

## 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		
<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	Hybrid								18,300	66	4
	Gasoline	281	384,685 L	14,600	13,464	915	282	383,871 L	14,500	13,436	867
	Diesel Fuel	18	28,082 L	23,500	1,075	76	13	23,707 L	27,100	908	64
Large Passenger Cars	Hybrid			20,200	89	6			21,500	179	12
	Gasoline	103	172,156 L	14,600	6,025	409	105	166,330 L	13,900	5,821	376
	Diesel Fuel			9,500	322	23	10	11,000 L	11,900	421	30
	Other Fuel			10,800	34	3					
Light Trucks, Vans, SUVs	Hybrid			21,900	121	8			23,600	415	27
	Gasoline	538	1,310,285 L	16,900	45,860	3,141	615	1,516,014 L	17,100	53,061	3,446
	Diesel Fuel	21	44,282 L	12,000	1,696	121	14	32,709 L	13,000	1,253	86
	Other Fuel			12,600	271	17			10,500	136	8
Commercial Vehicles	Gasoline	35	112,155 L	19,000	3,926	264	42	122,390 L	17,200	4,284	273
	Diesel Fuel	40	148,961 L	20,900	5,705	401	51	202,071 L	22,300	7,739	528
	Other Fuel			12,400	110	8			12,100	151	8
Tractor Trailer Trucks	Diesel Fuel	12	200,843 L	39,900	7,692	541	10	183,460 L	43,000	7,027	479
	Other Fuel			8,500	52	4			8,000	50	3
Motorhomes	Gasoline	10	23,516 L	16,600	823	54			16,000	403	25
	Diesel Fuel			14,400	597	42			16,400	815	56
Motorcycles, Mopeds	Gasoline	19	4,665 L	5,600	163	10	20	5,531 L	6,200	194	12
Buses	Gasoline			20,200	485	33			16,100	507	33
	Diesel Fuel	13	58,175 L	18,200	2,229	155	12	62,993 L	18,200	2,412	165
Totals		1,090	2,487,805 L	16,388	90,739	6,231	1,174	2,487,805 L	16,482	99,278	6,502

			2	2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	9,375 GJ	9,375	190	N/A	9,075 GJ	9,075	184
	Heating Oil	N/A	7,825 GJ	7,825	552	N/A	7,575 GJ	7,575	518
	Propane	N/A	1,350 GJ	1,350	82	N/A	1,306 GJ	1,306	80
	Electricity	1,085	18,163,846 kWh	65,390	454	1,107	18,294,535 kWh	65,860	457
Commercial/Small-Medium Industrial	Electricity	310	18,733,022 kWh	67,439	468	379	20,145,939 kWh	72,525	504
Totals		1,395		151,379	1,746	1,486		156,341	1,743



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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	1,725 t	N/A	1,507	0	14,481 t	N/A	3,634
Totals		0			1,507	0			3,634

# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 1,773)		2010 (Po	opulation: 1,895)	5)	
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)	
Hybrid	0 L	210	14	0 L	660	43	
Gasoline	2,007,462 L	70,746	4,826	2,194,136 L	77,706	5,032	
Diesel Fuel	480,343 L	19,316	1,359	515,940 L	20,575	1,408	
Other Fuel	0 L	467	32	0 L	337	19	
Wood	9,375 GJ	9,375	190	9,075 GJ	9,075	184	
Heating Oil	7,825 GJ	7,825	552	7,575 GJ	7,575	518	
Propane	1,350 GJ	1,350	82	1,306 GJ	1,306	80	
Electricity	36,896,868 kWh	132,829	922	38,440,474 kWh	138,385	961	
Solid Waste	1,725 t	0	1,507	14,481 t	0	3,634	
Grand Totals		242,118	9,484		255,619	11,879	



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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	290	40	365	63	405	60	
Semi-Detached House	0	0	30	5	45	7	
Row House	0	0	35	6	50	7	
Apartment, Duplex	15	2	60	10	75	11	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	85	12	70	12	90	13	
Other Single Attached House	10	1	10	2	5	1	
Movable Dwelling	40	5	10	2	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	2	0
Provincial Parks / Protected Areas	220	21
Local Parks	4	0
Agricultural Land Reserve	0	0
Other land use	844	79
Total Parks and Protected Area	226	21
Total Land Area	1,070	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	2	0
Provincial Parks / Protected Areas	220	21
Local Parks	4	0
Agricultural Land Reserve	0	0
Other land use	844	79
Total Parks and Protected Area	226	21
Total Land Area	1,070	100
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\* 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	315	48	425	54	435	54
Car, Truck, Van as Passenger	20	3	10	1	60	7
Public Transit	0	0	15	2	10	1
Walked	260	40	205	26	180	22
Bicycle	45	7	50	6	105	13
Motorcycle	0	0	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	10	2	85	11	15	2

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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: <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,