2014 Climate Action Revenue Incentive Program (CARIP) Public Report

Prepared by:

Cowichan Valley Regional District – Engineering Services

March 2015

TABLE OF CONTENTS

Contents

TABLE OF CONTENTS 2
CARBON NEUTRAL PROGRESS REPORTING 3
BROAD PLANNING 4
CORPORATE - Broad Planning 4
COMMUNITY-WIDE - Broad Planning 5
BUILDINGS 6
CORPORATE - Buildings 6
ENERGY GENERATION 9
CORPORATE - Energy Generation 9
GREENSPACE 10
COMMUNITY-WIDE - Greenspace 10
SOLID WASTE 12
CORPORATE - Solid Waste 12
COMMUNITY-WIDE - Solid Waste 13
TRANSPORTATION 15
COMMUNITY-WIDE - Transportation 15
WATER and WASTEWATER 17
CORPORATE - Water and Wastewater 17
COMMUNITY-WIDE - Water and Wastewater 18
OTHER CLIMATE ACTIONS 19
COMMUNITY-WIDE - Other Climate Action 19
INNOVATION 19
CORPORATE – Innovation 19
LOCAL GOVERNMENT INFORMATION 20

CARBON NEUTRAL PROGRESS REPORTING

	2013	2014
Emissions (tonnes CO_2e)		
Emissions from Services delivered directly by CVRD	1428	1312
Emissions from Contracted Services	246	330
Total Emissions	**1674**	**1642**
Offsets (tonnes CO_2e)		
Energy Efficient Building Retrofits and Fuel Switching*	(28.8)	(27.3)
Household Organic Waste Composting**	(1645.2)	(1614.7)
Total Offsets	**(1674)**	**(1642)**
CORPORATE GHG EMISSIONS BALANCE (tonnes CO_2e)	**0**	**0**

*see separate report: "Cowichan Station Hub Energy Efficient Building Retrofit and Fuel Switching: Carbon Credits for Carbon Neutral Reporting 2014"

**see separate report "Yard and Garden Organics Diversion: Carbon Credits for Carbon Neutral Reporting 2014"

BROAD PLANNING

Since initially establishing OCP targets, policies, and actions for the reduction of greenhouse gas (GHG) emissions, as required by the Local Government Act, has your local government updated those targets, policies and actions?	No

Does your local government use the Community Energy and Emissions Inventory (CEEI) to measure progress?	Yes
Has your local government established Development Permit Areas (DPAs) for climate action (i.e. energy conservation, water conservation and/or GHG emission reduction)?	Yes

CORPORATE - Broad Planning

	Actions taken in 2014	Actions proposed for 2015
Plans, Policies, Regulations	(not applicable)	•Update GHG inventory and Emissions Reduction Plan to reflect current footprint, opportunities and progress on plan. •Development of corporate green building policy suite to guide how CVRD facilities will be built and renovated to meet green standards.

COMMUNITY-WIDE - Broad Planning

	Actions taken in 2014	Actions proposed for 2015
Feasibility Studies, Research, Analysis	•Developed a rainwater management strategy. •Completed the development of the water balance model. •Climate Adaptation Programs include -•Water supply analysis and monitoring •Snow Pillow Station installed on Heather Mountain •Groundwater monitoring wells installed •Sea level rise impact analysis	•Completion of phase 1 and portion of phase 2 of Regional Sustainability Strategy. •Develop a community focused climate change action plan to meet or beat provincial greenhouse gas emission targets. •Mapping of green infrastructure in the Cowichan Valley. •Airshed Protection Strategy - Complete a baseline emissions inventory, ambient air quality report and identify stakeholders.
Plans, Policies, Regulations	(not applicable)	•Complete CVRD Plan for the Environment 2015-2025 Corporate Environmental Strategy.
Committees, Staffing	Participation in the following: •Pacific Climate Impacts Consortium Advisory Board. •Provincial Sea Level Rise Technical Working Group. •Leadership for Water Sustainability Partnership with Natural Resources Canada and Simon Fraser University developing financial tools for adaptation. •RDN Water Management Technical Team.	(not applicable)

BUILDINGS

Does your local government have green building/construction policies, plans or programs?	No

