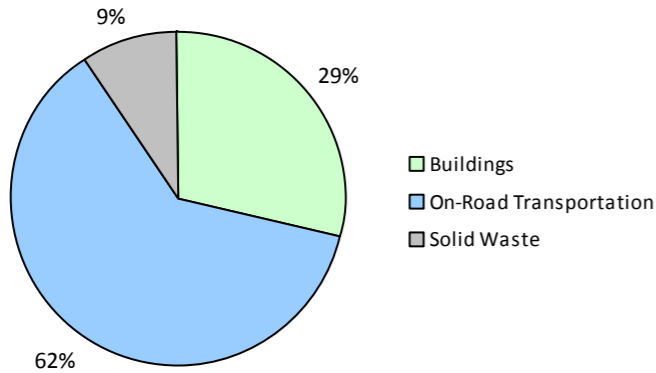
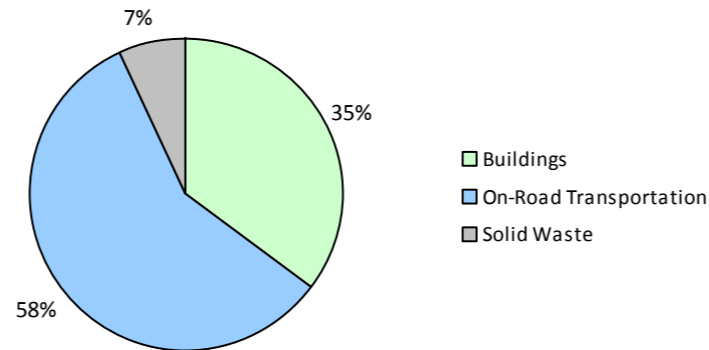


Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

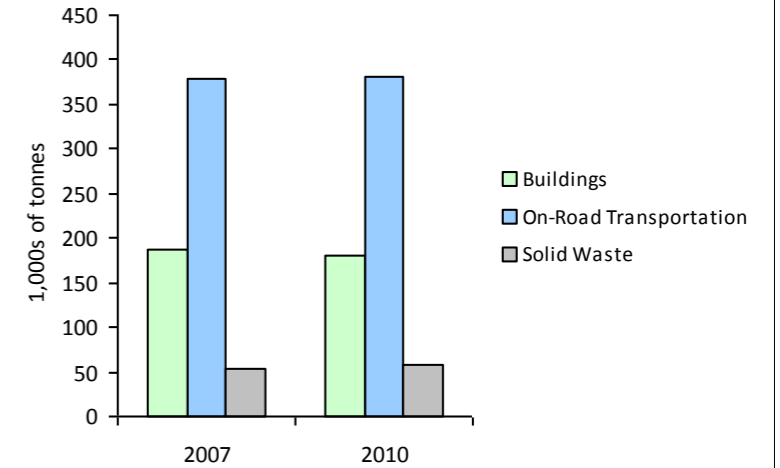
2010 GHG Emissions Sources (Total for this Community)



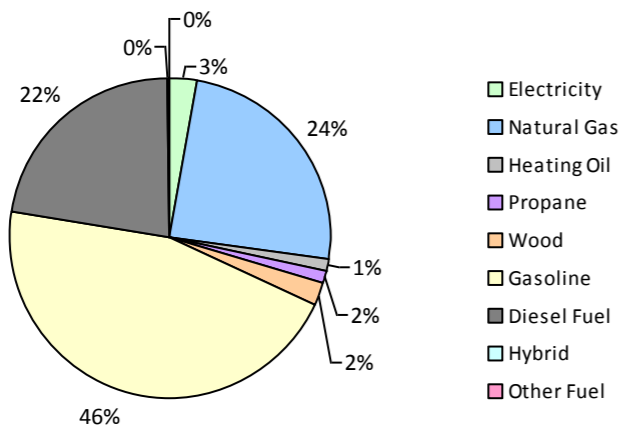
2010 GHG Emissions Sources (Total for BC)



