

Climate Action Revenue Incentive (CARIP) Public Report for 2017

Local Government:
Corporation of the
City of Nelson

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

2017 BROAD PLANNING ACTIONS

Broad Planning Actions

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

Community-Wide Actions Taken in 2017	
	Implementation of Official Community Plan Bylaw 3247, 2013
	Completion of the Downtown Urban Design Strategy
Community-Wide Actions Proposed for 2018	
	Laneway Housing Policy review, and energy efficient pre-approved designs
	Lot coverage/ permeability review

Corporate Actions Taken in 2017	
	Participation with Senior Energy Specialist (RDCK)
Corporate Actions Proposed for 2018	
	Participation with Senior Energy Specialist (RDCK)
	Step code incentive program

Broad Planning	
What is (are) your current GHG reduction target(s)?	Maintain 25% reduction

Are you familiar with your community's community energy and emissions inventory (e.g. CEEI or another inventory)?	Yes/No
What plans, policies or guidelines govern the implementation of climate mitigation in your community?	
<ul style="list-style-type: none"> • Community Energy and Emissions (CEE) Plan • Community- Wide Climate Action Plan • Integrated Community Sustainability Plan • Official Community Plan (OCP) • Regional Growth Strategy (RGS) • Do not have a plan • Other: 	Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No Yes/No
Does your local government have a corporate GHG reduction plan?	Yes/No

2017 BUILDING AND LIGHTING ACTIONS

Building and Lighting Actions

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

Community-Wide Actions Taken in 2017	
EcoSave Energy Retrofits Program	
Heat Pump and Free Energy Savings Event – Spring 2017	
Green Home and Energy Show-fall 2017	
Participate in energy regional wide programs if offered through the RDCK with FortisBC	
Elementary School Outreach-Energy Conservation Education	
Community-Wide Actions Proposed for 2018	
New downtown LED street lights	
EcoSave Energy Retrofits Program	
Green Home and Energy Show-fall 2018	
Participate in energy regional wide programs if offered through the RDCK with FortisBC	
Elementary School Outreach-Energy Conservation Education	
Great Escape – thermal heat scan program	

Corporate Actions Taken in 2017	
LED lighting installed in Civic arena, both rink lighting and concourse lighting c/w wireless controls and dimming features	
LED lighting install at Youth Centre.	

Corporate Actions Proposed for 2018	
LED and wireless control pilot at 310 Ward St.	
LED lighting install at public works 80 Lakeside Dr.	
Wireless LED emergency lighting	

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 Cost?	Yes/No
Is your local government implementing the BC Energy Step Code?	Yes/No

2017 ENERGY GENERATION ACTIONS

Energy Generation Actions

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

Community-Wide Actions Taken in 2017	
District Energy System (planning stage)	
Heat Pump Information Session	
Community Solar Garden placed in service	
Community-Wide Actions Proposed for 2018	
Implement Mandatory Energy Assessment Pilot at time of building permit application for existing and new builds 2018	
Aerial Infrared Heat Mapping Pilot Project-Spring 2018-05-28	
Green Home and Energy Show – Fall 2018	
Participate in Provincial Energy Retrofits Proposed Program – Fall 2018	

Corporate Actions Taken in 2017	
	Strategic priority to investigate new sources of hydro generation
Corporate Actions Proposed for 2018	
	Study renewable natural gas generation
	Micro-hydro site development

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

2017 GREENSPACE/NATURAL RESOURCE PROTECTION ACTIONS

Greenspace Actions

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

Community-Wide Actions Taken in 2017

	Community-Wide Actions Proposed for 2018
	Cottonwood Creek restoration of fish habitat

	Corporate Actions Taken in 2017
	Refurbishment of IODE Park
	Corporate Actions Proposed for 2018
	Refurbishment of Cottonwood Park

	Greenspace
	Does your local government have urban forest policies, plans or programs?
	Yes/No
	Does your local government have policies, plans or programs to support local food production?
	Yes/No

2017 SOLID WASTE ACTIONS

Solid Waste Actions

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

	Community-Wide Actions Taken in 2017

Community-Wide Actions Proposed for 2018	

Corporate Actions Taken in 2017	
Enforcement of Garbage and Recycling Bylaw	
Corporate Actions Proposed for 2018	
Procurement of a new small garbage and recycling truck	
Review of garbage and recycling collection methodology	
Review of potential organics diversion at curbside	

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

2017 TRANSPORTATION ACTIONS

Transportation Actions

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

Community -Wide Actions Taken in 2017	
New single zone fare structure for entire W.K.T.S.	
Nelson Transit to participate in High School job fair	
Free day transit service during Earth Week.	

