

CLIMATE ACTION REVENUE INCENTIVE PROGRAM (CARIP) PUBLIC
For Reporting Year = 2012 FINAL

GENERAL INFORMATION	Fill in the boxes below
Name of Local Government	<i>Town of View Royal</i>
Member of Regional District (RD)	<i>Capital</i>
Regional Growth Strategy (RGS) in region	<i>Yes</i>
Population	<i>9400</i>
Report Submitted by	
Name	<i>Jeff Chow</i>
Title	<i>Senior Planner</i>
Email	<i>jchow@viewroyal.ca</i>
Phone	<i>250-479-6800</i>

CLIMATE ACTION REVENUE INCENTIVE PROGRAM (CARIP) PUBLIC REPORT
For Reporting Year = 2012 FINAL

Community-Wide Actions

1.1 MEASURE		
Community Wide Measurement Actions QUESTION	ANSWER	ADDITIONAL INFORMATION
Have you been using the <i>Community Energy and Emissions Inventory</i> (CEEI) to measure progress? What else have you been using instead of/in addition to CEEI?	Yes	
1.2 PLAN		
Community Wide Targets QUESTION	ANSWER	ADDITIONAL INFORMATION
Do your OCP(s) have targets, policies and actions to reduce GHG emissions, as per the requirements under the <i>Local Governments Act</i> (LGA)? If yes, please identify the targets set. If no or in progress, please comment. If you are a Regional District, does your RGS have targets, policies and actions to reduce GHG emissions, as per the requirements under the <i>Local Governments Act</i> (LGA)? If yes, please identify the targets set. If no or in progress, please comment.	Yes	12% reduction from 2007 levels by 2017 - target set in 2012 Community Climate Action Plan
1.3 REDUCE		
Supportive Community-Wide Actions		
Please describe the supportive community-wide actions you have taken in 2012 (or propose to take in 2013) to contribute to reducing GHG emissions and energy consumption in your community.		
Supportive actions refer to activities that provide a framework or foundation for direct actions to be implemented. These include the development of committees or new staff positions, education and engagement, feasibility studies, policy development and engagement with programs and partnerships.		
If your actions do not fit into the given categories please describe them under "other actions".		
http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm		
Actions reported in theses categories in 2010 and 2011 can be found here:		
Supportive Community-Wide Actions	Actions Taken in 2012	Proposed Actions for 2013
Broad Planning (e.g. creation/revision of OCPs, CEPs, transportation plans) Building and Lighting (e.g. developed green building policy, increased density in the downtown) Energy Generation (e.g. signed on to provincial 'solar ready' regulation, explored options for bioheating for buildings) Green Space (e.g. developed urban forestry policy, adopted park acquisition policy) Transportation (e.g. developed sustainable transportation plan, completed bicycle master plan) Waste (e.g. introduced composting and recycling education programs) Water/Sewer (e.g. participated in water smart initiatives, implemented Water Action Plan, introduced rebates on low flush toilets) Other Actions		Inaugural Sustainability Indicators report to track measures of sustainability including greenhouse gas emissions ,energy use,
Direct Community-Wide Actions		
Please describe the direct community-wide actions you have taken this year and propose to take next year to contribute to reducing GHG emissions and energy consumption in your community.		
Direct actions refer to activities that can be directly implemented by local government.		
If your actions do not fit into the given categories please describe them under "other actions".		
http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm		
Actions reported in theses categories in 2010 and 2011 can be found here:		
Community-Wide Direct Actions	Actions Taken in 2012	Proposed Actions for 2013
Buildings (e.g. implement use of sustainability checklists and development permit guidelines for new buildings) Energy Generation (e.g. implement district energy, geothermal, solar) Transportation (e.g. implement bike lanes, pedestrian paths, upgrade transit service and infrastructure, improve roads, parking fees etc.) Waste (e.g. introduce composting and recycling programs) Water/Sewer (e.g. implement water conservation and reduction initiatives) Green Space (e.g. plant trees, conserve forest etc.) Other Actions	Provided funding for CRD Time of Sale Energy Labelling Pilot Project, a voluntary labelling program to establish the	
1.4 COMMUNITY-WIDE INNOVATION		
Is there any activity that you have been engaged in over the past year(s) that you are particularly proud of and would like to share with other local governments? Please describe and add links to additional information where possible.	Answer	

NOTE: If you wish to insert a "hard return" (i.e. Enter Key) while typing in a given cell, you need to hold the ALT+ENTER instead.
NOTE: If your list proves larger than the space provided above, feel free to adjust the column width/row height accordingly.
NOTE: To adjust cells go to the far left (numbers) or top (letters)

CLIMATE ACTION REVENUE INCENTIVE PROGRAM (CARIP) PUBLIC REPORT

For Reporting Year =2012 FINAL

Corporate Actions

2.1 MEASURE

Corporate Measurement Actions

QUESTION

What steps has your local government taken toward completing its corporate emissions inventory (e.g. corporate assets identified related to energy and fuel data and calculated GHG emissions from energy use)?

What tool are you using to measure, track and report on your corporate emissions (e.g. SMARTtool, other tools including excel spreadsheets)?

