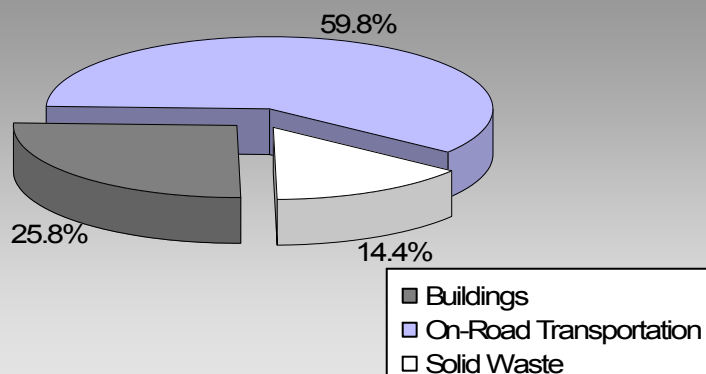


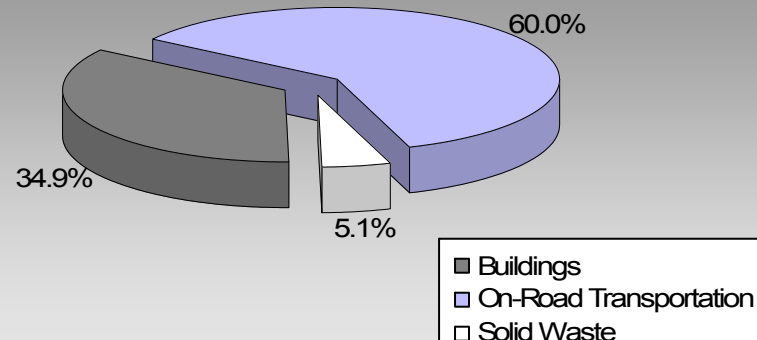
BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

## Where are the majority of our community's emissions coming from?

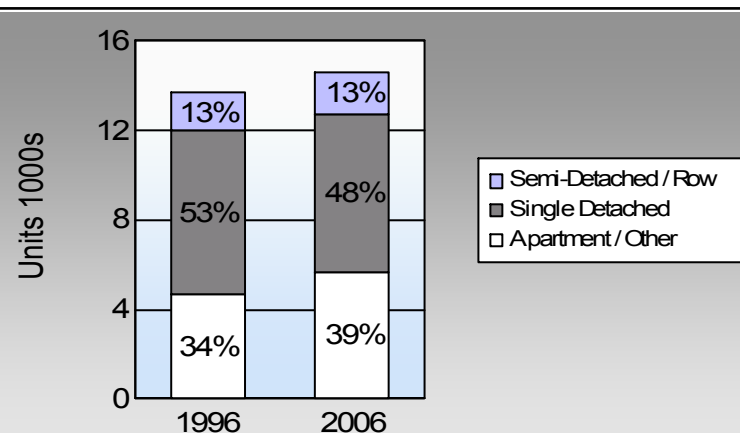
**Penticton City  
2007 GHG Emissions Sources**



**Total for BC  
Communities**








## Are we living more compactly? Housing Type



In BC, single family detached housing made up 49% of housing in 2006.

## Are we driving less?

### Commute To Work

	1996	2006
	73.4%	70.7%
	7.4%	9.8%
	1.8%	1.3%
	12.2%	13.3%
	3.4%	3.5%

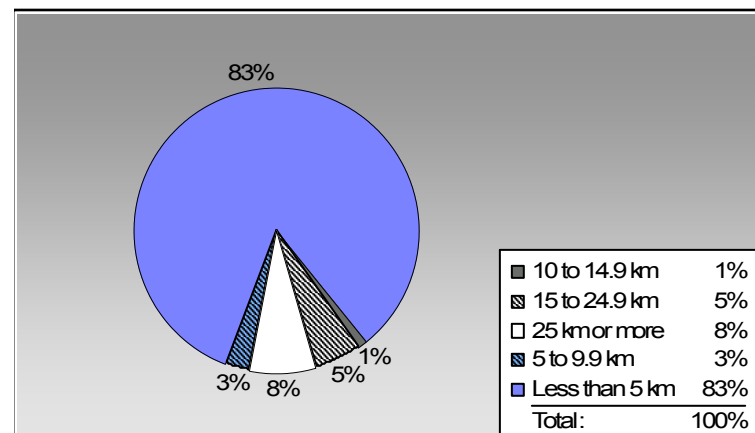
In BC, 10% of people took transit, 7% walked, and 2% cycled to work in 2006.

