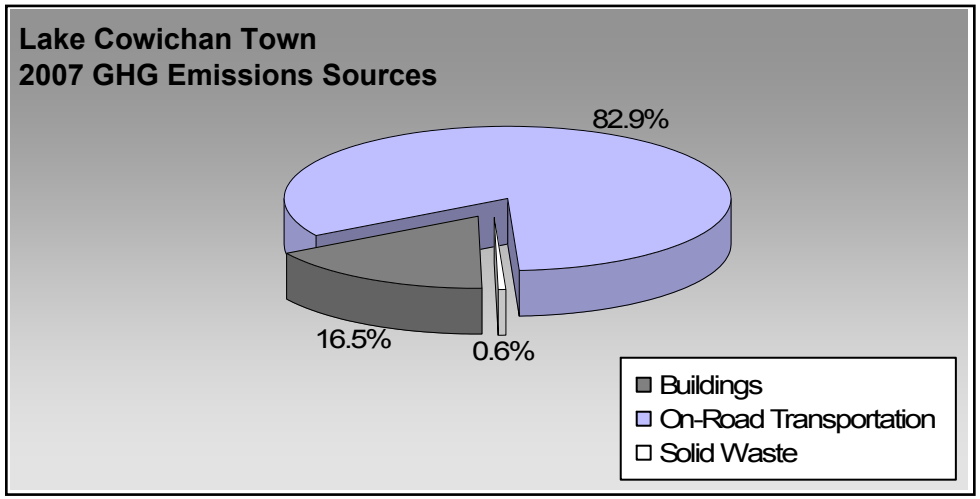
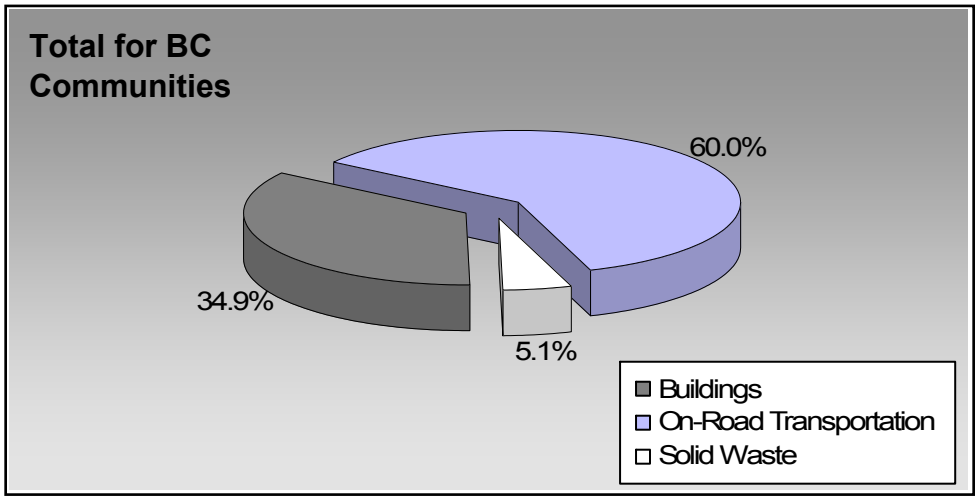
Lake Cowichan Town
Updated 2007 Community Energy and Emissions Inventory

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

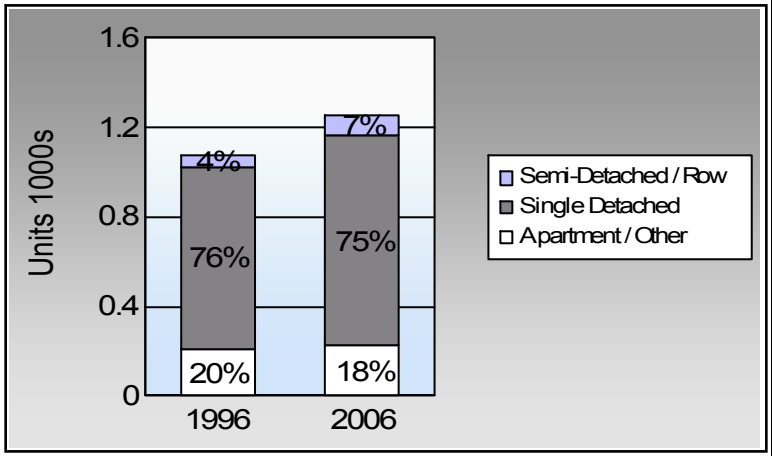
Where are the majority of our community's emissions coming from?





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
	66.2%	71.4%
	14.6%	9.7%
	0.0%	2.1%
	14.6%	8.8%
	1.4%	0.8%

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

Residential Density

Lake Cowichan Town: 4.1 people per net ha

BC municipal average: 7.4 people per net ha

Are we living closer to where we work?

Commute Distance

This data is currently unavailable in the CEEI 2007 Reports

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.

