

Climate Action Revenue Incentive Program (CARIP) Public Report for 2015

A summary of community and corporate actions that help reduce greenhouse gas emissions

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

BROAD PLANNING ACTIONS

Broad Planning Actions

Broad planning refers to high level planning that sets the stage for GHG emissions reductions, including plans such as Official Community Plans, Integrated Community Sustainability Plans, Climate Action Plans or Community Energy Emissions Plans. Land use planning that focuses on Smart Growth principles (compact, complete, connected, centred) plays an especially important role in energy and GHG reduction.

Community-Wide Actions Taken in 2015

Formed the Healthy City Strategy partnership between City of Kelowna and Interior Health with a vision of "working together to create built environments in which people and places thrive". As part of this, a Healthy City Strategy will be developed with 6 theme areas: Healthy Transportation, Healthy Housing, Healthy Neighbourhood Design, Healthy Food Systems, Healthy Natural Environments and Community for All Ages. Climate action will be incorporated into each theme area of the Healthy City Strategy.

Initiated the Urban Centres Roadmap project which will emphasize key principles, targets and priorities needed to transform Kelowna's five urban centres over the coming years. These urban centres are a core element in the overall strategy to reduce GHG emissions by focusing future growth into compact, walkable, energy-efficient and transit-friendly nodes.

Initiated the Infill Challenge, an innovative design competition aiming to identify new forms of sensitive infill housing. Expanding the opportunities for infill housing will ultimately reduce the pressure for urban sprawl, and will help build neighbourhoods that are less auto-dependent. (see http://www.kelowna.ca/CM/Page4804.aspx for details)

Began work on the Civic Precinct Plan which supports the Downtown Plan and OCP goals by encouraging more compact development and greater density downtown. When complete, the Plan will also emphasize the importance of transforming downtown to be more people friendly and supportive of active transportation through the design of streets, public spaces and pathways. (see http://www.kelowna.ca/CM/Page4778.aspx for details)

Completed Regional Strategic Transportation Plan Phase I, current situation and gaps, and applied for Gas Tax funding for Phase II.

Developed Pedestrian & Bicycle Master Plan to accommodate pedestrians & cyclists of all ages & abilities.

The Regional Board endorsed the Regional Clean Air Strategy.

Community-Wide Actions Proposed for 2016

Launch the first theme area for the Healthy City Strategy: Community for All Ages which will incorporate policies and actions for seniors, children and those with different levels of abilities. This theme area will look at actions that will be co-benefits to climate reduction (i.e. alternative forms of transportation).

Finalize the Urban Centres Roadmap, obtain Council endorsement and develop implementation

tools.
Complete the Infill Challenge, evaluate submissions and obtain Council endorsement of winners and
strategy for implementation.
Council endorsed the Civic Precinct March 2016.
Successfully obtained a 600K Gas Tax grant to develop the first comprehensive Regional Strategic
Transportation Plan with emphasis in sustainable transportation. Project to start in the fall 2016 and
to finalized in the Fall of 2018.
Complete Pedestrian Bicycle Master Plan and begin implementation. (see
www.kelowna.ca/onthemove).

Corporate Actions Proposed for 2016

Update the Corporate Energy and Emissions Plan identifying new actions that can be taken to lower corporate energy use and GHG emissions.

Snapshot Quest	ions	
What GHG redu	ction targets are included in your local government's Official Community Plan	Yes
or Regional Gro	wth Strategy? 33% below 2007 levels by 2020	
Are you familiar	with the Community Energy and Emission Inventory (CEEI)?	Yes
Does your local government use the Community Energy and Emissions Inventory (CEEI) to measure progress?		
Which of the following does your local government use to guide climate action implementation?		
•	Community Energy and Emissions (CEE) Plan	No
•	Climate Action Plan	Yes
•	Integrated Community Sustainability Plan	No
•	Official Community Plan (OCP)	Yes
•	Regional Growth Strategy (RGS)	Yes
Does your local government have a climate action reserve fund?		
Does your local government have a Corporate Climate Action Plan?		

