

# Climate Action Revenue Incentive (CARIP) Public Report for 2018

**Local Government: Township of Langley**

**Report Submitted by: Township of Langley**  
**Name: Krista Robinson**  
**Role: Sustainability Programs Specialist**  
**Email: [krobinson@tol.ca](mailto:krobinson@tol.ca)**  
**Phone: 604.532.7269**



**Date: May 31, 2019**

The Township of Langley 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.

## 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.

<b>Q 6 + Q 7 Community-Wide Broad Planning Actions Taken in 2018 + Additional Actions</b>	
	The Social Sustainability Strategy process involved community-wide engagement, including a panel discussion, pop-up engagement events, innovation labs and kitchen table discussions. Some of these discussions touched on topics related to transportation such as the availability and convenience of public transit, access to bike paths, walkways, and other transportation alternatives, and the cost and the amount of time to get around.
<b>Q 8 Community-Wide Broad Planning Actions Proposed for 2019</b>	
	The Township will work on three neighbourhood plans (NPs) in the Brookwood-Fernridge community. The NPs will be consistent with section 10.5 of the Brookwood-Fernridge Community Plan, to implement provisions in Development Permit Area D – Energy and Water Conservation and Reduction of Greenhouse Gas Emissions.
	Completing a major update to the Community Energy and Emissions Plan (CEEP). The comprehensive update will establish ways in which the Township, its community partners and residents can reduce the community’s energy use and greenhouse gas (GHG) emissions. The purpose of updating the current draft plan is to develop revitalised and relative long-term and short-term goals for energy use and GHG emissions, along with targets, strategies and actions for meeting those goals.
	Community engagement for the Social Sustainability Strategy will continue through 2019
<b>Q 9 + Q 10 Corporate Broad Planning Actions Taken in 2018 + Additional Actions</b>	
	Worked with departments on various initiatives in the Strategic Energy Management Plan. Continued to implement remaining actions and develop or adjust next steps based on progress reports.
<b>Q 11 Corporate Broad Planning Actions Proposed for 2019</b>	
	Continued updates for the Strategic Energy Management Plan (SEMP). Departmental meetings will be held with each of the departments with significant energy use to review and evaluate each department’s objectives, specific targets, Key Performance Indicators (KPIs) and initiatives with regards to energy efficiency and GHG reduction as detailed in the SEMP.
<b>Broad Planning</b>	
<b>Q 12 What is (are) your current GHG reduction target(s)?</b>	Reduce GHG emissions on a per capita basis by 10% from 2007 by 2021

<b>Q 13 Are you familiar with your local government's community energy and emissions inventory (e.g. <a href="#">CEEI</a> or another inventory)?</b>	<b>Yes</b>
<b>Q 14 What plans, policies or guidelines govern the implementation of climate mitigation in your community?</b>	
<ul style="list-style-type: none"> <li>• Community Energy and Emissions Plan</li> <li>• Integrated Community Sustainability Plan</li> <li>• Community- Wide Climate Action Plan</li> <li>• Official Community Plan</li> <li>• Regional Growth Strategy</li> </ul>	<b>Yes</b> <b>Yes</b> <b>Yes</b> <b>Yes</b> <b>Yes</b>
<b>Q 15 Does your local government have a corporate GHG reduction plan?</b>	<b>Yes</b>

## 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 street lights and lights in parks or other public spaces.

<b>Q 16 + Q 17 Community-Wide Building and Lighting Actions Taken in 2018 + Additional Actions</b>	
	Adopted an approach to the BC Energy Step Code for new residential Part 9 and Part 3 buildings that stays ahead of the BCBC
	Continued offering the energy efficient appliance rebate program in partnership with BC Hydro. Fall campaign issued 175 rebates for energy efficient clothes washers, dryers and refrigerators
	Hosted three builder breakfast workshops to educate builders on the Township's Step Code Adoption
	Expanded the Green Building Rebate Program to offer builders and developers rebates on air tightness testing and Energy Advisor services
<b>Q 18 Community-Wide Building and Lighting Actions Proposed for 2019</b>	
	Obtain additional staff to form a Green Buildings Group that will help to manage programs and policy planning surrounding community and corporate building infrastructure. The staff will be responsible for expanding current rebate programs, implementation of the BC Energy Step Code, builder and developer compliance in Energy and GHG reduction DPAs, and incentivizing voluntary green building practices.
	Continue offering the Builders Breakfast Series
	Continue offering the energy efficient appliance rebate program in partnership with BC Hydro
	Participate in Earth Hour by hosting a Glow Swim at the new Aldergrove Credit Union Community Centre

