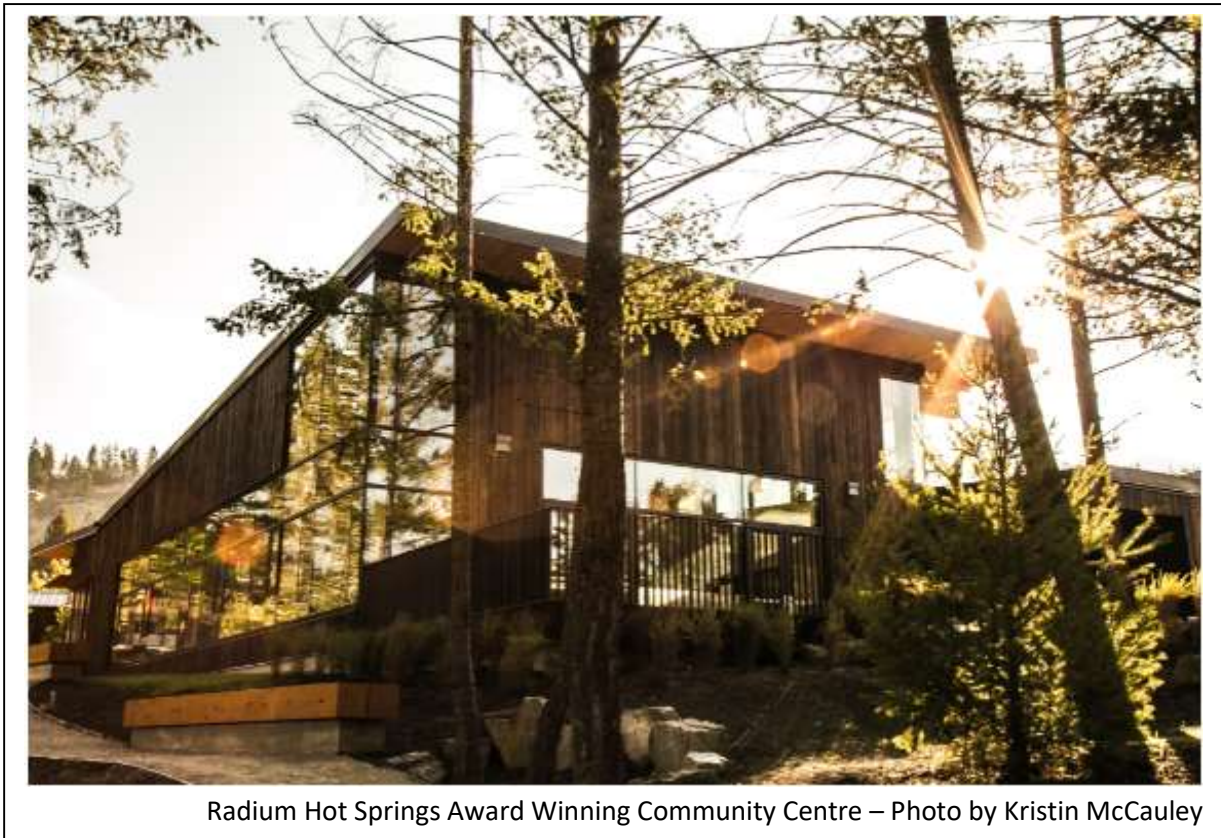


Climate Action Revenue Incentive (CARIP) Public Report for 2018



Local Government: **Village of Radium Hot Springs**

Report Submitted by:

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The Village of Radium Hot Springs has completed the 2018 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2018 and proposed for 2019 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

2018 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, and centred) plays an especially important role in energy and GHG reduction.

Community-Wide Broad Planning Actions Taken in 2018 + Additional Actions	
	Our local government uses the Community Energy and Emissions Inventory (CEEI) to measure progress.
	Our local government established Development Permit Areas (DPAs) for climate action.
Community-Wide Broad Planning Actions Proposed for 2019	
	Our local government will continue to use the Community Energy and Emissions Inventory (CEEI) to measure progress.

