

2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

2010 GHG Emissions Sources (Total for this Community) 2010 GHG Emissions Sources (Total for BC) **GHG Emissions Comparisons for this Community** 16 8% 17% 7% 14 12 35% of tonnes 10 Buildings Buildings Buildings 8 On-Road Transportation On-Road Transportation On-Road Transportation 1,000s ( Solid Waste Solid Waste 6 Solid Waste 4 58% 2 75% 0 2007 2010 2010 Total Emissions by Fuel Type 2010 Building Emissions by Subsector 2010 On-Road Transportation Emissions by Vehicle Class -0% 0%-**-**4% 1%-0%¬ 11% 13% 9% 12% 16% Electricity Small Passenger Cars 28% 5% Heating Oil Large Passenger Cars Res Electricity Propane Light Trucks, Vans, SUVs 18% Res Heating Oil 🗖 Wood Commercial Vehicles Res Propane Gasoline Tractor Trailer Trucks Res Wood Diesel Fuel 26% Motorhomes Comm/Indust Electricity Hybrid Motorcycles, Mopeds 40% 50% Other Fuel Buses 55%

Page 1 of 6 February 20, 2014



Page 2 of 6 February 20, 2014

### 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

## **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	471	743,386 L	17,000	26,019	1,763	460	725,403 L	16,900	25,390	1,628
	Diesel Fuel	29	56,301 L	28,600	2,156	153	25	46,990 L	27,700	1,800	124
Large Passenger Cars	Hybrid								24,200	109	8
	Gasoline	176	331,691 L	16,700	11,609	788	170	324,014 L	16,700	11,340	728
	Diesel Fuel			15,600	168	11			11,200	241	16
Light Trucks, Vans, SUVs	Gasoline	890	2,315,436 L	17,700	81,040	5,536	944	2,575,397 L	18,500	90,139	5,839
	Diesel Fuel	44	103,795 L	13,900	3,976	283	30	75,309 L	15,300	2,884	199
	Other Fuel			11,600	255	16			8,900	152	9
Commercial Vehicles	Gasoline	195	620,251 L	18,600	21,709	1,458	239	756,118 L	18,600	26,464	1,692
	Diesel Fuel	183	644,267 L	19,400	24,675	1,734	223	877,828 L	21,700	33,620	2,292
	Other Fuel			12,700	348	21			11,500	254	16
Tractor Trailer Trucks	Gasoline			11,900	243	16			38,900	773	48
	Diesel Fuel	50	725,926 L	33,500	27,803	1,954	51	914,327 L	41,300	35,018	2,387
Motorhomes	Gasoline			16,900	755	51	12	29,873 L	16,800	1,046	66
	Diesel Fuel			17,000	648	46			16,000	735	50
Motorcycles, Mopeds	Gasoline	29	5,411 L	4,100	190	13	42	10,636 L	5,600	372	23
Buses	Gasoline			17,400	203	14			17,400	305	19
	Diesel Fuel								21,800	768	52
Totals		2,067	5,546,464 L	17,954	201,797	13,857	2,196	5,546,464 L	18,696	231,410	15,196

			20	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	30,614 GJ	30,614	620	N/A	29,635 GJ	29,635	600
	Heating Oil	N/A	25,479 GJ	25,479	1,796	N/A	24,665 GJ	24,665	1,687
	Propane	N/A	4,383 GJ	4,383	267	N/A	4,243 GJ	4,243	259
	Electricity	1,129	19,060,280 kWh	68,617	477	1,121	17,237,945 kWh	62,057	431
Commercial/Small-Medium Industrial	Electricity	242	16,370,005 kWh	58,932	409	251	15,086,219 kWh	54,310	377
Totals		1,371		188,025	3,569	1,372		174,910	3,354



2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	1,729 t	N/A	1,486	0	1,552 t	N/A	1,676
Totals		0			1,486	0			1,676

# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 2,655)	2010 (Population: 2,648)				
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)	
Hybrid	0 L	0		0 L	109	8	
Gasoline	4,016,175 L	141,768	9,639	4,421,441 L	155,829	10,043	
Diesel Fuel	1,530,289 L	59,426	4,181	1,914,454 L	75,066	5,120	
Other Fuel	0 L	603	37	0 L	406	25	
Wood	30,614 GJ	30,614	620	29,635 GJ	29,635	600	
Heating Oil	25,479 GJ	25,479	1,796	24,665 GJ	24,665	1,687	
Propane	4,383 GJ	4,383	267	4,243 GJ	4,243	259	
Electricity	35,430,285 kWh	127,549	886	32,324,164 kWh	116,367	808	
Solid Waste	1,729 t	0	1,486	1,552 t	0	1,676	
Grand Totals		389,822	18,912		406,320	20,226	



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	720	42	725	67	800	77	
Semi-Detached House	30	2	30	3	40	4	
Row House	130	8	120	11	120	12	
Apartment, Duplex	40	2	10	1	10	1	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	90	5	120	11	45	4	
Other Single Attached House	0	0	0	0	0	0	
Movable Dwelling	0	0	70	7	20	2	

### 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	0	0
Local Parks	5	1
Agricultural Land Reserve	0	0
Other land use	740	99
Total Parks and Protected Area	5	1
Total Land Area	745	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	5	1
Agricultural Land Reserve	0	0
Other land use	740	99
Total Parks and Protected Area	5	1
Total Land Area	745	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	L	2006		
	Units	%	Units	%	Units	%	
Car, Truck, Van as Driver	1,120	73	1,160	77	1,135	76	
Car, Truck, Van as Passenger	225	15	130	9	135	9	
Public Transit	0	0	0	0	0	0	
Walked	165	11	150	10	150	10	
Bicycle	0	0	35	2	35	2	
Motorcycle	0	0	10	1	10	1	
Taxicab	0	0	0	0	0	0	
Other Method	15	1	25	2	30	2	

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

This page intentionally left blank



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: <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,