

## 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 6% 7% 14 21% 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 73% 0 2007 2010 2010 Total Emissions by Fuel Type 2010 Building Emissions by Subsector 2010 On-Road Transportation Emissions by Vehicle Class 0%-0%-0%- 3% 3% 5% 1%¬ 7% 9% 10% 10% 22% Electricity Small Passenger Cars 14% 11% Heating Oil Large Passenger Cars Res Electricity Propane Light Trucks, Vans, SUVs Res Heating Oil 🗖 Wood 22% Commercial Vehicles Res Propane Gasoline Tractor Trailer Trucks Res Wood Diesel Fuel Motorhomes 49% Comm/Indust Electricity 21% Hybrid Motorcycles, Mopeds Other Fuel Buses 49% 56%

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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								12,800	22	0
	Gasoline	412	643,254 L	16,200	22,514	1,526	378	604,956 L	16,700	21,173	1,356
	Diesel Fuel	20	34,844 L	25,600	1,335	96	18	31,647 L	25,800	1,212	85
Large Passenger Cars	Hybrid			28,400	46	4			19,300	104	7
	Gasoline	234	441,073 L	16,500	15,438	1,046	237	445,482 L	16,500	15,592	999
	Diesel Fuel			11,100	169	12			13,700	147	11
Light Trucks, Vans, SUVs	Hybrid								29,800	441	30
	Gasoline	837	2,442,924 L	20,000	85,503	5,836	966	2,784,660 L	19,800	97,464	6,312
	Diesel Fuel	72	181,161 L	14,500	6,939	493	48	123,344 L	15,500	4,724	326
	Other Fuel			12,700	276	17			11,300	193	11
Commercial Vehicles	Gasoline	107	378,865 L	20,900	13,261	890	127	440,076 L	20,500	15,403	984
	Diesel Fuel	161	696,063 L	24,700	26,659	1,873	173	754,365 L	24,700	28,892	1,969
	Other Fuel			13,900	194	13			13,000	233	14
Tractor Trailer Trucks	Diesel Fuel	40	872,302 L	48,300	33,410	2,347	31	546,405 L	39,300	20,927	1,426
Motorhomes	Gasoline	12	36,389 L	21,400	1,274	86	11	33,503 L	21,200	1,173	75
	Diesel Fuel			18,900	1,045	74			20,600	1,120	77
	Other Fuel			15,400	58	3			16,100	60	3
Motorcycles, Mopeds	Gasoline	42	10,680 L	5,500	374	26	51	13,985 L	6,000	490	31
Buses	Gasoline			22,400	730	49			18,700	632	40
	Diesel Fuel			19,000	586	42			18,000	1,139	77
Totals		1,937	5,737,555 L	19,341	209,811	14,433	2,040	5,737,555 L	19,212	211,141	13,833

			20	07				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	99,748 GJ	99,748	2,021	N/A	96,011 GJ	96,011	1,945
	Heating Oil	N/A	8,121 GJ	8,121	572	N/A	7,817 GJ	7,817	535
	Propane	N/A	14,311 GJ	14,311	873	N/A	13,774 GJ	13,774	840
	Electricity	930	13,961,360 kWh	50,261	349	942	13,423,279 kWh	48,324	336
Commercial/Small-Medium Industrial	Electricity	201	10,701,965 kWh	38,527	268	210	10,791,197 kWh	38,848	270
Totals		1,131		210,968	4,083	1,152		204,774	3,926



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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	1,162 t	N/A	455	0	1,872 t	N/A	1,131
Totals		0			455	0			1,131

# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 2,318)	2010 (Population: 2,368)				
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)	
Hybrid	0 L	46	4	0 L	567	37	
Gasoline	3,953,185 L	139,094	9,459	4,322,662 L	151,927	9,797	
Diesel Fuel	1,784,370 L	70,143	4,937	1,455,761 L	58,161	3,971	
Other Fuel	0 L	528	33	0 L	486	28	
Wood	99,748 GJ	99,748	2,021	96,011 GJ	96,011	1,945	
Heating Oil	8,121 GJ	8,121	572	7,817 GJ	7,817	535	
Propane	14,311 GJ	14,311	873	13,774 GJ	13,774	840	
Electricity	24,663,325 kWh	88,788	617	24,214,476 kWh	87,172	606	
Solid Waste	1,162 t	0	455	1,872 t	0	1,131	
Grand Totals		420,779	18,971		415,915	18,890	



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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	520	40	735	65	835	84	
Semi-Detached House	20	2	30	3	15	2	
Row House	35	3	35	3	15	2	
Apartment, Duplex	40	3	40	4	15	2	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	75	6	35	3	70	7	
Other Single Attached House	0	0	35	3	15	2	
Movable Dwelling	90	7	225	20	25	3	

### 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	33	1
Agricultural Land Reserve	372	13
Other land use	2,535	86
Total Parks and Protected Area	33	1
Total Land Area	2,940	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	33	1
Agricultural Land Reserve	372	13
Other land use	2,535	86
Total Parks and Protected Area	33	1
Total Land Area	2,940	100

#### 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	550	64	930	72	775	76	
Car, Truck, Van as Passenger	80	9	160	12	125	12	
Public Transit	10	1	10	1	15	1	
Walked	190	22	150	12	90	9	
Bicycle	25	3	0	0	0	0	
Motorcycle	0	0	10	1	20	2	
Taxicab	0	0	0	0	0	0	
Other Method	0	0	35	3	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,