

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

**Local Government:**

Fraser Valley Regional District

**Report Submitted by:**

**Name:** Micha Gutmanis

**Role:** Environmental Services Coordinator

**Email:** mgutmanis@fvrld.ca

**Phone:** (604) 702-5496

**Date:** June 1, 2017

The Fraser Valley Regional District (FVRD) has completed the 2017 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2017 and proposed for 2018 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

## 2017 BROAD PLANNING ACTIONS

### Broad Planning Actions

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

Community-Wide Actions Taken in 2017	
	The FVRD has a draft of the new Regional Growth Strategy (RGS).
	The FVRD is currently working on updating the region's Air Quality Management Plan, and have delivered multiple presentations to the Board to gain direction and support.
	The FVRD Board adopted good neighbour practices for land development for electoral areas, which discourages burning and promotes chipping and grinding.
	Stakeholder engagement was done for the Hemlock community plan amendment to strengthen the village plan, including transportation, environmental performance of buildings and greenspace.
	In 2017, the <i>Freshet Flooding and Fraser Valley Agriculture: Evaluating Impacts and Options for Resilience Study</i> was completed. This study calculated losses for two flood scenarios, one with the present climate conditions and one applying a future climate scenario (year 2100). A major flood event, (similar to 1894) would cause over \$800 million in damage to agricultural crops, buildings and equipment. The economic impacts to FVRD communities would be \$1.1 billion. This information is being used to inform federal and provincial governments of the critical importance of increasing infrastructure funding or flood management in the region.
Community-Wide Actions Proposed for 2018	
	Continued development of the new FVRD Air Quality Management Plan.
	The FVRD will complete the drafting phase of the Hemlock community plan amendment.

Corporate Actions Taken in 2017	
	N/A
Corporate Actions Proposed for 2018	
	Climate Change Action Policy, Statements of insurance will need to be provided by engineers. Engineers must include climate change in assessment for potential hazard changes, slope stability is expected to change, river flow, and intensity of rainfall. This was written in 2017 and now in operation.
	The FVRD will start to track and incorporate contractor fuel data for CARIP reporting.

Broad Planning		
What is (are) your current GHG reduction target(s)?	As outlined in the FVRD's draft Regional Growth Strategy, the FVRD aims for the following GHG reduction targets: reduction in GHG emissions of 20% by 2020 and 50% by 2020 relative to 2007 levels.	
Are you familiar with your community'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"> <li>• Community Energy and Emissions (CEE) Plan</li> <li>• Community- Wide Climate Action Plan</li> <li>• Integrated Community Sustainability Plan</li> <li>• Official Community Plan (OCP)</li> <li>• Regional Growth Strategy (RGS)</li> <li>• Do not have a plan</li> <li>• Other:</li> </ul>		No Yes Yes Yes Yes
Does your local government have a corporate GHG reduction plan?		Yes

## 2017 BUILDING AND LIGHTING ACTIONS

### Building and Lighting Actions

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

Community-Wide Actions Taken in 2017	
	Continued distribution of the FVRD brochure on 'Improving Home Energy Efficiency: A Guide for Rural Homeowners in the Fraser Valley', both online and at the front counter.
	Baker Trails Wastewater Treatment Plant & Dogwood Valley Water Treatment: Changed all lighting to LED and went to automated light switches so that they're only used when needed.
Community-Wide Actions Proposed for 2018	
	All new street lighting installed and old replacements will be with new, energy efficient LED streetlights rather than high-pressure sodium. The LED lights will reduce streetlight energy use, they are longer lasting, and will reduce light pollution.

Corporate Actions Taken in 2017	
	Digitized all infrastructure maps for the engineering department that will be available and accessible online, reducing the need for staff in the field to return to office to reference hard copy maps.
	An energy Audit of the FVRD Animal Control building in Chilliwack was done to produce a detailed report identifying a direction for improvements. Many of these improvements were carried out, such as the 'Lights Off' program. This program promoted only turning on lights that are necessary, and reduced light usage by about two thirds. In addition to this program, they also made more efforts to keep doors closed.
Corporate Actions Proposed for 2018	
	Virtualize infrastructure by replacing aging storage devices with new more power efficient ones, as well as consolidating and replacing aging servers to reduce overall power consumption.
	IT server room currently gets too hot so will be cooled & excess heat will go towards heat pumps.

