

CITY OF ABBOTSFORD

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



May 28, 2017



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Public Report for 2016

Local Government: Abbotsford

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Report Submitted by:

Nathan Koning
Senior Engineer, Solid Waste & Environmental Services
nkoning@abbotsford.ca
604-557-1465

The City of Abbotsford 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.

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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 2016 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 2016 and is proposing for 2017 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, and Climate Change Adaptation. The 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.

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 2016 and planned for in 2017.

General Broad Planning Questions	
What is (are) your current GHG reduction target(s)?	40% by 2040
Has your local government used the Community Energy and Emissions Inventory (CEEI) to measure progress?	Yes

General Broad Planning Questions - CONTINUED	
<p>What plans, policies or guidelines govern the implementation of climate mitigation in your community?</p> <ul style="list-style-type: none"> • Community Energy and Emissions (CEE) Plan • Climate Action Plan • Integrated Community Sustainability Plan • Official Community Plan (OCP) • Regional Growth Strategy (RGS) 	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
Does your local government have a corporate GHG reduction plan?	Yes
Does your local government have a climate reserve fund or something similar?	Yes

2.1 Community Actions

Community-Wide Actions Taken in 2016	
	Completed an extensive process to update the City's Official Community Plan (OCP) through a project called Abbotsforward. The purpose of the OCP update was to articulate the community's vision and shape the next phase of Abbotsford's growth and evolution as a city. One of the major priorities of the OCP was to embrace a multi-modal city through transformative land use, urban design, and transportation policies.
	Incorporated a Sustainability and Greenhouse Gas Reduction Target section in the updated OCP including an updated GHG emissions reduction target of 40% by 2040.
	Parts II to IV of the updated OCP describes the City's land use plan (Part II), associated policies (Part III), and strategies for implementation (Part IV), all of which contribute to the achievement of the City's GHG emissions reduction targets.
	Part II of the updated OCP describes the City's urban structure, growth plan, and land use plan, all guided by efficient land use management strategies that are anticipated to reduce vehicle use and help shift toward walking, biking, and transit, while accomplishing many other community goals.
	Part III of the updated OCP provides the detailed policies to support the land use plan, encouraging: the provision of diverse, affordable housing close to jobs and services; an accessible transportation system, that seeks to make walking, biking and transit not only attractive but preferred options; and mixed use centers that provide the density, mix of uses, and connectivity necessary to further reduce vehicle travel and encourage other transportation options.

Community-Wide Actions Proposed for 2017	
	The City is looking forward to reaching a population of 200,000 and is considering the impacts of different development and land use scenarios on GHG emissions. This initiative is called “Plan for 200K” and is taking improvements into account with respect to building energy efficiencies, vehicle efficiencies, solid waste diversion rates, and currently planned transportation infrastructure.
	Undertake neighborhood plans for the following areas: <ul style="list-style-type: none"> • UDistrict; • City Centre; • Historic Downtown; and • McKee.
	Complete a review of the following master plans in order to assess current operations and to consider options for changes and enhancements: <ul style="list-style-type: none"> • Parks, Recreation & Culture; • Solid Waste; • Fire Rescue Services; • Transit; • City Water; • City Wastewater; • Transportation; • Abbotsford/Mission Joint Water; • Abbotsford/Mission Joint Wastewater; and • Drainage.
	Undertake special studies on the following topics: <ul style="list-style-type: none"> • AgRefresh; • Water Source Supply; • Housing Strategy; • Industrial Land Supply; • Willband Creek Integrated Stormwater Management Plan; and • Fishtrap Creek Integrated Stormwater Management Plan.
	Continue to implement OCP policies as new development applications are processed.

2.2 Corporate Actions

Corporate Actions Taken in 2016	
	Completed a comprehensive civic facilities energy assessment. Details are outlined in the “Building and Lighting Actions” portion of this report.
	Implemented energy accounting software to provide an efficient method of tracking the City’s corporate energy consumption.
	Continued support for corporate anti-idling program.
	Continued environmental engagement of staff.

Corporate Actions Proposed for 2017	
	Review and update the City’s Corporate Energy Policy.
	Update the City’s Strategic Energy Management Plan as part of the City’s partnership with BC Hydro’s Energy Manager Program.
	Develop a green fleet strategy to reduce GHG emissions associated with the City’s vehicle and equipment use.
	Undertake year one of the three year plan for building projects identified in the 2016 civic facilities energy assessment. Details are outlined in the “Building and Lighting Actions” portion of this report.
	Support corporate anti-idling program through implementation of a GPS policy.
	Support the environmental engagement of staff.
	Work on “greening” City events.

