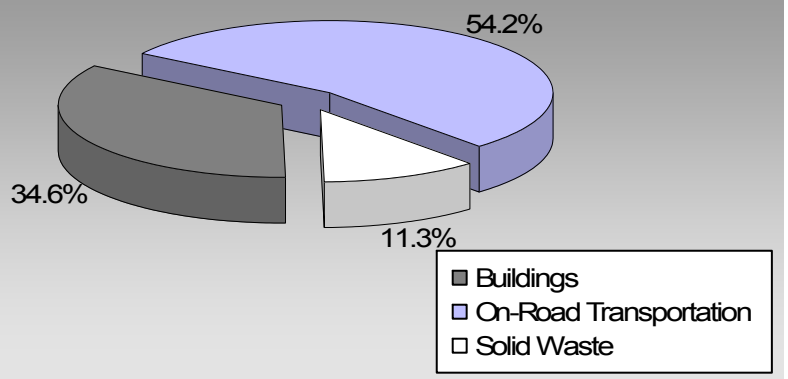
Langley City
Updated 2007 Community Energy and Emissions Inventory

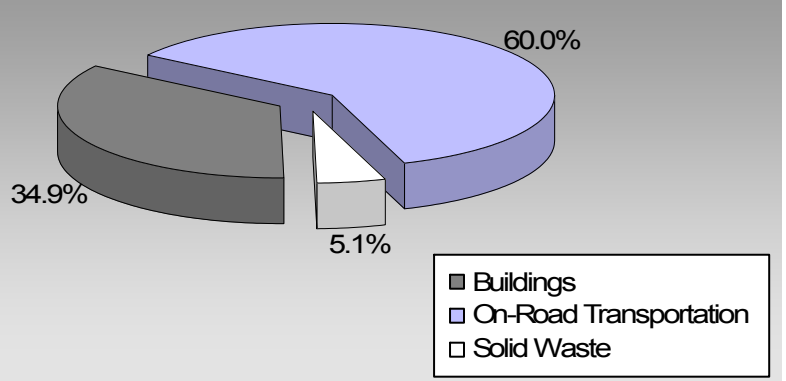
BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

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

Langley City
2007 GHG Emissions Sources

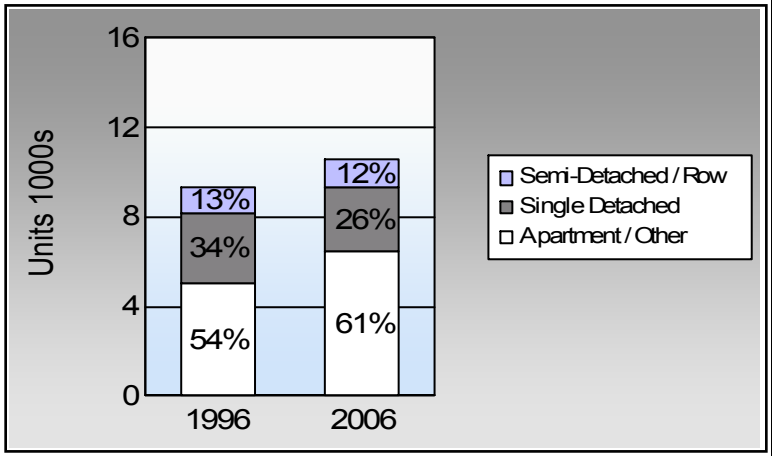


Total for BC Communities



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
	82.8%	84.9%
	7.4%	7.2%
	3.6%	2.9%
	4.1%	3.3%
	0.7%	0.6%

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

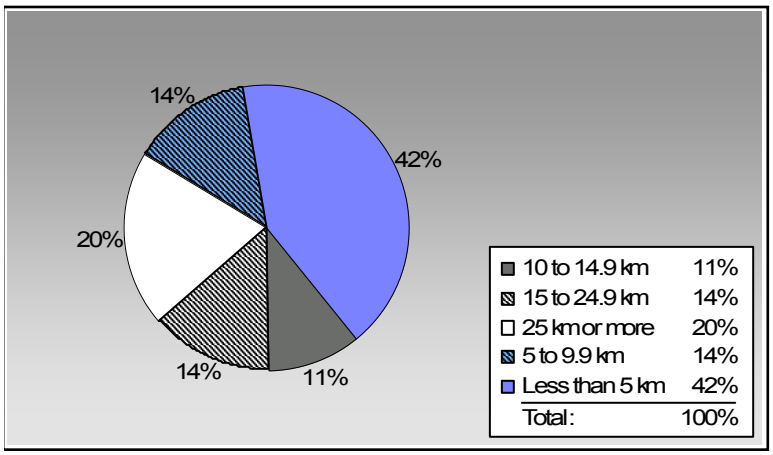
Residential Density

Langley City: 29.5 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.

For more information and to provide feedback on your Community Energy and Emissions Inventory (CEEI) Report see back page.

