

Climate Action Revenue Incentive (CARIP) Public Report for 2016

Local Government:

City of Maple Ridge

Report Submitted by:

Name: Maya Chorobik

Role: Research Technician – Energy and Sustainability

Email: mchorobik@mapleridge.ca

Phone: 604-467-7451

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

2016 BROAD PLANNING ACTIONS

Broad Planning Actions

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

Community-Wide Actions Taken in 2016	
	Developed 2 year Community Energy Manager workplan in partnership with BC Hydro
	Formation of Environmental Advisory Committee
	Development of Community Capital Framework working with SFU
Community-Wide Actions Proposed for 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

Corporate Actions Taken in 2016	
	Inclusion of energy management in department business plans
	Continued implementation of GHG reporting and energy management information system
	Workplace Conservation Awareness Program and Energy Wise Network delivered by inter-departmental Green Team
Corporate Actions Proposed for 2017	
	Enhanced application of GHG reporting and energy management information system
	Pursuing documentation for Partners in Climate Protection (PCP) milestones
	Inclusion of sustainable purchasing into the Purchasing Policy review

Broad Planning	
What is (are) your current GHG reduction target(s)?	Reduce GHG emissions by 33% from 2007 by 2020
Has your local government used the Community Energy and Emissions Inventory (CEEI) to measure progress?	Yes

<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) • Do not have a plan • Other: <ul style="list-style-type: none"> ○ Environmental Management Strategy (EMS) ○ Strategic Transportation Plan (STP) 	<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?	No
Does your local government have a climate reserve fund or something similar?	Yes

2016 BUILDINGS AND LIGHTING ACTIONS

Building and Lighting Actions

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

Community-Wide Actions Taken in 2016	
	Town Centre Investment Incentive Program – Green Project additional incentive
	Employment Lands Investment Incentive Program – Green Project additional incentive
	Builders Forum presentation on energy labeling and the incoming energy step code
	Community Energy Management Program development (commercial and residential buildings)
	Preparation for possible implementation of the BC Energy Step Code
Community-Wide Actions Proposed for 2017	
	Energy efficiency training for Builders
	Energy Efficient Show Home (demonstration project and on-site training)
	Preparation for possible implementation of the BC Energy Step Code

Corporate Actions Taken in 2016	
	Development of LED Street Light Adoption Strategy and Working Group
	New LED street lighting installations 128 th Ave. Phase 2, 203 rd Street
	LED street lighting retrofit pilot
	Pool atrium LED lighting retrofit
	Exterior LED lighting retrofits at several facilities
	Replacement of unit heaters at Operations and workshop
	Albion Sports Field LED lighting

Corporate Actions Proposed for 2017	
	Exterior LED lighting retrofits at several facilities
	Continued LED streetlight retrofit on arterials
	Council report with a city-wide business case and strategy for LED streetlight implementation
	Implementation of green building/energy standards for new civic buildings
	Leisure Centre retrofit of major systems

2016 ENERGY GENERATION ACTIONS

Energy Generation Actions

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

Community-Wide Actions Taken in 2016	
	N/A
Community-Wide Actions Proposed for 2017	
	N/A

Corporate Actions Taken in 2016	
	Operation of geoexchange system and solar thermal systems
Corporate Actions Proposed for 2017	
	Operation of geoexchange system and solar thermal systems
	Explore/research opportunities for District Energy and Renewables
	Explore optimizing solar thermal system at Leisure Centre

Energy Generation	
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 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 BC Climate Action Toolkit ?	Yes

2016 GREENSPACE/ NATURAL RESOURCE PROTECTION ACTIONS

Greenspace Actions

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

Community-Wide Actions Taken in 2016	
	Adoption of Tree Bylaw Update; 55% tree canopy cover performance target
	Acquisition of major conservation park lands
	Arbor Day and tree planting
	Tree replacement program
	Public consultation for Soil Bylaw development
	Collaboration with BCIT for the use of iTree software for forest inventory
Community-Wide Actions Proposed for 2017	
	Implementation of the Soil Bylaw guiding soil deposition

Corporate Actions Taken in 2016	
	Creation and management of conservation areas and parks; acquisition of lands for park space
	Enforcement of Tree Bylaw, addition of new staff resource
	Worked with contractor to control invasive species on municipal property
Corporate Actions Proposed for 2017	
	Creation and management of conservation areas and parks; acquisition of lands for park space
	Enforcement of new Soil Bylaw

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

2016 SOLID WASTE ACTIONS

Solid Waste Actions

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

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

Corporate Actions Taken in 2016	
	Corporate waste process review
	Further expansion of organics collection program and continuation of corporate composting program
Corporate Actions Proposed for 2017	
	Improved organics collection at all civic facilities

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

2016 TRANSPORTATION ACTIONS

Transportation Actions

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

Community -Wide Actions Taken in 2016	
	Continued to enhance transportation network to facilitate active transportation (e.g. crosswalk installations, multi-use paths, cycling paths)
	Partner with Emotive to conduct public engagement about electric vehicles
	Public education and awareness on the benefits, necessities, and safety aspects of active transportation
	Cycling Education Program in 10 schools
	Sidewalk project to encourage walking to school
	Established Active Transportation Advisory Committee
Community-Wide Actions Proposed for 2017	
	Propose strategy to support electric vehicle infrastructure in new developments
	Complete Rapid Bus Study along Lougheed Highway corridor
	Active Transportation Advisory Committee