<b>Q 19 + Q 20 Corporate Building and Lighting Actions Taken in 2018 + Additional Actions</b>	
	Participated in Earth Hour by turning off lights at select facilities
	Conducted a Staff Thermal Comfort Survey at the Civic Facility to address HVAC issues and increase energy efficiency at the facility
	Conducted Operator Training on Energy Efficiency and pool/arena operations, will continue this education training with more in depth sessions that focus on energy efficiency commissioning practices and technologies
	Participated in BC Hydro's Energy Wise Network
	Completed various lighting upgrades at WC Blair Recreation Centre
	Implementation of the heat reclaim project at George Preston Recreation Centre main ice plant which allows recovery of the excess heat and utilizing it to heat domestic hot water
	Hired a Building Energy Specialist to lead the design and implementation of standardized tools and processes to enhance compliance with energy provisions of the BCBC and Township policy aimed at improving building energy performance within the new construction and existing building sectors
	Implement a variety of measures for the Township's new Aldergrove Credit Union Community Centre (opened summer 2018), including: <ul style="list-style-type: none"> <li>• Solar collectors used to pre-heat domestic hot water</li> <li>• The Defender® Regenerative Media Filter provides energy savings compared to traditional sand filtration</li> <li>• LED Lighting through the facility and water park</li> <li>• Occupancy sensors for lighting</li> </ul>
	Acquire 2 Sustainability Scholars in partnership with UBC and BC Hydro to develop a business case for Council for a community wide LED streetlight conversion and the development of a Corporate Building Policy aligning with the new BC Energy Step Code
	Developed a comprehensive business case to convert all existing HPS street lighting to LED. This project included best practices research, completion of an in-depth inventory, and financial modeling.
<b>Q 21 Corporate Building and Lighting Actions Proposed for 2019</b>	
	Hosting Operator Training on energy efficiency in arenas and pools
	Develop a Thermal Comfort Protocol for corporate buildings that sets policies around the use of space heaters
	Scoping an LED lighting upgrade at the Langley Events Centre which will be phase 2 of a total of 3 phases to upgrade the entire facility
	Participate in BC Hydro's Energy Wise Network and conduct a campaign to turn off computer monitors when not in use
	Install a Fault Detection and Diagnostics (FDD) system at Walnut Grove Community Centre which will help identify operational measures that would reduce energy consumption and GHG emissions
	Obtain capital funding to convert existing HPS street lights to LED across the Township

**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

<b>Q 22 Is your local government aware of the <a href="#">BC Energy Step Code</a>?</b>	Yes
<b>Q 23 Is your local government implementing the <a href="#">BC Energy Step Code</a>?</b>	Yes

**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.

<b>Q 24 + Q 25 Community-Wide Energy Generation Actions Taken in 2018 + Additional Actions</b>	
	Continue to maintain and operate the Jackman Landfill biogas optimization project. The project is used to provide renewable energy to a nearby commercial greenhouse as opposed to the utilization of natural gas. The site is also undergoing construction to be utilized as a new disc golf course for the community.
<b>Q 26 Community-Wide Energy Generation Actions Proposed for 2019</b>	

