

## 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets





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## **Core Items**

				2007					2010		
<b>On-Road Transportation</b>		Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)
Small Passenger Cars	Gasoline	29	35,239 L	12,600	1,234	87	27	36,008 L	14,000	1,260	83
	Diesel Fuel			18,100	48	4			24,900	125	8
Large Passenger Cars	Gasoline	14	25,322 L	15,300	886	62	12	20,018 L	13,800	701	47
Light Trucks, Vans, SUVs	Gasoline	48	93,152 L	13,000	3,261	230	61	129,746 L	14,400	4,541	299
	Diesel Fuel			19,000	130	10			16,600	114	7
	Other Fuel			11,300	90	4			11,400	57	4
Commercial Vehicles	Gasoline			11,500	473	31			16,000	663	42
	Diesel Fuel	13	42,197 L	17,100	1,616	113	10	37,435 L	19,000	1,433	99
Tractor Trailer Trucks	Diesel Fuel			47,800	1,551	109			45,800	4,874	332
Motorcycles, Mopeds	Gasoline			2,100	4	0			18,200	1	0
Totals		104	195,910 L	13,711	9,293	650	110	195,910 L	14,655	13,769	921

			2	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	3,876 GJ	3,876	79	N/A	3,613 GJ	3,613	73
	Heating Oil	N/A	818 GJ	818	58	N/A	763 GJ	763	52
	Propane	N/A	2,232 GJ	2,232	136	N/A	2,080 GJ	2,080	127
	Natural Gas	89	7,596 GJ	7,596	381	89	5,819 GJ	5,819	292
	Electricity	253	3,672,558 kWh	13,221	92	246	3,641,755 kWh	13,110	91
Commercial/Small-Medium Industrial	Natural Gas	12	4,172 GJ	4,172	209	12	3,778 GJ	3,778	190
	Electricity	75	5,796,109 kWh	20,866	145	83	6,532,267 kWh	23,516	163
Totals		429		52,781	1,100	430		52,679	988

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	432 t	N/A	477	0	460 t	N/A	492
Totals		0			477	0			492



## 2010 Community Energy and Emissions Inventory

Page 3 of 6 February 20, 2014

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	opulation: 576)	2010 (P	opulation: 571)		
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Gasoline	153,713 L	5,858	410	185,772 L	7,166	471
Diesel Fuel	42,197 L	3,345	236	37,435 L	6,546	446
Other Fuel	0 L	90	4	0 L	57	4
Wood	3,876 GJ	3,876	79	3,613 GJ	3,613	73
Heating Oil	818 GJ	818	58	763 GJ	763	52
Propane	2,232 GJ	2,232	136	2,080 GJ	2,080	127
Natural Gas	11,768 GJ	11,768	590	9,597 GJ	9,597	482
Electricity	9,468,667 kWh	34,087	237	10,174,022 kWh	36,626	254
Solid Waste	432 t	0	477	460 t	0	492
Grand Totals		62,074	2,227		66,448	2,401



2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

**Supporting Indicators** 

No new supporting indicator data have been provided in the 2010 reports. Work is currently underway to produce a complete second round of data for the indicators below in the 2012 reports (available in 2014). In the interim, we are including the same supporting indicator data that was provided in the 2007 reports. Feedback is requested on all supporting indicators; please contact us directly at

### Housing Type - Private dwellings by structural type

Housing type is important for reducing building-related GHG emissions and energy consumption. A trend toward fewer single family dwellings indicates an increase in residential density, which is known to reduce transportation-related GHG emissions.

	1996		200	1	2006		
	Units	%	Units	%	Units	%	
Single Detached House	160	41	150	61	185	84	
Semi-Detached House	20	5	25	10	25	11	
Row House	10	3	5	2	0	0	
Apartment, Duplex	0	0	5	2	0	0	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	0	0	5	2	10	5	
Other Single Attached House	0	0	0	0	0	0	
Movable Dwelling	45	11	55	22	0	0	

#### Parks and Protected Greenspace

Parks and protected greenspaces are important for the protection and enhancement of community carbon sinks.

	2009	
	Units	%
National Parks	0	0
Provincial Parks / Protected Areas	1,228	7
Local Parks	4	0
Agricultural Land Reserve	0	0
Other land use	16,396	93
Total Parks and Protected Area	1,233	7
Total Land Area	17,629	100
* Total is not of Indian Reserves		

\* Total is net of Indian Reserves
\*\* Quantity of parkland may be underestimated

### **Residential Density**

Increasing residential densities is known to reduce vehicle use resulting in fewer transportation-related GHG emissions. There are many additional benefits from more compact development.

2009	
Units	%
0	0
1,228	7
4	0
0	0
16,396	93
1,233	7
17,629	100
	2009 Units 0 1,228 4 0 16,396 1,233 17,629

\* Net of Crown land, parks, Indian Reserves, water features, airports, ALR, waste disposal site

#### Commute to Work - Employed labour force - by mode of commute

An increase in the number of people choosing to walk, cycle and use transit reduces GHG emissions. More compact, complete, connected communities should see an increase in the use of these transportation modes.

