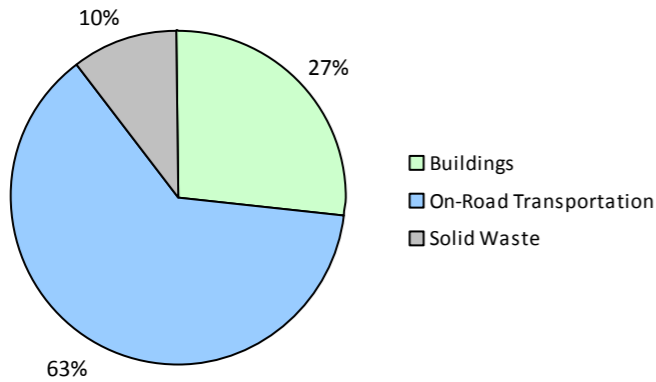
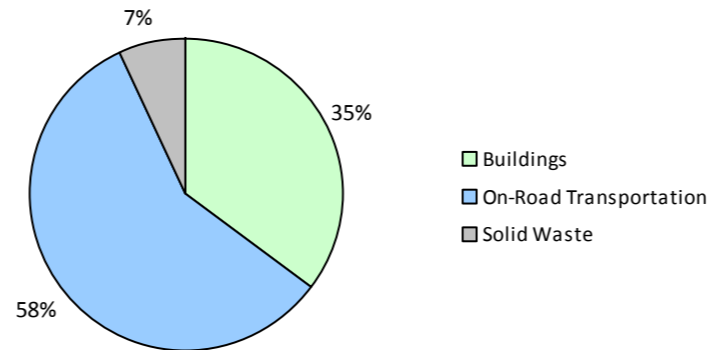


Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

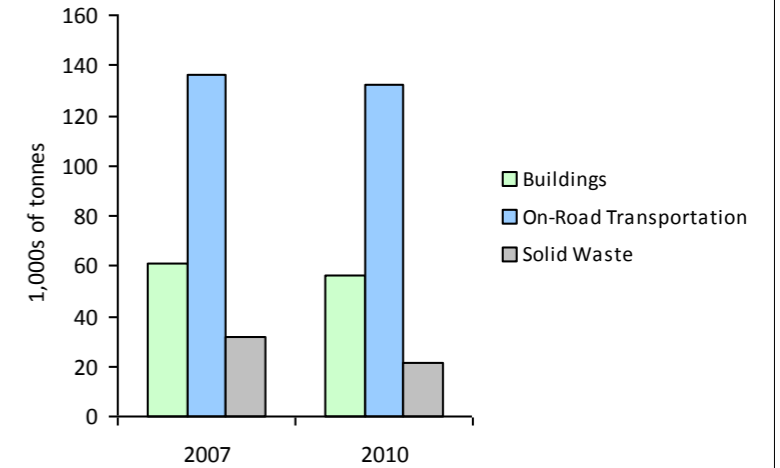
2010 GHG Emissions Sources (Total for this Community)



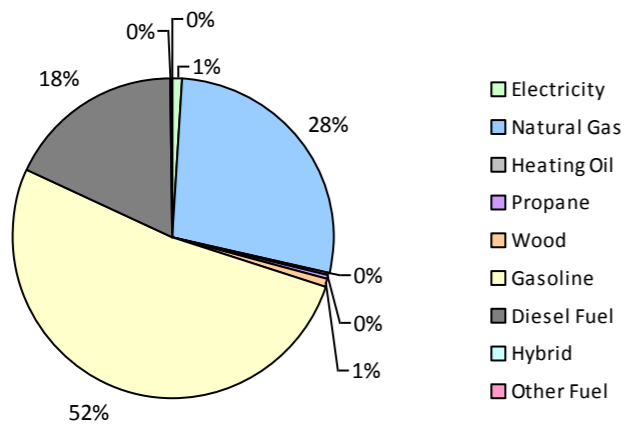
2010 GHG Emissions Sources (Total for BC)



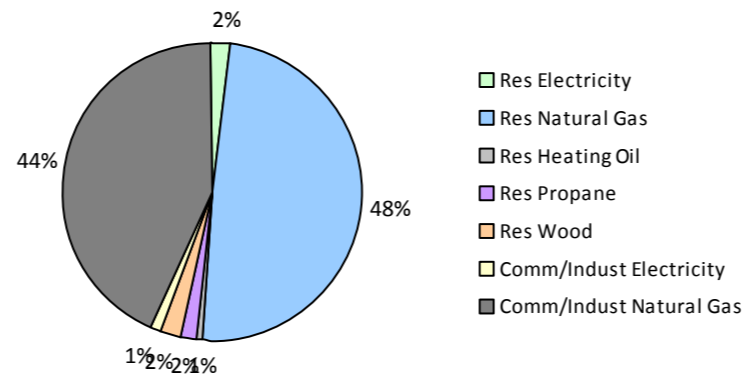
GHG Emissions Comparisons for this Community



