



Climate Action Revenue Incentive (CARIP) Public Report 2018



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The City of Nanaimo 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.

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

Community-Wide Broad Actions Taken in 2018

Climate Resiliency Strategy - Phase one of the Climate Resiliency Strategy process – Sea Level Rise Mapping - completed.

Community-Wide Broad Planning Actions Proposed for 2019

OCP Review - The review process is to begin in Fall 2019. It will include a review of the energy and emissions management policies for the City.

Declaration of Climate Emergency - A Climate Emergency was declared by City Council on April 29th 2019 and new community energy and emissions targets will be set in 2019 to respond to the declaration. The framework, strategies, actions and implementation of the Community Sustainability Action Plan will be updated to reflect the new emission reduction targets.

End of Trip Program – Implementation of a sustainable transportation program that will encourage residents and businesses to install end of trip facilities for active or sustainable modes of transportation, i.e. EV charging stations or bicycle storage.

Corporate Broad Planning Actions Proposed for 2019

City Climate Resiliency Strategy – With assistance from a consultant team, the City will work to develop a strategy that will focus on corporate assets, programs and services which will identify the greatest vulnerabilities and risks to climate change in order to prioritize actions and investments. The Strategy will recommend short- and medium-term actions that will improve the climate resilience of Nanaimo and provide a roadmap forward.

Broad Planning

What is (are) your current GHG reduction target(s)?	The City of Nanaimo's current GHG reduction target, as stated in the OCP and Community Sustainability Action Plan, is to reduce 2007 emissions by 3% by 2020, and 39% of 2007 levels by 2050. These will be reset by City Council in 2019 as a result of the Climate Emergency declared on April 29 th 2019.
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?	
• Community Energy and Emissions (CEE) Plan	Yes
• Integrated Community Sustainability Plan	Yes
• Community-Wide Climate Action Plan	Yes
• Official Community Plan (OCP)	Yes
• Regional Growth Strategy (RGS)	Yes
• Do not have a plan	
• Other:	
Does your local government have a corporate GHG reduction plan?	Yes

2018 BUILDINGS 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 2018

Step Code Education and Engagement – As part of the Regional District of Nanaimo's Green Building Series, the City helped co-sponsor a Local Energy Efficiency Partnership Forum in the fall which was followed up by a Building Smart Workshop held at Emerald Woods subdivision.

Realtor Energy Efficiency Program – This is a program that began in 2017 and continued through 2018, aimed at training realtors in the area of home energy efficiency, so that homebuyers can be better informed on the various opportunities and benefits associated with energy efficient components.

Woodstove Change Out Program - Rebates offered for the purchase of high efficiency woodstoves that replace woodstoves that do not meet CSA B415.1 standard.

A Home Energy Assessment Rebate Program - Initiated in mid 2018. Program provides homeowners \$150 to cover costs for an initial home energy assessment and an additional \$10 per for every 5 gigajoule / year reduction in the homes annual energy use, up to a max of \$200.

Community-Wide Building and Lighting Actions Proposed for 2019

Step Code Education and Engagement – This program will continue through 2019 with the cohosting of the Hamid Design Building during the Canadian Home Builder Association Vancouver Island Forum which will provide hands on opportunity for builders to improve airtightness and the energy efficiency of building envelopes. A passive house design and construction course will also be offered to builders.

Realtor Energy Efficiency Program – This program will continue through 2019.

Woodstove Change Out Program – This program will continue through 2019.

Home Energy Assessment Rebate Program – This program will continue through 2019.

Corporate Building and Lighting Actions Taken in 2018

Street Light Conversion – Phase 1 of converting 420 City owned street lights from high pressure sodium to LED was begun and will be completed in 2019.

Beban Park Recreation Centre Upgrades – One of the aging inefficient boilers was replaced with 2 new high efficiency condensing boilers, coupled with a building automation upgrade that will act as the primary heating source for the swimming pools, hot tub and the majority of space heating at this site.

