

# Summary Report on LOCAL GOVERNMENT CLIMATE ACTIONS 2017



**CARIP**  
CLIMATE ACTION REVENUE INCENTIVE PROGRAM

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## Introduction

The Climate Action Revenue Incentive Program (CARIP) is a conditional grant program that provides funding to local governments who have signed on to the BC Climate Action Charter (Charter). Under the Charter, local government signatories commit to take actions to become carbon neutral in their corporate operations and reduce community-wide emissions by creating more complete, compact and energy efficient rural and urban communities. Since 2007, increasing numbers of local governments have signed on to the Charter, demonstrating their leadership in addressing climate change.

The CARIP grant is equal to one hundred percent of the carbon tax that eligible local governments have directly paid in a given year. To be eligible for the CARIP grant, local governments are required to have signed on to the Charter, report publicly on their plans and progress toward meeting their corporate and community-wide climate action goals and submit a survey of their actions to the Province.

In 2018, for the second time in a row, all 187 signatory local governments submitted CARIP reports, demonstrating significant commitment to taking climate action. Through their role in land use, transportation, waste, water, energy and other infrastructure and service provision, many local governments are demonstrating leadership and applying innovative approaches to reducing Greenhouse Gas (GHG) emissions and adapting to climate change.

### 2017 CARIP Report Snapshot

Local Governments Reporting: **187**

Local Governments Measuring: **151**

Carbon Neutral Local Governments: **45**

## The 2017 CARIP Summary Report

This year's annual report showcases the continued progress of BC local governments by highlighting some of the achievements and experiences of small, medium and large local governments.

### *The 2017 CARIP Summary Report includes:*

- Updates on the carbon neutral progress and status of reporting local governments
- Mitigation and adaptation highlights of actions taken by small, medium and large communities
- Hyperlinked list of funding sources and programs reported by local governments

## 45 Local Governments achieved carbon neutrality in 2017

Ashcroft	Lumby
Capital RD	Oak Bay
Central Saanich	Oliver
Coldstream	Osoyoos
Columbia Shuswap RD	Parksville
Comox Valley RD	Peace River RD
Comox	Pemberton
Cowichan Valley RD	Penticton
Cumberland	Mount Waddington RD
Dawson Creek	Nanaimo RD
Delta	Richmond
Duncan	Sidney
East Kootenay RD	Sooke
Fort St. James	Squamish-Lillooet RD
Granisle	Thompson-Nicola RD
Highlands	Tofino
Islands Trust	Ucluelet
Kitimat-Stikine RD	West Vancouver
Ladysmith	Vancouver
Langley, Township	Vanderhoof
Lantzville	View Royal
Logan Lake	Whistler

## Carbon Neutral Local Government

The submission of CARIP surveys by all 187 Climate Action Charter signatories a second year in a row enables a consistent comparison from year to year on the progress made by local governments on their carbon neutral commitments under the Charter.

The number of local governments measuring corporate (GHG) emissions increased by three in the 2017 CARIP reporting year. This positive step forward is an indication that local governments are gaining greater understanding of their corporate operations as they strive towards carbon neutrality. Of the 151 local governments that measured and reported on their GHGs in the 2017 CARIP reporting year, 45 local governments achieved carbon neutrality. Appendix A lists the carbon neutral status of each reporting BC local government.

The amount of corporate GHG emissions generated by local governments in 2017 was 273,776 tCO<sub>2</sub>e,<sup>1</sup> an increase of 17,007 tCO<sub>2</sub>e compared to 2016. This increase may be partly attributable to additional contracted services becoming eligible for reporting. For example, in 2017 Metro Vancouver made changes to several multi-year contracts; while actual emissions did not increase, the amounts to be included in reporting did. The result of these changes was an increase in Metro Vancouver's total reported contracted emissions from 1,732 tCO<sub>2</sub>e in 2016 to 6,543 tCO<sub>2</sub>e in 2017, despite a similar extent of contracted activity across the two years. This is a 'paper increase' due to improved tracking and more accurate reporting of contracted emissions, and could be being experienced by other local governments. While a decrease in corporate emissions is the ultimate goal, accurate measurement and reporting is an important step to reaching carbon neutral status.

In 2017, local governments claimed 116,497 tCO<sub>2</sub>e of GHG emission reductions and offsets to balance their corporate footprint. Of the total emission reductions and offsets claimed, 103,720 tCO<sub>2</sub>e were achieved through the Green Communities Committee (GCC) Option 1 and Option 2 projects.<sup>2</sup> In 2017, Household Organic Waste Composting remained the most common Option 1 project and Biocover Methane Reduction the most common Option 2 project. Local governments chose to purchase 12,349 tCO<sub>2</sub>e worth of offsets in 2017, fewer than the 13,093 tCO<sub>2</sub>e purchased in 2016.