	1996		200	1	200	6
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	200	73	160	80	160	74
Car, Truck, Van as Passenger	45	16	20	10	0	0
Public Transit	0	0	0	0	15	7
Walked	10	4	20	10	20	9
Bicycle	10	4	0	0	0	0
Motorcycle	0	0	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	10	4	0	0	20	9

#### **Commute Distance**

Shorter commute distances generally reduce GHG emissions by increasing the likelihood of people walking, cycling or using transit. Commute distance is also indicative of the 'completeness' of a community from an employment perspective.

	2006
	Units %
Less than 5 km	25 13
5 to 9.9 km	10 5
25 km or more	15 8
15 to 24.9 km	80 42
10 to 14.9 km	60 32



2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Page 5 of 6 February 20, 2014

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2010 Community Energy and Emissions Inventory

Page 6 of 6 February 20, 2014

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

### Supporting Indicators Under Consideration

Work is currently underway to produce a complete second round of supporting indicators for the 2012 reports (available in 2014). These reports will new data for the five supporting indicators included in the 2007 and 2010 Reports:

- Housing Type: Private dwellings by structural type
- Commute to Work: Employed labour force by mode of commute
- Commute Distance
- Residential Density
- Parks and Protected Greenspace

And in addition, the 2012 reports we are working to be able to include:

- Proximity to Transit
- Building Energy Intensity
- Building Floor Space
- Waste Diversion

We are continuing to work towards reporting on even more supporting indicators in the future including:

- Proximity to Services (e.g destinations such as grocery store, school, other retail etc.)
- Transit Ridership
- Water Use
- Impervious Surface Cover: % change in impervious surface cover
- Tree Canopy Cover: % change in tree canopy cover
- District Energy: # and energy output (e.g. buildings connected, energy consumed in GJ or kWh) of district energy systems by energy type e.g. renewable or non-renewable)
- On-Site Renewable Energy: # and energy output (in GJ or kWh) from households producing and/or consuming on-site renewable heat (e.g. biomass, solar thermal, geo-exchange) and/or electrical (e.g. solar photovoltaic, small wind, small scale hydro) energy
- Energy Recovery from waste energy (GJ or kWh) recovered from waste (e.g. from landfill gas, sewage treatment, industrial operations, farm)

Please give us feedback by contacting us directly at CEEIRPT@gov.bc.ca

Many local governments have been undertaking a significant amount of climate action in both the corporate and community-wide spheres, as demonstrated in both the public reports from the Climate Action Revenue Incentive Program (CARIP) <u>http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm</u>, and on the <u>http://toolkit.bc.ca</u> website. These two resources may be helpful to those who are interested in learning from other BC local governments. The toolkit also contains additional information and resources including decision-support/planning frameworks and tools for undertaking actions to reduce GHG emissions and energy consumption.



2010 Community Energy and Emissions Inventory

Page 7 of 6 February 20, 2014

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

## This is your local government's 2010 Community Energy and Emissions Inventory (CEEI) Report

#### What is a CEEI Report?

CEEI Reports are a result of a multi-agency effort to provide a province-wide solution to assist local governments in BC to track and report on community-wide energy consumption and greenhouse gas (GHG) emissions as well as supporting indicators every two years. CEEI Reports are one of the many resources available through the Climate Action Toolkit (<u>http://www.toolkit.bc.ca</u>), a web-based service provided through the ongoing collaboration between UBCM and the Province.

#### Why does my local government need a CEEI Report?

A community energy and GHG emissions inventory can be a valuable tool that helps local governments plan and implement GHG and energy management strategies, while at the same time strengthening broader sustainability planning at the local level. CEEI reports fulfill local governments' Climate Action Charter commitment to measure and report their community's GHG emissions profile, establish a base year inventory for local governments to consider as they develop targets, policies, and actions related to BC's Local Government Act requirements, fulfill Milestone One requirements for those local government members of the Federation of Canadian Municipalities' (FCM's) Partners in Climate Protection (PCP) program, as well as supporting local government efforts to monitor progress towards Regional Growth Strategy objectives.

#### A first in North America!

CEEI is a first in North America and a first step for BC communities. The 2010 CEEI Reports are based on best available province-wide data. The accuracy and detail of CEEI reports will continue to improve to meet increasing local and provincial government information needs. Improvements have been made from the original draft 2007 CEEI Reports posted in Spring 2009. These include estimates for residential heating oil, propane and wood use, breaking out small from large industrial buildings, including updated land-use change and new agricultural sectors as 'memo items'. Following the 2010 CEEI Reports, inventories will be generated every two years, and will continue to improve as government information needs, international protocols and new data sources emerge.

#### For More Information

The full list of all BC local government 2010 CEEI Reports, User Guide, Technical Methods and Guidance Document, and additional information on the Supporting Indicators are available at: <a href="http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html">http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html</a> For guidance on target setting and community actions, go to <a href="http://www.toolkit.bc.ca">http://www.toolkit.bc.ca</a> and </a>

#### We Need Your Feedback

To continue to guide us on CEEI, please take the time to contact us directly at CEEIRPT@gov.bc.ca

#### Notice to the Reader

This CEEI Report uses information from a variety of sources to estimate GHG emissions. While the methodologies, assumptions and data used are intended to provide reasonable estimates of greenhouse gas emissions, the information presented in this report may not be appropriate for all purposes. The Province of BC and the data providers do not provide any warranty to the user or guarantee the accuracy or reliability of the data contained in this report. The user accepts responsibility for the ultimate use of such data. We need your help to make these reports better,