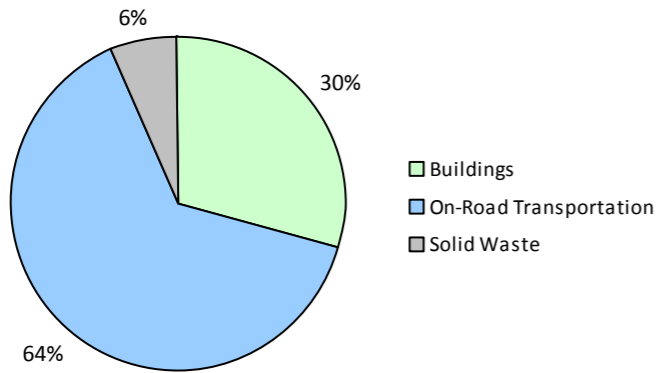


## Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

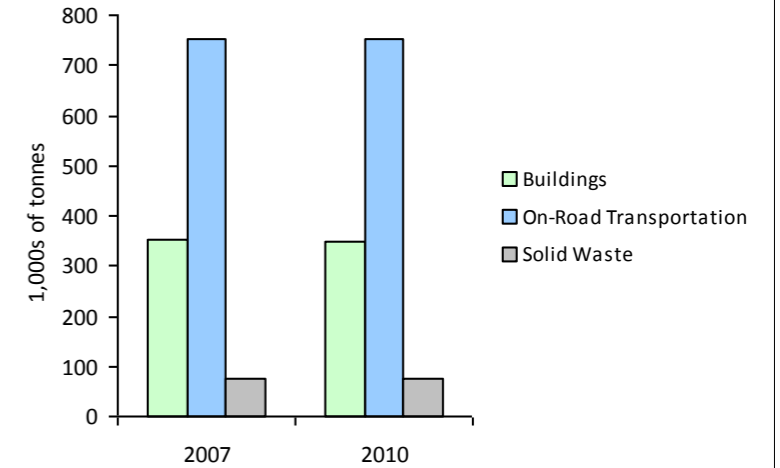
2010 GHG Emissions Sources (Total for this Community)



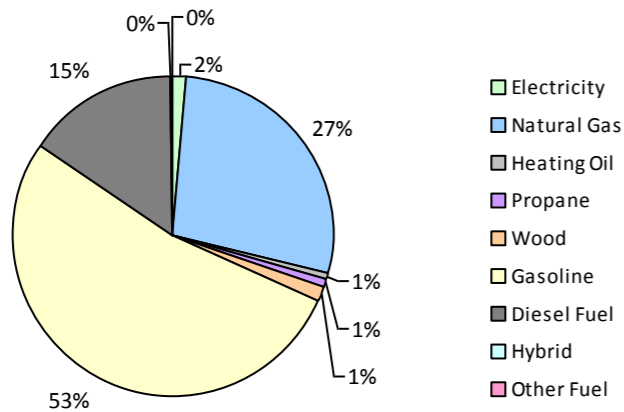
2010 GHG Emissions Sources (Total for BC)



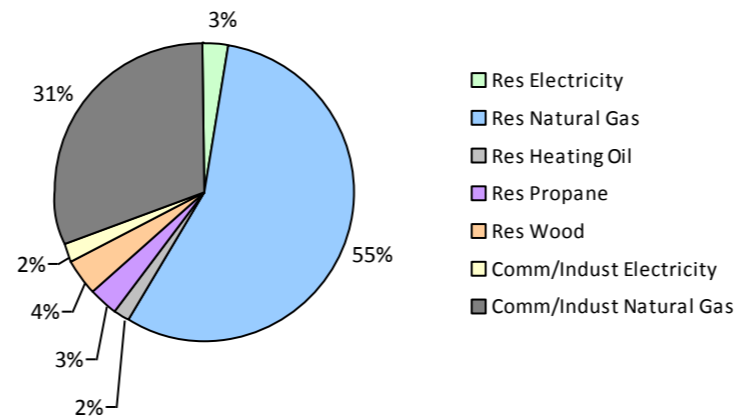
GHG Emissions Comparisons for this Community