Sectors

On Road Transportation		Vehicles	Consumption	Measurement	Average-VKT(km)	Energy (GJ)	CO2e (t)
Small Passenger Cars	Gasoline	5,694	7,587,334	Litres	13,263	265,557	18,065
	Diesel Fuel	107	115,408	Litres	13,623	4,420	315
	Other Fuel	< 10	3,521	Litres	8,809	135	5
				Small Passenger Cars		**270,112**	**18,385**
Large Passenger Cars	Gasoline	2,693	4,850,642	Litres	14,376	169,772	11,518
	Diesel Fuel	41	77,650	Litres	14,393	2,974	212
	Other Fuel	< 10	13,767	Litres	11,155	527	21
				Large Passenger Cars		**173,273**	**11,751**
Light Trucks, Vans, SUVs	Gasoline	5,289	10,249,850	Litres	13,323	358,745	24,521
	Diesel Fuel	371	878,791	Litres	17,713	33,658	2,401
	Other Fuel	21	42,244	Litres	10,561	1,618	65
				Light Trucks, Vans, SUVs		**394,021**	**26,987**
Commercial Vehicles	Gasoline	36	178,635	Litres	16,338	6,252	419
	Diesel Fuel	140	689,571	Litres	22,310	26,411	1,856
	Other Fuel	< 10	20,111	Litres	11,356	770	31
				Commercial Vehicles		**33,433**	**2,306**
Tractor Trailer Trucks	Gasoline	< 10	30,518	Litres	16,678	1,068	72
	Diesel Fuel	356	12,114,418	Litres	94,565	463,982	32,599
	Other Fuel	< 10	14,283	Litres		547	22
				Tractor Trailer Trucks		**465,597**	**32,693**
Motorhomes	Gasoline	132	306,700	Litres	4,824	10,734	720
	Diesel Fuel	28	51,390	Litres	6,182	1,968	138
	Other Fuel	< 10	1,246	Litres	2,189	48	2
				Motorhomes		**12,750**	**860**
Motorcycles, Mopeds	Gasoline	302	120,266	Litres	5,351	4,209	281
				Motorcycles, Mopeds		**4,209**	**281**
Bus	Gasoline	< 10	27,707	Litres	21,983	970	65
	Diesel Fuel	< 10	216,140	Litres	53,008	8,278	582
	Other Fuel	< 10	5,852	Litres	15,902	224	9
				Bus		**9,472**	**656**

	Gasoline:	817,307	55,661
	Diesel:	541,691	38,103
	Other Fuel:	3,869	155
On Road Transportation Totals	**All Fuels:**	**1,362,867**	**93,919**

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Residential	Electricity	10,668	89,586,348	Kilowatt Hours	322,511	2,210
	Natural Gas	4,398	386,527	GigaJoules	386,527	19,713
	Heating Oil		11,754	GigaJoules	11,754	829
	Propane		17,441	GigaJoules	17,441	1,064
			Residential		**738,233**	**23,816**
Commercial/Small-Medium Industrial	Electricity	2,054	143,689,222	Kilowatt Hours	517,281	3,544
	Natural Gas	1,345	638,711	GigaJoules	638,711	32,574
			Commercial/Small-Medium Industrial		**1,155,992**	**36,118**

	Electricity:	839,792	5,754
	Natural Gas:	1,025,238	52,287
	Propane:	17,441	1,064
	Wood:		
	Heating Oil:	11,754	829
Buildings Totals	**Buildings:**	**1,894,225**	**59,934**

Solid Waste

		Mass (t)	CO2e (t)
	Community Solid Waste	16,703	19,517

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Grand Total		CONSUMPTION		ENERGY (GJ)	CO2e (t)
	Diesel Fuel	14,143,368	L	541,691	38,103
	Electricity	233,275,570	kWh	839,792	5,754
	Gasoline	23,351,652	L	817,307	55,661
	Heating Oil	11,754	GJ	11,754	829
	Natural Gas	1,025,238	GJ	1,025,238	52,287
	Other Fuel	101,024	L	3,869	155
	Propane	17,441	GJ	17,441	1,064
	Solid Waste	16,703	T	0	19,517
Total of Transportation / Buildings / Solid Waste:				**3,257,092** GJ	**173,370** tonnes

Memo Items

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	2	withheld	Kilowatt Hours	-	-
	Natural Gas	5	withheld	GigaJoules	-	-
				Large Industrial	**-**	**-**

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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

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	3,135	34	3,100	31	2,790	26
Semi-Detached House	245	3	290	3	245	2
Row House	925	10	1,000	10	1,050	10
Apartment, Duplex	345	4	440	4	670	6
Apartment, 5 storeys or higher	40	0	5	0	0	0
Apartment, under 5 storeys	4,625	50	5,225	52	5,800	55
Other Single Attached House	10	0	20	0	10	0
Movable Dwelling	10	0	5	0	10	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	25,526.0
Net Land Area (ha) *	866.2
Residential Density (people per net ha)	29.5

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	8,370	83	9,010	83	38,455	85
Car, Truck,Van as Passenge	750	7	780	7	3,255	7
Public Transit	365	4	280	3	1,315	3
Walked	410	4	505	5	1,490	3
Bicycle	75	1	160	1	270	1
Motorcycle	30	0	20	0	115	0
Taxicab	25	0	0	0	25	0
Other Method	80	1	60	1	365	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	4,150	42
5 to 9.9 km	1,340	14
10 to 14.9 km	1,050	11
15 to 24.9 km	1,375	14
25 km or more	1,955	20

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	120.0	11.7
Agricultural Land Reserve	41.8	4.1
Other land use	867.2	84.3
Total Land Area	1,029.0	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 (see survey on CEEI website).

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

Buildings

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

Solid Waste (and Water)

Waste Diversion	Tonnes of waste diverted
Avoided Waste Emissions	Tonnes of CO2e of avoided future emissions due to reduced waste since 2007
Water Use	Per capita residential water use

Land-Use Change

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

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)

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