Corporate Broad Planning Actions Taken in 2018 + Additional Actions	
	<i>Analysis:</i> The organization reviews materials presented on topics of potential savings to determine viability.
	<i>Plans, Policies, Regulations:</i> Working within the Official Community Plan Bylaw # 396, 2013 - Under Section 4.7, Protecting the Environment - climate change.
	<i>Policy Implementation:</i> Regular maintenance for vehicles and buildings to maintain best performance and efficiencies.
	<i>Funding:</i> CARIP Grant and GHG Offsets for future purchase in reserve funds.
Corporate Broad Planning Actions Proposed for 2019	
	<i>Research:</i> Continue to look for opportunities which are affordable to the community.
	<i>Plans, Policies, Regulations:</i> Moving forward with the OCP as adopted in 2013.
	<i>Policy Implementation:</i> Continue with maintenance and repair schedules.
	<i>Funding:</i> Continue to build reserve until sufficient amount and local opportunities provided.

Broad Planning	
Are you familiar with your local government's community energy and emissions inventory (e.g. CEEI or another inventory)?	Yes
What plans, policies or guidelines govern the implementation of climate mitigation in your community?	
<ul style="list-style-type: none"> • Community Energy and Emissions Plan • Integrated Community Sustainability Plan • Community- Wide Climate Action Plan • Official Community Plan • Regional Growth Strategy 	Yes Yes No Yes No
Does your local government have a corporate GHG reduction plan?	No

2018 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 streetlights and lights in parks or other public spaces.

Community-Wide Building and Lighting Actions Taken in 2018 + Additional Actions	
	<i>Plans, Policies, Regulations:</i> To work with developers to move towards the green construction standards as stated in the approved OCP Bylaw.
	<i>Plans, Policies, Regulations:</i> Continue with the Climate Action policies within the OCP.
Community-Wide Building and Lighting Actions Proposed for 2019	
	<i>Plans, Policies, Regulations:</i> Continue with the Climate Action policies within the OCP.

Corporate Building and Lighting Actions Taken in 2018 + Additional Actions	
	<i>Physical Improvements, Construction:</i> The newly constructed Community Centre includes all LED lighting.
	<i>Physical Improvements, Construction:</i> The overall design of the newly constructed Community Centre takes into consideration angles of light, effects of solar heating, and insulation factors to maximize the efficiency of heating and cooling of the building.
	<i>Physical Improvements, Construction:</i> The newly constructed Community Centre includes occupancy light sensors.
	<i>Physical Improvements, Replacement:</i> When our streetlights reach their end of life, we are replacing the lights with LED lighting.
Corporate Building and Lighting Actions Proposed for 2019	
	<i>Physical Improvements, Construction:</i> Install LED lighting and occupancy light sensors in the new Public Washroom & Skating Rink area.
	<i>Physical Improvements, Construction:</i> Install LED lighting and occupancy light sensors in the new Public Works Garage building.
	<i>Physical Improvements, Construction:</i> Continue to assess replacement options for lighting. Determine if there is a savings in energy and in costs.

Building and Lighting	
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 Code?	Yes
Is your local government implementing the BC Energy Step Code?	No

2018 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.

Corporate Energy Generation Actions Taken in 2018 + Additional Actions	
	<i>Physical Improvements, Construction:</i> Where possible, use heat pumps to heat/cool municipal buildings, for example, in the newly constructed Community Centre an air to air source heat pump has been integrated into the heating/cooling system.
	<i>Physical Improvements, Construction:</i> Solar panels have been installed on the rooftop of the new Community Centre to generate energy for the level two Electrical Vehicle Charging station. Any unused energy produced is assisting the newly constructed Community Centre.
	<i>Physical Improvements, Construction:</i> Investigated potential hydro-generating pressure reducing valves using our gravity feed water system. Unfortunately, the return on investment at this time is not cost effective.
Corporate Energy Generation Actions Proposed for 2019	
	<i>Physical Improvements, Construction:</i> Continue to look for opportunities to transition to renewable or low-emission energy sources for heating and cooling in municipal structures.
	<i>Physical Improvements, Construction:</i> Investigate a different potential hydro-generating pressure reducing valves for our gravity feed water system. Hopefully the return on investment this time is cost effective.
	<i>Physical Improvements, Construction:</i> Investigate the option for solar panels for the Public Works Garage building.
	<i>Physical Improvements, Construction:</i> Investigate the option for solar fan for venting the Public Washroom at the Columbia River access point.

