

Climate Action Revenue Incentive (CARIP) Public Report for 2019

Local Government:

Fraser Valley Regional District



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The Fraser Valley Regional District has completed the 2019 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2019 and proposed for 2020 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

2019 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 2019 + Additional Actions	
	The FVRD continued to collaborate on interagency committees (Georgia Basin International Airshed Strategy Coordinating Committee, Lower Fraser Valley Air Quality Coordinating Committee, Air Quality and Health Steering Committee) to share best practices, work collaboratively on reducing emissions of pollutants and GHGs and improving air quality. The FVRD also participated in a new Electric Vehicle Peer Network Group that was created in 2018.
	The draft regional growth strategy is a strategic plan that provides an overarching planning framework for sustainable growth. It considers transit, ecosystem health, energy and climate change, and economic strength and resiliency. As a long range vision with a 20-30 year scope, it aims to ensure the region as a whole is committed to protecting the natural environment through responsibly managed growth. Consultation and updates continued throughout 2019.
	The FVRD completed a 'Clean Economy' study in 2019. The Clean Economy Report and Reference Guide identifies and discusses "clean economy" sectors specific to the FVRD region and provides tangible strategies and recommendations to foster its growth. This includes existing sectors, such as agriculture and agriculture related industries that are undergoing significant technological change. The objectives of this report are to help the FVRD understand the nature of the "clean economy" in the region and identify supportive policies for FVRD local governments to consider and identify the types of hard and soft infrastructure necessary.
	The FVRD has continued to work on updating the region's Air Quality Management Plan.
	The FVRD adopted a policy around second dwellings to allow for changes in zoning bylaws and OCPs. This promotes compact communities that are typically more energy efficient.
Community-Wide Broad Planning Actions Proposed for 2020	
	A New Official Community Plan is being drafted for Area D in which the GHG reduction targets mimic the Provincial targets. It also emphasizes trails and parks. Works on this OCP is ongoing and hope to be completed in 2020.
	Continue to work on updates to the Regional Growth Strategy with a goal to complete it in 2021.

	The FVRD will finalize their updated new Air Quality Management Plan, identifying a suite of proposed actions that will allow the FVRD to continue improving air quality within the region.
	The FVRD will be completing the Hemlock community plan. It includes transportation, environmental performance of buildings, and greenspace.

Corporate Broad Planning Actions Taken in 2019 + Additional Actions	
	The FVRD adopted a climate change action policy where geohazard assurance statements need to be provided by engineers for development areas. This policy ensures that engineers include a climate change assessment for potential hazard changes, expected change of slope stability, flooding, seismic and rainfall intensity changes.
	The FVRD participated in the Lower Mainland Flood Management Strategy to address increased Fraser River flood risks as a result of climate change.

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 2050 relative to 2007 levels.	
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 	No No No Yes Yes
Does your local government have a corporate GHG reduction plan?		Yes

2019 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 Building and Lighting Actions Taken in 2019 + Additional Actions	
	All new street lighting that needed replacements was 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.
	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.
Community-Wide Building and Lighting Actions Proposed for 2020	
	Continued replacement of street lighting with energy efficient LEDs.

Corporate Building and Lighting Actions Taken in 2019 + Additional Actions	
	The FVRD completed a streetlight audit for inventory (count, lighting type, etc). This will help to inform a proper replacement strategy for HPS to LED.
	At the Vedder River Campground, the FVRD installed 6 energy efficient hand dryers replacing old, inefficient hand dryers.
	The FVRD decreased the number of physical servers from 14 servers which ran at 15360 Watts to 6 servers that currently run at 8065 Watts. This upgrade required switching to virtual servers which require less electricity to run and also reduces the need to run the air conditioning for cooling the system, thus further reducing energy consumption. Upgrades will be completed in 2020.
	Replacing staff computers as needed (desktops and laptops) with newer models that require less energy to operate.
Corporate Building and Lighting Actions Proposed for 2020	
	The FVRD decreased the number of physical servers from 14 servers which ran at 15360 Watts to 6 servers that currently run at 8065 Watts. This upgrade required switching to virtual servers which require less electricity to run and also reduces the need to run the air conditioning for cooling the system, thus further reducing energy consumption. Upgrades will be completed in 2020.
	Continue replacing staff computers (desktops and laptops) with newer models that require less energy to operate.
	Upgrading lighting ballasts in the kennel portion of the Animal CARE Centre with more energy efficient options.

