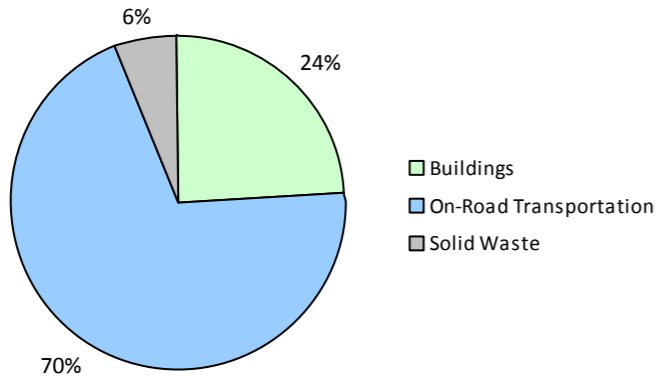


## Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

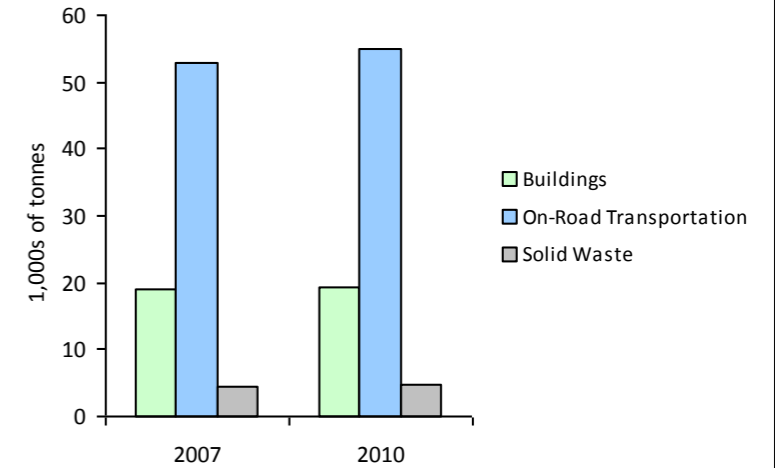
2010 GHG Emissions Sources (Total for this Community)



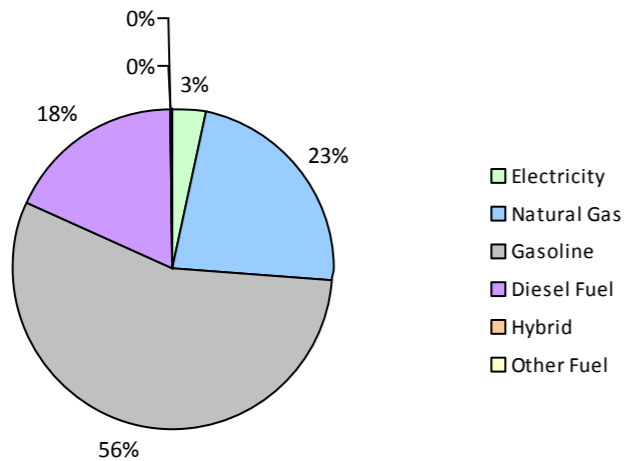
2010 GHG Emissions Sources (Total for BC)



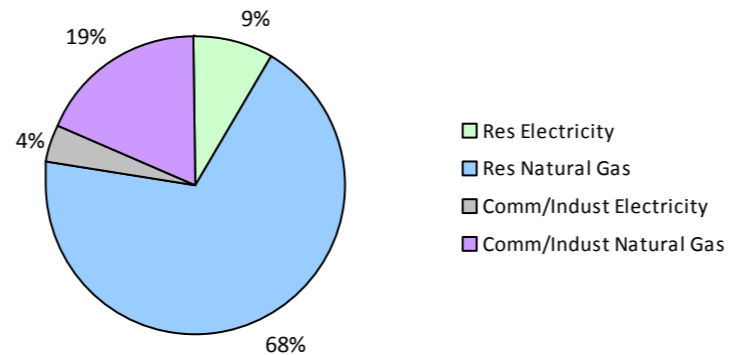
GHG Emissions Comparisons for this Community



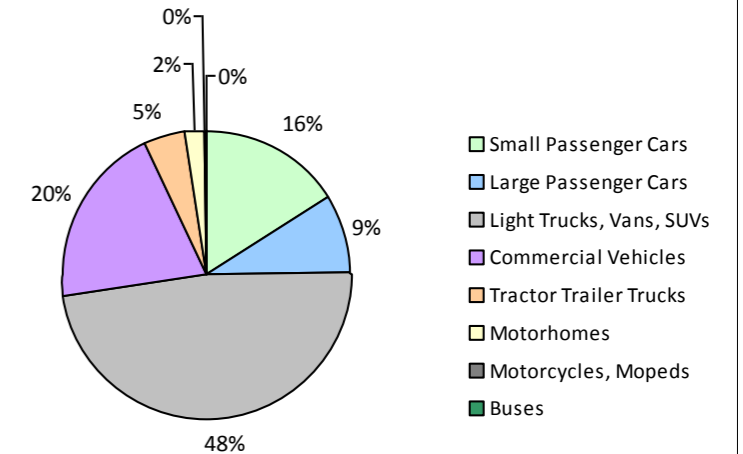
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



