

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

**Local Government:**

**City of Maple Ridge**

**Report Submitted by:**

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The City of Maple Ridge 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.

## 2017 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 2017	
	Community Energy Manager involvement in Local Area Plans and Zoning Bylaw Review
	Development of a committee work plan for the Environmental Advisory Committee
	Continued development of Community Capital Framework working with SFU
Community-Wide Actions Proposed for 2018	
	Electric vehicle supply equipment infrastructure planning and development
	Community Energy Manager involvement in Local Area Plans and Zoning Bylaw Review

Corporate Actions Taken in 2017	
	Enhanced application of GHG reporting and energy management information system
	Asset Management Plan
Corporate Actions Proposed for 2018	
	Inclusion of sustainable purchasing into the Purchasing Policy review
	Pursuing documentation for Partners in Climate Protection (PCP) milestones

Broad Planning	
What is (are) your current GHG reduction target(s)?	<b>Reduce GHG emissions by 33% from 2007 by 2020</b>
Are you familiar with your community's community energy and emissions inventory (e.g. CEEI or another inventory)?	<b>Yes</b>

<p>What plans, policies or guidelines govern the implementation of climate mitigation in your community?</p> <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> <li>• Do not have a plan</li> <li>• Other: <ul style="list-style-type: none"> <li>- <b>Environmental Management Strategy (EMS)</b></li> <li>- <b>Strategic Transportation Plan (STP)</b></li> <li>- <b>Asset Management Plan</b></li> </ul> </li> </ul>	<p>No</p> <p>No</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p>
Does your local government have a corporate GHG reduction plan?	Yes

## 2017 BUILDING 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 2017	
	Town Centre Investment Incentive Program – Green Project additional incentive
	Employment Lands Investment Incentive Program – Green Project additional incentive
	Preparation for partnership with local builder to build show home for BC Energy Step Code
Community-Wide Actions Proposed for 2018	
	Energy efficiency/ Energy Step Code training for Builders
	Energy Efficient Show Home (Step 3 demonstration project and on-site training)
	Preparation for possible implementation of the BC Energy Step Code

Corporate Actions Taken in 2017	
	Exterior LED lighting retrofits at several facilities; significant reduction in overall number of fixtures
	Completed street lighting LED retrofit pilot
	Occupancy lighting sensors installed at several facilities

<b>Corporate Actions Proposed for 2018</b>	
	Continued LED streetlight retrofit on arterials
	Implement 5 year plan to convert entire City of Maple Ridge over to LED
	Starting to convert all illuminated roadway signage to LED (50% this year, 50% next)
	Undertake Net Zero Energy feasibility study for new community centre
	Leisure Centre retrofit of major systems

<b>Building and Lighting</b>	
The Province has committed to taking incremental steps to increase energy-efficiency requirements in the BC Building Code to make buildings net-zero energy ready by 2032. The BC Energy Step Code--a part of the BC Building Code--supports that effort	
Is your local government aware of the BC Energy Step Cost?	Yes
Is your local government implementing the BC Energy Step Code?	TBD

## 2017 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 2017</b>	
	Continued implementation of Solar Ready Bylaw
<b>Community-Wide Actions Proposed for 2018</b>	
	Continued implementation of Solar Ready Bylaw

<b>Corporate Actions Taken in 2017</b>	
	Operation of geoexchange system and solar thermal systems
	Explore/research opportunities for District Energy and Renewables
	Explore optimizing solar thermal system at Leisure Centre
<b>Corporate Actions Proposed for 2018</b>	
	Operation of geoexchange system and solar thermal systems
	Explore renewables at new community centre

<b>Energy Generation</b>	
Is your local government developing, or constructing:	
• A district energy system	No
• A renewable energy system	No
Is your local government operating:	
• A district energy system	No
• A renewable energy system	Yes
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
Are you familiar with the 2017 " <a href="#">List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?</a> "	Yes

## 2017 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 2017</b>	
	Submission of Soil Bylaw guiding soil deposition (adopted in 2018)
	Acquisition of conservation park lands
	Continuation of tree replacement program
	Arbor Day and tree planting
<b>Community-Wide Actions Proposed for 2018</b>	
	Continuing to promote water stewardship working with ARMS and KEEPS
	Continuation of tree replacement program
	Acquisition of conservation park lands

<b>Corporate Actions Taken in 2017</b>	
	Implementation of new municipal Environmental Advisory Committee (EAC)
	BCIT Grant approved for \$50,000 to continue working with City of Maple Ridge Urban Forest Inventory Program
	Endorsement by Council of EAC Short Term High Priority Action Environmental Management

