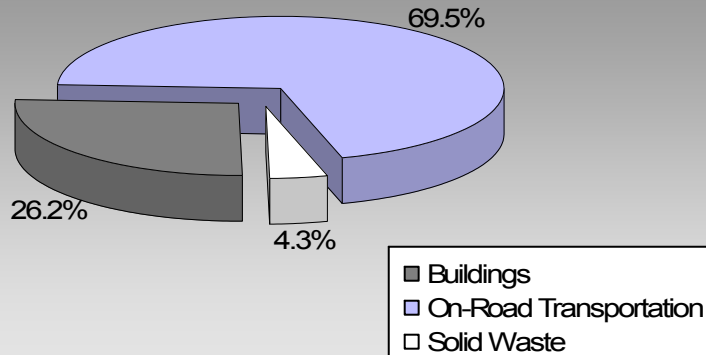


BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

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

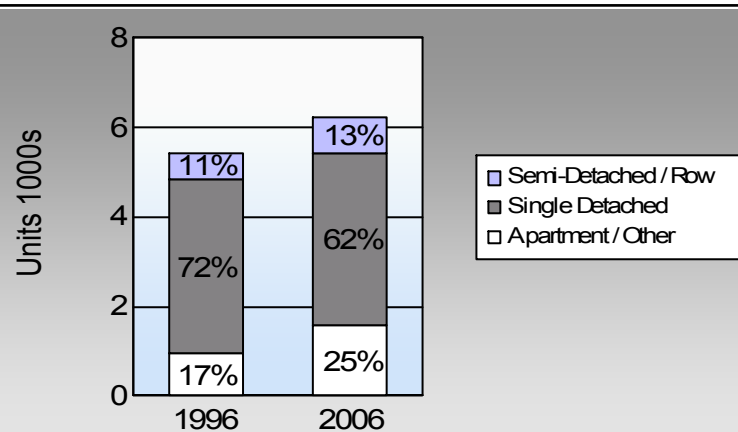
**Central Saanich District Municipality  
2007 GHG Emissions Sources**



**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
	80.1%	80.5%
	6.7%	6.1%
	6.2%	5.9%
	3.7%	3.7%
	2.2%	2.0%

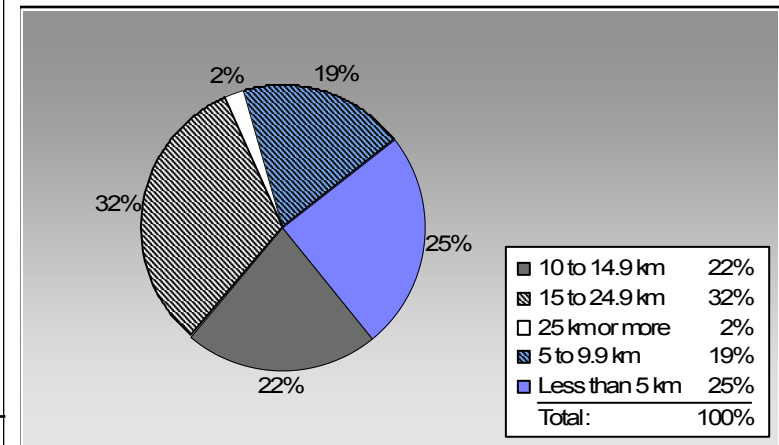
In BC, 10% of people took transit, 7% walked, and 2% cycled to work in 2006.

### Residential Density

Central Saanich District Municipality: 11.4 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	3,989	4,239,490	Litres	10,721	148,382	10,143
	Diesel Fuel	174	139,813	Litres	11,449	5,355	382
<b>Small Passenger Cars</b>						<b>153,737</b>	<b>10,525</b>
Large Passenger Cars	Gasoline	2,216	3,174,434	Litres	12,118	111,105	7,565
	Diesel Fuel	58	95,997	Litres	12,692	3,677	262
	Other Fuel	< 10	4,147	Litres	11,392	159	6
<b>Large Passenger Cars</b>						<b>114,941</b>	<b>7,833</b>
Light Trucks, Vans, SUVs	Gasoline	4,700	8,195,668	Litres	12,311	286,848	19,610
	Diesel Fuel	336	584,013	Litres	14,072	22,368	1,595
	Other Fuel	38	65,030	Litres	10,077	2,491	100
<b>Light Trucks, Vans, SUVs</b>						<b>311,707</b>	<b>21,305</b>
Commercial Vehicles	Gasoline	42	134,892	Litres	11,468	4,721	316
	Diesel Fuel	141	444,854	Litres	14,674	17,038	1,197
	Other Fuel	< 10	17,299	Litres	11,448	663	27
<b>Commercial Vehicles</b>						<b>22,422</b>	<b>1,540</b>
Tractor Trailer Trucks	Gasoline	< 10	14,136	Litres	10,518	495	33
	Diesel Fuel	176	4,713,560	Litres	68,729	180,529	12,684
	Other Fuel	< 10	1,190	Litres		46	2
<b>Tractor Trailer Trucks</b>						<b>181,070</b>	<b>12,719</b>
Motorhomes	Gasoline	146	135,848	Litres	2,926	4,755	318
	Diesel Fuel	16	18,041	Litres	4,988	691	49
	Other Fuel	< 10	1,938	Litres		74	3
<b>Motorhomes</b>						<b>5,520</b>	<b>370</b>
Motorcycles, Mopeds	Gasoline	324	115,163	Litres	5,357	4,031	269
<b>Motorcycles, Mopeds</b>						<b>4,031</b>	<b>269</b>
Bus	Gasoline	< 10	42,121	Litres	23,164	1,474	99
	Diesel Fuel	36	428,151	Litres	23,818	16,398	1,152
	Other Fuel	< 10	1,463	Litres		56	2
<b>Bus</b>						<b>17,928</b>	<b>1,253</b>

