

2010 Community Energy and Emissions Inventory

Page 1 of 6 February 20, 2014

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	367	458,704 L	16,100	16,055	1,095	354	504,858 L	16,700	17,670	1,134
	Diesel Fuel	23	33,598 L	27,300	1,287	92	22	35,071 L	26,200	1,342	93
Large Passenger Cars	Hybrid								28,000	66	4
	Gasoline	182	275,973 L	16,100	9,660	662	157	261,980 L	16,700	9,168	590
	Diesel Fuel			12,600	257	19			11,800	333	23
Light Trucks, Vans, SUVs	Gasoline	933	1,982,942 L	17,000	69,403	4,766	926	2,257,673 L	18,400	79,019	5,125
	Diesel Fuel	56	111,449 L	12,100	4,268	304	34	78,190 L	14,300	2,995	208
	Other Fuel			9,600	312	19			9,700	173	11
Commercial Vehicles	Gasoline	123	326,240 L	17,600	11,418	767	125	379,923 L	18,300	13,297	849
	Diesel Fuel	146	445,891 L	18,700	17,078	1,198	146	524,759 L	21,400	20,099	1,370
	Other Fuel			12,500	322	20			11,700	274	17
Tractor Trailer Trucks	Diesel Fuel	23	352,388 L	40,100	13,496	949	25	434,640 L	42,900	16,645	1,136
Motorhomes	Gasoline	16	34,560 L	16,400	1,210	81	13	28,022 L	16,400	981	63
	Diesel Fuel			15,900	712	50			16,200	708	49
Motorcycles, Mopeds	Gasoline	29	4,954 L	4,500	172	11	37	10,338 L	6,000	363	23
Buses	Gasoline			19,100	260	17			17,500	437	29
	Diesel Fuel			19,900	1,276	89			26,400	984	66
Totals		1,898	4,026,699 L	16,973	147,186	10,139	1,839	4,026,699 L	18,246	164,554	10,790

			20	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	94,954 GJ	94,954	1,924	N/A	91,919 GJ	91,919	1,862
	Heating Oil	N/A	78,999 GJ	78,999	5,569	N/A	76,474 GJ	76,474	5,230
	Propane	N/A	13,586 GJ	13,586	829	N/A	13,152 GJ	13,152	802
	Electricity	1,704	26,884,086 kWh	96,783	671	1,716	25,594,360 kWh	92,140	640
Commercial/Small-Medium Industrial	Electricity	353	27,057,904 kWh	97,408	677	371	25,740,456 kWh	92,666	643
Totals		2,057		381,730	9,670	2,087		366,351	9,177

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				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	2,617 t	N/A	2,250	0	2,421 t	N/A	2,613
Totals		0			2,250	0			2,613

# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 4,018)		2010 (Po	) (Population: 4,130)			
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)		
Hybrid	0 L	0		0 L	66	4		
Gasoline	3,083,373 L	108,178	7,399	3,442,794 L	120,935	7,813		
Diesel Fuel	943,326 L	38,374	2,701	1,072,660 L	43,106	2,945		
Other Fuel	0 L	634	39	0 L	447	28		
Wood	94,954 GJ	94,954	1,924	91,919 GJ	91,919	1,862		
Heating Oil	78,999 GJ	78,999	5,569	76,474 GJ	76,474	5,230		
Propane	13,586 GJ	13,586	829	13,152 GJ	13,152	802		
Electricity	53,941,990 kWh	194,191	1,348	51,334,816 kWh	184,806	1,283		
Solid Waste	2,617 t	0	2,250	2,421 t	0	2,613		
Grand Totals		528,916	22,059		530,905	22,580		

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**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	1,395	28	1,205	81	1,245	87	
Semi-Detached House	55	1	30	2	50	4	
Row House	25	1	45	3	15	1	
Apartment, Duplex	5	0	15	1	10	1	
Apartment, 5 storeys or higher	5	0	0	0	5	0	
Apartment, under 5 storeys	15	0	10	1	10	1	
Other Single Attached House	0	0	5	0	10	1	
Movable Dwelling	65	1	170	11	80	6	

### Parks and Protected Greenspace

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

2009	
Units	%
0	0
192,773	9
15	0
2,027	0
1,866,400	91
192,787	9
2,061,214	100
	2009 Units 0 192,773 15 2,027 1,866,400 192,787 2,061,214

\* 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		%
National Parks	0		0
Provincial Parks / Protected Areas	192,773		9
Local Parks	15		0
Agricultural Land Reserve	2,027		0
Other land use	1,866,400		91
Total Parks and Protected Area	192,787		9
Total Land Area	2,061,214		100
* Net of Crown land, parks, Indian Reserves, water feat	ures, airports, ALR, waste di	er features, air	isposal 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		2001	L	2006	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	845	48	825	57	785	55
Car, Truck, Van as Passenger	210	12	165	11	170	12
Public Transit	40	2	50	3	20	1
Walked	425	24	305	21	270	19
Bicycle	15	1	15	1	25	2
Motorcycle	0	0	0	0	5	0
Taxicab	10	1	0	0	10	1
Other Method	230	13	90	6	155	11

Page 4 of 6 February 20, 2014

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**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.

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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,