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

## 2017 ENERGY GENERATION ACTIONS

### Energy Generation Actions

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

Community-Wide Actions Taken in 2017	
	Switched from diesel to natural gas generation at the Baker Trails Wastewater Treatment Plant.
Community-Wide Actions Proposed for 2018	

Corporate Actions Taken in 2017	
	Completed assessment of the FVRD Chilliwack office HVAC System, and moved forward with the recommendation of boiler replacement. The boiler for heating was replaced in 2017/2018 with two more efficient ones. The domestic hot water tanks were taken out of the FVRD Chilliwack office and replaced with on-demand heating which significantly improves energy efficiency.
	FVRD staff looked into feasibility of purchasing and installing solar panels at the main office in order to have the entire Boardroom go 'off the grid'. Had an engineer determine that the FVRD head office roof is capable of supporting Solar Panels.
Corporate Actions Proposed for 2018	
	FVRD staff will be looking into funding opportunities to install the Boardroom solar panels.

Energy Generation	
Is your local government developing, or constructing: <ul style="list-style-type: none"> <li>A district energy system</li> <li>A renewable energy system</li> </ul>	No No
Is your local government operating: <ul style="list-style-type: none"> <li>A district energy system</li> <li>A renewable energy system</li> </ul>	No No
Is your local government connected to a district energy system that is operated by another energy provider?	No
Are you aware of the Integrated Resource Recovery guidance page on the <a href="#">BC Climate Action Toolkit</a> ?	Yes
Are you familiar with the 2017 " <a href="#">List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments</a> "?	Yes

## 2017 GREENSPACE/NATURAL RESOURCE PROTECTION ACTIONS

### Greenspace Actions

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

Community-Wide Actions Taken in 2017	
	The promotion and development of ' <i>Experience the Fraser</i> ': a contiguous trail system for non-motorized use running along the Fraser River from Hope to the Salish Sea has been continued throughout 2017 and will continue into 2018. In 2017, The FVRD developed of 18 km of new trails along the Chilliwack dyke as part of <i>Experience the Fraser</i> .
	The FVRD acquired 6.2 acres of property to open a regional park called 'Hillkeep Regional Park'. This park provides unique opportunities for experiencing connection to self, neighbours and nature. This natural reserve instils interactive recreational and cultural learning experiences which focus on the ecology, geology, and history of the Fraser Valley.
	In 2017, Lakeside Trail, a 2km recreational trail along south side of Cultus Lake was constructed from Lindell Avenue to Maple Bay Campground. Promotes community connectivity.
	Continued partnership with the Fraser Valley Watersheds Coalition, that led to the planting of 21,839 trees and shrubs within the region in 2017 and enhancement of over 16,000 square meters of streamside habitat.
	FVRD adopted 'Plan Cultus' - a park plan for Cultus Lake that focusses on the importance of the environment and the lake, includes policies around the maintenance of the surrounding forest (sequestration), and includes a plan for future transit development options.
Community-Wide Actions Proposed for 2018	
	The FVRD will acquire park land from Metro Vancouver. The park land includes: Glen Valley Regional Park, Matsqui Trail Regional Park, and the western flank of Sumas Mountain Regional Park.
	Via funding from the BC Rural Dividend Fund, AdvantageHOPE, the FVRD, and the Ministry of Transportation and Infrastructure, we will oversee the completion of the design work for the <i>Experience the Fraser</i> Canyon to Coast Trail on the Bill Hartley Fraser-Hope Bridge (No.01034) and the trail along Hope's waterfront from Water Avenue to Tom Berry Road.
	In 2018, the Lakeside Trail will be extended from Lindell Avenue to the Frost Creek Bridge to promote community connectivity.
	8.5 km of new <i>Experience the Fraser</i> Canyon to Coast Trail in Mission will be built by connecting the Mission's Municipal Forest through Rolley Lake Provincial Park to BC Hydro's Hayward Lake Recreation Area.
	At Fraser Pacific Enterprises in Mission, 1km of trail will be developed and native planting will be carried out.
	Elbow Creek Trail, located on Crown land in Morris Valley adjacent to Eagle Point Community Park has been identified as a new community park. A new bridge, trail updates, and new signage will be developed.
	Tent pads and outhouses are being planned for 2018 at the top of Elk Mountain (and potentially Mt Cheam) to address environmental damage and enhance user experience in the backcountry. The new outhouses will have a urine diversion system (reducing 70% of the volume collected) which will