<b>Q 27 + Q 28 Corporate Energy Generation Actions Taken in 2018 + Additional Actions</b>	
	Continued to operate geo-exchange and solar thermal systems at Civic Facility
	Installed Solar Thermal system at new Aldergrove Credit Union Community Centre to offset some of the natural gas demand in the facility and reduce GHGs
	Operate Heat Recovery system at the Aldergrove Credit Union Community Centre which recovers heat from the arena ice plant to preheat domestic hot water
<b>Q 29 Corporate Energy Generation Actions Proposed for 2019</b>	
	Trial of portable electric generators powered by batteries with PV solar panels for back-up for Township-hosted events and roads operations
	Look at expanding solar panel infrastructure at main Civic Facility to provide more pre-heating to domestic hot water and reduce reliance on natural gas

<b>Energy Generation</b>	
<b>Q 30 Is your local government developing, or constructing a</b> <ul style="list-style-type: none"> <li>• district energy system</li> <li>• renewable energy system</li> <li>• none of the above</li> </ul>	<b>No</b> <b>No</b>
<b>Q 31 Is your local government operating a</b> <ul style="list-style-type: none"> <li>• district energy system</li> <li>• renewable energy system</li> <li>• none of the above</li> </ul>	<b>No</b> <b>Yes</b>
<b>Q 32 Is your local government connected to a district energy system that is operated by another energy provider?</b>	<b>No</b>
<b>Q 33 Are you familiar with the 2018 <a href="#">List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?</a></b>	<b>Yes</b>

## 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.

<b>Q 34 + Q 36 Community-Wide Greenspace Actions Taken in 2018 + Additional Actions (Q 35 below Q 41)</b>	
	Parks department hosted/attended various community events such as Arbor Day, Municipal Awareness Day, and BC Rivers Day to increase public awareness of natural resource protection
	Series of interpretive panels were installed along Yorkson creek. Panels include information and artwork created by students at an adjacent elementary school. Topics include local flora, fauna, and First Nations influence.
	Coordination of 9 community gardens across the Township in partnership with the Langley Environmental Partners Society (LEPS)
	Coordination of the Langley Demonstration Garden in partnership with LEPS to promote sustainable gardening, backyard composting, and the use of drought tolerant plants. Multiple education programs and events are also run out of the garden, including environmentally-themed workshops for adults and summer camps for kids.
<b>Q 37 Community-Wide Greenspace Actions Proposed for 2019</b>	
	Opening of the Rotary Interpretive Centre at Derek Doubleday Arboretum which will be home public education programs focusing on the cultural use of plants. The adjacent gardens which include a dyer's garden (pigments and dye's), Willow's Garden (weaving and espalier training), and the demonstration garden will be utilized in these programs.
	Parks department will host/attend various community events such as Arbor Day and BC Rivers Day

	to increase public awareness of natural resource protection
	Coordination of 9 community gardens across the Township in partnership with the Langley Environmental Partners Society (LEPS)
	Coordination of the Langley Demonstration Garden in partnership with LEPS to promote sustainable gardening, backyard composting, and the use of drought tolerant plants. Multiple education programs and events are also run out of the garden, including environmentally-themed workshops for adults and summer camps for kids.
<b>Q 38 + Q 39 Corporate Greenspace Actions Taken in 2018 + Additional Actions</b>	
	Added staff - Trades 1 - Urban Forestry, Trails and Natural Areas Maintenance Worker
	Landscape improvements at the Civic Facility and Langley Events Centre
	Yorkson Community Park construction continued into phase 4
	Annual tree planting program was implemented and 222 new trees are to be planted across 3 Township park spaces
	Coordinating with Metro Vancouver to assist in their development of a long term, land acquisition strategy to identify and target properties with high ecological value for protection
	Purchased 52 acre wetland property for addition to Parks inventory in Nathan Creek watershed
<b>Q 40 Corporate Greenspace Actions Proposed for 2019</b>	
	Development of an Urban Forest Management Plan
	Township Council has identified tree / canopy protection as one of the priorities for 2019 – 2022. Further details will be available later in 2019 for this Council priority.
	Yorkson Community Park construction continuous into phase 5
	Annual tree planting program continues and 268 new trees are to be planted across 8 Township Park spaces
	Undertaking environmental inventory to assist planning for new forested park site at Milaster Property
	Continued coordination with Metro Vancouver to assist in their development of a long term land acquisition strategy to identify and target properties with high ecological value for protection
	Coordination with private development to provide 2 integrated stormwater detention facilities within athletic sport field designs at Yorkson Community Park and Willoughby Community Park
	Refinement of the Brookwood Fernridge Community Trail Network through development of the neighbourhood plans

