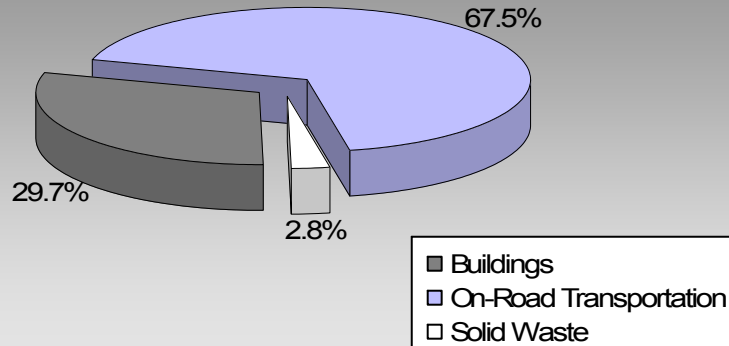


Updated 2007 Community Energy and Emissions Inventory

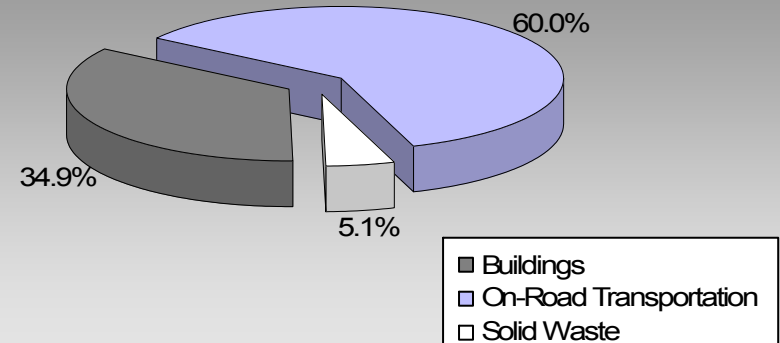
BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

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

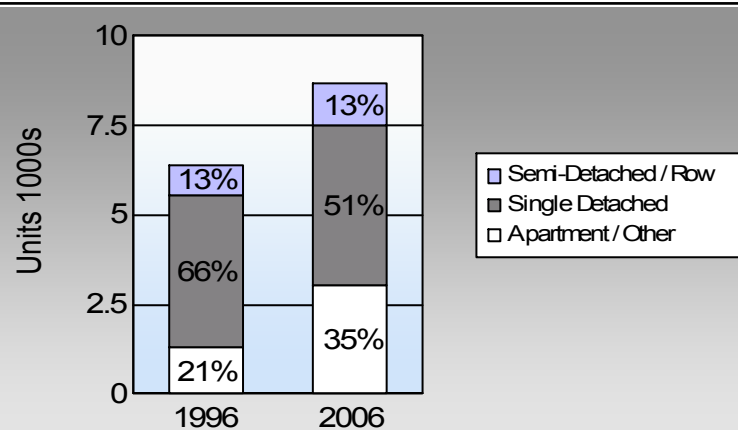
Langford City  
2007 GHG Emissions Sources



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
	80.9%	77.7%
	7.6%	8.1%
	6.1%	5.7%
	2.5%	4.8%
	2.0%	2.3%

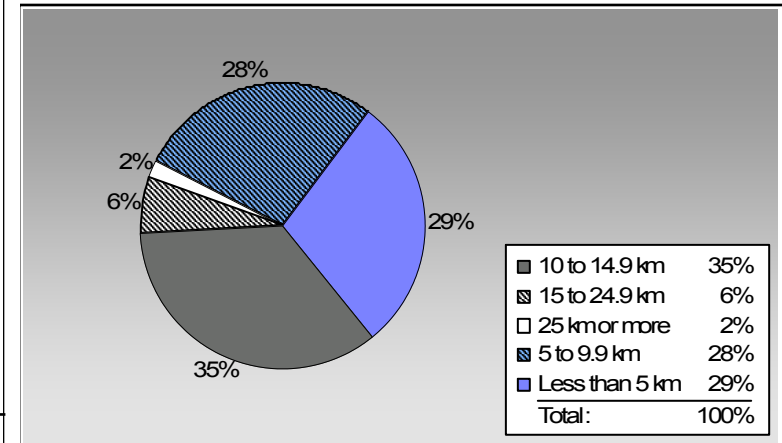
In BC, 10% of people took transit, 7% walked, and 2% cycled to work in 2006.