Please refer to Appendix B for total corporate emissions and reductions reported through CARIP between 2012 and 2017.

<sup>1</sup> tCO<sub>2</sub>e denotes tonnes of carbon dioxide equivalent

<sup>2</sup> Option 1 and Option 2 projects under the Carbon Neutral Framework are designed to help local governments balance their corporate GHG emissions. For more information, see Chapter 2 of [Becoming Carbon Neutral: Guidebook for B.C. Local Governments](#).

# Corporate and Community-wide Climate Mitigation Actions

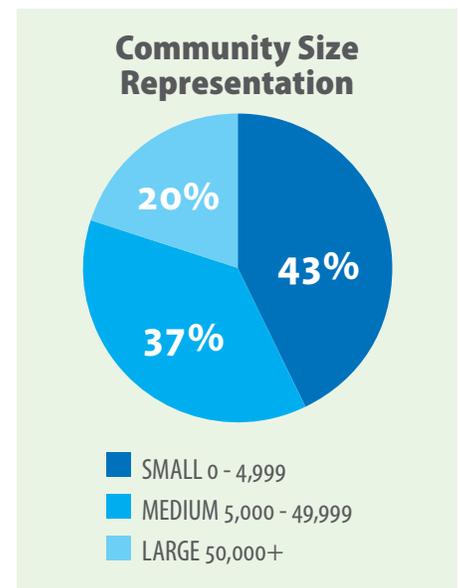
Since the CARIP program was initiated in 2010, the number of corporate and community-wide climate change mitigation actions and plans being undertaken by local governments has been steadily increasing. Actions range from the relatively straightforward, such as shifting to LED lighting, to those that require substantial investment, such as installing alternative energy systems.

In 2017, 51 percent of CARIP respondents reported having corporate GHG reduction plans in place while approximately 92 percent of CARIP respondents indicated having some type of plan in place to support climate mitigation on a community-wide scale. As shown in Table 1, since 2015<sup>3</sup>, there has been an increase in the percentage of local governments with Energy and Emissions Plans, Community Wide Action Plans and Official Community Plans supporting climate action.

*Table 1: Types of Plans Supporting Climate Action*

TYPE OF PLAN	DEGREE OF USE – 2017	DEGREE OF USE – 2016	DEGREE OF USE – 2015
Energy and Emissions Plan	49%	46%	42%
Integrated Community Sustainability Plan	36%	39%	32%
Community-Wide Action Plan	35%	32%	21%
OCP	93%	91%	83%
Other (eg. RGS)	39%	37%	38%

This year’s CARIP summary report continues to highlight actions undertaken in small, medium and large communities. As illustrated in the Community Size Representation graph, small communities (0-4,999) represent 43 percent of total CARIP respondents, medium sized communities (5,000- 49,999) represent 37 percent, and large communities (50,000+) represent 20 percent.



## The Small Community Experience (0-4,999)

### Corporate Actions

Small communities continue to make progress with their corporate mitigation actions in ways that best suit their needs and capacity.

Installation of LED lighting in buildings, recycling, composting and changes to fleet vehicles are some of the types of actions reported, and approximately 67 percent of small communities reported having climate action reserve funds. As in 2016 there was also a very strong focus on the installation of solar generation systems and energy upgrades to existing buildings.

<sup>3</sup> 2015 was the first year local government were asked to identify the plans they have that support climate change mitigation.



Photo courtesy of Hudson's Hope

### Climate Action Highlights

The installation of solar generation systems appears to be an effective way for smaller local governments to reduce the GHG consumption of their community owned buildings and facilities. Examples include the Village of Alert Bay, which installed a battery bank to store the energy generated by the solar panels put on community owned buildings during the previous year, the District of Sparwood's district office and leisure centre solar photovoltaic energy systems, and Port McNeill's installation of a solar heating system at their public swimming pool.

As identified in the following examples, solar energy projects and building upgrades not only reduce GHG emissions but can also save money.

The District of Hudson's Hope is engaged in what is expected to be the largest municipal solar array in BC. The District is installing enough solar panels to generate 500kW of electricity, including roof-mounted solar arrays on seven municipally-owned buildings and ground-mounted arrays at the sewage treatment lagoon and District swimming pool. The project will be "grid-tied" meaning that the surplus solar energy generated will be fed into the grid and accumulate credit with BC Hydro to be used during the darker winter months. The District anticipates saving approximately \$70,000 in electrical costs annually. The project was supported by Gas Tax funding.

There were a number of other energy upgrades reported including the District of Wells' upgrades to the Wells-Barkerville Elementary School heating system. Two oil-fired boilers were replaced with high efficiency propane fired condensing boilers. The new boilers and existing hot water heating system were connected to an existing geothermal heating system. This reduced greenhouse gas emissions as well as heating and cooling costs.

