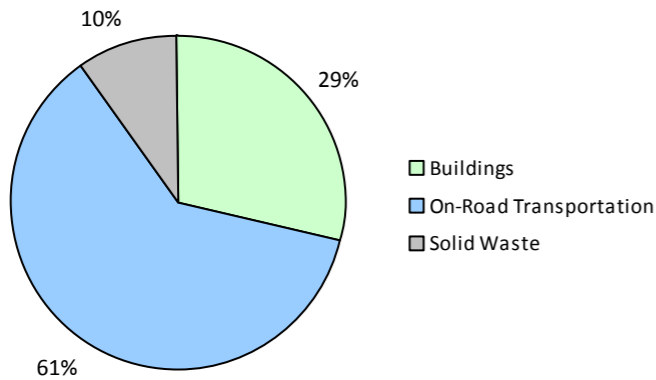
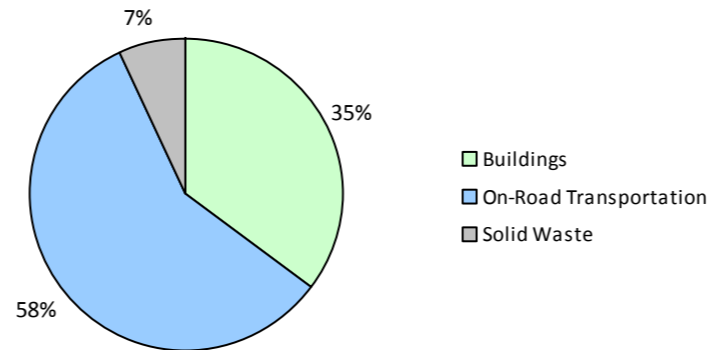


Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

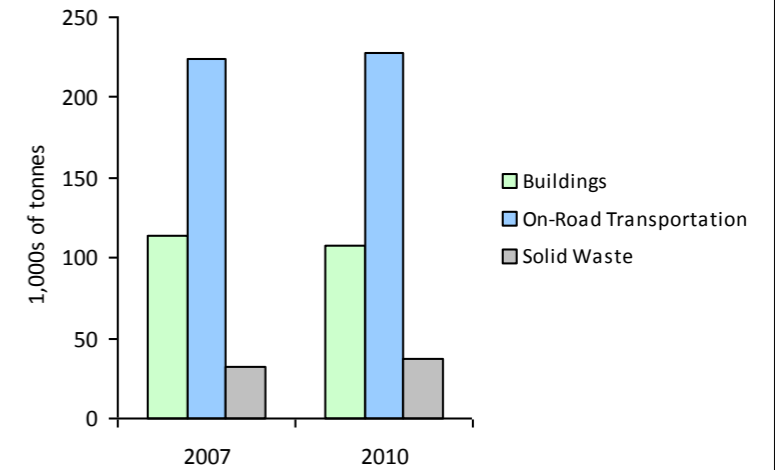
2010 GHG Emissions Sources (Total for this Community)



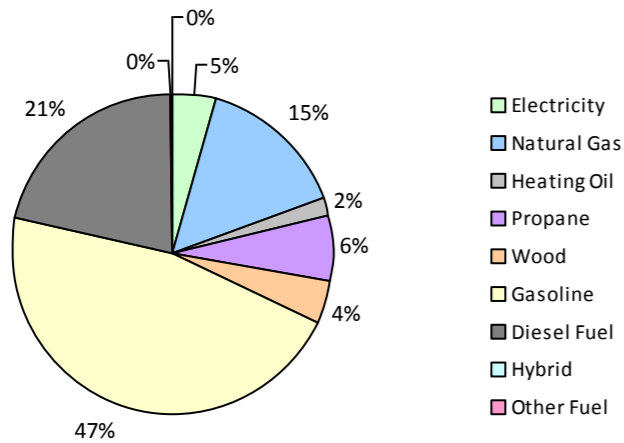
2010 GHG Emissions Sources (Total for BC)