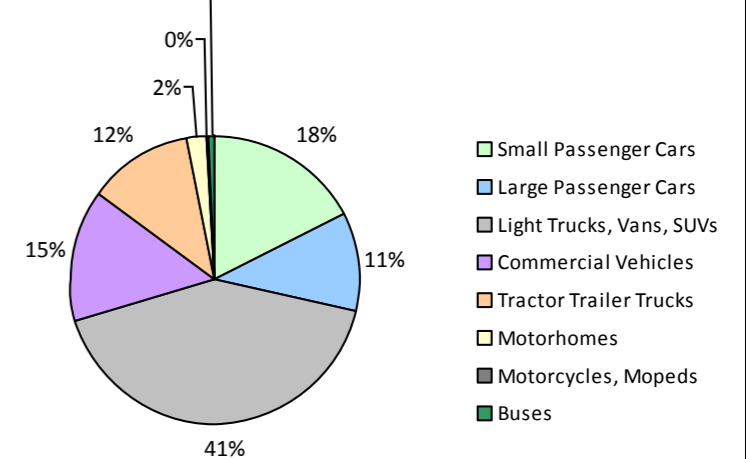
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Penticton City 2010 Community Energy and Emissions Inventory

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Core Items

On-Road Transportation		2007					2010				
		Connections	Consumption	Avg VKT (km)	Energy (GJ)	CO2e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	CO2e (t)
Small Passenger Cars	Hybrid	11	8,639 L	16,900	303	20	17	16,269 L	19,000	570	36
	Gasoline	6,925	9,965,520 L	15,200	348,793	23,724	6,966	10,046,989 L	15,300	351,644	22,589
	Diesel Fuel	189	286,000 L	22,400	10,954	781	171	250,470 L	21,500	9,593	664
	Other Fuel			13,600	62	4			19,300	100	7
Large Passenger Cars	Hybrid	15	18,866 L	24,800	661	44	60	77,100 L	22,500	2,699	171
	Gasoline	4,056	7,098,443 L	15,300	248,446	16,921	3,675	6,327,340 L	15,100	221,457	14,248
	Diesel Fuel	54	66,567 L	12,600	2,550	181	43	57,748 L	14,300	2,213	152
	Other Fuel			13,000	134	9			10,700	71	5
Light Trucks, Vans, SUVs	Hybrid			27,300	384	25	21	49,551 L	26,100	1,734	112
	Gasoline	8,336	21,927,297 L	18,300	767,456	52,517	8,847	23,052,048 L	18,300	806,822	52,322
	Diesel Fuel	482	1,172,606 L	13,700	44,910	3,189	331	897,517 L	15,800	34,375	2,372
	Other Fuel	63	132,995 L	12,400	3,366	203	35	67,617 L	11,300	1,712	104
Commercial Vehicles	Gasoline	731	2,466,029 L	20,100	86,311	5,796	911	3,077,050 L	20,200	107,697	6,884
	Diesel Fuel	824	3,751,875 L	24,700	143,697	10,096	968	4,938,761 L	28,100	189,155	12,895
	Other Fuel	30	71,016 L	12,400	1,797	109	14	31,408 L	11,500	795	48
Tractor Trailer Trucks	Gasoline			12,500	233	15			13,700	128	7
	Diesel Fuel	305	6,941,741 L	55,600	265,869	18,680	274	5,944,413 L	53,800	227,671	15,520
	Other Fuel			23,300	162	9			26,800	496	30
Motorhomes	Gasoline	233	654,846 L	19,300	22,920	1,529	237	672,468 L	19,300	23,536	1,497
	Diesel Fuel	137	505,272 L	20,000	19,352	1,359	127	482,780 L	19,900	18,490	1,260
	Other Fuel	11	31,539 L	18,900	799	48			20,200	542	34
Motorcycles, Mopeds	Gasoline	427	96,962 L	5,300	3,393	226	515	137,012 L	6,200	4,796	304
Buses	Gasoline	43	127,530 L	18,900	4,464	300	45	130,621 L	18,500	4,573	292
	Diesel Fuel	52	244,775 L	16,600	9,374	659	39	184,167 L	35,900	7,054	480
	Other Fuel			11,900	185	11			7,600	81	5
Totals		22,924	55,568,518 L	17,295	1,986,575	136,455	23,296	55,568,518 L	17,563	2,018,004	132,038