	significantly reduce the number of helicopter trips to empty the outhouse, thereby reducing fuel emissions.
	In early 2018, the Electoral Area D will be consulted to help guide the Popkum street tree program for the 450 trees in this community.
	At Thompson Regional Park, a natural play space playground comprised of natural elements such as logs, and sand, as opposed to traditional metal and plastic equipment is being planned to encourage children to play in a different way which is more nature based and reflective of the surrounding environment.

<b>Corporate Actions Taken in 2017</b>	
	Planted a Bigleaf Maple in each of the 10 FVRD regional parks to commemorate the FVRD's 50th Anniversary.
	Continued the 4th floor garden for fresh and local veggies and herbs for staff.
	The FVRD acquired a new campground along the Vedder River and includes connection to several nature trails.
	The FVRD acquired 5 MoTI properties around Hatzic Lake and Lake Errock to be used as new parks greenspace.
<b>Corporate Actions Proposed for 2018</b>	
	Through the Federal Gas Tax Fund a regional approach will be undertaken to quantify key outdoor recreational tourism sectors to fully grasp what they mean to the local economy. This information will help to prioritize capital expenditures, inform marketing decisions, and showcase the region as a premier tourism destination.
	The FVRD will acquire 4 acres of property slated for development in Popkum (NE of CLW on the Fraser River to be kept as park space)

<b>Greenspace</b>	
Does your local government have urban forest policies, plans or programs?	<b>Yes</b>
Does your local government have policies, plans or programs to support local food production?	<b>Yes</b>

## 2017 SOLID WASTE ACTIONS

### Solid Waste Actions

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

Community-Wide Actions Taken in 2017	
	Upgrades to Sylvester Road and Morris Valley Transfer stations were done in 2017 to add the capacity to take organic materials.
	Implementation of the FVRD Solid Waste Management Plan which includes source separation increased recycling, promoting reuse, and reducing operation-related GHG emissions. The consultation phase to determine how to implement new regional requirements to divert organics and recycling concluded in 2017.
Community-Wide Actions Proposed for 2018	
	Updates in Sunshine Valley and Hemlock Valley Transfer stations and the Chaumox Road Landfill will be done in 2018 to add the capacity to take organic materials. Upgrade to the Hemlock Valley Transfer Station will include a manned station which will reduce the frequency of pickups required. Therefore, they will not have to haul empty bins anymore.
	The FVRD in 2018 will report on a feasibility and impact assessment analysis for an advanced recycling centre or mixed waste materials recovery process in the region to further divert more recyclable and compostable material from the garbage stream.
	The Boston Bar Landfill has planning underway to officially close it by having it capped and monitored for leachate generation.
	In partnership with the FVRD, FoodMesh has launched a regional food recovery initiative that connects local farms, charities, and food industry partners to exchange surplus edible food via an online app/marketplace. The aim is to work with 50 local FVRD businesses and charities to join the network with a shared goal of "redirecting" \$400,000 of edible food through the website. It will help organizations recover costs and increase margins by matching overstock food with businesses and charities, reducing food waste, providing meals and reducing GHG emissions in the process.
	The FVRD will be developing a communication engagement campaign for organics diversion.

