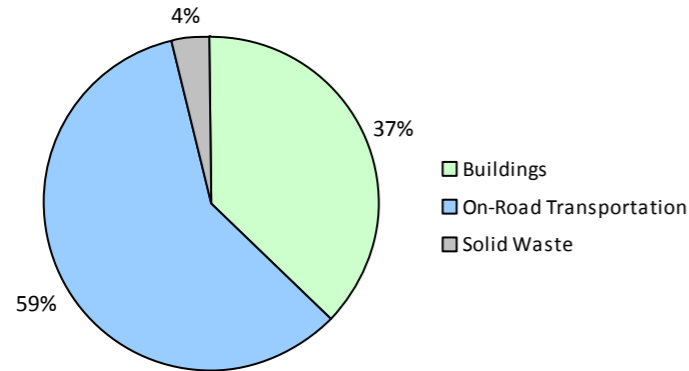


## Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

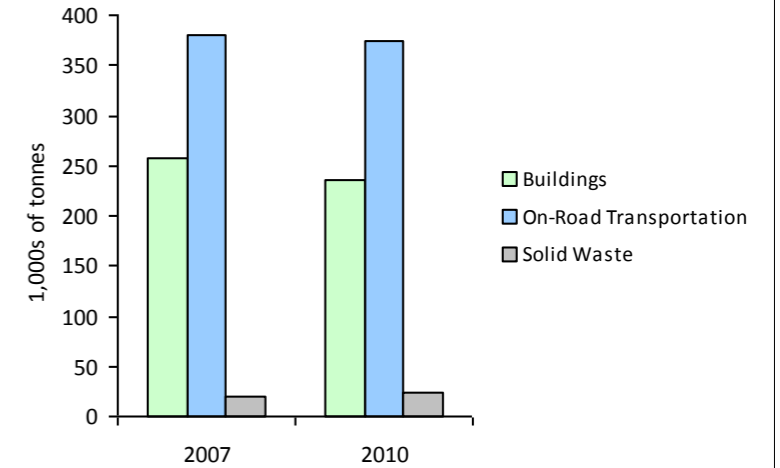
2010 GHG Emissions Sources (Total for this Community)



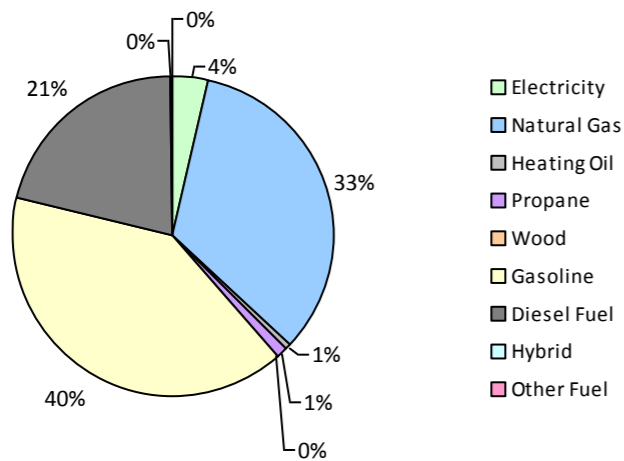
2010 GHG Emissions Sources (Total for BC)



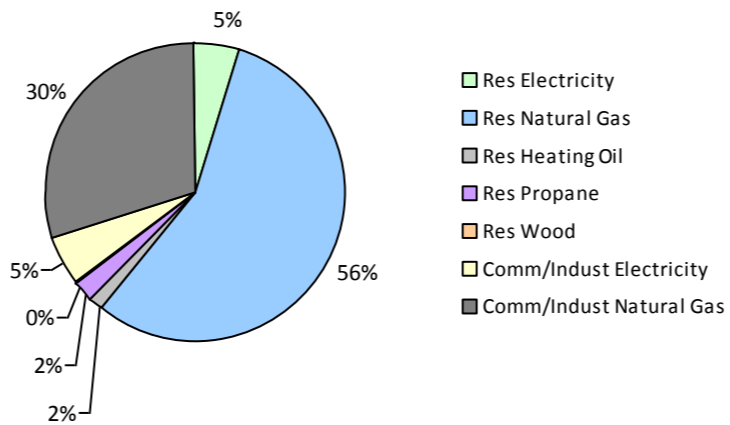
GHG Emissions Comparisons for this Community



