotweed.
<b>Community-Wide Actions Proposed for 2018</b>	
	Continue encouragement of community gardens in proposed developments.
	Continue work on the update to the Zoning Bylaw.
	Continue work on the AgRefresh initiative.
	Review and update the Tree Protection Bylaw.
	Continue restoration of various park areas with volunteers.
	Expand and strengthen a healthy and diverse tree canopy to improve air quality, capture carbon dioxide, reduce heat island effects, support public health and quality of life, and create beauty in the City through a number of approaches: <ul style="list-style-type: none"> <li>• Establish a tree canopy coverage target;</li> <li>• Increase the urban forest to a determined target in public spaces;</li> <li>• Require tree conservation strategies, and street tree plantings and landscaping in all development and infrastructure projects.</li> </ul>
	Continue to partner with the FVRD in their Invasive Weed Control Program.

## 5.2 Corporate Actions

<b>Corporate Actions Taken in 2017</b>	
	Planted 1,600 new trees, 39,607 bulbs, 37,836 annuals, 400 perennials/small shrubs and 5lbs of wildflower seeds within various locations around the City.
	Continued control of invasive species on City property. Aggressive control efforts of Himalayan Blackberry was undertaken throughout municipal parks and included manual removal, mechanized cutting or mowing, herbicide application and competitive/suppressive planting. Knotweed was controlled through cutting, pulling or herbicide application and was prioritized based on environmental impact.
	Continued support of invasive species removal by volunteer groups, with group efforts focused on manual removal of Himalayan Balsam, English Ivy, and Dead Nettle.

<b>Corporate Actions Proposed for 2018</b>	
	Continue to plant new trees, bulbs, annuals, perennials, shrubs and wildflowers within various greenspaces around the City.
	Continue to detect and effectively respond to invasive species encroachment on City property.
	Continue park development using environmentally friendly materials and methods. New park development will consider long-term maintenance and how to reduce these maintenance needs through design. New park sites will also introduce new native vegetation and trees.
	Continue support of invasive species removal by volunteer groups.
	Continue to provide new parkland and greenways in areas as being deficient and in future growth areas, high density areas, and intensification areas. Acquire parkland through dedication associated with development projects where it fits within the broader open space network.
	Continue to protect and maintain ecosystems, habitat corridors, and environmental quality within the City and enhance it by increasing the urban tree canopy, embracing integrated stormwater management practices, and creating new greenways throughout the City.

## 6.0 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. Summarized is the City of Abbotsford’s solid waste initiatives undertaken in 2017 and planned for in 2018.

<b>General Solid Waste Questions</b>	
Does your local government have construction and demolition waste reduction policies, plans or programs?	<b>No</b>
Does your local government have organics reduction/diversion policies, plans or programs?	<b>Yes</b>

## 6.1 Community-Wide Actions

<b>Community-Wide Actions Taken in 2017</b>	
	Provided a City information booth regarding the curbside collection program and waste reduction at 26 public events.
	Implemented an enhanced communication strategy to promote participating and increase awareness on: <ul style="list-style-type: none"> <li>• Proper sorting requirements;</li> <li>• Contamination reduction;</li> <li>• Waste reduction; and</li> <li>• Recycle BC program changes.</li> </ul>
	Began consultation on the proposed compostables collection requirements for the multi-family and industrial, commercial and institutional (ICI) sectors. Program requirements will be developed in partnership with the FVRD in order to realize synergies and to ensure consistent messaging across the region.
	Continued partnership with Abbotsford Community Services for providing classroom education for students in Pre-K to grade 8 regarding recycling and waste diversion. In 2017, provided education to a total of 1,721 students (1,358 in grades Pre-K to 3, and 363 in grades 4 to 8).

<b>Community-Wide Actions Taken in 2017 - CONTINUED</b>	
	Continued partnership with Abbotsford Community Services for presentations to special interest groups regarding recycling and waste diversion. In 2017, provided presentations to 299 participants ranging in age from elementary school to adult.
	Continued partnership with Abbotsford Community Services for providing recycling information at 17 public events, and for delivering the annual Environmental Mind Grind event attended by 84 attendees.
	Participated in the provincial Recycle BC recycling program. Changes to the City's recycling program allowed for an expanded list of materials that are accepted for recycling.
<b>Community-Wide Actions Proposed for 2018</b>	
	Continue to provide a City information booth regarding the curbside collection program and waste reduction at public events.
	Update and enhance communication strategy to promote waste diversion and increase awareness.
	Continue to develop compostables collection requirements for the multi-family and ICI sectors in partnership with the FVRD. Update the Solid Waste Collection bylaw to include program requirements.
	Continue to partner with Abbotsford Community Services for recycling education and community outreach.
	Continue participating in the provincial Recycle BC recycling program.

