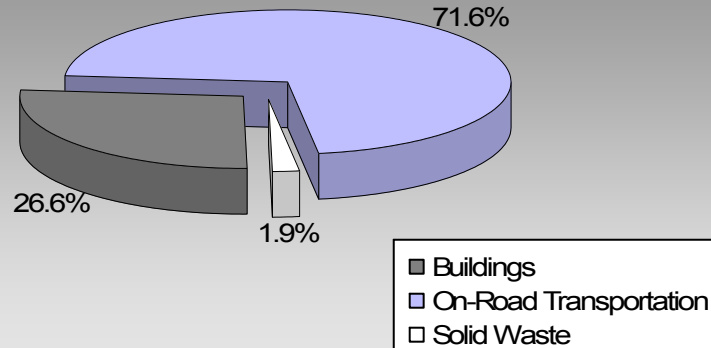


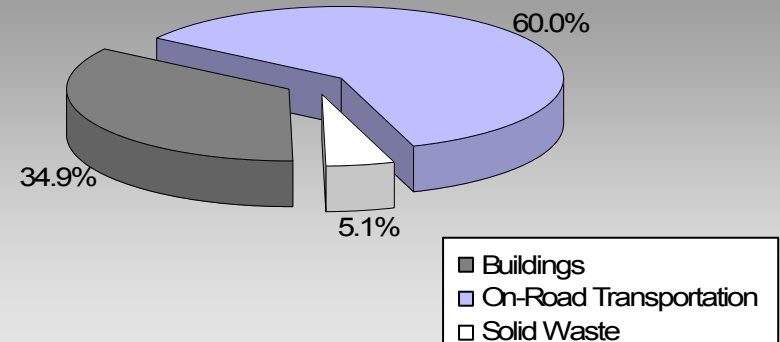
BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

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

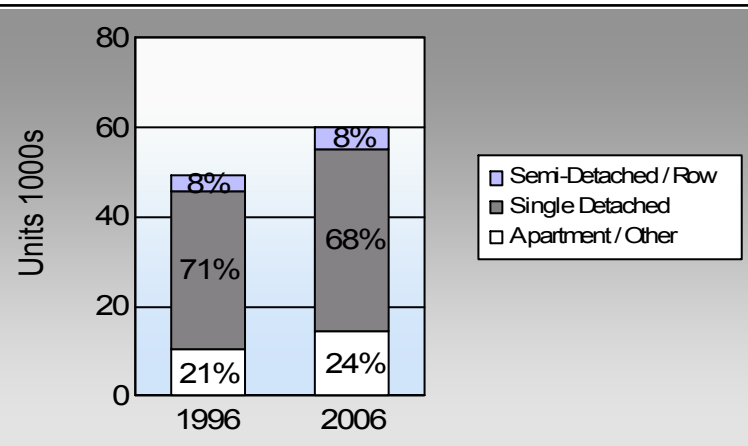
**Nanaimo Regional District
2007 GHG Emissions Sources**



**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
	80.3%	80.2%
	7.0%	7.1%
	2.3%	2.6%
	6.6%	6.6%
	1.8%	1.8%

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

Residential Density

This data is only available for municipalities.
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.

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	31,050	39,798,658	Litres	12,875	1,392,953	95,062
	Diesel Fuel	1,226	1,193,625	Litres	13,695	45,716	3,260
	Other Fuel	< 10	8,700	Litres	9,851	333	13
Small Passenger Cars						1,439,002	98,335
Large Passenger Cars	Gasoline	18,260	35,054,475	Litres	15,863	1,226,907	83,295
	Diesel Fuel	472	999,107	Litres	16,516	38,266	2,727
	Other Fuel	51	114,321	Litres	12,681	4,378	175
Large Passenger Cars						1,269,551	86,197
Light Trucks, Vans, SUVs	Gasoline	38,095	110,812,025	Litres	19,720	3,878,421	265,545
	Diesel Fuel	3,322	7,972,380	Litres	19,043	305,342	21,779
	Other Fuel	317	741,418	Litres	13,252	28,396	1,136
Light Trucks, Vans, SUVs						4,212,159	288,460
Commercial Vehicles	Gasoline	272	1,223,626	Litres	15,114	42,827	2,862
	Diesel Fuel	1,038	4,769,095	Litres	21,812	182,656	12,834
	Other Fuel	46	166,501	Litres	11,805	6,377	255
Commercial Vehicles						231,860	15,951
Tractor Trailer Trucks	Gasoline	14	91,344	Litres	17,013	3,197	214
	Diesel Fuel	947	29,125,969	Litres	80,324	1,115,525	78,377
	Other Fuel	< 10	11,056	Litres	8,226	423	17
Tractor Trailer Trucks						1,119,145	78,608
Motorhomes	Gasoline	1,142	1,200,763	Litres	2,947	42,027	2,807
	Diesel Fuel	156	173,705	Litres	4,762	6,653	467
	Other Fuel	16	21,433	Litres	2,220	821	33
Motorhomes						49,501	3,307
Motorcycles, Mopeds	Gasoline	1,840	718,130	Litres	5,354	25,135	1,677
Motorcycles, Mopeds						25,135	1,677
Bus	Gasoline	81	657,082	Litres	19,651	22,998	1,544
	Diesel Fuel	131	2,555,627	Litres	36,211	97,881	6,877
	Other Fuel	14	92,170	Litres	15,902	3,530	141
Bus						124,409	8,562