### Residential Density

Penticton City: 8.1 people per net ha

BC municipal average: 7.4 people per net ha

## Are we living closer to where we work? Commute Distance



In BC, 41% of people lived within 5km of their work in 2006.

## Sectors

<b>On Road Transportation</b>		<u>Vehicles</u>	<u>Consumption</u>	<u>Measurement</u>	<u>Average-VKT(km)</u>	<u>Energy (GJ)</u>	<u>CO2e (t)</u>
Small Passenger Cars	Gasoline	6,795	8,032,089	Litres	11,757	281,123	19,224
	Diesel Fuel	208	182,246	Litres	12,066	6,980	498
	Other Fuel	< 10	1,009	Litres	10,295	39	2
<b>Small Passenger Cars</b>						<b>288,142</b>	<b>19,724</b>
Large Passenger Cars	Gasoline	4,232	9,161,463	Litres	17,621	320,651	21,830
	Diesel Fuel	73	172,858	Litres	18,433	6,620	472
	Other Fuel	15	38,088	Litres	14,396	1,459	58
<b>Large Passenger Cars</b>						<b>328,730</b>	<b>22,360</b>
Light Trucks, Vans, SUVs	Gasoline	8,358	24,575,129	Litres	19,605	860,130	58,916
	Diesel Fuel	572	1,501,023	Litres	20,380	57,489	4,101
	Other Fuel	73	163,288	Litres	13,183	6,254	250
<b>Light Trucks, Vans, SUVs</b>						<b>923,873</b>	<b>63,267</b>
Commercial Vehicles	Gasoline	76	284,047	Litres	13,527	9,942	663
	Diesel Fuel	163	729,334	Litres	20,434	27,934	1,963
	Other Fuel	10	34,810	Litres	11,704	1,333	53
<b>Commercial Vehicles</b>						<b>39,209</b>	<b>2,679</b>
Tractor Trailer Trucks	Gasoline	< 10	11,169	Litres	13,555	391	26
	Diesel Fuel	309	10,233,395	Litres	88,699	391,939	27,538
	Other Fuel	< 10	2,380	Litres	7,085	91	4
<b>Tractor Trailer Trucks</b>						<b>392,421</b>	<b>27,568</b>
Motorhomes	Gasoline	266	288,332	Litres	2,810	10,092	674
	Diesel Fuel	34	38,822	Litres	4,703	1,487	104
	Other Fuel	< 10	6,784	Litres	2,189	260	10
<b>Motorhomes</b>						<b>11,839</b>	<b>788</b>
Motorcycles, Mopeds	Gasoline	368	159,876	Litres	5,481	5,596	373
<b>Motorcycles, Mopeds</b>						<b>5,596</b>	<b>373</b>
Bus	Gasoline	15	123,189	Litres	20,147	4,312	289
	Diesel Fuel	50	1,002,807	Litres	37,581	38,408	2,699
	Other Fuel	< 10	10,241	Litres	15,902	392	16
<b>Bus</b>						<b>43,112</b>	<b>3,004</b>

# Penticton City

## Updated 2007 Community Energy and Emissions Inventory

	Gasoline:	1,492,237	101,995
	Diesel:	530,857	37,375
	Other Fuel:	9,828	393
<b>On Road Transportation Totals</b>	<b>All Fuels:</b>	<b>2,032,922</b>	<b>139,763</b>

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)	
Residential	Electricity	1,722	22,607,872	Kilowatt Hours	81,388	136	
	Natural Gas	8,665	603,790	GigaJoules	603,790	30,794	
<b>Residential</b>					<b>685,178</b>	<b>30,930</b>	
Commercial/Small-Medium Industrial	Electricity	219	5,006,113	Kilowatt Hours	18,022	30	
	Natural Gas	1,298	535,180	GigaJoules	535,180	27,294	
<b>Commercial/Small-Medium Industrial</b>					<b>553,202</b>	<b>27,324</b>	
Wholesale	Electricity	1	347,750,880	Kilowatt Hours	1,251,902	2,087	
<b>Wholesale</b>					<b>1,251,902</b>	<b>2,087</b>	
					Electricity:	1,351,312	2,253
					Natural Gas:	1,138,970	58,088
					Propane:		
					Wood:		
					Heating Oil:		
<b>Buildings Totals</b>	<b>Buildings:</b>				<b>2,490,282</b>	<b>60,341</b>	