*"Within our municipality, utilizing newer technology helps us to stay competitive. In addition, the new boilers integrated with the geothermal system provide better overall covering in the facility. Our Public Works Department and CAO have done an excellent job bringing all the pieces together to ensure that we benefit from heating cost savings as well as savings within our maintenance budget."*

*Mayor Jay Vermette, District of Wells*

*90% of CARIP respondents have water conservation plans or policies in place (a 2% increase from 2016).*

*43% of CARIP respondents have urban forest policies, plans or programs. 63% have policies, plans or programs to support local food production.*

### Community-Wide Actions

As in past years, a number of small communities indicated that they are installing LED street lighting, supporting transit and other transportation alternatives, preserving parkland and forests and supporting local food production. Improving and expanding recycling and composting activities community wide is also a focus. For example, the District of Chetwynd initiated a pilot curbside recycling pickup program in two large subdivisions resulting in a significant reduction in the amount of residential garbage that was taken to the landfill.

Table 2: Modes of Transportation

MODE OF TRANSPORTATION	% OF LGS REPORTING ACTIONS 2017	% OF LGS REPORTING ACTIONS 2016
Walking	80	79
Cycling	76	75
Transit	72	65
Electric Vehicles	62	54

### Climate Action Highlights

A number of unique approaches to providing transit were reported in this year's CARIP reports. These include Tofino's continuation of its free bus service connecting the downtown with local beaches and other popular areas, and Gabriola Island's ongoing operation of its volunteer run bus system GERTIE (Gabriola's Environmentally Responsible Trans-Island Express).

One means of reducing transportation emissions is increasing density. In small communities, one way to increase density, reduce GHGs and support affordable housing is to allow additional housing units on residential lots. The Town of Port McNeill reported allowing carriage houses and accessory suites. Bowen Island adopted a secondary suites bylaw to densify existing residential land use.

Bowen Island has also undertaken a number of actions to help reduce its total volume of waste, which goes to an off-island landfill, by 80 percent by 2020. These actions were highlighted in [a video produced by the Regional District of Metro Vancouver](#). Bowen Island's efforts are supported by the community's re-use store, called the Knick Knack Nook. The volunteer run Knick Knack Nook helps divert landfill waste by collecting and selling donations of household items and clothing. The revenues – close to \$70,000 in 2017 and \$100,000 anticipated in 2018 – are being invested back into the community. This supports a number of community initiatives, including approximately \$32,600 which was provided to the Municipality to purchase two balers to compact recycling at the depot.

One baler is used exclusively to bale corrugated cardboard, the other to crush mixed plastics and light metals. This significantly decreases the number of trips required to take recyclables to Vancouver and reduces the cost and frequency of shipments. In partnership with the Municipality, the Knick Knack Nook has also been exploring the opportunity to develop an on-island composting facility.



Photo courtesy of Bowen Island

As indicated in Table 2: Modes of Transportation, there has been an increase in the number of local governments reporting actions across all modes of transportation with notable increases in actions related to transit and electric vehicles.

About 19% of CARIP respondents are engaged in transportation demand management activities. In large communities (100,000+), where congestion is most acute, 42% of local governments have transportation demand management strategies in place.

The Ministry of Municipal Affairs and Housing's [Community Lifecycle Infrastructure Costing \(CLIC\) Tool](#), compares the infrastructure costs of different development scenarios and provides a financial rationale to support more compact growth. 62% of survey respondents are familiar with the CLIC Tool.

# The Medium-sized Community Experience (5,000-49,999)

## Corporate Actions

Many corporate actions undertaken by medium-sized communities occurred under the building and lighting, transportation, and water and waste water categories. In transportation, new approaches to staff travel reported included the addition of electric bikes to fleets and the promotion of the use of car share programs. LED lighting upgrades continue to be undertaken as do updates to HVAC systems. There were also a number of efforts reported related to solar energy.

## Climate Action Highlights

The following example highlights a unique approach to using solar to reduce GHG emissions in the community while enabling businesses and residents to benefit financially.



Photo courtesy of Luke Mori, City of Nelson

In June 2017, the City of Nelson launched Canada's first community solar garden, a creative approach to financing a municipal solar energy system. Members of the community were invited to invest in solar energy production on a per panel basis. The solar energy generated, which feeds Nelson Hydro's<sup>4</sup> energy grid, is credited to the subscriber's electricity bills in proportion to their investment on an annual basis for 25 years. The current size of the system is 248 solar modules generating approximately

60kW of solar electricity. The annual estimated energy production for the entire system is approximately 70,000kWh/year for the 25 year period. The system was fully subscribed prior to its construction. Investors range from renters to business owners to churches and schools.