Answer

Corporate Energy and Emissions Plan completed in 2011to establish baseline and recommendations for action

excel spreadsheets

2.2 REDUCE

Supportive Corporate Actions

Please describe the **supportive corporate actions** you have taken in 2012 or propose to take in 2013 to contribute to reducing GHG emissions and energy consumption within your corporate boundary.

Supportive actions

refer to activities that provide a framework or foundation for direct actions to be implemented. These include the development of committees or new staff positions, education and engagement, feasibility studies, policy development and engagement with programs and partnerships.

If your actions do not fit into the categories provided, please describe them under "other actions".

Lists of actions reported in theses categories in 2010 and 2011 can be found here: <http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm>

Supportive Corporate Actions

Actions Taken in 2012

Proposed Actions for 2013

Broad Planning (e.g. developed corporate climate action plan)

Building and Lighting (e.g. developed energy reduction plan for all corporate buildings)

Energy Generation (e.g. undertook feasibility study of green energy generation for civic buildings)

Transportation (e.g. created anti-idling policy for city vehicles, bike to work week promotion)

Waste (e.g. completed waste audit of City Hall)

Water/Sewer (e.g. completed study of sewer and water energy use)

Other Actions

Direct Corporate Actions

Please describe the **direct corporate actions** you have taken in 2012 and propose to take in 2013 to contribute to reducing GHG emissions and energy consumption within your corporate boundary.

Direct actions

refer to activities that can be directly implemented by local governments.

We encourage you to report all the corporate actions that contribute to reduced emissions even if they might not directly contribute to the achievement of your carbon neutral commitment. For example, the introduction of corporate recycling programs do not contribute to carbon neutrality but is a direct action to reduce GHG emissions.

If your actions do not fit into the given categories please describe them under "other actions".

List of actions reported in theses categories in 2010 and 2011 can be found here: <http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm>

Direct Corporate Actions

Actions Taken in 2012

Proposed Actions for 2013

Building and Lighting (e.g. energy efficiency retrofits to municipal buildings)

Energy Generation (e.g. implemented heat recovery systems, solar)

Fleet (e.g. anti-idling policies for fleet vehicles, purchasing of hybrid)

Waste (e.g. introduction of composting and recycling programs and education)

Water/Sewer (e.g. initiated water conservation and reduction initiatives)

Green Space (e.g. planting of trees)

Other Actions

Purchase Hybrid or other fuel-efficient vehicle

Continue boulevard planting program

Continue boulevard planting program

2.3 CORPORATE INNOVATION

Answer

Is there any activity that you have been engaged in over the past year(s) that you are particularly proud of and would like to share with other local governments? Please describe and add links to additional information where possible.

NOTE: If you wish to insert a "hard return" (i.e. Enter Key) while typing in a given cell, you need to hold the ALT+ENTER instead.

NOTE: If your list proves larger than the space provided above, feel free to adjust the column width/row height accordingly.

NOTE: To adjust cells go to the far left (numbers) or top (letters)

You MUST fill this in for the 2012 reporting year.

CLIMATE ACTION REVENUE INCENTIVE PROGRAM (CARIP) PUBLIC REPORT

For Reporting Year =

2012 FINAL

Prior to completing this section, please ensure that you are familiar with the "Becoming Carbon Neutral guidebook" available on the BC

[BC Climate Action Toolkit Website](#)

Carbon Neutral Progress Reporting

Is this your Final or Interim CARIP Report for 2012 (Yes or No)?

YES

Emissions/Offsets	Tonnes CO2e	
	Enter Values in Yellow Boxes	
Annual corporate emissions using SMARTTool or equivalent inventory tool	313.7	(+)
<i>Emissions from services delivered directly by the local government</i>	122.8	
<i>Emissions from contracted services</i>	190.9	
Less:		
GHG reductions being claimed for this reporting year from Option 1 - GHG reduction project	267.8	(-)
<i>Energy Efficient Building Retrofits and Fuel Switching</i>		
<i>Solar Thermal</i>		
<i>Household Organic Waste Composting</i>	267.8	
<i>Low Emissions Vehicles</i>		
Less:		
GHG reductions being claimed for this reporting year from Option 2 - GHG reduction projects		
<i>Please list all Option 2 Projects Implemented (insert title of the projects(s) as per project plan template. If you have more than two Option 2 projects you can add more lines at the bottom of this sheet)</i>	0	(-)
<i>Option 2 Project A</i>		
<i>Option 2 Project B</i>		
<i>Sum of Other Option 2 Projects (if you have added projects below)</i>	0	
Less:		
Offsets purchased for this reporting year (Option 3). Please identify your offset provider in the offset provider information section below.		(-)
Balance of corporate emissions for this reporting year.	45.9	=
<i>(If the corporate emissions balance is zero, your local government is carbon neutral for this reporting year)</i>		
Making Progress on Your Carbon Neutral Commitment		
If your community has not achieved carbon neutrality for this reporting year please describe the actions that you intend to take next year to move you toward your carbon neutral goal.		
<i>The purchase of offsets will be considered.</i>		