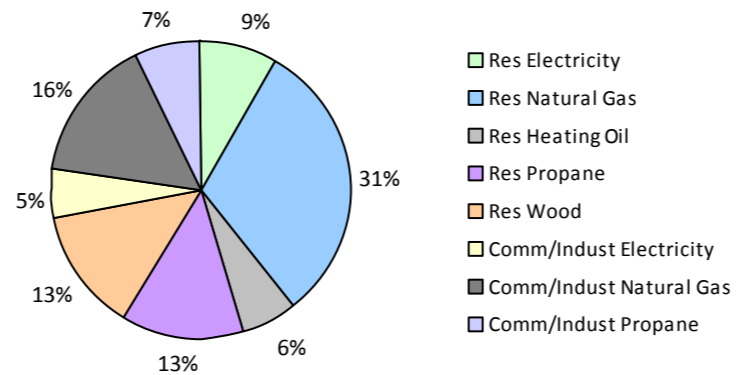
GHG Emissions Comparisons for this Community



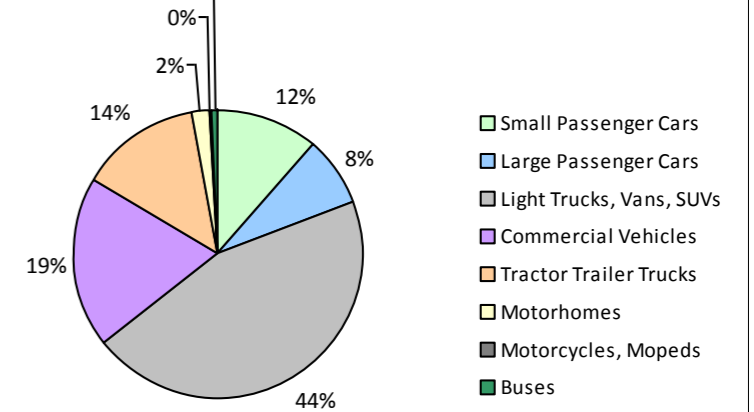
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Columbia-Shuswap Regional District 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Core Items

On-Road Transportation		2007					2010				
		Connections	Consumption	Avg VKT (km)	Energy (GJ)	CO2e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	CO2e (t)
Small Passenger Cars	Hybrid			20,900	278	18	15	14,811 L	18,700	518	33
	Gasoline	7,193	11,229,501 L	16,600	393,033	26,693	7,250	11,142,565 L	16,400	389,990	25,028
	Diesel Fuel	333	519,250 L	22,800	19,887	1,418	319	476,446 L	21,800	18,248	1,264
	Other Fuel			17,800	75	4			12,400	54	4
Large Passenger Cars	Hybrid	23	26,388 L	21,500	923	62	63	81,859 L	22,800	2,866	182
	Gasoline	4,444	8,624,653 L	17,100	301,863	20,477	4,194	7,825,890 L	16,500	273,906	17,576
	Diesel Fuel	57	86,835 L	16,300	3,326	236	61	86,613 L	15,500	3,318	229
	Other Fuel			13,800	90	5			11,800	111	7
Light Trucks, Vans, SUVs	Hybrid			30,200	754	51	34	77,689 L	26,500	2,719	176
	Gasoline	13,767	40,315,853 L	19,800	1,411,055	96,471	14,961	42,802,692 L	19,500	1,498,094	97,099
	Diesel Fuel	822	2,059,700 L	14,200	78,887	5,608	627	1,715,682 L	16,100	65,710	4,537
	Other Fuel	113	262,240 L	13,600	6,634	402	61	131,413 L	12,600	3,325	201
Commercial Vehicles	Hybrid							46,600	192	11	
	Gasoline	1,382	4,735,686 L	20,100	165,749	11,129	1,641	5,560,165 L	20,000	194,605	12,438
	Diesel Fuel	2,156	9,099,101 L	23,800	348,496	24,485	2,668	12,242,785 L	26,000	468,899	31,965
	Other Fuel	36	93,060 L	14,300	2,355	142	40	102,854 L	14,000	2,602	158
Tractor Trailer Trucks	Gasoline			38,400	1,447	97			29,300	2,020	128
	Diesel Fuel	519	11,675,349 L	53,200	447,166	31,419	549	11,835,742 L	51,600	453,309	30,903
Motorhomes	Gasoline	272	862,159 L	21,700	30,175	2,016	305	971,213 L	21,700	33,992	2,164
	Diesel Fuel	188	731,619 L	20,400	28,021	1,968	191	780,215 L	20,300	29,882	2,037
	Other Fuel			22,100	681	42			21,400	429	27
Motorcycles, Mopeds	Gasoline	601	136,656 L	5,000	4,782	320	803	215,454 L	5,900	7,541	478
Buses	Gasoline	40	122,463 L	18,700	4,286	288	51	153,128 L	20,500	5,359	343
	Diesel Fuel	72	416,983 L	21,200	15,971	1,122	73	422,052 L	21,700	16,165	1,102
	Other Fuel			11,100	117	7			12,100	193	12
Totals		32,018	90,997,496 L	19,128	3,266,051	224,480	33,906	90,997,496 L	19,175	3,474,047	228,102

