

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	Hybrid								16,400	28	0
	Gasoline	278	414,656 L	16,000	14,513	986	236	375,910 L	17,300	13,157	845
	Diesel Fuel			25,100	416	30	10	18,755 L	27,200	719	50
Large Passenger Cars	Gasoline	117	236,042 L	17,600	8,261	563	111	250,495 L	19,800	8,767	563
	Diesel Fuel								11,900	123	8
Light Trucks, Vans, SUVs	Gasoline	682	1,778,938 L	17,600	62,263	4,252	768	2,226,213 L	19,900	77,917	5,049
	Diesel Fuel	36	79,627 L	12,100	3,049	216	32	79,289 L	14,400	3,037	210
	Other Fuel			12,400	53	4					
Commercial Vehicles	Gasoline	85	233,508 L	16,100	8,172	549	106	326,867 L	18,900	11,441	732
	Diesel Fuel	107	401,827 L	20,300	15,390	1,081	130	569,996 L	25,100	21,832	1,488
	Other Fuel			9,700	192	11			10,400	45	4
Tractor Trailer Trucks	Diesel Fuel	14	187,269 L	30,000	7,173	505	17	232,234 L	29,800	8,895	606
Motorhomes	Gasoline			18,100	464	30			16,500	364	23
Motorcycles, Mopeds	Gasoline	12	2,351 L	4,600	82	6	13	3,338 L	5,600	118	7
Buses	Gasoline			18,300	405	27			19,600	218	14
	Diesel Fuel			22,200	1,972	139	10	65,102 L	23,700	2,492	169
Totals		1,331	3,334,218 L	17,252	122,405	8,399	1,433	3,334,218 L	19,804	149,153	9,768

			2	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	72,375 GJ	72,375	1,466	N/A	67,470 GJ	67,470	1,367
	Heating Oil	N/A	10,945 GJ	10,945	772	N/A	10,203 GJ	10,203	698
	Propane	N/A	29,932 GJ	29,932	1,826	N/A	27,903 GJ	27,903	1,702
	Electricity	1,362	16,410,690 kWh	59,078	410	1,378	16,949,035 kWh	61,016	424
Commercial/Small-Medium Industrial	Electricity	294	11,835,601 kWh	42,608	296	313	14,864,399 kWh	53,512	372
Totals		1,656		214,938	4,770	1,691		220,104	4,563



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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	1,500 t	N/A	1,702	0	818 t	N/A	1,658
Totals		0			1,702	0			1,658

Memo Items

				2007				2010		
Agriculture		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption		Energy (GJ)	C02e (t)
Enteric Fermentation	Methane	584	35 t	0	735					
Totals		584			735	0				

				2007				2010	
Land-use Change - Deforest	ation	Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Ene	rgy (GJ) C02e (t)
Settlement	Deforestation	6	0 ha	0	5,529				
Totals		6			5,529	0			

Totals for Transportation, Buildings and Solid Waste

	2007 (Poj	pulation: 3,169)		2010 (Population: 3,174)				
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)		
Hybrid	0 L	0		0 L	28	0		
Gasoline	2,665,495 L	94,160	6,413	3,182,823 L	111,982	7,233		
Diesel Fuel	668,723 L	28,000	1,971	965,376 L	37,098	2,531		
Other Fuel	0 L	245	15	0 L	45	4		
Wood	72,375 GJ	72,375	1,466	67,470 GJ	67,470	1,367		
Heating Oil	10,945 GJ	10,945	772	10,203 GJ	10,203	698		
Propane	29,932 GJ	29,932	1,826	27,903 GJ	27,903	1,702		
Electricity	28,246,291 kWh	101,686	706	31,813,434 kWh	114,528	796		
Solid Waste	1,500 t	0	1,702	818 t	0	1,658		
Grand Totals		337,343	14,871		369,257	15,989		



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	1,115	46	1,060	78	955	81	
Semi-Detached House	10	0	25	2	90	8	
Row House	35	1	35	3	30	3	
Apartment, Duplex	10	0	30	2	40	3	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	60	2	60	4	25	2	
Other Single Attached House	0	0	10	1	5	0	
Movable Dwelling	95	4	135	10	35	3	

Parks and Protected Greenspace

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

2009	
Units	%
0	0
771,074	31
0	0
4,659	0
1,719,804	69
771,074	31
2,495,537	100
	2009 Units 0 771,074 0 4,659 1,719,804 771,074 2,495,537

* 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
771,074	31
0	0
4,659	0
1,719,804	69
771,074	31
2,495,537	100
	2009 Units 0 771,074 0 4,659 1,719,804 771,074 2,495,537

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	795	51	735	52	580	56	
Car, Truck, Van as Passenger	155	10	130	9	85	8	
Public Transit	20	1	10	1	10	1	
Walked	385	25	375	27	270	26	
Bicycle	35	2	20	1	10	1	
Motorcycle	0	0	10	1	0	0	
Taxicab	20	1	10	1	0	0	
Other Method	140	9	125	9	85	8	

Page 4 of 6 February 20, 2014



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,