Solid Waste	Mass (t)	CO2e (t)
Community Solid Waste	39,982	33,772

# Penticton City

## Updated 2007 Community Energy and Emissions Inventory

Grand Total	CONSUMPTION	ENERGY (GJ)	CO2e (t)
Diesel Fuel	13,860,485 L	530,857	37,375
Electricity	375,364,865 kWh	1,351,312	2,253
Gasoline	42,635,294 L	1,492,237	101,995
Natural Gas	1,138,970 GJ	1,138,970	58,088
Other Fuel	256,600 L	9,828	393
Solid Waste	39,982 T	0	33,772
<b>Total of Transportation / Buildings / Solid Waste:</b>		<b>4,523,204 GJ</b>	<b>233,876 tonnes</b>

### Memo Items

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	4	13,132,293	Kilowatt Hours	47,276	79
	Natural Gas	4	withheld	GigaJoules	-	-
<b>Large Industrial</b>					<b>47,276</b>	<b>79</b>

### Supporting Indicators

Below you will find supporting indicators for which data is provided. These are the first five supporting indicators for which data is provided as a part of the updated 2007 CEEI. Columns with all zeros indicate data unavailable in these CEEI reports. Thirteen additional supporting indicators are under consideration for future reports (see next page). Local government feedback is requested on all supporting indicators. Please take the time to complete the short CEEI Survey at <http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html> or contact us directly at [CEEIRPT@gov.bc.ca](mailto:CEEIRPT@gov.bc.ca)

#### 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	
	People	%	People	%	People	%
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

#### Residential Density

\* Net of Crown land, parks, Indian Reserves, water features, airports, ALR, waste disposal sites.

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	
Population	33,250.0
Net Land Area (ha) *	4,106.3
Residential Density (people per net ha)	8.1

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

### Parks and Protected Greenspace

\* Total is net of Indian Reserves

\*\* The quantity of parkland may be underestimated

Parks and protected greenspaces are important for the protection and enhancement of community carbon sinks.

	2009	
	Area (ha)	%
National Parks	0.0	0.0
Provincial Parks / Protected Areas	0.0	0.0
Local Parks	88.4	1.9
Agricultural Land Reserve	936.5	20.6
Other land use	3,527.7	77.5
Total Land Area	4,552.6	100.0

## Supporting Indicators Under Consideration

The following supporting indicators are under consideration for inclusion in future CEEI reports. The 2007 CEEI reports provide these 'placeholder' indicators to give indication of data that may be provided in the future by the Province on an ongoing basis to assist in monitoring actions to reduce GHG emissions and energy consumption. Please submit feedback to [CEEIRPT@gov.bc.ca](mailto:CEEIRPT@gov.bc.ca) (see survey on CEEI website).

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### On-Road Transportation (and Land Use)

Proximity to Transit	Persons, dwelling units (du) and employment within 400m of a quality transit stop/line
Proximity to Services	Persons and dwelling units (du) within 400m of services (e.g. grocery store, school, other retail etc.)
Transit Ridership	Annual per capita transit ridership

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### Buildings

Residential; Public Building Energy Intensity	Average energy use per person per square metre of floor space
Floor Space	Average residential dwelling unit size

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### Solid Waste (and Water)

Waste Diversion	Tonnes of waste diverted
Avoided Waste Emissions	Tonnes of CO <sub>2</sub> e of avoided future emissions due to reduced waste since 2007
Water Use	Per capita residential water use

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### Land-Use Change

Impervious Surface Cover	% change in impervious surface cover
Tree Canopy Cover	% change in tree canopy cover

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### Community and Renewable Energy Supply

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)

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# This is your local government's Updated 2007 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 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, and fulfill Milestone One requirements for those local government members of the Federation of Canadian Municipalities' (FCM's) Partners in Climate Protection (PCP) program.

## A first in North America!

CEEI is a first in North America and a first step for BC communities. The 2007 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 and medium from large industrial buildings, including updated land-use change and new agricultural sectors as 'memo items', and the first of a suite of 'supporting indicators'. 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.

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## For More Information:

- The full list of all BC local government Updated 2007 CEEI Reports, CEEI Data Summary Report, Technical Methods and Guidance Document, and additional information on the Secondary 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, particularly now with the new Indicators. Please take the time to complete the short CEEI Survey at <http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html> or contact us directly at [CEEIRPT@gov.bc.ca](mailto: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, where you do note inaccuracies, please contact us.