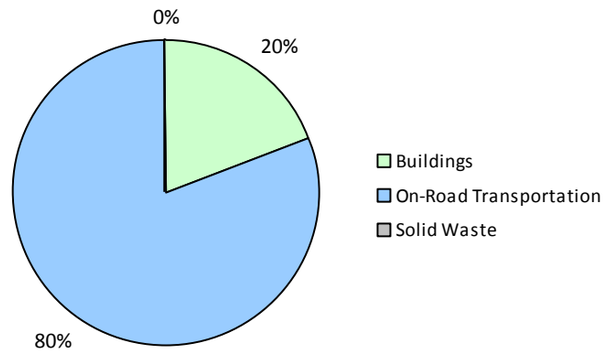
Lake Cowichan Town

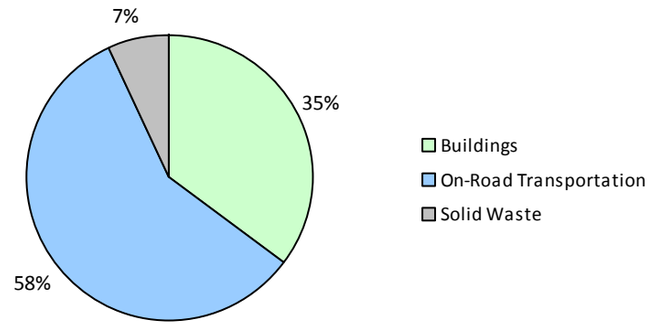
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

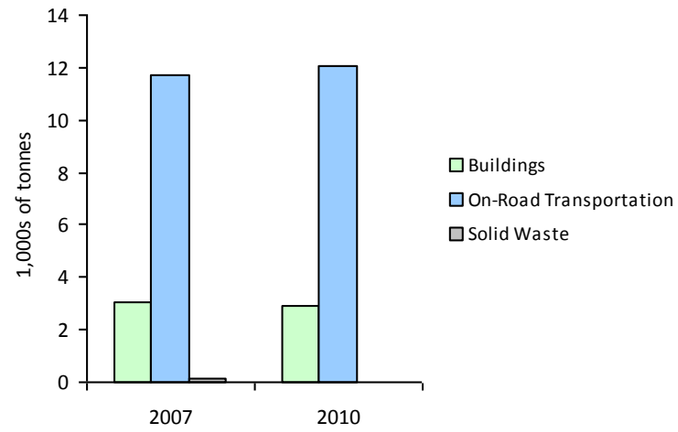
2010 GHG Emissions Sources (Total for this Community)



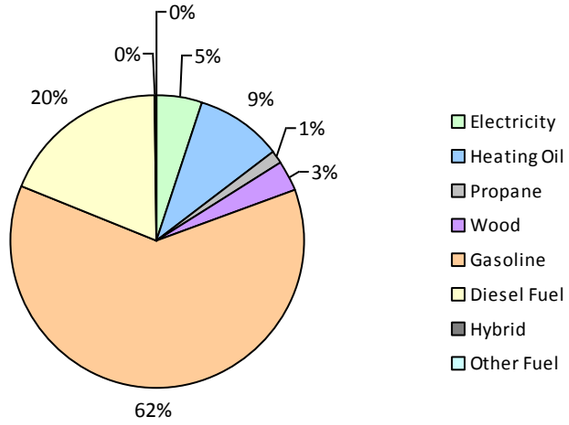
2010 GHG Emissions Sources (Total for BC)



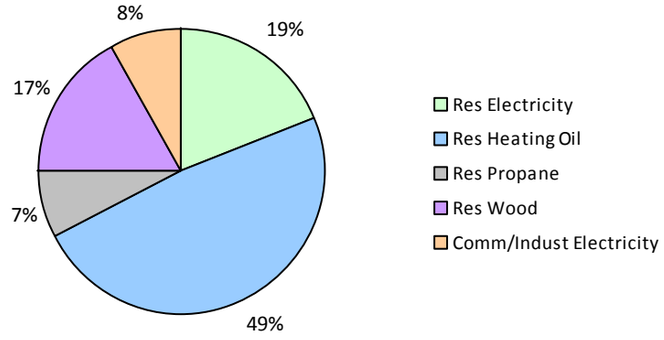
GHG Emissions Comparisons for this Community



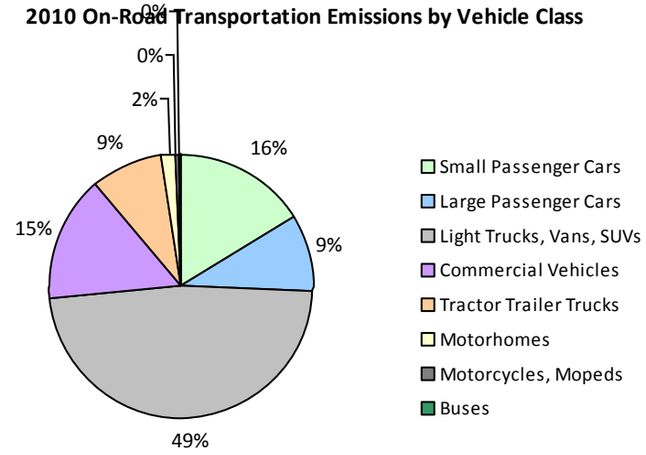
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Lake Cowichan Town