Corporate Actions Taken in 2017	
	The planning department has switched folio files (10-12k of paper) from paper to be stored in the cloud. Moving forward, everything will be electronic, including the building permit files (to be switched in 2018).
	Switched to permanent dog tags rather than annual tags to reduce the amount made and wasted.
	With partial funding from the Fraser Basin Council, the FVRD hired a consultant to put together a study and business case which looks at alternatives to open burning of wood waste (such as chipping and composting) from rural and agricultural properties so that it isn't openly burned.
Corporate Actions Proposed for 2018	
	The FVRD will be purchasing a worm composting bin to compost food scraps on site and use the soil for the FVRD's 4 <sup>th</sup> floor garden. The soil made will then be used in the 4 <sup>th</sup> floor garden.

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



## 2017 TRANSPORTATION ACTIONS

### Transportation Actions

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

Community -Wide Actions Taken in 2017	
	In 2016/17, BC Transit focused efforts on improving ridership by the implementation of marketing initiatives in collaboration with the FVRD. The ongoing success of the Fraser Valley Express (FVX) has become a benchmark for interregional service development. Between 2015/16 and 2016/17, ridership increased by 58% from 72,000 passenger trips to 114,000. The service to include Sundays and Statutory holidays was completed.
	On September 5 <sup>th</sup> , 2017 BC Transit, the FVRD and the District of Hope launched a transit service, Route #22, between Hope and Agassiz where riders can transfer to the Route #11 for travel into Chilliwack. Seabird Island Band is participating in the service and discussions are ongoing with other interested First Nations along the route.
	The FVRD installed bike racks at multiple regional parks to encourage active transportation.
Community-Wide Actions Proposed for 2018	
	Planned service expansions in 2018 include increased service on the FVX on weekends and holidays. Service on route #22 (Hope), and route #11 (Agassiz-Harrison) is being monitored and further expansion will be considered as demand for transit increases. Planning will also begin on a new route connecting the communities on the north side of the Fraser River between Agassiz and Mission.
	A feasibility study will be conducted in the North Fraser Valley between Mission and Maple Ridge with regards to providing transit service. The timing of this study will be dependent on BC Transit's 2018 work plan and their capacity for undertaking additional planning initiatives.
	The FVRD will promote Bike to Work Week. The FVRD also plans a 'Bike to Work with the Mayor' within Bike to Work Week.
	Rehabilitation of the Island 22 Regional Park boat launch is underway. A new entrance and exit will be built for enhanced traffic flow, reduced idling, and better positioning of amenities.
	FVRD will explore additional partnerships with other First Nations communities along Lougheed Highway on the north side of the Fraser River.

### Corporate Actions Taken in 2017

	Installation of new supervisory control & data acquisition (SCADA) systems at North Bend Sewer, Cultus Lake and the Parkview Water System to allow for remote monitoring and less frequent in-person visiting (reduced road emissions). Controls can now be done through the computer rather than in-person.
	Replaced 2 older inefficient vehicles with 2 new Chevrolet Bolt electric vehicles. The FVRD replaces older, less fuel-efficient vehicles with newer, more fuel-efficient vehicles where possible. With EVs now accounting for 50% of their pooled electric fleet vehicles (14% of the entire fleet), the FVRD has saved close to 7 tonnes of CO2 and \$6400 in fuel since their acquisition.
	Distribution of fire-fighting and training equipment in bulk rather than individually to reduce trips.
	The FVRD now brings instructors in to individual fire halls rather than sending all of the firefighters out for training to reduce number of vehicles on the road.
	Replacement of a 1986 fire truck with a 2016 model which has significantly increased fuel efficiency delivered in 2017.
<b>Corporate Actions Proposed for 2018</b>	
	Office wide commuter challenger to promote carpooling and greener community.
	Plan to replace an older animal control vehicle with newer, more fuel efficient model.
	The FVRD participated in a program where FleetKarma devices were installed in fleet vehicles from 2016-2017 and will move forward with recommendations from the report to replace older inefficient vehicles with new more efficient ones.
	FVRD staff is encouraged to use electric fleet vehicles when possible when driving to meetings. Administration staff are also encouraged to choose EVs over gasoline vehicles for errands.
	The FVRD is participating in a High Voltage Utility Connected (HVUC) Level 2 Electric Vehicle Charging Demonstration in partnership with BC Hydro and Natural Resources Canada. The FVRD will have 8 new HVUC level 2 chargers installed in the region in 2018.

