



Climate Action Revenue Incentive Program 2015 Public Report

May 25, 2016



Local Government:
Township of Esquimalt

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The Township of Esquimalt has completed the 2015 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of BC. The CARIP report summarizes actions taken in 2015 and proposed for 2016 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality. There is also an opportunity to report on climate adaptation actions.

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2015 Corporate Energy & Emissions Inventory

2015 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 2015	
	Completed work on the West Bay Design Guidelines that include guidelines for the reduction of greenhouse gases.
Community-Wide Actions Proposed for 2016	
	Consider rezoning application to allow a mid-rise, mixed-use building in West Bay.
	Update of OCP which will include the addition of GHG reduction targets, policies and actions to help mitigate the impacts of climate change.
	Develop Esquimalt Road Urban Design Guidelines.
	Develop guidelines for establishing Development Permit Areas that address climate action through water conservation, energy conservation, and GHG emissions reduction.

Corporate Actions Taken in 2015	
	Council passed a revised declaration of the Right to a Healthy Environment in response to the David Suzuki's Blue Dot Campaign. www.esquimalt.ca/sites/default/files/docs/business-development/esquimalt_right_to_a_healthy_environment_certified_resolution.pdf
	Carried out further investigation into a brownfield remediation plan for the Esquimalt Village Project (funding provided by Federation of the Canadian Municipalities).
	Continued with the Environmental Advisory Committee.

Snapshot Questions	
What GHG reduction targets are included in your local government's Official Community Plan or Regional Growth Strategy? To reduce community greenhouse gas emissions by at least 38% by 2020; and 83% by 2050 compared to 2007 levels.	<u>Yes/No</u>
Are you familiar with the Community Energy and Emission Inventory (CEEI)?	<u>Yes/No</u>
Does your local government use the Community Energy and Emissions Inventory (CEEI) to measure progress?	<u>Yes/No</u>
Which of the following does your local government use to guide climate action implementation?	
• Community Energy and Emissions (CEE) Plan	<u>Yes/No</u>
• Climate Action Plan	<u>Yes/No</u>
• Integrated Community Sustainability Plan	<u>Yes/No</u>
• Official Community Plan (OCP)	<u>Yes/No</u>
• Regional Growth Strategy (RGS)	<u>Yes/No</u>
• Other:	<u>Yes/No</u>
Does your local government have a climate action reserve fund?	<u>Yes/No</u>
Does your local government have a Corporate Climate Action Plan?	<u>Yes/No</u>

2015 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 Actions Taken in 2015	
	Promoted 2015 Earth Hour by asking residents and businesses to turn off lights and electrical devices from 8:30 – 9:30 pm on Saturday, March 28 th . Esquimalt placed 13 out of 67 participating BC communities with energy savings of 1.9% during the hour.
	Installed eight 20 foot LED lights along main driveway in Esquimalt Gorge Park.
Community-Wide Actions Proposed for 2016	
	As part of the Admirals Road Corridor Upgrade, install LED street lighting on a trial basis to evaluate the option of LED street lighting for use across the Township.
	Install twenty 14 foot LED lights along seawall in Esquimalt Gorge Park.

Corporate Actions Taken in 2015	
	Council and staff continued to work with developers to encourage greener features and technologies in new developments with the use of the Green Building Checklist. www.esquimalt.ca/sites/default/files/docs/municipal-hall/green_checklist_2011_final_complete.pdf
	Continued with the Design Review Committee, comprised of up to 3 members with experience in energy conservation and environmentally sustainable building design.
	Installed motion light sensors inside the parks nursery building and LED flood lights in compound.
	The last of the old outdoor lights at the Sports Centre have been replaced with new LED lights. All the outdoor lighting at the Sports Centre has been replaced with energy efficient LED lighting.
	New motion sensors have been installed in the outdoor storage rooms to the Archie Browning Sports Centre.
	Archie Browning Sports Centre hockey rink was re-lamped this year increasing the brightness in the hockey rink for the upcoming hockey season. The old tubes were five years old. With the installation of motion sensors in the hockey rink last year the new tubes should last seven years before needing to be replaced.

