

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 3% 7% 8 7 34% 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 63% 58% 1 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%-4% 13% 20% Electricity 8% Small Passenger Cars Natural Gas Res Electricity Large Passenger Cars 29% 34% 9% Res Natural Gas Heating Oil Light Trucks, Vans, SUVs Res Heating Oil Propane Commercial Vehicles U Wood Res Propane 20% Tractor Trailer Trucks 47% Res Wood Gasoline Motorhomes 1% Comm/Indust Electricity Diesel Fuel Motorcycles, Mopeds Comm/Indust Natural Gas 🗖 Hybrid -1% Buses 5%-Other Fuel 43% 44% -2% 2% 3%-

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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	Hybrid								25,700	44	4
	Gasoline	322	468,583 L	15,400	16,399	1,111	320	444,555 L	14,700	15,560	1,000
	Diesel Fuel	10	13,777 L	20,100	528	38	14	19,740 L	20,600	757	53
	Other Fuel			24,700	57	4					
Large Passenger Cars	Hybrid								22,500	141	8
	Gasoline	215	378,346 L	15,500	13,243	903	198	332,094 L	14,800	11,623	750
	Diesel Fuel			11,300	179	13			9,100	69	5
	Other Fuel			12,900	85	5			12,200	41	4
Light Trucks, Vans, SUVs	Hybrid			20,300	56	4			19,000	51	4
	Gasoline	512	1,308,412 L	17,500	45,794	3,140	572	1,450,765 L	17,400	50,776	3,297
	Diesel Fuel	53	127,998 L	13,600	4,903	349	34	93,137 L	15,600	3,567	246
	Other Fuel	15	31,697 L	12,300	801	49	10	19,640 L	11,300	497	30
Commercial Vehicles	Gasoline	62	179,730 L	17,100	6,291	422	77	217,872 L	16,800	7,625	487
	Diesel Fuel	86	328,476 L	21,000	12,581	884	112	452,922 L	22,400	17,347	1,183
	Other Fuel			15,500	221	14			11,200	103	7
Tractor Trailer Trucks	Diesel Fuel			48,200	6,668	468	10	267,906 L	57,900	10,260	700
Motorhomes	Gasoline	20	55,487 L	19,300	1,943	129	21	60,455 L	19,800	2,117	134
	Diesel Fuel	16	59,116 L	20,200	2,264	159	11	41,158 L	20,100	1,577	108
	Other Fuel			17,300	197	12			18,100	71	5
Motorcycles, Mopeds	Gasoline	24	6,560 L	6,000	229	15	27	7,476 L	6,000	262	17
Buses	Diesel Fuel	23	138,795 L	20,500	5,317	374	21	123,146 L	21,100	4,716	322
Totals		1,358	3,096,977 L	16,604	117,756	8,093	1,427	3,096,977 L	16,918	127,204	8,364



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			2	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	11,258 GJ	11,258	228	N/A	10,837 GJ	10,837	220
	Heating Oil	N/A	1,522 GJ	1,522	107	N/A	1,465 GJ	1,465	100
	Propane	N/A	2,685 GJ	2,685	164	N/A	2,585 GJ	2,585	158
	Natural Gas	643	48,251 GJ	48,251	2,420	644	43,110 GJ	43,110	2,163
	Electricity	904	7,200,479 kWh	25,922	180	913	7,531,894 kWh	27,115	188
Commercial/Small-Medium Industrial	Natural Gas	77	34,013 GJ	34,013	1,706	69	30,745 GJ	30,745	1,542
	Electricity	157	9,957,365 kWh	35,846	249	163	8,656,995 kWh	31,165	216
Totals		1,781		159,497	5,054	1,789		147,022	4,587

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	1,838 t	N/A	389	0	1,458 t	N/A	429
Totals		0			389	0			429

## Memo Items

				2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	2		0	0	1		0	0
	Electricity	1		0	0	1		0	0
Totals		3			0	2			0



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# Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 1,722)	2010 (Population: 1,756)			
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	0 L	56	4	0 L	236	16
Gasoline	2,397,118 L	83,899	5,720	2,513,217 L	87,963	5,685
Diesel Fuel	668,162 L	32,440	2,285	998,009 L	38,293	2,617
Other Fuel	31,697 L	1,361	84	19,640 L	712	46
Wood	11,258 GJ	11,258	228	10,837 GJ	10,837	220
Heating Oil	1,522 GJ	1,522	107	1,465 GJ	1,465	100
Propane	2,685 GJ	2,685	164	2,585 GJ	2,585	158
Natural Gas	82,264 GJ	82,264	4,126	73,855 GJ	73,855	3,705
Electricity	17,157,844 kWh	61,768	429	16,188,889 kWh	58,280	404
Solid Waste	1,838 t	0	389	1,458 t	0	429
Grand Totals		277,253	13,536		274,226	13,380



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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	485	39	535	68	495	64	
Semi-Detached House	15	1	45	6	15	2	
Row House	25	2	55	7	75	10	
Apartment, Duplex	0	0	0	0	20	3	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	165	13	85	11	95	12	
Other Single Attached House	10	1	10	1	5	1	
Movable Dwelling	60	5	55	7	65	8	

#### 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	6	0	
Agricultural Land Reserve	4,008	77	
Other land use	1,222	23	
Total Parks and Protected Area	6	0	
Total Land Area	5,235	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.

	200	9						
	Units	%						
National Parks	0	0						
Provincial Parks / Protected Areas	0	0						
Local Parks	6	0						
Agricultural Land Reserve	4,008	77						
Other land use	1,222	23						
Total Parks and Protected Area	6	0						
Total Land Area	5,235	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		200	1	2006	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	565	73	540	78	445	75
Car, Truck, Van as Passenger	130	17	30	4	90	15
Public Transit	0	0	0	0	0	0
Walked	30	4	110	16	35	6
Bicycle	25	3	0	0	10	2
Motorcycle	10	1	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	10	1	10	1	10	2

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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,