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 <u>BC Energy Step Code</u> ?	Yes
Is your local government implementing the <u>BC Energy Step Code</u> ?	No

2019 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 Energy Generation Actions Taken in 2019 + Additional Actions	
	No actions identified.
Community-Wide Energy Generation Actions Proposed for 2020	
	No actions identified at this time.

Corporate Energy Generation Actions Taken in 2019 + Additional Actions	
	With the assistance of grant funding, the FVRD installed a 23 kilowatt solar photovoltaic array system on the roof of the FVRD main office building consisting of 66 panels. The solar panels provide clean electricity to the building and help reduce utility costs.
	The FVRD commissioned a feasibility study to look at options to upgrade the energy efficiency of the Hope and Area Recreation Centre. A geothermal heat pump system has the potential to reduce 290 tonnes of CO ₂ per year from being emitted into the atmosphere, save energy costs and reduce domestic water usage.
Corporate Energy Generation Actions Proposed for 2020	
	The FVRD will review results of the geothermal heat pump/heat recovery feasibility study at the Hope and Area Recreation Centre and decide on a course of action to take.

Energy Generation	
Is your local government developing, or constructing a <ul style="list-style-type: none"> • district energy system • renewable energy system 	No Yes
Is your local government operating a <ul style="list-style-type: none"> • district energy system • renewable energy system • none of the above 	No Yes
Is your local government connected to a district energy system that is operated by another energy provider?	No

2019 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 2019 + Additional Actions	
	Continued promotion and development of 'Experience the Fraser': a contiguous trail system for non-motorized use running along the Fraser River from Hope to the Salish Sea
	'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. Adopted in 2017 and work is ongoing.
	Via funding from the BC Rural Dividend Fund, AdvantageHOPE, the Fraser Valley Regional District, and the Ministry of Transportation and Infrastructure will oversee the completion of the design work for the Experience the Fraser Canyon to Coast Trail on the Bill Hartley Fraser-Hope Bridge and the trail along Hope's waterfront from Water Avenue to Tom Berry Road.
	FVRD approved new residential developments including trails to improve community connectivity and greenspace at Aquadel and Minter Gardens. There is a covenant requiring two trees to remain on each property at the Minter Gardens development.
	The FVRD built a universally accessible viewing platform at Cheam Lake Regional Park in 2019 after successfully receiving a grant for its construction.

	Sasquatch Mountain (Electoral Area C) community would like a trail connecting the residential areas (similar to that of Whistler Village) in order to promote walkability through the village. Planning began in 2019 and will be complete in 2020.
	The FVRD built a playground and community park in Electoral Area D.
	In 2017, the trail from Lindell Avenue to Maple Bay Campground was completed. This new Lakeside Trail, is a 2km recreational trail along south side of Cultus Lake which promotes community connectivity. In 2019, this trail will be extended from Sunny Side Campground into Cultus Lake Provincial Park to Jade Bay (2km). The trail will be a mix of gravel, and road shoulder. Work on this trail is still ongoing and will be completed in 2020.
	Conducted Invasive weed control treatments for Wild Chervil, Tansy Ragwort, Giant Hogweed and Knotweeds in Abbotsford, Chilliwack, Electoral Areas C, D, E, G, H. Participated in regional land managers meetings and conducted training for operations crews for the City of Abbotsford.
Community-Wide Greenspace Actions Proposed for 2020	
	Elbow Creek Trail, located on Crown land in Morris Valley adjacent to Eagle Point Community Park has been identified as a new community park. Project includes a Section 57 Permit from MFLNRO, First Nations consultation, new bridge, trail updates, and new signage.
	At Thompson Regional Park a trail will be re-established making it more accessible for the community.
	The FVRD has made application to the Province to use two Crown parcels on Front Street in Yale as a local community park. The concept is to transform this land into a park that would consist of a day use area with picnic tables, an all gender flush washroom, an information kiosk and parking for about five vehicles. Depending on referral comments and the application approval timeline this park could be constructed this year.
	The outhouses at Mt Cheam need upgrading, and the FVRD plans to replace them with outhouses that have urine diversion (reduction of approximately 70% volume).
	A regional study is being conducted 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 study will be completed in 2020.
	The FVRD is developing public signage to communicate air quality and GHG information at a highly visible FVRD air quality monitoring station.
	Continued promotion and development of the 'Experience the Fraser' initiative which is a contiguous trail system for non-motorized use running along the Fraser River from Hope to the Salish Sea. Efforts include building a km of trail and native planting at Fraser Pacific Enterprises in Mission.
	Finalize the trail extension at Cultus Lake between Sunny Side Campground into Cultus Lake Provincial Park to Jade Bay (2km).