## Community-Wide Actions

In 2017, medium-sized communities continued to demonstrate commitment to reducing GHG emissions by implementing many actions in all sectors. Educating and engaging community members and businesses was a major theme across the actions reported.

## Climate Action Highlights

The Township of Esquimalt and the City of Nanaimo reported undertaking programs to educate students. In Esquimalt, the District introduced the

<sup>4</sup> Nelson Hydro is a City of Nelson owned and operated electric utility

Cool It! Program, a climate leadership training program facilitated by the BC Sustainable Energy Association, which involved 109 students in energy saving actions over a four week period. Students' energy conserving and emissions saving actions at home resulted in projected total savings of 58.723 tonnes of carbon dioxide (tCO<sub>2</sub>e), if they continued their actions for one year. The City of Nanaimo hosted an annual Public Works Day, where up to 300 students from grades four and five were invited for a full day of learning about the services provided by the Public Works department. They also learned about the hydrological cycle, watershed, water conservation rationale, sewers and drainage systems, and the overall impact of climate change on water resources.

Also in the realm of community engagement, the Regional District of Okanagan Similkameen (RDOS) won a Canada Wide Water Award for their West Bench Homeowner Leak Detection Program. The program identified and encouraged homeowners to fix leaks on their side of the water meter before volume based pricing was later implemented. Reducing water use results in GHG reductions related to pumping and delivery and also enables communities to better adapt to climate changes by contributing to the increased retention of water for periods of shortage. The RDOS project successfully identified 167 individual accounts with some kind of intermittent or continuous leak. Using new water meter technology, staff were able to provide detailed reports of leak volumes over time, which assisted homeowners in pinpointing and fixing leaks. This resulted in greater overall water conservation and an 80-85percent reduction in high bill complaints. Due to the success of the system, the RDOS is planning on implementing the system in Naramata, which will ultimately work to reduce residential, commercial and agricultural leaks.

The City of Campbell River is running a social media campaign promoting local businesses that focus on building energy efficiency in the services they deliver. The City of Fort St. John created a showcase [Passive House](#) building that included many green/energy saving initiatives that were unfamiliar to builders in the north. More information is available on the City's [website](#).

Medium-sized communities also focused on actions supporting more compact complete communities, including:

- The District of Mission's OCP encourages compact, complete community development by encouraging density in the urban core.
- The Town of Comox is focussing on transit oriented development.
- The City of Langford maintained their application fee reductions for new multi-family, mixed use, affordable and rental housing.
- The District of West Kelowna introduced a Development Cost Charge Reduction Program to developers looking to create denser, infill and mixed use projects in the city centre and more opportunities for secondary suite and carriage house development.
- The City of Powell River adopted a bylaw to permit carriage houses on applicable residential lots.

*Approximately 55% of CARIP respondents have organics collection programs in place (an increase of 2% since 2016). Over 80% of medium-sized and large communities operate such programs (an increase of 10% from 2016).*



RDOS West Bench Homeowner Leak Detection Program

## Large Community Experience (50,000+)

### Corporate Actions

Large communities in BC continue to be engaged in a variety of GHG reduction activities. Building upgrades, innovative energy efficient design and lighting replacement were popular themes in the corporate actions reported by these communities.

### Climate Action Highlights

Many large communities reported LED lighting upgrades in their buildings and streetlights. Those that reported GHG reductions included:

- The District of Saanich implementing Phase 3 of a 5-year street-light replacement program. This phase is estimated to save nearly 200,000 kWh and \$18,000 per year.
- The City of Richmond implementing Phase 2 of their street lighting conversion project for an estimated energy savings of over 460,000 kWh annually (replacing 1,500 streetlights).
- The City of Surrey beginning Phase 1 of their streetlight replacement program, generating 1.5 GWh savings within 9 months of project commencement (replacing 64,000 streetlights)

Some of the other types of efforts to improve the energy efficiency of local government buildings reported by large communities are identified below.

The City of Vancouver continued its efforts to meet its target of 100 percent renewable energy and zero emissions in its own facilities by 2040. In line with this, the demolition of City Hall East Wing catalyzed the replacement of the old chiller and cooling tower system with an air-source heat pump, which extracts heat from the outside air and transfers it to the inside to warm the building. It can also cool the inside environment by reversing this process. By the end of 2019, the heat pump is expected to have reduced City Hall's GHG emissions by 34 percent annually, and is projected to save \$20,000 each year through energy cost savings.

The District of North Vancouver opened their new Delbrook Community Recreation Centre. The innovative design of this community facility includes natural day lighting, energy efficient lighting and an integrated heat recovery system as part of the air-to-water heat pump system for heating and cooling. It also incorporates a high performance building envelope, natural landscaping and water conservation fixtures. The building exceeded the targets set out in the District's green building policy and received incentives through BC Hydro's New Construction Program. More information is available at: <http://www.dnv.org/recreation-and-leisure/delbrook-community-recreation-centre>.