## 6.2 Corporate Actions

<b>Corporate Actions Taken in 2017</b>	
	Commenced work on the Solid Waste Operating Management Plan to assess current operations and to consider options for changes and enhancements to the program.
	Participated in the FVRD Solid Waste Action Team (SWAT).
	Participated in the Metro Vancouver Municipal Waste Reduction Coordinators Committee (MWRCC) and the Metro Vancouver Regional Engineers Advisory Committee (REAC) Solid Waste Subcommittee.
	Continued education and enforcement of recycling and composting initiatives.
	Continued source separation of recyclables and compostables in the City's curbside collection program.
	Continued collection of compostable waste at City Hall and the Operations Work Yard.
	Completed a comprehensive solid waste audit for materials collected from the curbside program including garbage, compostable waste and recycling.

<b>Corporate Actions Proposed for 2018</b>	
	<p>Support ongoing initiatives that will provide for effective and responsible solid waste management of recyclables, compostables and garbage through programs, education, services, policies, guidelines and alignment with the FVRD’s Solid Waste Management Plan direction:</p> <ul style="list-style-type: none"> <li>• Waste diversion of 65% by 2018;</li> <li>• Waste diversion of 80% by 2020;</li> <li>• Waste diversion of 90% by 2025;</li> <li>• Practice the six “R’s” of waste management: Rethink, Reduce, Reuse, Recycle, Recover and Residual Management; and</li> <li>• Consider material recovery as a component for achieving the waste diversion targets.</li> </ul>
	Continue working on the City’s Solid Waste Operations Management Plan.
	Continue to participate in the FVRD Solid Waste Action Team (SWAT), the Metro Vancouver Municipal Waste Reduction Coordinator Committee (MWRCC), and the Metro Vancouver Regional Engineers Advisory Committee (REAC) Solid Waste Subcommittee.
	Continue education and enforcement of recycling and composting initiatives.
	Continue source separation of recyclables and compostables in the City’s curbside collection program.
	Continue to provide compostable waste collection at City Hall and the Operations Works Yard.

## 7.0 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. Summarized below is the City of Abbotsford’s transportation initiatives undertaken in 2017 and planned for in 2018.

<b>General Transportation Questions</b>	
<p>Does your local government have policies, plans or programs to support:</p> <ul style="list-style-type: none"> <li>• Walking</li> <li>• Cycling</li> <li>• Transit Use</li> <li>• Electric Vehicle Use</li> </ul>	<p><b>Yes</b> <b>Yes</b> <b>Yes</b> <b>Yes</b></p>
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)?	<b>No</b>
Does your local government integrate its transportation and land use planning?	<b>Yes</b>

## 7.1 Community-Wide Actions

<b>Community -Wide Actions Taken in 2017</b>	
	Continued to encourage car share and vehicle charging stations in development applications.
	Maintained and serviced 411km of sidewalks, 90km of bicycle lanes, and 84 pedestrian crosswalks to enhance walking and cycling in the City.
	Installed count-down timers and rapid flashing beacons at crosswalks to improve pedestrian safety.