Corporate Greenspace Actions Taken in 2019 + Additional Actions	
	Trees were added to the new play area for the dogs at the Animal CARE center. This play area was converted from a gravel site to grass field in 2018.
Corporate Greenspace Actions Proposed for 2020	
	No actions identified at this time.

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

2019 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 2019 + Additional Actions	
	<p>A regional source separation bylaw, approved in 2018 and coming into effect in 2020, will require all recycling and organics to be sorted out of residential and commercial waste streams.</p> <p>In 2019, the FVRD focussed on outreach and education related to this bylaw. In addition to collaborating with municipalities, staff reached out to the business and the multi-family sectors through their representative associations. Staff worked with each Chamber of Commerce, including presenting to their membership and their board of directors. Staff worked with the Building Owners Management Association, the Education Facilities Managers Association of BC, and the BC Restaurants and Food Services Association to raise awareness, answer questions, and provide them with materials to distribute to their members. Letters have been distributed to all waste haulers for them to communicate with their customers about the upcoming changes and requirement for sorting. And information on the bewastewise.com website has been updated with educational and promotional material produced.</p> <p>A series of information meetings were held in-person to allow for questions and concerns to be addressed. Information was also distributed with business license renewal notices and utility bills.</p>

	<p>In partnership with the FVRD, FoodMesh launched a regional food recovery program connecting local farms, charities, and food industry partners to easily exchange surplus edible food via an online app/marketplace. 61 local FVRD businesses and charities have so far joined the network and helped divert 100,000 kg of surplus food to users who can find needs for it. This is the equivalent of over 165,000 meals valued at \$565,000. The Food Recovery program helps organizations recover costs and increase margins by matching overstock food with businesses and charities, reducing food waste, providing meals and in within the FVRD it has helped reduce 190000 kgco2e, that's 190 tonnes of greenhouse gas emissions in the process.</p> <p>The FVRD has extended its contribution to FoodMesh until the end of 2020 to further expand into Abbotsford and Mission and adding to the current number of businesses within the overall FVRD hub.</p>
	The FVRD supported Household Hazardous Waste day in Mission and Chilliwack, Illegal Dumping clean-up events, and Waste Reduction Month across multiple communities.
	The FVRD promoted the national 'Love Food, Hate Waste' campaign at all the community events attended along with the Waste Wise campaign.
Community-Wide Solid Waste Actions Proposed for 2020	
	The FVRD will continue to support Household Hazardous Waste day in Mission and Chilliwack, Illegal Dumping clean-up events, and Waste Reduction Month across multiple communities.
	Updates in Sunshine Valley and Hemlock Valley Transfer stations and the Chaumox Road Landfill will be done in 2020 to add the capacity to take organic materials.

Corporate Solid Waste Actions Taken in 2019 + Additional Actions	
	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. Construction tentatively scheduled for summer 2020.
	The Boston Bar Landfill has planning underway to officially close it by having it capped and monitored for leachate generation. The design was initiated in 2018 and will be completed in 2020.
	The Province of BC donated 15 double bear-proof bins (garbage & recycle) to the FVRD for use in our parks and campground. The bins were installed in parks all across the region in 2019.
	Conducted a survey on the staff intranet to gather feedback on how to improve the waste sorting receptacles at the office in order to encourage proper waste sorting.
	The FVRD uses compostable cutlery and plates rather than plastic for use in the office, and when possible, uses glasses and mugs that can be washed.
Corporate Solid Waste Actions Proposed for 2020	

	The FVRD will be developing a storm water management plan at Chaumox Landfill. The goal is to reroute all surface water near the landfill to avoid leachate in order to mitigate a potential future issue. Detailed design complete. Construction will begin in 2020.
	The Hope Rec Centre will look into adding more of the four-bins (compost, recycle, bottles, and garbage) around the Centre. Better signage will also be considered to ensure waste is being disposed of properly.