CORPORATE - Buildings

	Actions taken in 2014	Actions proposed for 2015
Physical Improvements, Construction	•Installed four stream recycle stations at Cowichan Lake Recreation, Island Savings Centre, Kerry Park Recreation Centre, Shawnigan Lake Community Centre and CVRD office. **Cowichan Lake Recreation Facilities –** •Completed the installation of the CLSA waste water loop system. This wastewater circulating loop system recycles wastewater from the condenser, which will generate savings on water costs, as well as reducing the environmental impact of the waste water which was being introduced into the storm drain system. In addition, the circulating loop recaptures waste heat generated by the compressors during the refrigeration cycle and reintroduces it into the heating supply stream going out to the facility. •Replaced the low efficiency T12 fluorescent light fixtures with high efficiency T5 fixtures at the Honeymoon Bay and Mesachie Lake halls. •Replaced the outdoor sign board at the Lake Cowichan hall, lit by low efficiency T12 lighting with an exterior read-o-graph sign that uses high efficiency LED lighting.	•As operating budgets allow, continue with energy savings improvements as noted in the 2014 energy audits. •Complete the installation of ammonia gas sensors in the relieve stacks at the 3 arenas to provide additional safety precautions. **Cowichan Lake Recreation Facilities –** •Replace the curling rink low efficiency metal halide light fixtures with high efficiency light fixtures. •Complete installation of low-flow water conserving plumbing fixtures in Lake Cowichan hall. **Island Savings Centre –** •Renovate and expand the ice resurfacer snow melt pit to allow use of the reclaimed heat from the ice plant to melt the snow, and removal of a below ground abandoned oil tank. Currently snow is just dumped outside to melt. •Replace a few more exterior doors to allow for proper closure and help to save energy. **Kerry Park Recreation –** •Replace the 40 year old emergency generator (diesel). •Complete the heat recovery and energy reduction savings projects.

Island Savings Centre –

•Completed replacement of the emergency generator (diesel) and relocated outdoors.

•Completed approximately 90% of the major energy savings capital project. This included replacing the new condensing boiler, new heat recovery tank and replaced about 40 system pipe joints, improved HVAC and building controls, as well as replaced 2 old Mycom refrigeration compressors.

•Replaced a few sets of exterior doors to allow for proper closure that helps save energy.

•Replaced old fluorescent light fixtures with energy efficient fixtures under a PSPX lighting program upgrade.

•Added new water fountains throughout the facility, which provides better filter water and it reduces wastage with malfunctioning tapes.

Kerry Park Recreation –

•Replacement of the arena cement slab with the installation of new under slab piping and refrigeration lines, with new heating floor (under the slab) supplied via a heat recovery system, and replaced electric pyrotechnic underfloor heating system.

•Replaced 2 arena refrigeration compressors and a desiccant that will greatly reduce the energy consumption. Desiccant is supplied with regeneration heat via the newly installed heat recovery system. This unit replaces the existing natural gas desiccant.

•Replace the HVAC and building DDC system, install VFDs (variable fan drives) on refrigeration system motors where possible to reduce energy use.

•Commission the refrigeration system DDC control system for more efficient operation.

Shawnigan Lake Community Centre –

•Upgrade the Elsie Miles facility with new heat pumps, replace existing oil fired furnace system and replace single glazed windows with double glazed.

•Replace SLCC old electric furnace with new electric heat pumps.

	•Replaced older T12 fluorescent light fixtures in the dressing room areas with more efficient T8 fixtures with motion sensors. •Replaced T8 fixtures in hallway in dressing room area with LED fixtures and motion sensors. •Lighting in all arena storage areas updated to T8s with motion sensors. •Completed a sewer project upgrade by connecting KPR to Kerry Village Sewer system. **Shawnigan Lake Community Centre** - •Replaced the old exit signs with LEDs. •Replaced T12 light fixtures with T8s with motion controls.	
Feasibility Studies, Research, Analysis	•Completed energy conservation audit that provides various recommendations for energy conservation measures at Cowichan Lake Recreation, Island Savings Centre, Kerry Park Recreation Centre, Shawnigan Lake Community Centre and CVRD office.	**Cowichan Lake Recreation Facilities –** •Investigate installing Polar Vortex REAL-ice technology that allows utilizing a cold waterflooding process at the CLSA ice surface, which does not require energy to heat the water for flooding. **Island Savings Centre –** •Review options to upgrade the old technology of lighting used to illuminate the Big Hockey Stick on the outside of the ISC arena.
Employee Training, Awareness	**Kerry Park Recreation –** •Operations Coordinator and lead hand attended a two day training session for building DDC system (ie Reliable Control Operator training) which will provide better them with better knowledge of the building systems which will aid in operating the systems efficiently.	•All Facility Coordinators to complete BOMA e-Energy Training, that provides education on energy savings initiatives
Committees, Staffing	(not applicable)	•Provide ongoing recommendations and support for CVRD Green Team initiatives