BUILDINGS AND LIGHTING ACTIONS

Building and Lighting Actions

Low-carbon buildings use the minimum amount of energy needed to provide comfort and safety for their inhabitants and tap into renewable energy sources for heating, cooling and power. These buildings can save money, especially when calculated over the long term. This category also includes reductions realized from energy efficient street lights and lights in parks or other public spaces.

Communit	v-Wide	Actions	Taken	in 2015
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Promoted FortisBC's free energy efficiency assessments for small and medium sized businesses on City's business licenses webpage.

Community-Wide Actions Proposed for 2016

Promoted FortisBC's free energy efficiency assessments for small and medium sized businesses on City's water utility bills for commercial businesses.

Partnered with FortisBC to promote their Rental Apartment Efficiency Program that will help reduce energy costs for owners and help towards the goal of reducing community greenhouse gas emissions.

Corporate Actions Taken in 2015

Upgraded the boiler at Rutland Arena saving 50 tonnes of GHG and 996 GJ of natural gas.

Hired an energy specialist in partnership with Fortis BC.

Corporate Actions Proposed for 2016

Upgraded the boiler at City Yards saving 44 tonnes of GHG and 890 GJ of natural gas

Replaced the Cedar Creek Pump saving 0.24 tonnes of GHG and 100,000 kWh of electricity

Upgraded outdoor lighting to LED lights at the Wastewater Treatment Facility saving 0.09 tonnes of GHG and 39,000 kWh of electricity

Upgrade 222 HPS lights at Kelowna Airport to LED resulting in 117,953 kWh/year energy savings. FortisBC rebate of \$17,693 and annual utility savings of \$7,600.

Installed a heat recovery system at Rutland Arena saving 122 tonnes GHG and 2460 GJ natural gas

Installed new lighting at the Kelowna Community Theater reducing wattage by 97% compared to the old system.

Will begin planning for conversion of street lighting to LED (to implement in 2017) which will save 3.5 million kWh of electricity and 8.5 tonnes of GHG

Partner with Fortis to educate building inspectors, plan checkers and planning staff on FortisBC energy efficiency programs so they can pass information on to public.

ENERGY GENERATION ACTIONS

Energy Generation

A transition to renewable or low-emission energy sources for heating, cooling and power supports large, long-term GHG emissions reductions. Renewable energy including waste heat recovery (e.g. from biogas and biomass), geo-exchange, micro hydroelectric, solar thermal and solar photovoltaic, heat pumps, tidal, wave, and wind energy can be implemented at different scales, e.g. in individual homes, or integrated across neighbourhoods through district energy or co-generation systems.

Corporate Actions Taken in 2015

Fortis BC constructed a conversion facility at the Glenmore Landfill to enable landfill gas to be upgraded to pipeline natural gas quality. Fortis and the City are partnering in this project through a Landfill Gas Purchase Agreement where the City will provide landfill gas to the conversion facility for use by FortisBC.

Corporate Actions Proposed for 2016

Community-Wide Actions Proposed for 2016

The conversion facility at Glenmore Landfill will be commissioned later this year and the City of Kelowna will provide Fortis BC landfill gas to be converted to pipeline natural gas quality.

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

GREENSPACE/ NATURAL RESOURCE PROTECTION ACTIONS

Greenspace

Greenspace/Natural Resource Protection refers to the creation of parks and greenways, boulevards, community forests, urban agriculture, riparian areas, gardens, recreation/school sites, and other green spaces, such as remediated brownfield/contaminated sites as well as the protection of wetlands, waterways and other naturally occurring features.