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Sectors

On Road Transportation		Vehicles	Consumption	Measurement	Average-VKT(km)	Energy (GJ)	CO2e (t)
Small Passenger Cars	Gasoline	551	742,081	Litres	13,459	25,973	1,760
	Diesel Fuel	14	16,294	Litres	14,683	624	45
				Small Passenger Cars		**26,597**	**1,805**
Large Passenger Cars	Gasoline	287	678,448	Litres	19,112	23,746	1,609
	Diesel Fuel	11	28,036	Litres	21,262	1,074	77
	Other Fuel	< 10	2,540	Litres	14,666	97	4
				Large Passenger Cars		**24,917**	**1,690**
Light Trucks, Vans, SUVs	Gasoline	909	2,672,438	Litres	19,664	93,535	6,384
	Diesel Fuel	113	284,005	Litres	20,587	10,877	776
	Other Fuel	13	29,559	Litres	12,223	1,132	45
				Light Trucks, Vans, SUVs		**105,544**	**7,205**
Commercial Vehicles	Gasoline	28	136,292	Litres	18,593	4,770	320
	Diesel Fuel	30	150,630	Litres	24,020	5,769	405
	Other Fuel	< 10	7,941	Litres	15,694	304	12
				Commercial Vehicles		**10,843**	**737**
Tractor Trailer Trucks	Gasoline	< 10	4,761	Litres	7,085	167	11
	Diesel Fuel	36	1,251,367	Litres	92,132	47,927	3,367
	Other Fuel	< 10	2,380	Litres	7,085	91	4
				Tractor Trailer Trucks		**48,185**	**3,382**
Motorhomes	Gasoline	26	27,338	Litres	2,821	957	64
	Diesel Fuel	< 10	3,936	Litres	4,310	151	11
	Other Fuel	< 10	554	Litres		21	1
				Motorhomes		**1,129**	**76**
Motorcycles, Mopeds	Gasoline	38	15,686	Litres	5,659	549	37
				Motorcycles, Mopeds		**549**	**37**
Bus	Gasoline	< 10	34,475	Litres	22,808	1,207	81
	Diesel Fuel	< 10	45,055	Litres	24,198	1,726	121
				Bus		**2,933**	**202**

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	Gasoline:	150,904	10,266
	Diesel:	68,148	4,802
	Other Fuel:	1,645	66
On Road Transportation Totals	**All Fuels:**	**220,697**	**15,134**

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Residential	Electricity	1,489	22,443,766	Kilowatt Hours	80,797	554
	Heating Oil		27,202	GigaJoules	27,202	1,917
	Propane		4,691	GigaJoules	4,691	286
	Wood		33,170	GigaJoules	33,170	12
			Residential		**145,860**	**2,769**
Commercial/Small-Medium Industrial	Electricity	215	10,120,842	Kilowatt Hours	36,435	250
			Commercial/Small-Medium Industrial		**36,435**	**250**

	Electricity:	117,232	804
	Natural Gas:		
	Propane:	4,691	286
	Wood:	33,170	12
	Heating Oil:	27,202	1,917
Buildings Totals	**Buildings:**	**182,295**	**3,019**

Solid Waste

	Mass (t)	CO2e (t)
Community Solid Waste	572	112

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Grand Total		CONSUMPTION		ENERGY (GJ)	CO2e (t)
	Diesel Fuel	1,779,323	L	68,148	4,802
	Electricity	32,564,608	kWh	117,232	804
	Gasoline	4,311,519	L	150,904	10,266
	Heating Oil	27,202	GJ	27,202	1,917
	Other Fuel	42,974	L	1,645	66
	Propane	4,691	GJ	4,691	286
	Solid Waste	572	T	0	112
	Wood	33,170	GJ	33,170	12
Total of Transportation / Buildings / Solid Waste:				**402,992** GJ	**18,265** tonnes

Memo Items

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	0	0	Kilowatt Hours	-	-
				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	815	43	950	82	940	75
Semi-Detached House	35	2	20	2	30	2
Row House	10	1	45	4	60	5
Apartment, Duplex	95	5	20	2	70	6
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	100	5	100	9	135	11
Other Single Attached House	15	1	15	1	5	0
Movable Dwelling	0	0	5	0	15	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	3,182.0
Net Land Area (ha) *	771.2
Residential Density (people per net ha)	4.1

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	705	66	695	71	850	71
Car, Truck,Van as Passenge	155	15	115	12	115	10
Public Transit	0	0	15	2	25	2
Walked	155	15	125	13	105	9
Bicycle	15	1	10	1	10	1
Motorcycle	0	0	0	0	10	1
Taxicab	0	0	0	0	0	0
Other Method	35	3	15	2	75	6

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	%

This data is currently unavailable in the CEEI 2007 Reports.

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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	32.3	3.3
Local Parks	10.6	1.1
Agricultural Land Reserve	8.3	0.9
Other land use	922.7	94.7
Total Land Area	973.9	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