2015 ENERGY GENERATION ACTIONS

Energy Generation

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 2015

PR	Completed installation of an energy monitoring system to display the effectiveness of the solar ambient hot water system at the Esquimalt Recreation Centre. The purpose of the display is to educate the public on solar technology and its benefits.
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Snapshot Questions

Is your local government developing, or constructing a district energy project?	Yes/ No
Is your local government operating a district energy system?	Yes/ No
Is your local government developing or constructing a renewable energy project?	Yes/ No
Is your local government operating a renewable energy project?	Yes/ No
Are you aware of the Integrated Resource Recovery guidance page on the BC Climate Action Toolkit (insert link here)?	Yes /No

2015 GREENSPACE/ NATURAL RESOURCE PROTECTION

Greenspace

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 2015	
	Launched the “Branch Out” program. Developed 9 educational pamphlets on the following topics: avoiding tree damage during construction; mature tree care; new tree planting; pruning mature trees; pruning: why topping trees hurts; pruning young trees; tree selection and placement; why hire an arborist. www.esquimalt.ca/parks-recreation/parks/branch-out-events-educational-materials
	Two ‘Branch Out’ events were held in Esquimalt Gorge Park and Saxe Point Park for the removal of invasive species, trail construction and tree planting.
	Planted coniferous trees and removed invasive plants in Saxe Point Park, Highrock Park, Esquimalt Gorge Park and Macaulay Point Park.
	Hosted the 3 rd Annual Earth Day celebration in Highrock Park. The event drew 1300 people either as volunteers or local school group attendees. One new feature this year were 11 goats who helped with removing invasive plants. Volunteers also assisted with the removal of invasive species, planted 400 native plants, resurfaced a trail, and planted 10 Garry Oaks.
	Hosted the 4 th annual Bloomin’ Beautiful Home and Garden Contest including an award category for best environmental practices. www.esquimalt.ca/news-events/bloomin-beautiful
Community-Wide Actions Proposed for 2016	
	Continue hosting an Earth Day celebration.
	Continue hosting the Bloomin’ Beautiful Home and Garden Contest.
	Completion of Urban Forest Management Plan.
	Continue with four ‘Branch Out’ events scheduled for Macaulay, Gorge, Saxe, and Highrock parks.

Corporate Actions Taken in 2015	
	Adopted a new Tree Protection Bylaw. www.esquimalt.ca/sites/default/files/docs/parks-recreation/2837_tree_protection_bylaw.pdf
	Municipal street tree and park specimen tree inventory was completed for 5,300 trees. This included GPS mapping and individual tree assessments.
	Began development of an Urban Forest Management Plan. Using i-Tree Streets model analysis, the annual benefits from Esquimalt’s urban forest includes: reducing a net 450,007 kg of carbon dioxide; intercepting 11,650 cubic meters of stormwater; savings of \$10,842 in electricity and \$4,386 in natural gas; absorbing and averting 1,679 kg of air pollutants.

Snapshot Question	
Does your local government have urban forest policies, plans or programs?	Yes/No

2015 SOLID WASTE ACTIONS

Solid Waste

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 2015	
	Continued with the collection of yard and garden waste at transfer station. [Tonnage removed from site in 2015 = 2185.45]
	Continued with residential household organics collection program. [Tonnage of kitchen scraps collected for composting in 2015 = 499.12]
Community-Wide Actions Proposed for 2016	
	Distribute the Green Event Planning Guide to community groups and organizations that receive financial or in-kind support from the municipality or that host an event in municipal buildings or parks.
	Will continue to work with the CRD to determine a process for handling kitchen scraps as well as yard and garden waste on Vancouver Island. In the interim, current method of hauling collected kitchen scraps to the Mainland for processing to continue.

Corporate Actions Taken in 2015	
	Updated the DRAFT Green Event Planning Guide.
Corporate Actions Proposed for 2016	
	Adoption of the Green Event Planning Guide.

Snapshot Questions	
Does your local government have construction and demolition waste reduction policies, plans or programs?	Yes/ <u>No</u>
Does your local government have organics reduction/diversion policies, plans or programs?	<u>Yes</u> /No

2015 TRANSPORTATION ACTIONS

Transportation

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 2015	
	Completed construction of Admirals Road Corridor Upgrade. Corridor upgrades included the addition of bike lanes, street lighting, transit infrastructure and two sidewalk/pedestrian crossing locations.
	Continued with implementation of Sidewalk Continuity Plan. Completed second phase of Arcadia new sidewalk construction from Inskipp Street to Selkirk Avenue.
	Supported Bike Fest which was held in the curling arena and the Sports Centre back parking lot on Sunday, May 24 th with 200 people attending the event.
	Constructed sidewalk ramps in 4 locations (at time of construction).
Community-Wide Actions Proposed for 2016	
	Continue with implementation of Sidewalk Continuity Plan.