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

2019 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 2019 + Additional Actions	
	The ongoing success of the Fraser Valley Express (FVX) has become a benchmark for interregional service development. The service to include Sundays and Statutory holidays was completed and ridership on weekends has doubled since this expansion. Immediate take-up with a 92% increase in ridership reflects the demand for the service. In 2019 the FVRD Board approved expansion of FVX to Lougheed Sky Train station in Burnaby which was supposed to begin January 2021, however, implementation of this expansion will be delayed due to COVID-19.
	Service on route #22 (Hope), and route #11 (Agassiz-Harrison) is being monitored and further expansion will be considered as demand for transit increases.
	Continued to promote public transit use by distributing rider's guides and featuring regional transit routes at community events such as the Abbotsford Air Show.
	Planning department has improved their website page and has expanded capacity to respond to property and development inquiries by phone or email to reduce trips to the FVRD. The capacity to respond to inquiries by phone or email has been increasing each year.
	The FVRD continues to promote 'My FVRD' online so that dog licence renewals, utilities invoices, transit passes, bylaw tickets can all be paid online and registration for recreation classes can also be booked online. This significantly reduces the number of trips to the FVRD office, especially for those living far away.

	The FVRD continues to promote Emotive – the electric vehicle experience campaign. This campaign brings electric vehicles to events throughout the region to show residents how great electric vehicles are to drive. An Emotive booth was set up at key events in the region in 2019, such as the Abbotsford Airshow and the Agassiz Fall Fair and Corn Festival.
Community-Wide Transportation Actions Proposed for 2020	
	A feasibility study is being conducted in the North Fraser Valley between Mission and Maple Ridge regarding providing transit service. The timing of this study will be dependent on BC Transit's 2020 work plan and their capacity for undertaking additional planning initiatives.
	A new BC Transit bus garage facility is being built in Abbotsford. Expansion of bus services could not expand without a space to house the buses.
	Looking to create an integrated bus fare structure between Chilliwack and the Eastern Fraser Valley and Central Fraser Valley routes.

Corporate Transportation Actions Taken in 2019 + Additional Actions	
	Installation of new SCADA systems at North bend Sewer, Cultus Lake and the Parkview Water System was completed in 2019 to allow for remote monitoring and less frequent in-person visiting (less driving).
	The FVRD continued to promote bike to work week and bike commuter challenges.
	An electric vehicle was provided to staff at the Hope Recreation Centre for the summer months when the Almers Carlson Pool is open. It was used every day of the week for 3.5 months, to drive 220km per day. A Chevrolet Bolt was used rather than a Ford Ranger to make this daily trip.
	The FVRD purchased a smaller fuel efficient truck (2019 Ford Ranger) to replace an old inefficient 2014 F-150.
	The FVRD implemented a policy for tracking fuel consumption of contractors to get a better understanding of usage with opportunities to select more fuel efficient contractors in the future.
	The Fire Department continued to move all tests, paperwork and meetings online to reduce travel.
	North Fraser and Boston Bar Fire Departments have constructed regional training centres. Firefighters no longer need to travel long distances to receive training.

Corporate Transportation - Actions Proposed for 2020	
	The FVRD is working with BC Hydro to get 4 new High Voltage Utility Connected (HVUC) Level 2 EV charging stations installed at the head office both for charging electric fleet vehicles and for public use. Installation of the new chargers will be completed in 2020.
	The FVRD will be implementing a training program for all new onboard staff members to learn about how to use the corporate electric vehicles. This initiative is designed to reduce anxiety around using EVs and encourage their use for meetings. For existing staff members, EV101 workshops and incentives such as prizes may be used to encourage use of EVs.
	The FVRD parks department plans to replace three of their fleet trucks with smaller and much more fuel efficient vehicles.
	The Parks Department will purchase a larger watering tank for tree watering to create efficiencies for parks staff which will cut the amount of driving required to refill the tank by half.

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
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?	No

2019 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 2019 + Additional Actions	
	The FVRD participated in the Lower Mainland Flood Management Strategy (FBC) to address increased Fraser River flood risks as a result of climate change.

	The FVRD contributed to a Climate Action Initiative for a freshet flood project. FVRD staff currently sits on a committee that oversees the various projects. They are looking at helping agriculture adapt to climate change and flooding.
	Water conservation and groundwater protection brochures were distributed to residents with new water meter systems.

Community-Wide Water and Wastewater Actions Proposed for 2020

	The Lower Mainland Flood Management Strategy (LMFMS) is developing a "Lower Fraser River Hydraulic Model". The FVRD is on the technical advisory committee for this project. The model is being developed in support of multiple objectives- including the development of flood maps, support stakeholder and public engagement in understanding flood hazard, and to help stakeholders, decision-makers and the public understand the trade-offs between different types of options to reduce flood damages. This work will be completed in 2020.
	A farm-level flood mitigation, preparedness and recovery toolkit will be created from the Climate Action Initiative Project which the FVRD contributes to. The FVRD will support the development of 1-2 fact sheets that are specific to the Fraser Valley flood context, all others will be relevant to Fraser Valley producers but will broadly apply to all producers across BC.