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)	C02e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)
Small Passenger Cars	Hybrid			12,200	19	0			24,900	42	2
	Gasoline	530	809,833 L	16,400	28,345	1,913	552	846,173 L	16,400	29,616	1,894
	Diesel Fuel	16	27,995 L	26,600	1,073	76	20	33,208 L	25,000	1,272	88
Large Passenger Cars	Hybrid								16,400	130	8
	Gasoline	263	466,396 L	15,600	16,324	1,107	263	480,370 L	16,200	16,813	1,077
	Diesel Fuel			11,300	130	10			9,500	144	10
Light Trucks, Vans, SUVs	Gasoline	843	2,082,461 L	17,400	72,885	4,974	971	2,419,110 L	17,600	84,669	5,479
	Diesel Fuel	68	134,388 L	11,200	5,147	366	48	100,444 L	11,900	3,847	265
	Other Fuel			10,600	275	17			10,200	87	6
Commercial Vehicles	Gasoline	92	286,964 L	18,400	10,043	674	94	278,475 L	17,600	9,747	624
	Diesel Fuel	111	398,544 L	20,300	15,264	1,073	127	470,007 L	21,000	18,002	1,227
	Other Fuel			11,100	106	8			13,800	132	8
Tractor Trailer Trucks	Gasoline			11,200	249	16			10,300	243	16
	Diesel Fuel	30	439,810 L	33,400	16,845	1,183	27	405,991 L	34,500	15,549	1,060
Motorhomes	Gasoline	14	33,060 L	16,800	1,158	76	15	36,239 L	16,900	1,268	81
	Diesel Fuel	17	53,432 L	16,600	2,046	145	16	51,218 L	16,900	1,961	134
Motorcycles, Mopeds	Gasoline	39	9,478 L	5,400	331	22	44	12,453 L	6,300	435	27
Buses	Gasoline			15,300	471	32			10,000	62	3
	Diesel Fuel			15,800	308	21			23,200	488	33
Totals		**2,023**	**4,742,361 L**	**16,968**	**171,019**	**11,713**	**2,177**	**4,742,361 L**	**17,238**	**184,507**	**12,042**

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	25,488 GJ	25,488	516	N/A	24,673 GJ	24,673	500
	Heating Oil	N/A	21,271 GJ	21,271	1,499	N/A	20,591 GJ	20,591	1,408
	Propane	N/A	3,668 GJ	3,668	224	N/A	3,551 GJ	3,551	217
	Electricity	1,489	22,443,766 kWh	80,797	561	1,538	22,275,729 kWh	80,193	557
Commercial/Small-Medium Industrial	Electricity	215	10,120,842 kWh	36,435	253	215	9,506,836 kWh	34,225	238
Totals		**1,704**		**167,659**	**3,053**	**1,753**		**163,233**	**2,920**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	573 t	N/A	121	0	552 t	N/A	0
Totals		**0**			**121**	**0**			**0**

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 2,961)			2010 (Population: 3,184)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	0 L	19	0	0 L	172	10
Gasoline	3,688,192 L	129,806	8,814	4,072,820 L	142,853	9,201
Diesel Fuel	1,054,169 L	40,813	2,874	1,060,868 L	41,263	2,817
Other Fuel	0 L	381	25	0 L	219	14
Wood	25,488 GJ	25,488	516	24,673 GJ	24,673	500
Heating Oil	21,271 GJ	21,271	1,499	20,591 GJ	20,591	1,408
Propane	3,668 GJ	3,668	224	3,551 GJ	3,551	217
Electricity	32,564,608 kWh	117,232	814	31,782,565 kWh	114,418	795
Solid Waste	573 t	0	121	552 t	0	0
Grand Totals		**338,678**	**14,887**		**347,740**	**14,962**

Lake Cowichan Town

2010 Community Energy and Emissions Inventory

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	815	43	950	82	940	75
Semi-Detached House	35	2	20	2	30	2
Row House	10	1	45	4	60	5
Apartment, Duplex	95	5	20	2	70	6
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	100	5	100	9	135	11
Other Single Attached House	15	1	15	1	5	0
Movable Dwelling	0	0	5	0	15	1

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	705	66	695	71	850	71
Car, Truck,Van as Passenger	155	15	115	12	115	10
Public Transit	0	0	15	2	25	2
Walked	155	15	125	13	105	9
Bicycle	15	1	10	1	10	1
Motorcycle	0	0	0	0	10	1
Taxicab	0	0	0	0	0	0
Other Method	35	3	15	2	75	6

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	32	3
Local Parks	11	1
Agricultural Land Reserve	8	1
Other land use	923	95
Total Parks and Protected Area	43	4
Total Land Area	974	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	32	3
Local Parks	11	1
Agricultural Land Reserve	8	1
Other land use	923	95
Total Parks and Protected Area	43	4
Total Land Area	974	100

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

This page intentionally left blank

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