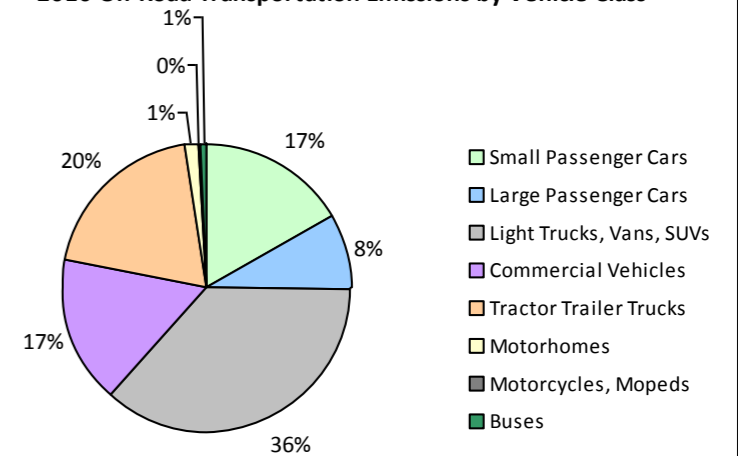
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



## Langley 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	28	18,812 L	14,600	658	44	37	29,648 L	15,500	1,038	66
	Gasoline	20,489	27,167,708 L	13,900	950,869	64,393	21,183	27,632,700 L	13,700	967,144	61,936
	Diesel Fuel	598	684,748 L	17,100	26,226	1,870	595	666,193 L	16,500	25,515	1,767
	Other Fuel			11,100	86	5			17,000	268	16
Large Passenger Cars	Hybrid	56	53,484 L	17,900	1,872	125	242	235,278 L	16,400	8,234	524
	Gasoline	9,413	13,698,664 L	12,700	479,454	32,454	9,398	13,380,925 L	12,500	468,332	30,003
	Diesel Fuel	114	145,658 L	13,500	5,578	397	92	114,897 L	13,500	4,401	305
	Other Fuel			10,900	260	16			9,500	220	13
Light Trucks, Vans, SUVs	Hybrid	33	45,716 L	17,400	1,601	109	154	248,826 L	17,700	8,709	561
	Gasoline	24,646	51,500,584 L	15,000	1,802,519	122,855	28,197	57,842,917 L	14,900	2,024,502	130,884
	Diesel Fuel	618	1,517,841 L	14,500	58,133	4,138	588	1,544,990 L	16,700	59,174	4,094
	Other Fuel	121	231,850 L	11,500	5,865	355	77	140,925 L	11,000	3,565	215
Commercial Vehicles	Hybrid						80	205,011 L	21,700	7,175	459
	Gasoline	3,125	7,839,339 L	15,100	274,377	18,414	3,242	8,101,436 L	15,000	283,550	18,118
	Diesel Fuel	3,749	13,728,273 L	18,600	525,794	36,942	4,647	16,592,965 L	18,500	635,511	43,323
	Other Fuel	209	443,479 L	11,600	11,220	680	112	212,572 L	10,500	5,379	326
Tractor Trailer Trucks	Gasoline			17,300	1,081	72	10	42,945 L	14,200	1,504	95
	Diesel Fuel	1,783	33,453,921 L	47,400	1,281,286	90,023	1,622	28,215,623 L	44,100	1,080,658	73,669
	Other Fuel								10,800	141	8
Motorhomes	Gasoline	475	1,137,129 L	17,000	39,800	2,662	478	1,151,094 L	17,100	40,289	2,568
	Diesel Fuel	265	844,953 L	17,000	32,361	2,273	263	870,145 L	16,800	33,326	2,271
	Other Fuel	11	25,372 L	16,400	642	39	10	25,178 L	16,300	637	38
Motorcycles, Mopeds	Gasoline	1,349	329,191 L	5,400	11,522	769	1,457	407,115 L	6,300	14,249	904
Buses	Gasoline	65	269,707 L	25,900	9,440	635	119	428,076 L	28,600	14,983	958
	Diesel Fuel	57	447,350 L	30,000	17,133	1,204	88	597,767 L	27,700	22,894	1,561
	Other Fuel	11	41,911 L	18,700	1,060	64	12	39,375 L	16,100	997	62
<b>Totals</b>		<b>67,215</b>	<b>153,625,690 L</b>	<b>15,259</b>	<b>5,538,837</b>	<b>380,538</b>	<b>72,703</b>	<b>153,625,690 L</b>	<b>15,047</b>	<b>5,712,395</b>	<b>374,744</b>

