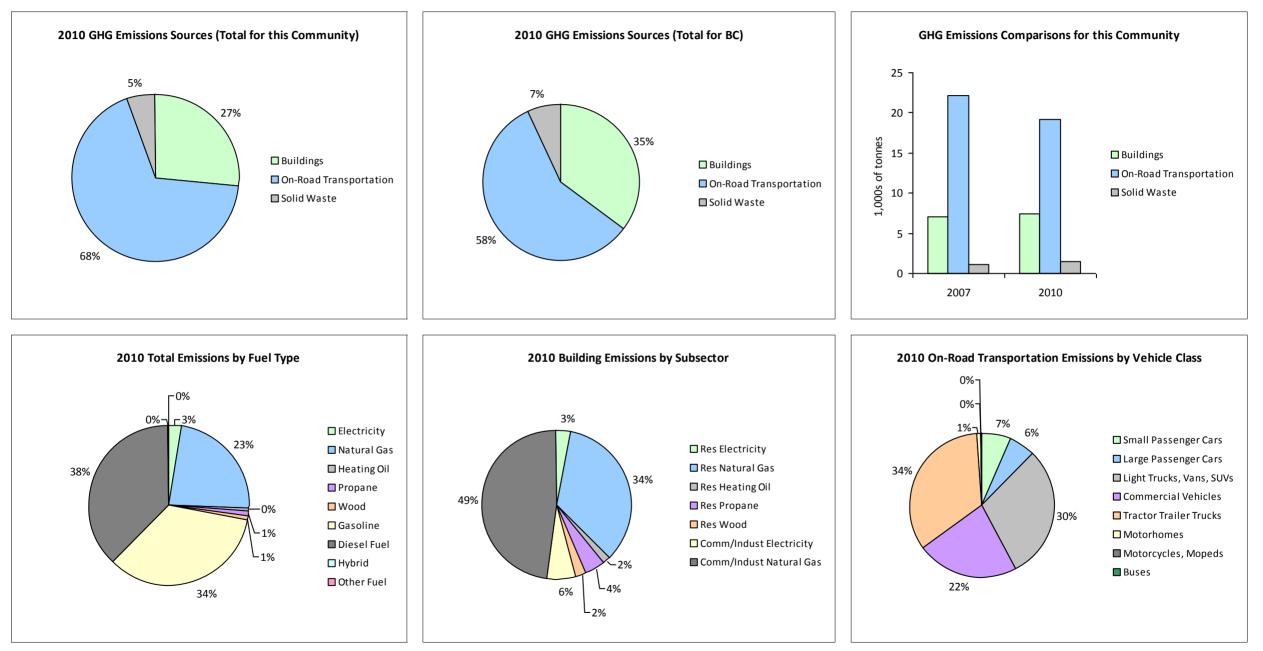


2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets





# 2010 Community Energy and Emissions Inventory

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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	Gasoline	350	615,069 L	18,800	21,527	1,451	313	540,831 L	18,500	18,930	1,206
	Diesel Fuel	22	39,533 L	26,300	1,515	108	21	34,537 L	24,000	1,323	92
Large Passenger Cars	Hybrid			32,000	160	10			30,100	219	14
	Gasoline	242	556,226 L	20,600	19,469	1,312	217	495,838 L	20,400	17,354	1,108
	Diesel Fuel			8,800	33	1					
Light Trucks, Vans, SUVs	Hybrid			27,600	79	4			18,500	186	12
	Gasoline	908	2,656,695 L	19,600	92,984	6,327	849	2,419,285 L	19,200	84,676	5,470
	Diesel Fuel	63	160,761 L	14,600	6,157	438	32	76,299 L	13,600	2,922	202
	Other Fuel			10,700	323	19			9,300	122	7
Commercial Vehicles	Hybrid								29,600	123	8
	Gasoline	143	477,000 L	19,500	16,694	1,121	167	526,023 L	18,500	18,411	1,176
	Diesel Fuel	285	1,206,736 L	24,000	46,219	3,247	255	1,192,637 L	26,500	45,678	3,113
	Other Fuel			12,400	339	21			9,700	139	8
Tractor Trailer Trucks	Gasoline			14,400	341	22			14,600	216	14
	Diesel Fuel	142	2,926,696 L	48,200	112,093	7,875	131	2,509,158 L	44,600	96,101	6,551
Motorhomes	Gasoline	12	33,598 L	19,600	1,176	79	11	32,886 L	20,900	1,151	72
	Diesel Fuel			20,900	1,120	78			19,800	1,179	81
Motorcycles, Mopeds	Gasoline	15	3,971 L	5,600	140	9	17	4,688 L	6,000	164	10
Buses	Gasoline			19,400	451	31			18,200	538	34
	Diesel Fuel			25,700	219	15			12,600	242	16
Totals		2,182	8,676,285 L	21,839	321,039	22,168	2,013	8,676,285 L	21,599	289,674	19,194



