

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

Local Government:  
**The Corporation of the City of North Vancouver**

Report Submitted by:

Name: Paul Forsyth  
Role: Energy Manager  
Email: [pforsyth@cnv.org](mailto:pforsyth@cnv.org)  
Phone: 604.982.8310

Date: May 29, 2019



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

## 2018 BROAD PLANNING ACTIONS

### Broad Planning Actions

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

<b>Q 6 + Q 7 Community-Wide Broad Planning Actions Taken in 2018 + Additional Actions</b>	
	Continued implementation of the Community Energy and Emissions Plan and Climate Change Adaptation Plan.
	Continued compilation of data for the City's community energy and emissions inventory and specific indicators including retrofit rate, modal split, vehicle ownership, etc. Continued significant effort to access utility and transportation (ICBC) data to improve energy and emissions management.
	Continued implementation of community outreach programs including the BCSEA Cool It! Program and other school outreach programs as well as outreach and education at community events.
<b>Q 8 Community-Wide Broad Planning Actions Proposed for 2019</b>	
	Initiate the development of an overarching Environment Strategy as part of an Integrated Planning Strategy with Community Well-Being, Mobility and Design planning. The Environment Strategy will include a pathway to net zero emissions by 2050, identifying actions to achieve deep emissions reductions, integrated with other areas of environmental planning including zero waste, urban agriculture, and natural area and ecosystem protection.
	Continue implementation of the Community Energy and Emissions Plan and Climate Change Adaptation Plan.
	Continue compilation of data for the City's community energy and emissions inventory and specific indicators including retrofit rate, modal split, vehicle ownership, etc. Continued significant effort to access utility and transportation (ICBC) data to improve energy and emissions management.
	Continue implementation of community outreach programs including the BCSEA Cool It! Program and other school outreach programs as well as outreach and education at community events.
<b>Q 9 + Q 10 Corporate Broad Planning Actions Taken in 2018 + Additional Actions</b>	
	Continued implementation of the Corporate Climate Action Plan.
	Continued compilation of data for the annual corporate energy and emissions inventory.
	Continued implementation of the Climate Change Adaptation Plan.
	Continued operation of the City's Carbon Fund.
<b>Q 11 Corporate Broad Planning Actions Proposed for 2019</b>	
	Initiate a review and development of a corporate Strategic Energy Management Plan as part of the overarching Environment Strategy. Continue implementation of the existing Corporate Climate Action Plan.
	Initiate review and development of an internal Carbon Pricing policy for use in City procurements and an electric-first type Fleet policy requiring thorough evaluation of zero-emission vehicles for any new or replacement fleet vehicles.
	Continue implementation of the Climate Change Adaptation Plan.
	Continue compilation of data for the annual corporate energy use and GHG emissions inventories.
	Continue operation of the City's Carbon Fund.

Broad Planning	
<b>Q 12 What is (are) your current GHG reduction target(s)?</b>	<b>Community GHG Emissions Reduction Targets:</b> 80% reduction below 2007 by 2040, and achieve Net Zero or 100% emission reductions by 2050; <b>Corporate GHG emissions Reduction Target:</b> 25% reduction below 2007 levels by 2020;
<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>	Yes
<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> <li>• Do not have a plan</li> <li>• Other:</li> </ul>	Yes - Yes Yes Yes - -
<b>Q 15 Does your local government have a corporate GHG reduction plan?</b>	Yes

## 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.

Q 16 + Q 17 Community-Wide Building and Lighting Actions Taken in 2018 + Additional Actions	
	Continued implementation of the City's Active Design Guidelines, Sustainable Development Guidelines, and Green Zoning Bylaw amendments.
	Continued promotion of BC Hydro, Fortis BC and Province of BC programs and incentives, including co-funding of rebates and incentives. City top-up incentives include CleanBC Better Homes Heat Pump, and EnerGuide Home Evaluation rebates.
	Continued support for BC Energy Step Code implementation including developing and implementing the PATH rebate program to support mandatory mid- construction blower door testing for Part 9 residential buildings and developing a Step Code Rezoning Policy to require a higher step beyond the base City bylaw requirement.
	In partnership with Metro Vancouver and other local governments, launched and promoted the Metro Vancouver Strata Energy Advisor Program to support improved energy efficiency of strata buildings in the City.
	Completed City-wide LED street lighting design. Implement construction phase of LED retrofit.

