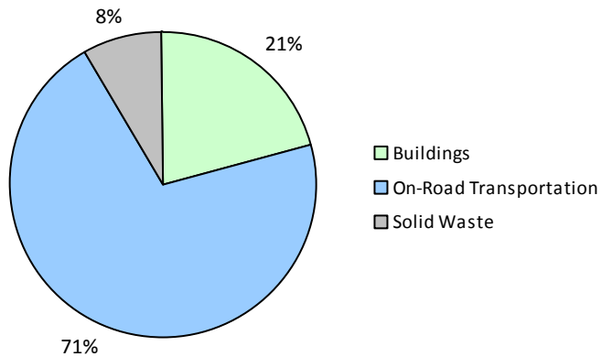
Central Kootenay Regional District Unincorporated Areas

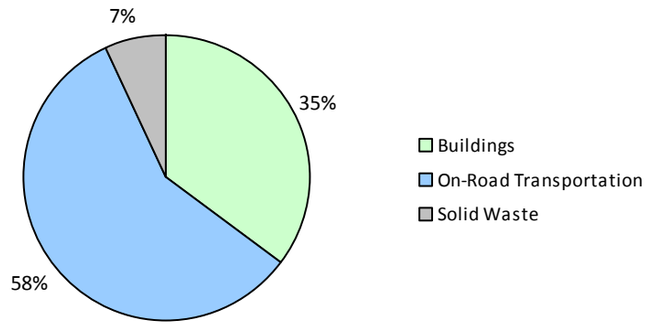
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

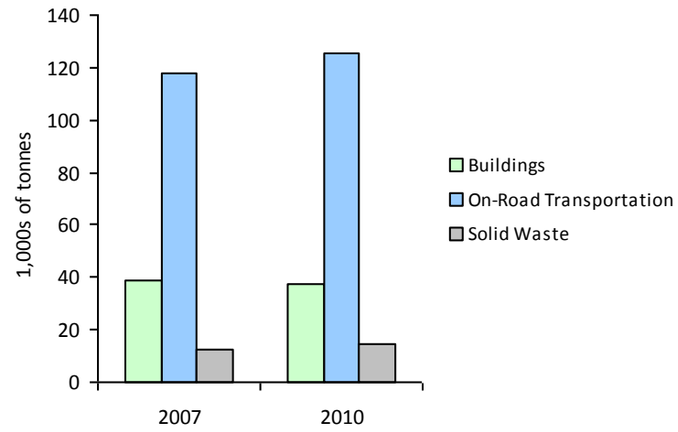
2010 GHG Emissions Sources (Total for this Community)



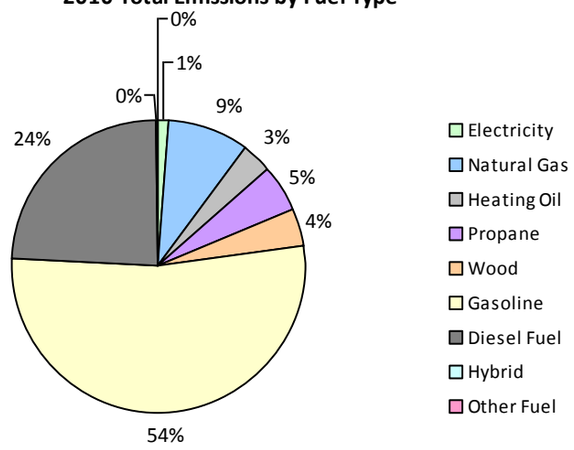
2010 GHG Emissions Sources (Total for BC)



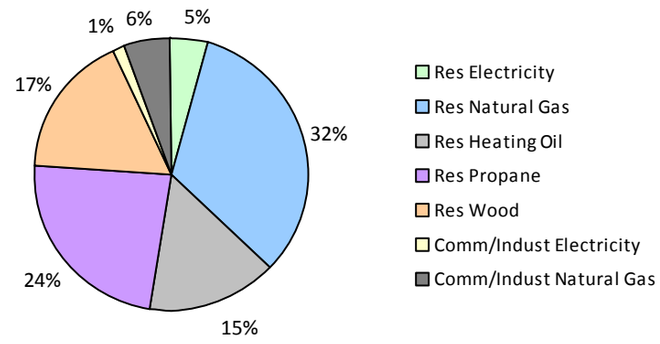
GHG Emissions Comparisons for this Community



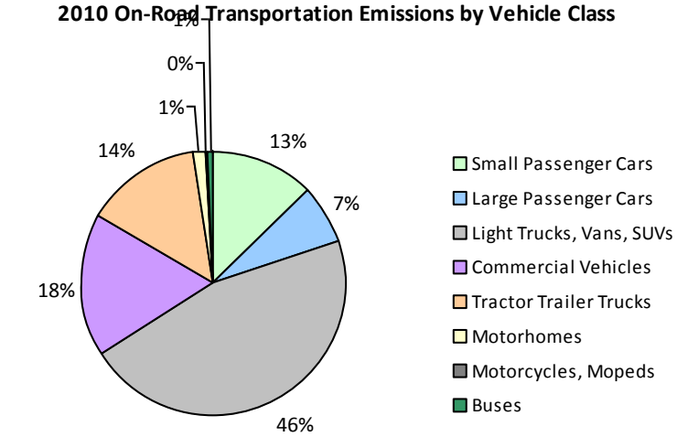
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