Nanaimo Regional District Updated 2007 Community Energy and Emissions Inventory

On Road Transportation Totals	Gasoline:	6,634,465	453,006
	Diesel:	1,792,039	126,321
	Other Fuel:	44,258	1,770
	All Fuels:	8,470,762	581,097

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Residential	Electricity	65,997	940,238,806	Kilowatt Hours	3,384,857	23,193
	Natural Gas	18,160	1,081,681	GigaJoules	1,081,681	55,166
	Heating Oil		820,187	GigaJoules	820,187	57,815
	Propane		141,464	GigaJoules	141,464	8,631
	Wood		999,861	GigaJoules	999,861	370
Residential					6,428,050	145,175
Commercial/Small-Medium Industrial	Electricity	7,477	506,203,158	Kilowatt Hours	1,822,330	12,486
	Natural Gas	2,211	1,137,567	GigaJoules	1,137,567	58,016
Commercial/Small-Medium Industrial					2,959,897	70,502
Buildings Totals	Electricity:				5,207,187	35,679
	Natural Gas:				2,219,248	113,182
	Propane:				141,464	8,631
	Wood:				999,861	370
	Heating Oil:				820,187	57,815
Buildings:					9,387,947	215,677

Solid Waste	Mass (t)	CO2e (t)
Community Solid Waste	75,000	15,377

Grand Total	CONSUMPTION		ENERGY (GJ)	CO ₂ e (t)
Diesel Fuel	46,789,508	L	1,792,039	126,321
Electricity	1,446,441,964	kWh	5,207,187	35,679
Gasoline	189,556,103	L	6,634,465	453,006
Heating Oil	820,187	GJ	820,187	57,815
Natural Gas	2,219,248	GJ	2,219,248	113,182
Other Fuel	1,155,599	L	44,258	1,770
Propane	141,464	GJ	141,464	8,631
Solid Waste	75,000	T	0	15,377
Wood	999,861	GJ	999,861	370
Total of Transportation / Buildings / Solid Waste:			17,858,709 GJ	812,151 tonnes

Memo Items

Buildings	Type	Connections	Consumption	Measurement	Energy (GJ)	CO ₂ e (t)
Large Industrial	Electricity	5	262,931,073	Kilowatt Hours	946,551	6,486
	Natural Gas	1	withheld	GigaJoules	-	-
Large Industrial					946,551	6,486

Agriculture		Number of Animals	Methane	CO ₂ e (t)
	Enteric Fermentation	6,039	268	5,628

Land-Use Change		Area (ha)	CO ₂ e (t)
	Deforestation from Settlement	95	83,158
	Deforestation from Agriculture	18	12,482
Deforestation:		113	95,640

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	35,135	42	38,015	70	40,720	68
Semi-Detached House	1,605	2	1,835	3	2,260	4
Row House	2,125	3	2,370	4	2,405	4
Apartment, Duplex	1,575	2	1,610	3	3,230	5
Apartment, 5 storeys or higher	800	1	850	2	1,050	2
Apartment, under 5 storeys	6,050	7	6,955	13	7,960	13
Other Single Attached House	90	0	200	0	165	0
Movable Dwelling	2,085	2	2,425	4	2,075	3

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	37,795	80	39,085	82	44,975	80
Car, Truck, Van as Passenger	3,300	7	2,950	6	3,960	7
Public Transit	1,100	2	1,055	2	1,475	3
Walked	3,110	7	3,045	6	3,690	7
Bicycle	825	2	885	2	1,020	2
Motorcycle	105	0	105	0	200	0
Taxicab	20	0	50	0	30	0
Other Method	830	2	575	1	715	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

This data is currently unavailable in the CEEI 2007 Reports.

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.

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	3,069.0	1.5
Local Parks	2,005.4	1.0
Agricultural Land Reserve	18,720.5	9.0
Other land use	184,312.2	88.6
Total Land Area	208,107.1	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.

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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

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.