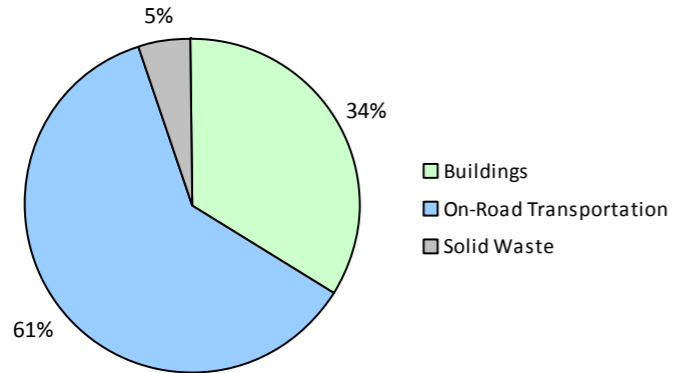


Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

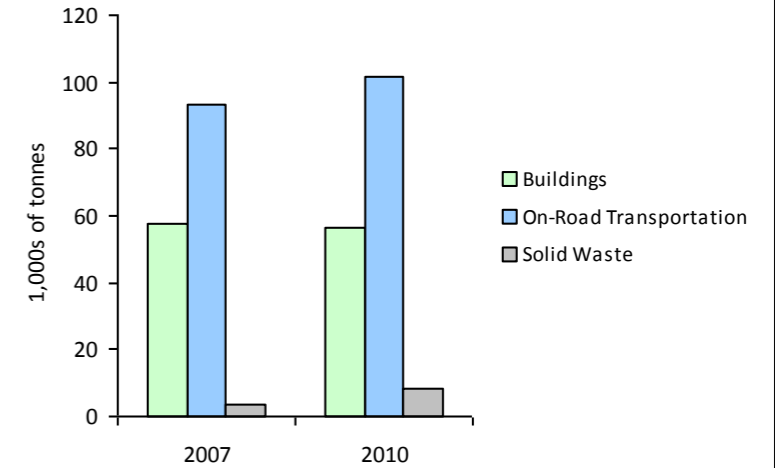
2010 GHG Emissions Sources (Total for this Community)



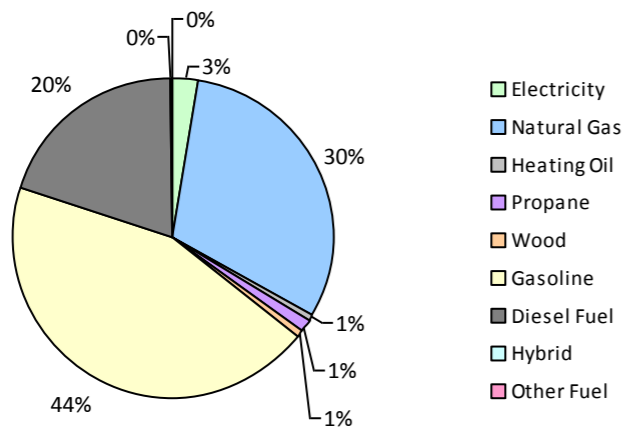
2010 GHG Emissions Sources (Total for BC)



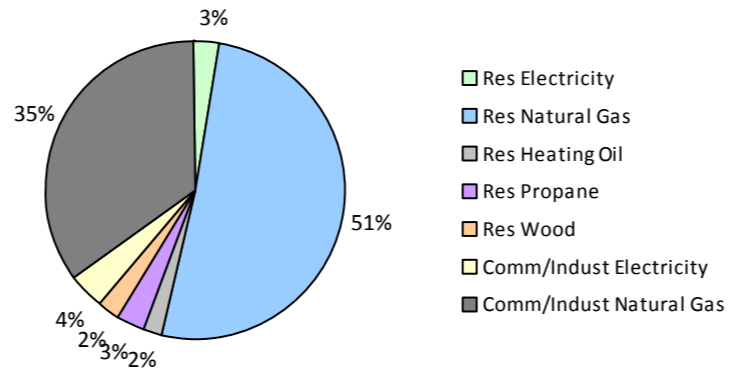
GHG Emissions Comparisons for this Community



