

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			18,500	24	0			27,200	106	8
	Gasoline	1,740	2,872,927 L	17,200	100,552	6,811	1,722	2,813,967 L	17,000	98,489	6,308
	Diesel Fuel	84	154,798 L	27,300	5,929	423	74	132,066 L	26,100	5,058	350
	Other Fuel			17,300	37	3			23,300	182	11
Large Passenger Cars	Hybrid	11	13,803 L	26,800	483	32	17	21,746 L	24,900	761	49
	Gasoline	682	1,397,893 L	18,200	48,926	3,300	693	1,354,438 L	17,300	47,405	3,032
	Diesel Fuel	14	19,153 L	15,000	734	52	23	23,074 L	10,800	883	61
	Other Fuel			15,500	53	4					
Light Trucks, Vans, SUVs	Hybrid	11	24,554 L	28,500	859	57	20	41,932 L	24,300	1,468	95
	Gasoline	3,425	10,865,523 L	21,800	380,293	25,916	3,673	11,703,508 L	22,000	409,623	26,487
	Diesel Fuel	95	256,954 L	15,700	9,841	700	90	322,831 L	25,000	12,365	856
	Other Fuel	10	23,838 L	14,100	602	37			9,800	255	15
Commercial Vehicles	Gasoline	234	919,444 L	23,300	32,180	2,162	273	1,063,977 L	23,100	37,239	2,381
	Diesel Fuel	200	883,464 L	25,000	33,835	2,377	237	1,209,056 L	28,600	46,307	3,158
	Other Fuel			16,800	386	24			16,200	219	13
Tractor Trailer Trucks	Diesel Fuel	36	289,999 L	19,900	11,107	781	39	353,157 L	22,600	13,526	921
Motorhomes	Gasoline	41	114,125 L	20,400	3,995	266	53	146,986 L	20,400	5,145	326
	Diesel Fuel	27	88,097 L	18,500	3,373	238	30	99,372 L	18,700	3,806	260
	Other Fuel			19,400	219	12			17,200	126	8
Motorcycles, Mopeds	Gasoline	152	37,438 L	5,300	1,309	88	158	44,019 L	6,200	1,541	98
Buses	Hybrid								27,200	196	12
	Gasoline	31	103,432 L	20,600	3,620	243	45	145,829 L	20,000	5,103	328
	Diesel Fuel	42	173,002 L	47,500	6,626	465	58	2,059,132 L	177,400	78,865	5,375
	Other Fuel			12,900	138	9	21	8,982 L	293,100	228	13
Totals		6,835	18,238,444 L	20,145	645,121	44,000	7,226	18,238,444 L	22,328	768,896	50,165



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				2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	33,719 GJ	33,719	683	N/A	32,456 GJ	32,456	658
	Heating Oil	N/A	2,760 GJ	2,760	195	N/A	2,657 GJ	2,657	182
	Propane	N/A	204,655 GJ	204,655	12,486	N/A	4,704 GJ	4,704	287
	Natural Gas					2,262	218,386 GJ	218,386	10,954
	Electricity	10,380	182,141,095 kWh	655,707	4,554	10,942	177,456,034 kWh	638,841	4,437
Commercial/Small-Medium Industrial	Propane	313	542,468 GJ	542,468	33,096				
	Natural Gas					330	534,809 GJ	534,809	26,826
	Electricity	1,131	202,565,305 kWh	729,235	5,064	1,240	239,630,720 kWh	862,670	5,991
Totals		11,824		2,168,544	56,078	14,774		2,294,523	49,335

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	15,812 t	N/A	13,412	0	15,643 t	N/A	0
Totals		0			13,412	0			0

Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 9,749)		2010 (Po	pulation: 10,531)	
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	38,357 L	1,366	89	63,678 L	2,531	164
Gasoline	16,310,782 L	570,875	38,786	17,272,724 L	604,545	38,960
Diesel Fuel	1,865,467 L	71,445	5,036	4,198,688 L	160,810	10,981
Other Fuel	23,838 L	1,435	89	8,982 L	1,010	60
Wood	33,719 GJ	33,719	683	32,456 GJ	32,456	658
Heating Oil	2,760 GJ	2,760	195	2,657 GJ	2,657	182
Propane	747,123 GJ	747,123	45,582	4,704 GJ	4,704	287
Natural Gas	0 GJ	0		753,195 GJ	753,195	37,780
Electricity	384,706,400 kWh	1,384,942	9,618	417,086,754 kWh	1,501,511	10,428
Solid Waste	15,812 t	0	13,412	15,643 t	0	0
Grand Totals		2,813,665	113,490		3,063,419	99,500



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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	675	19	1,005	28	960	25	
Semi-Detached House	195	5	320	9	295	8	
Row House	405	11	750	21	805	21	
Apartment, Duplex	985	28	780	22	970	25	
Apartment, 5 storeys or higher	0	0	35	1	10	0	
Apartment, under 5 storeys	600	17	690	19	830	21	
Other Single Attached House	15	0	10	0	35	1	
Movable Dwelling	0	0	5	0	0	0	

Parks and Protected Greenspace

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

	200	9
	Units	%
National Parks	0	0
Provincial Parks / Protected Areas	3,298	14
Local Parks	342	1
Agricultural Land Reserve	0	0
Other land use	20,720	85
Total Parks and Protected Area	3,640	15
Total Land Area	24,360	100
* Total is not of Indian Peserves	24,300	,

* 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
3,298	14
342	1
0	0
20,720	85
3,640	15
24,360	100
	2009 Units 0 3,298 342 0 20,720 3,640 24,360

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	2,875	59	3,625	61	3,165	54	
Car, Truck, Van as Passenger	290	6	305	5	440	8	
Public Transit	535	11	840	14	935	16	
Walked	755	15	765	13	835	14	
Bicycle	225	5	240	4	355	6	
Motorcycle	20	0	0	0	10	0	
Taxicab	70	1	25	0	0	0	
Other Method	130	3	105	2	70	1	

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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,