<b>Transportation</b>	
Does your local government have policies, plans or programs to support:	
• Walking	<b>Yes</b>
• Cycling	<b>Yes</b>
• Transit Use	<b>Yes</b>
• Electric Vehicle Use	<b>Yes</b>
• Other (please specify)	
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)?	<b>No</b>
Does your local government integrate its transportation and land use planning?	<b>Yes</b>

## 2017 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 greenhouse gas emissions.

Community-Wide Actions Taken in 2017	
	Installed the Lake Errock water main, no pumps required. The install will eliminate single resident backyard booster pumps.
	Improvements to Dogwood Valley Water System reservoir system occurred in 2017 and will eliminate 24/7 operation of booster pumps.
	Water conservation and groundwater protection brochures were distributed to residents with new water meter systems in 2017 and will continue in 2018.
	The Boston Bar water system upgrade will reduce water usage by 1/3. It included the design and construction of 140m of 200mm watermain, installation of 1 fire hydrant, and a 50mm service connection to the Boston Bar Firehall.
	The FVRD installed a new sewage treatment system at Baker Trail Estates. The new system will decrease the amount of required maintenance and will operate more efficiently. It also reduces hydro consumption. Installed in 2017 and finished early 2018. Switched from 'soft starts' to 'variable frequency drive' pumps at which will increase energy efficiency by reducing power when not needed.
Community-Wide Actions Proposed for 2018	
	Currently building three sewage treatment plants; Baker Trails was done in 2017. The Aquadel and Minter Gardens sewage treatment plants are being installed by developers to service their new developments and are being built to a Class A standard under the municipal waste water regulation.
	The FVRD has an ongoing partnership with the Fraser Valley Watersheds Coalition for the promotion and engagement of local watershed stewards.
	Continuation of Sewer Gap study, including where there are needs for upgrades, monitoring systems, and improved operation efficiencies. Implementation of the recommendations of the study ongoing to 2020. This is being implemented every time a development application is made. It requires the highest level of sewage treatments which reduce nitrogen and phosphorous.

Corporate Actions Taken in 2017	
	Water conservation and groundwater protection brochures were distributed to residents with new water meter systems in 2017 and will continue in 2018.
Corporate Actions Proposed for 2018	
	The FVRD will continue to Perform Water Audits of systems with newly installed water meters (almost all FVRD systems except are now metered) to determine accuracy of meters and to find potential system leakages.

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

## 2017 CLIMATE CHANGE ADAPTATION ACTIONS

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

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

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

<b>Climate Change Adaptation Actions Taken in 2017</b>	
Please elaborate on key actions and/or partnerships your local government has engaged in to prepare for, and adapt to a changing climate. Add links to key documents and information where appropriate.	
	Developed a climate action initiative, for a freshet flood project. FVRD staff currently sits on a committee that oversees the project. They are looking at helping agriculture adapt to climate change and flooding.
<b>Climate Change Adaptation Actions Proposed for 2018</b>	
	Climate Change Action Policy, Statements of insurance will need to be provided by engineers on a lot. Engineers must include climate change in assessment for potential hazard changes, slope stability is expected to change, river flow, and intensity of rainfall. This was written in 2017 and now in operation.
	The FVRD will invest \$10.5 million to improve the Nicomen Island Dyke and upgrade the pumps. Designing is taking place in 2018. The upgrades will both protect the community from high water and will improve capacity for water movement. The pumping system upgrades will increase the functionality of the pumps to better cope with flooding.
<b>For more information please contact:</b>	

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?	
<a href="#">Indicators of Climate Change for British Columbia, 2016</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: An Implementation Guide for Local Governments</a> <a href="#">The Public Infrastructure and Engineering Vulnerability Committee's (PIEVC) protocol</a> <a href="#">Sea Level Rise Primer</a> <a href="#">BC Regional Adaptation Collaborative Webinars</a> <a href="#">www.ReTooling.ca</a> <a href="#">Water Balance Model</a> <a href="#">The 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 Haven't Used Useful Not Useful Haven't Used Haven't Used Useful Haven't Used /Useful/Not Useful Useful Useful Haven't Used /Useful/Not Useful Useful Useful  Haven't Used /Useful/Not Useful Haven't Used /Useful/Not Useful Haven't Used /Useful/Not Useful Useful Useful Useful
<b>Other:</b> Climate Projections for Fraser Valley Regional District	Useful

