

Summary Report on LOCAL GOVERNMENT CLIMATE ACTIONS 2015



CARIP
CLIMATE ACTION REVENUE INCENTIVE PROGRAM



Photo courtesy of the Town of Gibsons

INTRODUCTION

The Climate Action Revenue Incentive Program (CARIP) is a conditional grant program that provides funding to local governments that have signed onto the B.C. Climate Action Charter. Under the B.C. Climate Action 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.

The CARIP grant is equal to 100% 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 report publicly on their plans and progress toward meeting their corporate and community-wide climate action goals, and submit a copy of their final public report to the Province.

For the 2015 reporting year, 174 local governments submitted CARIP reports. This is the largest number of reports received since local governments began submitting CARIP reports in 2010, and demonstrates the continued commitment of B.C. local governments to taking climate action in the corporate and community realms.

The Province recently released a new Climate Leadership Plan (CLP). The CLP recognizes the key role that local governments play in tackling climate change and indicates the Province's desire to work with local governments to refresh actions under the Climate Action Charter and expand progress made to date. This CARIP Summary Report describes some of the progress local governments made on climate action in 2015.

THE 2015 CARIP SUMMARY REPORT

In order to streamline reporting and reduce duplication, the CARIP reporting format was changed in 2015. Unlike previous years, when more than one survey was used local governments were asked to submit their climate action information through a single survey – the 2015 CARIP Climate Action/Carbon Neutral Progress Survey (2015 Survey). Information collected through the 2015 Survey is presented in a similar format to last year's Summary Report and showcases the progress being made by local governments, highlighting some of the achievements and experiences of small, medium and large communities.

The 2015 CARIP Summary Report includes:

- *update on carbon neutral progress and carbon neutral status of local governments*
- *highlights of actions taken in small, medium and large communities*
- *list of funding sources and partnership programs reported by local governments*

2015 CARIP Report Snapshot

Local Governments Reporting: 174

Local Governments Measuring: 146

Carbon Neutral Local Governments: 54

*Emissions Balanced or Offset:
142,991 tonnes GHG*

54 local governments achieved carbon neutrality in 2015

| | |
|---------------------|---------------------------|
| Ashcroft | Nanaimo RD |
| Capital RD | New Denver |
| Central Saanich | New Westminster |
| Coldstream | North Cowichan |
| Columbia Shuswap RD | North Vancouver, City RD |
| Comox Valley RD | North Vancouver, District |
| Comox, Town | Oliver |
| Coquitlam | Osoyoos |
| Cowichan Valley RD | Parksville |
| Cumberland | Peace River RD |
| Dawson Creek | Pemberton |
| Delta | Pitt Meadows |
| Duncan | Port Moody |
| Fort St. James | Richmond |
| Granisle | Sidney |
| Highlands | Sooke |
| Islands Trust | Spallumcheen |
| Keremeos | Surrey |
| Ladysmith | Trail |
| Langley, City | Ucluelet |
| Langley, Township | Vancouver |
| Lantzville | Vanderhoof |
| Logan Lake | Victoria |
| Maple Ridge | View Royal |
| Mission | West Vancouver |
| Metro Vancouver RD | Whistler |
| Mount Waddington RD | White Rock |