Columbia-Shuswap Regional District 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	728,995 GJ	728,995	14,769	N/A	701,683 GJ	701,683	14,216
	Heating Oil	N/A	98,340 GJ	98,340	6,932	N/A	94,656 GJ	94,656	6,474
	Propane	2	249,134 GJ	249,134	15,200	1,297	230,202 GJ	230,202	14,045
	Natural Gas	9,116	706,599 GJ	706,599	35,443	9,379	658,973 GJ	658,973	33,054
	Electricity	29,526	360,992,651 kWh	1,299,573	9,025	30,827	377,391,073 kWh	1,358,607	9,435
Commercial/Small-Medium Industrial	Propane	243	124,651 GJ	124,651	7,605	252	125,822 GJ	125,822	7,677
	Natural Gas	918	382,426 GJ	382,426	19,182	917	343,010 GJ	343,010	17,205
	Electricity	4,313	231,092,263 kWh	831,931	5,778	4,581	229,195,224 kWh	825,102	5,730
Totals		44,118		4,421,649	113,934	47,253		4,338,055	107,836

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	42,834 t	N/A	32,011	0	33,438 t	N/A	36,593
Totals		0			32,011	0			36,593

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	5		0	0	5		0	0
	Electricity	5	80,817,890 kWh	290,944	2,021	4	54,007,676 kWh	194,427	1,350
Totals		10		290,944	2,021	9		194,427	1,350

Agriculture		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Enteric Fermentation	Methane	23,665	1,369 t	0	28,749				
Totals		23,665			28,749	0			

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Land-use Change - Deforestation		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Agriculture	Deforestation	71	0 ha	0	32,546				
Settlement	Deforestation	224	0 ha	0	107,368				
Totals		295			139,914	0			

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 51,587)			2010 (Population: 53,680)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	26,388 L	1,955	131	174,359 L	6,295	402
Gasoline	66,026,971 L	2,312,390	157,491	68,671,107 L	2,405,507	155,254
Diesel Fuel	24,588,837 L	941,754	66,256	27,559,535 L	1,055,531	72,037
Other Fuel	355,300 L	9,952	602	234,267 L	6,714	409
Wood	728,995 GJ	728,995	14,769	701,683 GJ	701,683	14,216
Heating Oil	98,340 GJ	98,340	6,932	94,656 GJ	94,656	6,474
Propane	373,785 GJ	373,785	22,805	356,024 GJ	356,024	21,722
Natural Gas	1,089,025 GJ	1,089,025	54,625	1,001,983 GJ	1,001,983	50,259
Electricity	592,084,914 kWh	2,131,504	14,803	606,586,297 kWh	2,183,709	15,165
Solid Waste	42,834 t	0	32,011	33,438 t	0	36,593
Grand Totals		7,687,700	370,425		7,812,102	372,531