<b>Community -Wide Actions Taken in 2017 - CONTINUED</b>	
	Carried out sidewalk and transit stop improvements, including two bus shelters, to enhance walking and public transit.
	Received approval to upgrade 20 crosswalks city-wide.
<b>Community-Wide Actions Proposed for 2018</b>	
	Begin work on the pedestrian bridge and bike overpass over Highway 1 at Salton Road. The bridge/overpass will enhance the existing cycling network, will improve public safety, and reduce GHG emissions while supporting healthy active living.
	Continue to ensure decisions, investments and policies embrace the synergy and overlapping relationship between land use decisions and transportation, recognizing that the most important element of achieving a shift to walking, biking and transit is supportive land uses.
	Increase transportation choice by making walking, biking and transit the most attractive options for most trips in the Urban Core and Neighbourhood Centres, and viable options everywhere.
	Create a continuous and complete urban network of safe, direct biking routes suitable for commuting, school and other daily trips.
	Provide abundant, weather protected, secure, and conveniently located bike parking in all new multi-family, mixed use, commercial, institutional, major employment hubs, and major transit locations.
	Work with BC Transit to create a simple and easily understandable frequent transit network that provides all day frequent service.
	Evaluate the potential to require electric vehicle charging infrastructure in new multi-family, mixed use, commercial, institutional, major employment hubs, and major transit locations.
	Increase the safety, accessibility and enjoyment of sidewalks and pedestrian pathways by improving the design of new streets and retrofitting existing streets as they are replaced or upgraded: <ul style="list-style-type: none"> <li>• Develop continuous sidewalks with no interruptions or obstacles;</li> <li>• Adjust or extend curbs at intersections to reduce crossing distances;</li> <li>• Maximize crosswalk visibility through lighting, pavement markings, curb extensions, and clear sight lines;</li> <li>• Use different materials and raise sidewalks in parked areas;</li> <li>• Minimize the width and number of driveways that cross sidewalks;</li> <li>• Plant street trees and ensure a full cover mature tree canopy is created over time;</li> <li>• Use landscaping, bike lanes, and/or on street parking to separate sidewalks from vehicle travel lanes where the posted speed limit is 30 km/hr or greater;</li> <li>• Investigate innovative street approaches such as complete streets, shared streets, and pedestrian streets.</li> </ul>

## 7.2 Corporate Actions

<b>Corporate Actions Taken in 2017</b>	
	Continued the City’s vehicle replacement program to replace older, less fuel-efficient vehicles with newer, more fuel-efficient vehicles and with best in class fuel efficiency, where possible.
	Continued to encourage participation in programs promoting cycling, walking and reduction in GHG emissions (e.g., Commuter Challenge, City carpool program, City anti-idling policy, etc.).
	Began development of a green fleet strategy to reduce GHG emissions associated with the City’s vehicle and equipment use.

<b>Corporate Actions Taken in 2017 - CONTINUED</b>	
	Modified the dual electric vehicle charging station to allow both sides to be accessed for public charging (previously one side was designated for City vehicle use only).
	Prepared an EV Charging Station Strategy.
<b>Corporate Actions Proposed for 2018</b>	
	Continue replacing older less efficient City fleet vehicles with newer, more fuel-efficient vehicles, where possible.
	Continue to encourage participation in programs promoting cycling, walking and reduction in GHG emissions.
	Continue development of a green fleet strategy to reduce GHG emissions associated with the City's vehicle and equipment use.
	Approved budget to install ten charging stations over the next five years at various civic facilities.
	Received BC Hydro grant to install four Level 2 charging stations with eight charging heads at City Hall, which is anticipated to be installed in the summer of 2018.

## 8.0 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. Summarized below are the City of Abbotsford's water and wastewater initiatives undertaken in 2017 and planned for in 2018.

<b>Water Conservation</b>	
Does your local government have water conservation policies, plans or programs?	<b>Yes</b>

## 8.1 Community-Wide Actions

<b>Community-Wide Actions Taken in 2017</b>	
	Continued the water conservation program including the implementation of water restrictions from May 1 <sup>st</sup> through September 30 <sup>th</sup> . The different stages of water restrictions are based on the Dickson Lake water level and are outlined in the City's Water Shortage Response Plan.
	Continued the Advanced Metering Infrastructure (AMI) water meter program including bimonthly billing. Installed 525 new water meters in 2017.
	Continued to work with residents to identify and resolve water leaks. In 2017, processed 6,123 water leak notifications (based on 10L/hr over 3 days).
	Continued partnership with BC Hydro to provide a clothes washer rebate program to reduce home water use and electricity. In 2017, 200 rebates were issued to homeowners who replaced their less efficient (water and electricity) washer for a new efficient model.
	Issued 587 toilet rebates to homeowners that replaced old toilets with a low-flow toilet to reduce residential water use.
	Provided subsidy for 60 rain barrels and 70 indoor/outdoor water saving kits.
	Provided community outreach through offering a water conservation display at 32 public events.



