

Climate Action Revenue Incentive (CARIP) Public Report for 2016

Local Government: District of West Vancouver

Report Submitted by:
Name: David McKee
Role: Energy Manager
Email: dmckee@westvancouver.ca
Phone: 604-218-5721

Date: May 31, 2017



The District of West Vancouver has completed the 2016 Climate Action Revenue Incentive Program (CARIP) Public Report as required by the Province of British Columbia. The CARIP report summarizes actions taken in 2016 and proposed for 2017 to reduce corporate and community-wide energy consumption and greenhouse gas emissions (GHG) and reports on progress towards achieving carbon neutrality.

Document# 3891536

2016 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 2016 | |
|---|--|
| | Completed in-depth studies to inform the Official Community Plan review. |
| | Ongoing review of Official Community Plan (OCP). |
| | Initiated a context study to inform a Local Area Plan as part of the ongoing OCP review. |
| | Completed CEE (Community Energy and Emissions) Plan with 39 strategic directions to plan for a better climate and a better community. |
| | |
| Community-Wide Actions Proposed for 2017 | |
| | Implement the CEE Plan and apply a climate change lens to community policies and plans, most importantly the OCP consideration underway. |
| | Advance Local Area Plans that activate existing village centres to provide housing and employment along the District's principal transit corridor. |
| | Identify opportunities to "green" the District's Zoning Bylaw. |
| | Advance studies to concentrate Upper Lands development and maximize preservation of forest lands. |
| | Support efforts to establish the UNESCO Howe Sound Biosphere. |

| Corporate Actions Taken in 2016 | |
|--|---|
| | Corporate Energy and Emissions Plan was completed and adopted by Council. |
| Corporate Actions Proposed for 2017 | |
| | |

| Broad Planning | | |
|---|---|--------------------------------------|
| What is (are) your current GHG reduction target(s)? | <ul style="list-style-type: none"> • 33% reduction in corporate GHGs by 2020 • 40% reduction community GHGs by 2040 | |
| Has your local government used the Community Energy and Emissions Inventory (CEEI) to measure progress? | | 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 • Climate Action Plan • Integrated Community Sustainability Plan • Official Community Plan (OCP) • Regional Growth Strategy (RGS) • Do not have a plan • Other: | Yes Yes No Yes Yes No |
| Does your local government have a corporate GHG reduction plan? | | Yes |
| Does your local government have a climate reserve fund or something similar? | | No |

2016 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 2016 | |
|---|---|
| | Community engagement on building policy development and review. |
| Community-Wide Actions Proposed for 2017 | |
| | Review potential to require higher steps aligned with the Energy Step Code. |

| Corporate Actions Taken in 2016 | |
|--|---|
| | Conversion of group of ornamental streetlights to LED along Marine Drive. |
| | Replacement of linear fluorescent lamps with linear LED lamps in Community Centre gymnasiums. |
| | Replace air handling unit in Aquatic Centre with more efficient model with heat recovery. |

| Corporate Actions Proposed for 2017 | |
|--|---|
| | Conversion of group of ornamental streetlights to LED along Bellevue Street. |
| | Heat pumps to be installed as primary heating source in new municipal building. |
| | Replace air handling unit in Aquatic Centre with more efficient model with heat recovery and variable speed drives. |
| | Develop plan to upgrade Ice Arena cooling plant. |

2016 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 2016 | |
|---|--|
| | |
| Community-Wide Actions Proposed for 2017 | |
| | |

| Corporate Actions Taken in 2016 | |
|--|--|
| | |
| Corporate Actions Proposed for 2017 | |
| | |

| Energy Generation | |
|--|------------|
| Is your local government developing, or constructing: | |
| <ul style="list-style-type: none"> • A district energy system • A renewable energy system | No No |
| Is your local government operating: | |
| <ul style="list-style-type: none"> • A district energy system • A renewable energy system | Yes Yes |
| Is your local government connected to a district energy system that is operated by another energy provider? | No |
| Are you aware of the Integrated Resource Recovery guidance page on the BC Climate Action Toolkit ? | Yes |

