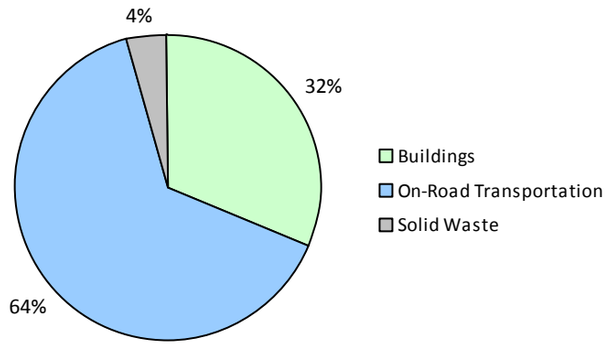
Cariboo Regional District

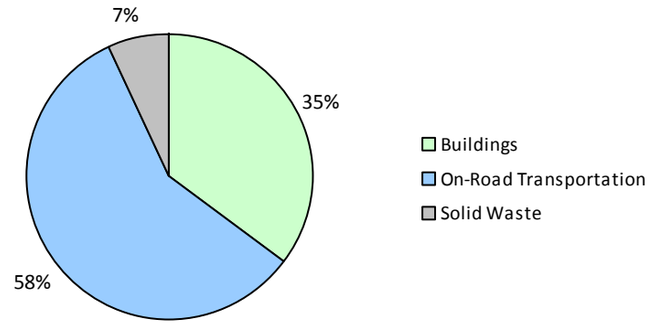
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

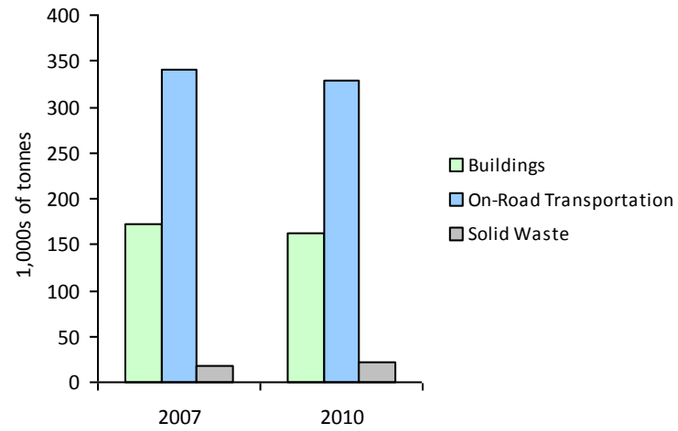
2010 GHG Emissions Sources (Total for this Community)



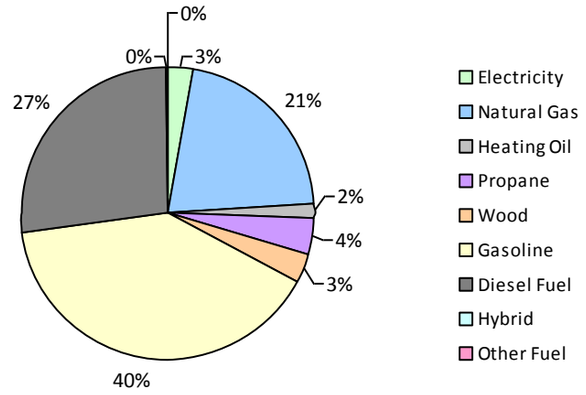
2010 GHG Emissions Sources (Total for BC)



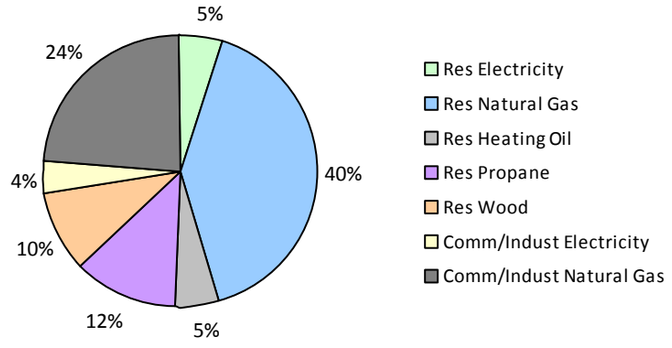
GHG Emissions Comparisons for this Community