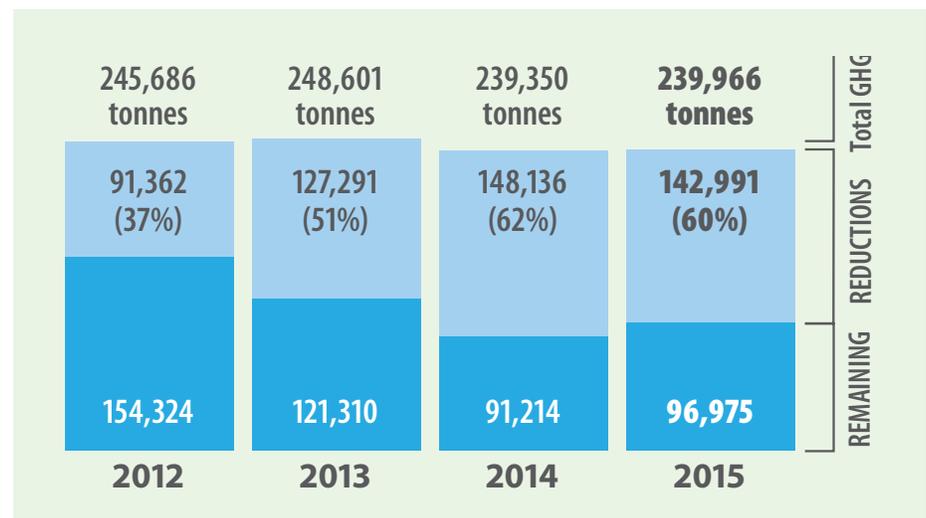
About 54% of CARIP respondents report having climate reserve funds to support climate actions.

Carbon Neutral Local Government

The 2015 CARIP results reveal that local governments continue to show leadership on climate and make progress on their carbon neutral commitments under the Charter. Despite modest increases in total and net corporate GHGs and a slight decline in GHGs reduced/balanced or offset, an additional 14 local governments achieved carbon neutral status in 2015 – a demonstration of the continued efforts by local governments to take action on climate.

Four more local governments measured corporate emissions in 2015 compared to 2014. Even with an increase in the number of local governments measuring, the total corporate GHGs generated in 2015, 239,966 tonnes, is almost the same as the amount reported in 2014. Total GHG emissions (tCO_{2e}) reduced, balanced or offset decreased somewhat (-3.5%) compared to 2014, but remain above 2012 and 2013 levels. Local governments that measured GHGs in 2015 reduced, balanced or offset approximately 142,991 tonnes of GHGs, roughly 60% of their collective corporate footprint.

Local governments continue to balance their corporate emissions through Green Communities Committee Option 1 and Option 2 projects¹. As in previous years, Household Organic Waste Composting was the most common Option 1 project, and Landfill Methane Gas Capture was the most common Option 2 project. Local governments reduced somewhat fewer GHGs (-5%) through Option 1 and 2 projects compared to 2014, reducing 129,486 tonnes compared to 2014's 136,439 tonnes, but still 12% more than the 115,531 tonnes reduced in 2013. Local governments chose to purchase slightly more carbon offsets than in previous years, 13,505 in 2015 as compared to 11,697 in 2014.



¹ 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 the Becoming Carbon Neutral: Guidebook for B.C. Local Governments.

CORPORATE AND COMMUNITY-WIDE ACTIONS

Over the past six years many local governments in B.C. have been working on developing corporate and community-wide climate action plans, and other plans supporting climate action. In 2015, close to 57% of CARIP respondents in B.C. reported having corporate GHG reduction plans in place.

About 92% of CARIP respondents identified using a number of different types of plans to guide the implementation of climate mitigation actions. The table below indicates the degree to which each type of plan is used (based on the 92% reporting the use of plans). It should be noted that a number of communities reported having more than one plan supporting climate mitigation actions.

Plans Being Used to Support Climate Action

| TYPE OF PLAN | DEGREE OF USE |
|--|---------------|
| Energy and Emissions Plan | 42% |
| Integrated Community Sustainability Plan | 32% |
| Community-Wide Climate Action Plan | 21% |
| OCP | 83% |
| Other (eg. RGS) | 38% |

Local governments have indicated their interest in investing in local community-wide emission reduction projects. Approximately 54% set aside money in dedicated climate reserve funds to support local climate actions.

The 2015 CARIP summary report continues to highlight actions from a number of small, medium and large communities. As illustrated in the graph to the left, small communities (0-4,999) represent 43% of total CARIP respondents, medium sized communities (5,000-49,999) represent 37% and large communities (50,000+) represent 20% of respondents.