3.0 Buildings 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 2016 and planned for in 2017.

3.1 Community Actions

Community-Wide Actions Taken in 2016	
	The City’s civic facilities energy assessment project serves as an example to the community.
	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.
	OCP includes a policy to develop a strategy to create regulations, incentives, and remove regulatory barriers to reduce energy consumption in buildings.

Community-Wide Actions Proposed for 2017	
	Leading by example in the community by undertaking year one of a three year plan for energy projects identified in the 2016 civic facilities energy assessment.
	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 2016	
	Completed comprehensive energy assessment of 37 key civic buildings and identified a three year plan for energy projects.
	Partnered with BC Hydro through their Energy Manager Program to reduce electricity consumption.
	Partnered with Fortis to reduce natural gas consumption.
	Used GHG fund for natural gas/GHG projects.
	Completed the desiccant dehumidification project at ARC with potential to use waste heat in the future.

Corporate Actions Proposed for 2017	
	<p>Undertake year one of three year plan for building projects identified in the 2016 assessment, including the following:</p> <ul style="list-style-type: none"> • Connect lighting to a Direct Digital Control (DDC) system at the Abbotsford Centre; • Upgrade fluorescent T8 lighting to light-emitting diode (LED) fixtures at the Abbotsford Centre; • Integrate dark building security measures at the Abbotsford Centre; • Optimize demand controlled ventilation at the Abbotsford Centre; • Implement a reduced schedule and optimal start routine at the Abbotsford Centre; • Install occupancy ventilation and heating control at the Abbotsford Centre; • Recommission dehumidifier at the Abbotsford Centre; • Implement a summertime shut down of the Zamboni water heaters at the Abbotsford Centre; • Optimize HVAC holiday schedules for City Hall; • Optimize the DDC system at Matsqui Recreation Centre (MRC); • Install security interconnect at MRC; • Upgrade the sauna control at MRC; and • Install vending machine misers at MRC.
	Continue partnership with BC Hydro through their Energy Manager Program.
	Undertake a study to assess the feasibility of converting high pressure sodium (HPS) street lights to LED technology.

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 2016 and planned for in 2017.

General Energy Generation Questions	
Is your local government developing, or constructing: <ul style="list-style-type: none"> • A district energy system • A renewable energy system 	No No
Is your local government operating: <ul style="list-style-type: none"> • A district energy system • A renewable energy system 	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 BC Climate Action Toolkit ?	Yes

4.1 Community Actions

Community-Wide Actions Taken in 2016	
	City contracted compost facility continued investigation of heat capture from compost piles.
	Supported development projects proposing alternative energy use.

Community-Wide Actions Proposed for 2017	
	Continue to support development projects proposing alternative energy use.

4.2 Corporate Actions

Corporate Actions Taken in 2016	
	Continued methane capture for space and process heat production at the JAMES Wastewater Treatment Plant.
	Contract for land application to beneficially use biosolids.
	Geothermal energy used at the Reach Gallery.

Corporate Actions Proposed for 2017	
	Continue methane capture for space and process heat production at the JAMES Wastewater Treatment Plant. Planned review of needs to replace/expand cogeneration system for conversion to electricity at the plant.
	Contract for land application to beneficially use biosolids.
	Continued use of geothermal energy at the Reach Gallery.

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 2016 and planned for in 2017.

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

5.1 Community Actions

Community-Wide Actions Taken in 2016	
	Encouraged the inclusion of community gardens in proposed development.
	Updated the Natural Environment Development Permit (NEDP) area guidelines and developed Steep Slope Development Permit (SSDP) area guidelines as part of the Abbotsforward initiative. These guidelines help to conserve greenspace during development.
	Initiated a comprehensive update to the Zoning Bylaw to align it with the new policies/visions of the updated OCP. The update incorporates a review of urban agriculture under an initiative called AgRefresh.
	Restoration of various parks in partnership with volunteers.
	Community partnerships with Fraser Valley Watershed Coalition, Fraser Valley Conservancy, Abbotsford Mission Nature Club, and the Abbotsford Ravine Park Salmon Enhancement Society. Each partnership has resulted in restoration work within various green spaces.
	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.