Energy Generation	
Is your local government developing, or constructing a?	
<ul style="list-style-type: none"> • district energy system • renewable energy system 	No
<ul style="list-style-type: none"> • district energy system • renewable energy system 	No
Is your local government connected to a district energy system that is operated by another energy provider?	No
Are you familiar with the 2018 List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?	No

2018 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 Greenspace Actions Taken in 2018 + Additional Actions	
	<i>Physical, Improvements, Construction:</i> Replaced trees which did not survive winter. Biodegradable pet excrement bags stations provided and supported the Community Garden with a purchase of a shredder to efficiently compost materials.
	<i>Feasibility Studies:</i> Protected and preserved environmentally sensitive areas using the OCP as the guideline.
	<i>Plans, Policies, Regulations:</i> Policies & bylaws in place for cleanliness within community.
	<i>Community Education:</i> Education of flora and vegetation suitable for area. Annual clean up which encourages behavioral change - general response of cleanliness.
	<i>Physical:</i> Expanded compost system within Community Garden.
Community-Wide Greenspace Actions Proposed for 2019	
	<i>Physical:</i> Continue with tree replacement program. Encourage use of the community garden. Continue with bag program. Install an irrigation system within Community Garden to increase effectiveness and efficiency of watering.
	<i>Research:</i> Awaiting a Letter of Invitation from the Ministry of Forest, Lands, and Natural Resource Operations for a Community Forests Project.
	<i>Plans, Policy:</i> Continue to monitor effectiveness of the policies & bylaws in place for cleanliness within community.
	<i>Policy Implementation:</i> Continue enforcing bylaws.
	<i>Community Education:</i> Continue with education towards flora and vegetation for area. Continue with annual clean ups.

Corporate Greenspace Actions Taken in 2018 + Additional Actions	
	<i>Physical:</i> Re-establishment and added flora on the Community Center site. The flora chosen was a low wildfire rated to minimize fire fuel materials.
	<i>Physical:</i> Create a design, obtain permits, and begin implementation of a safe Columbia River access point for non-motorized watercrafts to encourage carbon free recreation.
Corporate Greenspace Actions Proposed for 2019	
	<i>Physical:</i> Continue with the construction of a safe Columbia River access point for non-motorized watercrafts to encourage carbon free recreation. Protects the shoreline from erosion. Providing proper washroom facilities and refuse bins to encourage proper disposal of waste and as 'off-grid' infrastructure to maintain a 'Dark Sky Park'.

Greenspace	
Does your local government have urban forest policies, plans or programs?	No
Does your local government have policies, plans or programs to support local food production?	Yes

2018 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 Solid Waste Actions Taken in 2018 + Additional Actions	
	<i>Community Education, Engagement:</i> Ongoing education of best practices of waste disposal options. Through the education process we encourage behavioural changes to reduce waste in landfills and wildlife-human encounters. Continue to use animal proof containers to prevent wildlife accessing waste. Met with Provincial Government regarding wildlife-human encounters.
	<i>Community Education, Engagement:</i> The water bottle filling station includes the educational component of informing the public of how many 591 ml bottles are diverted from the landfill.
Community-Wide Solid Waste Actions Proposed for 2019	
	<i>Community Education:</i> Continue with education process.
	<i>Community Education, Engagement:</i> The Village installed a water bottle filling station which educates the public of how many 591 ml bottles are diverted from the landfill by using a ticker counter.

Corporate Solid Waste Actions Taken in 2018 + Additional Actions	
	<i>Physical Improvements, Construction:</i> Recycle bins available for the community. Bear proof garbage cans distributed within community.
	<i>Physical Improvements, Construction:</i> Included in the construction of the new Community Centre was a water bottle filling station to reduce the impact of single use plastics.
	<i>Policy Implementation:</i> Enforced current policies.
	<i>Committees, Staffing:</i> Staffing the Wildlife Aware Program. Bylaw officer staffed.
	<i>Physical Improvements, Construction:</i> Continue to make available the recycle bins, and bear proof garbage cans. Expanded the locations of the bear proof garbage cans.
Corporate Solid Waste Actions Proposed for 2019	
	<i>Policy Implementation:</i> Continue to enforce current policies.
	<i>Committees, Staffing:</i> Continue with staffing of the Wildlife Aware Program. Bylaw officer continue to be staffed.

<i>Physical Improvements, Construction:</i> Continue with the construction of a safe Columbia River access point for non-motorized watercrafts. The site will be providing proper washroom facilities and refuse bins to encourage proper disposal of waste.
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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

2018 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 and public transit, can contribute to reductions in GHG emissions and more livable communities.

Community-Wide Transportation Actions Taken in 2018 + Additional Actions	
<i>Physical Improvements, Construction:</i> Community Energy, BC Hydro and the Village partnered to install a level two and a level three electric vehicle charging station.	
Community-Wide Transportation Actions Proposed for 2019	
<i>Physical Improvements, Construction:</i> Monitor the level two electric vehicle charging station. BC Hydro will monitor the level three electric vehicle charging station.	
<i>Plans, Policies, Regulations:</i> Council supports business initiatives which promote alternative transportation options such as Segway tours.	