2016 GREENSPACE/ NATURAL RESOURCE PROTECTION

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 2016 | |
|---|---|
| | Adopted an Interim Tree Bylaw and created an Interim Tree Bylaw Working Group to continue the work of developing a balanced, sound and well-developed approach to regulating trees on private properties. |
| Community-Wide Actions Proposed for 2017 | |
| | |

| Corporate Actions Taken in 2016 | |
|--|---|
| | Expand Ambleside Park through the conversion of two housing lots to parkland. |
| | Parks Department milled fallen wood from local forests to create wooden park structures park trails. |
| | Restoration of parkland through treatment of invasive plants and coordination of stewardship groups to plant 900 native plants. |

Corporate Actions Proposed for 2017

| | |
|--|--|
| | Completion of the final draft of the District of West Vancouver public trails plan that will recommend environmental best management practices when constructing, maintaining, and decommissioning trails. |
|--|--|

Greenspace

| | |
|---|-----|
| Does your local government have urban forest policies, plans or programs? | Yes |
|---|-----|

2016 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 2016

| | |
|--|--|
| | Planned a one-year, three-stream waste and recycling pilot in the public realm. |
| | Piloted placement of clothing donation bins on municipal property. |
| | Improved data collection process for local demolition and land clearing debris. |
| | Amended local Solid Waste Utility Bylaw to reflect regional materials bans on organics and clean wood. |
| | Launched a separated dog waste collection service in key parks. |

Community-Wide Actions Proposed for 2017

| | |
|--|--|
| | Launch and monitor three-stream waste and recycling station pilot in the public realm. |
| | Conduct a single-family solid waste customer survey to better understand behaviours related to recycling, garbage and green can. |
| | Host a District-wide student video contest with the topic: "Our Waste. Our Responsibility." |
| | Expand separated dog waste collection service in select municipal parks. |
| | Expand placement and clothing donation bins on municipal property. |

| Corporate Actions Taken in 2016 | |
|--|--|
| | Expanded special event waste diversion efforts to the District's three largest public events. |
| | Established a cross-departmental team to improve collaboration on waste and waste reduction initiatives. |
| | Completed installation of standardized multi-stream bins in key areas of civic buildings (including staff- and public-facing areas). |
| | Conducted solid audits at key corporate buildings. |
| Corporate Actions Proposed for 2017 | |
| | Introduce "Paper Towel Only" collection bins to divert paper towel from garbage into the organics waste stream. |
| | Produce promotional and educational materials encouraging people to sort waste properly to increase diversion in civic buildings. |
| | RFP for residential garbage and organics contractor will encourage proponents to include collection vehicles with fuel-efficient, cleaner burning engines to minimize GHG emissions. |
| | Track paper use for printers to provide feedback to users. |

| Solid Waste | |
|--|-----|
| Does your local government have construction and demolition waste reduction policies, plans or programs? | Yes |
| Does your local government have organics reduction/diversion policies, plans or programs? | Yes |

2016 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 2016 | |
|--|--|
| | Continued support of the TransLink Mayor's Council vision to connect Dunderave and Phibbs Exchange with a rapid transit connection, including endorsement of the North Shore Staff Transportation Committee. |
| | Applied for grant funding to deploy a DC fast charging station. |

| | |
|---|---|
| | Pursue implementation of EV parking infrastructure guidelines to private developments. |
| | Supported Safe & Active Routes to School initiatives at local elementary schools, engaged a consultant to provide direct support to schools and PACs. |
| | Complete construction and signage for the Orchill Road section of multi-use Spirit Trail. |
| Community-Wide Actions Proposed for 2017 | |
| | Complete Pedestrian Network Study. |
| | Review EV parking infrastructure provision through private development. |
| | Construction and signage for Exit 0 to Royal Ave section of multi-use Spirit Trail and complete phase 3 of bike route signage installation. |
| | Construction of 3rd Street multi-use path. |
| | Launch teen transit use campaign to inform youth and parents about accessing transit system. |