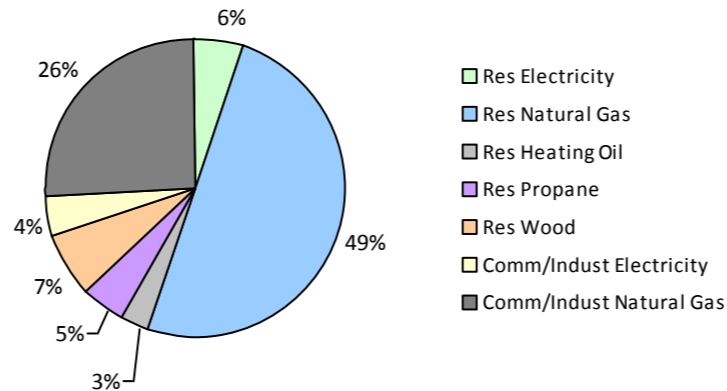
GHG Emissions Comparisons for this Community



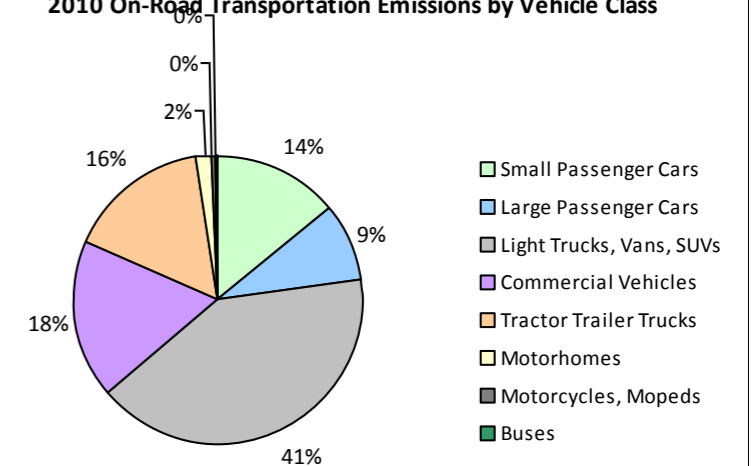
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



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	18	15,722 L	18,600	551	38	42	44,699 L	20,200	1,564	100
	Gasoline	14,732	21,995,611 L	15,800	769,847	52,283	15,261	22,966,365 L	16,000	803,824	51,562
	Diesel Fuel	537	840,020 L	22,900	32,173	2,294	573	875,021 L	22,400	33,514	2,321
Large Passenger Cars	Hybrid	49	57,399 L	22,200	2,008	134	143	193,108 L	23,200	6,758	430
	Gasoline	8,702	15,968,376 L	16,100	558,893	37,950	8,211	14,782,051 L	15,900	517,371	33,211
	Diesel Fuel	110	151,619 L	14,500	5,808	413	106	137,847 L	14,000	5,279	365
	Other Fuel	10	15,925 L	11,500	403	24		10,900	113	6	
Light Trucks, Vans, SUVs	Hybrid	29	61,441 L	26,000	2,151	145	60	134,416 L	25,300	4,705	303
	Gasoline	22,153	59,717,107 L	18,500	2,090,099	142,881	23,898	64,569,147 L	18,700	2,259,920	146,404
	Diesel Fuel	1,260	3,227,371 L	14,600	123,608	8,787	959	2,766,363 L	17,100	105,953	7,317
	Other Fuel	264	560,194 L	12,400	14,173	858	142	263,232 L	10,700	6,661	403
Commercial Vehicles	Gasoline	2,295	7,485,014 L	19,400	261,976	17,594	2,690	8,707,872 L	19,300	304,776	19,483
	Diesel Fuel	3,314	14,455,682 L	24,100	553,653	38,899	3,992	18,875,100 L	26,500	722,916	49,282
	Other Fuel	81	207,742 L	13,600	5,256	319	45	104,557 L	12,900	2,646	160
Tractor Trailer Trucks	Gasoline			43,600	1,649	110			31,900	1,774	113
	Diesel Fuel	1,150	25,260,312 L	50,500	967,471	67,974	1,116	23,486,168 L	49,300	899,521	61,320
	Other Fuel			10,500	320	19		10,200	162	9	
Motorhomes	Gasoline	449	1,280,467 L	19,700	44,816	2,991	514	1,472,684 L	19,800	51,544	3,278
	Diesel Fuel	323	1,238,841 L	20,100	47,448	3,333	312	1,260,607 L	20,100	48,282	3,290
	Other Fuel	16	45,854 L	18,900	1,160	71	15	46,985 L	20,300	1,189	72
Motorcycles, Mopeds	Gasoline	1,084	244,486 L	4,900	8,556	571	1,314	357,366 L	6,000	12,508	794
Buses	Gasoline	70	190,133 L	16,800	6,655	447	72	192,058 L	16,700	6,722	429
	Diesel Fuel	67	361,061 L	18,600	13,829	972	72	389,372 L	18,400	14,913	1,017
	Other Fuel	10	24,796 L	11,500	627	39		10,800	114	8	
Totals		56,723	153,405,173 L	18,116	5,513,130	379,146	59,537	153,405,173 L	18,476	5,812,729	381,677