Corporate Transportation Actions Taken in 2018 + Additional Actions	
<i>Analysis:</i> Survey of the land for trail system. Worked with current landowners on the terms of the Right-of-Way for use of private lands.	
<i>Plans, Policies, Regulations:</i> OCP includes the requirements to 'maintain a pedestrian scale and connectivity' on pathways, trails, and sidewalks. Promote the Regional Public Transit system. Supporting the trail system connecting communities within the region.	
<i>Policy Implementation:</i> Approval from local business for extension of an existing trail. Council supports the regional public transportation.	
<i>Funding:</i> Funds have been placed in reserve for regional walking, hiking, and biking trail system.	
Corporate Transportation - Actions Proposed for 2019	
<i>Analysis:</i> Continue to work with current landowners on the terms of the Right-of-Way for use of private lands.	
<i>Plans, Policies, Regulations:</i> Continue to promote a compact footprint and pedestrian friendly small village. Continue to promote the Regional Public Transit system. Continue to support the regional trail system.	

<i>Policy Implementation:</i> Continue to work with community to extend trail systems.
<i>Funding:</i> Continue to fund regional trail system when applicable.

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 Yes Yes N/A
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 behaviour)?	No
Does your local government integrate its transportation and land use planning?	Yes

2018 WATER AND WASTEWATER ACTIONS

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 GHG emissions.

Community-Wide Water and Wastewater Actions Taken in 2018 + Additional Actions	
	<i>Plans, Policies, Regulations:</i> Enforced existing water conservation policy.
	<i>Community Education, Engagement:</i> Local golf resort uses an alternate source for irrigation rather than treated potable water.
Community-Wide Water and Wastewater Actions Proposed for 2019	
	<i>Plans, Policies, Regulations:</i> Continue to enforce the water conservation policy.
	<i>Community Education, Engagement:</i> Continue with the 'Pitch-In' program.

Corporate Water and Wastewater Actions Taken in 2018 + Additional Actions	
	<i>Physical Improvements, Construction:</i> Included in the construction of the new Community Centre are low flow faucets and fixtures in all washrooms. Outside the construction included a water efficient irrigation system with timers.
	<i>Analysis:</i> We are using zoned water meter stations to monitor consumption within the community.
	<i>Plans, Policies, Regulations:</i> Water restrictions policies were in effect.
Corporate Water and Wastewater Actions Proposed for 2019	
	<i>Funding:</i> Hiring an individual to investigate the whole community to provide a more detailed analysis of water leaks using the data from the zoned water meter stations previously installed. This is to increase our water efficiency by identifying the leakages and being able to repair issues and monitor potential problems.

<i>Physical Improvements, Construction:</i> Construct rain barrel water system for the Community Garden.
<i>Plans, Policies, Regulations:</i> Continue with water restrictions.

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

2018 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.

Please identify the THREE climate impacts that are most relevant to your Local Government.	
<ul style="list-style-type: none"> • Changes to temperature and precipitation causing seasonal drought including warmer winter temperatures reducing snowpack, and warmer summer temperatures increasing wildfire activity affecting air quality • Changing temperatures influencing species migration and ecosystem shifts 	
In 2018 has your local government addressed the impacts of a changing climate using any of the following?	
Risk and Vulnerability Assessments	Yes
Risk Reduction Strategies	Yes
Emergency Response Planning	Yes
Asset Management	Yes
Natural/Eco Asset Management Strategies	No
Infrastructure Upgrades (e.g. stormwater system upgrades)	Yes
Beach Nourishment Projects	No
Economic Diversification Initiatives	Yes
Strategic and Financial Planning	Yes
Cross-Department Working Groups	Yes
Official Community Plan Policy Changes	Yes
Changes to Zoning and other Bylaws and Regulations	Yes
Incentives for Property Owners (e.g. reducing storm water run-off)	No
Public Education and Awareness	Yes
Research	Yes
Mapping	Yes
Partnerships	Yes

Climate Change Adaptation Actions Taken in 2018	
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.	
	Constructed the Community Centre building to minimize the need for cooling requirements during higher temperatures as well as the orientation of the building by placing the fenestration on the north and east side of the building to minimize the solar heat gain.
	The Japanese style Shou Sugi ban burnt wood siding of the newly constructed Community Centre is fire and insect resistant.
Climate Change Adaptation Actions Proposed for 2019	
	Design and construct the public works garage building with additional insulating material resistant to conductive heat flow to reduce the need for heating in winter and cooling in the summer.
	The design and construction of the 'off-grid' public washroom facility at the Columbia River access point will eliminate the need for power and prevent light pollution. The location of the facility will also be protected from any potential flooding occurrences. The material of the facility will be concrete thus protecting the structure from any wildfire activity.