District of North Vancouver

Since 2010, the City of Coquitlam's corporate green team, the Carbon Cutters, with support from BC Hydro and Fortis BC, have implemented more than 25 campaigns engaging staff in energy conservation behaviours. The team of 12

staff members, from nine different divisions, supports operational and behavioural changes to achieve energy reductions. These efforts have collectively resulted in reducing approximately 500,000 kWh annually, which represents approximately \$50,000 in energy cost savings.

## Community-Wide Actions

As in previous years, there was a large range of community-wide actions reported by large communities. This included the efforts of many communities to provide education and promote the Step Code to business and industry.

The highlights below illustrate how regional districts are playing leadership roles in many different sectors.

### Climate Action Highlights

Accelerate Kootenays is Canada's first community-driven, collaborative strategy to build a clean transportation network. The project, facilitated by the Community Energy Association, will create an Electric Vehicle (EV) charging station network to ensure EV travel to and within the region is convenient and reliable. It is a two-year, \$1.5 million initiative supported by the Columbia Basin Trust, Federation of Canadian Municipalities, Province of BC, FortisBC, BC Hydro, and Powertech Labs. The Accelerate Kootenays project was initiated by the Regional District of East Kootenay (RDEK) and included in the RDEK's Community Energy Manager work plan. The scope of the project has been subsequently expanded to include the Regional District of East Kootenay, Regional District of Central Kootenay and Regional District of Kootenay Boundary.

In 2017 the Capital Regional District completed the "Food Service Establishment Water, Energy and GHG Savings Program" that assisted 141 local businesses to reduce their environmental footprint and save money. Participants received high-efficiency water fixtures with free installation, as well as on-site education about further water and energy saving opportunities and rebate programs. The program is expected to save at least 598 tCO<sub>2</sub>e and 77,000,000 litres of water annually.

The Fraser Valley Regional District (FVRD) partnered with FoodMesh to launch a regional food recovery initiative that connects local farms, charities and food industry partners to exchange surplus edible food via an online app/marketplace. The goal is to work with 50 local FVRD businesses and charities to join the network with a shared goal of "redirecting" \$400,000 of edible food through the website. This will help organizations recover costs and increase margins by matching overstock food with businesses and charities, provide meals and lower GHG emissions by reducing the amount of food waste traveling to the landfill.

*51% of CARIP respondents had a corporate GHG reduction plan in 2017 (an increase of 3% since 2016). 50% of respondents have a climate action reserve fund.*

*Approximately 21% of CARIP respondents are in the process of developing or constructing a district energy or renewable energy system, about 33% report operating one, and 9% are connected to a district energy system being operated by another provider.*



Accelerate Kootenays

## Adaptation

The 2017 reporting year was the third year in a row that local governments were asked to report on climate adaptation actions. Survey responses reveal that since 2015 there has been a significant shift in local government understanding of adaptation and an increase in actions being reported.

In 2017, about 75 percent of survey respondents identified being engaged in emergency response planning to address the impacts of a changing climate. Over half of survey respondents reported being engaged in infrastructure upgrades and public education. Over 40 percent reported being engaged in risk and vulnerability assessments, risk and reduction strategies, strategic financial planning, OCP policy changes, research, mapping and partnerships.

The top three climate change impacts of concern include:

- Extreme weather events contributing to urban and overland flooding
- Increased temperatures increasing wildfire activity
- Changes in temperature and precipitation causing seasonal drought

Below are examples of how some local governments are addressing these three main impacts.

### Flooding

Many communities, including the Districts of Chetwynd, Sicamous, and Sparwood and the City of Dawson Creek engaged in flood risk studies. The City and District of North Vancouver, City of Williams Lake, City of Richmond and District of Saanich undertook stormwater management planning.

Stormwater management strategies seek to improve stormwater drainage thereby reducing the risk of flooding during heavy rain events.



City of Surrey  
Coastal Flood Adaptation Strategy

The City of Surrey has been developing a Coastal Flood Adaptation Strategy (CFA) to explore options and preferred strategies to adapt to climate impacts, including sea level rise in Surrey's coastal floodplain area. Technical sea level and flood risk studies previously conducted are being used to inform adaptation options. Preferred options are being refined with stakeholder and partner input. The Public Infrastructure Engineering Vulnerability Committee (PIEVC) standards for infrastructure

development, encouraged by Engineers Canada, are being applied to the highest risk areas of Surrey's coastal floodplain. A triple bottom line approach recognizing social, environmental and economic impacts is also being applied. More information can be found in [this video](#).

