

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		
On-Road Transportation		Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)
Small Passenger Cars	Gasoline	160	251,657 L	16,500	8,808	595	183	294,388 L	16,900	10,304	659
	Diesel Fuel	15	27,263 L	26,700	1,044	74	20	36,063 L	25,900	1,381	95
Large Passenger Cars	Hybrid			27,700	59	4			26,000	162	10
	Gasoline	115	216,099 L	16,600	7,564	509	134	244,340 L	16,000	8,552	548
	Diesel Fuel			21,000	148	10			22,500	224	16
Light Trucks, Vans, SUVs	Hybrid								20,000	176	10
	Gasoline	532	1,464,390 L	18,400	51,253	3,492	569	1,576,191 L	18,800	55,168	3,567
	Diesel Fuel	21	43,272 L	11,600	1,658	119	17	46,494 L	16,700	1,781	123
	Other Fuel			11,500	100	6			10,600	185	12
Commercial Vehicles	Gasoline	44	144,253 L	19,300	5,049	339	66	220,031 L	19,900	7,700	492
	Diesel Fuel	73	268,088 L	20,000	10,267	722	85	346,879 L	22,800	13,285	907
Tractor Trailer Trucks	Gasoline								10,300	96	6
	Diesel Fuel	10	197,821 L	45,900	7,577	533	11	243,416 L	52,000	9,324	636
Motorhomes	Gasoline			20,300	419	28			20,700	331	21
	Diesel Fuel			17,800	626	44			16,500	792	53
Motorcycles, Mopeds	Gasoline	21	4,324 L	4,400	151	9	22	6,435 L	6,300	225	14
Buses	Diesel Fuel			23,100	234	15			21,400	234	16
Totals		991	2,617,167 L	18,005	94,957	6,499	1,107	2,617,167 L	18,697	109,920	7,185

			:	2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	50,910 GJ	50,910	1,031	N/A	49,003 GJ	49,003	993
	Heating Oil	N/A	13,068 GJ	13,068	921	N/A	12,578 GJ	12,578	860
	Propane	N/A	22,949 GJ	22,949	1,400	N/A	22,089 GJ	22,089	1,348
	Electricity	1,455	25,202,822 kWh	90,730	630	1,535	26,128,686 kWh	94,063	653
Commercial/Small-Medium Industrial	Electricity	208	13,123,291 kWh	47,244	328	224	12,210,812 kWh	43,959	305
Totals		1,663		224,901	4,310	1,759		221,692	4,159



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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	3,103 t	N/A	1,630	0	3,555 t	N/A	3,026
Totals		0			1,630	0			3,026

Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 3,184)	2010 (Population: 3,618)				
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)	
Hybrid	0 L	59	4	0 L	338	20	
Gasoline	2,080,723 L	73,244	4,972	2,341,385 L	82,376	5,307	
Diesel Fuel	536,444 L	21,554	1,517	672,852 L	27,021	1,846	
Other Fuel	0 L	100	6	0 L	185	12	
Wood	50,910 GJ	50,910	1,031	49,003 GJ	49,003	993	
Heating Oil	13,068 GJ	13,068	921	12,578 GJ	12,578	860	
Propane	22,949 GJ	22,949	1,400	22,089 GJ	22,089	1,348	
Electricity	38,326,113 kWh	137,974	958	38,339,498 kWh	138,022	958	
Solid Waste	3,103 t	0	1,630	3,555 t	0	3,026	
Grand Totals		319,858	12,439		331,612	14,370	



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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	760	42	810	72	870	73	
Semi-Detached House	15	1	55	5	75	6	
Row House	10	1	55	5	20	2	
Apartment, Duplex	95	5	90	8	100	8	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	140	8	100	9	115	10	
Other Single Attached House	0	0	10	1	0	0	
Movable Dwelling	10	1	5	0	10	1	

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	146	13
Local Parks	10	1
Agricultural Land Reserve	145	13
Other land use	792	73
Total Parks and Protected Area	156	14
Total Land Area	1,092	100
* 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	146	13
Local Parks	10	1
Agricultural Land Reserve	145	13
Other land use	792	73
Total Parks and Protected Area	156	14
Total Land Area	1,092	100
* Net of Course load works, Indian December works fort	, , , , , , , , , , , , , , , , , , ,	

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:	L	2006	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	935	71	1,010	69	1,080	72
Car, Truck, Van as Passenger	75	6	160	11	115	8
Public Transit	0	0	0	0	20	1
Walked	265	20	245	17	245	16
Bicycle	35	3	15	1	45	3
Motorcycle	0	0	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	0	0	25	2	0	0



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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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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,