Corporate Water and Wastewater Actions Taken in 2019 + Additional Actions

	The FVRD completed the Sewer Gap study in 2019, including where there are needs for upgrades, monitoring systems, and improved operation efficiencies.
	Designing took place to improve the Nickomen Island Dyke and upgrade the pumps. The upgrades will both protect the community from high water and will improve capacity to move the water out when it gets in. This is an ongoing project.
	Built sewage treatment plants that became functional in 2019: the Aquadel and Minter Gardens sewage treatment plants were being installed by developers to service their new developments and are being built to a Class A standard under the municipal waste water regulation.
	Water main installation in Area F took place in 2019 with directional drilling due to salmon bearing streams
	Installed gauging stations on two creeks in Electoral Area F to maintain water level and flow coming out of them to ensure use of the new well does not affect flow of nearby creeks. Installation complete. Data collection is ongoing.
	Continued 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.

	Replaced faucets at the Vedder River Campground with automatically shut offs.
Corporate Water and Wastewater Actions Proposed for 2020	
	The FVRD is continuing with the implementation of the Sewer Gap study, including where there are needs for upgrades, monitoring systems, and improved operation efficiencies. This is being implemented every time a development application is made. It requires the highest level of sewage treatments which reduce nitrogen and phosphorous.
	Continue to Perform Water Audits of systems with newly installed water meters (almost all FVRD systems are now metered) to determine accuracy of meters and to find potential system leakages.
	Continue work to improve the Nickomen Island Dyke and upgrade the pumps. The upgrades will both protect the community from high water and will improve capacity to move the water out when it gets in.
	Continue to collect data from gauging stations on two creeks in Electoral Area F to maintain water level and flow coming out of them to ensure use of the new well does not affect flow of nearby creeks.
	The FVRD will work on a biosolid management plan to deal with sludge from wastewater treatment plants. The end goal is to dispose of it locally rather than shipping it out of the region.

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

2019 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.

Q 66 Please identify the THREE climate impacts that are most relevant to your Local Government.	
<ul style="list-style-type: none"> Warmer winter temperatures reducing snowpack Changes to temperature and precipitation causing seasonal drought Heatwaves impacting population health <u>Increased temperatures increasing wildfire activity</u> <u>Increased temperatures affecting air quality</u> Changing temperatures influencing species migration and ecosystem shifts Changing temperatures influencing ecosystem shifts <u>Extreme weather events contributing to urban and overland flooding</u> Sea level rise and storms causing coastal flooding and/or erosion 	<ul style="list-style-type: none"> ✓ ✓ ✓

Other (please specify):	
In 2019 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	Yes
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
Other (please specify):	

Climate Change Adaptation Actions Taken in 2019	
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.	
	The FVRD participates in the Lower Mainland Flood Management Strategy (FBC) to address increased Fraser River flood risks as a result of climate change.
	The FVRD is contributing to a Climate Action Initiative for a freshet flood project. FVRD staff currently sits on a committee that oversees the various projects. They are looking at helping agriculture adapt to climate change and flooding.
Climate Change Adaptation Actions Proposed for 2020	
	The Lower Mainland Flood Management Strategy (LMFMS) is developing a "Lower Fraser River Hydraulic Model". The FVRD is on the technical advisory committee for this project. The model is being developed in support of multiple objectives- including the development of flood maps, support stakeholder and public engagement in understanding flood hazard, and to help stakeholders, decision-makers and the public understand the trade-offs between different types of options to reduce flood damages. This work will be completed in 2020.

	A farm-level flood mitigation, preparedness and recovery toolkit will be created from the Climate Action Initiative Project which the FVRD contributes to. The FVRD will support the development of 1-2 fact sheets that are specific to the FV flood context, all others will be relevant to FV producers but will broadly apply to all producers across BC.
	Continued work on the designs for upgrading the Nickomen Island Dyke and pump system. The upgrades will both protect the community from high water and will improve capacity to move the water out when it gets in.
For more information please contact	
	Environmental Services Technician environment@fvrld.ca 604-702-5000