## Wildfire

A number of local governments have addressed wildfire risk through fuel reduction. Fuel reduction is a fire management strategy that focusses on removing ground brush and debris, pruning lower branches and removing tight second growth trees. For example, the Resort Municipality of Whistler has been engaged in fuel reduction since 2004 (More information is available online on [The Strategic Wildfire Prevention Initiative](#)).

In addition to taking direct action to mitigate the spread of wildfires many local governments also engaged in fire protection outreach activities. The City of Nelson, Squamish Lillooet Regional District, City of Merritt and District of West Kelowna delivered FireSmart workshops and campaigns. In West Kelowna, staff worked with a Registered Professional Forester to host a FireSmart open house and carry out a door to door campaign in one of their neighborhoods to educate and inform private property owners about wildfire mitigation best practices. [FireSmart Canada](#) is a program of the Partners in Protection (PiP), a multidisciplinary non-profit association. It is made up of members representing national, provincial and municipal associations, government departments responsible for emergency services, forest and parks management and land use planning, private business and industry.

## Drought

A number of local governments took actions to address the impacts of drought in their community. The Comox Valley Regional District has been encouraging the development of rain gardens and bioswales, the use of rain barrels for collecting rainwater and maintenance of trees and vegetation. Similarly, the Thompson Nicola Regional District worked throughout the community to promote a rain barrel program, and on the Sunshine Coast, the Regional District has been collaborating with communities on water conservation strategies which include water meters and water restrictions. In the northern reaches of the province, the City of Dawson Creek started construction of a new raw water reservoir (1,000,000 m<sup>3</sup>) for increased water security. This provides up to 155 days of reserve in the event that their main watershed is running low or is at risk of becoming contaminated.

The Regional District of North Okanagan's 2011 Drought Management Plan for the Greater Vernon Water Utility was recognized by the Okanagan Basin Water Board (OBWB) as a useful tool for water service providers facing drought related challenges. The key element of the Plan is the decision tree, which helps identify triggers (e.g. reservoir storage, snow pack, weather forecast and customer demand levels) and drought stages, which are then connected to related responses. The Plan is frequently reviewed and has stood the test of time. In 2016, the OBWB created a template based on the Plan and began sharing it with other water service providers in 2017.

To further support the implementation of drought management response, a new web-based alert service for the agricultural sector, connecting drought levels to actions, was piloted by the Regional District of North Okanagan and the City of Penticton in 2017.



MNAI featuring Gibsons

## Partner Organizations

As in previous CARIP reporting years, local governments have identified many partner organizations that have helped them work towards their climate mitigation and adaptation goals. Each year the CARIP summary report highlights one partner out of the list of those generated from the CARIP surveys. This year a number of local governments identified connecting with the Municipal Natural Assets Initiative (MNAI).

The MNAI recognizes the contribution of natural assets to local government service delivery. Local governments are increasingly recognizing the MNAI's perspective as they examine options to address their infrastructure needs that are financially sustainable and consider climate change impacts. The MNAI team, comprised of Brooke and Associates, the David Suzuki Foundation, Smart Prosperity Institute and the Town of Gibsons, provides scientific, economic and municipal expertise to support local governments in identifying, valuing and accounting for natural assets in their financial and asset management programs. In 2017, the City of Nanaimo, District of West Vancouver and City of Grand Forks engaged in a pilot project conducted by MNAI to test the natural asset management approach. [Click here for more information.](#)