Continuous Optimization Program – The final 4th phase, the Coaching Phase, which consists of 4 coaching session, was completed at Nanaimo Ice Centre and Beban Park Recreation Centre in 2018. The Coaching Phase began at Nanaimo Aquatic Centre; the first 2 of the 4 sessions were completed in 2018.

Annual Building Lighting and Mechanical Upgrades – Various Corporate buildings received smaller scale efficiency upgrades as opportunities were discovered.

Corporate Building & Lighting Actions Proposed for 2019	
Street Light Conversion –Phase 1 was completed and Phase 2, which consists of converting up to an additional 524 City owned HPS streetlights to LED Streetlights, is being undertaken.	
Beban Park Recreation Centre Upgrades – Major heating coils in some of the buildings at this site will be replaced with higher efficiency models that will allow for greater efficiency of the hydronic boiler system upgraded in 2018; further reducing GHG's at this site.	
Continuous Optimization Program – The program will be completed at Nanaimo Aquatic Centre in 2019.	
Annual Building Lighting and Mechanical Upgrades – Various Corporate buildings will receive smaller scale efficiency upgrades as opportunities present themselves.	
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?	Yes

2018 ENERGY GENERATION ACTIONS

Energy Generation Actions

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

Corporate Energy Generation Actions Taken in 2018

Reservoir No. 1 Energy Recovery Facility – Produced a total of 802 MWh's of energy, offsetting the water supply system's energy consumption.

Corporate Energy Generation Actions Proposed for 2019

Reservoir No. 1 Energy Recovery Facility – The amount of power generated will be directly correlated to the quantity of water processed.

Cold Water Ice Resurfacer – Plans to continue installing cold water ice making equipment to resurface 3 additional recreational ice rinks, eliminating normally required energy to heat water used in the resurfacing process.

Energy Generation

Is your local government developing, or constructing:	
• A district energy system	No
• A renewable energy system	No
Is your local government operating:	
• A district energy system	No
• A renewable energy system	Yes
Is your local government connected to a district energy system that is operated by another energy provider?	No
Are you familiar with the 2018 List of Funding Opportunities for Clean Energy Projects Led by First Nations and Local Governments?	No

2018 GREENSPACE/ NATURAL RESOURCE PROTECTION ACTIONS

Greenspace Actions

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

Community-Wide Greenspace Actions Taken in 2018

Partners in Parks Program – Opportunity for the public, City staff, volunteers and consultants to learn about and get involved with playground development, invasive species removal, garden/tree planting and park maintenance.

Vancouver Island Beggartick Restoration – The City hired Saanich Native Plants to reintroduce this endangered species to the Jingle Pot Marsh.

Departure Creek Realignment and Restoration – Project completed to realign, improve and restore Departure Creek to support salmon habitat and riparian vegetation. Enhanced salmon and riparian habitat within Woodstream and Harewood Centennial Park.

Chase River Riparian Restoration – Restoration plan was prepared and implementation undertaken. Working with students and volunteers to remove Himalayan Blackberry and plant trees along the south bank of the Chase River, next to Harewood Centennial Park and John Barsby Secondary School.

Earth Day/Rivers Day Voucher Program – Nanaimo residents purchased 700 subsidized vouchers for large fruit or coniferous trees be retrieved from a local nursery.

Community-Wide Greenspace Actions Proposed for 2019

Partners in Parks Program – This program will continue through 2019.

Earth Day/Rivers Day Voucher Program – This program will continue through 2019, with the goal of selling 800 vouchers by the end of the year.

Adopt a Street Tree Program – Program development for landowners who can apply to have a tree planted on City property in front of their land, with an agreement to water the trees. Our goal is to fund 100 trees.

Chase River Riparian Restoration – This program will continued through 2019.

Urban Forest Canopy Mapping and Assessment – Research to develop a business case to conduct a City wide urban forest canopy mapping and assessment study in 2020.

Corporate Greenspace Actions Taken in 2018

Tree Inventory Update – Use of GIS mapping began in 2018 to expand tree inventory. This will eventually lead to automated workflow management; estimated completion is 2020.

Corporate Greenspace Actions Proposed for 2019

Tree Inventory Update – GIS mapping began in 2018 to expand tree inventory and will continue on through to 2020.

