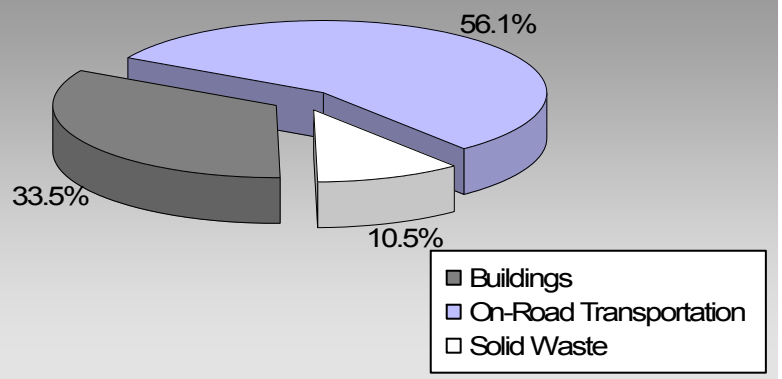
Kootenay Boundary Regional District
Updated 2007 Community Energy and Emissions Inventory

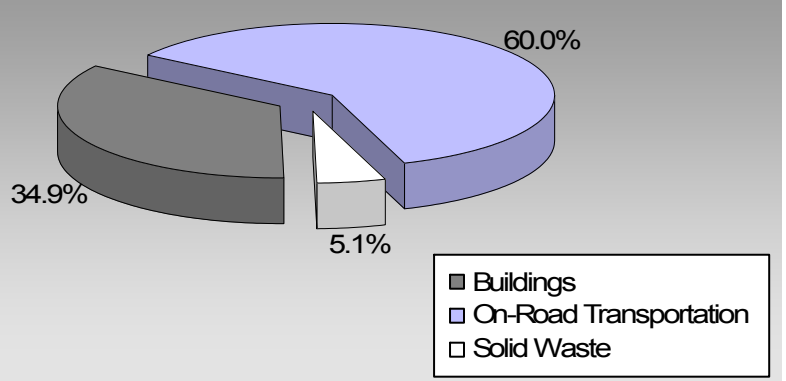
BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities

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

Kootenay Boundary Regional District
2007 GHG Emissions Sources

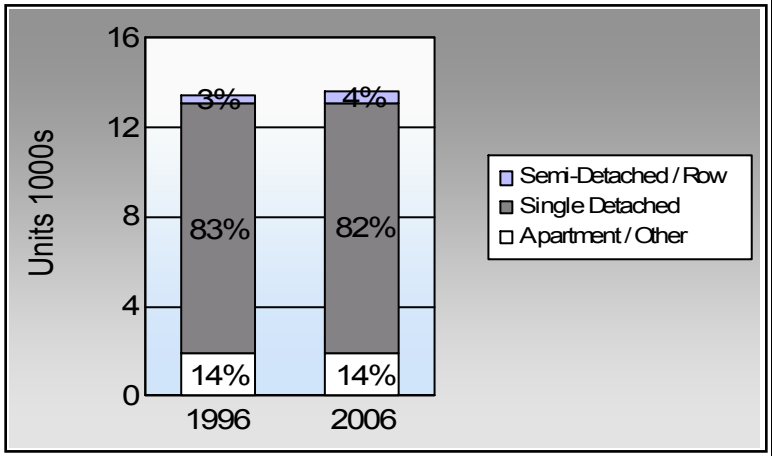


Total for BC Communities



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
	76.2%	79.8%
	8.3%	8.0%
	1.2%	1.4%
	11.0%	7.9%
	2.1%	2.1%

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	5,880	8,273,933	Litres	13,663	289,588	19,771
	Diesel Fuel	180	182,728	Litres	13,922	6,998	499
	Other Fuel	< 10	2,930	Litres	9,881	112	4
				Small Passenger Cars		**296,698**	**20,274**
Large Passenger Cars	Gasoline	3,713	7,184,601	Litres	15,667	251,461	17,086
	Diesel Fuel	36	87,105	Litres	16,116	3,336	238
	Other Fuel	< 10	12,874	Litres	13,409	493	20
				Large Passenger Cars		**255,290**	**17,344**
Light Trucks, Vans, SUVs	Gasoline	9,760	29,221,630	Litres	19,495	1,022,757	70,060
	Diesel Fuel	917	2,281,355	Litres	19,219	87,376	6,232
	Other Fuel	102	244,573	Litres	13,095	9,367	375
				Light Trucks, Vans, SUVs		**1,119,500**	**76,667**
Commercial Vehicles	Gasoline	92	361,120	Litres	12,842	12,639	842
	Diesel Fuel	186	848,158	Litres	20,681	32,484	2,282
	Other Fuel	14	59,668	Litres	11,511	2,285	91
				Commercial Vehicles		**47,408**	**3,215**
Tractor Trailer Trucks	Gasoline	10	41,874	Litres	11,572	1,466	98
	Diesel Fuel	230	5,787,721	Litres	62,717	221,670	15,574
	Other Fuel	< 10	37,165	Litres	10,845	1,423	57
				Tractor Trailer Trucks		**224,559**	**15,729**
Motorhomes	Gasoline	175	247,441	Litres	2,774	8,660	578
	Diesel Fuel	23	22,420	Litres	3,991	859	60
	Other Fuel	< 10	4,707	Litres	2,189	180	7
				Motorhomes		**9,699**	**645**
Motorcycles, Mopeds	Gasoline	304	164,159	Litres	4,986	5,746	383
				Motorcycles, Mopeds		**5,746**	**383**
Bus	Gasoline	11	110,133	Litres	21,615	3,855	259
	Diesel Fuel	61	775,089	Litres	26,081	29,686	2,086
	Other Fuel	< 10	5,852	Litres	15,902	224	9
				Bus		**33,765**	**2,354**