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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			20,900	146	9			20,500	137	9
	Gasoline	4,514	6,280,202 L	15,300	219,808	15,009	4,664	6,631,580 L	15,400	232,106	14,951
	Diesel Fuel	202	313,013 L	23,100	11,989	854	219	342,486 L	22,800	13,116	908
Large Passenger Cars	Hybrid	13	14,367 L	20,800	504	33	35	39,275 L	20,500	1,374	87
	Gasoline	2,611	4,104,173 L	14,300	143,645	9,788	2,596	4,009,915 L	14,100	140,346	9,032
	Diesel Fuel	42	49,782 L	11,700	1,907	134	63	69,497 L	11,500	2,661	183
Light Trucks, Vans, SUVs	Hybrid			26,300	326	21	10	17,201 L	22,400	603	37
	Gasoline	9,226	21,418,464 L	16,400	749,647	51,474	10,139	23,884,646 L	16,600	835,963	54,316
	Diesel Fuel	663	1,303,963 L	11,200	49,943	3,549	526	1,143,135 L	12,800	43,783	3,023
	Other Fuel	76	146,302 L	11,700	3,702	223	49	84,405 L	10,400	2,136	131
Commercial Vehicles	Gasoline	790	2,172,801 L	17,100	76,048	5,104	998	2,810,645 L	17,300	98,373	6,286
	Diesel Fuel	1,295	4,282,278 L	18,600	164,011	11,523	1,619	5,984,960 L	20,800	229,226	15,626
	Other Fuel	40	96,620 L	12,800	2,445	147	23	48,598 L	12,100	1,229	75
Tractor Trailer Trucks	Diesel Fuel	278	6,489,426 L	49,900	248,544	17,462	287	6,855,454 L	49,100	262,564	17,899
Motorhomes	Gasoline	138	378,314 L	19,100	13,242	883	142	398,861 L	19,300	13,960	887
	Diesel Fuel	91	277,334 L	16,600	10,623	747	110	348,430 L	16,800	13,345	908
Motorcycles, Mopeds	Gasoline	461	91,640 L	4,600	3,207	214	577	145,106 L	5,600	5,079	320
Buses	Gasoline	11	30,182 L	18,000	1,057	71	14	38,589 L	17,500	1,351	86
	Diesel Fuel	42	255,344 L	19,400	9,780	686	44	262,000 L	27,700	10,034	684
Totals		**20,493**	**47,704,205 L**	**16,138**	**1,710,574**	**117,931**	**22,115**	**47,704,205 L**	**16,515**	**1,907,386**	**125,448**

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	332,036 GJ	332,036	6,727	N/A	319,596 GJ	319,596	6,475
	Heating Oil	N/A	85,429 GJ	85,429	6,022	N/A	82,228 GJ	82,228	5,624
	Propane	N/A	150,327 GJ	150,327	9,171	N/A	144,695 GJ	144,695	8,828
	Natural Gas	3,936	254,528 GJ	254,528	12,767	3,900	241,497 GJ	241,497	12,114
	Electricity	18,292	247,083,150 kWh	889,499	1,769	17,629	255,171,638 kWh	918,617	1,817
Commercial/Small-Medium Industrial	Natural Gas	200	38,171 GJ	38,171	1,915	201	41,432 GJ	41,432	2,078
	Electricity	2,334	66,702,058 kWh	240,127	498	2,317	65,737,555 kWh	236,655	516
Totals		**24,762**		**1,990,117**	**38,869**	**24,047**		**1,984,720**	**37,452**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	15,742 t	N/A	12,546	0	21,384 t	N/A	14,619
Totals		**0**			**12,546**	**0**			**14,619**

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	5		0	0	4		0	0
	Electricity	3		0	0	3	31,085,340 kWh	111,907	187
Totals		**8**			**0**	**7**		**111,907**	**187**

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 30,897)			2010 (Population: 32,558)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	14,367 L	976	63	56,476 L	2,114	133
Gasoline	34,475,776 L	1,206,654	82,543	37,919,342 L	1,327,178	85,878
Diesel Fuel	12,971,140 L	496,797	34,955	15,005,962 L	574,729	39,231
Other Fuel	242,922 L	6,147	370	133,003 L	3,365	206
Wood	332,036 GJ	332,036	6,727	319,596 GJ	319,596	6,475
Heating Oil	85,429 GJ	85,429	6,022	82,228 GJ	82,228	5,624
Propane	150,327 GJ	150,327	9,171	144,695 GJ	144,695	8,828
Natural Gas	292,699 GJ	292,699	14,682	282,929 GJ	282,929	14,192
Electricity	313,785,208 kWh	1,129,626	2,267	320,909,193 kWh	1,155,272	2,333
Solid Waste	15,742 t	0	12,546	21,384 t	0	14,619
Grand Totals		**3,700,691**	**169,346**		**3,892,106**	**177,519**

Central Kootenay Regional District Unincorporated Areas

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	10,690	34	11,100	86	10,930	84
Semi-Detached House	50	0	50	0	55	0
Row House	50	0	35	0	45	0
Apartment, Duplex	150	0	140	1	150	1
Apartment, 5 storeys or higher	10	0	0	0	10	0
Apartment, under 5 storeys	85	0	130	1	105	1
Other Single Attached House	35	0	40	0	45	0
Movable Dwelling	1,215	4	1,375	11	1,650	13

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	10,085	84	10,050	85	9,865	82
Car, Truck,Van as Passenger	805	7	835	7	1,005	8
Public Transit	50	0	130	1	210	2
Walked	675	6	605	5	640	5
Bicycle	100	1	145	1	160	1
Motorcycle	35	0	0	0	25	0
Taxicab	0	0	0	0	5	0
Other Method	220	2	125	1	135	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	360,176	16
Local Parks	6,555	0
Agricultural Land Reserve	63,365	3
Other land use	1,802,413	81
Total Parks and Protected Area	366,731	16
Total Land Area	2,232,509	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	360,176	16
Local Parks	6,555	0
Agricultural Land Reserve	63,365	3
Other land use	1,802,413	81
Total Parks and Protected Area	366,731	16
Total Land Area	2,232,509	100

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

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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,