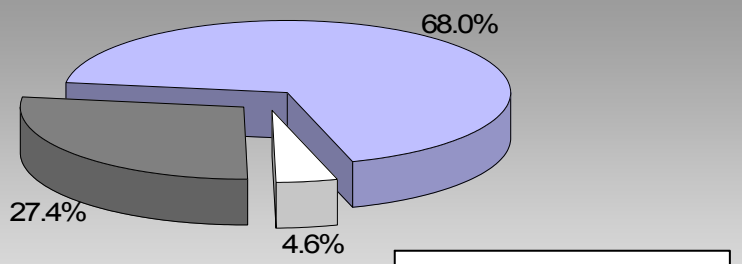
North Okanagan Regional District
Updated 2007 Community Energy and Emissions Inventory

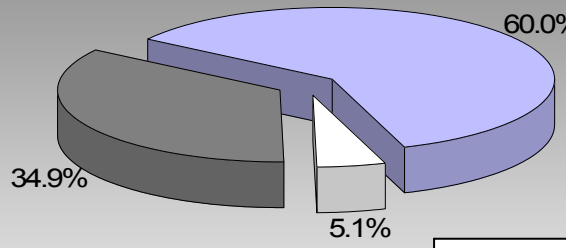
BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

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

North Okanagan Regional District
2007 GHG Emissions Sources

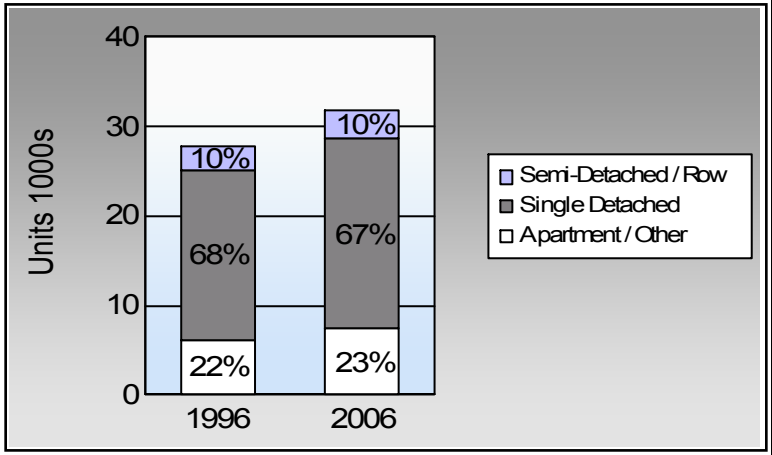


Total for BC Communities



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
	82.4%	82.1%
	7.3%	8.1%
	0.5%	0.7%
	6.7%	6.7%
	1.9%	1.6%

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.

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	15,283	21,245,211	Litres	13,377	743,582	50,764
	Diesel Fuel	602	646,057	Litres	13,778	24,744	1,764
	Other Fuel	< 10	4,242	Litres	10,634	162	6
				Small Passenger Cars		**768,488**	**52,534**
Large Passenger Cars	Gasoline	9,580	21,586,091	Litres	17,953	755,513	51,364
	Diesel Fuel	190	481,425	Litres	18,116	18,439	1,314
	Other Fuel	14	49,015	Litres	14,873	1,877	75
				Large Passenger Cars		**775,829**	**52,753**
Light Trucks, Vans, SUVs	Gasoline	23,534	71,880,485	Litres	19,766	2,515,817	172,222
	Diesel Fuel	2,827	7,220,598	Litres	19,909	276,549	19,727
	Other Fuel	234	591,364	Litres	13,025	22,649	906
				Light Trucks, Vans, SUVs		**2,815,015**	**192,855**
Commercial Vehicles	Gasoline	203	887,239	Litres	14,292	31,053	2,075
	Diesel Fuel	615	2,834,583	Litres	20,947	108,565	7,628
	Other Fuel	45	170,233	Litres	12,243	6,520	261
				Commercial Vehicles		**146,138**	**9,964**
Tractor Trailer Trucks	Gasoline	16	121,511	Litres	15,959	4,253	285
	Diesel Fuel	1,202	39,682,007	Litres	85,642	1,519,821	106,782
	Other Fuel	< 10	11,307	Litres	7,085	433	17
				Tractor Trailer Trucks		**1,524,507**	**107,084**
Motorhomes	Gasoline	574	754,228	Litres	2,961	26,398	1,763
	Diesel Fuel	113	131,606	Litres	4,564	5,041	354
	Other Fuel	16	17,997	Litres	2,189	689	28
				Motorhomes		**32,128**	**2,145**
Motorcycles, Mopeds	Gasoline	897	435,875	Litres	5,184	15,256	1,018
				Motorcycles, Mopeds		**15,256**	**1,018**
Bus	Gasoline	36	324,600	Litres	21,616	11,361	762
	Diesel Fuel	52	880,841	Litres	29,603	33,736	2,370
	Other Fuel	10	62,910	Litres	15,902	2,409	96
				Bus		**47,506**	**3,228**

