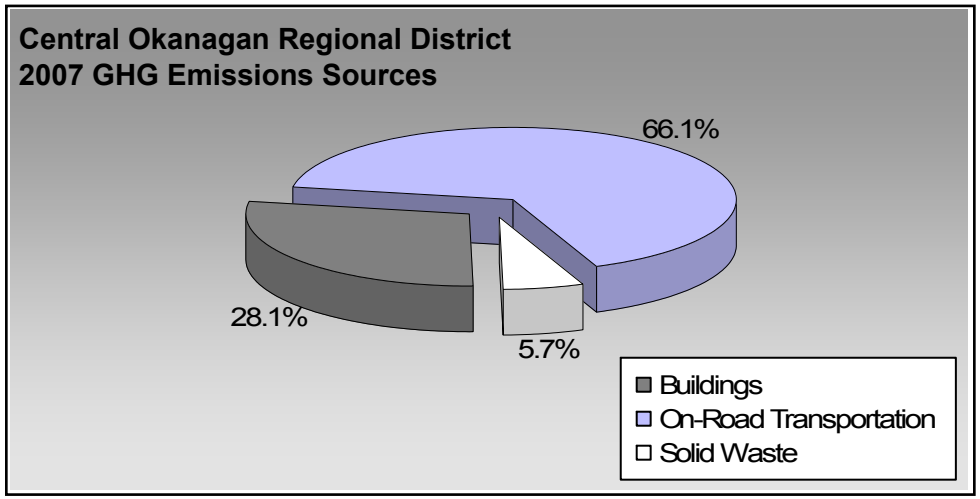
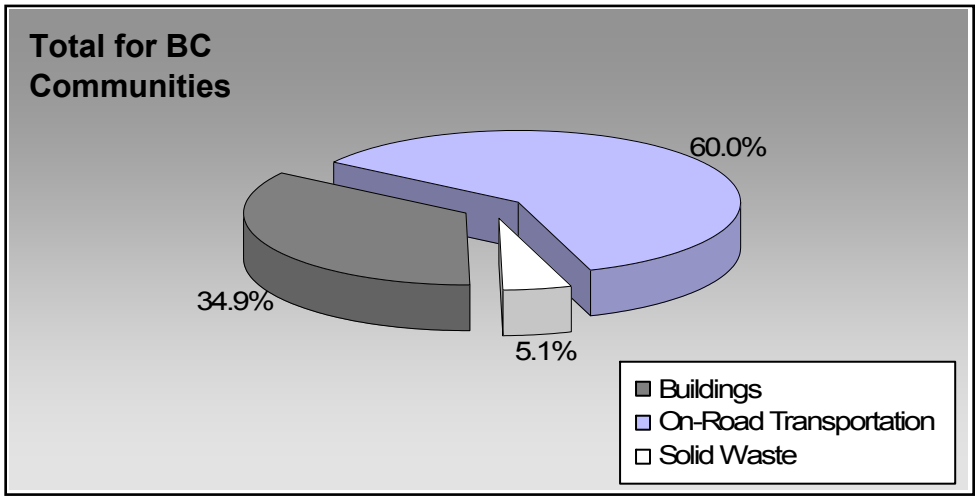
Central Okanagan Regional District
Updated 2007 Community Energy and Emissions Inventory

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

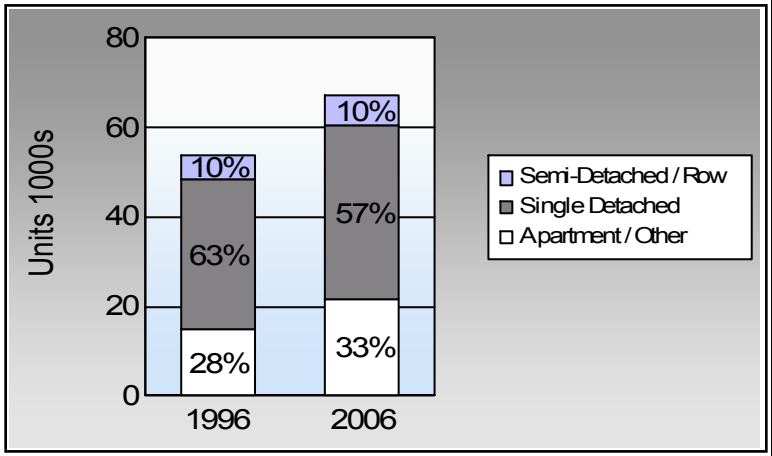
Where are the majority of our community's emissions coming from?