<b>Q 18 Community-Wide Building and Lighting Actions Proposed for 2019</b>	
	Continue promotion of BC Hydro, Fortis BC and Province of BC programs and incentives, including co-funding of rebates and incentives, including CleanBC Better Homes. Continue promotion of the Metro Vancouver Strata Energy Advisor Program to support improved energy efficiency of strata buildings in the City.
	Continue construction phase of LED retrofit with target to complete main arterial roads by end of 2019. Continue with LED retrofit on collector and local roads, starting with intersections, and target completion by 2021.
	Continue implementation of the City's Active Design Guidelines, Sustainable Development Guidelines, and Green Zoning Bylaw amendments
	Continue implementation of the BC Energy Step Code, and the City's PATH rebate program to support mandatory mid-construction blower door testing for Part 9 residential buildings. Develop future timeline for implementing the higher steps of the BC Energy Step Code.
	Partner with 'EmpowerMe' to deliver an energy conservation and behavior change program to members of diverse, multilingual communities.

<b>Q 19 + Q 20 Corporate Building and Lighting Actions Taken in 2018 + Additional Actions</b>	
	Continued optimization of building operations and management of building upgrades and retrofit efforts to reduce energy use including continued energy monitoring, analysis and reporting for core civic facilities.
	Continued planning and preliminary design for Harry Jerome Community Center redevelopment, targeting a best in class facility with minimal greenhouse gas emissions.
	Continued engagement and education of civic staff on best management practices for energy efficiency.

<b>Q 21 Corporate Building and Lighting Actions Proposed for 2019</b>	
	Initiate detailed energy studies in junction with asset management plans on the City's key civic facilities to determine opportunities for energy and emissions reduction, and if there is an opportunity to align this with larger facility renewal and upgrade projects.
	Initiate a net zero or similar corporate building policy for new civic facility construction.
	Continue to optimize building operations and management of building upgrades and retrofit efforts to reduce energy use and GHG emission reductions, including energy monitoring, analysis and reporting for core civic facilities.
	Continue planning and detailed design for Harry Jerome Community Center redevelopment, targeting a best in class facility with minimal greenhouse gas emissions.

<b>Building and Lighting</b>	
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

## P5 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.

Q 24 + Q 25 Community-Wide Energy Generation Actions Taken in 2018 + Additional Actions	
	Continued expansion of the number of connections to the LEC district energy system.
	Continued study of renewable energy and waste heat options for the LEC district energy system including investigation of hydrogen.
	Monitored the Lonsdale Energy Corporation (LEC) district energy system and make continual adjustments to increase energy efficiency.
Q 26 Community-Wide Energy Generation Actions Proposed for 2019	
	Expansion (design and construction) of LEC's heat recovery capabilities including both low and high temperature heat recovery from a CO <sub>2</sub> chiller ice plant used for the public skating facility at the Shipyards development.
	Continued expansion of the number of connections to the LEC district energy system.
	Continue the study of renewable energy and waste heat options for the LEC district energy system including investigation of hydrogen.
	Continue to monitor the Lonsdale Energy Corporation (LEC) district energy system and make continual adjustments to increase energy efficiency.

Q 27 + Q 28 Corporate Energy Generation Actions Taken in 2018 + Additional Actions	
Q 29 Corporate Energy Generation Actions Proposed for 2019	


Energy Generation	
<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>	Yes No
<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>	Yes No
<b>Q 32 Is your local government connected to a district energy system that is operated by another energy provider?</b>	No
<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>	Yes

## 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.

Q 34 + Q 36 Community-Wide Greenspace Actions Taken in 2018 + Additional Actions (Q 35 below Q 41)	
	Continued natural area restoration with a particular focus on restoring biodiversity to areas impacted by invasive plants.
	Continued planting of street trees through the Living City Street Tree initiative.
	Continued implementing the City's Food Security and Urban Agriculture Strategy including planning and support to expand urban agriculture and community garden programs.
	Continued policy implementation and support for residents to keep chickens and honey bees.
	Continued Implementing the City's Integrated Stormwater Management Plan.
Q 37 Community-Wide Greenspace Actions Proposed for 2019	
	Continue natural area restoration with a particular focus on restoring biodiversity to areas impacted by invasive plants.
	Continue planting of street trees through the Living City Street Tree initiative.
	Continue implementing the City's Food Security and Urban Agriculture Strategy including planning and support to expand urban agriculture and community garden programs.