<b>Greenspace</b>	
<b>Q 41 Does your local government have urban forest policies, plans or programs?</b>	<b>No</b>
<b>Q 35. Does your local government have policies, plans or programs to support local food production?</b>	<b>Yes</b>

## 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.

<b>Q 42 + Q 43 Community-Wide Solid Waste Actions Taken in 2018 + Additional Actions</b>	
	Instituted a Green Cart contamination education campaign
	Hosted the 6 <sup>th</sup> annual Upcycling Design Challenge
	Hosted the 7 <sup>th</sup> annual Clean Up Langley Day
	Sponsored Zero Waste Planet Protector Academy workshops for 8 schools
	Sponsored over 126 zero waste workshops to elementary school classrooms
	Sponsored 4 Litter & Waste theatre performances for elementary schools
	Attended numerous community events
	Hosted a two day Household Hazardous Waste Drop-off event
	Joined the provincial recycling program, Recycle BC, and increase the types of printed paper and packaging accepted in municipal recycling. Promoted via education campaign, door to door and social media.
<b>Q 44 Community-Wide Solid Waste Actions Proposed for 2019</b>	
	Introduce organics collection into select multi-family buildings
	Implement phase 1 and 2 of a 5 year Public Spaces Waste Management Program including new park and streetscape waste receptacles with recycling, compost, and pet waste options
	Expand the Green Team support for the Langley Events Centre
	Host the 8 <sup>th</sup> annual Clean Up Langley Day litter pick-up event
	Host an Inaugural Township-wide Garage Sale
	Sponsor Zero Waste Planet Protector Academy workshops for 12 schools
	Sponsor 120 zero waste workshops to elementary school classrooms
	Sponsor 4 Litter & Waste theatre performances for elementary schools
	Attend numerous community events
	Host a two day Household Hazardous Waste Drop-off event
	Increase participation in multi-family recycling programs
	Increase enrollment in Recycling Ambassador volunteer program
	Education on food waste and Love Food Hate Waste campaign
	Develop an Event Waste Management Guidelines document
<b>Q 45 + Q 46 Corporate Solid Waste Actions Taken in 2018 + Additional Actions</b>	
	Ran information sessions on corporate recycling program to educate new staff and remind existing staff of sorting requirements to reduce contamination
	Installed a full recycling program at new Aldergrove Credit Union Community Centre and waterpark, including recycling programs for compost, soft plastics, electronics, metals, Styrofoam, batteries and more. Worked with food vendors to ensure over 90% of food packaging is either compostable or recyclable.

	Replaced existing exterior garbage bins at all facilities with new multi-stream bins (recycling, compost, garbage)
	Initiated a new waste management levy on dog licenses and park facility rentals to help offset the cost of the Public Spaces Waste Management (streetscape recycling) program
	The new Aldergrove Credit Union Community Centre was designed and outfitted with zero waste stations and have efficient Dyson hand dryers instead of paper towels to reduce waste
<b>Q 47 Corporate Solid Waste Actions Proposed for 2019</b>	
	Work with developer of new airport building to provide waste diversion options
	Implement requirements for contractors conducting demolitions for corporate projects to submit waste management plans in advance of the project, and to report on recycling tonnage and drop-off locations
	Improve Responsible Program (corporate recycling) orientation for new employees
	Corporate Waste Reduction Weeks activities/event
	Introduce cigarette butt recycling
	Develop a Disaster Debris Waste Management Plan

<b>Solid Waste</b>	
<b>Q 48 Does your local government have construction and demolition waste reduction policies, plans or programs?</b>	<b>Yes</b>
<b>Q 49 Does your local government have organics reduction/diversion policies, plans or programs?</b>	<b>Yes</b>