Comprehensive Soils Bylaw – Bylaw review will encompass multiple considerations currently dispersed across multiple bylaws, including the placement and removal of soils from a property, erosion and sediment control, storm water retention and contamination. Amendments expected to proceed to Council for adoption in 2020.

Street Tree Informational Pamphlet – To be distributed in new subdivisions and locations with street trees, informing residents on their importance and management requirements.

Tree Management and Protection Bylaw – Currently researching policy and proposed amendments to Bylaw to provide measures to protect existing trees on private lands, and to clarify tree replacement requirements.

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

2018 SOLID WASTE ACTIONS

Solid Waste Actions

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

Community-Wide Solid Waste Actions Taken in 2018
Automated Solid Waste Collection - Completed transition to automated collection, providing improved service to over 28,000 households.
Curbside yard waste collection - Added to existing curbside kitchen scraps collection, and increased the size of the container provided for collection from 44L to 120L per household. Program resulted in additional 1,445mt of comingled organics being diverted from landfill disposal.
Car Trunk Sale - Held in July 2018 had over 100 participants selling used household items, resulting in reuse rather than disposal.
Reuse Rendezvous – Encouraged residents to place reusable household items at curbside that may be useful to others in the community.
Cleaner Community Partnership - Resulted in litter collection from approximately 90km of city streets and trails.
Recycling App – Approximately 30% of all households are using the app. This app has a solid waste collection reminder and a "waste wizard" which allows you to search the appropriate disposal from a library of items. This app also lets you report an issue with your collection.

Community-Wide Solid Waste Actions Proposed for 2019
Single-use Checkout Bags - Consultation to develop new regulation of single-use checkout bags.
Public Education - Regarding implementation of new regulation for single-use checkout bags.
Public Education - Continuing education of public regarding waste reduction and proper diversion.
Cleaner Community Partnership – Continue bi-annual event.
Recycling App – Continue to market the app as a convenient source of information and encourage incremental adoption.
Car Trunk Sale – 3 rd Annual Trunk Sale to be held in July 2019.

Corporate Solid Waste Actions Taken in 2018
Waste Collection Fleet Conversion to CNG Vehicles - Converted entire collection fleet (8 vehicles) from diesel to compressed natural gas in July 2018, resulting in reductions in GHG emissions, particulate emissions, and noise levels.
Zero-Waste Event Designation - Supplied Zero Waste Stations for corporate events, including Christmas Luncheon and picnics.
Corporate Solid Waste Actions Proposed for 2019
Fuel Efficiency Initiatives - Identify opportunities to optimize collection routes to minimize the fuel required and associated emissions resulting from collection activities.
Zero-Waste Event Designation - Zero Waste events will continue in 2019.
Implementation Programs - Work with Regional District of Nanaimo to implement programs identified in the Solid Waste Management Plan.

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

2018 TRANSPORTATION ACTIONS

Transportation Actions

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

Community -Wide Transportation Actions Taken in 2018

Expanded Sidewalks, Bike lanes and Multi- use trails – Constructed the following: 215 m of sidewalks on Dufferin Street and Jingle Pot Road; 500 m of multi-use trail between Sixth Street and Seventh Street (Georgia Ave. Greenway Project); 125 m of 3m wide multi-use trail on Cypress Street; and 240 m of sidewalk and bike lanes on Northfield Road.

Transit Shelters – 4 new transit shelters were installed.

Bike to Work Week – City of Nanaimo support for the event with staff support and promotion.

Go by Bike – City of Nanaimo support for this fall event with staff support and promotion.

Modo Car Share Program – City of Nanaimo shifted its support from a car pool program to Modo, a member-owned car share service. Designated parking spots are reserved at various locations throughout the city for Modo vehicles.

Active Trip to School Planning Project – The goal of this project is to increase the number of students traveling to and from school by foot or bike, thereby reducing the reliance of automobile travel. The project is over an 18 month period that started in 2018 and will be completed mid 2019.