## 2017 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 2017	
	The FVRD implemented an air quality and climate change education program for elementary (grade 5) and secondary students (grade 10), which was designed to raise awareness of what causes degraded air quality and climate change, and what actions can be taken. This program was successful in its first year running, and will be continued into the 2018/2019 school year.
	Develop public signage in Hillkeep Regional Park to communicate causes of degraded visual air quality and actions to improve it (co-benefit of reducing emissions of air contaminants is typically a reduction in GHG emissions).
Community-Wide Actions Proposed for 2018	
	Updating the Wood Stove Exchange (WSE) brochures in effort to increase uptake of the program. The WSE program gives rebates to those who switch out their old uncertified wood burning appliance for an EPA/CSA certified cleaner appliance to reduce PM <sub>2.5</sub> emissions.
	Develop public signage in Mill Lake Park to communicate causes of degraded air quality and actions to improve it.
	The FVRD will continue to host a community garden supported by the summer program for the Hope Rec Centre where children are able to grow local food.
	One of the recommendations of the previously completed Open Burning Practices and Policy Options study was to use a tailored atmospheric dispersion model to identify sensitive areas in the FVRD potentially impacted by the smoke and air pollution from open burning. This modeling study is aimed at estimating particulate matter emissions from representative land clearing burns using an atmospheric dispersion model (CALPUFF) and their direct effect on nearby communities and residents. The study is expected to be completed in the summer of 2018.

Corporate Actions Taken in 2017	
	Firefighters donate all old equipment and gear to Firefighters without Borders
	The FVRD's engineering department digitized all infrastructure maps that will be available and accessible online, reducing the need for staff in the field to return to office to reference hard copy maps. This results in fewer emissions from driving.
Corporate Actions Proposed for 2018	
	Launched a new intranet program called 'Jostle' which allows staff to access everything through the cloud to prevent unnecessary trips to the office for hardcopies of forms.
	Explore the feasibility of using drone technology for mosquito control to reduce usage of helicopters and fuel.

Other	
Are you familiar with the <a href="#">Community Lifecycle Infrastructure Costing Tool (CLIC)</a> ?	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 and/or climate change adaptation activity that your local government has undertaken and that has had, or has the potential to have, a significant impact. You are welcome to repeat an action that has already been listed. Projects included here may be featured as success stories on the B.C. Climate Action Toolkit and/or shared with other local governments to inspire further climate action. Please add links to additional information where possible.

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

#### Community-Wide Action

In partnership with the FVRD, FoodMesh has launched a regional food recovery initiative that connects local farms, charities, and food industry partners to exchange surplus edible food via an online app/marketplace. The aim is to work with 50 local FVRD businesses and charities to join the network with a shared goal of "redirecting" \$400,000 of edible food through the website. It will help organizations recover costs and increase margins by matching overstock food with businesses and charities, reducing food waste, providing meals and reducing GHG emissions in the process.

One of the objectives of the Fraser Valley Regional District's air quality portfolio is to increase public education and awareness of air quality topics in the region. Their public education outreach effort was largely enhanced through the launch of our well-received school program called "Love Our Air" in 2017. Within the last few years, the BC Ministry of Education has set new education standards for students in grades K-12. The FVRD saw this curriculum change as an opportunity to increase air quality education in classrooms while teachers searched for a way to align their lessons with the new curriculum. The lessons within the new Love Our Air teacher resource introduces students to issues regarding air quality in the region. The lessons are designed for grades 5 and 10 Science classrooms and linked to the BC Curriculum. The main objectives of teaching Air Quality in grades 5 and 10 are to develop students' personal and social awareness of their roles and responsibilities with respect to the environment, and their ability to make decisions about ways to reduce pollution through their everyday actions. The lessons include hands-on activities while teaching students the relevance of air quality in their own lives, in their community and in the wider world. Students learn to identify types of air pollutants, their sources and impacts, as well as possible actions and solutions that they can take as individuals, or with their community.