Corporate Actions Taken in 2015	
	Employee driven participation in Greater Victoria Bike to Work Week.
	Conducted a sidewalk trip hazard survey as per Council policy.
	Initiated the development of an asset management plan for accessibility ramps as part of Admirals Road Corridor Upgrade.
Corporate Actions Proposed for 2016	
	Develop an asset management study for sidewalk wheelchair ramps.
	Conduct multimodal right-of-way study of Lyall Street between Grafton Road and Head Street.

Snapshot Questions	
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 	Yes/ <u>No</u> Yes/ <u>No</u> Yes/ <u>No</u> Yes/ <u>No</u> Yes/ <u>No</u>
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/ <u>No</u>
Does your local government have policies, plans or programs to support local food production (thus reducing transportation emissions)?	Yes/ <u>No</u>

2015 WATER AND WASTEWATER ACTIONS

Water and Wastewater

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 2015	
	Separated 7 sanitary and storm manholes.
	Replaced 26 catch basins. 2015 was the second year of a three year basin replacement program. The new catch basins meet the latest standards which improve the control of sediment to receiving water bodies.
	As part of the Admirals Road Corridor Upgrade, completed improvements to the storm and sanitary manholes including mechanical storm water treatment.
	Developed the Esquimalt Neighbourhood Watershed Map. Purchased a mobile 5 foot map display to support awareness and education on source control at home, school and work and the health of receiving bodies of water. Installed the map on the outside of the Nature House in Gorge Park. www.esquimalt.ca/watersheds
	Participated in the development of various aspects of a sub-regional wastewater treatment system.
	Collaborated with the Cascadia Green Building Council in organizing an international "Living Building Competition" which involved a waste resource management component.
Community-Wide Actions Proposed for 2016	
	Prepare resource binders for the local schools on watershed protection to compliment the Esquimalt Neighbourhood Watersheds Maps.

Corporate Actions Taken in 2015	
	Developed an Inflow and Infiltration Strategy.
Corporate Actions Proposed for 2016	
	Implement Inflow and Infiltration Strategy (subject to budget approval).

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

2015 CLIMATE CHANGE ADAPTATION ACTIONS

Climate Change Adaptation

For local governments, adaptation to a changing climate can take the form of changes in policy, management, technology and behaviour that minimize negative impacts or exploit opportunities. It can involve both “hard” and “soft” solutions, including: changes in infrastructure engineering, planning, zoning, bylaws, and public education.

Corporate Actions Taken in 2015

	Participated in the CRD’s Capital Region Sea Level Rise Planning Approaches Project led by the CRD Climate Action Inter-municipal Working Group.
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Snapshot Questions

Are you aware of the Plan2Adapt guidance page on the BC Climate Action Toolkit?	Yes/ No
Are you aware of the <i>Preparing for Climate Change, An Implementation Guide for Local Governments in BC</i> on the BC Climate Action Toolkit?	Yes/ No
Have you visited the climate change adaptation guidance page on the BC Climate Action Toolkit?	Yes/ No

2015 CARBON NEUTRAL REPORTING

Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2015? (Yes/No)	Yes
If your local government measured 2015 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:	1,037
If your local government measured 2015 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from <u>contracted</u> services:	0
TOTAL A: CORPORATE GHG EMISSIONS FOR 2015	1,037 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 Option 1 Projects (GCC-supported)
- undertake Option 2 Projects (alternative) community GHG emissions reduction projects that meet project eligibility requirements
- purchase carbon offsets from a credible offset provider

If applicable, please report the 2015 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	373
Low Emission Vehicles	
Avoided Forest Conversion	
TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2015	373 tCO₂e

If applicable, please report the names and 2015 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 2015	0 tCO₂e

If applicable, please report the number of offsets purchased (in tonnes of carbon dioxide equivalent (tCO₂e)) from an offset provider for the 2015 reporting year:

OFFSET PROVIDER	REDUCTIONS
TOTAL D: OFFSETS PURCHASED FOR 2015	0 tCO₂e

TOTAL REDUCTION AND OFFSETS FOR 2015 (Total B+C+D) = 373 tCO₂e

Corporate GHG Emissions Balance for 2015

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 2015 = (A – (B+C+D)) = 664 tCO₂e

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

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 - Progress on Charter Commitments: for local governments who demonstrate progress on fulfilling one or more of their Charter commitments

Level 2 - Measurement: for local governments who have measured their Corporate GHG Emissions for the reporting year and demonstrate that they are familiar with the Community Energy and Emissions Inventory (CEEI)

Level 3 - Achievement of Carbon Neutrality: for local governments who achieve carbon neutrality in the reporting year.