Additional "Option 2" Projects

Option 2 Project C
Option 2 Project D
Option 2 Project E
Option 2 Project F
Option 2 Project G
Option 2 Project H

Offset Provider Information

(i) Please Identify the name(s) of your offset provider(s) (use yellow box to the right):

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(ii-a) The offsets being claimed in this CARIP Report were purchased from the offset provider(s) indicated above prior to making this CARIP report public (please indicate yes or no in yellow box):

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OR

(ii-b) There is a signed agreement in place between the reporting local government and the offset provider(s) indicated above to purchase the offsets by no later than June 1, 2013 (please indicate yes or no in the yellow box):

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CARIP Public Report Attestation Form

The Purpose of this Attestation: As per the CARIP guidance, the Financial Officer is required to attest that the CARIP report submitted to the Province on or before **March 8, 2013** has been made public and also indicate if it is the Final or Interim Report.

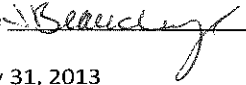
If applicable, the Financial Officer will also be required to attest that the local government's updated *Interim* CARIP report submitted on **June 1, 2013** has been made public and is the Final Report. Please complete the attestation below that applies to your 2012 CARIP Public Report at this time. **Please review the general CARIP Guidance document for more information on this requirement.**

Financial Officer must complete and sign the APPLICABLE attestation form below and email a scanned copy to the province at infra@gov.bc.ca

FINAL CARIP Report attestation:

I declare that this is the Final 2012 CARIP Public Report for Town of View Royal and that this report was made public on May 31, 2013

Name, Title (print) CFO Jeannie Beauchamp, CGA, Director of Finance

Signature 

Date May 31, 2013

INTERIM CARIP Report attestation:

I declare that this is the *Interim* 2012 CARIP Public Report for Town of View Royal and that this Report was made public on April 16, 2013

Additional carbon neutral information is needed to complete this CARIP Report and once that information is received; this CARIP report will be updated, made public and submitted as Final to the Province on or before **June 1, 2013**.

As per the CARIP Guidance document, I am aware that local governments that do not make public and submit an updated, Final 2012 CARIP Public Report to the Province by the **June 1, 2013**, deadline:

- May not be eligible for next year's CARIP grant.
- Will not be eligible for certain elements of the Green Communities Recognition Program, and
- Will not be included in the 2012 Provincial level report on local government climate action progress

Name, Title (print) CFO or CAO _____

Signature _____

Date _____

SELF CERTIFICATION BUSINESS PROCESSES CHECKLIST FOR SMARTTOOL/ALTERNATIVE TOOL

PURPOSE

Under the Carbon Neutral Framework for local Governments, the Green Communities Committee has recommended SMARTTool for use by local governments to inventory and report on corporate emissions. The use of alternative inventory and reporting tools has also been enabled. For more information on the carbon neutral framework and associated tools, visit the carbon neutral page of the BC Climate Action Toolkit at: www.toolkit.bc.ca

The purpose of the business process checklist (Checklist) is to ensure consistency, completeness and accuracy in the reporting of local government corporate GHG emissions regardless of which tool they choose to use, for the purposes of meeting their carbon neutral commitment under the Climate Action Charter. The Checklist will ensure local governments apply good business practices in data collection and management, and, in the case of local governments choosing to use an alternative tool, will ensure that the same scope (i.e. traditional boundaries as defined in the *Workbook*), emission factors and methodologies as those used by SMARTTool are being applied.

INSTRUCTIONS FOR USERS: SMARTTool & ALTERNATIVE TOOLS

→ SMARTTool Users

For those local governments who are using SMARTTool, please **complete all sections in blue.**

Do not complete the emission factors and methodology section.

The Checklist should be completed and signed by the local government CAO or CFO prior to finalizing the data for the reporting year and kept on file in accordance with local government administrative policy and procedures. As part of the Carbon Neutral Reporting requirements, total emissions for the reporting year will need to be included in your annual Climate Action Revenue Incentive Program (CARIP) public report.

→ Users of Alternative Tools

Local governments using an emissions inventory and reporting tool other than SMARTTool need to **complete all sections of the Checklist, including the Emission Factors and Methodology section.** In addition, the local government should **complete a GHG Reporting Template and submit to the Province at IRPD@gov.bc.ca on or before the local government's Final CARIP report is made public and submitted to the Province.**

Completed Checklists should be signed by the local government CAO or CFO and kept on file, in accordance with local government administrative policy and procedures. As part of the Carbon Neutral Reporting requirements, total emissions for the reporting year will need to be included in your annual CARIP public report. For more information on CARIP please call: 250 387-4068.

REPORTING YEAR

all local governments to complete this section

The carbon neutral process – measure, reduce, offset and/or balance, and report - must be undertaken on an annual basis

This self-certification checklist is for Town of View Royal for the 2012 reporting year. All statements in this self-certified checklist are made in the context of the above listed reporting year.

CLIMATE ACTION CHARTER

all local governments to complete this section

Local government signatories to the Climate Action Charter have committed to develop strategies and take actions to achieve the goal of being carbon neutral in their corporate operations by 2012.

