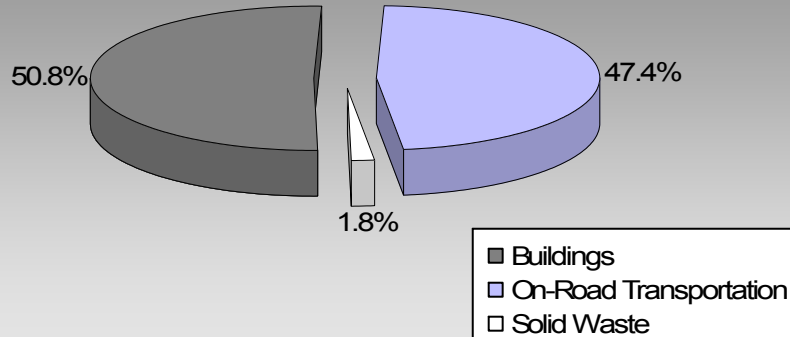


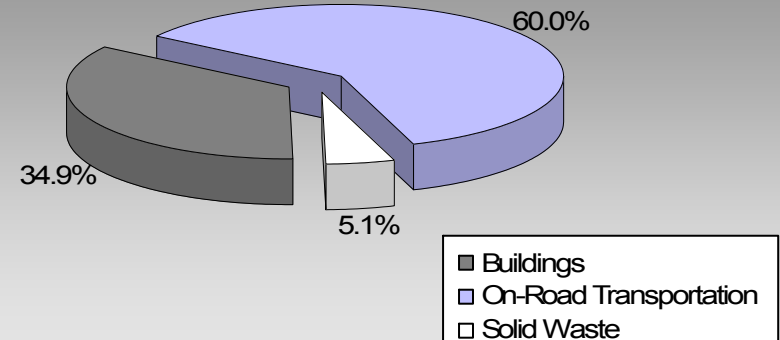
BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

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

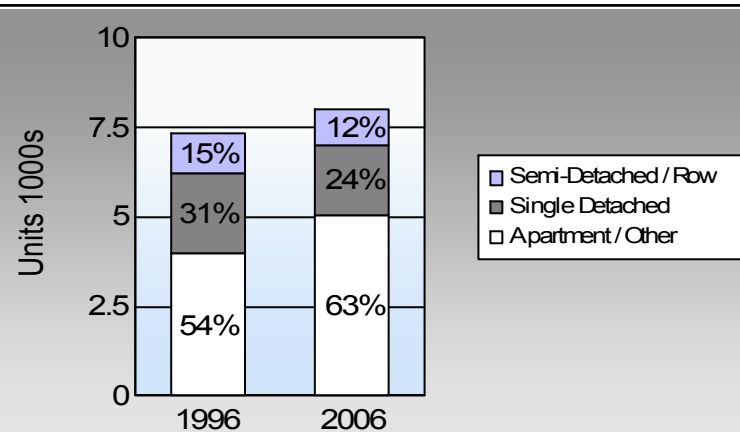
Esquimalt District Municipality
2007 GHG Emissions Sources



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
	57.3%	54.3%
	8.7%	7.7%
	14.7%	16.3%
	11.7%	13.9%
	5.0%	5.4%

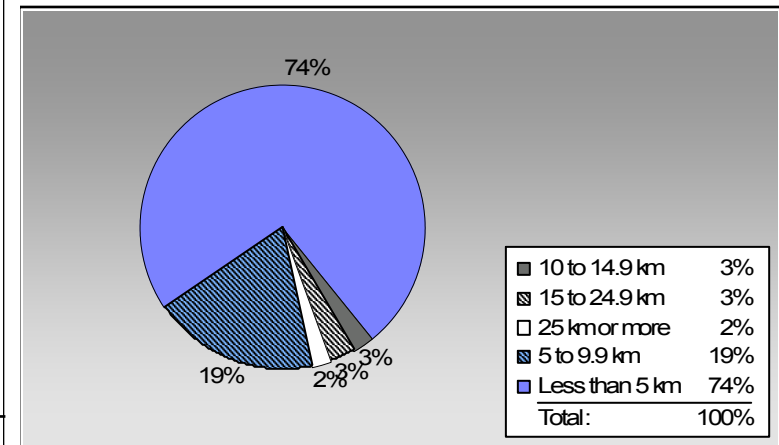
In BC, 10% of people took transit, 7% walked, and 2% cycled to work in 2006.