Swim and Gym Promotion (expired bus pass in exchange for single use gym pass).
Grad Pass, (2 students ride transit pass for graduating students).
Seniors ride the bus, (seniors ride for free on seniors day)
Semester pass, (Discount fare rate for post-secondary students)
New bus shelters and new locations.

Community-Wide Actions Proposed for 2018

Downtown Parking Strategy
Service Review for Nelson and area, to identify deficiencies in order to maximize service.
Proposed new downtown Transit depot.
Nelson Transit participated in Disaster Day (EOC).
Implementation of "Trip Planner"
Free day transit service during Earth Week.
Swim and Gym Promotion (expired bus pass in exchange for single use gym pass).
Grad Pass, (2 students ride transit pass for graduating students).
Seniors ride the bus, (seniors ride for free on seniors day)
Semester pass, (Discount fare rate for post-secondary students)

Corporate Actions Taken in 2017

Corporate Actions Proposed for 2018

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/No Yes/No Yes/No Yes/No Yes/No
Does your local government have a transportation demand management (TDM) strategy (e.g. to reduce single-vehicle occupancy trips, increase travel options, provide incentives to encourage individuals to modify travel behavior)?	Yes/No
Does your local government integrate its transportation and land use planning?	Yes/No

2017 WATER AND WASTEWATER ACTIONS

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

Community-Wide Actions Taken in 2017	
Community-Wide Actions Proposed for 2018	
	Continue with I/I program

Corporate Actions Taken in 2017	
	New Water Master Plan
	Develop emergency water source; considering the lake
	Distribution system upgrades
	CIPP relining – sanitary collection system
	Infiltration/Inflow reduction program
Corporate Actions Proposed for 2018	
	Continue Infiltration/Inflow reduction program
	Initiate High Strength Wastewater Assessment Program
	Five Mile Creek – Near Real Time Flow Monitoring and CCTV
	Detail design of new water supply trunk mains as identified in Master Plan
	New emergency water intake from Lake
	Distribution system upgrades
	CIPP relining of sanitary sewer system

Water Conservation	
Does your local government have water conservation policies, plans or programs?	Yes/No

2017 CLIMATE CHANGE ADAPTATION ACTIONS

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

Please identify the THREE climate impacts that are most relevant to your Local Government.	
<ul style="list-style-type: none"> • 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 • Extreme weather events contributing to urban and overland flooding • Sea level rise and storms causing coastal flooding and/or erosion 	
Other:	

In 2017 has your local government addressed the impacts of a changing climate using any of the following?	
Risk and Vulnerability Assessments	Yes/No
Risk Reduction Strategies	Yes/No
Emergency response planning	Yes/No
Asset management	Yes/No
Natural/Eco asset management strategies	Yes/No
Infrastructure upgrades (e.g. storm water system upgrades)	Yes/No
Beach Nourishment projects	Yes/No
Economic diversification initiatives	Yes/No
Strategic and financial planning	Yes/No
Cross-department working groups	Yes/No
OCP policy changes	Yes/No
Changes to zoning and other bylaws and regulations	Yes/No
Incentives for property owner (e.g. reducing storm water run-off)	Yes/No
Public education and awareness	Yes/No
Research	Yes/No
Mapping	Yes/No
Partnerships	Yes/No

Other:

Climate Change Adaptation Actions Taken in 2017

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.

2017 FireSmart Awareness Campaign

Public Education and Property Risk Assessments

Stream flow monitoring

Investigate supplementary sources of water

Climate Change Adaptation Actions Proposed for 2018

Flood Plane Mapping

Risk and Vulnerability Assessment

For more information please contact:

Colin Innes

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, 2016	Haven't Used/ Useful /Not Useful
Plan2Adapt	Haven't Used /Useful/Not Useful
Climate Projections for Metro Vancouver	Haven't Used /Useful/Not Useful
Climate Projections for the Capital Region	Haven't Used /Useful/Not Useful
Climate Projections for the Cowichan Valley Regional District	Haven't Used /Useful/Not Useful
Province of BC's BC Adapts Video Series	Haven't Used /Useful/Not Useful
Preparing for Climate Change: An Implementation Guide for Local Governments	Haven't Used /Useful/Not Useful
The Public Infrastructure and Engineering Vulnerability Committee's (PIEVC) protocol	Haven't Used /Useful/Not Useful
Sea Level Rise Primer	Haven't Used /Useful/Not Useful
BC Regional Adaptation Collaborative Webinars	Haven't Used /Useful/Not Useful
www.ReTooling.ca	Haven't Used /Useful/Not Useful
Water Balance Model	Haven't Used /Useful/Not Useful
The Water Conservation Calculator	Haven't Used /Useful/Not Useful
Funding:	
National Disaster Mitigation Program (NDMP)	Haven't Used / Useful /Not Useful
Community Emergency Preparedness Fund (CEPF)	Haven't Used /Useful/Not Useful
Municipalities for Climate Innovation Program (MCIP)	Haven't Used /Useful/Not Useful
Climate Adaptation Partner Grants (FCM)	Haven't Used /Useful/Not Useful
Infrastructure Planning Grants (MAH)	Haven't Used /Useful/Not Useful
Federal Gas Tax Fund	Haven't Used / Useful /Not Useful
Other:	

2017 OTHER CLIMATE ACTIONS

Other Climate Actions

This section provides local governments the opportunity to report other climate actions that are not captured in the categories above.

Community-Wide Actions Taken in 2017	
Community-Wide Actions Proposed for 2017	

Corporate Actions Taken in 2017	
Corporate Actions Proposed for 2017	

Other	
Are you familiar with the Community Lifecycle Infrastructure Costing Tool (CLIC) ?	Yes/No
Have you used CLIC?	Yes/No

INNOVATION AND PEER-TO-PEER LEARNING

Innovation

This section provides the opportunity to showcase an innovative Corporate and/or Community-Wide GHG reduction and/or climate change adaptation activity that your local government has undertaken and that has had, or has the potential to have, a significant impact. You are welcome to repeat an action that has already been listed.

Projects included here may be featured as success stories on the B.C. Climate Action Toolkit and/or shared with other local governments to inspire further climate action. Please add links to additional information where possible.

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

Community-Wide Action

Eco Save home owner energy reduction knowledge

For more information contact: Carmen Proctor

Corporate Action

Peer to Peer pilot program through EOCP

For more information contact: Rob Nystrom

Programs, Partnerships and Funding Opportunities

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

Mitigation**Programs and Funding****Adaptation****Programs and Funding**

2017 CARBON NEUTRAL REPORTING

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

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

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

Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2017?	Yes/No
If your local government measured 2017 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from services delivered <u>directly</u> by your local government:	1401.34
If your local government measured 2017 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from contracted services:	
TOTAL A: CORPORATE GHG EMISSIONS FOR 2017	1401.34 tCO2e

Reporting Reductions and Offsets

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

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

If applicable, please report the 2017 GHG emissions reductions (in tonnes of carbon dioxide equivalent (tCO2e)) being claimed from Option 1 GHG Reduction Projects:

OPTION 1 PROJECTS	REDUCTIONS
Energy Efficient Retrofits	

Solar Thermal	
Household Organic Waste Composting	
Low Emission Vehicles	
Avoided Forest Conversion	
TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2017	tCO2e

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

OPTION 2 PROJECT NAME	REDUCTIONS
TOTAL C: REDUCTIONS FROM OPTION 2 PROJECTS FOR 2017	tCO2e

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

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

OFFSET PROVIDER NAME	OFFSETS
TOTAL D: OFFSETS PURCHASED FOR 2017	tCO2e

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

Corporate GHG Emissions Balance for 2017

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

CORPORATE GHG EMISSIONS BALANCE FOR 2017 = (A - (B+C+D)) = 1401.34 tCO2e

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

If applicable, please record any emissions reductions you will be carrying over for future years and the source of the emissions reductions, including the year they were earned (E.g., Organics diversion, 2016 100 tCO₂e).

SOURCE OF CARRY OVER EMISSION REDUCTIONS (and year earned)	REDUCTIONS
BALANCE OF REDUCTIONS ELIGIBLE FOR CARRY OVER TO NEXT YEAR	tCO2e

Carbon Neutral Reporting	
Does your local government have a climate reserve fund or something similar?	Yes/No

GCC CLIMATE ACTION RECOGNITION PROGRAM

Green Communities Committee (GCC) Climate Action Recognition Program

The joint Provincial-UBCM Green Communities Committee (GCC) is pleased to be continuing the Climate Action Recognition Program again this year. This multi-level program provides the GCC with an

opportunity to review and publicly recognize the progress and achievements of each Climate Action Charter (Charter) signatory.

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

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

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

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

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

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

PROJECT NAME:

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

	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	