	Continue policy implementation and support for residents to keep chickens and honey bees.
	Continue implementing of the City's Integrated Stormwater Management Plan.

<b>Q 38 + Q 39 Corporate Greenspace Actions Taken in 2018 + Additional Actions</b>	
	Continued planting of street trees through the Living City Street Tree initiative.
	Continued implementing of the Invasive Plant Management Program, including invasive species removal and native species planting.
	Continued partnership with Evergreen in delivering the City Park Stewards Program.
<b>Q 40 Corporate Greenspace Actions Proposed for 2019</b>	
	Continue planting of street trees through the Living City Street Tree initiative.
	Continue implementing the Invasive Plant Management Program, including invasive species removal and native species planting.
	Continue partnership with Evergreen in delivering the City Park Stewards Program.

<b>Greenspace</b>	
<b>Q 41 Does your local government have urban forest policies, plans or programs?</b>	Yes
<b>Q 35. Does your local government have policies, plans or programs to support local food production?</b>	Yes

## 2018 SOLID WASTE ACTIONS

### Solid Waste Actions

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

<b>Q 42 + Q 43 Community-Wide Solid Waste Actions Taken in 2018 + Additional Actions</b>	
	Continued implementation of Metro Vancouver's Integrated Solid Waste Resource Management Plan.
	Continued to provide support and outreach for recycling and food scraps diversion through the City's Zero Waste Coach program; continued school and community outreach focusing on waste reduction and diversion.
	In partnership with Metro Vancouver, conducted an audit of the City's public realm garbage and recycling bins. Expanded the public realm recycling program to include all recyclable containers.
	Launched "Don't be a Butthead" cigarette litter reduction initiative and personal ashtray distribution.
	Continued collaboration with Metro Vancouver and the Province to address challenges associated with ensuring appropriate and sufficient space for recycling and garbage collection in new buildings.

<b>Q 44 Community-Wide Solid Waste Actions Proposed for 2019</b>	
	Continue implementation of Metro Vancouver's Integrated Solid Waste Resource Management Plan. Collaborate with Metro Vancouver to address single use item reduction.
	Develop zero waste action plan as a component of the Environment Strategy.
	Continue support and outreach for recycling and food scraps diversion through the City's Zero Waste Coach program; continued school and community outreach focusing on waste reduction and diversion. Continue expansion of the public realm recycling program and outreach opportunities to reduce contamination.
	Continue implementation of the "Don't be a Butthead" cigarette litter reduction initiative and personal ashtray distribution.
	Continue collaboration with Metro Vancouver and the Province to address challenges associated with ensuring appropriate and sufficient space for recycling and garbage collection in new buildings.

<b>Q 45 + Q 46 Corporate Solid Waste Actions Taken in 2018 + Additional Actions</b>	
	Continued to provide education and support to City staff regarding waste reduction and recycling in support of the City's Corporate Zero Waste program.
	Continued waste audits to measure waste reduction and diversion from civic buildings.
	Continued reuse of asphalt and other aggregate for new utility construction.
<b>Q 47 Corporate Solid Waste Actions Proposed for 2019</b>	
	Continue education and support to City staff regarding waste reduction and recycling in support of the City's Corporate Zero Waste program.
	Continue waste audits to measure waste reduction and diversion from civic buildings.
	Continue reuse of asphalt and other aggregate for new utility construction.