On September 5<sup>th</sup>, 2017 BC Transit, the FVRD and the District of Hope launched a transit service, route #22, between Hope and Agassiz where riders can transfer to the Route #11 for travel into Chilliwack. Seabird Island Band is participating in the new service and moving forwards, FVRD will explore additional partnerships with other First Nations communities along Lougheed Highway on the north side of the Fraser River.

In partnership with the BC Agriculture & Food Climate Action Initiative (CAI), the FVRD developed the *Fraser Valley Regional Adaptation Strategies* to identify ways to enhance agriculture's ability to adapt to climate change. One of the key actions identified was to explore the economic impact of a major Fraser River freshet flood on the region's agricultural economy. In 2017, the *Freshet Flooding and Fraser Valley*

*Agriculture: Evaluating Impacts and Options for Resilience Study* was completed. This study calculated losses for three flood scenarios, two with the present climate conditions and one applying a future climate scenario (year 2100). A major long-duration flood event, (similar to 1894) would cause over \$800 million in damage to agricultural crops, buildings and equipment. The broader economic impacts to FVRD communities would be \$1.1 billion. This information is being used to inform federal and provincial governments of the critical importance of increasing infrastructure funding for flood management in the region.

FVRD continues to work with CAI on the implementation of the FV Climate Adaptation Strategies as they relate to the regional district.

### **Corporate Action**

The FVRD removed their domestic hot water tanks within their corporate head office and replaced them with on-demand heating. Switching to tank-less hot water will significantly improve energy efficiency.

The FVRD replaced 2 older inefficient Ford Escapes with 2 new Chevrolet Bolt electric vehicles. The FVRD tries to replace older, less fuel-efficient vehicles with newer, more fuel-efficient vehicles where possible. With EVs now accounting for 50% of their pooled electric fleet vehicles (14% of the entire fleet), the FVRD has saved close to 7 tonnes of CO2 and \$6400 in fuel since their acquisition.

The FVRD is participating in a High Voltage Utility Connected (HVUC) Level 2 Electric Vehicle Charging Demonstration in partnership with BC Hydro and Natural Resources Canada. The FVRD will have 8 new HVUC level 2 chargers installed in the region in 2018. In this project, the transformer would be integrated into the charger, which will eliminate the need for the designated transformer reducing space requirements in the meter room, reduce the number of conduits and wiring, improve the EV charger system's performance and reliability, while also reducing costs. A smart utility meter will be integrated into the charger to allow for individual metering and billing, as well as remote monitoring. This project aims to reduce barriers to EV uptake by Canadians living in MURBs, as well as aid EV charger installations in commercial and municipal buildings.



## Programs, Partnerships and Funding Opportunities

Local governments often rely on programs, partnerships and funding opportunities to achieve their climate action goals. Please share the names of programs and organizations that have supported your local government's climate actions by listing each entry in the box below.

### Mitigation

#### Programs and Funding

Every year, the Fraser Valley Regional District carries out a Wood Stove Exchange Program which is funded through the Province of BC. This year, the rebate for a wood stove exchange has increased from \$250 to \$400, if it is being replaced with a cleaner burning fuel such as natural gas, pellets, or a heat pump.

With partial funding from the Fraser Basin Council's Clean Air Research Fund, the FVRD hired a consultant to put together a study and business case which looks at alternatives to open burning of wood waste (such as chipping and composting) from rural and agricultural properties. Open burning is a large contributor to particulate matter, and is detrimental for our health. The results of this study will help the FVRD plan and implement alternative options for residents to dispose of their wood waste so that it isn't openly burned.

With funding from the Green Municipal Fund (\$133,200) the FVRD in 2018 will report on a feasibility and impact assessment analysis for an advanced recycling centre or mixed waste materials recovery process in the region to further divert more recyclable and compostable material from the garbage stream. This is a key component of the FVRD Solid Waste Management vision to bring the region closer to zero waste.