- a. My community is a signatory to the Climate Action Charter
- b. I am familiar with the commitments that my community has made as a signatory to the Climate Action Charter

☒ Yes

☐ No

☒ Yes

☐ No

SCOPE

all local governments to complete this section

The definition of carbon neutral boundaries for the purposes of the Climate Action Charter are defined in the *Workbook – Helping Local Governments Understand How to be Carbon Neutral in their Corporate Operations* (the Workbook) and in the *Guidance on Including Contracted Emissions in Local Government Corporate Inventories* (Contracted Emissions Guidance)

- a. I am familiar with the carbon neutral boundaries described in the Workbook and Contracted Emissions Guidance
- b. The personnel involved in our GHG reporting process understands the reporting boundaries described in the Workbook and Contracted Emissions Guidance
- c. The data collection process has been designed to capture all required data within the carbon neutral boundaries described in Workbook and Contracted Emissions Guidance

☒ Yes

☐ No

☒ Yes

☐ No

☒ Yes

☐ No

ANNUAL REPORTING

all local governments to complete this section

GHG emissions reports for the reporting year should be reviewed by the signatory

a. I have reviewed the GHG emissions reports and am satisfied that the list of my organization's GHG emissions sources in each category of emissions is complete

☒ Yes

☐ No

b. I have reviewed the GHG emissions reports prior to finalizing the data for the reporting year and to the best of my knowledge, am satisfied that it accurately reflects the corporate GHG emissions of my local government

☒ Yes

☐ No

EMISSION FACTORS AND METHODOLOGY

only complete this section if not using SMARTTool

The emission factors, conversion factors, global warming potentials, biomass emissions reporting and estimation methodologies that should be used to calculate and report on GHG emissions data for the purposes of carbon neutrality under the Climate Action Charter are described in *Methodology for Reporting B.C. Local Government Greenhouse Gas Emissions (Methodology for Reporting)*

a. I have read the guidance on using alternative tools located on the carbon neutral page of the BC Climate Action Toolkit website

☒ Yes

☐ No

b. I am familiar with the *Methodology for Reporting* and its requirements for my organization

☒ Yes

☐ No

c. The personnel involved in the GHG emissions reporting process have the expertise needed to be able to apply the standard described in the *Methodology for Reporting*

☒ Yes

☐ No

d. The GHG emissions inventory for my community was developed using the emissions factors and methodology described in the *Methodology for Reporting*

☒ Yes

☐ No

CERTIFICATION

all local governments to complete this section

I certify that to the best of my knowledge and belief the statements and information are true, accurate and complete.

Kim Anema, CGA

Name

Chief Administrative Officer

Title (print) CFO or CAO

A handwritten signature in black ink, appearing to read 'Kim Anema', is written over a light blue rectangular background.

Signature

May 21, 2013

Date

Local Government Name:	Town of View Royal - MUNICIPAL OPERATION EMISSIONS
Year:	2012
Contact Information:	
Name:	Jeff Chow
Position:	Senior Planner
Telephone Number:	250-479-6800
Email address:	jchow@viewroyal.ca

Stationary Emission Sources:				
Building Fuel	End Use	Unit of Measure	Quantity	Emissions (tCO₂e)
Electricity	Town Hall	kWh	131,693	3.3
Electricity	Fire Hall	kWh	88,524	2.2
Electricity	Parks	kWh	5,604	0.1
Electricity	Sewage	kWh	204,684	5.1
Electricity	Road	kWh	825,925	20.6
Electricity	Boulevard	kWh	-	-
Natural Gas	Town Hall	GJ	208	10.4
Natural Gas	Fire Hall	GJ	-	-
Natural Gas	Parks	GJ	-	-
Natural Gas	Sewage	GJ	-	-
Natural Gas	Road	GJ	-	-
Natural Gas	Boulevard	GJ	-	-
Propane	Town Hall	Litres	-	-
Propane	Fire Hall	Litres	-	-
Propane	Parks	Litres	-	-
Propane	Sewage	Litres	-	-
Propane	Road	Litres	-	-
Propane	Boulevard	Litres	-	-
Heating Oil	Town Hall	Litres	-	-
Heating Oil	Fire Hall	Litres	3,908	10.3
Heating Oil	Parks	Litres	-	-
Heating Oil	Sewage	Litres	-	-
Heating Oil	Road	Litres	-	-
Heating Oil	Boulevard	Litres	-	-
Stationary Emissions (all fuel types)				52.1
Mobile Emission Sources:				
Vehicle Class	Vehicle Fuel	Unit of Measure	Quantity	Emissions (tCO₂e)
Light Duty Vehicle	Gasoline	Litres	8,051	18.7
Light Duty Truck	Gasoline	Litres	9,532	22.5
Heavy Duty Truck	Gasoline	Litres	-	-
Off Road Vehicle	Gasoline	Litres	-	-
Light Duty Vehicle	E10	Litres	-	-
Light Duty Truck	E10	Litres	-	-
Heavy Duty Truck	E10	Litres	-	-
Off Road Vehicle	E10	Litres	-	-
Light Duty Vehicle	E15	Litres	-	-
Light Duty Truck	E15	Litres	-	-
Heavy Duty Truck	E15	Litres	-	-
Off Road Vehicle	E15	Litres	-	-
Light Duty Vehicle	Diesel	Litres	-	-
Light Duty Truck	Diesel	Litres	3,645	9.6
Heavy Duty Truck	Diesel	Litres	7,644	19.9
Off Road Vehicle	Diesel	Litres	-	-
Light Duty Vehicle	B5	Litres	-	-
Light Duty Truck	B5	Litres	-	-
Heavy Duty Truck	B5	Litres	-	-
Off Road Vehicle	B5	Litres	-	-
Light Duty Vehicle	B10	Litres	-	-
Light Duty Truck	B10	Litres	-	-
Heavy Duty Truck	B10	Litres	-	-
Off Road Vehicle	B10	Litres	-	-
Light Duty Vehicle	B20	Litres	-	-
Light Duty Truck	B20	Litres	-	-
Heavy Duty Truck	B20	Litres	-	-
Off Road Vehicle	B20	Litres	-	-
Light Duty Vehicle	Propane	Litres	-	-
Light Duty Truck	Propane	Litres	-	-
Heavy Duty Truck	Propane	Litres	-	-
Off Road Vehicle	Propane	Litres	-	-
Mobile Emissions (all fuel / vehicle combinations)			28,871	70.7
Total Emissions (all Sources)				122.8