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 separated by a forward slash (e.g. program1/program2).

Mitigation

Mitigation Programs, Partnerships and Funding
<p>Radium Hot Springs is a participating community in the region wide Accelerate Kootenays initiative. In December 2017, a DC Fast Charger was installed in partnership with the Village at our Community Centre. The station has been used however BC Hydro retains control thus we are unable to report on usage. In addition to this installation, the Village allocated resources in 2017 and in 2018 installed a Level 2 Charger also at the Community Centre and installed a demonstration solar array on the building using CARIP reserve funds. With these three initiatives, the Village is committing to leading by example, demonstrating to the community as well as visitors a transition to low-carbon transportation networks and renewable energy opportunities.</p> <p>Partners involved:</p> <ul style="list-style-type: none"> • Community Energy • North Growth Foundation • Bill Swan of Greenman Sustainable Solutions • BC Hydro

2018 CARBON NEUTRAL REPORTING

Local governments are required to report on their progress in achieving their carbon neutral goal under the [B.C. 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.

Reporting Emissions

Did your local government measure corporate GHG emissions for 2018?	Yes
If your local government measured 2018 corporate GHG emissions, please report the number of corporate GHG emissions from services delivered directly by your local government (in tonnes of carbon dioxide equivalent)	127 tCO₂e

If your local government measured 2018 corporate GHG emissions, please report the number of corporate GHG emissions from contracted services (in tonnes of carbon dioxide equivalent)	9 tCO₂e
TOTAL A: CORPORATE GHG EMISSIONS FOR 2018 (Direct GHGs + Contracted GHGs)	136 tCO₂e

Reporting Reductions and Offsets

To be carbon neutral, a local government must balance their TOTAL corporate GHG emissions generated in 2018 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

For more information about options to balance or offset corporate GHG emissions please refer to [Becoming Carbon Neutral: A Guidebook for Local Governments in British Columbia](#).

If applicable, please report the 2018 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO₂e)) being claimed from any of the following Option 1 GHG Reduction Projects:

OPTION 1 PROJECTS	REDUCTIONS
Solar Thermal (in tonnes of carbon dioxide equivalent (tCO₂e)) Please note: The Village has installed Solar PV. Although it does not count in the reduction formula, it supplies our Electric Vehicle station with energy and any surplus reduces our energy consumption for our new Community Centre.	Solar PV is not an allowable reduction.
Low Emission Vehicles (in tonnes of carbon dioxide equivalent (tCO₂e)) Please note that the reductions associated with low emission vehicles are the direct impacts of our public Level 2 station. Though only operational for the last portion of 2018, we were able to support EV travel by the community fleet.	.276 tCO₂e
TOTAL B: REDUCTIONS FROM ALL OPTION 1 PROJECTS FOR 2018	.276 tCO₂e

Q 91 If applicable, please report the names and 2018 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO₂e)) being claimed from Option 2 GHG Reduction Projects:

Option 2 Project Name	REDUCTIONS
Option 2 GHGs Reduced (tCO₂e)	
TOTAL C: REDUCTIONS FROM ALL OPTION 2 PROJECTS FOR 2018	0 tCO₂e

Offsets

Q 93 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 2018 reporting year:

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

Offset Provider Name	OFFSETS
Offsets (tCO ₂ e)	
TOTAL D: OFFSETS PURCHASED FOR 2018	0 tCO₂e

TOTAL REDUCTIONS AND OFFSETS FOR 2018 (Total B+C+D) = .276 tCO₂e

Corporate GHG Emissions Balance for 2018

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 2018 = (A – (B+C+D)) = 135.724 tCO₂e

Carbon Neutral Reporting	
Does your local government set aside funds in a climate reserve fund or similar?	Yes

GCC CLIMATE ACTION RECOGNITION PROGRAM

Green Communities Committee 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 (e.g. 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.

Based on your local government's 2018 CARIP Climate Action/Carbon Neutral Progress Survey, please check 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	✓
	Level 4 - Achievement of Carbon Neutrality	