The Small Community Experience (0-4,999)

Corporate Actions

In small communities the majority of corporate actions were reported in the building and lighting, water/wastewater and transportation categories. There was a strong focus on upgrading streetlights to LEDs. Leak detection was a key focus identified in the water/wastewater category. Systems upgrades were also reported. For example, the Village of Keremeos began the replacement of their 30 year old waste water pump, which reduced the number of pumping hours thereby reducing power consumption.

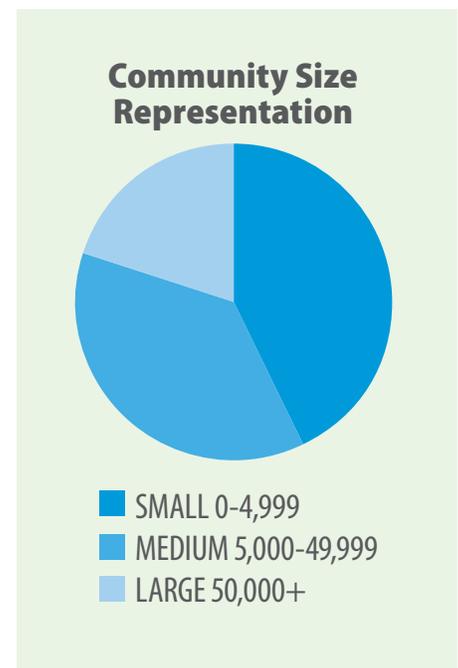




Photo courtesy of the Town of Gibsons

37% of CARIP respondents reported having urban forest policies, plans or programs. 66% report having policies, plans or programs to support local food production.

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89% of CARIP respondents identify having water conservation plans or policies in place.

As in past years, many 2015 actions focussed on supporting GHG reductions related to transportation and encouraging mode shifts. Walking and cycling were a key focus. Transit was also a priority. Many local governments also supported carpooling and car sharing programs. About 19% of CARIP respondents indicated being engaged in transportation demand management activities.

Climate Action Highlight

One emerging issue for all sizes of local governments is asset management. Actions undertaken in the Town of Gibsons demonstrate how asset management can benefit both climate mitigation and adaptation. Gibsons, through its Eco-Asset Strategy, is pioneering an approach that relies on key principles of asset management, financial planning and ecology and gives natural assets such as green space, aquifers, foreshore area and creeks the same standing as engineered infrastructure. The rationale is that services provided by natural systems have tangible value to the

community and are, in many circumstances, more effective than traditional infrastructure. Bringing these natural assets into the same asset management system as engineered infrastructure recognizes the quantifiable value they provide to the community and integrates them into the municipal framework for operating budgets, maintenance and regular support. In addition to real financial savings over the long term, the strategy will reduce energy used by engineered infrastructure and preserve natural carbon sinks. The strategy also examines natural climate adaptation solutions.

Community-Wide Actions

As in 2014, greenspace has remained a key focus for small communities in the community-wide realm. Greenspace-related actions included planting trees, preserving forest and creating parks. In 2015, water and waste water also emerged as key areas of focus. Actions in this realm included the development of water conservation plans and the implementation of conservation measures such as water restrictions.

Climate Action Highlight

In 2015, the Village of Salmo began the development of their Strategic Community Energy and Emissions Plan. The development of the plan started with a workshop involving a number of community stakeholders. Clearly identified actions supported by devoted staff and inspired community groups contributed to efficient implementation of a number of actions within months of plan adoption. These actions include: moving the farmers’ market to a central location within walking distance from the majority of residents, mapping street lighting in preparation for LED conversion, implementing infrastructure upgrades to measure water flow and leakage, adoption of a policy to reserve CARIP funds for energy conservation, the application of funding to repair a pedestrian bridge and the installation of two electric vehicle charging stations.