Community-Wide Transportation Actions Proposed for 2019

Expansion of Sidewalks, Bike lanes and Multi- use trails – Plans to construct the following: 470 m of sidewalk on Bruce Avenue; 384 m on Hammond Bay Road and 85 m on College Drive; and 950 m of multi-use trail on Port Drive.

Transit Shelters – 2 new transit shelters are scheduled to be installed.

Bike to Work Week – Continued support for this spring event with staff support and promotion.

Go by Bike – Continued support for this fall event with staff support and promotion.

Modo Car Share Program – Support will continue for this program in 2019.

Active Trip to School Planning Project – Support will continue for this program in 2019.

Active Route to School Toolkit – Toolkit refinement process that takes a generic national workbook and creates one that is specific to Nanaimo. The goal is to develop active routes to school plans that can be used by students.

Corporate Transportation Actions Taken in 2018

Off Street Parking Bylaw – Adapted new off-street parking bylaw to include bicycle parking requirements which did not exist in the previous bylaw. These changes are geared to encourage less automobile dependency and future parking lot construction.

Corporate Transportation Actions Proposed for 2019

Active Transportation Street Guide - Develop complete streets guide to better support active transportation.

Active & Sustainable Transportation Coordinator – One FTE position has been created to implement the strategic tasks outlined in the Transportation Master Plan, which will support the goal of doubling active transportation trips by the year 2041.

Transportation	
Does your local government have policies, plans or programs to support:	Yes Yes Yes Yes
• Walking • Cycling • Transit Use • Electric Vehicle Use	
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)?	Yes
Does your local government integrate its transportation and land use planning?	Yes

2018 WATER AND WASTEWATER ACTIONS

Water and Wastewater Actions

Managing and reducing water consumption and wastewater is an important aspect of developing a sustainable built environment that supports healthy communities, protects ecological integrity, and reduces GHG emissions.

Community-Wide Water and Wastewater Actions Taken in 2018

Toilet Rebate Program – Rebates offered to single and multi-family dwellings when low-efficiency toilets using at least 13 litres of water are replaced with CSA approved low-flow models.

Appliance Rebate Program – Rebates offered to single and multi-family dwellings when low efficiency appliances such as washing machines and dishwashers are replaced with low-flow models.

Commemorated Annual Events – the City of Nanaimo participated in the celebration of World Water Day, BC Drinking Water Week and National Public Works Week.

Community Education – Elementary school students were educated on the City's water supply and taken on field trips to our drinking watershed.

Public Tours – Tours provided of the City's Public Works Department and Water Treatment Plant.

Community-Wide Water and Wastewater Actions Proposed for 2019

Toilet Rebate Program – Rebate programming will continue into 2019.

Appliance Rebate Program – Rebate programming will continue into 2019.

Commemorated Annual Events – These events will continue through 2019.

Community Education – These efforts will continue through 2019.

Public Tours – These tours will continue through 2019.

Corporate Water and Wastewater Actions Taken in 2018

ICI Water Meter Evaluation and Upgrade – This multi-year plan is to upgrade water meters at high flow areas in the industrial, commercial and institutional sectors, with the goal of conserving water and eventually preventing any cross-contamination to the City's water supply. There are close to 100 old meters which are slowly being replaced. In 2018, 12 meters were replaced.

Water Audit – Characterization and quantification completed for water uses and leakages throughout the city. This was an annual program up to 2018 but in the future be done every 5 years.

I&I Reduction Strategy – The report was completed in 2018. As part of the strategy to monitor flows, two new line storm drainage monitoring stations were installed, one temporary on Seabold Road and another permanent on the Upper Chase River Dam spillway. I&I values for the 12 sewer monitoring stations representing 11 Sanitary Sewer Catchments were recalculated as part of a Master Plan to monitor I&I in the City.

Corporate Water and Wastewater Actions Proposed for 2019

ICI Water Meter Evaluation and Upgrade – This program will continue in 2019 with an estimated 17 meters to be replaced.

Water Supply (Analysis) – This plan was created in 2007, updated in 2014 and will see further review and adjustments made in 2019 to include the impacts of climate change and population growth on water supply augmentations and their required timings.