### List of Partners Identified in CARIP Reports

- |   |  |   |
|---|--|---|
| <a href="#">Asset Management BC</a>                                 | <a href="#">Community Energy Association</a>             | <a href="#">Okanagan Basin Water Board</a>                        |
| <a href="#">BC Agriculture and Food Climate Action Initiative</a>   | <a href="#">CRD Climate Action Program</a>               | <a href="#">Pacific Institute for Climate Solutions</a>           |
| <a href="#">BC Healthy Communities</a>                              | <a href="#">E3 Fleets</a>                                | <a href="#">Pacific Climate Impacts Consortium</a>                |
| <a href="#">BC Hydro Sustainable Communities</a>                    | <a href="#">EcoTrust</a>                                 | <a href="#">Partnership for Water Sustainability</a>              |
| <a href="#">BC Sustainable Energy Association</a>                   | <a href="#">Emergency Management BC</a>                  | <a href="#">Pembina Institute (Green Building Leaders)</a>        |
| <a href="#">BC Hydro Power Smart</a>                                | <a href="#">FCM Green Municipal Fund</a>                 | <a href="#">Plug in BC</a>  |
| <a href="#">BC Hydro EV Charging Station Program</a>                | <a href="#">Federal Gas Tax Funding</a>                  | <a href="#">Quality Urban Energy Systems of Tomorrow</a>          |
| <a href="#">BC Oil to Heat Pump Incentive Program</a>               | <a href="#">Forest Enhancement Society of BC</a>         | <a href="#">RBC Blue Water</a>                                    |
| <a href="#">BC Sustainable Energy Association</a>                   | <a href="#">Fortis BC</a>                                | <a href="#">Real Estate Foundation</a>                            |
| <a href="#">Bike BC</a>   | <a href="#">Fraser Basin Council</a>                     | <a href="#">Rotary Club</a>                                       |
| <a href="#">Bike to Work BC</a>                                     | <a href="#">ICLEI Canada</a>                             | <a href="#">SolarBC Solar Hot Water Ready Regulation (BC Gov)</a> |
| <a href="#">C40 Cities</a>  | <a href="#">Interior Health Authority</a>                | <a href="#">TD Friends of the Environment Foundation</a>          |
| <a href="#">Canadian Urban Sustainability Practitioners Network</a> | <a href="#">Investment Agricultural Foundation of BC</a> | <a href="#">Tree Canada</a>                                       |
| <a href="#">Carbon Neutral Cities Alliance</a>                      | <a href="#">Interior Health Authority</a>                | <a href="#">UBCM: Community Emergency Preparedness Fund</a>       |
| <a href="#">Cariboo Chilcotin Conservation Society</a>              | <a href="#">Municipal Natural Assets Initiative</a>      | <a href="#">VanCity</a>   |
| <a href="#">Carpool.ca</a>  | <a href="#">National Resources Canada</a>                | <a href="#">Vancouver Foundation</a>                              |
| <a href="#">Cascadia Network Climate Smart Business</a>             | <a href="#">National Wetland Conservation Fund</a>       | <a href="#">Woodstove Exchange Program</a>                        |
| <a href="#">Columbia Basin Trust</a>                                | <a href="#">Northern Development Trust</a>               |   |
|   | <a href="#">Northern Initiative Trust</a>                |   |

## Conclusion

As demonstrated by the one hundred percent participation of Charter signatories in the CARIP program this year, and the extensive mitigation and adaptation actions reported in 2017, local governments are clearly committed to reducing their corporate and community-wide GHG emissions and addressing the impact of climate change.

The number of local governments measuring corporate emissions increased to 151 with 45 reporting carbon neutral status. Approximately 92 percent of CARIP respondents have a plan in place to support community-wide climate mitigation. As indicated in the Climate Action Highlights sections of this report, innovative projects are being implemented by communities of all sizes, from installing LED lighting to advancing solar energy capture projects. Local governments also reported adaptation actions being implemented in 2017 and planned for in 2018 further demonstrating an understanding of the need to address the changes that are being experienced as a result of climate change.

More information on the CARIP program and CARIP Summary Reports from past years can be found on the [Ministry of Municipal Affairs and Housing's website](#).



# Appendix A

## 2017 Carbon Neutral Status of Reporting B.C. Local Governments

CARBON NEUTRAL				
Ashcroft	Dawson Creek	Lantzville	Penticton	Squamish-Lillooet RD
Capital RD	Delta	Logan Lake	East Kootenay RD	Thompson-Nicola RD
Central Saanich	Duncan	Lumby	Kitimat-Stikine RD	Tofino
Coldstream	Fort St. James	Oak Bay	Mount Waddington RD	Ucluelet
Columbia Shuswap RD	Granisle	Oliver	Nanaimo RD	West Vancouver
Comox Valley RD	Highlands	Osoyoos	Richmond	Vancouver
Comox	Islands Trust	Parksville	Sidney	Vanderhoof
Cowichan Valley RD	Ladysmith	Peace River RD	Sooke	View Royal
Cumberland	Langley, Township	Pemberton	Squamish	Whistler

ACCELERATING PROGRESS ON CHARTER COMMITMENTS				
Abbotsford	Fraser Valley RD	Masset	Port Alberni	Sparwood
Alert Bay	Gold River	Metchosin	Port Alice	Summerland
Bulkley-Nechako RD	Golden	Metro Vancouver RD	Port Coquitlam	Surrey
Campbell River	Grand Forks	Midway	Port Hardy	Taylor
Central Kootenay RD	Harrison Hot Springs	Mission	Port McNeill	Telkwa
Chilliwack	Houston	Montrose	Port Moody	Trail
Clearwater	Invermere	Nanaimo	Prince George	Valemount
Colwood	Kamloops	New Denver	qathet RD	Vernon
Coquitlam	Kelowna	New Westminister	Qualicum Beach	Victoria
Courtenay	Keremeos	North Cowichan	Radium Hot Springs	Wells
Creston	Kimberley	North Saanich	Revelstoke	West Kelowna
Elkford	Kootenay Boundary RD	North Vancouver, City	Rossland	White Rock
Esquimalt	Lake Country	North Vancouver, District	Saanich	
Fernie	Langford	Peachland	Salmon Arm	
Fort St. John	Langley, City	Pitt Meadows	Slocan	
Fraser-Fort George RD			Smithers	