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
	83.6%	81.4%
	6.7%	7.7%
	1.9%	2.7%
	4.6%	4.6%
	2.0%	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	35,811	46,748,583	Litres	12,802	1,636,200	111,451
	Diesel Fuel	1,190	1,204,881	Litres	13,606	46,147	3,291
	Other Fuel	< 10	7,842	Litres	10,190	300	12
				Small Passenger Cars		**1,682,647**	**114,754**
Large Passenger Cars	Gasoline	21,624	45,006,378	Litres	16,930	1,575,223	106,972
	Diesel Fuel	417	919,946	Litres	17,319	35,234	2,510
	Other Fuel	53	126,781	Litres	14,378	4,856	194
				Large Passenger Cars		**1,615,313**	**109,676**
Light Trucks, Vans, SUVs	Gasoline	48,922	147,504,584	Litres	20,175	5,162,660	352,716
	Diesel Fuel	4,002	10,457,139	Litres	20,419	400,508	28,570
	Other Fuel	325	820,717	Litres	13,540	31,433	1,257
				Light Trucks, Vans, SUVs		**5,594,601**	**382,543**
Commercial Vehicles	Gasoline	306	1,363,931	Litres	14,132	47,738	3,187
	Diesel Fuel	1,213	5,968,660	Litres	22,192	228,600	16,061
	Other Fuel	54	176,720	Litres	11,691	6,768	271
				Commercial Vehicles		**283,106**	**19,519**
Tractor Trailer Trucks	Gasoline	16	90,994	Litres	11,389	3,185	213
	Diesel Fuel	1,511	52,695,948	Litres	90,414	2,018,255	141,803
	Other Fuel	11	28,990	Litres	8,918	1,110	44
				Tractor Trailer Trucks		**2,022,550**	**142,060**
Motorhomes	Gasoline	1,171	1,495,527	Litres	3,120	52,343	3,498
	Diesel Fuel	213	269,067	Litres	4,984	10,305	724
	Other Fuel	18	26,719	Litres	2,189	1,023	41
				Motorhomes		**63,671**	**4,263**
Motorcycles, Mopeds	Gasoline	2,289	1,013,074	Litres	5,484	35,458	2,365
				Motorcycles, Mopeds		**35,458**	**2,365**
Bus	Gasoline	82	820,445	Litres	23,367	28,716	1,928
	Diesel Fuel	162	3,372,216	Litres	37,447	129,156	9,075
	Other Fuel	< 10	45,354	Litres	15,902	1,737	69
				Bus		**159,609**	**11,072**

	Gasoline:	8,541,523	582,330
	Diesel:	2,868,205	202,034
	Other Fuel:	47,227	1,888
On Road Transportation Totals	**All Fuels:**	**11,456,955**	**786,252**

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Residential	Electricity	71,290	770,831,992	Kilowatt Hours	2,774,993	9,510
	Natural Gas	49,649	4,010,405	GigaJoules	4,010,405	204,530
	Heating Oil		42,916	GigaJoules	42,916	3,025
	Propane		75,712	GigaJoules	75,712	4,619
	Wood		377,761	GigaJoules	377,761	140
			Residential		**7,281,787**	**221,824**
Commercial/Small-Medium Industrial	Electricity	6,997	499,363,696	Kilowatt Hours	1,797,708	5,708
	Natural Gas	4,773	2,054,452	GigaJoules	2,054,452	104,777
			Commercial/Small-Medium Industrial		**3,852,160**	**110,485**
Wholesale	Electricity	1	291,854,400	Kilowatt Hours	1,050,675	1,751
			Wholesale		**1,050,675**	**1,751**

	Electricity:	5,623,376	16,969
	Natural Gas:	6,064,857	309,307
	Propane:	75,712	4,619
	Wood:	377,761	140
	Heating Oil:	42,916	3,025
Buildings Totals	**Buildings:**	**12,184,622**	**334,060**

Solid Waste

	Mass (t)	CO2e (t)
Community Solid Waste	146,700	68,328

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Grand Total

	CONSUMPTION		ENERGY (GJ)	CO2e (t)
Diesel Fuel	74,887,857	L	2,868,205	202,034
Electricity	1,562,050,088	kWh	5,623,376	16,969
Gasoline	244,043,516	L	8,541,523	582,330
Heating Oil	42,916	GJ	42,916	3,025
Natural Gas	6,064,857	GJ	6,064,857	309,307
Other Fuel	1,233,123	L	47,227	1,888
Propane	75,712	GJ	75,712	4,619
Solid Waste	146,700	T	0	68,328
Wood	377,761	GJ	377,761	140
Total of Transportation / Buildings / Solid Waste:			**23,641,577** GJ	**1,188,640** tonnes

Memo Items

Buildings

	Type	Connections	Consumption	Measurement	Energy (GJ)	CO2e (t)
Large Industrial	Electricity	9	69,203,127	Kilowatt Hours	249,131	415
	Natural Gas	27	581,328	GigaJoules	581,328	29,648
				Large Industrial	**830,459**	**30,063**

Agriculture

		Number of Animals	Methane	CO2e (t)
	Enteric Fermentation	8,433	415	8,715

Land-Use Change

	Area (ha)	CO2e (t)
Deforestation from Settlement	95	45,522
Deforestation from Agriculture	-	-
Deforestation:	**95**	**45,522**

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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	33,615	39	37,795	63	38,455	57
Semi-Detached House	2,210	3	3,065	5	3,085	5
Row House	3,075	4	3,190	5	3,640	5
Apartment, Duplex	2,360	3	2,275	4	4,855	7
Apartment, 5 storeys or higher	470	1	485	1	775	1
Apartment, under 5 storeys	9,110	10	10,305	17	12,330	18
Other Single Attached House	100	0	85	0	145	0
Movable Dwelling	2,735	3	2,675	4	3,650	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	46,910	84	50,240	83	59,440	81
Car, Truck,Van as Passenge	3,775	7	3,585	6	5,640	8
Public Transit	1,040	2	1,675	3	1,955	3
Walked	2,575	5	2,720	5	3,340	5
Bicycle	1,125	2	1,265	2	1,550	2
Motorcycle	130	0	165	0	250	0
Taxicab	45	0	75	0	60	0
Other Method	505	1	590	1	790	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	28,978.7	8.7
Local Parks	1,630.4	0.5
Agricultural Land Reserve	27,310.0	8.2
Other land use	276,267.3	82.7
Total Land Area	334,186.4	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