	Gasoline:	4,103,233	280,253
	Diesel:	1,986,895	139,939
	Other Fuel:	34,739	1,389
On Road Transportation Totals	**All Fuels:**	**6,124,867**	**421,581**

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Residential	Electricity	35,297	391,125,917	Kilowatt Hours	1,408,052	9,648
	Natural Gas	23,637	1,849,010	GigaJoules	1,849,010	94,298
	Heating Oil		55,087	GigaJoules	55,087	3,883
	Propane		97,039	GigaJoules	97,039	5,920
	Wood		485,766	GigaJoules	485,766	180
			Residential		**3,894,954**	**113,929**
Commercial/Small-Medium Industrial	Electricity	4,840	309,275,113	Kilowatt Hours	1,113,390	7,629
	Natural Gas	2,372	948,338	GigaJoules	948,338	48,366
			Commercial/Small-Medium Industrial		**2,061,728**	**55,995**

	Electricity:	2,521,442	17,277
	Natural Gas:	2,797,348	142,664
	Propane:	97,039	5,920
	Wood:	485,766	180
	Heating Oil:	55,087	3,883
Buildings Totals	**Buildings:**	**5,956,682**	**169,924**

Solid Waste

	Mass (t)	CO2e (t)
Community Solid Waste	34,810	28,275

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Grand Total

	CONSUMPTION		ENERGY (GJ)	CO2e (t)
Diesel Fuel	51,877,117	L	1,986,895	139,939
Electricity	700,401,030	kWh	2,521,442	17,277
Gasoline	117,235,240	L	4,103,233	280,253
Heating Oil	55,087	GJ	55,087	3,883
Natural Gas	2,797,348	GJ	2,797,348	142,664
Other Fuel	907,068	L	34,739	1,389
Propane	97,039	GJ	97,039	5,920
Solid Waste	34,810	T	0	28,275
Wood	485,766	GJ	485,766	180
Total of Transportation / Buildings / Solid Waste:			**12,081,549** GJ	**619,780** tonnes

Memo Items

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	4	138,372,076	Kilowatt Hours	498,139	3,413
	Natural Gas	24	302,561	GigaJoules	302,561	15,431
				Large Industrial	**800,700**	**18,844**

Agriculture

		Number of Animals	Methane	CO2e (t)
	Enteric Fermentation	53,213	2,991	62,811

Land-Use Change

	Area (ha)	CO2e (t)
Deforestation from Agriculture	12	5,869
Deforestation from Settlement	16	7,690
Deforestation:	**28**	**13,559**

North Okanagan Regional District
Updated 2007 Community Energy and Emissions Inventory

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	18,825	40	20,580	69	21,290	67
Semi-Detached House	1,170	3	1,190	4	1,565	5
Row House	1,485	3	1,795	6	1,675	5
Apartment, Duplex	565	1	580	2	1,315	4
Apartment, 5 storeys or higher	170	0	300	1	310	1
Apartment, under 5 storeys	3,865	8	3,970	13	4,380	14
Other Single Attached House	65	0	75	0	90	0
Movable Dwelling	1,535	3	1,275	4	1,245	4

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 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	22,200	82	23,400	84	26,550	82
Car, Truck,Van as Passenge	1,965	7	1,865	7	2,605	8
Public Transit	140	1	215	1	215	1
Walked	1,815	7	1,840	7	2,160	7
Bicycle	510	2	325	1	525	2
Motorcycle	35	0	65	0	70	0
Taxicab	20	0	25	0	15	0
Other Method	265	1	290	1	215	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	%
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	59,875.1	7.9
Local Parks	90.9	0.0
Agricultural Land Reserve	69,710.4	9.2
Other land use	630,636.2	82.9
Total Land Area	760,312.6	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