	Strategy Items
<b>Corporate Actions Proposed for 2018</b>	
	Proposed Update and Review of Watercourse Protection Bylaw
	Proposed Updates to OCP Aquifer Mapping
	Municipal Green Infrastructure and Natural Asset Management Strategy Study
	Municipal Stream Naming and Natural Heritage Awareness Program

<b>Greenspace</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>

## 2017 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.

<b>Community-Wide Actions Taken in 2017</b>	
	Brush chipping program offers an alternative to burning organic matter
	Partnership with Ridge Meadows Recycling Society
	Solid waste review for municipal curbside solid waste collection
	Expanded blue-box recycling service area to include a wider range and apartment recycling pickup
<b>Community-Wide Actions Proposed for 2018</b>	
	Further expand blue-box recycling service area to include a wider range and apartment recycling pickup
	Large item recycling pickup program (biannually)
	Household hazardous waste (HHW) roundup day
	Recycle BC multi-laminate pickup pilot project

<b>Corporate Actions Taken in 2017</b>	
	Further expansion of organics collection program and continuation of corporate composting program
<b>Corporate Actions Proposed for 2018</b>	
	Implementation of new process for organic collection at all civic facilities
	Installation of new organics disposal bins at all civic 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>

## 2017 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 2017</b>	
	Continued to enhance transportation network to facilitate active transportation (e.g. crosswalk installations, multi-use paths, cycling paths)
	Completed Rapid Bus Study along Lougheed Highway corridor
	Public education and awareness on the benefits, necessities, and safety aspects of active transportation
	Partnered with Metro Vancouver to host Emotive EV booth at Home Show
<b>Community-Wide Actions Proposed for 2018</b>	
	Partner with BC Hydro to install additional chargers for electric vehicles
	Partner with a builder to install a public level III EV charger
	Continuing our Cycling Education Program with the addition of at least seven more schools
	Active Transportation Advisory Committee
	Partner with Translink for B-line project implementation by 2019
	Propose changes to bylaws to require minimum electric vehicle service equipment requirements in new multi-family developments

<b>Corporate Actions Taken in 2017</b>	
	Retired several older vehicles and equipment
	Continued our 100% hybrid or electric passenger vehicle purchasing policy
	Promotion of Bike-to-Work-Week and Commuter Challenge
<b>Corporate Actions Proposed for 2018</b>	
	Promotion of Bike-to-Work-Week and Commuter Challenge with HUB
	Promotion of car pool registry for staff members
	Potential planning and deployment of new EV charging stations

<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 integrate its transportation and land use planning?	Yes

## 2017 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 2017</b>	
	Continued tree watering bag program
	Continued development of integrated storm water management plans for three watersheds
	Continued master plan development for drinking water, sewage, and drainage infrastructure
<b>Community-Wide Actions Proposed for 2018</b>	
	Continued tree watering bag program
	Continued master plan development for drinking water, sewage, and drainage infrastructure
	Continued household water restriction education and follow-up

<b>Corporate Actions Taken in 2017</b>	
	Began work on Watercourse Protection Bylaw, storm water component and water quality
	Modified field designs and maintenance schedule to require less water
	Optimized spray park programs to reduce duration and water volume
	Ongoing installation of flow sensors and master valves
<b>Corporate Actions Proposed for 2018</b>	
	Interfacing with weather stations to optimize field watering program
	Major sewage pump station overhaul
	Commission two new water pump stations



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

## **2017 CLIMATE CHANGE ADAPTATION ACTIONS**

This section of the CARIP survey is designed to collect information related to the types of climate impacts local governments are experiencing and how they are being addressed.

<b>Please identify the THREE climate impacts that are most relevant to your Local Government.</b>	
<ul style="list-style-type: none"> <li>Warmer winter temperatures reducing snowpack</li> <li>Changes to temperature and precipitation causing seasonal drought</li> <li>Heatwaves impacting population health</li> <li>Increased temperatures increasing wildfire activity</li> <li>Increased temperatures affecting air quality</li> <li>Changing temperatures influencing species migration and ecosystem shifts</li> <li>Extreme weather events contributing to urban and overland flooding</li> <li>Sea level rise and storms causing coastal flooding and/or erosion</li> </ul>	Yes    Yes   Yes
Other: Wildfires caused by the extreme heat and drought	