Bulk Water Filling Stations – Installation of flow meters at the filling stations that measure the quantity of water filled in the tanks of commercial water haulers.

Bulk Water Meter Installation at South Fork Water Treatment Plant – Installation of an outflow water meter at the South Fork Water Treatment Plant to provide an accurate account of all water leaving the treatment facility.

I&I Reduction Strategy – As part of the strategy to monitor flows, three new sanitary sewer monitoring stations are scheduled to be installed for the Cilaire, Northfield and Linley Valley Catchments. I&I values for the existing 12 sewer monitoring stations plus one new one in 2019, representing 11 Sanitary Sewer Catchments are to be recalculated as part of a Master Plan to monitor I&I in the City.

Water Conservation

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

Yes

2018 CLIMATE CHANGE ADAPTATION ACTIONS

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.	
• Warmer winter temperatures reducing snowpack	✓
• Changes to temperature and precipitation causing seasonal drought	✓
• Heatwaves impacting population health	✓
• Increased temperatures increasing wildfire activity	
• Increased temperatures affecting air quality	
• Changing temperatures influencing species migration and ecosystem shifts	
• Changing temperatures influencing ecosystem shifts	
• Extreme weather events contributing to urban and overland flooding	
• Sea level rise and storms causing coastal flooding and/or erosion	
In 2018 has your local government addressed the impacts of a changing climate using any of the following?	
Risk and Vulnerability Assessments (MS)	Yes
Risk Reduction Strategies (MS)	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 (MS)	Yes
Incentives for Property Owners (e.g. reducing storm water run-off) (MS)	Yes
Public Education and Awareness	Yes
Research	Yes
Mapping	Yes
Partnerships	Yes

Climate Change Adaptation Actions Taken in 2018

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

Climate Change Resiliency Strategy – The City received partial funding from the Federation of Canadian Municipalities and completed a Sea Level Rise Study. This study was the first phase in a two phase process that will complete an assessment of climate impact risks on City infrastructure and vulnerable populations.

Infrastructure Design – Storm Drainage and Sanitary Sewer Infrastructure sizing and design incorporates the Climate Change requirements listed within the City's Manual of Engineering Standards and Specifications.

Climate Change Adaptation Actions Proposed for 2019

Climate Change Resiliency Strategy – The City is working through the second phase of its Climate Resiliency Strategy process. The strategy will provide direction on preparing to become more resilient to future climate impacts. The City is currently working on developing a Climate Resiliency Strategy that will focus on corporate assets, programs and services to identify the greatest vulnerabilities and risks to climate change in order to prioritize actions and investments. The Strategy will recommend short- and medium-term actions that will improve the climate resilience of Nanaimo and provide a roadmap forward. As the most successful adaptation or resilience strategies incorporate a climate lens into existing processes, recommendations will apply across City services and range from ecosystems management to financial planning processes.

Infrastructure Design – Storm Drainage and Sanitary Sewer Infrastructure sizing and design will continue to incorporate the Climate Change requirements listed within the City's Manual of Engineering Standards and Specifications. Intensity-Duration-Frequency rainfall curves will be updated to include more recent rainfall data, which in the last few years, has been more intense, short duration and localised.

For more information please contact

Rob Lawrance, Environmental Planner, rob.lawrance@nanaimo.ca

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?

Indicators of Climate Change for British Columbia	Useful
Plan2Adapt	Useful
Climate Projections for Metro Vancouver	Haven't Used
Climate Projections for the Capital Region	Haven't Used
Climate Projections for the Cowichan Valley Regional District	Haven't Used
Province of BC's BC Adapts Video Series	Useful
Preparing for Climate Change: Implementation Guide for Local Governments	Useful
Public Infrastructure and Engineering Vulnerability Committee's (PIEVC)	Useful
Sea Level Rise Adaptation Primer	Useful
BC Regional Adaptation Collaborative Webinars	Useful
Retooling for Climate Change	Haven't Used
Water Balance Model	Haven't Used
Water Conservation Calculator	Haven't Used
Funding:	
National Disaster Mitigation Program (NDMP)	Haven't Used
Community Emergency Preparedness Fund (CEPF)	Useful
Municipalities for Climate Innovation Program (MCIP)	Useful
Climate Adaptation Partner Grants (FCM)	Useful
Infrastructure Planning Grants (MAH)	Useful
Federal Gas Tax Fund	Useful

Other	
Are you familiar with the Community Lifecycle Infrastructure Costing Tool (CLIC) ?	Yes
Is your local government using the CLIC 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](#).