North Okanagan 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	623,740 GJ	623,740	12,637	N/A	600,371 GJ	600,371	12,164
	Heating Oil	N/A	84,171 GJ	84,171	5,933	N/A	81,017 GJ	81,017	5,541
	Propane	N/A	148,226 GJ	148,226	9,043	N/A	142,673 GJ	142,673	8,704
	Natural Gas	23,827	1,860,034 GJ	1,860,034	93,298	24,649	1,755,728 GJ	1,755,728	88,069
	Electricity	35,297	391,125,917 kWh	1,408,052	9,779	36,948	405,025,308 kWh	1,458,090	10,126
Commercial/Small-Medium Industrial	Natural Gas	2,397	971,671 GJ	971,671	48,739	2,427	939,859 GJ	939,859	47,144
	Electricity	4,840	309,275,113 kWh	1,113,390	7,732	5,035	311,621,333 kWh	1,121,836	7,791
Totals		66,361		6,209,284	187,161	69,059		6,099,574	179,539

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	58,527 t	N/A	53,123	0	50,836 t	N/A	57,864
Totals		0			53,123	0			57,864

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	24	302,561 GJ	302,561	15,177	20	246,471 GJ	246,471	12,363
	Electricity	4	138,372,076 kWh	498,139	3,459	3	0	0	0
Totals		28		800,700	18,636	23		246,471	12,363

Agriculture		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Enteric Fermentation	Methane	53,213	2,991 t	0	62,811				
Totals		53,213			62,811	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	12	0 ha	0	5,869				
Settlement Deforestation	16	0 ha	0	7,690				
Totals	28			13,559	0			

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 80,110)			2010 (Population: 83,139)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	134,562 L	4,710	317	372,223 L	13,027	833
Gasoline	106,881,194 L	3,742,491	254,827	113,047,543 L	3,958,439	255,274
Diesel Fuel	45,534,906 L	1,743,990	122,672	47,790,478 L	1,830,378	124,912
Other Fuel	854,511 L	21,939	1,330	414,774 L	10,885	658
Wood	623,740 GJ	623,740	12,637	600,371 GJ	600,371	12,164
Heating Oil	84,171 GJ	84,171	5,933	81,017 GJ	81,017	5,541
Propane	148,226 GJ	148,226	9,043	142,673 GJ	142,673	8,704
Natural Gas	2,831,705 GJ	2,831,705	142,037	2,695,587 GJ	2,695,587	135,213
Electricity	700,401,030 kWh	2,521,442	17,511	716,646,641 kWh	2,579,926	17,917
Solid Waste	58,527 t	0	53,123	50,836 t	0	57,864
Grand Totals		11,722,414	619,430		11,912,303	619,080

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	18,825	40	20,580	69	21,290	67
Semi-Detached House	1,170	3	1,190	4	1,565	5
Row House	1,485	3	1,795	6	1,675	5
Apartment, Duplex	565	1	580	2	1,315	4
Apartment, 5 storeys or higher	170	0	300	1	310	1
Apartment, under 5 storeys	3,865	8	3,970	13	4,380	14
Other Single Attached House	65	0	75	0	90	0
Movable Dwelling	1,535	3	1,275	4	1,245	4

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	22,200	82	23,400	84	26,550	82
Car, Truck, Van as Passenger	1,965	7	1,865	7	2,605	8
Public Transit	140	1	215	1	215	1
Walked	1,815	7	1,840	7	2,160	7
Bicycle	510	2	325	1	525	2
Motorcycle	35	0	65	0	70	0
Taxicab	20	0	25	0	15	0
Other Method	265	1	290	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	0	0
Provincial Parks / Protected Areas	59,875	8
Local Parks	91	0
Agricultural Land Reserve	69,710	9
Other land use	630,636	83
Total Parks and Protected Area	59,966	8
Total Land Area	760,313	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	59,875	8
Local Parks	91	0
Agricultural Land Reserve	69,710	9
Other land use	630,636	83
Total Parks and Protected Area	59,966	8
Total Land Area	760,313	100

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

North Okanagan Regional District
2010 Community Energy and Emissions Inventory
Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

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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,