# Central Saanich District Municipality

## Updated 2007 Community Energy and Emissions Inventory

	Gasoline:	561,811	38,353
	Diesel:	246,056	17,321
	Other Fuel:	3,489	140
<b>On Road Transportation Totals</b>	<b>All Fuels:</b>	<b>811,356</b>	<b>55,814</b>

Buildings	<u>Type</u>	<u>Connections</u>	<u>Consumption</u>	<u>Measurement</u>	<u>Energy (GJ)</u>	<u>CO2e (t)</u>
Residential	Electricity	6,801	119,352,397	Kilowatt Hours	429,668	2,944
	Natural Gas	1,785	99,066	GigaJoules	99,066	5,053
	Heating Oil		40,045	GigaJoules	40,045	2,823
	Propane		6,916	GigaJoules	6,916	422
<b>Residential</b>					<b>575,695</b>	<b>11,242</b>
Commercial/Small-Medium Industrial	Electricity	868	65,210,719	Kilowatt Hours	234,758	1,609
	Natural Gas	223	161,377	GigaJoules	161,377	8,230
<b>Commercial/Small-Medium Industrial</b>					<b>396,135</b>	<b>9,839</b>
					Electricity:	4,553
					Natural Gas:	13,283
					Propane:	422
					Wood:	
					Heating Oil:	2,823
<b>Buildings Totals</b>				<b>Buildings:</b>	<b>971,830</b>	<b>21,081</b>

Solid Waste	<u>Mass (t)</u>	<u>CO2e (t)</u>
Community Solid Waste	13,033	3,426

# Central Saanich District Municipality

## Updated 2007 Community Energy and Emissions Inventory

Grand Total	CONSUMPTION		ENERGY (GJ)	CO2e (t)
Diesel Fuel	6,424,429	L	246,056	17,321
Electricity	184,563,116	kWh	664,426	4,553
Gasoline	16,051,752	L	561,811	38,353
Heating Oil	40,045	GJ	40,045	2,823
Natural Gas	260,443	GJ	260,443	13,283
Other Fuel	91,067	L	3,489	140
Propane	6,916	GJ	6,916	422
Solid Waste	13,033	T	0	3,426
<b>Total of Transportation / Buildings / Solid Waste:</b>			<b>1,783,186 GJ</b>	<b>80,321 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	3,900	42	4,205	71	3,860	62
Semi-Detached House	120	1	160	3	260	4
Row House	480	5	610	10	550	9
Apartment, Duplex	320	3	400	7	810	13
Apartment, 5 storeys or higher	0	0	5	0	5	0
Apartment, under 5 storeys	580	6	510	9	710	11
Other Single Attached House	15	0	10	0	20	0
Movable Dwelling	20	0	20	0	25	0

### 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	5,370	80	5,760	82	5,940	81
Car, Truck, Van as Passenger	450	7	355	5	450	6
Public Transit	415	6	440	6	435	6
Walked	250	4	295	4	275	4
Bicycle	145	2	125	2	145	2
Motorcycle	10	0	20	0	65	1
Taxicab	0	0	0	0	0	0
Other Method	65	1	45	1	65	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	16,170.0
Net Land Area (ha) *	1,421.3
Residential Density (people per net ha)	11.4

### 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	1,585	25
5 to 9.9 km	1,190	19
10 to 14.9 km	1,405	22
15 to 24.9 km	2,045	32
25 km or more	150	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	72.1	1.7
Local Parks	160.7	3.9
Agricultural Land Reserve	2,909.6	69.8
Other land use	1,027.2	24.6
<b>Total Land Area</b>	<b>4,169.6</b>	<b>100.0</b>

## 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.