<b>Community-Wide Actions Taken in 2017 - CONTINUED</b>	
	Hosted an event for Drinking Water Week that included the presenting of water system and water conservation information to 200 students.
	Continued partnership with Green Bricks Education Society for providing classroom education for students (grade 4, grade 10 and adult ESL) regarding the water system, water quality and conservation. In 2017, provided education to 1375 grade 4 students, 850 grade 10 students, and 140 adult ESL students.
<b>Community-Wide Actions Proposed for 2018</b>	
	Continue AMI water meter program including bimonthly billing and leak notifications.
	Continue AMI water meter program including bimonthly billing and leak notifications.
	Continue water conservation efforts including continued implementation of water restrictions.
	Launch Waterwise Portal to allow residents and businesses to view their consumption online.
	Continue to partner with BC Hydro for the clothes washer rebate.
	Continue to offer the toilet rebate program.
	Continue to offer irrigation and landscape rebates.
	Offer free irrigation and landscape assessments.
	Continue to provide subsidies for rain barrels and water saving kits.
	Continue to participate in Drinking Water Week.
	Continue to provide education program for grades 4 and 10 students and adult ESL students regarding the water system, water quality and conservation.

## 8.2 Corporate Actions

<b>Corporate Actions Taken in 2017</b>	
	Passive lawn areas left to go dormant in the summer.
	Use of rainwater for watering trees and City boulevards through the use of large scale rainwater harvesting tanks at the City Public Works Yard.
	Continue to participate in the Metro Vancouver Municipal Water Conservation Coordinator Committee. The meetings revolve around networking with other municipalities and discussing initiatives, progresses and updates in policies and results through group communication.
	Contracted land application to beneficially use biosolids.
	Continued methane capture for space and process heat production at the JAMES Wastewater Treatment Plant.
<b>Corporate Actions Proposed for 2018</b>	
	Continued use of rainwater for watering trees and City boulevards through the use of large scale rainwater harvesting tanks at the City Public Works Yard.
	Continue to promote allowing passive lawn areas to go dormant in the summer, and to promote planting of water wise plants in new planting areas or replacements.
	Continue to work with the Abbotsford Mission Water & Sewer Commission to ensure drinking water supply and distribution is managed and expanded to safeguard public health, protect the environment, and provide adequate supply for a growing population: <ul style="list-style-type: none"> <li>• Monitor demand and implement conservation strategies, including awareness and education;</li> <li>• Implement system efficiencies to ensure infrastructure use is maximised;</li> <li>• Plan for short, medium and long term water supply sources.</li> </ul>

Corporate Actions Proposed for 2018 - CONTINUED	
	Continue to contract land application to beneficially use biosolids.
	Continue methane capture for space and process heat production at the JAMES Wastewater Treatment Plant.
	Continue to work with the Abbotsford Mission Water & Sewer Commission to ensure provincial and federal wastewater treatment requirements are met, to safeguard public health, and to protect the environment: <ul style="list-style-type: none"> <li>• Monitor flow and effectiveness of treatment measures;</li> <li>• Implement system efficiencies to ensure infrastructure use is maximized; and</li> <li>• Plan for short, medium and long term treatment systems.</li> </ul>

## 9.0 Climate Change Adaptation Actions

For local governments, adaptation to a changing climate can take the form of changes in policy, management, technology and behavior 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. Summarized below are the City of Abbotsford’s climate change adaption initiatives undertaken in 2017 and planned for in 2018.

Please identify the THREE climate impacts that are most relevant to your Local Government.	
• Warmer winter temperatures reducing snowpack	
• Changes to temperature and precipitation causing seasonal drought	X
• Heatwaves impacting population health	
• Increased temperatures increasing wildfire activity	
• Increased temperatures affecting air quality	X
• Changing temperatures influencing species migration and ecosystem shifts	
• Extreme weather events contributing to urban and overland flooding	X
• Sea level rise and storms causing coastal flooding and/or erosion	

In 2017 has your local government addressed the impacts of a changing climate using any of the following?	
Risk and Vulnerability Assessments	Yes
Risk Reduction Strategies	No
Emergency response planning	Yes
Asset management	No
Natural/Eco asset management strategies	Yes
Infrastructure upgrades (e.g. storm water system upgrades)	Yes
Beach Nourishment projects	No
Economic diversification initiatives	No
Strategic and financial planning	Yes
Cross-department working groups	No
OCP policy changes	Yes
Changes to zoning and other bylaws and regulations	Yes
Incentives for property owner (e.g. reducing storm water run-off)	Yes