	Gasoline:	1,596,172	109,077
	Diesel:	382,409	26,971
	Other Fuel:	14,084	563
On Road Transportation Totals	**All Fuels:**	**1,992,665**	**136,611**

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Residential	Electricity	16,502	190,921,181	Kilowatt Hours	687,316	1,146
	Natural Gas	9,314	657,017	GigaJoules	657,017	33,507
	Heating Oil		152,246	GigaJoules	152,246	10,732
	Propane		267,872	GigaJoules	267,872	16,343
	Wood		319,269	GigaJoules	319,269	118
			Residential		**2,083,720**	**61,846**
Commercial/Small-Medium Industrial	Electricity	2,394	92,462,150	Kilowatt Hours	332,863	554
	Natural Gas	993	369,377	GigaJoules	369,377	18,836
			Commercial/Small-Medium Industrial		**702,240**	**19,390**
Wholesale	Electricity	1	41,152,000	Kilowatt Hours	148,147	247
			Wholesale		**148,147**	**247**

	Electricity:	1,168,326	1,947
	Natural Gas:	1,026,394	52,343
	Propane:	267,872	16,343
	Wood:	319,269	118
	Heating Oil:	152,246	10,732
Buildings Totals	**Buildings:**	**2,934,107**	**81,483**

Solid Waste

	Mass (t)	CO2e (t)
Community Solid Waste	15,562	25,485

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Grand Total

	CONSUMPTION		ENERGY (GJ)	CO2e (t)
Diesel Fuel	9,984,576	L	382,409	26,971
Electricity	324,535,331	kWh	1,168,326	1,947
Gasoline	45,604,891	L	1,596,172	109,077
Heating Oil	152,246	GJ	152,246	10,732
Natural Gas	1,026,394	GJ	1,026,394	52,343
Other Fuel	367,769	L	14,084	563
Propane	267,872	GJ	267,872	16,343
Solid Waste	15,562	T	0	25,485
Wood	319,269	GJ	319,269	118
Total of Transportation / Buildings / Solid Waste:			**4,926,772** GJ	**243,579** tonnes

Memo Items

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	7	62,359,829	Kilowatt Hours	224,495	374
	Natural Gas	9	withheld	GigaJoules	-	-
				Large Industrial	**224,495**	**374**

Agriculture

		Number of Animals	Methane	CO2e (t)
	Enteric Fermentation	15,903	931	19,551

Land-Use Change

	Area (ha)	CO2e (t)
Deforestation from Agriculture	5	2,374
Deforestation from Settlement	1	820
Deforestation:	**6**	**3,194**

Kootenay Boundary 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	11,135	45	11,305	83	11,145	82
Semi-Detached House	160	1	195	1	235	2
Row House	230	1	345	3	325	2
Apartment, Duplex	245	1	240	2	220	2
Apartment, 5 storeys or higher	10	0	5	0	0	0
Apartment, under 5 storeys	1,030	4	985	7	1,010	7
Other Single Attached House	70	0	40	0	60	0
Movable Dwelling	555	2	530	4	630	5

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	9,740	76	10,040	79	10,320	80
Car, Truck,Van as Passenge	1,065	8	845	7	1,035	8
Public Transit	155	1	130	1	180	1
Walked	1,410	11	1,300	10	1,025	8
Bicycle	270	2	210	2	270	2
Motorcycle	25	0	20	0	15	0
Taxicab	10	0	0	0	15	0
Other Method	110	1	120	1	75	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	70,489.8	9.9
Local Parks	123.0	0.0
Agricultural Land Reserve	54,132.7	7.6
Other land use	589,538.4	82.5
Total Land Area	714,283.9	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