| | |
|--|--|
| Corporate Actions Taken in 2016 | |
| | Initiated a pilot project to increase the use of biodiesel for District fleet vehicles from B5 to B10 grade fuel. |
| | Replaced four older, single rear axle diesel dump trucks (two with diesel engines) with more fuel efficient and cleaner-burning engines; compliant to 2016 emission standards. |
| | Replaced a front line police car with a newer, more fuel efficient vehicle equipped with improved engine idle control. |
| Corporate Actions Proposed for 2017 | |
| | Aim to use B10 biodiesel for 25 per cent of District fleet diesel fleet fuel consumption. |
| | Initiate pilot project for real time monitoring on cross section of fleet vehicles to gather data on driving habits and idling periods in support of opportunities to reduce operational fuel use and identify vehicles that could be replaced with electric vehicles. |
| | Add electric or hybrid vehicle to the fleet for the Corporate Services Department and install electric vehicle charging stations in new municipal building. |
| | Where possible, new vehicles and equipment will be equipped from the manufacturer with engine idle shutdown timers set at maximum of five minutes idle time. |
| | Replace a single rear axle dump truck with a lighter vehicle with aluminum dump box and smaller gasoline engine. |

| Transportation | |
|--|-----|
| Does your local government have policies, plans or programs to support: | |
| • Walking | Yes |
| • Cycling | Yes |
| • Transit Use | Yes |
| • Electric Vehicle Use | Yes |
| • Other (please specify) | |
| 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)? | No |
| Does your local government have policies, plans or programs to support local food production (thus reducing transportation emissions)? | Yes |

2016 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 greenhouse gas emissions.

| Community-Wide Actions Taken in 2016 | |
|---|---|
| | Co-hosted a North Shore rain barrel sale with City of North Vancouver with over 800 rain barrels sold. |
| | Improved customer leak notice procedures and handouts to provide better, clearer information about finding and fixing potential leaks and provided targeted education about water conservation to select customers identified as “heavy users”. |
| | Completed the Water Master Servicing Study with consultant support. |
| | Using residential water metering system, provided targeted education about water conservation to select customers identified as “heavy users”. |
| | Initiated the multiyear SCADA system upgrade providing detailed and continuous monitoring to run the District water and sewer systems reliably and efficiently. |
| | Held a first annual student video contest (Topic: “Water Conservation”). |
| Community-Wide Actions Proposed for 2017 | |
| | Review environmental Development Permit Area Guidelines as part of OCP update. |

| | |
|--|---|
| | Amend local bylaws to reflect changes to Metro Vancouver's Water Shortage Response Plan following the 2016 review process. |
| | Initiate a Sewer Master Servicing Study. |
| | Review 2007 rate setting model for metered water & sewer utility to fine-tune the model to ensure cost recovery, sustainable asset management and further encourage water conservation. |
| | Complete Integrated Stormwater Management Plan for Vinson, Brothers & Hadden Creek. |

| Corporate Actions Taken in 2016 | |
|---|--|
| | Motion-activated sink faucets installed in Aquatic Centre change rooms |
| Corporate Actions Proposed for 2017 | |
| | Parks Department to refine water use plans for golf and develop water use plans for sports fields to help staff better prepare for and respond to future drought events. |
| | A standard of motion activated toilets and sink faucets for washrooms will apply to retrofits and new construction in corporate buildings. |
| Water Conservation | |
| Does your local government have water conservation policies, plans or programs? | Yes |

2016 CLIMATE CHANGE ADAPTATION ACTIONS

Climate Change Adaptation Actions

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.

| Climate Change Adaptation Actions Taken in 2016 | |
|--|--|
| | Conducted two internal staff workshops focused on a new Shoreline Management Plan 2020. |
| | Established partnership with SFU to develop a sea-level rise visualization project for John Lawson and Whytecliff Parks. |
| Climate Change Adaptation Actions Proposed for 2017 | |
| | Complete the sea-level rise visualization project in partnership with SFU. |