ENERGY GENERATION

Has your local government undertaken district energy projects in 2014?	No
Has your local government undertaken renewable energy projects 2014?	No
Are you aware of the integrated resource recovery (IRR) guidance page on the BC Climate Action Toolkit? (http://www.toolkit.bc.ca/tool/integrated-resource-recovery-irr)	Yes

CORPORATE - Energy Generation

	Actions taken in 2014	Actions proposed for 2015
Feasibility Studies, Research, Analysis	(not applicable)	•Work with Energy Analyst to review the feasibility of installing solar PV at the recreation facilities
Employee Training, Awareness	(not applicable)	•Staff 'Lunch and Learn' on residential solar energy applications

GREENSPACE

Does your local government have urban forest policies, plans or programs?	No

COMMUNITY-WIDE - Greenspace

	Actions taken in 2014	Actions proposed for 2015
Physical Improvements, Construction	•Sandy Pool boat launch redevelopment and fisheries restoration, which included erosion stabilization of the river bank though planting cottonwood and willow stakes. •Bright Angel Park potable water service, trail expansion, resurfacing and facility/access improvements. •Kinsol Interpretive Pavilion provides historic and interpretive information to the public	•Final signage for Sandy Pool redevelopment and fisheries restoration. •Community pathway construction Shawnigan Lake and Cobble Hill. •Hecate Park greenshores restoration (grant funding dependent).
Feasibility Studies, Research, Analysis	(not applicable)	•Develop Invasive Species Management Plan for parks in Electoral Area A. •Layout design analysis and cost estimates for community pathways on E&N (Area B), Beach Estates to Mason's Beach (Area B), Wilmot Rd. (Area D) and Koksilah Road (Area E).
Plans, Policies, Regulations	•Preliminary designs for Cowichan Valley Trail to Galloping Goose Connector•Year 3 of invasive Species action plan for Shawnigan.•Mill Bay/Malahat Community Parks and Trails Master Plan was initiated	•Year 4 of Invasive Species Action Plan for Shawnigan Lake parks. •Complete Mill Bay/Malahat Community Parks and Trails Master Plan. •Complete park site plans for Elsie Miles Park (Area B), Cobble Hill Common (Area C), Botwood Lane (Areas D), Stocking Creek Park (Area G) and Arbutus Park (Area I). •Complete Park Management Plan for Bright Angel Park and co-involvement in Somenos Marsh Management Plan Update.
Policy Implementation	•Acquisition of six new parcels for community parkland and two parcels for regional parks	•Acquisition of eight new parcels for community parkland and two parcels for regional parks.

Community Education, Engagement	•Approximately 2000 hours of volunteer time provided in local community parks, which included attending community events, park/trail clean up and tree/shrub planting	•Approximately 2200 hours of volunteer time provided in local community parks, which include attending community events, park/trail clean up and tree/shrub planting
Committees, Staffing	•Community working groups were established to develop plans for Boatswain Park, Dougan Park, and Coverdale Watson Park	•Organize community-based teams to work with CVRD staff and Commissions on park and trail plans as noted above.
Funding	(not applicable)	•Secure grant funding for Hecate Park greenshores restoration and seek partnership funding to support CVRD community and regional parks program priorities for 2015

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

CORPORATE - Solid Waste

	Actions taken in 2014	Actions proposed for 2015
Physical Improvements, Construction	•Completed upgrades and remediation of the Peerless Road Recycling Drop-off Depot / incinerator ash landfill. Officially open the new state-of-the-art recycling facility. The facility will boast a large number of recyclable materials in a convenient one-stop-drop format.	•Finalize landfill closure plan and begin landfill closure and facility up-grade works for Meade Creek ash landfill. •Carry out the three stream organics collection facility upgrade at Bings Creek Solid Waste Management Complex.
Feasibility Studies, Research, Analysis	•Completed review of current regional waste tracking methodology.	(not applicable)
Plans, Policies, Regulations	(not applicable)	•Begin planning for a Solid Waste Management Plan Amendment
Policy Implementation	(not applicable)	•Amend the Solid Waste Management Licencing Bylaw that regulates how private facilities manage municipal solid waste and recyclables. •Conduct a pilot project recycling bulky furniture and mattresses.
Employee Training, Awareness	•Green Team initiated 4-stream containers in more locations on each floor at Ingram Street office. •Green team to hosted staff education on 4-stream recycling throughout CVRD Facilities.	(not applicable)