Residential Density

Esquimalt District Municipality: 30.0 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

On Road Transportation		<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	3,909	4,169,672	Litres	10,543	145,939	9,992
	Diesel Fuel	81	68,647	Litres	11,320	2,629	187
	Other Fuel	< 10	1,166	Litres	7,044	45	2
Small Passenger Cars						148,613	10,181
Large Passenger Cars	Gasoline	1,575	2,296,122	Litres	11,752	80,364	5,497
	Diesel Fuel	28	39,689	Litres	12,528	1,520	108
	Other Fuel	< 10	14,243	Litres	12,449	545	22
Large Passenger Cars						82,429	5,627
Light Trucks, Vans, SUVs	Gasoline	3,131	5,421,598	Litres	11,866	189,756	12,997
	Diesel Fuel	99	154,648	Litres	12,300	5,923	422
	Other Fuel	30	53,256	Litres	9,543	2,040	82
Light Trucks, Vans, SUVs						197,719	13,501
Commercial Vehicles	Gasoline	13	47,135	Litres	11,854	1,650	110
	Diesel Fuel	97	339,564	Litres	16,287	13,005	914
	Other Fuel	< 10	3,906	Litres	10,378	150	6
Commercial Vehicles						14,805	1,030
Tractor Trailer Trucks	Gasoline	< 10	4,166	Litres	7,085	146	10
	Diesel Fuel	38	1,120,625	Litres	78,323	42,920	3,016
Tractor Trailer Trucks						43,066	3,026
Motorhomes	Gasoline	117	102,714	Litres	2,708	3,595	240
	Diesel Fuel	10	7,396	Litres	3,747	283	20
	Other Fuel	< 10	1,661	Litres	2,189	64	3
Motorhomes						3,942	263
Motorcycles, Mopeds	Gasoline	325	109,828	Litres	5,453	3,844	256
	Motorcycles, Mopeds						3,844
Bus	Gasoline	< 10	16,979	Litres	15,478	594	40
	Diesel Fuel	< 10	49,241	Litres	39,880	1,886	133
	Other Fuel	< 10	5,852	Litres	15,902	224	9
Bus						2,704	182

Esquimalt District Municipality

Updated 2007 Community Energy and Emissions Inventory

	Gasoline:	425,888	29,142
	Diesel:	68,166	4,800
	Other Fuel:	3,068	124
On Road Transportation Totals	All Fuels:	497,122	34,066

Buildings	<u>Type</u>	<u>Connections</u>	<u>Consumption</u>	<u>Measurement</u>	<u>Energy (GJ)</u>	<u>CO2e (t)</u>	
Residential	Electricity	7,977	78,905,978	Kilowatt Hours	284,061	1,946	
	Natural Gas	1,303	71,565	GigaJoules	71,565	3,650	
	Heating Oil		115,358	GigaJoules	115,358	8,132	
	Propane		20,020	GigaJoules	20,020	1,221	
	Wood		41,906	GigaJoules	41,906	16	
Residential					532,910	14,965	
Commercial/Small-Medium Industrial	Electricity	620	45,960,774	Kilowatt Hours	165,459	1,134	
	Natural Gas	314	400,250	GigaJoules	400,250	20,413	
Commercial/Small-Medium Industrial					565,709	21,547	
					Electricity:	449,520	3,080
					Natural Gas:	471,815	24,063
					Propane:	20,020	1,221
					Wood:	41,906	16
					Heating Oil:	115,358	8,132
Buildings Totals	Buildings:				1,098,619	36,512	

Solid Waste	<u>Mass (t)</u>	<u>CO2e (t)</u>
Community Solid Waste	4,834	1,271

Esquimalt District Municipality

Updated 2007 Community Energy and Emissions Inventory

Grand Total	CONSUMPTION		ENERGY (GJ)	CO2e (t)
Diesel Fuel	1,779,810	L	68,166	4,800
Electricity	124,866,752	kWh	449,520	3,080
Gasoline	12,168,214	L	425,888	29,142
Heating Oil	115,358	GJ	115,358	8,132
Natural Gas	471,815	GJ	471,815	24,063
Other Fuel	80,084	L	3,068	124
Propane	20,020	GJ	20,020	1,221
Solid Waste	4,834	T	0	1,271
Wood	41,906	GJ	41,906	16
Total of Transportation / Buildings / Solid Waste:			1,595,741 GJ	71,849 tonnes

Memo Items

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	1	withheld	Kilowatt Hours	-	-
Large Industrial					-	-

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	2,255	23	2,355	31	1,960	24
Semi-Detached House	675	7	675	9	655	8
Row House	435	5	355	5	345	4
Apartment, Duplex	525	5	490	6	820	10
Apartment, 5 storeys or higher	255	3	195	3	420	5
Apartment, under 5 storeys	3,060	32	3,395	45	3,805	47
Other Single Attached House	35	0	15	0	10	0
Movable Dwelling	105	1	80	1	0	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	4,205	57	4,445	58	4,700	54
Car, Truck, Van as Passenger	640	9	580	8	665	8
Public Transit	1,080	15	1,115	14	1,410	16
Walked	855	12	1,015	13	1,200	14
Bicycle	365	5	430	6	465	5
Motorcycle	45	1	40	1	95	1
Taxicab	20	0	15	0	25	0
Other Method	125	2	85	1	95	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	17,682.0
Net Land Area (ha) *	589.5
Residential Density (people per net ha)	30.0

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	5,435	74
5 to 9.9 km	1,385	19
10 to 14.9 km	190	3
15 to 24.9 km	190	3
25 km or more	170	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	0.0	0.0
Local Parks	43.9	6.2
Agricultural Land Reserve	60.6	8.5
Other land use	605.4	85.3
Total Land Area	709.8	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 CO ₂ e 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.

+++++

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

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.