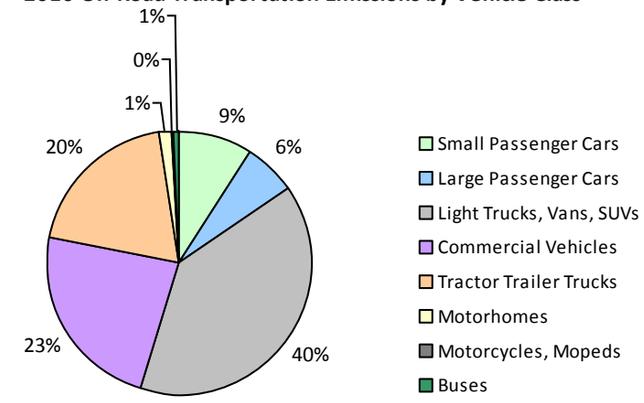
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Cariboo 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)	C02e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)
Small Passenger Cars	Hybrid			21,900	146	9	10	10,420 L	20,400	364	24
	Gasoline	8,847	14,030,472 L	17,000	491,066	33,336	8,443	13,114,301 L	16,800	459,000	29,458
	Diesel Fuel	270	422,920 L	22,900	16,198	1,155	279	430,563 L	22,300	16,490	1,142
	Other Fuel								27,800	207	13
Large Passenger Cars	Hybrid	20	30,057 L	27,500	1,052	71	56	96,769 L	29,200	3,386	215
	Gasoline	4,889	9,895,763 L	17,900	346,351	23,502	4,554	9,026,959 L	17,600	315,944	20,268
	Diesel Fuel	54	72,919 L	13,800	2,794	198	37	49,943 L	14,400	1,913	132
	Other Fuel			15,300	149	9			9,000	57	3
Light Trucks, Vans, SUVs	Hybrid			26,500	375	25	13	34,568 L	28,400	1,210	78
	Gasoline	17,457	51,028,417 L	19,500	1,785,995	122,198	18,385	53,494,678 L	19,600	1,872,313	121,417
	Diesel Fuel	1,215	3,100,929 L	14,300	118,766	8,437	867	2,438,490 L	16,400	93,393	6,451
	Other Fuel	169	365,709 L	12,600	9,252	561	107	203,909 L	11,300	5,159	312
Commercial Vehicles	Hybrid								31,500	520	33
	Gasoline	2,554	8,799,731 L	20,200	307,990	20,684	2,826	9,616,972 L	20,100	336,595	21,517
	Diesel Fuel	4,200	17,371,510 L	23,500	665,329	46,746	4,732	21,247,034 L	25,700	813,762	55,474
	Other Fuel	76	200,645 L	14,000	5,076	308	49	114,250 L	12,600	2,892	174
Tractor Trailer Trucks	Gasoline			12,600	752	51			18,800	371	23
	Diesel Fuel	964	28,189,751 L	61,500	1,079,668	75,857	896	25,069,139 L	58,000	960,147	65,455
	Other Fuel			12,700	162	9			9,400	65	4
Motorhomes	Gasoline	274	884,799 L	22,100	30,968	2,066	298	958,932 L	22,100	33,563	2,132
	Diesel Fuel	220	849,162 L	20,800	32,523	2,284	210	844,808 L	21,000	32,356	2,205
	Other Fuel	18	57,865 L	21,500	1,464	89	11	40,224 L	23,300	1,018	62
Motorcycles, Mopeds	Gasoline	514	115,910 L	4,800	4,057	270	716	194,505 L	5,800	6,807	431
Buses	Gasoline	36	107,559 L	18,100	3,765	253	40	117,062 L	18,100	4,097	262
	Diesel Fuel	135	813,869 L	19,700	31,171	2,191	131	747,398 L	20,100	28,625	1,952
	Other Fuel			12,500	129	9			11,200	58	4
Totals		**41,912**	**136,337,987 L**	**19,869**	**4,935,198**	**340,318**	**42,660**	**136,337,987 L**	**20,077**	**4,990,312**	**329,241**