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

## 2018 TRANSPORTATION ACTIONS

### Transportation Actions

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



<b>Q 50 + Q 51 Community-Wide Transportation Actions Taken in 2018 + Additional Actions</b>	
	Continued construction of the Spirit Trail greenway and completed the Green Necklace greenway; continued improvement and expansion of the City's bike network including implementation of the All Ages and Abilities (AAA) Bicycle Network Plan; Continued transit facility improvements (bus shelters, etc.) along with installation of pedestrian and cyclist safety improvements.
	Continued implementation of the City's Transportation Demand Management program and 2008 Long Term Transportation Plan;
	Continued promotion of Bike Day in Canada, Bike to Work/School Weeks, and Commuter Challenge; hosted Bike Rodeos in partnership with the North Shore Safety Council and continue implementation of on-road cycling education for all grade 6 students in the City; supported cycling education courses for adults and targeted cycling courses for immigrants.
	Continued implementation of the Safe and Active School Travel Program in local elementary schools and high schools; continued implementation of the Child and Youth Traffic Safety Working Group committee; continue support for partner organizations and activities through granting programs.
	Developed an Electric Vehicle (EV) Strategy and obtained endorsement from Council, with actions designed to accelerate the transition to electric vehicles; Developed and implemented EV Ready requirements to equip all new residential parking spaces with EV charging infrastructure. Expanded the City's public EV charging network with installation of a new DC fast charging station at City Hall.
<b>Q 52 Community-Wide Transportation Actions Proposed for 2019</b>	
	Completion of the WalkCNV framework – Pedestrian Plan. Completion of a Safe Mobility Plan, and completion of the Transit Speed and Reliability Study to investigate locations where there is unreliability in transit travel times or excessive delay, rank the locations and completed designs for the locations with major issues. Begin development of the Mobility Strategy, and update to the Long term Transportation Plan (completion anticipated 2021). Begin an electric-bike share pilot for the North Shore in collaboration with other North Shore Municipalities.
	Completion of Bicycle route design for the Off Marine bike route, 4th Street Bike Route and a bicycle route connecting Keith Road to Lynn Valley. Completion of pedestrian safety improvements on 29th Street. Completion of a Multi-use-path along Mackay Creek.
	Development of the Main-Marine B-Line bus service (opening 2020). Traffic Signal improvements; new signals to improve active transport crossings, and accessibility upgrades on existing signals.
	Continue construction of the greenways, improvement and expansion of the City's bike network, transit facility improvements (bus shelters, etc.) and other pedestrian and cyclist safety improvements. Continue implementation of the City's Transportation Demand Management program and 2008 Long Term Transportation Plan; Continue promotion of cycling events, and outreach & awareness programs (Bike Day in Canada, Bike to Work/School Weeks, and Commuter Challenge, hosting Bike Rodeos, and supporting on-road cycling education courses). Continue implementation of the Safe and Active School Travel Program in local schools, and the Child and Youth Traffic Safety Working Group committee.
	Initiate review and revision of the City's Electric Vehicle (EV) requirements for commercial developments. Develop plans and submit funding application to further expand the City's public charging station network. Implement user fees on the City's public EV charging network to optimize use of the stations. Host a series of public outreach events to promote awareness and education of electric vehicles to City residents. Continue to promote available EV incentive programs and other EV information through the City's website. Develop an incentive program for EV charging infrastructure installation in multi-family buildings.
<b>Q 53 + Q 54 Corporate Transportation Actions Taken in 2018 + Additional Actions</b>	
	Continued fleet management and right sizing, including replacing retired fleet vehicles with electric vehicles.

	Continued partnership with TravelSmart to support staff commuting options and promoted Bike to Work Week and the Commuter Challenge.
	Continued provision of staff Transportation Demand Management incentives including a transit pass subsidy and staff bicycle purchase loan program.
<b>Q 55 Corporate Transportation - Actions Proposed for 2019</b>	
	Initiate a study of the City's entire vehicle fleet, to develop a timeline and plan to convert the Fleet to zero-emission vehicles. Initiate a study of the Operation Centre's building electrical system for required infrastructure upgrades that would be needed to support large scale Fleet conversion to EVs. Continue to replace retired Fleet vehicles with EVs and install supporting charging infrastructure.
	Develop a Zero-Emission/Electric-First type corporate Fleet procurement policy.
	Continue partnership with TravelSmart to support staff commuting options and promoted Bike to Work Week and the Commuter Challenge.
	Explore opportunities to install EV charging stations to support workplace charging for staff's personal vehicles.

<b>Transportation</b>	
<b>Q 56 Does your local government have policies, plans or programs to support:</b>	
• Walking	Yes
• Cycling	Yes
• Transit Use	Yes
• Electric Vehicle Use	Yes
• Other (please specify)	No
<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>	Yes
<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.

