

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** 3 8% 7% 22% 3 1,000s of tonnes 1 7 5 35% Buildings Buildings Buildings On-Road Transportation On-Road Transportation On-Road Transportation Solid Waste Solid Waste Solid Waste 58% 1 70% 0 2007 2010 2010 Total Emissions by Fuel Type 2010 Building Emissions by Subsector 2010 On-Road Transportation Emissions by Vehicle Class 5% 10% 7% 12% 2000%% 13% 13% 14% Small Passenger Cars Electricity Large Passenger Cars 19% Res Electricity Heating Oil Light Trucks, Vans, SUVs Res Heating Oil □ Propane Commercial Vehicles Res Propane 🗖 Wood Tractor Trailer Trucks Res Wood Gasoline Motorhomes 8% Comm/Indust Electricity Diesel Fuel Motorcycles, Mopeds Buses 54% 60% 65%

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	79	117,018 L	16,000	4,096	276	104	149,201 L	15,300	5,222	335
	Diesel Fuel			24,000	65	5			15,500	42	4
Large Passenger Cars	Gasoline	49	91,318 L	16,400	3,196	216	54	101,767 L	16,600	3,562	228
	Diesel Fuel								10,300	115	8
Light Trucks, Vans, SUVs	Gasoline	200	552,968 L	19,100	19,354	1,315	234	640,544 L	18,800	22,420	1,450
	Diesel Fuel	11	20,457 L	10,800	783	56	12	23,862 L	11,400	914	63
Commercial Vehicles	Gasoline	19	52,685 L	16,300	1,843	124	26	65,652 L	14,800	2,297	147
	Diesel Fuel	17	60,056 L	19,600	2,300	162	20	85,900 L	23,800	3,290	223
Tractor Trailer Trucks	Gasoline								42,800	347	22
	Diesel Fuel			12,700	385	28			16,500	283	20
Motorhomes	Gasoline								23,200	115	7
	Diesel Fuel			13,100	89	6					
Motorcycles, Mopeds	Gasoline			6,600	70	5	11	2,701 L	5,700	94	6
Buses	Gasoline			17,900	311	20			20,400	457	29
	Diesel Fuel			21,500	208	16			18,300	177	12
Totals		375	894,502 L	17,731	32,700	2,229	461	894,502 L	17,239	39,335	2,554

			2007	,			20	10	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	7,881 GJ	7,881	160	N/A	7,629 GJ	7,629	155
	Heating Oil	N/A	6,560 GJ	6,560	462	N/A	6,350 GJ	6,350	434
	Propane	N/A	1,129 GJ	1,129	69	N/A	1,093 GJ	1,093	67
	Electricity	267	4,341,388 kWh	15,629	109	266	4,021,483 kWh	14,477	101
Commercial/Small-Medium Industrial	Electricity	72	2,505,300 kWh	9,019	63	69	2,381,042 kWh	8,572	60
Totals		339		40,218	863	335		38,121	817



2010 Community Energy and Emissions Inventory

Page 3 of 6 February 20, 2014

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	310 t	N/A	266	0	284 t	N/A	307
Totals		0			266	0			307

# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	opulation: 476)		2010 (P	(Population: 486)			
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)		
Gasoline	813,989 L	28,870	1,956	959,865 L	34,514	2,224		
Diesel Fuel	80,513 L	3,830	273	109,762 L	4,821	330		
Wood	7,881 GJ	7,881	160	7,629 GJ	7,629	155		
Heating Oil	6,560 GJ	6,560	462	6,350 GJ	6,350	434		
Propane	1,129 GJ	1,129	69	1,093 GJ	1,093	67		
Electricity	6,846,688 kWh	24,648	172	6,402,525 kWh	23,049	161		
Solid Waste	310 t	0	266	284 t	0	307		
Grand Totals		72,918	3,358		77,456	3,678		



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	5	200	1	200	06
	Units	%	Units	%	Units	%
Single Detached House	195	44	175	74	200	75
Semi-Detached House	0	0	5	2	15	6
Row House	10	2	10	4	15	6
Apartment, Duplex	10	2	10	4	20	8
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	10	2	10	4	10	4
Other Single Attached House	0	0	10	4	0	0
Movable Dwelling	25	6	15	6	5	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	7	4
Agricultural Land Reserve	0	0
Other land use	175	96
Total Parks and Protected Area	7	4
Total Land Area	181	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	7	4
Agricultural Land Reserve	0	0
Other land use	175	96
Total Parks and Protected Area	7	4
Total Land Area	181	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	1996			2006	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	155	53	175	64	210	69
Car, Truck, Van as Passenger	15	5	0	0	20	7
Public Transit	0	0	10	4	0	0
Walked	90	31	80	29	50	16
Bicycle	20	7	10	4	10	3
Motorcycle	0	0	0	0	0	0
Taxicab	10	3	0	0	0	0
Other Method	0	0	0	0	15	5

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: <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,