

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** 9 8% 7% 8 26% 7 6 35% 1,000s of tonnes Buildings Buildings 5 Buildings On-Road Transportation On-Road Transportation On-Road Transportation 4 Solid Waste Solid Waste Solid Waste 3 2 58% 1 66% 0 2007 2010 2010 Total Emissions by Fuel Type 2010 Building Emissions by Subsector 2010 On-Road Transportation Emissions by Vehicle Class -0% -2% 0%-5% 9% 10% 1%-15% Electricity 1% 🗖 Natural Gas Res Electricity Small Passenger Cars 26% 12% 33% 2% Res Natural Gas Heating Oil Large Passenger Cars Res Heating Oil Propane Light Trucks, Vans, SUVs 6% U Wood Res Propane Commercial Vehicles 3% 45% Res Wood Gasoline Tractor Trailer Trucks 20% Comm/Indust Electricity Diesel Fuel Motorhomes 35% Comm/Indust Natural Gas 🗖 Hybrid Motorcycles, Mopeds 23% Other Fuel 8% 39%

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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	166	283,073 L	18,200	9,907	672	200	336,305 L	18,000	11,770	756
	Diesel Fuel	12	20,632 L	25,300	791	57	13	17,334 L	19,300	664	46
Large Passenger Cars	Hybrid			31,900	56	4			28,100	104	7
	Gasoline	102	223,088 L	19,500	7,807	528	81	176,150 L	19,400	6,165	394
Light Trucks, Vans, SUVs	Hybrid			18,200	51	4					
	Gasoline	408	1,064,531 L	17,300	37,259	2,552	429	1,106,388 L	17,300	38,723	2,512
	Diesel Fuel	28	66,416 L	13,400	2,544	181	24	67,887 L	16,200	2,601	181
Commercial Vehicles	Gasoline	46	134,404 L	17,000	4,705	316	54	158,847 L	17,300	5,561	355
	Diesel Fuel	107	418,378 L	22,000	16,023	1,126	124	541,811 L	24,900	20,752	1,414
	Other Fuel								7,400	37	3
Tractor Trailer Trucks	Gasoline								86,600	1,061	68
	Diesel Fuel	35	856,969 L	55,800	32,823	2,306	33	737,987 L	50,800	28,265	1,927
Motorhomes	Gasoline			20,900	422	29			21,600	338	21
	Diesel Fuel								17,600	667	46
Motorcycles, Mopeds	Gasoline			4,900	73	6	23	6,549 L	6,100	229	16
Totals		904	3,067,491 L	19,731	112,461	7,781	981	3,067,491 L	19,441	116,937	7,746

			2	2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	18,943 GJ	18,943	384	N/A	17,659 GJ	17,659	358
	Heating Oil	N/A	3,972 GJ	3,972	280	N/A	3,703 GJ	3,703	253
	Propane	N/A	10,778 GJ	10,778	658	N/A	10,048 GJ	10,048	613
	Natural Gas	408	32,235 GJ	32,235	1,617	408	28,085 GJ	28,085	1,409
	Electricity	520	5,376,838 kWh	19,357	134	553	5,661,834 kWh	20,383	142
Commercial/Small-Medium Industrial	Natural Gas	25	6,716 GJ	6,716	337	25	5,340 GJ	5,340	268
	Electricity	76	1,548,554 kWh	5,575	39	71	1,565,067 kWh	5,634	39
Totals		1,029		97,576	3,449	1,057		90,852	3,082



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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	1,336 t	N/A	719	0	1,443 t	N/A	956
Totals		0			719	0			956

# Memo Items

				2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	1		0	0	1		0	0
Totals		1			0	1			0

# Totals for Transportation, Buildings and Solid Waste

	2007 (Poj	pulation: 1,332)	2010 (Population: 1,403)			
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	0 L	107	8	0 L	104	7
Gasoline	1,705,096 L	60,173	4,103	1,784,239 L	63,847	4,122
Diesel Fuel	1,362,395 L	52,181	3,670	1,365,019 L	52,949	3,614
Other Fuel	0 L	0		0 L	37	3
Wood	18,943 GJ	18,943	384	17,659 GJ	17,659	358
Heating Oil	3,972 GJ	3,972	280	3,703 GJ	3,703	253
Propane	10,778 GJ	10,778	658	10,048 GJ	10,048	613
Natural Gas	38,951 GJ	38,951	1,954	33,425 GJ	33,425	1,677
Electricity	6,925,392 kWh	24,932	173	7,226,901 kWh	26,017	181
Solid Waste	1,336 t	0	719	1,443 t	0	956
Grand Totals		210,037	11,949		207,789	11,784



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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	360	49	450	98	435	95
Semi-Detached House	0	0	0	0	0	0
Row House	0	0	0	0	0	0
Apartment, Duplex	0	0	5	1	10	2
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	0	0	0	0	10	2
Other Single Attached House	0	0	5	1	0	0
Movable Dwelling	10	1	0	0	5	1

## 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	0	0	
Agricultural Land Reserve	74	11	
Other land use	602	89	
Total Parks and Protected Area	0	0	
Total Land Area	677	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	0 0
Agricultural Land Reserve	74 11
Other land use	602 89
Total Parks and Protected Area	0 0
Total Land Area	677 100

\* 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	435	88	505	82	475	81	
Car, Truck, Van as Passenger	10	2	40	7	70	12	
Public Transit	0	0	0	0	0	0	
Walked	25	5	45	7	25	4	
Bicycle	10	2	10	2	0	0	
Motorcycle	0	0	0	0	0	0	
Taxicab	0	0	0	0	0	0	
Other Method	15	3	15	2	15	3	

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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,