Coı	Community-Wide Actions Taken in 2015			
	Planted 8000 ponderosa seedlings in the City's natural parks (these plantings are assisting with the			
	trees that have been lost over the past 5 years due to forest health issues such as pine beetle,			
	Tussock Moth, drought and snow damage). Also planted 200 large caliper trees in City parks and on			
	boulevards. At least one hundred new trees were inherited as a requirement of new developments.			
	Updated tree inventory system which currently has approximately 25,000 trees in the inventory.			
	The inventory is growing each year.			
	Sold 500 large caliper trees to the public through the NeighbourWoods program (see			
	http://www.kelowna.ca/CM/page2205.aspx for details).			
	Initiated work on Tree Management Plan for Mill Creek with a grant from the Okanagan Basin			
	Water Board (OBWB) – Water Conservation and Quality Improvement Grant Program.			
	Partnering with the Mission Creek Restoration Initiative, began implementation of stage 1 of the			
	Mission Creek Restoration Initiative to realigning a 500-metre section of dike on the south side of			
	the creek so that fish and wildlife stocks will be increased by enhancing their habitats within the			
	expanded floodplain (see http://www.missioncreek.ca/restoration-project/phase-one-construction-			
	fact-sheet/) for details.			

Ramping up tree planting program this spring and fall, in hopes to plant more trees than in previous years to maximize the healthy tree planting reserve. Further, will be ordering additional Ponderosa

	Pine seedlings to plant in natural parks.
Γ	Introduce a Tree Protection Policy.
Γ	Starting to plant trees bare root as the quality of the roots is higher and the cost of installation are
	lower.
	Sold 500 large caliper trees to the public through the NeighbourWoods program with plans to
	continue the program in 2017.
Ī	Complete stage 1 of Mission Creek Restoration Initiative to realign a 500-metre section of dike. Will
	implement stage 2 of Mission Creek Restoration Initiative to restore fish habitat within the
	expanded floodplain, including creating meanders and pools, and planting with indigenous riparian
	species.

Snapshot Question	
Does your local government have urban forest policies, plans or programs? (Urban Forest	Yes
Strategy, U-Fore Analysis, Strata Report)	

SOLID WASTE ACTIONS

Solid Waste

Reducing, reusing, recycling, recovering and managing the disposal of the residual solid waste minimizes environmental impacts and supports sustainable environmental management, greenhouse gas reductions, and improved air and water quality.

Coi	Community-Wide Actions Taken in 2015				
	Initiated Solid Waste Management Plan Update. Note: this is a regional initiative and the City of				
	Kelowna has representation on the Advisory Committee.				
	Sold 266 units in City of Kelowna as part of the regional Annual Composter sale and composting				
	education.				
	Continued the Commercial Diversion Program (i.e. monitoring commercial load for mandatory				
	recyclables).				
	Hosted 4 Reuse events, 2 trunk sales and 2 repair cafés.				
	Completed extensive education on recycling in support of MMBC recycling program.				
	Regional Waste Reduction Office used the Routeware program, which monitors curbside cart				
	contents using camera's and RFID tags, to send letters to 2380 City of Kelowna residents to provide				
	specific, targeted waste reduction.				
	Monitored and cleaned up illegal dumpsites.				
	Promoted Community Cleanup Month which saw 46 groups and 1074 volunteers in the region.				
	Launched a new myWaste App plug in on RDCO website. This app provides extensive search				
	database on what goes where. (for more information see http://www.regionaldistrict.com/your-				
	<pre>services/waste-reduction-office/my-waste-app.aspx)</pre>				
	Continued year round Household Hazardous Waste depot.				
Coı	mmunity-Wide Actions Proposed for 2016				
	Complete Solid Waste Management Plan Update by fall 2016. Note: this is a regional initiative and				

the City of Kelowna has representation on the Advisory Committee.
Continue offering an annual composter sale and composting education.
Continue the Commercial Diversion Program.
Offer 4 Reuse events.
Continue recycling education
Continue Routeware program.
Continue illegal dumping program.
Continue Community Cleanup program.
Continue Household Hazardous Waste depot.