COMMUNITY-WIDE - Solid Waste

	Actions taken in 2014	Actions proposed for 2015
Feasibility Studies, Research, Analysis	•Conducted two odour surveys to determine to what degree private licenced composting facilities were contributing to community odour issues.	•Undertake a preliminary assessment for establishing a regional composting facility. •Undertake a waste composition study. •Continue to explore long term solid waste disposal solutions.
Plans, Policies, Regulations	•Implemented the stewardship of packaging and printed paper (PPP) in May, 2014 and undertook extensive public education campaign on new materials accepted for curbside and depot collection. •Supported the school district(s) in developing and implementing zero waste programs at local schools.	(not applicable)
Policy Implementation	•Begin contract for curbside and depot collection service provision for MMBC on May 19, 2014, when PPP officially falls under extended producer responsibility via the provincial recycling regulation.	•Develop a Zero Waste certification standards for schools, businesses and residents (as part of the Cowichan Zero Waste Challenge initiative).
Community Education, Engagement	•Completed extensive public education campaign leading up to, and following, the implementation of the new MMBC recycling program for residential PPP in May, 2014. •Renewed "Clear the Air Cowichan" campaign efforts, especially regarding awareness of the new backyard burning bylaw in five electoral areas. •Hosted a well-attended, free Burn It Smart educational workshop on residential wood heating as part of a regional air quality initiative to decrease particulate emissions. •Continued to work with local First Nations communities to support better access to options for waste	•Host a free Burn It Smart educational workshop on residential wood heating in February/March, 2015.

disposal and recycling.

•Continued our free Environmental School Education Program, provided in conjunction with a local non-profit group, to all schools in the region. Outreach at public events is included.

•Updated and promoted the online Cowichan Recyclopedia through 2014. This searchable database of information provides tips and techniques on how to reduce, reuse, and recycle hundreds of products and materials locally.

•The “Recycled Tune of the Day” on the local radio station (where a song is prefaced with information on local recycling options and environmental tips) was continued through 2014.

•The “CVRD Recycling Hotline” service was continued, allowing residents to call in toll-free to find out where/how to recycle any item locally and obtain information about CVRD curbside collection services and recycling drop-off depots.

TRANSPORTATION

Does your local government have policies, plans or programs to support alternative modes and technologies of transportation (e.g. walking, cycling, transit, electric vehicles)	Yes
Does your local government have a transportation demand management (TDM) strategy? (http://www.toolkit.bc.ca/resource/transportation-demand-management-small-and-mid-sized-communities-toolkit)	No
Does your local government have policies, plans or programs to support local food production (thus reducing transportation emissions)?	Yes

COMMUNITY-WIDE - Transportation

	Actions taken in 2014	Actions proposed for 2015
Physical Improvements, Construction	•Installed 25+ new transit poles and signs along Maple Bay Road to formalize and advertise Route 4 (Maple Bay) stop location, increasing awareness of transit routing in this area should help increase ridership.	(not applicable)
Feasibility Studies, Research, Analysis	•February 2014 – CVRD board approved the completed Paratransit study and implementation plan including public consultation process, that provided options to improve transit service in rural areas or areas with limited service.	•Work with BC Transit and the Regional District of Nanaimo to study the feasibility and market potential of future transit service connections between the two districts. •Review service changes made in October 2014 to see if any further improvements are necessary to potentially increase ridership.
Policy Implementation	•May 2014 - introduced schedule adjustments to the local Ladysmith transit routes to improve schedule times and increase transit ridership potential. •October 2014 - added 2,500 annual expansion hours to the custom/handyDART service to add new custom transit services to the Ladysmith area and to help meet	•Approve the CVRD's transit service standards and performance guidelines that will define the minimal level of service desired to meet the community needs and reflect community values. Also the standards will assist the CVRD in assessing land development proposals and guide future transit service investment and planning recommendations.

	demand for service in the Cowichan Valley core areas. •Phase one of the Paratransit study was implemented: 1) Added new transit coverage and bus stops (~35 new stops) to several rural South Cowichan areas (Cowichan Station, Cobble Hill – Braithwaite area), as well as Boys Road east of Highway 1, increasing accessibility to transit services for these areas; 2) Added new fixed-route transit service coverage to the Halalt First Nations reserve increasing ridership; 3) Introduced on-request transit services to Youbou and Honeymoon Bay areas to provide more flexible transit routing to increase ridership and reduce emissions. Buses can now deviate from fixed routes on demand but will not run service into areas with previously low ridership volumes unless requested to do so.	
Community Education, Engagement	•June 2014 - Hosted several open houses and online surveys to seek input and build awareness about planned transit route expansions planned for October 2014. •Hosted 3 public transit information sessions in Ladysmith during 2014 at the Senior's Centre to promote awareness of the transit system, offer rider information and help increase ridership. •Continued partnership with CVRD Solid Waste and Water Division to offer free environmental school education sessions intended to help increase awareness and promote transit ridership. •November 2014 - Offered free transit promotion for Remembrance Day and week to increase exposure of transit system.	(not applicable)