## Lake Country District Municipality 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			17,200	80	4	11	12,375 L	21,300	433	27
	Gasoline	2,281	3,597,614 L	16,400	125,916	8,545	2,405	3,786,089 L	16,400	132,513	8,495
	Diesel Fuel	111	168,713 L	22,500	6,461	461	101	152,778 L	22,200	5,851	405
Large Passenger Cars	Hybrid			23,100	356	24	27	42,115 L	27,500	1,474	94
	Gasoline	1,096	2,060,269 L	16,400	72,109	4,896	1,106	2,082,112 L	16,500	72,874	4,673
	Diesel Fuel	25	35,566 L	14,900	1,362	96	20	27,062 L	14,600	1,037	72
	Other Fuel			14,300	47	3					
Light Trucks, Vans, SUVs	Hybrid			20,200	171	12			26,600	746	48
	Gasoline	3,509	9,643,204 L	19,100	337,512	23,054	3,952	10,857,790 L	19,100	380,023	24,607
	Diesel Fuel	224	586,292 L	14,800	22,455	1,596	172	513,057 L	17,800	19,650	1,357
	Other Fuel	37	82,846 L	13,200	2,095	127	23	44,324 L	11,200	1,121	68
Commercial Vehicles	Gasoline	327	1,120,781 L	20,400	39,226	2,636	382	1,331,062 L	20,800	46,587	2,978
	Diesel Fuel	520	2,397,446 L	25,100	91,823	6,451	628	3,139,947 L	27,500	120,260	8,198
	Other Fuel	18	45,830 L	13,300	1,159	71	13	31,140 L	12,900	789	48
Tractor Trailer Trucks	Diesel Fuel	88	1,367,445 L	39,900	52,374	3,680	78	1,033,580 L	33,400	39,585	2,699
	Other Fuel			8,900	62	3			10,100	76	4
Motorhomes	Gasoline	65	185,192 L	19,700	6,481	432	75	212,642 L	19,500	7,442	472
	Diesel Fuel	54	204,913 L	20,200	7,849	552	46	185,402 L	20,300	7,101	485
	Other Fuel			22,400	337	20			18,400	137	8
Motorcycles, Mopeds	Gasoline	193	44,596 L	5,100	1,561	104	258	72,064 L	6,200	2,522	159
Buses	Gasoline			15,800	526	36			16,000	340	23
	Diesel Fuel								20,700	411	28
	Other Fuel			10,400	113	7			10,200	52	4
<b>Totals</b>		<b>8,548</b>	<b>21,540,707 L</b>	<b>18,239</b>	<b>770,075</b>	<b>52,810</b>	<b>9,297</b>	<b>21,540,707 L</b>	<b>18,499</b>	<b>841,024</b>	<b>54,952</b>

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Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Residential	Natural Gas	3,160	258,877 GJ	258,877	12,985	3,549	262,716 GJ	262,716	13,178
	Electricity	4,698	63,706,669 kWh	229,344	1,561	5,230	69,259,939 kWh	249,336	1,699
Commercial/Small-Medium Industrial	Natural Gas	194	77,172 GJ	77,172	3,871	198	71,196 GJ	71,196	3,571
	Electricity	577	29,029,447 kWh	104,506	707	644	34,793,725 kWh	125,257	851
<b>Totals</b>		<b>8,629</b>		<b>669,899</b>	<b>19,124</b>	<b>9,621</b>		<b>708,505</b>	<b>19,299</b>

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Community Solid Waste	Solid Waste	0	8,630 t	N/A	4,414	0	8,050 t	N/A	4,671
<b>Totals</b>		<b>0</b>			<b>4,414</b>	<b>0</b>			<b>4,671</b>

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

Fuel Type	2007 (Population: 10,220)			2010 (Population: 11,512)		
	Consumption	Energy (GJ)	CO2e (t)	Consumption	Energy (GJ)	CO2e (t)
Hybrid	0 L	607	40	54,490 L	2,653	169
Gasoline	16,651,656 L	583,331	39,703	18,341,759 L	642,301	41,407
Diesel Fuel	4,760,375 L	182,324	12,836	5,051,826 L	193,895	13,244
Other Fuel	128,676 L	3,813	231	75,464 L	2,175	132
Natural Gas	336,049 GJ	336,049	16,856	333,912 GJ	333,912	16,749
Electricity	92,736,116 kWh	333,850	2,268	104,053,664 kWh	374,593	2,550
Solid Waste	8,630 t	0	4,414	8,050 t	0	4,671
<b>Grand Totals</b>		<b>1,439,974</b>	<b>76,348</b>		<b>1,549,529</b>	<b>78,922</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	2,900	47	3,015	86	3,035	83
Semi-Detached House	110	2	65	2	65	2
Row House	80	1	110	3	120	3
Apartment, Duplex	90	1	125	4	240	7
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	40	1	65	2	65	2
Other Single Attached House	15	0	5	0	10	0
Movable Dwelling	45	1	135	4	110	3

**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	3,150	87	3,510	87	4,030	89
Car, Truck, Van as Passenger	255	7	225	6	265	6
Public Transit	55	2	115	3	45	1
Walked	110	3	85	2	85	2
Bicycle	10	0	25	1	10	0
Motorcycle	15	0	10	0	10	0
Taxicab	0	0	0	0	0	0
Other Method	20	1	85	2	65	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	30	0
Local Parks	42	0
Agricultural Land Reserve	4,789	29
Other land use	11,519	70
Total Parks and Protected Area	72	0
Total Land Area	16,380	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	30	0
Local Parks	42	0
Agricultural Land Reserve	4,789	29
Other land use	11,519	70
Total Parks and Protected Area	72	0
Total Land Area	16,380	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	845	23
5 to 9.9 km	225	6
25 km or more	590	16
15 to 24.9 km	1,535	42
10 to 14.9 km	500	14

**Lake Country District Municipality**  
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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,