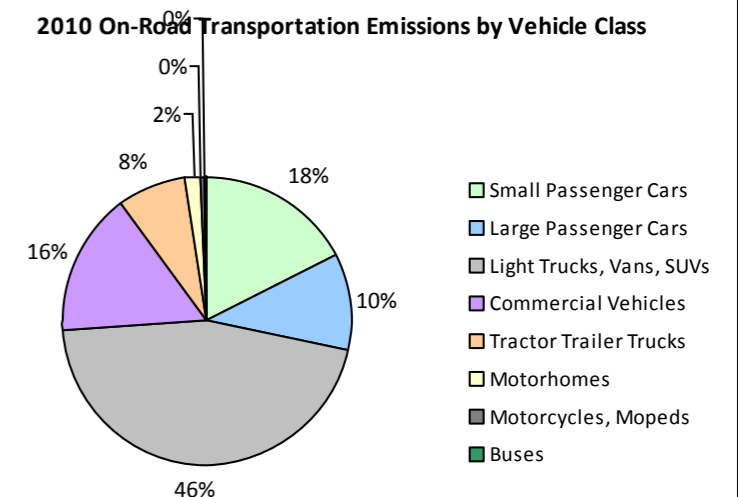
2010 Total Emissions by Fuel Type



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	32	28,679 L	19,200	1,004	67	88	100,001 L	21,500	3,499	223
	Gasoline	34,551	54,659,876 L	16,500	1,913,095	129,695	36,280	57,647,493 L	16,500	2,017,663	129,282
	Diesel Fuel	1,086	1,803,462 L	24,700	69,073	4,925	1,123	1,790,883 L	23,700	68,590	4,749
	Other Fuel			17,000	138	7			18,200	368	22
Large Passenger Cars	Hybrid	117	153,449 L	24,900	5,370	360	358	506,025 L	25,000	17,710	1,126
	Gasoline	18,823	35,666,623 L	16,600	1,248,332	84,700	18,155	34,126,771 L	16,500	1,194,437	76,619
	Diesel Fuel	247	355,302 L	15,000	13,608	968	204	273,727 L	14,400	10,484	725
	Other Fuel	18	36,168 L	15,200	915	56			14,300	341	21
Light Trucks, Vans, SUVs	Hybrid	54	103,891 L	23,900	3,636	247	166	374,854 L	25,900	13,120	845
	Gasoline	46,115	131,364,849 L	19,800	4,597,769	313,723	50,572	144,346,799 L	19,900	5,052,138	326,933
	Diesel Fuel	2,140	5,727,176 L	15,300	219,350	15,590	1,596	4,954,856 L	19,100	189,771	13,106
	Other Fuel	367	814,184 L	13,100	20,598	1,248	201	395,802 L	11,600	10,013	608
Commercial Vehicles	Hybrid								33,700	418	26
	Gasoline	3,904	14,160,589 L	21,600	495,621	33,290	4,691	17,192,489 L	21,800	601,737	38,471
	Diesel Fuel	5,333	25,252,824 L	25,700	967,183	67,953	6,249	32,402,472 L	28,400	1,241,015	84,601
	Other Fuel	156	383,522 L	12,800	9,704	588	104	255,426 L	13,000	6,463	391
Tractor Trailer Trucks	Gasoline	10	59,787 L	22,900	2,094	140	11	63,391 L	23,900	2,219	142
	Diesel Fuel	1,456	30,446,112 L	53,100	1,166,086	81,929	1,310	21,984,409 L	41,400	842,002	57,402
	Other Fuel	18	64,441 L	12,600	1,630	99			12,000	749	45
Motorhomes	Gasoline	925	2,625,377 L	19,400	91,888	6,139	935	2,675,849 L	19,600	93,654	5,960
	Diesel Fuel	637	2,408,183 L	19,900	92,234	6,479	589	2,323,817 L	19,900	89,002	6,067
	Other Fuel	33	96,265 L	19,700	2,436	147	20	58,139 L	19,800	1,471	89
Motorcycles, Mopeds	Gasoline	2,453	591,677 L	5,300	20,708	1,381	3,010	851,029 L	6,200	29,787	1,889
Buses	Gasoline	123	340,327 L	18,000	11,912	801	144	378,149 L	17,200	13,235	846
	Diesel Fuel	188	988,476 L	31,600	37,858	2,660	127	651,820 L	18,400	24,965	1,702
	Other Fuel			12,500	341	20			18,400	442	27
<b>Totals</b>		<b>118,786</b>	<b>308,131,239 L</b>	<b>18,709</b>	<b>10,992,583</b>	<b>753,212</b>	<b>125,933</b>	<b>308,131,239 L</b>	<b>18,832</b>	<b>11,525,293</b>	<b>751,917</b>