WATER and WASTEWATER

Does your local government have water conservation policies, plans or programs?	Yes

CORPORATE - Water and Wastewater

	Actions taken in 2014	Actions proposed for 2015
Physical Improvements, Construction	•Connection of the Kerry Park Recreation Centre to the Kerry Village Sewer system to improve efficiency and safety.	•Cobble Hill Park washrooms grey water system implementation. •Youbou Hemlock booster pump stabilization and optimization. •Upgrades to Mill Springs Wastewater treatment system and planned take-over of operations. •Swabbing Cowichan Bay sewer system to increase flow efficiency. •Partnering with Pierre Burube to replace electrical pumps with airlift pumping project for membrane filtration and re-circulation at Twin Cedars, Sentinel Ridge, Lambourn and Bald Mountain.
Feasibility Studies, Research, Analysis	(not applicable)	•Consider options for managing stormwater as part of the South Sector Liquid Waste Management Plan amendment.
Plans, Policies, Regulations	(not applicable)	•Update/amend the Central, and South Sector Liquid Waste Management Plans to ensure existing commitments are met (educating the public about volume reduction/water conservation) and emerging issues are considered (eg. changes in precipitation and impacts on drainage systems). •Conduct a regional water management governance review. •Establish framework for a Watershed Management Plan for the north end of the Regional District (Town of Ladysmith, and Electoral Areas G and H).

COMMUNITY-WIDE - Water and Wastewater

	Actions taken in 2014	Actions proposed for 2015
Physical Improvements, Construction	(not applicable)	•Honeymoon Bay and Shawnigan Lake North water systems moving to metered billing•Relocation of the Shawnigan Lake North water system from a flood zone (pending funding).
Feasibility Studies, Research, Analysis	•Collecting baseline creek water quality data in partnership with the Ministry of Environment and local stewardship groups; monitoring temperature, turbidity and dissolved oxygen, among other parameters. •Ongoing 5 yr research partnership with RES'EAU WaterNet to study changes in Shawnigan Lake's water quality in response to climate change, vulnerability of the lake as a natural system,and to drinking water, and the risk of exposure to pathogens as a result of these changes.	•Use water and sewer database to set energy consumption baseline and key performance indicators for pump stations and sewage treatment plants.
Policy Implementation	(not applicable)	•Implement inclined block pricing rate structure and universal metering for Shawnigan Lake North Water System
Community Education, Engagement	•Developed a homeowner web based tool to help them assess their properties ability to manage rainwater and protect watershed health with specific targets based on their location within the regions watersheds. •Developed supporting communications materials and provided training to all local governments as well as local stewardship groups.	(not applicable)
Committees, Staffing	•Hosted symposia of the Partners for Water Sustainability.	(not applicable)

OTHER CLIMATE ACTIONS

Has your local government begun to integrate the impacts of a changing climate (adaptation) into its planning and operations?	Yes
Are you aware of the climate change adaptation guidance page on the BC Climate Action Toolkit? (http://www.toolkit.bc.ca/adaptation-challenges-and-opportunities)	Yes

COMMUNITY-WIDE - Other Climate Action

	Actions taken in 2014	Actions proposed for 2015
Feasibility Studies, Research, Analysis	•Value-Added Food Processing Study looked at how to enhance farming operations and increase value-added local food flowing into the food chain as a response to climate change. •Business case for Extension Services Report which looked at how to fund an extension type person who could provide on the ground assistance to farmers.	(not applicable)
Plans, Policies, Regulations	• Integrated Farm Water Planning Pilot- Phase One was to develop a toolkit for farmers to manage their on farm water resources. • Extreme Weather Event planning for farming.	•Integrated Farm Water Planning Pilot - Phase Two will test the toolkit with 10 farms in the Cowichan Region.
Community Education, Engagement	(not applicable)	•Support education programs for greening local businesses

INNOVATION

CORPORATE – Innovation

Twin Cedars Reclaimed Water System (Purple Pipe) significantly reduced water consumption as reclaimed and disinfected effluent is utilized for toilet flushing for the Quarry Nature Park washroom and irrigation of the Train Park.

LOCAL GOVERNMENT INFORMATION

Name of Local Government	Cowichan Valley Regional District
Regional Growth Strategy (RGS) in your region	No
Population	50,000-99,999

Submitted by:

Name	Austin Tokarek
Position	Sr. Environmental Analyst - Energy
Email	atokarek@cvrd.bc.ca
Telephone #	250-746-2504