| MODE OF TRANSPORTATION | % OF LG REPORTING ACTIONS |
|------------------------|---------------------------|
| Walking | 77% |
| Cycling | 75% |
| Transit | 64% |
| Electric Vehicles | 48% |

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

Corporate Actions

Most corporate actions by medium-sized communities fall into the building and lighting and transportation categories. Fleet rightsizing and upgrades to more fuel efficient or electric vehicles continue. Many medium-sized local governments report working to meet Leadership in Energy and Environmental Design (LEED) standards with corporate building development and energy efficiency upgrades.

Climate Action Highlight

Many local governments report that they are replacing traditional streetlights with LED technology. In 2015, the city of Cranbrook completed the LED Streetlight Project, converting over 1,300 City owned high pressure sodium (HPS) street lights to light emitting diode (LED) street lights. The city is expecting an annual energy savings of approximately 404,000 kWh as well as reductions in greenhouse gas emissions and maintenance costs. The city's LED Streetlight Project is expected to save residents \$1.4 million – an average of \$70,000 per year over the expected 20 year life of the fixtures. This project was made possible with support from the Federal Gas Tax Fund and B.C. Hydro incentives.



Photo by Monte Comeau, courtesy of the Village of Salmo

Community-Wide Actions

As with the 2014 reporting year, most community-wide actions reported by medium-sized communities in 2015 occurred in the solid waste, greenspace and transportation categories. In the solid waste category, there is continued expansion of curbside recycling and an increase in the number of communities introducing curbside organics pickup. With respect to transportation, a number of communities reported undertaking street improvements to accommodate cycling and walking. The installation and promotion of electric vehicle charging stations was also identified by some medium-sized communities.

About 60% of CARIP respondents reported having organics collections programs in place.

Climate Action Highlight



Photo courtesy of the City of Colwood

Communities of all sizes are introducing solar energy generation, both on a small scale with technology such as pedestrian crossing signals, and on a large scale as demonstrated by the Squamish-Lillooet Regional District's Gold Bridge Solar Photovoltaic (PV) Renewable Energy Initiative. The regional district installed three small-scale grid-tied PV arrays at three community facilities: the Gold Bridge Transfer Station, Gold Bridge Community Complex, and the Haylmore Heritage Site. The project was supported through a provincial

grant from the Community Energy Leadership Program, with additional funds provided through Federal Gas Tax funding. The initiative is projected to deliver between 17,300 - 20,200 kWh of electricity per year. It is anticipated that the project will save the regional district \$2,000 in the first year alone.

Solar Colwood's four-year program was completed in 2015. The program engaged 500 Colwood residents to undertake over 1,000 renewable energy and energy saving upgrades using grants from the federal government's Clean Energy Fund. Energy saving actions included installing solar hot water systems, ductless split heat pumps, electric vehicle charging stations, smart home management systems and undertaking home energy assessments. On average, participating households reduced energy consumption by 37% and GHGs by 43%.

Large Community Experience (50,000 +)

Corporate Actions

In 2015, large communities concentrated a large proportion of their actions in the building and lighting category. Significant efforts were made by many large communities to improve energy efficiency in corporate facilities. For example, the City of Coquitlam completed a lighting upgrade to three civic buildings resulting in 400,000 kWh of energy savings. The City of Richmond completed energy efficiency upgrades to their corporate recreation facilities reducing energy use by approximately 1.8 kWh and GHGs by 300 tCO₂e.

Civic building related energy upgrades often involve an energy generation component. The District of North Vancouver's retrofit of its Karen Magnussen Community Recreation Centre, identified below, demonstrates this well.

Climate Action Highlight



24% of CARIP respondents reported being in the process of developing or constructing a district energy or renewable energy system. About 32% reported operating one and 11% reported being connected to a district energy system being operated by another provider.