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Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Residential	Wood	N/A	64,858 GJ	64,858	1,314	N/A	62,428 GJ	62,428	1,265
	Heating Oil	N/A	8,803 GJ	8,803	621	N/A	8,473 GJ	8,473	579
	Propane	N/A	15,577 GJ	15,577	950	N/A	14,993 GJ	14,993	915
	Natural Gas	8,665	603,790 GJ	603,790	30,287	8,758	543,259 GJ	543,259	27,250
	Electricity	14,704	167,611,250 kWh	603,400	505	15,304	213,145,281 kWh	767,322	1,279
Commercial/Small-Medium Industrial	Natural Gas	1,298	535,180 GJ	535,180	26,845	1,271	490,773 GJ	490,773	24,617
	Electricity	1,729	188,039,724 kWh	676,942	589	1,729	99,930,747 kWh	359,750	600
Totals		26,396		2,508,550	61,111	27,062		2,246,998	56,505

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Community Solid Waste	Solid Waste	0	32,917 t	N/A	31,584	0	36,802 t	N/A	21,636
Totals		0			31,584	0			21,636

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Large Industrial	Natural Gas	4		0	0	3		0	0
Totals		4			0	3			0

Penticton City 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 32,853)			2010 (Population: 33,078)		
	Consumption	Energy (GJ)	CO2e (t)	Consumption	Energy (GJ)	CO2e (t)
Hybrid	27,505 L	1,348	89	142,920 L	5,003	319
Gasoline	42,336,627 L	1,482,016	101,028	43,443,528 L	1,520,653	98,143
Diesel Fuel	12,968,836 L	496,706	34,945	12,755,856 L	488,551	33,343
Other Fuel	235,550 L	6,505	393	99,025 L	3,797	233
Wood	64,858 GJ	64,858	1,314	62,428 GJ	62,428	1,265
Heating Oil	8,803 GJ	8,803	621	8,473 GJ	8,473	579
Propane	15,577 GJ	15,577	950	14,993 GJ	14,993	915
Natural Gas	1,138,970 GJ	1,138,970	57,132	1,034,032 GJ	1,034,032	51,867
Electricity	355,650,974 kWh	1,280,342	1,094	313,076,028 kWh	1,127,072	1,879
Solid Waste	32,917 t	0	31,584	36,802 t	0	21,636
Grand Totals		4,495,125	229,150		4,265,002	210,179

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		2001		2006	
	Units	%	Units	%	Units	%
Single Detached House	7,300	35	7,190	50	7,045	48
Semi-Detached House	535	3	495	3	545	4
Row House	1,200	6	1,265	9	1,300	9
Apartment, Duplex	260	1	230	2	310	2
Apartment, 5 storeys or higher	355	2	505	4	645	4
Apartment, under 5 storeys	3,625	17	4,030	28	4,115	28
Other Single Attached House	65	0	45	0	75	1
Movable Dwelling	350	2	490	3	555	4

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	8,410	73	8,675	77	9,460	71
Car, Truck, Van as Passenger	850	7	620	6	1,315	10
Public Transit	210	2	115	1	170	1
Walked	1,400	12	1,285	11	1,775	13
Bicycle	390	3	375	3	470	4
Motorcycle	25	0	30	0	65	0
Taxicab	20	0	30	0	30	0
Other Method	150	1	90	1	90	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	88	2
Agricultural Land Reserve	937	21
Other land use	3,528	77
Total Parks and Protected Area	88	2
Total Land Area	4,553	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	88	2
Agricultural Land Reserve	937	21
Other land use	3,528	77
Total Parks and Protected Area	88	2
Total Land Area	4,553	100

* Net of Crown land, parks, Indian Reserves, water features, airports, ALR, waste disposal site

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	9,820	83
5 to 9.9 km	310	3
25 km or more	890	8
15 to 24.9 km	630	5
10 to 14.9 km	130	1

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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) <http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm>, and on the <http://toolkit.bc.ca> 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.

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 (<http://www.toolkit.bc.ca>), 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

<http://www.cd.gov.bc.ca/lgd/greencommunities/targets.htm>

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,