

2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Page 1 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		
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								24,000	47	3
	Gasoline	135	285,103 L	22,400	9,979	668	126	252,263 L	21,200	8,830	562
	Diesel Fuel			26,100	203	16			27,800	360	25
Large Passenger Cars	Hybrid								36,100	72	4
	Gasoline	76	193,432 L	22,600	6,770	454	74	178,214 L	21,200	6,237	398
	Diesel Fuel			11,300	90	6					
Light Trucks, Vans, SUVs	Hybrid								29,900	102	7
	Gasoline	323	1,138,286 L	23,600	39,840	2,699	349	1,164,585 L	22,300	40,761	2,629
	Diesel Fuel	15	37,873 L	14,000	1,451	103	11	27,264 L	13,700	1,044	72
	Other Fuel			12,000	211	13			11,700	100	6
Commercial Vehicles	Gasoline	96	407,417 L	25,300	14,259	958	112	446,396 L	23,700	15,625	1,000
	Diesel Fuel	130	628,051 L	27,300	24,054	1,691	152	826,564 L	30,600	31,658	2,157
	Other Fuel			14,200	211	13			9,400	136	8
Tractor Trailer Trucks	Gasoline			9,600	87	6					
	Diesel Fuel	34	720,846 L	49,300	27,609	1,939	31	550,802 L	41,200	21,097	1,439
Motorhomes	Gasoline			20,600	528	36			19,200	390	25
	Diesel Fuel			21,600	667	46			22,200	870	59
Motorcycles, Mopeds	Gasoline			6,000	87	6	21	6,405 L	6,600	223	14
Totals		809	3,411,008 L	25,004	126,046	8,654	876	3,411,008 L	23,853	127,552	8,408

			2	2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	4,561 GJ	4,561	92	N/A	4,252 GJ	4,252	86
	Heating Oil	N/A	363 GJ	363	26	N/A	339 GJ	339	23
	Propane	N/A	986 GJ	986	60	N/A	919 GJ	919	56
	Natural Gas	478	49,264 GJ	49,264	2,471	478	47,263 GJ	47,263	2,371
	Electricity	585	5,960,229 kWh	21,457	149	611	6,465,015 kWh	23,274	162
Commercial/Small-Medium Industrial	Natural Gas	52	27,153 GJ	27,153	1,362	52	24,154 GJ	24,154	1,212
	Electricity	96	16,755,578 kWh	60,320	419	106	20,684,424 kWh	74,464	517
Totals		1,211		164,104	4,579	1,247		174,665	4,427



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	307 t	N/A	286	0	257 t	N/A	354
Totals		0			286	0			354

Memo Items

			200	07				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Electricity	3		0	0	3		0	0
Totals		3			0	3			0

Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 1,403)	2010 (Po	opulation: 1,497)		
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	0 L	0		0 L	221	14
Gasoline	2,024,238 L	71,550	4,827	2,047,863 L	72,066	4,628
Diesel Fuel	1,386,770 L	54,074	3,801	1,404,630 L	55,029	3,752
Other Fuel	0 L	422	26	0 L	236	14
Wood	4,561 GJ	4,561	92	4,252 GJ	4,252	86
Heating Oil	363 GJ	363	26	339 GJ	339	23
Propane	986 GJ	986	60	919 GJ	919	56
Natural Gas	76,417 GJ	76,417	3,833	71,417 GJ	71,417	3,583
Electricity	22,715,807 kWh	81,777	568	27,149,439 kWh	97,738	679
Solid Waste	307 t	0	286	257 t	0	354
Grand Totals		290,150	13,519		302,217	13,189



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	190	36	335	78	255	49	
Semi-Detached House	0	0	0	0	0	0	
Row House	20	4	10	2	15	3	
Apartment, Duplex	0	0	5	1	0	0	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	60	11	50	12	80	15	
Other Single Attached House	0	0	0	0	0	0	
Movable Dwelling	75	14	30	7	170	33	

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	1	0	
Agricultural Land Reserve	767	44	
Other land use	993	56	
Total Parks and Protected Area	1	0	
Total Land Area	1,761	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	1	0
Agricultural Land Reserve	767	44
Other land use	993	56
Total Parks and Protected Area	1	0
Total Land Area	1,761	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	325	78	505	85	675	87
Car, Truck, Van as Passenger	30	7	30	5	45	6
Public Transit	0	0	0	0	0	0
Walked	40	10	50	8	45	6
Bicycle	0	0	10	2	10	1
Motorcycle	0	0	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	20	5	0	0	0	0

Commute Distance

Shorter commute distances generally reduce GHG emissions by increasing the likelihood of people walking, cycling or using transit. Commute distance is also indicative of the 'completeness' of a community from an employment perspective.

	2006
	Units %
Less than 5 km	115 22
5 to 9.9 km	0 0
25 km or more	50 9
15 to 24.9 km	105 19
10 to 14.9 km	280 53



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: http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html For guidance on target setting and community actions, go to http://www.toolkit.bc.ca and

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,