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Supporting Indicators

No new supporting indicator data have been provided in the 2010 reports. Work is currently underway to produce a complete second round of data for the indicators below in the 2012 reports (available in 2014). In the interim, we are including the same supporting indicator data that was provided in the 2007 reports. Feedback is requested on all supporting indicators; please contact us directly at

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	13,560	42	15,020	75	16,095	76
Semi-Detached House	380	1	320	2	460	2
Row House	610	2	770	4	785	4
Apartment, Duplex	510	2	425	2	550	3
Apartment, 5 storeys or higher	0	0	5	0	5	0
Apartment, under 5 storeys	1,345	4	1,365	7	1,670	8
Other Single Attached House	70	0	145	1	50	0
Movable Dwelling	2,380	7	1,855	9	1,560	7

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	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	13,840	75	15,060	80	16,355	78
Car, Truck, Van as Passenger	1,615	9	1,230	7	1,765	8
Public Transit	85	0	90	0	120	1
Walked	2,025	11	1,710	9	1,870	9
Bicycle	455	2	475	3	490	2
Motorcycle	40	0	30	0	75	0
Taxicab	0	0	10	0	15	0
Other Method	310	2	245	1	215	1

Parks and Protected Greenspace

Parks and protected greenspaces are important for the protection and enhancement of community carbon sinks.

	2009	
	Units	%
National Parks	295,110	10
Provincial Parks / Protected Areas	97,068	3
Local Parks	185	0
Agricultural Land Reserve	54,604	2
Other land use	2,542,510	85
Total Parks and Protected Area	392,362	13
Total Land Area	2,989,476	100

* Total is net of Indian Reserves
 ** Quantity of parkland may be underestimated

Residential Density

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	
	Units	%
National Parks	295,110	10
Provincial Parks / Protected Areas	97,068	3
Local Parks	185	0
Agricultural Land Reserve	54,604	2
Other land use	2,542,510	85
Total Parks and Protected Area	392,362	13
Total Land Area	2,989,476	100

* Net of Crown land, parks, Indian Reserves, water features, airports, ALR, waste disposal site

Columbia-Shuswap Regional District
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

This page
intentionally left
blank

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Supporting Indicators Under Consideration

Work is currently underway to produce a complete second round of supporting indicators for the 2012 reports (available in 2014). These reports will new data for the five supporting indicators included in the 2007 and 2010 Reports:

- **Housing Type:** Private dwellings by structural type
- **Commute to Work:** Employed labour force - by mode of commute
- **Commute Distance**
- **Residential Density**
- **Parks and Protected Greenspace**

And in addition, the 2012 reports we are working to be able to include:

- **Proximity to Transit**
- **Building Energy Intensity**
- **Building Floor Space**
- **Waste Diversion**

We are continuing to work towards reporting on even more supporting indicators in the future including:

- **Proximity to Services** (e.g. destinations such as grocery store, school, other retail etc.)
- **Transit Ridership**
- **Water Use**
- **Impervious Surface Cover:** % change in impervious surface cover
- **Tree Canopy Cover:** % change in tree canopy cover
- **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)

Please give us feedback by contacting us directly at CEEIRPT@gov.bc.ca

Many local governments have been undertaking a significant amount of climate action in both the corporate and community-wide spheres, as demonstrated in both the public reports from the Climate Action Revenue Incentive Program (CARIP) <http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm>, and on the <http://toolkit.bc.ca> website. These two resources may be helpful to those who are interested in learning from other BC local governments. The toolkit also contains additional information and resources including decision-support/planning frameworks and tools for undertaking actions to reduce GHG emissions and energy consumption.

This is your local government's 2010 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 as well as supporting indicators 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, fulfill Milestone One requirements for those local government members of the Federation of Canadian Municipalities' (FCM's) Partners in Climate Protection (PCP) program, as well as supporting local government efforts to monitor progress towards Regional Growth Strategy objectives.

A first in North America!

CEEI is a first in North America and a first step for BC communities. The 2010 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 from large industrial buildings, including updated land-use change and new agricultural sectors as 'memo items'. 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 2010 CEEI Reports, User Guide, Technical Methods and Guidance Document, and additional information on the Supporting 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, please take the time to 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,