Community-Wide Actions Proposed for 2017	
	Continue encouragement of community gardens in proposed developments.
	Continue work on the update to the Zoning Bylaw.
	Continue work on the AgRefresh initiative, with completion anticipated for mid-2018.
	Update the Tree Protection Bylaw.
	Continue restoration of various parks with volunteers.
	Further partnerships with Fraser Valley Watershed Coalition, Fraser Valley Conservancy, Abbotsford Mission Nature Club, and the Abbotsford Ravine Park Salmon Enhancement Society. These partnerships will bring various enhancement initiatives to our local greenspaces.
	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"> • Establish a tree canopy coverage target; • Increase the urban forest to a determined target in public spaces; • Require tree conservation strategies, and street tree plantings and landscaping in all development and infrastructure projects.
	Continue to partner with the FVRD in their Invasive Weed Control Program targeting Wild Chervil, Tansy Ragwort, Giant Hogweed and Knotweed.

5.2 Corporate Actions

Corporate Actions Taken in 2016	
	Planted 642 trees within various greenspaces around the City.
	Planted 34,629 bulbs, 36,475 flowers and 500 perennials/small shrubs within various locations throughout 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.
	Continued to partner with the FVRD in coordinating invasive species response efforts.
	MRC Sports Complex completed with three new synthetic fields resulting in lower maintenance emissions.

Corporate Actions Proposed for 2017	
	Continue to plant new trees within various greenspaces around the City.
	Continue to plant bulbs, flowers and perennials/small shrubs within various locations throughout 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.
	Evaluation of electric chainsaws as a viable addition to the City's fleet, to be used in conjunction with solar powered charging stations.
	Continue control of invasive plants through City efforts and through supporting various volunteer groups.
	Provide new parkland and greenways in areas identified 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.
	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 2016 and planned for in 2017.

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

6.1 Community Actions

Community-Wide Actions Taken in 2016	
	Prepared for FVRD organics sorting requirements beginning in 2018.

Community-Wide Actions Proposed for 2017	
	Participation in the provincial Recycle BC (formerly MMBC) recycling program. Changes to the City's recycling program will allow for an expanded list of materials that can be recycled.
	Continue development for multi-family and industrial, commercial and institutional (ICI) compostable collection.
	Continue preparation for the FVRD organics sorting requirements beginning in 2018.
	Provide recycling and composting display at most major public events.
	Implement enhanced communication strategy to promote participation and increase awareness on: <ul style="list-style-type: none"> • How and where to recycle materials; • Contamination reduction; • Recycle BC program changes.

6.2 Corporate Actions

Corporate Actions Taken in 2016	
	Continued education and enforcement of recycling and composting initiatives.
	Continued source separation of recyclables and compostables in the City's curbside collection program.
	Provided compostable waste collection at City Hall and Operations Works Yard.
	Continued to participate in the FVRD Solid Waste Action Team. The meetings revolve around networking with other municipalities and discussing initiatives, progresses and updates in policies and results through group communication.
	Continued to participate in the Metro Vancouver Municipal Waste Reduction Coordinator Committee. The meetings revolve around networking with other municipalities and discussing initiatives, progresses and updates in policies and results through group communication.

Corporate Actions Proposed for 2017	
	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: <ul style="list-style-type: none"> • Waste diversion of 65% by 2018; • Waste diversion of 80% by 2020; • Waste diversion of 90% by 2025; • Practice the six R's of waste management: Rethink, Reduce, Reuse, Recycle, Recover and Residual Management; and • Consider material recovery as a component for achieving the waste diversion targets.

Corporate Actions Proposed for 2017 - CONTINUED	
	Complete a review of the City's Solid Waste Operations Master Plan to assess current operations and to consider options for changes and enhancements to the program.
	Continue to participate in the FVRD Solid Waste Action Team.
	Continue to participate in the Metro Vancouver Municipal Waste Reduction Coordinator Committee.
	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 Operations Works Yard.
	Undertake a comprehensive solid waste audit for materials collected from the curbside program including garbage, compostable waste and recycling.

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 2016 and planned for in 2017.

General Transportation Questions	
Does your local government have policies, plans or programs to support: <ul style="list-style-type: none"> • Walking • Cycling • Transit Use • Electric Vehicle Use • Other (please specify) 	Yes Yes Yes Yes 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)?	No
Does your local government have policies, plans or programs to support local food production (thus reducing transportation emissions)?	Yes

7.1 Community Actions

Community –Wide Actions Taken in 2016	
	Continued to support car share and vehicle charging stations in development applications.
	Participated in electric vehicle charging station study.

Community-Wide Actions Proposed for 2017	
	Continue support of car share and vehicle charging stations in development applications.
	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 Neighborhood 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 multifamily, 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 multifamily, mixed use, employment centre developments where appropriate. Encourage retrofitting of existing buildings to include electric vehicle charging infrastructure.
	<p>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:</p> <ul style="list-style-type: none"> • Develop continuous sidewalks with no interruptions or obstacles; • Adjust or extend curbs at intersections to reduce crossing distances; • Maximize crosswalk visibility through lighting, pavement markings, curb extensions, and clear sight lines; • Use different materials and raise sidewalks in parked areas; • Minimize the width and number of driveways that cross sidewalks; • Plant street trees and ensure a full cover mature tree canopy is created over time; • 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; • Investigate innovative street approaches such as complete streets, shared streets, and pedestrian streets.