Local Government Name:	Town of View Royal - CONTRACTED EMISSIONS
Year:	2012
Contact Information:	
Name:	Jeff Chow
Position:	Senior Planner
Telephone Number:	250-479-6800
Email address:	jchow@viewroyal.ca

Stationary Emission Sources:				
Building Fuel	End Use	Unit of Measure	Quantity	Emissions (tCO2e)
Electricity	Solid Waste	kWh	-	-
Electricity	Road and Boulevard Maintenance	kWh	-	-
Electricity	Recreation Centre	kWh	769,396	19.2
Electricity	0	kWh	-	-
Electricity	0	kWh	-	-
Electricity	0	kWh	-	-
Natural Gas	Solid Waste	GJ	-	-
Natural Gas	Road and Boulevard Maintenance	GJ	-	-
Natural Gas	Recreation Centre	GJ	2,004	100.5
Natural Gas	0	GJ	-	-
Natural Gas	0	GJ	-	-
Natural Gas	0	GJ	-	-
Propane	Solid Waste	Litres	-	-
Propane	Road and Boulevard Maintenance	Litres	-	-
Propane	Recreation Centre	Litres	-	-
Propane	0	Litres	-	-
Propane	0	Litres	-	-
Propane	0	Litres	-	-
Heating Oil	Solid Waste	Litres	-	-
Heating Oil	Road and Boulevard Maintenance	Litres	-	-
Heating Oil	Recreation Centre	Litres	-	-
Heating Oil	0	Litres	-	-
Heating Oil	0	Litres	-	-
Heating Oil	0	Litres	-	-

Stationary Emissions (all fuel types)	119.8
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Mobile Emission Sources:				
Vehicle Class	Vehicle Fuel	Unit of Measure	Quantity	Emissions (tCO2e)
Light Duty Vehicle	Gasoline	Litres	-	-
Light Duty Truck	Gasoline	Litres	7,653	18.1
Heavy Duty Truck	Gasoline	Litres	-	-
Off Road Vehicle	Gasoline	Litres	893	2.0
Light Duty Vehicle	E10	Litres	-	-
Light Duty Truck	E10	Litres	-	-
Heavy Duty Truck	E10	Litres	-	-
Off Road Vehicle	E10	Litres	-	-
Light Duty Vehicle	E15	Litres	-	-
Light Duty Truck	E15	Litres	-	-
Heavy Duty Truck	E15	Litres	-	-
Off Road Vehicle	E15	Litres	-	-
Light Duty Vehicle	Diesel	Litres	-	-
Light Duty Truck	Diesel	Litres	12,537	32.9
Heavy Duty Truck	Diesel	Litres	4,466	11.6
Off Road Vehicle	Diesel	Litres	1,118	3.2
Light Duty Vehicle	B5	Litres	-	-
Light Duty Truck	B5	Litres	-	-
Heavy Duty Truck	B5	Litres	-	-
Off Road Vehicle	B5	Litres	-	-
Light Duty Vehicle	B10	Litres	-	-
Light Duty Truck	B10	Litres	-	-
Heavy Duty Truck	B10	Litres	-	-
Off Road Vehicle	B10	Litres	-	-
Light Duty Vehicle	B20	Litres	-	-
Light Duty Truck	B20	Litres	-	-
Heavy Duty Truck	B20	Litres	-	-
Off Road Vehicle	B20	Litres	-	-
Light Duty Vehicle	Propane	Litres	-	-
Light Duty Truck	Propane	Litres	2,151	3.3
Heavy Duty Truck	Propane	Litres	-	-
Off Road Vehicle	Propane	Litres	-	-

Mobile Emissions (all fuel / vehicle combinations)	28,818	71.2
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Total Emissions (all Sources)	190.9
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GREEN COMMUNITIES CARBON NEUTRAL FRAMEWORK

OPTION 1: PROJECT PROFILE

HOUSEHOLD ORGANIC WASTE COMPOSTING

Project Profile Overview

This project profile provides guidance on estimating the amount of greenhouse gas (GHG) emissions that can be reduced by diverting household¹ organic waste into a centralized community composting system rather than sending it to a landfill. When organic waste is placed in a landfill it decomposes gradually over decades and creates a significant amount of methane due to the absence of oxygen. In contrast, when organic waste is composted it decomposes within one year and predominantly creates carbon dioxide because oxygen is made available.