Corporate Actions Taken in 2015				
	Constructed a staff composter at Parkinson Recreation Centre building.			
Cor	porate Actions Proposed for 2016			
	Launch composter for staff at Parkinson Recreation Centre.			
	Construct a sewer lift station and landfill leachate will be directed to this station.			
	Begin construction of a leachate recirculation system (operational 2017) which will increase	e biogas		
	and accelerate decomposition creating more air space for future filling.			
Sna	Snapshot Questions			
Doe	es your local government have construction and demolition waste reduction policies, plans	Yes		
orp	or programs?			
Does your local government have organics reduction/diversion policies, plans or programs?		No		
(City of Kelowna has yard waste only collection program)				

TRANSPORTATION ACTIONS

Transportation

Transportation actions that increase transportation system efficiency, emphasize the movement of people and goods, and give priority to more efficient modes, e.g. walking, cycling, ridesharing, and public transit, can contribute to reductions in greenhouse gas emissions and more livable communities.

Coı	Community -Wide Actions Taken in 2015			
	Delivered a slate of sustainable travel programs including Bike to Work/School Week, cycling			
	education for youth, carpool/rideshare, walking programs for youth and communities, transit			
	promotions and programming.			
	Renewed UBCO transit U-Pass which ensures continued high transit ridership from students.			
	Developed phase 1 of the Transit Prioritization Framework, a framework that uses multi-criteria			
	analysis to evaluate and allocate transit service where it is more effective.			
	Constructed 2,340 m of sidewalk, 2,060 m of bike lanes, 900 m of cycle tracks, and 620 m of shared-			
	use paths.			
	Improved supporting pedestrian infrastructure including 1 count station, 4 activated flashers, 1			
	pedestrian traffic signal and 1 crossing improvement.			
	Partnered with Fortis BC to research and develop locations and infrastructure for 2, level 2 electric			
	vehicle charging stations in downtown Kelowna.			
	Substantial completion of the Kelowna Regional Rapid Bus project. This completes a project where			

	planning started in 2004-05.		
	Began Clean Air and Safe Routes 4 Schools programs at 2 elementary schools (Pearson and Raymer		
	Elementary) to increase active transportation to and from school.		
	The local/regional government partners undertook a transit fare structure review. A new fare		
	structure came into effect in September. Revenue for regional transit was up 7% higher than even		
	the fare changes.		
Co	Community-Wide Actions Proposed for 2016		
	Complete a three-year Transportation Demand Management Plan to prioritize social marketing		
	programs targeting the reduction of single occupant vehicle travel.		
	Deliver a slate of sustainable travel programs including Bike to Work/School Week, cycling		
education for youth, carpool/rideshare, walking programs for youth and communities, transit			
	promotions and programming.		
	Work with Interior Health to develop a new Employer Transit Pass program for all Interior Health		
	employees.		
	Continue with the Sustainable Transportation Partnership of the Central Okanagan, a partnership		
	between local governments in the central Okanagan to strategically deliver sustainable		
	transportation programs and plans.		
	In collaboration with BC Transit, work on the Transit Future Plan, 5 year service plan and a long term		
	plan that will be part of the Regional Strategic Transportation Plan.		
	Installed 2 electric vehicle charging stations in the downtown core in partnership with Fortis BC.		
	Adjusted parking rates so that they are above the cost of a monthly transit pass to encourage transit		
	use.		
	Will construct 800 m of sidewalk, 2,200 m of bike lanes, 2,800 m of buffered bike lanes, and 1,100 m		
	cycle tracks.		
	Will install 3 pedestrian activated flashers and improve pedestrian crossings at 4 locations.		
	Will continue the Clean Air and Safe Routes 4 Schools programs at 2 elementary schools (Pearson		
	and Raymer Elementary) to increase active transportation to and from school.		