The District of North Vancouver's Karen Magnussen Community Recreation Centre is an older well-used facility. It is also the District's most energy-intensive building. In 2015, the mechanical and controls systems were completely redesigned using an innovative approach to capturing and re-using existing thermal energy in the building, which was previously exhausted as 'waste heat'. The system captures energy in the air around the pool and uses it to help heat the pool water. Heat rejected from the arena's ice-making equipment will be used to supply domestic hot water. Other measures include a complete lighting system upgrade to LED, sealing of the building envelope to reduce air leakage, and installing a low-emissivity ceiling in the arena to reduce the cooling load. Together the measures are estimated to reduce energy use and GHGs by 50%. The project proceeded because it had a sound business case that supported the substantial investment focused on upgrading the energy performance of an older facility, without any cosmetic renovation or expansion components.

Community-Wide Actions

The greatest number of community-wide actions reported by large communities was in the transportation and solid waste categories. Transportation actions ranged from education programs in schools, to expanding car share programs, to supporting and promoting electric vehicles. There was a strong emphasis on the elimination of food scraps from landfills especially in the more densely populated areas of the province. For example, on January 1, 2015, Metro Vancouver introduced a disposal ban on food scraps at all regional solid waste facilities. Approximately 66,000 additional tonnes of compostable organics were diverted away from disposal and into composting or biofuel production in 2015, compared to 2014.

Corporate Action Targets Surpassed

In 2007, Delta Council adopted a Corporate Climate Change Initiative that had a target of reducing emissions by 20% from 2007 levels by 2015. Actual emissions were reduced from 7,411 tCO₂e to 5,799 tCO₂e over that period representing a 21% reduction and exceeding the target. This was achieved through major building retrofits, the implementation of geexchange and solar technologies, and measures to reduce emissions from Delta's fleet including right-sizing vehicles, use of hybrids, and extensive driver training and education.

Climate Action Highlight



The need to reduce energy emissions is also influencing land-use decisions. The Township of Langley recently completed work on a neighbourhood plan for the new Latimer neighbourhood. Using the legislative powers granted to local governments under Bill 27, the plan includes an innovative Passive Solar Energy Conservation Development Permit Area (DPA). The DPA was developed to ensure that all buildings constructed in Latimer are built to optimize passive energy from the sun and minimize the need for fossil-fuel based energy for mechanical heating, cooling and lighting systems. The DPA prioritizes passive design, supported by a foundational east to west road alignment to ensure future buildings have optimal access to solar energy. The very process of developing the Latimer energy DPA has had a transformational impact on the way the township plans neighbourhoods. Energy is now a standard consideration.

ADAPTATION

The 2015 reporting year was the first year that local governments were asked to report on climate adaptation actions. It is evident from the responses received that many local governments in B.C. are taking steps to address the impacts of climate change. About 80 local governments reported close to 170 adaptation related actions to better prepare for climate impacts such as drought, wildfires, reduced food security, flooding and sea level rise and extreme weather events. Here are some examples of the adaptation actions that local governments reported this year.

Adaptation Actions

- *Central Saanich focussed landscaping plant selection on drought resistant native species.*
- *The Okanagan-Similkameen Regional District partnered with the Okanagan Basin Water Board to Develop Phase I of the Okanagan - Similkameen Drought and Flood Mitigation Plan. The plan will help identify gaps in drought and flood response planning and preparedness.*
- *The Town of Ladysmith requested a wild land-urban interface fire hazard assessment report as part of a rezoning application for a residential development on a site with perimeter forest and internal forested riparian areas.*
- *The Peace Region, Cowichan Valley Regional District and the City of Delta participated in a pilot project with the B.C. Agriculture and Food Climate Action Initiative to integrate agricultural climate change adaptation priorities into decision making and planning across multiple organizations.*
- *A number of local governments including Hope, Richmond, Squamish and White Rock partnered with the Fraser Basin Council to develop the Lower Mainland Flood Management Strategy. The strategy will identify opportunities to strengthen flood management policies and practices as well as flood protection works across the Lower Mainland.*
- *The City of Vancouver conducted stakeholder design charrettes on sea level rise in the False Creek Flats area.*
- *Maple Ridge streamlined their public works emergency response processes to reduce response times to extreme weather events such as windstorms and extreme rainfall.*
- *The City of Victoria conducted heat island mapping of air and surface temperature using their VicMap tool. This work facilitates public education about heat health and emergency planning and preparedness during times of extended high temperatures.*