<b>Q 59 + Q 60 Community-Wide Water and Wastewater Actions Taken in 2018 + Additional Actions</b>	
	Continued to implement Metro Vancouver's Integrated Liquid Waste and Resource Management Plan and the City's Integrated Stormwater Management Plan.
	Continued to implement the Water Conservation Strategy with a target to reduce total per capita water consumption by 10% by 2024.
	Promoted BC Hydro's appliance rebate programs.

	Continued implementation of seasonal water rates and promotion of the City's rain barrel sales program.
	Continued education and enforcement of City watering restrictions during summer months.
<b>Q 61 Community-Wide Water and Wastewater Actions Proposed for 2019</b>	
	Continue implementation of Metro Vancouver's Integrated Liquid Waste and Resource Management Plan and the City's Integrated Stormwater Management Plan.
	Continue implementation of the Water Conservation Strategy with a target to reduce total per capita water consumption by 10% by 2024.
	Continue promotion of BC Hydro's appliance rebate programs. Continue education and enforcement of City watering restrictions during summer months.
	Continue implementation of seasonal water rates and promotion of the City's rain barrel sales program.
	Implement fixed base water metering reading system.

<b>Q 62 + Q 63 Corporate Water and Wastewater Actions Taken in 2018 + Additional Actions</b>	
	Continued to implement the Water Conservation Strategy. Provided water meters for all City Park and irrigation use.
	Continued leak detection activities periodically to evaluate sewer system function.
	Continued to utilize harvested rainwater from the City Operations Centre cistern for reuse in the City's street sweeper.
	Implemented the City's Integrated Storm Water Management Plan.
<b>Q 64 Corporate Water and Wastewater Actions Proposed for 2019</b>	
	Continue implementation of the Water Conservation Strategy.
	Continue leak detection activities periodically to evaluate sewer system function.
	Continue to utilize harvested rainwater from the City Operations Centre cistern for reuse in the City's street sweeper.
	Continue implementation of the City's Integrated Storm Water Management Plan.
	Initiate estimation of non-revenue water.

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

## 2018 CLIMATE CHANGE ADAPTATION ACTIONS

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

<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>Heatwaves impacting population health</li> <li>Extreme weather events contributing to urban and overland flooding</li> <li>Sea level rise and storms causing coastal flooding and/or erosion</li> </ul>	
Other (please specify): All of the other climate above impacts options are relevant to the City of North Vancouver	

**Q 67 In 2018 has your local government addressed the impacts of a changing climate using any of the following?**

Risk and Vulnerability Assessments	Yes
Risk Reduction Strategies	Yes
Emergency Response Planning	Yes
Asset	Yes
Natural/Eco Management Asset Management Strategies	No
Infrastructure Upgrades (e.g. stormwater system upgrades)	Yes
Beach Nourishment Projects	No
Economic Diversification Initiatives	No
Strategic and Financial Planning	Yes
Cross-Department Working Groups	Yes
Official Community Plan Policy Changes	No
Changes to Zoning and other Bylaws and Regulations	No
Incentives for Property Owners (e.g. reducing storm water run-off)	Yes
Public Education and Awareness	Yes
Research	Yes
Mapping	No
Partnerships	Yes
Other (please specify):	

**Q 68 Climate Change Adaptation Actions Taken in 2018**

Please elaborate on key actions and/or partnerships your local government has engaged in to prepare for, and adapt to a changing climate. Add links to key documents and information where appropriate.

	Continued implementation of the City's Climate Change Adaptation Plan and City's Integrated Stormwater Management Plan considering future climate projections and adaptation needs for private infrastructure.
	Promoted passive design and BC Energy Step Code for new construction; continued implementation of cooling service at Lonsdale Energy Corporation to deal with increased cooling needs in the summer.
	Continued implementation of Living City Street Tree Planting initiative.
	Continued implementation of the City's Water Conservation Strategy and continued public outreach during drought events to caution the public with respect to fire risk.
	With assistance from senior government funding, upgraded bridge and wastewater treatment infrastructure to increase resiliency to more frequent and severe flood events; prepared Development Permit Area guidelines for properties in hazard prone areas.

**Q 69 Climate Change Adaptation Actions Proposed for 2019**

	Continue implementation of the City's Climate Change Adaptation Plan and the Integrated Stormwater Management Plan considering future climate projections and adaptation needs for private infrastructure.
	Continue implementation of Living City Street Tree Planting initiative.
	Continue implementation of the City's Water Conservation Strategy and public outreach during drought events to caution the public with respect to fire risk.
	Continued promotion of passive design and BC Energy Step code for new construction.