Because methane is 21 times more potent than carbon dioxide on a 100-year global warming potential basis, composting can reduce GHG emissions by over 90% in contrast to sending the same waste to a landfill. These reductions are dependent on the type of organics diversion project and the efficiency of a landfill gas collection system.

Management practices and systems for centralized composting programs have had many years of advancement in communities of all sizes across North America. Composting systems that local governments can choose from include turned windrows, covered aerated static piles and in-vessel composting. See the “Technology Options Overview” section for further information on composting systems that are eligible under this profile.

There are many composting technology options that vary in terms of complexity and the kinds of organic waste that can be processed. This project profile category does not cover anaerobic digestion—a contained process that produces a gas that can be combusted to generate heat and / or power—due to the complexity of assessing emission reductions. Backyard composting is also not covered by this project profile because of the onerous data collection and administration challenges associated with a very large number of small systems that would be difficult to monitor.

Although the exact number will vary by community, this project profile estimates that every tonne of organic waste that is diverted from a typical landfill (with a landfill gas capture system) into a centralized composting system will result in roughly 0.3 of a tonne of GHG emission reductions. Note that this is a very rough estimate that will change depending on the type of composting project and based on a number of community factors. Organic waste that is diverted from small landfills that are not required to have landfill gas capture systems could result in significantly greater GHG reductions. Specifically, an existing or planned landfill gas capture system at the landfill site will decrease the emission reduction potential, and this is discussed in more detail below.

¹ Household organic waste can include household food waste and organic yard waste such as grass clippings, but should try to avoid branches and other woody debris. This is because woody material does not decompose at the same rate.

Appendix 6. Sample Project Plan Template (Option 1 Projects)

This form is also available online at <http://www.toolkit.bc.ca/carbon-neutral-government>. Local governments may choose alternate formats to the templates provided; however the substance must be the same as those provided in the sample templates.

Project Proponent Information	
Name of Local Government Project Proponent(s)	Provide the name of the local government(s) involved in the project and that will be claiming GHG reductions from the project under Option 1. <u>TOWN OF VIEW ROYAL</u>
Project Designate appointed to sign off on Project Plan	Provide the name, phone and e-mail of the Project Designate duly authorized and having the legal capacity to sign off on this Template (e.g., CAO, CFO) Name <u>KIM ANEMA</u> Title <u>CAO</u> Phone <u>250-479-6800</u> Email <u>kanema@viewroyal.ca</u>
Project Contact	Provide a Project Contact name if different from above Name <u>JEFF CHOW</u> Title <u>SENIOR PLANNER</u> Phone <u>250-479-6800</u> Email <u>jchow@viewroyal.ca</u>
Project Information	
Project title	Provide project title <u>HOUSEHOLD ORGANIC WASTE COMPOSTING</u>
Option 1 Project Profile	Confirm which Option 1 project and project profile you are implementing. Check only one per Project Plan Template submitted: <input type="checkbox"/> Project 1A: Energy Efficient Building Retrofits and Fuel Switching <input type="checkbox"/> Project 1B: Solar Thermal <input checked="" type="checkbox"/> Project 1C: Household Organic Waste Composting <input type="checkbox"/> Project 1D: Low Emission Vehicles
Project description and objectives	Briefly summarize the project in terms of what, where, how when and why (max 4-5 sentences or bullets). • CURBSIDE COLLECTION OF HOUSEHOLD ORGANIC WASTE • DROP-OFF LOCATIONS FOR YARD AND GARDEN WASTE • QUARTERLY CURBSIDE COLLECTION OF HOUSEHOLD YARD WASTE
Project co-benefits (Optional)	Beyond the reducing GHG emissions, describe any anticipated community and/or sustainability co-benefits that this project will provide (e.g., energy cost savings, stimulation of the local economy through green job growth, foster technological innovation, raise public awareness of climate change / energy conservation) • PUBLIC AWARENESS • LOCAL GREEN JOB GROWTH
Project start date	Indicate the project start date: <u>2010 - HOUSEHOLD ORGANIC WASTE PICKUP</u> <u>2011 - YARD + GARDEN WASTE DROP-OFF</u>