75% of CARIP respondents reported being familiar with the [Plan2Adapt guidance on the Climate Action Toolkit Website](#).

82% identified being familiar with ["Preparing for Climate Change – An Implementation Guide for Local Governments"](#).

The Cowichan Valley Regional District has created a website entitled ["Living the New Normal"](#). The site provides information on drought and flood conditions and what residents can do to minimize the impact of these events.



PARTNER ORGANIZATIONS

List of Partners Identified in CARIP Surveys

| | |
|--|--|
| BC Hydro Sustainable Communities | ICLEI Resilient Cities |
| BC Hydro Power Smart | Idle Free BC |
| Bike to Work BC | Multi-Material BC |
| Bike BC | NRCAN |
| Canadian Solar Cities Project | Okanagan Basin Water Board |
| Carpool.ca | Pacific Institute for Climate Solutions |
| City Green Solutions | Pembina Institute (Green Building Leaders) |
| Climate Smart Business | Plug in BC |
| CN EcoConnexions | QUEST |
| Collaboration for Advanced Landscape Planning (CALP) | Real Estate Foundation of BC |
| Columbia Basin Trust | Rotary Club |
| Community Energy Association | Solar Hot Water Ready Regulation (BC Gov) |
| Community Energy Leadership Program | TD Friends of the Environment Foundation |
| E3 Fleets | Tree Canada |
| FCM Green Municipal Fund | UBCM Asset Management Planning Grants |
| Fortis BC | Urban Sustainability Directors Network |
| Fraser Basin Council Investment | WWF Earth Hour City Challenge |
| Agriculture Fund BC | |
| Healthy Communities BC | |

Partnerships are critical to helping local governments implement their climate mitigation and adaptation goals. Each year the CARIP summary report highlights one partner out of the list of partners generated from the CARIP surveys.

Partnership Highlight



Photo: Local government CEA award winners

One partner organization that many local governments have identified in the CARIP reports over the past 6 years is the Community Energy Association (CEA). The CEA has been helping B.C. local governments with energy planning and plan implementation for over 20 years. CEA is a multi-partner non-profit association. The CEA's mission is to build capacity and accelerate action on climate and energy in collaboration with local governments. CEA offers a number of resources including: education and outreach projects (webinars, builders' workshops), community energy and emissions planning projects and plan implementation-related resources. CEA also plays an important role in celebrating local government successes by recognizing the climate mitigation efforts of B.C. communities through the Climate and Energy Action Awards. These awards are presented annually at the Union of B.C. Municipalities convention.

CONCLUSION

As evident from the many community-wide and corporate climate actions reported in the 2015 CARIP Climate Action Survey, local governments in B.C. continue to demonstrate leadership in working towards achieving their Climate Action Charter commitments.

Local governments continue to report notable reductions in corporate emissions. Significantly, an additional 14 communities have achieved carbon neutral status, increasing the number of carbon neutral communities in B.C. to 54.

In addition to reporting on community-wide mitigation activities, many local governments also reported taking action to better prepare for climate impacts such as drought, wildfires, reduced food security, flooding and sea level rise and extreme weather events.

The 2015 CARIP Summary Report shows that B.C. local governments are successfully implementing innovative climate change mitigation and adaptation approaches, demonstrating their continued commitment to both reducing GHG emissions and well as adapting to the impacts of climate change.