## MEASURING GHG EMISSIONS

100 Mile House	Cranbrook	Mackenzie	Okanagan-Similkameen RD	Stewart
Armstrong	Enderby	Maple Ridge	Port Clements	Strathcona RD
Burnaby	Fruitvale	Merritt	Powell River	Sunshine Coast RD
Cariboo RD	Gibsons	Nelson	Quesnel	Terrace
Central Okanagan RD	Greenwood	North Okanagan RD	Salmo	Tumbler Ridge
Chetwynd	Hudson's Hope	Northern Rockies	Sicamous	Williams Lake
Clinton	Kitimat			

## DEMONSTRATING PROGRESS ON CHARTER COMMITMENTS

Alberni-Clayoquot RD	Castlegar	Lake Cowichan	Port Edward	Spallumcheen
Anmore	Central Coast RD	Lillooet	Pouce Coupe	Sun Peaks
Barriere	Chase	Lions Bay	Prince Rupert	Tahsis
Belcarra	Fraser Lake	Lytton	Princeton	Warfield
Bowen Island	Hazelton	McBride	Queen Charlotte	
Burns Lake	Hope	Nakusp	Sayward	
Cache Creek	Kaslo	New Hazelton	Sechelt	
Canal Flats	Kent	North Coast RD	Silverton	

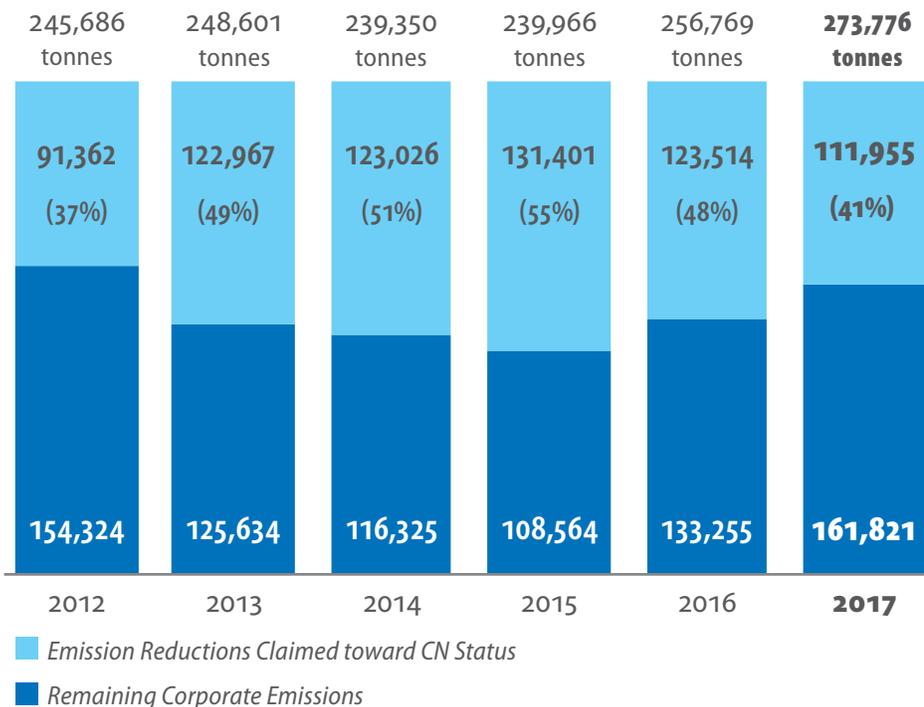
## Appendix B

The following table and bar graph present corporate emissions reported and emission reductions claimed toward carbon neutral status<sup>5</sup>.

For further information, please contact [PLUM@gov.bc.ca](mailto:PLUM@gov.bc.ca).

### CORPORATE EMISSIONS REPORTED THROUGH CARIP, 2012-2017

	Number of LGs Measuring	Total Corporate Emissions	Emission Reductions Claimed toward CN Status	Remaining Corporate Emissions
2012	144	245,686	91,362	154,324
2013	157	248,601	122,967	125,634
2014	142	239,350	123,026	116,325
2015	146	239,966	131,401	108,564
2016	147	256,769	123,514	133,255
2017	151	273,776	111,955	161,821



<sup>5</sup> These figures do not include carryover amounts (i.e. the amounts that can be carried over to the following year from reductions over and above the amount required to be carbon neutral). Carryover amounts were included in emission reductions reported in previous years' CARIP Summary Reports.



Photo courtesy of Hudson's Hope



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