Project Transparency: Accountability and Reporting

Scope	<input checked="" type="checkbox"/> The Project Designate certifies that the project outlined in this Project Plan is outside of the scope of the local government's corporate emissions boundary as defined in the Carbon Neutral Workbook, as per the Project Eligibility Requirements outlined in Appendix 1 of the <i>Becoming Carbon Neutral</i> guidebook.
Counted Once	<input checked="" type="checkbox"/> The GHG reductions claimed from this project under the Carbon Neutral Framework have not been, and will not be, committed or sold as an emission reduction under any other alternate emission-offset scheme, as per the Project Eligibility Requirements outlined in Appendix 1 of the <i>Becoming Carbon Neutral</i> guidebook.
Ownership	<input checked="" type="checkbox"/> The local government proponent(s) claiming emission reductions from the Option 1 project outlined in this Project Plan have exclusive right to the GHG reductions that arise from the Option 1 project, as per the Project Eligibility Requirements outlined in Appendix 1 of the <i>Becoming Carbon Neutral</i> guidebook.
Verification	<input checked="" type="checkbox"/> The Project Designate understands that he / she will be required to sign off the annual Verification Template Report for this project to verify that the estimated GHG reductions from this project actually occurred during the year in which they will be claimed, as per the Project Eligibility Requirements outlined in Appendix 1 of the <i>Becoming Carbon Neutral</i> guidebook.
Reports	<input checked="" type="checkbox"/> The Project Designate, is aware of the public reporting requirements under the Climate Action Revenue Incentive Program (CARIP) and that after January 1, 2012, the CARIP reports will be revised to include information on total annual corporate emissions, the reductions being claimed from GHG projects undertaken under the Carbon Neutral Framework (Option 1 and 2), and purchased offsets (Option 3) in order demonstrate carbon neutrality for any given year, as the Project Eligibility Requirements outlined in Appendix 1 of the <i>Becoming Carbon Neutral</i> guidebook.

Project Plan: Authorization and Sign Off

Project Designate

The information provided in this Project Plan, is to the best of my knowledge correct and complete.

Designate Signature

Date

Title

Appendix 7. Sample Self-Certification Template (Option 1 Projects)

This form is also available online at <http://www.toolkit.bc.ca/carbon-neutral-government>. Local governments may choose alternate formats to the templates provided; however the substance must be the same as those provided in the sample templates.

Project Proponent Information	
Name of Local Government Project Proponent(s)	Provide the name of the local government(s) involved in the project and claiming GHG reductions from the project described in this Template. <u>TOWN OF VIEW ROYAL</u>
Project Designate appointed to sign off on the Self-Certification Template	Provide the name, phone and e-mail of the Project Designate duly authorized and having the legal capacity to sign off on this Template (e.g., CAO, CFO) Name <u>KIM ANEMA</u> Title <u>CHIEF ADMINISTRATIVE OFFICER</u> Phone <u>250-479-6800</u> Email <u>kanema@viewroyal.ca</u>
Project Contact	Provide a Project Contact name if different from above Name <u>JEFF CHOW</u> Title <u>SENIOR PLANNER</u> Phone <u>250-479-6800</u> Email <u>jchow@viewroyal.ca</u>
Project Information	
Project title	Provide project title and attach a copy of the original Project Plan previously made public. <u>HOUSEHOLD ORGANIC WASTE COMPOSTING</u> <input checked="" type="checkbox"/> Copy of Project Plan attached
Timing and Amount of reductions being claimed	Indicate the <u>amount</u> of GHG reductions, expressed in tonnes, being claimed from the project and the <u>timeframe</u> during which the emission reductions being claimed occurred. Amount of GHG reductions: <u>14151.8</u> tonnes Timeframe: From <u>JAN 1</u> to <u>DEC 31 2012</u>
Certification that the required work occurred	<input type="checkbox"/> I declare that the project work required to achieve the GHG reductions from this project as estimated by the project profile used, actually occurred during the year in which they are being claimed, as per as the Project Eligibility Requirements outlined in Appendix 1 of the <i>Becoming Carbon Neutral</i> guidebook.
Self Certification Template: Authorization and Sign off	
Project Designate The information provided in this Self Certification Template is to the best of my knowledge correct and complete.	
Designate Signature <u>[Signature]</u> Title <u>CHIEF ADMINISTRATIVE OFFICER</u>	Date <u>MAY 21, 2013</u>

Spreadsheet directions

Note: Macros must be enabled for the spreadsheet to function properly.

Step 1: Total organic material diverted	
Enter the net additional household organic material (tonnes) for kitchen scraps and yard waste beyond the 2006 baseline that is diverted out of the landfill and into the centralized composting system.	This value will require either direct measurement or an initial defensible estimation methodology. A provincial estimation methodology has not been supplied due to the complexities that exist on a local government by local government basis.
Step 2: Project type	
Enter the composting facility project type.	See spreadsheet for a listing of project types. In the "project emissions" tab a detailed explanation of composting facility project types and their corresponding emission factors exists.
Step 3: Landfill Gas Collection Efficiency	
Enter the % of landfill gas that is captured for each year that is being assessed.	Discuss with landfill operator. All large landfills are required to report the landfill gas collection system collection efficiency annually under the Landfill Gas Management Regulation. A projection of landfill gas capture % 100 years into the future must also be made to calculate instantaneous 100 year avoided emissions. Note after 2015, collection efficiency will be locked at 75% in line with the Landfill Gas Management Facilities Design Guidelines.
Step 4: Landfill Location	
If your local landfill is not listed in the spreadsheet, select a landfill with similar annual precipitation.	See spreadsheet for a listing of landfills.
Note: Once the information from 1, 2, 3 and 4 is entered into the spreadsheet in the "T1-Inputs" tab, the Baseline Emissions (emissions avoided), Project Emissions, and Net Emission Reductions (emissions you can claim) are automatically calculated. To ensure conservative estimates with a first order decay model, the Clean Development Mechanism suggests a correction factor of 0.9 be applied to correct for model uncertainties. This correction factor has been applied to all estimates under the GGC first order decay model.	