Cor	Corporate Actions Taken in 2015	
	Continued to use up to 20% bio-diesel.	
	Continued to expand GPS program.	
	Overall fleet fuel use reduction compared to 2014.	
	Provided Smart Driver education program to 38 staff.	
	Completed a Landfill Natural Gas Fill Station study.	
Cor	rporate Actions Proposed for 2016	
	Will add 1 Electric vehicle and 9 hybrid vehicles to the fleet.	
	Will continue to use up to 20% bio-diesel.	
	Will continue to expand GPS program.	
	Will continue Smart Driver education program to staff.	

Snapshot Questions		
Does your local government have policies, plans or programs to support:		
•	Walking	Yes
•	Cycling	Yes
•	Transit Use	Yes
•	Electric Vehicle Use	Yes
Does your loc	al government have a transportation demand management (TDM) strategy (e.g.	Yes
to reduce sing	gle-vehicle occupancy trips, increase travel options, provide incentives to	
encourage in	dividuals to modify travel behavior)?	
Does your loc	al government have policies, plans or programs to support local food	Yes
production (t	hus reducing transportation emissions)? (urban farming, community gardens,	
multi-residen	tial gardens)	

WATER AND WASTEWATER ACTIONS

Water and Wastewater

Managing and reducing water consumption and wastewater is an important aspect of developing a sustainable built environment that supports healthy communities, protects ecological integrity, and reduces greenhouse gas emissions.

Community-Wide Actions Taken in 2015

Implemented temporary water use restrictions in response to Provincial drought. This resulted in roughly 20% drop in water consumption in August and September.

Corporate Actions Taken in 2015

WWTF continued with monitoring of power and gas usage to help identify possible savings.

Corporate Actions Proposed for 2016

Will continue to monitor power and gas usage at the Waste Water Treatment Facility to help identify possible savings.

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

CLIMATE CHANGE ADAPTATION ACTIONS

Climate Change Adaptation

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

Community-Wide Actions Proposed for 2016

Passed a bylaw to implement permanent water use restrictions (irrigation limited to 3 days per week) and a 4 stage drought response plan.

Snapshot Questions	
Are you aware of the Plan2Adapt guidance page on the <u>BC Climate Action Toolkit</u> ?	Yes
Are you aware of the <i>Preparing for Climate Change, An Implementation Guide for Local Governments in BC</i> on the <u>BC Climate Action Toolkit</u> ?	Yes
Have you visited the climate change adaptation guidance page on the <u>BC Climate Action</u> <u>Toolkit</u> ?	Yes

OTHER CLIMATE ACTIONS

Other Climate Actions

This section provides local governments the opportunity to report other climate actions that are not captured in the categories above.

Coı	Community-Wide Actions Taken in 2015		
	Partnered with UBC to study Urban Density and Greenhouse Gas Emissions, which examined		
	various density scenarios in Kelowna and computed the resulting greenhouse gas emissions each		
	would produce from building energy and transportation.		
	Began data collection to study "Spatiotemporal Variation of PM2.5 in the Central Okanagan		
	Region."		
	Drafted a Regional Anti-Idling Bylaw.		
	Drafted strategies to reduce smoke in the Central Okanagan including discussion about bylaw		
	changes to Open Burning-Wood Appliances-Campfires.		
	Reduced 75 tonnes of particulate matter (PM10 and PM2.5), 174 tonnes of carbon monoxide and		
	17 tonnes of volatile organic compounds through several Air Quality Initiatives (Agricultural		
	Chipping program, Woodstove Exchange, etc.).		
	19 woodstoves were exchanged through the annual Woodstove Exchange Program.		

	Hosted two regional Wood Heating Workshops.		
Co	Community-Wide Actions Proposed for 2016		
	Completed Urban Density and Greenhouse Gas Emissions study with UBC.		
	Will analyze data for "Spatiotemporal Variation of PM2.5 in the Central Okanagan Region" by a		
	summer student with support of Ministry of the Environment.		
	Will present the draft Anti-Idling Bylaw to RDCO Board.		
Will finalize Strategies to Reduce Smoke in the Central Okanagan including a discussion on pote			
	bylaw changes.		
	51 rebates are available in 2016 through the Woodstove Exchange Program.		
	Hosted a Wood Heating Workshop in April.		