## 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.

<b>Q 50 + Q 51 Community-Wide Transportation Actions Taken in 2018 + Additional Actions</b>	
	Completed the 202 Street Sidewalk Improvement project in Willowbrook (62 Ave to 64 Ave)
	Work with TransLink on improved bus service on Fraser Highway
	Construction of the North Langley connector, the final cycling project in the 5 year cycling plan
	Constructed a sidewalk along 203 Street from 62 Avenue to 64 Avenue in Willowbrook
	Partner with HASTe and Translink to provide school travel planning to 1 school to reduce car travel and promote active transportation
	Partnered with TransLink and HUB to deliver Learn2Ride and Ride the Road courses to a number of schools in Langley
	Upgraded 7 of bus stops in the Township for accessibility
	Installed 2 dual head EV charging stations at the new Aldergrove Credit Union Community Centre with electric roughed-in room for expansion

	Installed a new dual head level II EV charging station at the WGCC and an additional dual head level II EV charging station at the Civic Facility
	Council supported a draft EV bylaw requirement for new residential construction brought forward by staff for industry engagement
	Council supported the development of an EV Strategy
	Attended Municipal Awareness Day event with an EV to discuss and demonstrate their use with elementary schools. Station will highlight how EV's do not burn fossil fuels and the environmental benefits associated.

**Q 52 Community-Wide Transportation Actions Proposed for 2019**

	The Township is working with the City of Surrey and TransLink, the led proponents for the SkyTrain extension east of the King George Station along the Expo Line. The proposed SkyTrain extension would see a terminal station in the City of Langley and one in Willowbrook in the Township. The extension would bring rapid transit to the Langley, encourage transit-oriented development, and reduce the reliance on the car
	Complete the 92A Avenue Sidewalk Improvement project in North Langley (198 St to 200 St)
	Complete the North Langley Connector Phase 1 & Phase 2, the final cycling project in the Five Year Cycling Improvement Plan (Glover Rd, River Rd, 248 St, Telegraph Trail & 80 Ave)
	Complete the design for the 201 Street Connector cycling project, connecting to the Golden Ears Bridge.
	Upgrade 10 of bus stops in the Township for accessibility
	Work with TransLink on a Transit Signal Priority program
	Partner with HASTe and Translink to finalize school travel planning to Richard Bulpitt Elementary School to reduce car travel and promote active transportation
	Partner with Urban Systems and TransLink to provide School Travel Planning program to Topham Elementary School to reduce car travel and promote active transportation
	Partner with TransLink and HUB to deliver Learn2Ride and Ride the Road courses to a number of schools in Langley
	Bring forward EV Strategy to Council, including draft bylaw language outlining new residential EV charging requirements
	Complete EV charging installation with two commercial mall properties

**Q 53 + Q 54 Corporate Transportation Actions Taken in 2018 + Additional Actions**

	Delivered training sessions with approximately 200 crew staff members to educate about the one-minute idling policy and to dispel idling myths. Updated yard signage.
	Hosted Commuter Challenge event to promote carpooling and other forms of transportation beyond SOVs.
	Participated in Bike to Work Week
	Procured new fleet vehicle that runs on propane rather than diesel
	Worked with Waste and Recycling Hauler to procure propane vehicles in fleet to reduce GHGs related to transportation emissions
	Upgraded 1 fleet and 1 staff EV charging station from single head to dual head

**Q 55 Corporate Transportation - Actions Proposed for 2019**

	Participate in Bike to Work Week
	Waste and recycling hauler to transition all vehicles to propane hybrid, thereby reducing

	greenhouse gas emissions
	Work with waste and recycling hauler to pilot electric medium duty vehicle for large item pickup truck to reduce GHGs related to transportation emissions
	Embark on a Fleet Strategy for Township-owned vehicles
	Expanding EV charging infrastructure at Operations Works Yard to allow for the procurement of more EVs into corporate fleet
	Implementing a Electric Vehicle Workplace Charging Program
	Procuring new fleet vehicles that run on propane instead of gasoline reducing associated GHG emissions by 35%
	Host a staff EV information session in partnership with Metro Vancouver’s Emotive, along with a second session to test drive