Year	Year Number	Total 100 year ex- ante carbon credits from diverted organics	Project Emissions (tonnes CO2e)	Net 100 year ex- ante carbon credits from diverted organics
2007	1	0.0	0.0	0.0
2008	2	0.0	0.0	0.0
2009	3	0.0	0.0	0.0
2010	4	307.7	50.6	257.1
2011	5	299.2	54.3	245.0
2012	6	337.6	69.8	267.8
2013	7	0.0	0.0	0.0
2014	8	0.0	0.0	0.0
2015	9	0.0	0.0	0.0
2016	10	0.0	0.0	0.0
2017	11	0.0	0.0	0.0
2018	12	0.0	0.0	0.0
2019	13	0.0	0.0	0.0
2020	14	0.0	0.0	0.0
2021	15	0.0	0.0	0.0
2022	16	0.0	0.0	0.0
2023	17	0.0	0.0	0.0
2024	18	0.0	0.0	0.0
2025	19	0.0	0.0	0.0
2026	20	0.0	0.0	0.0
2027	21	0.0	0.0	0.0
2028	22	0.0	0.0	0.0
2029	23	0.0	0.0	0.0
2030	24	0.0	0.0	0.0
2031	25	0.0	0.0	0.0
2032	26	0.0	0.0	0.0

Year	Year Number	Net Kitchen Scraps Diverted Decomposable (tonnes)	2007 Annual Methane Production (tonnes/yr)	2008 Annual Methane Production (tonnes/yr)	2009 Annual Methane Production (tonnes/vr)
2007	1	0	0	0	0
2008	2	0	0	0	0
2009	3	0	0	0	0
2010	4	281.06	2.65379111	2.65379111	2.6537911
2011	5	277.61	5.046598252	5.046598252	5.0465983
2012	6	280.75	7.263107578	7.263107578	7.2631076
2013	7	0	6.637980231	6.637980231	6.6379802
2014	8	0	6.066657423	6.066657423	6.0666574
2015	9	0	5.544506992	5.544506992	5.544507

landfill location **Hartland** <-Enter Former Receiving Landfill

Lag time before start of gas production, lag = 0 years

Methane (density) - 1atm, 25C 0.6557 kg/m³

Carbon dioxide (density) 1.7988 kg/m³

Kitchen Scraps

Methane Generation Rate, k = 0.09 <- Locked

Gas Production potential, Lo = 160 m³ CH₄/tonne

Yard Waste

Methane Generation Rate, k = 0.09 <-Locked

Gas Production potential, Lo = 140 m³ CH₄/tonne

Notes:

Input values only in the shaded cells.

(1) If the landfill selected does not have a landfill gas collection system, input zero as the Collection Efficiency f

Net Tonnes Diverted From Landfill

INSTRUCTIONS: Enter tonnes of organic waste diverted, project type, and LFG coli

Year	Kitchen Scraps (tonnes)	Yard Waste (tonnes)	Project type	Landfill Gas Collection Efficiency (%) ⁽¹⁾
2007	0	0	1. DEFAULT - Turned Compost (basic	0%
2008	0	0	1. DEFAULT - Turned Compost (basic	0%
2009	0	0	1. DEFAULT - Turned Compost (basic	0%
2010	281.06	0	1. DEFAULT - Turned Compost (basic	0%
2011	277.61	23.79	1. DEFAULT - Turned Compost (basic	0%
2012	280.75	107	1. DEFAULT - Turned Compost (basic	49%
2013	0	0	1. DEFAULT - Turned Compost (basic	0%
2014	0	0	1. DEFAULT - Turned Compost (basic	0%
2015	0	0	1. DEFAULT - Turned Compost (basic	0%
2016	0	0	1. DEFAULT - Turned Compost (basic	75%
2017	0	0	1. DEFAULT - Turned Compost (basic	75%
2018	0	0	1. DEFAULT - Turned Compost (basic	75%
2019	0	0	1. DEFAULT - Turned Compost (basic	75%
2020	0	0	1. DEFAULT - Turned Compost (basic	75%
2021	0	0	1. DEFAULT - Turned Compost (basic	75%
2022	0	0	1. DEFAULT - Turned Compost (basic	75%
2023	0	0	1. DEFAULT - Turned Compost (basic	75%
2024	0	0	1. DEFAULT - Turned Compost (basic	75%
2025	0	0	1. DEFAULT - Turned Compost (basic	75%
2026	0	0	1. DEFAULT - Turned Compost (basic	75%
2027	0	0	1. DEFAULT - Turned Compost (basic	75%
2028	0	0	1. DEFAULT - Turned Compost (basic	75%