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			20	07				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	9,567 GJ	9,567	194	N/A	8,918 GJ	8,918	181
	Heating Oil	N/A	2,010 GJ	2,010	142	N/A	1,874 GJ	1,874	128
	Propane	N/A	5,462 GJ	5,462	333	N/A	5,092 GJ	5,092	311
	Natural Gas	655	58,120 GJ	58,120	2,915	655	50,601 GJ	50,601	2,538
	Electricity	1,022	10,327,012 kWh	37,177	258	1,003	10,030,774 kWh	36,111	251
Commercial/Small-Medium Industrial	Natural Gas	151	54,948 GJ	54,948	2,756	151	71,879 GJ	71,879	3,605
	Electricity	260	17,363,193 kWh	62,507	434	260	17,929,698 kWh	64,547	448
Totals		2,088		229,791	7,032	2,069		239,022	7,462

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	2,171 t	N/A	1,168	0	2,204 t	N/A	1,460
Totals		0			1,168	0			1,460

# Memo Items

			20	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	2		0	0	2		0	0
Totals		2			0	2			0



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# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 2,164)		2010 (Population: 2,142)				
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)		
Hybrid	0 L	239	14	0 L	528	34		
Gasoline	4,342,559 L	152,782	10,352	4,019,551 L	141,440	9,090		
Diesel Fuel	4,333,726 L	167,356	11,762	3,812,631 L	147,445	10,055		
Other Fuel	0 L	662	40	0 L	261	15		
Wood	9,567 GJ	9,567	194	8,918 GJ	8,918	181		
Heating Oil	2,010 GJ	2,010	142	1,874 GJ	1,874	128		
Propane	5,462 GJ	5,462	333	5,092 GJ	5,092	311		
Natural Gas	113,068 GJ	113,068	5,671	122,480 GJ	122,480	6,143		
Electricity	27,690,205 kWh	99,684	692	27,960,472 kWh	100,658	699		
Solid Waste	2,171 t	0	1,168	2,204 t	0	1,460		
Grand Totals		550,830	30,368		528,696	28,116		



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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	405	37	495	66	505	63
Semi-Detached House	10	1	15	2	15	2
Row House	45	4	50	7	50	6
Apartment, Duplex	25	2	35	5	50	6
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	165	15	105	14	130	16
Other Single Attached House	0	0	0	0	0	0
Movable Dwelling	30	3	55	7	55	7

### 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	0	0	
Local Parks	3	0	
Agricultural Land Reserve	0	0	
Other land use	752	100	
Total Parks and Protected Area	3	0	
Total Land Area	755	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	0	0
Local Parks	3	0
Agricultural Land Reserve	0	0
Other land use	752	100
Total Parks and Protected Area	3	0
Total Land Area	755	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	625	75	555	68	575	69
Car, Truck, Van as Passenger	75	9	75	9	90	11
Public Transit	0	0	0	0	0	0
Walked	130	16	190	23	165	20
Bicycle	0	0	0	0	0	0
Motorcycle	0	0	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	0	0	0	0	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: <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,