Cariboo 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	842,388 GJ	842,388	17,067	N/A	785,296 GJ	785,296	15,910
	Heating Oil	N/A	126,491 GJ	126,491	8,916	N/A	117,919 GJ	117,919	8,064
	Propane	N/A	343,855 GJ	343,855	20,979	N/A	320,551 GJ	320,551	19,557
	Natural Gas	16,974	1,410,729 GJ	1,410,729	70,763	16,972	1,287,305 GJ	1,287,305	64,572
	Electricity	32,053	349,304,375 kWh	1,257,495	8,733	32,725	344,563,381 kWh	1,240,427	8,614
Commercial/Small-Medium Industrial	Natural Gas	1,995	771,362 GJ	771,362	38,691	1,917	769,282 GJ	769,282	38,587
	Electricity	5,268	258,332,385 kWh	929,996	6,459	5,407	248,842,140 kWh	895,831	6,221
Totals		**56,290**		**5,682,316**	**171,608**	**57,021**		**5,416,611**	**161,525**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	34,000 t	N/A	17,675	0	38,498 t	N/A	21,641
Totals		**0**			**17,675**	**0**			**21,641**

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	24	4,712,691 GJ	4,712,691	236,389	18		0	0
	Electricity	20	1,739,100,716 kWh	6,260,758	43,479	19	1,743,324,127 kWh	6,275,962	43,585
Totals		**44**		**10,973,449**	**279,868**	**37**		**6,275,962**	**43,585**

Agriculture		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Enteric Fermentation	Methane	142,718	8,655 t	0	181,755				
Totals		**142,718**			**181,755**	**0**			

Cariboo Regional District

2010 Community Energy and Emissions Inventory

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	34	0 ha	0	15,734				
Settlement	Deforestation	165	0 ha	0	79,410				
Totals		**199**			**95,144**	**0**			

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 63,436)			2010 (Population: 65,471)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	30,057 L	1,573	105	141,757 L	5,480	350
Gasoline	84,862,651 L	2,970,944	202,360	86,523,409 L	3,028,690	195,508
Diesel Fuel	50,821,060 L	1,946,449	136,868	50,827,375 L	1,946,686	132,811
Other Fuel	624,219 L	16,232	985	358,383 L	9,456	572
Wood	842,388 GJ	842,388	17,067	785,296 GJ	785,296	15,910
Heating Oil	126,491 GJ	126,491	8,916	117,919 GJ	117,919	8,064
Propane	343,855 GJ	343,855	20,979	320,551 GJ	320,551	19,557
Natural Gas	2,182,091 GJ	2,182,091	109,454	2,056,587 GJ	2,056,587	103,159
Electricity	607,636,760 kWh	2,187,491	15,192	593,405,521 kWh	2,136,258	14,835
Solid Waste	34,000 t	0	17,675	38,498 t	0	21,641
Grand Totals		**10,617,514**	**529,601**		**10,406,923**	**512,407**

Cariboo Regional District

2010 Community Energy and Emissions Inventory

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	17,490	42	18,905	75	18,745	74
Semi-Detached House	455	1	545	2	645	3
Row House	635	2	720	3	705	3
Apartment, Duplex	490	1	625	2	675	3
Apartment, 5 storeys or higher	0	0	0	0	5	0
Apartment, under 5 storeys	1,875	5	1,760	7	1,800	7
Other Single Attached House	115	0	55	0	145	1
Movable Dwelling	2,970	7	2,695	11	2,490	10

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	21,690	81	22,365	84	21,865	82
Car, Truck,Van as Passenger	2,450	9	1,810	7	2,515	9
Public Transit	150	1	140	1	185	1
Walked	1,815	7	1,825	7	1,315	5
Bicycle	215	1	245	1	275	1
Motorcycle	20	0	20	0	35	0
Taxicab	20	0	10	0	25	0
Other Method	320	1	265	1	335	1

Parks and Protected Greenspace

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

	2009	
	Units	%
National Parks	0	0
Provincial Parks / Protected Areas	1,052,511	13
Local Parks	129	0
Agricultural Land Reserve	936,157	11
Other land use	6,277,949	76
Total Parks and Protected Area	1,052,640	13
Total Land Area	8,266,746	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	0	0
Provincial Parks / Protected Areas	1,052,511	13
Local Parks	129	0
Agricultural Land Reserve	936,157	11
Other land use	6,277,949	76
Total Parks and Protected Area	1,052,640	13
Total Land Area	8,266,746	100

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

This page intentionally left blank

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,