7.2 Corporate Actions

Corporate Actions Taken in 2016	
	Incorporated an electric vehicle (2016 Ford Focus) into the City's fleet.
	Installed a dual electric vehicle charger with one side for the City's vehicle and the other side for public charging.

Corporate Actions Taken in 2016 - CONTINUED	
	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 support education and encourage participation in programs promoting cycling and walking (e.g., Bike-to-Work Week).
	Continued to encourage participation in programs promoting reductions in greenhouse gas emissions (e.g., Commuter Challenge participant, City carpool program, City anti-idling policy).
	Secured \$1 million in grant funding from Bike BC for the installation of a pedestrian bridge and bike overpass over Highway 1 at Salton Rd. The bridge/overpass will enhance existing cycling network, will improve public safety, and reduce greenhouse gas emissions while supporting healthy active living.
	Secured \$28 million in grant funding from the Public Transit Infrastructure Fund to boost transit infrastructure with a new and expanded Central Fraser Valley Transit operation and maintenance facility, providing more convenience to residents who use public transportation.

Corporate Actions Proposed for 2017	
	Develop a green fleet strategy to reduce GHG emissions associated with the City's vehicle and equipment use.
	Continue replacing older less efficient City fleet vehicles with newer, more fuel-efficient vehicles, where possible.
	Continue support and encourage participation in programs promoting cycling and walking. Continue to participate in Bike-to-Work Week. Continue support of Commuter Challenge, carpool program and anti-idling policy.
	Evaluate possibilities for incorporation of additional electric vehicles into the City's fleet.

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 2016 and planned for in 2017.

General Water Conservation Questions	
Does your local government have water conservation policies, plans or programs?	Yes

8.1 Community Actions

Community-Wide Actions Taken in 2016	
	Continued partnership with Green Bricks Education Society for providing classroom education for grades 4 and 10 students and adult ESL students regarding the water system, water quality and conservation. In 2016, provided education to 1,350 grade 4 students, 925 grade 10 students, and 160 adult ESL students.
	Continued water conservation program including the implementation of water restrictions from May 1 st to September 30 th . 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.
	Updated the City's Water Shortage Response Plan to improve effectiveness in reducing peak demands, align with other municipalities, and improve public education and communication.
	Continued AMI water meter program with bimonthly billing. Installed 996 new water meters.
	Continued to work with residents to identify and resolve water leaks. In 2016, processed 2,713 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 2016, 252 rebates were issued to homeowners who replaced their less efficient (water and electricity) washer for a new efficient model.
	Issued 648 toilet rebates to homeowners that replaced old toilets with a low-flow toilet to reduce residential water use.
	Developed a pilot program for irrigation and landscape rebates resulting in 4 rebates being issued in 2016.
	Provided subsidy for 100 rain barrels.
	Provided subsidy for indoor and outdoor water savings kits.
	Provided water conservation display at 25 public events.
	Hosted 4 workshops on efficient irrigation and waterwise gardening.
	Hosted an event for Drinking Water Week that included the presenting of water system and water conservation information to 200 students.
	Continued methane capture for space and process heat production at the JAMES Wastewater Treatment Plant.
	Contract for land application to beneficially use biosolids.

Community-Wide Actions Proposed for 2017	
	Continue partnership with Green Bricks Education Society for providing classroom education for grades 4 and 10 students and adult ESL students regarding the water system, water quality and conservation.
	Continue AMI water meter program including bimonthly billing and leak notifications.
	Continue water conservation efforts including continued implementation of water restrictions.

Community-Wide Actions Proposed for 2017 - CONTINUED	
	Continue to partner with BC Hydro for the clothes washer rebate program.
	Continue offering the toilet rebate program.
	Continue offering landscape and irrigation rebates.
	Continue to provide subsidies for rain barrels and water saving kits.
	Continue to host workshops promoting efficient irrigation and waterwise gardening.
	Continue to participate in Drinking Water Week.
	Investigate water conservation program additions such as rainwater harvesting rebates and ICI capacity buyback program.
	Continue methane capture for space and process heat production at the JAMES Wastewater Treatment Plant. Planned review of needs to replace/expand cogeneration system for conversion to electricity at the plant.
	Contract for land application to beneficially use biosolids.