Transportation	
<b>Q 56 Does your local government have policies, plans or programs to support:</b> <ul style="list-style-type: none"> <li>• Walking</li> <li>• Cycling</li> <li>• Transit Use</li> <li>• Electric Vehicle Use</li> <li>• Other (please specify) <a href="#">EV residential charging requirements bylaw</a></li> </ul>	Yes Yes Yes Yes Yes
<b>Q 57 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)?</b>	No
<b>Q 58 Does your local government integrate its transportation and land use planning?</b>	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.

Q 59 + Q 60 Community-Wide Water and Wastewater Actions Taken in 2018 + Additional Actions	
	The new region wide Drinking Water Conservation Plan is now in effect (May 1 – Oct 15) as the Drinking Water Conservation Bylaw
	Waterwise, water ambassadors, school programs commenced June 2018 with a target of 3000 residential homes to be visited and 30 classroom workshops provided
	The “Don’t Waste What We Drink” water conservation campaign ran again to support the new Drinking Water Conservation Bylaw
	The Empower Me program continued outreach in the community to share water conservation messaging

	Washer rebate program in partnership with BC Hydro
	Coordinate BC Rivers Day
<b>Q 61 Community-Wide Water and Wastewater Actions Proposed for 2019</b>	
	Water audits at up to 100 Food Service Establishments and retrofit installation of faucet aerators and pre-rinse spray nozzles will commence in 2019
	Don't Waste What We Drink campaign commercials will run summer 2019 at Cineplex and local Tim Hortons restaurants
	Washer rebate program in partnership with BC Hydro
	The Empower Me program will continue outreach in the community to share water conservation messaging
	Waterwise, water ambassadors, school programs will continue
	Coordinate BC Rivers Day

<b>Q 62 + Q 63 Corporate Water and Wastewater Actions Taken in 2018 + Additional Actions</b>	
	Water efficiency measures at the new Aldergrove Credit Union Community Centre (and water park) include: <ul style="list-style-type: none"> <li>• Water efficient irrigation system</li> <li>• Water efficient plumbing fixtures (e.g. sensed sinks, etc.)</li> <li>• Unlike typical water spray parks, all the water here is recirculated</li> <li>• The Defender® Regenerative Media Filter provides exceptional water filtration along with significant water savings compared to traditional sand filtration</li> <li>• Rainwater harvesting system which supplies water to toilets and urinals</li> </ul>
	The Water Shortage Response Bylaw was repealed and replaced by the Drinking Water Conservation Bylaw (adopted by Council March, 2018)
	Retrofits continued at community facilities
<b>Q 64 Corporate Water and Wastewater Actions Proposed for 2019</b>	
	Retrofit of Firehall #6 to water efficient washroom devices (toilets/faucets)
	Piloting water loggers for major facilities that would significantly speed up the identification of any leaks and eliminate associated water waste

<b>Water Conservation</b>	
<b>Q 65 Does your local government have water conservation policies, plans or programs?</b>	<b>Yes</b>

## 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.

<b>Q 66 Please identify the THREE climate impacts that are most relevant to your Local Government.</b>	
<ul style="list-style-type: none"> <li>1) Changes to temperature and precipitation causing seasonal drought</li> <li>2) Heatwaves impacting human health</li> <li>3) Extreme weather events contributing to urban and overland flooding</li> </ul>	
Other (please specify):	
<b>Q 67 In 2018 has your local government addressed the impacts of a changing climate using any of the following?</b>	
Risk and Vulnerability Assessments	Yes
Risk Reduction Strategies	Yes
Emergency Response Planning	Yes
Asset Management	No
Natural/Eco Asset Management Strategies	No
Infrastructure Upgrades (e.g. stormwater system upgrades)	Yes
Beach Nourishment Projects	No
Economic Diversification Initiatives	No
Strategic and Financial Planning	No
Cross-Department Working Groups	Yes
Official Community Plan Policy Changes	Yes
Changes to Zoning and other Bylaws and Regulations	No
Incentives for Property Owners (e.g. reducing storm water run-off)	No
Public Education and Awareness	Yes
Research	Yes
Mapping	Yes
Partnerships	Yes
Other (please specify):	