Community-Wide Innovation Action

Public Works Day – The City of Nanaimo participates in National Public Works Week by hosting our own Public Works Day. Up to 300 students from grades 4 and 5 are invited for a full school day of learning about the many services provided by this department, the hydrological cycle including our drinking watershed, water conservation rationale, sewers and drainage systems, and the overall impact of climate change.

Corporate Innovative Action

Municipal Natural Capital Initiative (MNCI) Follow-up – In the coming year, the City will continue to investigate and develop a framework for defining natural assets throughout the City.

Annual Engineering Co-op Student – The City's Engineering and Public Works Department hired an environmental engineering student this year to fill the annual position, offering additional knowledge in the areas of environmental sustainability, energy savings, and life-cycle analysis.

Programs, Partnerships and Funding Opportunities

Local governments often rely on programs, partnerships and funding opportunities to achieve their climate action goals. Please share the names of programs and organizations that have supported your local government's climate actions by listing each entry in the box below separated by a forward slash (e.g. program1/program2).

Mitigation

Mitigation Programs, Partnerships and Funding

Step Code Education and Engagement – RDN, BC Hydro and other island municipalities
Realtor Energy Efficiency Program – RDN, Vancouver Island Real Estate Board
Woodstove Change Out Program – BC Ministry of Environment
Various Energy and Tree Planting Initiatives – BC Hydro
Tree Planting – TD Bank /**Departure Creek Realignment and Restoration** – The SFN, the Departure Bay Neighborhood Association and the Department of Fisheries and Ocean
CNG Solid Waste Collection Trucks – Fortis BC
Home Energy Assessment Rebate Program – BC Hydro
Climate Change Resiliency Strategy – Federation of Canadian Municipalities
Annual Engineering Co-op Student – Employment and Social Development Canada

Adaptation

Adaption Programs, Partnerships and Funding

Various Energy and Tree Planting Initiatives – BC Hydro
Tree Planting – TD Bank /**Departure Creek Realignment and Restoration** – The SFN, the Departure Bay Neighborhood Association and the Department of Fisheries and Ocean

2018 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 survey, please ensure that you are familiar with guidance available on the B.C. Climate Action Toolkit website, especially *Becoming Carbon Neutral: A Guide for Local Governments in British Columbia*.

Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2018?	Yes
If your local government measured 2018 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:	4,572
If your local government measured 2018 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from <u>contracted</u> services:	560
TOTAL A: CORPORATE GHG EMISSIONS FOR 2018	5,132 tCO2e

Reporting Reductions and Offsets

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

- undertake GCC-supported Option 1 Projects
- undertake GCC-supported Option 2 Projects (community GHG emissions reduction projects that meet project eligibility requirements)
- purchase carbon offsets from a credible offset provider

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

OPTION 1 PROJECTS	REDUCTIONS
Energy Efficient Retrofits	
Solar Thermal	
Household Organic Waste Composting	2,147
Low Emission Vehicles	
Avoided Forest Conversion	
TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2018	2,147 tCO2e

Corporate GHG Emissions Balance for 2018

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

CORPORATE GHG EMISSIONS BALANCE FOR 2018 =

2,985 tCO2e

Based on your local government's 2018 CARIP Climate Action/Carbon Neutral Progress Survey, please check the GCC Climate Action Recognition Program level that best applies:

Level 1 – Demonstrating Progress on Charter Commitments	
Level 2 – Measuring GHG Emissions	
Level 3 – Accelerating Progress on Charter Commitments	✓
Level 4 - Achievement of Carbon Neutrality	
Not Sure	