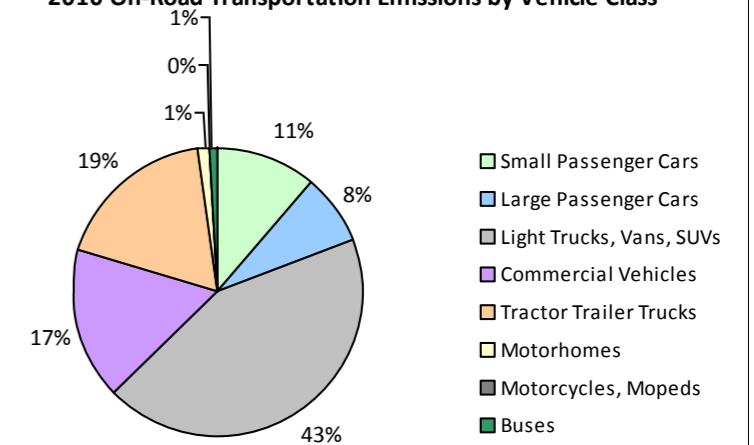
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Cranbrook City 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			23,600	110	8			25,200	185	11
	Gasoline	3,001	4,871,866 L	17,000	170,515	11,546	2,946	4,917,522 L	17,600	172,113	11,019
	Diesel Fuel	117	224,276 L	27,500	8,590	613	119	212,191 L	25,400	8,128	562
Large Passenger Cars	Hybrid			19,800	219	15	23	28,345 L	20,900	991	62
	Gasoline	2,108	3,733,360 L	15,500	130,668	8,856	1,968	3,584,284 L	15,900	125,449	8,036
	Diesel Fuel	11	15,989 L	15,400	613	43	14	18,543 L	14,400	709	50
	Other Fuel			19,300	226	14					
Light Trucks, Vans, SUVs	Hybrid			16,000	89	6			26,800	600	40
	Gasoline	6,037	16,584,951 L	18,400	580,473	39,617	6,619	18,809,684 L	19,300	658,339	42,598
	Diesel Fuel	278	568,132 L	11,400	21,759	1,546	174	420,847 L	14,100	16,118	1,112
	Other Fuel	37	77,096 L	12,300	1,950	118	23	46,908 L	11,800	1,187	72
Commercial Vehicles	Hybrid								31,300	688	44
	Gasoline	653	2,127,087 L	19,200	74,447	5,001	931	3,320,690 L	21,200	116,225	7,431
	Diesel Fuel	704	2,606,128 L	20,300	99,815	7,012	870	3,706,273 L	23,700	141,950	9,677
	Other Fuel	43	105,916 L	13,400	2,679	162	29	64,844 L	12,400	1,641	99
Tractor Trailer Trucks	Gasoline			11,300	97	8			10,600	97	6
	Diesel Fuel	360	6,364,781 L	41,600	243,771	17,127	371	7,302,221 L	47,400	279,674	19,067
	Other Fuel								11,300	100	6
Motorhomes	Gasoline	64	182,229 L	19,600	6,378	426	81	235,131 L	19,600	8,230	523
	Diesel Fuel	63	197,978 L	16,800	7,583	533	57	183,194 L	16,600	7,016	479
	Other Fuel			17,500	204	12					
Motorcycles, Mopeds	Gasoline	201	47,181 L	5,000	1,652	111	250	70,719 L	6,100	2,476	157
Buses	Gasoline	25	78,430 L	18,800	2,745	185	31	96,002 L	18,900	3,359	214
	Diesel Fuel	40	208,596 L	19,400	7,988	561	38	216,866 L	21,600	8,307	567
Totals		13,742	37,993,996 L	18,100	1,362,571	93,520	14,544	37,993,996 L	19,326	1,553,582	101,832