Based on your local government's 2015 CARIP Public Report, please check the GCC Climate Action Recognition Program level that best applies:

<input type="checkbox"/>	Level 1 - Progress on Charter Commitments	
<input type="checkbox"/>	Level 2 - Measurement	X
<input type="checkbox"/>	Level 3 - Achievement of Carbon Neutrality	
<input type="checkbox"/>	Not Sure	

APPENDIX: 2015 Corporate Energy & Emissions Inventory

Local Government Name:	Corporation of the Township of Esquimalt
Year:	2015
Contact Information:	
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Stationary Emission Sources:				
Building Fuel	End Use	Unit of Measure	Quantity	Emissions (tCO2e)
Electricity	Engineering & Public Works	kWh	189,720	1.9
Electricity	Fire	kWh	306,720	3.1
Electricity	Municipal Hall	kWh	317,741	3.2
Electricity	Parks & Recreation	kWh	3,534,670	35.3
Electricity	Infrastructure (sewer/traffic/lighting)	kWh	892,988	8.9
Electricity		0 kWh	-	-
Natural Gas	Engineering & Public Works	GJ	166	8.2
Natural Gas	Fire	GJ	-	-
Natural Gas	Municipal Hall	GJ	143	7.1
Natural Gas	Parks & Recreation	GJ	13,703	681.8
Natural Gas	Infrastructure (sewer/traffic/lighting)	GJ	-	-
Natural Gas		0 GJ	-	-
Propane	Engineering & Public Works	Litres	-	-
Propane	Fire	Litres	144	0.2
Propane	Municipal Hall	Litres	-	-
Propane	Parks & Recreation	Litres	37	0.1
Propane	Infrastructure (sewer/traffic/lighting)	Litres	-	-
Propane		0 Litres	-	-
Heating Oil	Engineering & Public Works	Litres	-	-
Heating Oil	Fire	Litres	-	-
Heating Oil	Municipal Hall	Litres	-	-
Heating Oil	Parks & Recreation	Litres	-	-
Heating Oil	Infrastructure (sewer/traffic/lighting)	Litres	-	-
Heating Oil		0 Litres	-	-
Stationary Emissions (all fuel types)				749.8

Mobile Emission Sources:				
Vehicle Class	Vehicle Fuel	Unit of Measure	Quantity	Emissions (tCO2e)
Light Duty Vehicle	Gasoline	Litres	2,562	7.7
Light Duty Truck	Gasoline	Litres	28,974	76.8
Heavy Duty Truck	Gasoline	Litres	11,490	27.4
Off Road Vehicle	Gasoline	Litres	3,416	7.7
Light Duty Vehicle	E10	Litres	-	-
Light Duty Truck	E10	Litres	-	-
Heavy Duty Truck	E10	Litres	-	-
Off Road Vehicle	E10	Litres	-	-
Light Duty Vehicle	E15	Litres	-	-
Light Duty Truck	E15	Litres	-	-
Heavy Duty Truck	E15	Litres	-	-
Off Road Vehicle	E15	Litres	-	-
Light Duty Vehicle	Diesel	Litres	-	-
Light Duty Truck	Diesel	Litres	-	-
Heavy Duty Truck	Diesel	Litres	630	1.6
Off Road Vehicle	Diesel	Litres	-	-
Light Duty Vehicle	B5	Litres	-	-
Light Duty Truck	B5	Litres	150	0.8
Heavy Duty Truck	B5	Litres	46,888	120.0
Off Road Vehicle	B5	Litres	12,254	33.8
Light Duty Vehicle	B10	Litres	-	-
Light Duty Truck	B10	Litres	-	-
Heavy Duty Truck	B10	Litres	-	-
Off Road Vehicle	B10	Litres	-	-
Light Duty Vehicle	B20	Litres	-	-
Light Duty Truck	B20	Litres	-	-
Heavy Duty Truck	B20	Litres	-	-
Off Road Vehicle	B20	Litres	-	-
Light Duty Vehicle	Natural Gas	kg	-	-
Light Duty Truck	Natural Gas	kg	-	-
Heavy Duty Truck	Natural Gas	kg	-	-
Off Road Vehicle	Natural Gas	kg	-	-
Light Duty Vehicle	Propane	Litres	4,127	6.3
Light Duty Truck	Propane	Litres	3,363	5.1
Heavy Duty Truck	Propane	Litres	-	-
Off Road Vehicle	Propane	Litres	-	-
Mobile Emissions (all fuel / vehicle combinations)			113,855	287.2
Fleet A/C Refrigerant Emissions				-
Total Emissions (all Sources)				1,037.0