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Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	718,372 GJ	718,372	14,554	N/A	691,457 GJ	691,457	14,009
	Heating Oil	N/A	97,196 GJ	97,196	6,851	N/A	93,554 GJ	93,554	6,398
	Propane	N/A	171,546 GJ	171,546	10,466	N/A	165,119 GJ	165,119	10,074
	Natural Gas	49,649	4,010,405 GJ	4,010,405	201,162	51,797	3,797,778 GJ	3,797,778	190,498
	Electricity	81,848	878,407,842 kWh	3,162,266	9,831	79,921	931,313,335 kWh	3,352,725	10,913
Commercial/Small-Medium Industrial	Natural Gas	4,773	2,054,452 GJ	2,054,452	103,051	4,962	2,149,428 GJ	2,149,428	107,815
	Electricity	9,215	675,984,613 kWh	2,433,543	6,353	9,527	702,222,267 kWh	2,527,998	7,222
<b>Totals</b>		<b>145,485</b>		<b>12,647,780</b>	<b>352,268</b>	<b>146,207</b>		<b>12,778,059</b>	<b>346,929</b>

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	146,700 t	N/A	75,031	0	129,671 t	N/A	75,234
<b>Totals</b>		<b>0</b>			<b>75,031</b>	<b>0</b>			<b>75,234</b>

**Memo Items**

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	27	581,328 GJ	581,328	29,159	18	432,972 GJ	432,972	21,718
	Electricity	2		0	0	2		0	0
<b>Totals</b>		<b>29</b>		<b>581,328</b>	<b>29,159</b>	<b>20</b>		<b>432,972</b>	<b>21,718</b>

Agriculture		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Enteric Fermentation	Methane	8,433	415 t	0	8,715				
<b>Totals</b>		<b>8,433</b>			<b>8,715</b>	<b>0</b>			

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Land-use Change - Deforestation	2007				2010			
	Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Settlement Deforestation	95	0 ha	0	45,522				
<b>Totals</b>	<b>95</b>			<b>45,522</b>	<b>0</b>			

**Totals for Transportation, Buildings and Solid Waste**

Fuel Type	2007 (Population: 173,730)			2010 (Population: 185,443)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	286,019 L	10,010	674	980,880 L	34,747	2,220
Gasoline	239,469,105 L	8,381,419	569,869	257,281,970 L	9,004,870	580,142
Diesel Fuel	66,981,535 L	2,565,392	180,504	64,381,984 L	2,465,829	168,352
Other Fuel	1,394,580 L	35,762	2,165	709,367 L	19,847	1,203
Wood	718,372 GJ	718,372	14,554	691,457 GJ	691,457	14,009
Heating Oil	97,196 GJ	97,196	6,851	93,554 GJ	93,554	6,398
Propane	171,546 GJ	171,546	10,466	165,119 GJ	165,119	10,074
Natural Gas	6,064,857 GJ	6,064,857	304,213	5,947,206 GJ	5,947,206	298,313
Electricity	1,554,392,455 kWh	5,595,809	16,184	1,633,535,602 kWh	5,880,723	18,135
Solid Waste	146,700 t	0	75,031	129,671 t	0	75,234
<b>Grand Totals</b>		<b>23,640,363</b>	<b>1,180,511</b>		<b>24,303,352</b>	<b>1,174,080</b>

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**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	33,615	39	37,795	63	38,455	57
Semi-Detached House	2,210	3	3,065	5	3,085	5
Row House	3,075	4	3,190	5	3,640	5
Apartment, Duplex	2,360	3	2,275	4	4,855	7
Apartment, 5 storeys or higher	470	1	485	1	775	1
Apartment, under 5 storeys	9,110	10	10,305	17	12,330	18
Other Single Attached House	100	0	85	0	145	0
Movable Dwelling	2,735	3	2,675	4	3,650	5

**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	46,910	84	50,240	83	59,440	81
Car, Truck, Van as Passenger	3,775	7	3,585	6	5,640	8
Public Transit	1,040	2	1,675	3	1,955	3
Walked	2,575	5	2,720	5	3,340	5
Bicycle	1,125	2	1,265	2	1,550	2
Motorcycle	130	0	165	0	250	0
Taxicab	45	0	75	0	60	0
Other Method	505	1	590	1	790	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	28,979	9
Local Parks	1,630	0
Agricultural Land Reserve	27,310	8
Other land use	276,267	83
Total Parks and Protected Area	30,609	9
Total Land Area	334,186	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	28,979	9
Local Parks	1,630	0
Agricultural Land Reserve	27,310	8
Other land use	276,267	83
Total Parks and Protected Area	30,609	9
Total Land Area	334,186	100

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

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

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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](mailto: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](mailto: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,