In 2017 has your local government addressed the impacts of a changing climate using any of the following?	
Public education and awareness	Yes
Research	Yes
Mapping	Yes
Partnerships	Yes

<b>Climate Change Adaptation Actions Taken in 2017</b>			
	Began public consultation for the compostables collection requirements for the multi-family and ICI sectors in partnership with the FVRD.		
	Provided City water conservation information at 32 public events.		
	Provided City curbside collection and waste diversion information at 26 public events.		
<b>Climate Change Adaptation Actions Proposed for 2018</b>			
	Implement the OCP policy regarding the identification of floodplain hazards and impacts to infrastructure systems, such as transportation, agriculture, water, and economic, and in particular, to align habitable space in the floodplain with the provincial flood construction levels.		
	Implement the OCP policy regarding the assessment of municipal infrastructure to determine the level of risk and impact from more frequent and larger storms, droughts, or other natural disasters such as earthquakes, and ensure future development is informed by this assessment.		
	Implement the OCP policy regarding working with senior levels of government to assess projected impacts on dykes and stormwater infrastructure and respond to changing conditions through management strategies. The policy indicates that particular attention should be given to the Fraser River, Vedder Canal and Sumas River for protection of the Sumas and Matsqui Prairies.		
	Implement compostables collection requirements for the multi-family and ICI sectors in partnership with the FVRD.		
	Continue to provide water conservation and solid waste information at public events.		
	Evaluate long term mitigation measures for the Matsqui Dyke to protect farmland, homes and important regional infrastructure, and to strengthen our community.		
<b>For more information on Climate Change Adaptation Actions please contact:</b>			
	Nathan Koning Director, Project Management Office T: 604-557-1465	Mark Neill Director, Community Planning T: 604-864-5513	Rob Isaac Acting General Manager, Engineering & Regional Utilities T: 604-864-5685

The following are key resources that may be helpful to your local government in identifying climate impacts, as well as, strategies, actions and funding to deal with them. For those resources that you have used, please indicate whether they were useful in advancing your work in climate change adaptation.

<p><a href="#">Indicators of Climate Change for British Columbia, 2016</a></p> <p><a href="#">Plan2Adapt</a></p> <p><a href="#">Climate Projections for Metro Vancouver</a></p> <p><a href="#">Climate Projections for the Capital Region</a></p> <p><a href="#">Climate Projections for the Cowichan Valley Regional District</a></p> <p><a href="#">Province of BC's BC Adapts Video Series</a></p> <p><a href="#">Preparing for Climate Change: An Implementation Guide for Local Governments</a></p> <p><a href="#">The Public Infrastructure and Engineering Vulnerability Committee's (PIEVC) protocol</a></p> <p><a href="#">Sea Level Rise Primer</a></p> <p><a href="#">BC Regional Adaptation Collaborative Webinars</a></p> <p><a href="#">www.ReTooling.ca</a></p> <p><a href="#">Water Balance Model</a></p> <p><a href="#">The Water Conservation Calculator</a></p> <p>Funding:</p> <p><a href="#">National Disaster Mitigation Program (NDMP)</a></p> <p><a href="#">Community Emergency Preparedness Fund (CEPF)</a></p> <p><a href="#">Municipalities for Climate Innovation Program (MCIP)</a></p> <p><a href="#">Climate Adaptation Partner Grants (FCM)</a></p> <p><a href="#">Infrastructure Planning Grants (MAH)</a></p> <p><a href="#">Federal Gas Tax Fund</a></p>	<p>Haven't Used</p> <p>Useful</p> <p>Useful</p> <p>Haven't Used</p> <p>Haven't Used</p> <p>Haven't Used</p> <p>Useful</p> <p>Useful</p> <p>Haven't Used</p> <p>Haven't Used</p> <p>Haven't Used</p> <p>Useful</p> <p>Useful</p> <p>Useful</p> <p>Useful</p> <p>Haven't Used</p> <p>Haven't Used</p> <p>Haven't Used</p> <p>Useful</p>
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## 10. Other Climate Actions

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

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

### 10.1 Community-Wide Actions

Community-Wide Actions Taken in 2017	
	Participation in the Fraser Valley Agricultural Adaption Strategy.
Community-Wide Actions Proposed for 2017	
	Continue participation in the Fraser Valley Agricultural Adaption Strategy.
	Continue to implement OCP policies that will embrace a full cost accounting of growth decisions as standard practice, which includes lifecycle infrastructure costs and performance.