<b>In 2017 has your local government addressed the impacts of a changing climate using any of the following?</b>	
Risk and Vulnerability Assessments	Yes Yes Yes Yes         Yes
Risk Reduction Strategies	
Emergency response planning	
Asset management	
Natural/Eco asset management strategies	
Infrastructure upgrades (e.g. storm water system upgrades)	
Beach Nourishment projects	
Economic diversification initiatives	
Strategic and financial planning	
Cross-department working groups	
OCP policy changes	
Changes to zoning and other bylaws and regulations	
Incentives for property owner (e.g. reducing storm water run-off)	

Public education and awareness	Yes
Research	Yes
Mapping	Yes
Partnerships	Yes
Other:	

<b>Climate Change Adaptation Actions Taken in 2017</b>	
Please elaborate on key actions and/or partnerships your local government has engaged in to prepare for, and adapt to a changing climate. Add links to key documents and information where appropriate.	
	Planting for resilience and function, landscaping guidelines for development
	Green infrastructure included in Asset Management Plan
	Implementation of Hot Weather Response Plan community education measures
	Climate change adaptation scan of measures and impacts within City departments
<b>Climate Change Adaptation Actions Proposed for 2018</b>	
	Continued planting for resilience and function, landscaping guidelines for development
	Green infrastructure included in Asset Management Plan
	Continued implementation of Hot Weather Response Plan community education measures
<b>For more information please contact:</b>	



<b>Corporate Actions Proposed for 2018</b>	
	Further expansion of trenchless technology with additional 532 m sanitary sewer project

<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 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. Please add links to additional information where possible.

Communities that have conducted innovative initiatives may want to consider raising their profile through applications to [CEA's Climate and Energy Action Awards](#), [UBCM Climate and Energy Action Award](#), [FCM Sustainable Communities Awards](#) or through submissions to [FCM's National Measures Report](#).

<b>Community-Wide Action</b>

For more information contact:

**Corporate Action**

For more information contact:

### **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.

#### **Mitigation**

**Programs and Funding**

BC Hydro Corporate Energy Manager Program  
BC Hydro Community Energy Manager Program

#### **Adaptation**

**Programs and Funding**

## 2017 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 portion of the survey, please ensure that you are familiar with guidance available on the B.C. Climate Action Toolkit website, especially the [Becoming Carbon Neutral: A Guide for Local Governments in British Columbia](#).

*Please note: As a result of the BC Recycling Regulation, local governments are no longer required to account for greenhouse gas (GHG) emissions from vehicles, equipment and machinery required for the collection, transportation and diversion of packaging and printed paper, in their annual Climate Action Revenue Incentive Program (CARIP) reports.*

### 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>2,130</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>142</b>
<b>TOTAL A: CORPORATE GHG EMISSIONS FOR 2017</b>	<b>2,273 tCO<sub>2</sub>e</b>

### Reporting Reductions and Offsets

To be carbon neutral, a local government must balance their TOTAL corporate GHG emissions generated in 2017 by one or a combination of the following actions:

- undertake GCC-supported Option 1 Project(s)
- undertake GCC-supported Option 2 Project(s)
- purchase carbon offsets from a credible offset provider

**If applicable, please report the 2017 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e)) being claimed from Option 1 GHG Reduction Projects:**

OPTION 1 PROJECTS	REDUCTIONS
Energy Efficient Retrofits	
Solar Thermal	

Household Organic Waste Composting	
Low Emission Vehicles	
Avoided Forest Conversion	
<b>TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2017</b>	<b>tCO2e</b>

If applicable, please report the names and 2017 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 2017</b>	<b>tCO2e</b>

If applicable, please report the name of the offset provider, type of project and number of offsets purchased (in tonnes of carbon dioxide equivalent (tCO2e)) from an offset provider for the 2017 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 2017</b>	<b>tCO2e</b>

**TOTAL REDUCTIONS AND OFFSETS FOR 2017 (Total B+C+D) = 0 tCO<sub>2</sub>e**

### **Corporate GHG Emissions Balance for 2017**

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 2017 = (A – (B+C+D)) = 2,273 tCO<sub>2</sub>e**

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

**If applicable, please record any emissions reductions you will be carrying over for future years and the source of the emissions reductions, including the year they were earned (E.g., Organics diversion, 2016 100 tCO<sub>2</sub>e).**

<b>SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)</b>	<b>REDUCTIONS</b>
<b>BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR</b>	<b>tCO<sub>2</sub>e</b>

Carbon Neutral Reporting	
Does your local government have a climate reserve fund or something similar?	<b>Yes/No</b>

## **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.



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>

**Based on your local government's 2017 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"/>	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	
<input type="checkbox"/>	Not Sure	