<b>Q 70 For more information please contact</b>	

<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 Useful Useful Useful Haven't Used Haven't Used Haven't Used Useful  Haven't Used Useful Useful Useful 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.

<b>Q 72 Community-Wide Other Actions Taken in 2018</b>	
<b>Q 73 Corporate Other Actions Taken in 2018</b>	


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?	Yes

## 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](#).

Q 76 Community-Wide Innovation Action
<p><b>Electric Vehicle Strategy</b></p> <p>In 2018, the City developed an Electric Vehicle (EV) Strategy as a guide for policy and actions to accelerate the transition to EVs in the City. Informed by the results of public and stakeholder engagement activities, and a gap analysis determining the best investment in EV charging infrastructure to encourage adoption in the short term, the EV Strategy aims to remove barriers to EVs and EV charging. Thirty actions in five key areas were identified that form a comprehensive approach to increasing public awareness and understanding of EVs, transitioning the City's fleet and supporting EV charging at home, at work and on the go. Since the EV Strategy's endorsement in September 2018, the City's has implemented EV-ready requirements for new residential buildings, introduced another fast charging station into the City's public charging network, and planned a series of EV outreach events, all priority actions identified in the EV Strategy.</p> <p><b>Streetscape Recycling Expansion</b></p> <p>In August 2018, the City expanded its streetscape recycling program to include all recyclable containers, aligning with the container recycling stream in the residential collection program. Previously, the program included only deposit-bearing beverage containers and the expansion allows common items, including single use coffee cups</p>

and plastic takeout containers, to be recycled in the public realm. The three-stream collection bins are located in public spaces in close proximity to coffee shops and quick service restaurants, where there is a high volume of pedestrian traffic. The expansion of the program will enable more of the common single-use items to be recycled and diverted from landfill, and raise the profile of container recycling through new graphics on the high visibility bins.

#### **Moodyville Climate Showcase Community**

The City's existing Moodyville neighbourhood, made up of single family housing, is being converted into to a medium density showcase community featuring energy resilience and family-friendly housing. The redevelopment of the Moodyville Community will result in development of 1,500 new energy efficient dwellings or two million square feet of residential capacity along one of Metro Vancouver's key future rapid transit corridors. Through Rezoning and new design guidelines, new Part 3 developments within this community are required to achieve upper steps of the BC Step code (Step 3 or Step 4), or Passive House certification, in exchange for added density. Lonsdale Energy Corp. will also extend its district energy system to the new developments to provide thermal energy. The area will include improved greenways, transit networks, and active and safe lanes and streets to further encourage active transportation. For more information, please visit [www.cnv.org/moodyville](http://www.cnv.org/moodyville)

#### **Low Carbon District Energy - Effluent Waste Heat Recovery**

The City's district energy system, the Lonsdale Energy Corporation (LEC) was established in 2004. The LEC has mini-plants located throughout the City, serving customers in the Lower Lonsdale, Central Lonsdale, and Marine Harbourside areas. LEC's mini-plants use a combination of high efficiency natural gas boilers, ground source heat pumps, heat recovery from building cooling, and solar thermal panels to heat hot water. The LEC is committed to delivering environmental benefits and reducing greenhouse gas emissions throughout the City. For more information please visit: <http://www.cnv.org/city-services/lonsdale-energy>

In 2017, the Lonsdale Energy Corporation and Metro Vancouver signed an agreement that will allow the sale of waste heat recovered from the new North Shore Waste Water Treatment Plant. This system sets a new standard for integrated resource recovery as it will harness the excess heat generated from effluent that would otherwise be released into the ocean. This project will reduce greenhouse gas emissions by 7,200 tonnes each year through the direct replacement of natural gas, and will reduce emissions by over 200,000 tonnes over the lifetime of the project.