8.2 Corporate Actions

Corporate Actions Taken in 2016	
	Completed a retrofit of the irrigation system at City Hall.
	Continued 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.

Corporate Actions Proposed for 2017	
	Promote leaving passive lawn areas to go dormant during the summer and planting of waterwise plants in new planting areas or replacements.
	Continue participation in the Metro Vancouver Municipal Water Conservation Coordinator Committee.
	Continue to work with the Abbotsford Mission Water and 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"> • Monitor demand and implement conservation strategies including awareness and education; • Implement system efficiencies to ensure infrastructure use is maximized; • Plan for short, medium and long term water supply sources.
	Continue to work with the Abbotsford Mission Water and Sewer Commission to meet or exceed provincial and federal wastewater treatment regulations to safeguard public health and protect the environment: <ul style="list-style-type: none"> • Monitor flow and effectiveness of treatment measures; • Implement system efficiencies to ensure infrastructure use is maximized; • Plan for short, medium and long term treatment systems.

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 2016 and planned for in 2017.

Climate Change Adaptation Actions Taken in 2016	
	Completed review of the OCP.
	The OCP includes a policy to identify 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.
	The OCP includes a policy to conduct an 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.
	The OCP includes a policy to work 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.
	Began program development for multi-family and ICI compostable collection in partnership with the FVRD.
	Began evaluation of implications of FVRD Solid Waste Management Plan.
	Provided water conservation display at 25 public events.
	Secured \$4 million in funding from Emergency Management BC for shoreline flood mitigation projects, protecting farmland, homes and important regional infrastructure, and strengthening our community structurally.

Climate Change Adaptation Actions Proposed for 2017	
	Continue development for multi-family and industrial, commercial and institutional (ICI) compostable collection.
	Continue to evaluate implications of FVRD Solid Waste Management Plan.
	Provide water conservation and solid waste/composting display at most major public events.
	Evaluate long term mitigation measures for the Matsqui Dyke to protect farmland, homes and important regional infrastructure, and strengthen our community.

Resources you have used to support climate change adaptation (e.g. Plan2Adapt, Preparing for Climate Change: Implementation Guide)	
	Plan2Adapt

In 2016 did you consider climate change impacts in any of the following areas?	
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)	Yes
Economic diversification initiatives	No
Ecosystem-based approaches (incl. shorelines)	Yes
Incentives (e.g. property owner reducing stormwater run-off)	Yes
Public education and awareness	Yes
Research (e.g. mapping, participation in studies)	Yes

10.0 Other Climate Actions

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

Other	
Are you familiar with the Community Lifecycle Infrastructure Costing Tool (CLIC) ?	No
Have you used CLIC?	No

10.1 Community Actions

Community-Wide Actions Taken in 2016	
	Participation in Fraser Valley Agricultural Adaption Strategy.
	The OCP notes that the City will embrace a full cost accounting of growth decisions as standard practice, which includes lifecycle infrastructure costs and performance.

Community-Wide Actions Proposed for 2017	
	Continue participation in Fraser Valley Agricultural Adaption Strategy.

10.2 Corporate Actions

Corporate Actions Taken in 2016	
	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

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.

Corporate Innovative Action

The City's facility energy assessment project evaluated options for 50% and 80% corporate facility energy reductions, including initiatives and related costs. These options have not been adopted at this time, but the information provides the City with an understanding for future consideration.

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 programs, partnerships and funding opportunities that the City of Abbotsford participated in for 2016.

Programs, Partnerships and Funding

Abbotsford Community Services
Abbotsford Mission Nature Club
Abbotsford Ravine Park Salmon Enhancement Society
BC Hydro
BC Transit
Bike BC
Emergency Management BC
Fortis BC
Fraser Valley Conservancy
Fraser Valley Watershed Coalition
Fraser Valley Regional District
Green Bricks Education Society

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 2016?	Yes
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:	5,245
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:	582
TOTAL A: CORPORATE GHG EMISSIONS FOR 2016	5,827 tCO₂e

14.0 GCC Climate Action Recognition Program

The joint Provincial-UBCM Green Communities Committee (GCC) is 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.

14.1 Program Level

Based on the City's 2016 CARIP Climate Action/Carbon Neutral Progress Survey, the GCC Climate Action Recognition Program level that best applies:

<input type="checkbox"/>	Level 1 - Demonstrating Progress on Charter Commitments	
<input type="checkbox"/>	Level 2 - Measuring GHG Emissions	X
<input type="checkbox"/>	Level 3 - Accelerating Progress on Charter Commitments	
<input type="checkbox"/>	Level 4 - Achievement of Carbon Neutrality	

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.