Additional information related to the CARIP program can be found on the [Ministry of Community, Sport and Cultural Development's website](#).



Photo courtesy of the Town of Gibsons

APPENDIX A

2015 Carbon Neutral Status of Reporting B.C. Local Governments

CARBON NEUTRAL

| | | | | |
|---------------------|-------------------|------------------------------|----------------|----------------|
| Ashcroft | Delta | Logan Lake | Oliver | Surrey |
| Capital RD | Duncan | Maple Ridge | Osoyoos | Trail |
| Central Saanich | Fort St. James | Metro Vancouver | Parksville | Ucluelet |
| Coldstream | Granisle | Mission | Peace River RD | Vancouver |
| Columbia Shuswap RD | Highlands | Mount Waddington | Pemberton | Vanderhoof |
| Comox Valley RD | Islands Trust | Nanaimo RD | Pitt Meadows | Victoria |
| Comox | Keremeos | New Denver | Port Moody | View Royal |
| Coquitlam | Ladysmith | New Westminister | Richmond | West Vancouver |
| Cowichan Valley RD | Langley, City | North Cowichan | Sidney | Whistler |
| Cumberland | Langley, Township | North Vancouver, City | Sooke | White Rock |
| Dawson Creek | Lantzville | North Vancouver, District | Spallumcheen | |

MAKING PROGRESS (MEASURING)

| | | | | |
|---------------------|-----------------------|-------------------------|----------------------------|------------------------|
| 100 Mile House | Elkford | Kootenay Boundary RD | Okanagan Similkameen RD | Sicamous |
| Abbotsford | Enderby | Lake Country | Peachland | Slocan |
| Alert Bay | Esquimalt | Lake Cowichan | Port Alberni | Smithers |
| Armstrong | Fernie | Langford | Port Alice | Sparwood |
| Bulkley-Nechako RD | Fort St. John | Lumby | Port Clements | Squamish |
| Cache Creek | Fraser Valley RD | Mackenzie | Port Coquitlam | Squamish - Lillooet RD |
| Campbell River | Fraser-Fort George RD | Masset | Port Hardy | Strathcona RD |
| Cariboo RD | Fruitvale | Merritt | Port McNeill | Summerland |
| Central Kootenay RD | Gold River | Metchosin | Powell River City | Sunshine Coast RD |
| Central Okanagan RD | Golden | Midway | Powell River RD | Taylor |
| Chetwynd | Grand Forks | Montrose | Prince George | Terrace |
| Chilliwack | Greenwood | Nanaimo, City | Qualicum Beach | Thompson-Nicola RD |
| Clearwater | Hudson's Hope | Nelson | Quesnel | Tofino |
| Clinton | Invermere | North Okanagan RD | Radium Hot Springs | Tumbler Ridge |
| Colwood | Kamloops | North Saanich | Revelstoke | Valemount |
| Courtenay | Kelowna | Northern Rockies RM | Rosland | Vernon |
| Cranbrook | Kimberley | Oak Bay | Saanich | Wells |
| Creston | Kitimat District | | Salmon Arm | West Kelowna |
| East Kootenay RD | Kitimat Stikine RD | | | Williams Lake |

MAKING PROGRESS

| | | | | |
|--------------|----------------------|--------------|------------------|--------------|
| Anmore | Central Coast RD | Kaslo | Port Edward | Skeena-QC RD |
| Barriere | Chase | Kent | Prince Rupert | Tahsis |
| Bowen Island | Fraser Lake | Lytton | Queen Charlotte | Telkwa |
| Burns Lake | Gibsons | Nakusp | Salmo | Warfield |
| Canal Flats | Harrison Hot Springs | New Hazelton | Sayward | |
| Castlegar | Houston | Penticton | Sechelt District | |



Photo courtesy of the Town of Gibsons



CARIP
CLIMATE ACTION REVENUE INCENTIVE PROGRAM