2019 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 Other Actions Taken in 2019	
	The FVRD created an air quality and climate change education program for elementary and secondary students, designed to raise awareness of what causes air quality issues and climate change, and what actions can be taken. This successful and highly sought after program was implemented continued through 2019.
	The FVRD continued to administer the Provincial Wood Stove Exchange Program to encourage residents to retire their old inefficient wood burning appliance for a new EPA certified wood, gas, pellet, or electric heat pump appliance. This program is designed to improve air quality in the FVRD's sensitive airshed.
	The FVRD has a 'good neighbour' practice for land development, which discourages burning and promotes chipping and grinding.
Corporate Other Actions Taken in 2019	
	The Fraser Valley Regional District is partnering with BC Hydro to conduct an Energy Management Assessment which includes an on-site facilitated session with a BC Hydro Energy Advisor to evaluate energy efficiency of FVRD facilities. At the end of the session, the FVRD will receive a report outlining energy performance and it will include a list of resources and incentives available to increase building efficiencies and lower energy consumption. The FVRD has 78 different BC Hydro

	<p>accounts, but 59% of electricity use is attributed to only a handful of sites. The assessment will focus on key buildings that have opportunities for energy efficiency upgrades, but the sites to be included have not yet been confirmed.</p> <p>Following the completion of the assessment, the Energy Advisor will work with FVRD staff to create a corporate FVRD Strategic Energy Management Plan that will determine anticipated energy savings, identify feasible greenhouse gas reduction targets, and confirm priority projects for implementation. This document will serve to update the FVRD's 2009 Corporate Energy Management Plan.</p> <p>The assessment was initiated in 2019 and work is ongoing.</p>
	<p>A fuel tracking policy for contractor's fuel usage was approved was started to be utilized in 2019. Contractor fuel usage will be tracked and reported starting in 2020 to more accurately account for corporate GHG emissions.</p>

2019 CARBON EMISSIONS

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

Did your local government measure corporate GHG emissions for 2019?	Yes
If your local government measured 2019 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)	653 tCO₂e
If your local government measured 2019 corporate GHG emissions, please report	0 tCO₂e

the number of corporate GHG emissions from contracted services (in tonnes of carbon dioxide equivalent)	
TOTAL A: CORPORATE GHG EMISSIONS FOR 2019 (Direct GHGs + Contracted GHGs)	653 tCO₂e

Reporting Reductions and Offsets

To be carbon neutral, a local government must balance their TOTAL corporate GHG emissions generated in 2019 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 2019 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
Energy Efficient Retrofits (in tonnes of carbon dioxide equivalent (tCO ₂ e))	
Solar Thermal (in tonnes of carbon dioxide equivalent (tCO ₂ e))	
Household Organic Waste Composting (in tonnes of carbon dioxide equivalent (tCO ₂ e))	
Low Emission Vehicles (in tonnes of carbon dioxide equivalent (tCO ₂ e))	
Avoided Forest Conversion (in tonnes of carbon dioxide equivalent (tCO ₂ e))	
TOTAL B: REDUCTIONS FROM ALL OPTION 1 PROJECTS FOR 2019	0 tCO₂e

If applicable, please report the names and 2019 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 (tCO ₂ e)	

Option 2 Project Name	
Option 2 GHGs Reduced (tCO ₂ e)	
Option 2 Project Name	
Option 2 GHGs Reduced (tCO ₂ e)	
aTOTAL C: REDUCTIONS FROM ALL OPTION 2 PROJECTS FOR 2019	0 tCO₂e

Offsets

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 2019 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)	
Offset Provider Name	
Offsets (tCO ₂ e)	
TOTAL D: OFFSETS PURCHASED FOR 2019	0 tCO₂e

TOTAL REDUCTIONS AND OFFSETS FOR 2019 (Total B+C+D) = 0 tCO₂e

Corporate GHG Emissions Balance for 2019

Your local government's Corporate GHG Emissions Balance is the difference between total corporate offsettable 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 2019 = (A – (B+C+D)) = 653 tCO₂e

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

CONGRATULATIONS!

If your local government was carbon neutral in 2019, 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, 2019 100 tCO₂e)

SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)	REDUCTIONS
BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR	0 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 2019 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	

Related to 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 and/or financial resources and is intended to result in significant GHG reductions:

PROJECT NAME:
Source Separation Bylaw (mentioned above)
IT Server Upgrades (mentioned above)
Updating and implementing Regional Growth Strategy (mentioned above)
Expanding Transit Services (mentioned above)
Updating OCPs and Zoning Bylaws to support more compact communities (mentioned above)
Expanding and preserving green spaces (mentioned above)