Corporate Actions Taken in 2016	
	Retired several older vehicles and equipment
	Promotion of Bike-to-Work-Week and Commuter Challenge
	Encourage active transportation through: new showers installed in office buildings, free shower passes for Leisure Centre, bike storage facilities
Corporate Actions Proposed for 2017	
	Promotion of Bike-to-Work-Week and Commuter Challenge

Transportation	
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 No 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)?	Yes
Does your local government have policies, plans or programs to support local food production (thus reducing transportation emissions)?	No

2016 WATER AND WASTEWATER ACTIONS

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

Community-Wide Actions Taken in 2016	
	Implemented tree watering bag program
	Continued development of integrated stormwater management plans for two watersheds
	Continued master plan development for drinking water, sewage, and drainage infrastructure
Community-Wide Actions Proposed for 2017	
	Develop integrated stormwater management plans for three additional watersheds

Corporate Actions Taken in 2016	
	Upgrades to two pump stations
	Installation of water efficient fixtures in parks and washrooms
	Ongoing installation of flow sensors and master valves
	Modified field designs to require less water

Corporate Actions Proposed for 2017	
<input type="checkbox"/>	Begin work on Watercourse Protection Bylaw, stormwater component and water quality
Water Conservation	
Does your local government have water conservation policies, plans or programs?	Yes

2016 CLIMATE CHANGE ADAPTATION ACTIONS

Climate Change Adaptation Actions

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

Climate Change Adaptation Actions Taken in 2016	
<input type="checkbox"/>	Strategic Wildfire Prevention Initiative – Wildfire Hazard Areas Fuel Treatment Activities
<input type="checkbox"/>	Corporate staff education initiatives: climate impacts on public works interview series, “New Normal” lunch and learn
<input type="checkbox"/>	Planted drought resistant plants to reduce water consumption
<input type="checkbox"/>	Native planting and xeriscaping
<input type="checkbox"/>	Development of Hot Weather Response Plan
Climate Change Adaptation Actions Proposed for 2017	
<input type="checkbox"/>	Planting for resilience and function, landscaping guidelines for development
<input type="checkbox"/>	Green infrastructure included in Asset Management Plan
<input type="checkbox"/>	Implementation of Hot Weather Response Plan community education measures

Resources you have used to support climate change adaptation (e.g. Plan2Adapt, Preparing for Climate Change: Implementation Guide)	
<input type="checkbox"/>	N/A

In 2016 did you consider climate change impacts in any of the following areas? (check if yes)	
Risk reduction strategies	Yes
Risk and Vulnerability assessment	
Asset management	
Infrastructure upgrades (e.g. stormwater system upgrades)	Yes
Cross-department working groups	
Emergency response planning	
Land-use policy changes (eg. OCP, DPA)	
Economic diversification initiatives	
Ecosystem-based approaches (incl. shorelines)	Yes
Incentives (e.g. property owner reducing stormwater run-off)	

Public education and awareness Research (e.g.mapping, participation in studies) Other (Please Identify):	Yes Yes
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2016 OTHER CLIMATE ACTIONS

Other Climate Actions

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

Community-Wide Actions Taken in 2016	
<input type="checkbox"/>	N/A
Community-Wide Actions Proposed for 2017	
<input type="checkbox"/>	N/A

Corporate Actions Taken in 2016	
<input type="checkbox"/>	Use of trenchless processes for culvert replacement/retrofit program
Corporate Actions Proposed for 2017	
<input type="checkbox"/>	Use of trenchless technology for 1km sanitary sewer project

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

INNOVATION AND PEER-TO-PEER LEARNING

Innovation

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

Community-Wide Innovative Action
Corporate Innovative Action

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.

Programs and Funding
BC Hydro Corporate Energy Manager Program BC Hydro Community Energy Manager Program

2016 CARBON NEUTRAL REPORTING

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

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

Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2016?	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:	1814
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:	330
TOTAL A: CORPORATE GHG EMISSIONS FOR 2016	2144 tCO₂e

Reporting Reductions and Offsets

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

- undertake GCC-supported Option 1 Projects
- undertake GCC-supported Option 2 Projects (community GHG emissions reduction projects that meet project eligibility requirements)

- purchase carbon offsets from a credible offset provider

If applicable, please report the 2016 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO₂e)) 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	
TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2016	tCO₂e

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

OPTION 2 PROJECT NAME	REDUCTIONS
Corporate GHG Emissions Balance for 2015 (169 reported + 119 from previous years)	288
TOTAL C: REDUCTIONS FROM OPTION 2 PROJECTS FOR 2016	288 tCO₂e

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

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

OFFSET PROVIDER NAME	OFFSETS

TOTAL D: OFFSETS PURCHASED FOR 2016	tCO2e

TOTAL REDUCTIONS AND OFFSETS FOR 2016 (Total B+C+D) = 288 tCO2e

Corporate GHG Emissions Balance for 2016

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

CORPORATE GHG EMISSIONS BALANCE FOR 2016 = (A – (B+C+D)) = 1856 tCO2e

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

GCC CLIMATE ACTION RECOGNITION PROGRAM

Green Communities Committee (GCC) Climate Action Recognition Program

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

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

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

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

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

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

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

PROJECT NAME:

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

<input type="checkbox"/>	Level 1 – Demonstrating Progress on Charter Commitments	
<input checked="" type="checkbox"/>	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	