<b>Q 68 Climate Change Adaptation Actions Taken in 2018</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.	
	Applied for FCM’s MCIP funding and was awarded funding to develop a Climate Change Adaptation Plan
	Awarded contract to consultant to assist with the development of the Adaptation Plan
	Convened staff Adaptation Team from across the organization to assist with the development of the Plan
<b>Q 69 Climate Change Adaptation Actions Proposed for 2019</b>	
	Complete Current Conditions Assessment
	Complete a Natural Asset Inventory
	Conduct 3 staff engagement workshops to identify impact statements, conduct risk and vulnerability analyses, and develop action items for the Plan
	Host minimum of 3 public and/or stakeholder engagement events to increase public knowledge about the Township’s Adaptation plan and to seek feedback
	Complete the Township’s Climate Change Adaptation Plan (fall 2019)
<b>Q 70 For more information please contact</b>	
	Krista Robinson <a href="mailto:krobinson@tol.ca">krobinson@tol.ca</a> 604.532.7269

<b>Q 71. The following are key resources that may be helpful to your local government in identifying climate impacts, as well as, strategies, actions and funding to deal with them. For those resources that you have used, please indicate whether they were useful in advancing your work in climate change adaptation?</b>	
<a href="#">Indicators of Climate Change for British Columbia</a> <a href="#">Plan2Adapt</a> <a href="#">Climate Projections for Metro Vancouver</a> <a href="#">Climate Projections for the Capital Region</a> <a href="#">Climate Projections for the Cowichan Valley Regional District</a> <a href="#">Province of BC’s BC Adapts Video Series</a> <a href="#">Preparing for Climate Change: Implementation Guide for Local Governments</a> <a href="#">Public Infrastructure and Engineering Vulnerability Committee’s (PIEVC)</a> <a href="#">Sea Level Rise Adaptation Primer</a> <a href="#">BC Regional Adaptation Collaborative Webinars</a> <a href="#">Retooling for Climate Change</a> <a href="#">Water Balance Model</a> <a href="#">Water Conservation Calculator</a>  Funding: <a href="#">National Disaster Mitigation Program (NDMP)</a> <a href="#">Community Emergency Preparedness Fund (CEPF)</a> <a href="#">Municipalities for Climate Innovation Program (MCIP)</a> <a href="#">Climate Adaptation Partner Grants (FCM)</a> <a href="#">Infrastructure Planning Grants (MAH)</a> <a href="#">Federal Gas Tax Fund</a>	Useful Useful Useful Haven’t Used Haven’t Used Haven’t Used Haven’t Used Haven’t Used Not Useful Haven’t Used Haven’t Used Haven’t Used Useful  Haven’t Used Haven’t Used Useful Haven’t Used Haven’t Used Haven’t Used
<b>Other (please specify)</b>	

## 2018 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.

Q 72 Community-Wide Other Actions Taken in 2018	
	Continued to offer the 'Empower Me' program which brings information on energy savings, water conservation, recycling, and fire safety to newcomers. Includes adding their presence at various community events.
	Sponsor 8 'Cool It' Climate Change workshops provided through BCSEA
	Sponsor 6 'Keep Cool' full school climate change plays provided through Dreamrider Theatre
	Complete 3 year pilot project for Ecological Services Initiative
	Partnered with Metro Vancouver to host a workshop on efficient wood burning techniques to minimize emissions from residential wood stoves
Q 73 Corporate Other Actions Taken in 2018	
	Maintained carbon neutral status

Other	
Q 74 Are you familiar with the <a href="#">Community Lifecycle Infrastructure Costing Tool (CLIC)</a> ?	Yes
Q 75 Is your local government using the <a href="#">CLIC</a> tool?	No

## 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 highlight 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 making applications to [CEA's Climate and Energy Action Awards](#), [FCM Sustainable Communities Awards](#) or to [FCM's National Measures Report](#).