### Adaptation

#### Programs and Funding

Via funding from the BC Rural Dividend Fund, AdvantageHOPE, the Fraser Valley Regional District, and the Ministry of Transportation and Infrastructure, we will oversee the completion of the design work for the *Experience the Fraser* Canyon to Coast Trail on the Bill Hartley Fraser-Hope Bridge (No.01034) and the trail along Hope's waterfront from Water Avenue to Tom Berry Road.

On March 21, 2017 the Provincial Government announced a \$10.5-million investment in dike and pump upgrades to the Fraser Valley Regional District's Nicomen Island diking system, as part of the Province's major investment in emergency preparedness and public safety. The 35-kilometre system of dikes at Nicomen Island, located on the Fraser River northeast of Abbotsford, is in many areas, too steep or too low and could pose a hazard in a major flooding event. The Fraser Valley Regional District will use \$6 million of this funding to widen the dikes to increase stability, and in turn protect agricultural lands and a First Nation community. The remaining \$4.5 million will be allocated to the existing pumping system infrastructure which supports these dikes. The pumping system upgrades will increase the functionality of the pumps to better cope with flooding, and will allow all pumps in the system to function concurrently.

## 2017 CARBON NEUTRAL REPORTING

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

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

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

### Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2017?	Yes
If your local government measured 2017 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from services delivered <u>directly</u> by your local government:	714.4
If your local government measured 2017 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from <u>contracted</u> services:	N/A
<b>TOTAL A: CORPORATE GHG EMISSIONS FOR 2017</b>	<b>714.4 tCO<sub>2</sub>e</b>

### Reporting Reductions and Offsets

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

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

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

OPTION 1 PROJECTS	REDUCTIONS
Energy Efficient Retrofits	
Solar Thermal	

Household Organic Waste Composting	
Low Emission Vehicles	6.85
Avoided Forest Conversion	
<b>TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2017</b>	<b>tCO2e</b>

If applicable, please report the names and 2017 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO2e)) being claimed from Option 2 GHG Reduction Projects:

OPTION 2 PROJECT NAME	REDUCTIONS
<b>TOTAL C: REDUCTIONS FROM OPTION 2 PROJECTS FOR 2017</b>	<b>tCO2e</b>

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

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

OFFSET PROVIDER NAME	OFFSETS
<b>TOTAL D: OFFSETS PURCHASED FOR 2017</b>	<b>tCO2e</b>

**TOTAL REDUCTIONS AND OFFSETS FOR 2017 (Total B+C+D) = 6.85 tCO2e**

## Corporate GHG Emissions Balance for 2017

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

**CORPORATE GHG EMISSIONS BALANCE FOR 2017 = (A – (B+C+D)) = 707.55 tCO<sub>2</sub>e**

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

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

SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)	REDUCTIONS
N/A	
<b>BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR</b>	<b>0 tCO<sub>2</sub>e</b>

Carbon Neutral Reporting	
Does your local government have a climate reserve fund or something similar?	<b>Yes</b>

## GCC CLIMATE ACTION RECOGNITION PROGRAM

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

Recognition is provided on an annual basis to local governments who demonstrate progress on their Charter commitments, according to the following:

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

**Level 2 – Measuring GHG Emissions:** for local governments that achieve level 1, and who have measured their Corporate GHG Emissions for the reporting year and demonstrate that they are familiar with their community's energy and emissions inventory (i.e. CEEI)

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

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

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

<b>PROJECT NAME:</b>

**Based on your local government's 2017 CARIP Climate Action/Carbon Neutral Progress Survey, please check the GCC Climate Action Recognition Program level that best applies:**

<input type="checkbox"/>	Level 1 – Demonstrating Progress on Charter Commitments	
<input type="checkbox"/>	Level 2 – Measuring GHG Emissions	
<input type="checkbox"/>	Level 3 – Accelerating Progress on Charter Commitments	✓
<input type="checkbox"/>	Level 4 - Achievement of Carbon Neutrality	
<input type="checkbox"/>	Not Sure	