## Langley District Municipality 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	37,365 GJ	37,365	757	N/A	34,806 GJ	34,806	705
	Heating Oil	N/A	62,682 GJ	62,682	4,418	N/A	58,389 GJ	58,389	3,993
	Propane	N/A	92,719 GJ	92,719	5,657	N/A	86,369 GJ	86,369	5,269
	Natural Gas	29,164	2,885,664 GJ	2,885,664	144,745	29,917	2,592,358 GJ	2,592,358	130,032
	Electricity	34,961	473,022,954 kWh	1,702,881	11,826	36,615	483,137,640 kWh	1,739,294	12,079
Commercial/Small-Medium Industrial	Natural Gas	2,608	1,553,490 GJ	1,553,490	77,923	2,577	1,425,167 GJ	1,425,167	71,486
	Electricity	4,943	471,611,986 kWh	1,697,802	11,791	5,230	485,560,900 kWh	1,748,018	12,139
<b>Totals</b>		<b>71,676</b>		<b>8,032,603</b>	<b>257,117</b>	<b>74,339</b>		<b>7,684,401</b>	<b>235,703</b>

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Community Solid Waste	Solid Waste	0	59,494 t	N/A	19,517	0	48,228 t	N/A	22,876
<b>Totals</b>		<b>0</b>			<b>19,517</b>	<b>0</b>			<b>22,876</b>

### Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Large Industrial	Natural Gas	59	1,721,466 GJ	1,721,466	86,349	49	1,478,715 GJ	1,478,715	74,172
	Electricity	6		0	0	5	52,680,792 kWh	189,651	1,317
<b>Totals</b>		<b>65</b>		<b>1,721,466</b>	<b>86,349</b>	<b>54</b>		<b>1,668,366</b>	<b>75,489</b>

**Langley District Municipality**  
**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: 99,012)			2010 (Population: 104,697)		
	Consumption	Energy (GJ)	CO2e (t)	Consumption	Energy (GJ)	CO2e (t)
Hybrid	118,012 L	4,131	278	718,763 L	25,156	1,610
Gasoline	101,942,322 L	3,569,062	242,254	108,987,208 L	3,814,553	245,466
Diesel Fuel	50,822,744 L	1,946,511	136,847	48,602,580 L	1,861,479	126,990
Other Fuel	742,612 L	19,133	1,159	418,050 L	11,207	678
Wood	37,365 GJ	37,365	757	34,806 GJ	34,806	705
Heating Oil	62,682 GJ	62,682	4,418	58,389 GJ	58,389	3,993
Propane	92,719 GJ	92,719	5,657	86,369 GJ	86,369	5,269
Natural Gas	4,439,154 GJ	4,439,154	222,668	4,017,525 GJ	4,017,525	201,518
Electricity	944,634,940 kWh	3,400,683	23,617	968,698,540 kWh	3,487,312	24,218
Solid Waste	59,494 t	0	19,517	48,228 t	0	22,876
<b>Grand Totals</b>		<b>13,571,440</b>	<b>657,172</b>		<b>13,396,796</b>	<b>633,323</b>

*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	19,995	75	20,890	70	20,210	61
Semi-Detached House	705	3	1,025	3	1,125	3
Row House	2,815	11	2,525	9	3,935	12
Apartment, Duplex	1,070	4	1,345	5	3,605	11
Apartment, 5 storeys or higher	15	0	0	0	0	0
Apartment, under 5 storeys	1,105	4	2,075	7	2,515	8
Other Single Attached House	10	0	90	0	80	0
Movable Dwelling	930	3	1,725	6	1,850	6

**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	31,790	87	35,265	88	8,955	78
Car, Truck, Van as Passenger	2,140	6	2,420	6	890	8
Public Transit	925	3	755	2	690	6
Walked	1,080	3	1,095	3	680	6
Bicycle	215	1	255	1	145	1
Motorcycle	45	0	50	0	40	0
Taxicab	0	0	10	0	10	0
Other Method	240	1	295	1	75	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	1,438	5
Agricultural Land Reserve	23,421	74
Other land use	6,657	21
Total Parks and Protected Area	1,438	5
Total Land Area	31,515	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	1,438	5
Agricultural Land Reserve	23,421	74
Other land use	6,657	21
Total Parks and Protected Area	1,438	5
Total Land Area	31,515	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	9,120	24
5 to 9.9 km	7,595	20
25 km or more	9,070	24
15 to 24.9 km	7,065	19
10 to 14.9 km	5,180	14

**Langley District Municipality**  
**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](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,