Residential Density

Langford City: 8.8 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	5,510	6,008,200	Litres	10,719	210,287	14,359
	Diesel Fuel	154	134,051	Litres	11,751	5,134	366
	Other Fuel	< 10	4,348	Litres	9,350	167	7
<b>Small Passenger Cars</b>						<b>215,588</b>	<b>14,732</b>
Large Passenger Cars	Gasoline	2,304	3,474,377	Litres	12,214	121,603	8,278
	Diesel Fuel	46	80,041	Litres	12,835	3,066	218
	Other Fuel	13	25,603	Litres	12,995	981	39
<b>Large Passenger Cars</b>						<b>125,650</b>	<b>8,535</b>
Light Trucks, Vans, SUVs	Gasoline	6,440	11,560,125	Litres	12,410	404,604	27,687
	Diesel Fuel	380	680,940	Litres	14,253	26,080	1,860
	Other Fuel	56	97,148	Litres	10,041	3,721	149
<b>Light Trucks, Vans, SUVs</b>						<b>434,405</b>	<b>29,696</b>
Commercial Vehicles	Gasoline	52	145,507	Litres	10,005	5,093	339
	Diesel Fuel	162	558,635	Litres	15,410	21,396	1,503
	Other Fuel	< 10	26,246	Litres	10,639	1,005	40
<b>Commercial Vehicles</b>						<b>27,494</b>	<b>1,882</b>
Tractor Trailer Trucks	Gasoline	< 10	595	Litres		21	1
	Diesel Fuel	191	5,310,232	Litres	72,263	203,382	14,290
<b>Tractor Trailer Trucks</b>						<b>203,403</b>	<b>14,291</b>
Motorhomes	Gasoline	181	174,235	Litres	2,720	6,098	407
	Diesel Fuel	12	12,473	Litres	3,655	478	34
	Other Fuel	< 10	3,599	Litres	2,189	138	6
<b>Motorhomes</b>						<b>6,714</b>	<b>447</b>
Motorcycles, Mopeds	Gasoline	502	181,521	Litres	5,360	6,353	424
	<b>Motorcycles, Mopeds</b>						<b>6,353</b>
Bus	Gasoline	12	127,173	Litres	27,809	4,451	299
	Diesel Fuel	10	170,247	Litres	31,508	6,520	458
	Other Fuel	< 10	1,463	Litres		56	2
<b>Bus</b>						<b>11,027</b>	<b>759</b>

# Langford City

## Updated 2007 Community Energy and Emissions Inventory

	Gasoline:	758,510	51,794
	Diesel:	266,056	18,729
	Other Fuel:	6,068	243
<b>On Road Transportation Totals</b>	<b>All Fuels:</b>	<b>1,030,634</b>	<b>70,766</b>

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)	
Residential	Electricity	9,204	143,601,524	Kilowatt Hours	516,965	3,542	
	Natural Gas	2,539	120,584	GigaJoules	120,584	6,150	
	Heating Oil		139,315	GigaJoules	139,315	9,820	
	Propane		24,067	GigaJoules	24,067	1,468	
	Wood		50,887	GigaJoules	50,887	19	
<b>Residential</b>					<b>851,818</b>	<b>20,999</b>	
Commercial/Small-Medium Industrial	Electricity	1,140	94,162,409	Kilowatt Hours	338,984	2,323	
	Natural Gas	313	153,238	GigaJoules	153,238	7,815	
<b>Commercial/Small-Medium Industrial</b>					<b>492,222</b>	<b>10,138</b>	
					Electricity:	855,949	5,865
					Natural Gas:	273,822	13,965
					Propane:	24,067	1,468
					Wood:	50,887	19
					Heating Oil:	139,315	9,820
<b>Buildings Totals</b>	<b>Buildings:</b>				<b>1,344,040</b>	<b>31,137</b>	

Solid Waste	Mass (t)	CO2e (t)
	Community Solid Waste	11,086
		2,914

# Langford City

## Updated 2007 Community Energy and Emissions Inventory

Grand Total	CONSUMPTION		ENERGY (GJ)	CO2e (t)
Diesel Fuel	6,946,619	L	266,056	18,729
Electricity	237,763,933	kWh	855,949	5,865
Gasoline	21,671,733	L	758,510	51,794
Heating Oil	139,315	GJ	139,315	9,820
Natural Gas	273,822	GJ	273,822	13,965
Other Fuel	158,407	L	6,068	243
Propane	24,067	GJ	24,067	1,468
Solid Waste	11,086	T	0	2,914
Wood	50,887	GJ	50,887	19
<b>Total of Transportation / Buildings / Solid Waste:</b>			<b>2,374,674 GJ</b>	<b>104,817 tonnes</b>

### Memo Items

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	0	0	Kilowatt Hours	-	-
<b>Large Industrial</b>					<b>-</b>	<b>-</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	4,230	40	4,365	62	4,450	51
Semi-Detached House	475	4	695	10	675	8
Row House	365	3	490	7	485	6
Apartment, Duplex	720	7	830	12	1,885	22
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	320	3	330	5	800	9
Other Single Attached House	30	0	15	0	20	0
Movable Dwelling	255	2	325	5	330	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	6,540	81	7,310	81	9,400	78
Car, Truck, Van as Passenger	615	8	525	6	980	8
Public Transit	495	6	615	7	690	6
Walked	200	2	295	3	575	5
Bicycle	160	2	245	3	275	2
Motorcycle	20	0	60	1	140	1
Taxicab	0	0	0	0	10	0
Other Method	55	1	10	0	35	0

### 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	27,328.0
Net Land Area (ha) *	3,122.5
Residential Density (people per net ha)	8.8

### 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	2,960 29
5 to 9.9 km	2,875 28
10 to 14.9 km	3,605 35
15 to 24.9 km	650 6
25 km or more	190 2

### 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	441.4	10.8
Local Parks	320.4	7.9
Agricultural Land Reserve	131.3	3.2
Other land use	3,179.4	78.1
Total Land Area	4,072.5	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.