INNOVATION AND PEER-TO-PEER LEARNING

Innovation

This section provides the opportunity to showcase an innovative Corporate and/or Community-Wide reduction or adaptation activity that your local government has undertaken and that has had a significant impact or has the potential to have a significant impact. Projects included here may be featured as success stories on the B.C. Climate Action Toolkit and/or shared with other local governments to inspire further climate action. Please add links to additional information where possible.

Community-Wide Innovative Action

 NeighbourWoods is a very successful residential planting initiative developed by the City of Kelowna's Parks Services department to encourage citizens to help grow and preserve Kelowna's healthy urban forest. Since 2010, residents have purchased more than 2,500 discounted trees to plant on their properties.

Corporate Innovative Action

Programs, Partnerships and Funding Opportunities

Local governments often rely on programs, partnerships and funding opportunities to achieve their climate action goals. Please share the names of programs and organizations that have supported your local government's climate actions by listing each entry in the appropriate box below.

Programs and Funding

- The City partners with School District #23 for a School Traffic Safety Officer position which does programming for students to encourage walking, cycling, and transit use.
- Bike BC and ICBC have provided funding for active transportation infrastructure.
- Gas Tax has provided funding for the Regional Strategic Transportation Plan with emphasis in sustainable transportation.
- Partnering with Interior Health on the Healthy City Strategy.
- Partnered with UBC for research on density and greenhouse gas reduction.
- Partnered with Fortis to promote their energy saving programs.

2015 CARBON NEUTRAL REPORTING

Reporting Emissions

Did you measure your local government's corporate GHG emissions in 2015?	yes
(Yes/No)	
If your local government measured 2015 corporate GHG emissions, please report	6085
the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent)	
from services delivered <u>directly</u> by your local government:	
If your local government measured 2015 corporate GHG emissions, please report	
the number of corporate GHG emissions (in tonnes of carbon dioxide equivalent)	
from <u>contracted</u> services:	
TOTAL A: CORPORATE GHG EMISSIONS FOR 2015	6085 tCO2e

Reporting Reductions and Offsets

To be carbon neutral, a local government must balance their TOTAL corporate GHG emissions by one or a combination of the following actions:

- undertake Option 1 Projects (GCC-supported)
- undertake Option 2 Projects (alternative) community GHG emissions reduction projects that meet project eligibility requirements
- purchase carbon offsets from a credible offset provider

TOTAL REDUCTION AND OFFSETS FOR 2015

= 0 tCO2e

Corporate GHG Emissions Balance for 2015

Your local government's Corporate GHG Emissions Balance is the difference between total corporate GHG emissions (direct + contracted emissions) and the GHG emissions reduced through GCC Option 1 and Option 2 projects and/or the purchase of offsets.

CORPORATE GHG EMISSIONS BALANCE FOR 2015 = (6085 - (0)) = 6085 tCO2e

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

CONGRATULATIONS!

GCC CLIMATE ACTION RECOGNITION PROGRAM

Green Communities Committee (GCC) Climate Action Recognition Program

The joint Provincial-UBCM Green Communities Committee (GCC) is pleased to be continuing the Climate Action Recognition Program again this year. This multi-level program provides the GCC with an opportunity to review and publicly recognize the progress and achievements of each Climate Action Charter (Charter) signatory. Recognition is provided on an annual basis to local governments who demonstrate progress on their Charter commitments, according to the following:

Level 1 - Progress on Charter Commitments: for local governments who demonstrate progress on fulfilling one or more of their Charter commitments

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

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

Based on your local government's 2014 CARIP Public Report, please check the GCC Climate Action Recognition Program level that best applies:

	Level 1 - Progress on Charter Commitments	
	Level 2 - Measurement	Х
	Level 3 - Achievement of Carbon Neutrality	
	Not Sure	