<b>Q 76 Community-Wide Innovation Action</b>
Partnered with BC Hydro to install 3 HVUC (high-voltage utility connected) level II chargers in Willoughby Town Centre and North Langley Shopping Centre to expand EV charging infrastructure in the community and test new EV charging technology.
<b>Q 77 Corporate Innovation Action</b>
<b>Q 78 For more information on actions described above contact</b>
Tess Rouse <a href="mailto:trouse@tol.ca">trouse@tol.ca</a>

### 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

<b>Q 79 Mitigation Programs, Partnerships and Funding</b>
Dreamrider Theatre, Fraser Basin Council, BC Hydro, Fortis, UBCM, Community Energy Association, BCSEA, Metro Vancouver, Translink, HUB, HASTE

#### Adaptation

<b>Q 80 Adaptation Programs, Partnerships and Funding</b>
FCM, CCA, ICLEI, CleanBC Communities Fund, ICIP

## 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.

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 [Workbook](#) and [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 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

<b>Q 81 Did your local government measure corporate GHG emissions for 2018?</b>	<b>Yes</b>
<b>Q 82 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)</b>	<b>5,771</b>
<b>Q 83 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)</b>	<b>1,155</b>
<b>Q 84 TOTAL A: CORPORATE GHG EMISSIONS FOR 2018 (Direct GHGs + Contracted GHGs)</b>	<b>6,926 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 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 (tCO<sub>2</sub>e)) being claimed from any of the following Option 1 GHG Reduction Projects:

OPTION 1 PROJECTS	REDUCTIONS
Q 85 Energy Efficient Retrofits (in tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e))	
Q 86 Solar Thermal (in tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e))	
Q 87 Household Organic Waste Composting (in tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e))	2,228
Q 88 Low Emission Vehicles (in tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e))	
Q 89 Avoided Forest Conversion (in tonnes of carbon dioxide equivalent (tCO <sub>2</sub> e))	1,860
Q 90 TOTAL B: REDUCTIONS FROM ALL OPTION 1 PROJECTS FOR 2018	tCO <sub>2</sub> e

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

Option 2 Project Name	REDUCTIONS
Jackman Landfill Biogas Optimization	
Option 2 GHGs Reduced (tCO <sub>2</sub> e)	2,838
2,838	
Option 2 Project Name	
Option 2 GHGs Reduced (tCO <sub>2</sub> e)	
Option 2 Project Name	
Option 2 GHGs Reduced (tCO <sub>2</sub> e)	
Q 92 TOTAL C: REDUCTIONS FROM ALL OPTION 2 PROJECTS FOR 2018	2,838 tCO <sub>2</sub> e

### 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 (tCO<sub>2</sub>e)) 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 (tCO2e)	
Offset Provider Name	
Offsets (tCO2e)	
<b>Q 94 TOTAL D: OFFSETS PURCHASED FOR 2018</b>	<b>0 tCO2e</b>

**Q 95 TOTAL REDUCTIONS AND OFFSETS FOR 2018 (Total B+C+D) = 4,088 + 2,838 + 0 = 6,926 tCO2e**

### Corporate GHG Emissions Balance for 2018

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

**Q 96 CORPORATE GHG EMISSIONS BALANCE FOR 2018 = 6,926 – (4,088 + 2,838 + 0) = 0 tCO2e**

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

**CONGRATULATIONS!**

**Q 97 If your local government was carbon neutral in 2018, please record any emissions reductions you will be carrying over for future years and the source of the reductions, including the year they were earned (e.g. organics diversion, 2018 100 tCO2e)**

SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)	REDUCTIONS
Avoided Forest Conversion, 2018 Reductions as stated in October 2015 report provided by 3greentree Ecosystem Services	705

Q 98 BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR	705 tCO <sub>2</sub> e
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Carbon Neutral Reporting	
Q 99 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.

**Q 100 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:**

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