

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** 25 10% 7% 23% 20 35% 1,000s of tonnes 15 Buildings Buildings Buildings On-Road Transportation On-Road Transportation On-Road Transportation Solid Waste 10 Solid Waste Solid Waste 5 58% 67% 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%-0%-1% 8% 2%¬ Electricity 21% 5% Small Passenger Cars 🗖 Natural Gas Res Electricity 23% 1% 33% Large Passenger Cars 33% Res Natural Gas Heating Oil Light Trucks, Vans, SUVs -1% Res Heating Oil Propane Commercial Vehicles ·2% Wood Res Propane 49% Tractor Trailer Trucks Gasoline Res Wood Motorhomes Comm/Indust Electricity 38% Diesel Fuel 2% Motorcycles, Mopeds Comm/Indust Natural Gas 🗖 Hybrid 24% Buses Other Fuel 5% _{3%} 41%

Page 1 of 7 February 20, 2014



Page 2 of 7 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								12,000	22	0
	Gasoline	505	704,089 L	14,700	24,644	1,676	522	718,352 L	14,500	25,143	1,618
	Diesel Fuel	27	41,484 L	22,700	1,590	114	31	45,563 L	21,700	1,745	121
	Other Fuel								23,900	63	4
Large Passenger Cars	Hybrid			16,000	34	3					
	Gasoline	341	581,626 L	15,000	20,357	1,385	317	499,396 L	13,800	17,479	1,127
	Diesel Fuel			15,700	166	11			12,000	95	6
	Other Fuel			19,100	66	4					
Light Trucks, Vans, SUVs	Hybrid			23,200	64	4			18,600	123	8
	Gasoline	1,157	2,901,023 L	17,500	101,536	6,954	1,323	3,147,960 L	16,700	110,178	7,164
	Diesel Fuel	94	216,689 L	13,000	8,299	590	75	192,993 L	14,800	7,391	510
	Other Fuel	11	22,401 L	12,000	567	35			10,100	261	15
Commercial Vehicles	Gasoline	146	486,284 L	19,800	17,019	1,143	178	574,850 L	19,100	20,121	1,285
	Diesel Fuel	249	1,121,713 L	25,500	42,961	3,019	290	1,353,638 L	26,400	51,844	3,535
	Other Fuel			12,800	244	15			13,500	321	19
Tractor Trailer Trucks	Diesel Fuel	63	1,868,961 L	70,600	71,581	5,029	67	1,847,687 L	66,000	70,766	4,823
Motorhomes	Gasoline	39	107,573 L	18,900	3,766	251	34	98,116 L	19,700	3,435	218
	Diesel Fuel	27	101,188 L	19,900	3,875	272	24	93,162 L	20,500	3,568	243
	Other Fuel								23,100	91	5
Motorcycles, Mopeds	Gasoline	43	10,200 L	5,500	357	24	46	11,663 L	5,800	408	27
Buses	Gasoline			21,600	333	23			18,400	205	13
	Diesel Fuel			20,900	182	12			20,000	384	26
	Other Fuel			12,200	58	4					
Totals		2,702	8,163,231 L	18,487	297,699	20,568	2,907	8,163,231 L	18,138	313,643	20,767



Page 3 of 7 February 20, 2014

2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

			2	2007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	25,441 GJ	25,441	515	N/A	24,488 GJ	24,488	496
	Heating Oil	N/A	3,442 GJ	3,442	243	N/A	3,313 GJ	3,313	227
	Propane	N/A	6,073 GJ	6,073	371	N/A	5,846 GJ	5,846	357
	Natural Gas	1,052	75,551 GJ	75,551	3,790	1,031	70,300 GJ	70,300	3,526
	Electricity	1,395	12,760,716 kWh	45,939	45	1,528	13,595,407 kWh	48,943	82
Commercial/Small-Medium Industrial	Natural Gas	163	48,815 GJ	48,815	2,449	158	47,415 GJ	47,415	2,378
	Electricity	316	18,024,768 kWh	64,889	61	370	18,346,762 kWh	66,048	110
Totals		2,926		270,150	7,474	3,087		266,353	7,176

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	2,701 t	N/A	2,262	0	3,332 t	N/A	2,994
Totals		0			2,262	0			2,994

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
	Electricity	1		0	0	1		0	0
Totals		2			0	2			0



2010 Community Energy and Emissions Inventory

Page 4 of 7 February 20, 2014

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Totals for Transportation, Buildings and Solid Waste

	2007 (Po	pulation: 2,696)	2010 (Population: 2,994)			
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	0 L	98	7	0 L	145	8
Gasoline	4,790,795 L	168,012	11,456	5,050,337 L	176,969	11,452
Diesel Fuel	3,350,035 L	128,654	9,047	3,533,043 L	135,793	9,264
Other Fuel	22,401 L	935	58	0 L	736	43
Wood	25,441 GJ	25,441	515	24,488 GJ	24,488	496
Heating Oil	3,442 GJ	3,442	243	3,313 GJ	3,313	227
Propane	6,073 GJ	6,073	371	5,846 GJ	5,846	357
Natural Gas	124,366 GJ	124,366	6,239	117,715 GJ	117,715	5,904
Electricity	30,785,484 kWh	110,828	106	31,942,169 kWh	114,991	192
Solid Waste	2,701 t	0	2,262	3,332 t	0	2,994
Grand Totals		567,849	30,304		579,996	30,937



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	835	40	830	69	920	72	
Semi-Detached House	20	1	20	2	35	3	
Row House	50	2	50	4	45	4	
Apartment, Duplex	10	0	15	1	15	1	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	155	7	90	7	145	11	
Other Single Attached House	25	1	20	2	10	1	
Movable Dwelling	155	7	180	15	115	9	

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	9	1	
Agricultural Land Reserve	215	21	
Other land use	806	78	
Total Parks and Protected Area	9	1	
Total Land Area	1,031	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	9	1
Agricultural Land Reserve	215	21
Other land use	806	78
Total Parks and Protected Area	9	1
Total Land Area	1,031	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		2006	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	795	71	725	81	710	70
Car, Truck, Van as Passenger	120	11	50	6	90	9
Public Transit	0	0	10	1	25	2
Walked	175	16	80	9	120	12
Bicycle	10	1	15	2	35	3
Motorcycle	0	0	0	0	0	0
Taxicab	10	1	0	0	0	0
Other Method	15	1	10	1	35	3

Page 5 of 7 February 20, 2014



Princeton Town 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Page 6 of 7 February 20, 2014

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2010 Community Energy and Emissions Inventory

Page 7 of 7 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 8 of 7 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,