### 10.2 Corporate Actions

Corporate Actions Taken in 2017	
	Continued awareness of environmental and climate impacts for all staff.
Corporate Actions Proposed for 2017	
	Continue awareness of environmental and climate impacts for all staff.

## 11.0 Innovation and Peer-to-Peer Learning

This section provides the opportunity to showcase an innovative Corporate and/or Community-Wide GHG reduction and/or climate change adaptation activity that your local government has undertaken and that has had, or has the potential to have, a significant impact. You are welcome to repeat an action that has already been listed. 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.

### 11.1 Community-Wide Action

Community-Wide Action
Implementation of OCP policies
For more information contact: Mark Neill Director, Community Planning T: 604-864-5513

### 11.2 Corporate Action

Corporate Action
Facilities Energy and Greenhouse Gas Assessment and Reduction Plan (3 Year Project Plan) Green Fleet Strategy
For more information contact: Nathan Koning Director, Project Management Office T: 604-557-1465

## 12.0 Programs, Partnerships and Funding Opportunities

Local governments often rely on programs, partnerships and funding opportunities to achieve their climate action goals. Summarized below are the names of programs and organizations that have supported the City of Abbotsford’s climate actions by listing each entry in the box below.

### 12.1 Mitigation

Programs and Funding
Abbotsford Community Services Abbotsford Mission Nature Club Abbotsford Ravine Park Salmon Enhancement Society BC Hydro Fortis Fraser Valley Conservancy Fraser Valley Regional District Fraser Valley Watershed Coalition Greenbricks Education Society Recycle BC

## 12.2 Adaptation

Programs and Funding
BC Hydro BC Transit Bike BC Fortis Fraser Valley Regional District Metro Vancouver Recycle BC University of British Columbia (UBC) University of the Fraser Valley (UFV)

## 13.0 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.

### 13.1 Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2017?	<b>Yes</b>
If your local government measured 2017 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:	<b>5,882</b>
If your local government measured 2017 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from <u>contracted</u> services:	<b>646</b>
<b>TOTAL CORPORATE GHG EMISSIONS FOR 2017</b>	<b>6,528 tCO<sub>2</sub>e</b>

### 13.2 Reporting Reductions and Offsets

OPTION 1 PROJECTS	REDUCTIONS
Household Organic Waste Composting	168
<b>REDUCTIONS FROM OPTION 1 PROJECTS FOR 2017</b>	<b>168 tCO<sub>2</sub>e</b>

### 13.3 Corporate GHG Emissions Balance

The 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. If the Corporate GHG Emissions Balance is zero or negative, then the local government is carbon neutral for the reporting year.

Total Corporate GHG Emissions for 2017	6,528
Reductions from Option Projects for 2017	168
<b>CORPORATE GHG EMISSIONS BALANCE FOR 2017</b>	<b>6,360 tCO<sub>2</sub>e</b>

### 14.0 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.

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 their community’s energy and emissions inventory (i.e. 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 (i.e: 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>
Facilities Energy and Greenhouse Gas Assessment and Reduction Plan (3 Year Project Plan) Green Fleet Strategy

### 14.1 Program Level

Based on the City’s 2017 CARIP Climate Action/Carbon Neutral Progress Survey, the GCC Climate Action Recognition Program level that best applies:

Level 1 – Demonstrating Progress on Charter Commitments	
Level 2 – Measuring GHG Emissions	
Level 3 – Accelerating Progress on Charter Commitments	<b>X</b>
Level 4 - Achievement of Carbon Neutrality	
Not Sure	

### 15.0 Conclusion

This report summarizes community wide and corporate actions that the City is undertaking to help reduce energy consumption and GHG emissions. This report encompasses a majority of the action items that the City has undertaken or is involved in to support GHG and energy reduction, but does not cover all sustainability related initiatives.