Resources you have used to support climate change adaptation (e.g. [Plan2Adapt](#), [Preparing for Climate Change: Implementation Guide](#))

| | |
|--|--|
| | |
|--|--|

In 2016 did you consider climate change impacts in any of the following areas? (check if yes)

| | |
|---|-----|
| Risk reduction strategies | Yes |
| Risk and Vulnerability assessment | Yes |
| Asset management | Yes |
| Infrastructure upgrades (e.g. storm water system upgrades) | No |
| Cross-department working groups | No |
| Emergency response planning | No |
| Land-use policy changes (e.g. OCP, DPA) | Yes |
| Economic diversification initiatives | No |
| Ecosystem-based approaches (incl. shorelines) | Yes |
| Incentives (e.g. property owner reducing storm water run-off) | No |
| Public education and awareness | Yes |
| Research (e.g. mapping, participation in studies) | Yes |
| Other (Please Identify): | |

2016 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 2016

| | |
|--|--|
| | |
|--|--|

Community-Wide Actions Proposed for 2017

| | |
|--|--|
| | |
|--|--|

| | |
|--|--|
| Corporate Actions Taken in 2016 | |
| | |
| Corporate Actions Proposed for 2017 | |
| | |

| | |
|--|-----|
| Other | |
| Are you familiar with the Community Lifecycle Infrastructure Costing Tool (CLIC) ? | Yes |
| Have you used CLIC? | Yes |

INNOVATION AND PEER-TO-PEER LEARNING

Innovation

This section provides the opportunity to showcase an innovative Corporate and/or Community-Wide GHG reduction or climate change adaptation activity that your local government has undertaken and that has had or has the potential to have a significant impact. 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.

| |
|---|
| Community-Wide Innovative Action |
| |
| Corporate Innovative Action |
| |

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.

| |
|--|
| Programs and Funding |
| <ul style="list-style-type: none"> • FCM and BC Hydro funding to complete both the Community and Corporate Energy and Emission Plans in 2016. • ICBC and TransLink funding for transportation-related improvements. • BC Hydro and Fortis BC have supported corporate energy management. • BC Government provided funding for vehicle fleet monitoring software. |

2016 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 2016? | Yes |
| If your local government measured 2016 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: | 2,528 t |
| If your local government measured 2016 corporate GHG emissions, please report the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent) from <u>contracted</u> services: | 859 t |
| TOTAL A: CORPORATE GHG EMISSIONS FOR 2016 | 3,387 * tCO₂e |

* The GHGs reported in this CARIP report supersede the GHG numbers shown in the 2016 Annual Report

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 2016 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 | |
| | 601 t |
| Low Emission Vehicles | |
| | |
| Avoided Forest Conversion | |
| | carried over from previous year |
| | 18,694 t |
| TOTAL B: REDUCTIONS FROM OPTION 1 PROJECTS FOR 2016 | 19,295 tCO₂e |

If applicable, please report the names and 2016 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 2016 | 0 tCO₂e |

If applicable, please report the number of offsets purchased (in tonnes of carbon dioxide equivalent (tCO₂e)) from an offset provider for the 2016 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 2016 | 0 tCO₂e |

TOTAL REDUCTIONS AND OFFSETS FOR 2016 (Total B+C+D) = 19,295 tCO₂e

Corporate GHG Emissions Balance for 2016

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.

$$\begin{aligned} & \text{CORPORATE GHG EMISSIONS BALANCE FOR 2016} \\ & = (A - (B+C+D)) = \mathbf{-15,908 \text{ tCO}_2\text{e}} \end{aligned}$$

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

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.

This year a new recognition level has been added – **Level 3: Accelerating Progress on Charter Commitments**–. 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 the Community Energy and Emissions Inventory (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 (ie: 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 2016 CARIP Climate Action/Carbon Neutral Progress Survey, please check the GCC Climate Action Recognition Program level that best applies:

| | | |
|-------------------------------------|---|-----|
| <input type="checkbox"/> | Level 1 – Demonstrating Progress on Charter Commitments | |
| <input type="checkbox"/> | Level 2 – Measuring GHG Emissions | |
| <input type="checkbox"/> | Level 3 – Accelerating Progress on Charter Commitments | |
| <input checked="" type="checkbox"/> | Level 4 - Achievement of Carbon Neutrality | Yes |
| <input type="checkbox"/> | Not Sure | |