

2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets





Page 2 of 6 February 20, 2014

2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Core Items

				2007					2010		
On-Road Transportation		Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)
Small Passenger Cars	Hybrid			10,800	86	5			11,800	79	4
	Gasoline	2,058	2,326,084 L	11,900	81,412	5,538	2,128	2,368,159 L	11,800	82,886	5,326
	Diesel Fuel	57	53,548 L	14,500	2,051	146	53	48,813 L	14,200	1,869	129
	Other Fuel			8,100	20	0			10,000	52	4
Large Passenger Cars	Hybrid			29,500	377	26	24	57,195 L	39,900	2,001	128
	Gasoline	863	1,233,387 L	12,400	43,169	2,935	851	1,184,916 L	12,300	41,472	2,667
	Diesel Fuel	10	7,198 L	7,400	276	20	14	10,992 L	8,000	421	30
	Other Fuel			26,800	404	24			11,100	64	4
Light Trucks, Vans, SUVs	Hybrid			13,300	148	9			17,100	445	29
	Gasoline	2,113	4,078,000 L	13,800	142,729	9,759	2,259	4,261,532 L	13,600	149,155	9,669
	Diesel Fuel	84	186,194 L	12,900	7,132	506	57	134,767 L	14,400	5,163	356
	Other Fuel	13	23,286 L	10,700	590	36			10,700	355	22
Commercial Vehicles	Gasoline	107	242,320 L	13,600	8,481	568	120	268,862 L	13,500	9,410	602
	Diesel Fuel	118	403,742 L	18,200	15,464	1,087	171	638,083 L	19,900	24,438	1,666
	Other Fuel			10,100	426	26			10,000	236	14
Tractor Trailer Trucks	Diesel Fuel	25	271,622 L	26,300	10,403	730	31	238,574 L	19,400	9,138	622
Motorhomes	Gasoline	52	115,093 L	16,200	4,028	268	52	116,020 L	16,300	4,061	257
	Diesel Fuel	39	112,496 L	16,100	4,309	302	39	113,172 L	15,900	4,335	295
	Other Fuel			16,200	122	7			21,200	80	5
Motorcycles, Mopeds	Gasoline	183	42,080 L	5,400	1,472	99	204	53,432 L	6,200	1,871	119
Buses	Diesel Fuel			16,000	161	12			15,100	297	21
Totals		5,722	9,095,050 L	12,791	323,260	22,103	6,003	9,095,050 L	12,877	337,828	21,969



Page 3 of 6 February 20, 2014

2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

			:	2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	8,710 GJ	8,710	176	N/A	8,432 GJ	8,432	171
	Heating Oil	N/A	22,724 GJ	22,724	1,602	N/A	21,998 GJ	21,998	1,504
	Propane	N/A	3,926 GJ	3,926	240	N/A	3,801 GJ	3,801	232
	Natural Gas	1,251	63,234 GJ	63,234	3,172	1,360	62,924 GJ	62,924	3,156
	Electricity	3,638	51,173,622 kWh	184,225	1,279	3,865	50,381,839 kWh	181,374	1,260
Commercial/Small-Medium Industrial	Natural Gas	84	137,865 GJ	137,865	6,915	70	137,032 GJ	137,032	6,874
	Electricity	301	31,391,197 kWh	113,008	785	316	31,166,972 kWh	112,201	779
Totals		5,274		533,692	14,169	5,611		527,762	13,976

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	1,326 t	N/A	887	0	1,215 t	N/A	1,075
Totals		0			887	0			1,075

Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 9,169)		2010 (Population: 9,743)			
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)	
Hybrid	0 L	611	40	57,195 L	2,525	161	
Gasoline	8,036,964 L	281,291	19,167	8,252,921 L	288,855	18,640	
Diesel Fuel	1,034,800 L	39,796	2,803	1,184,401 L	45,661	3,119	
Other Fuel	23,286 L	1,562	93	0 L	787	49	
Wood	8,710 GJ	8,710	176	8,432 GJ	8,432	171	
Heating Oil	22,724 GJ	22,724	1,602	21,998 GJ	21,998	1,504	
Propane	3,926 GJ	3,926	240	3,801 GJ	3,801	232	
Natural Gas	201,099 GJ	201,099	10,087	199,956 GJ	199,956	10,030	
Electricity	82,564,819 kWh	297,233	2,064	81,548,811 kWh	293,575	2,039	
Solid Waste	1,326 t	0	887	1,215 t	0	1,075	
Grand Totals		856,952	37,159		865,590	37,020	



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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	1,335	34	1,620	54	1,620	48
Semi-Detached House	80	2	130	4	155	5
Row House	410	10	540	18	645	19
Apartment, Duplex	290	7	175	6	530	16
Apartment, 5 storeys or higher	0	0	10	0	0	0
Apartment, under 5 storeys	280	7	365	12	350	10
Other Single Attached House	0	0	10	0	15	0
Movable Dwelling	185	5	170	6	35	1

Parks and Protected Greenspace

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

Units	%
0	0
0	0
589	39
16	1
889	59
589	39
1,494	100
	0 589 16 889 589 1,494

* 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	0	0
Local Parks	589	39
Agricultural Land Reserve	16	1
Other land use	889	59
Total Parks and Protected Area	589	39
Total Land Area	1,494	100

* 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		2001		2006	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	2,375	76	2,705	75	3,430	76
Car, Truck, Van as Passenger	160	5	260	7	225	5
Public Transit	350	11	350	10	445	10
Walked	80	3	115	3	110	2
Bicycle	115	4	100	3	210	5
Motorcycle	10	0	45	1	40	1
Taxicab	0	0	20	1	10	0
Other Method	20	1	20	1	40	1

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	1,440 39
5 to 9.9 km	1,805 49
25 km or more	100 3
15 to 24.9 km	115 3
10 to 14.9 km	200 5



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: http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html For guidance on target setting and community actions, go to http://www.toolkit.bc.ca and

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,