### **Q 77 Corporate Innovation Action**

#### **Carbon Fund**

As part of the City's climate action commitments, the City established a dedicated Carbon Reserve Fund with funds set aside annually for emissions reduction projects. The fund is intended to fulfill the spirit of the City's commitment to the provincial Climate Action Charter, by setting aside the equivalent dollar amount the City would otherwise be using to purchase carbon offsets under the Charter. An internal carbon fund ensures that the spirit of carbon neutrality is met (measuring, reducing and accounting for emissions) while also ensuring that local taxpayer funds are directed entirely towards projects and programs within the City of North Vancouver. Projects funded to date include the City's Living City Street Tree Planting Program and the City's Transportation Demand Management Program. For more information, please visit [www.cnv.org/carbonfund](http://www.cnv.org/carbonfund)

**Q 78 For more information on actions described above contact**

## 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.

### Mitigation

#### Q 79 Mitigation Programs, Partnerships and Funding

Vancouver Coastal Health Active Communities Grant, TransLink Municipal TDM grant, TransLink Bicycle Infrastructure Capital Cost-Sharing (BICCS), TransLink MRNB grant, Bike BC, Metro Vancouver (Strata Energy Advisor Program), BC Hydro (PATH rebate and EV Strategy development funding), NRCan and Province (DCFC), Province (CleanBC incentives), BC Sustainable Energy Association (Cool It! Program), Great Canadian Shoreline Cleanup.

### Adaptation

#### Q 80 Adaptation Programs, Partnerships and Funding

NSEMO, Evergreen (environmental stewardship)

## 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>2,124</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>93</b>
<b>Q 84 TOTAL A: CORPORATE GHG EMISSIONS FOR 2018 (Direct GHGs + Contracted GHGs)</b>	<b>2,217 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:

<b>OPTION 1 PROJECTS</b>	<b>REDUCTIONS</b>
<b>Q 85 Energy Efficient Retrofits (in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e))</b>	<b>0</b>
<b>Q 86 Solar Thermal (in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e))</b>	<b>0</b>
<b>Q 87 Household Organic Waste Composting (in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e))</b>	<b>392</b>
<b>Q 88 Low Emission Vehicles (in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e))</b>	<b>0</b>
<b>Q 89 Avoided Forest Conversion (in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e))</b>	<b>0</b>

<b>Q 90 TOTAL B: REDUCTIONS FROM ALL OPTION 1 PROJECTS FOR 2018</b>	<b>392 tCO<sub>2</sub>e</b>
---	-----------------------------

**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:**

<b>Option 2 Project Name</b>	<b>REDUCTIONS</b>
<b>Option 2 GHGs Reduced (tCO<sub>2</sub>e)</b>	
<b>Option 2 Project Name</b>	
<b>Option 2 GHGs Reduced (tCO<sub>2</sub>e)</b>	
<b>Option 2 Project Name</b>	
<b>Option 2 GHGs Reduced (tCO<sub>2</sub>e)</b>	
<b>Option 2 Project Name</b>	
<b>Option 2 GHGs Reduced (tCO<sub>2</sub>e)</b>	
<b>Q 92 TOTAL C: REDUCTIONS FROM ALL OPTION 2 PROJECTS FOR 2018</b>	<b>0 tCO<sub>2</sub>e</b>

#### **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.*

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

**Q 95 TOTAL REDUCTIONS AND OFFSETS FOR 2018 (Total B+C+D) = 392 tCO<sub>2</sub>e**

## 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 = (A – (B+C+D)) = 1,825 tCO<sub>2</sub>e**

**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 tCO<sub>2</sub>e)**

SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)	REDUCTIONS
<b>Q 98 BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR</b>	<b>0 tCO<sub>2</sub>e</b>

Carbon Neutral Reporting	
<b>Q 99 Does your local government set aside funds in a climate reserve fund or similar?</b>	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	<b>Yes</b>
<input type="checkbox"/>	Level 4 - Achievement of Carbon Neutrality	
<input type="checkbox"/>	Not Sure	

**Q 101 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:
<p>The City is invests considerable time and effort to integrate and continually expand upon the climate actions provided throughout the report into part of its regular operations and core functions. To highlight a couple of significant climate actions the City has taken:</p> <p>The Lonsdale Energy Corporations' study, design, and implementation work to include and expand low carbon energy sources within the district energy system including implementing the effluent waste heat recovery at the new Lions Gate Wastewater Treatment Plant, expansion of heat recovery at the Shipyards Development, and study of alternative fuels as described in "Innovation" section.</p> <p>Development and implementation of the City's Electric Vehicle Strategy, described in the "Innovation" section.</p>