Cranbrook City 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Residential	Wood	N/A	64,382 GJ	64,382	1,304	N/A	61,970 GJ	61,970	1,256
	Heating Oil	N/A	16,555 GJ	16,555	1,167	N/A	15,935 GJ	15,935	1,090
	Propane	N/A	29,116 GJ	29,116	1,776	N/A	28,025 GJ	28,025	1,710
	Natural Gas	6,436	573,667 GJ	573,667	28,775	6,676	565,850 GJ	565,850	28,383
	Electricity	8,163	67,651,118 kWh	243,544	1,691	8,380	70,742,956 kWh	254,674	1,769
Commercial/Small-Medium Industrial	Natural Gas	849	410,074 GJ	410,074	20,569	854	397,514 GJ	397,514	19,939
	Electricity	1,315	105,066,616 kWh	378,240	2,627	1,356	98,840,290 kWh	355,825	2,471
Totals		16,763		1,715,578	57,909	17,266		1,679,793	56,618

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Community Solid Waste	Solid Waste	0	18,114 t	N/A	3,795	0	18,788 t	N/A	8,494
Totals		0			3,795	0			8,494

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Large Industrial	Natural Gas	6	116,763 GJ	116,763	5,857	5	76,228 GJ	76,228	3,824
Totals		6		116,763	5,857	5		76,228	3,824

Cranbrook City 2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 18,584)			2010 (Population: 19,123)		
	Consumption	Energy (GJ)	CO2e (t)	Consumption	Energy (GJ)	CO2e (t)
Hybrid	0 L	418	29	28,345 L	2,464	157
Gasoline	27,625,104 L	966,975	65,750	31,034,032 L	1,086,288	69,984
Diesel Fuel	10,185,880 L	390,119	27,435	12,060,135 L	461,902	31,514
Other Fuel	183,012 L	5,059	306	111,752 L	2,928	177
Wood	64,382 GJ	64,382	1,304	61,970 GJ	61,970	1,256
Heating Oil	16,555 GJ	16,555	1,167	15,935 GJ	15,935	1,090
Propane	29,116 GJ	29,116	1,776	28,025 GJ	28,025	1,710
Natural Gas	983,741 GJ	983,741	49,344	963,364 GJ	963,364	48,322
Electricity	172,717,734 kWh	621,784	4,318	169,583,246 kWh	610,499	4,240
Solid Waste	18,114 t	0	3,795	18,788 t	0	8,494
Grand Totals		3,078,149	155,224		3,233,375	166,944

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	4,465	39	4,845	64	3,960	52
Semi-Detached House	275	2	340	5	555	7
Row House	345	3	490	7	595	8
Apartment, Duplex	190	2	105	1	50	1
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	1,300	11	1,350	18	1,370	18
Other Single Attached House	15	0	15	0	10	0
Movable Dwelling	385	3	380	5	1,110	15

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	5,745	73	5,830	76	6,245	74
Car, Truck, Van as Passenger	850	11	745	10	975	12
Public Transit	30	0	40	1	130	2
Walked	1,055	13	805	11	825	10
Bicycle	120	2	145	2	170	2
Motorcycle	10	0	15	0	35	0
Taxicab	0	0	0	0	0	0
Other Method	55	1	85	1	70	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	0	0
Local Parks	143	4
Agricultural Land Reserve	450	14
Other land use	2,614	82
Total Parks and Protected Area	143	4
Total Land Area	3,206	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	0	0
Local Parks	143	4
Agricultural Land Reserve	450	14
Other land use	2,614	82
Total Parks and Protected Area	143	4
Total Land Area	3,206	100

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

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	
	Units	%
Less than 5 km	6,165	85
5 to 9.9 km	265	4
25 km or more	705	10
15 to 24.9 km	100	1
10 to 14.9 km	20	0

Cranbrook City
2010 Community Energy and Emissions Inventory
Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

This page
intentionally left
blank

Cranbrook City
2010 Community Energy and Emissions Inventory
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,