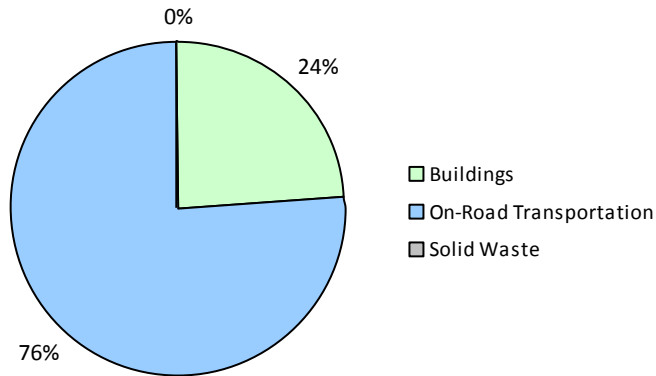
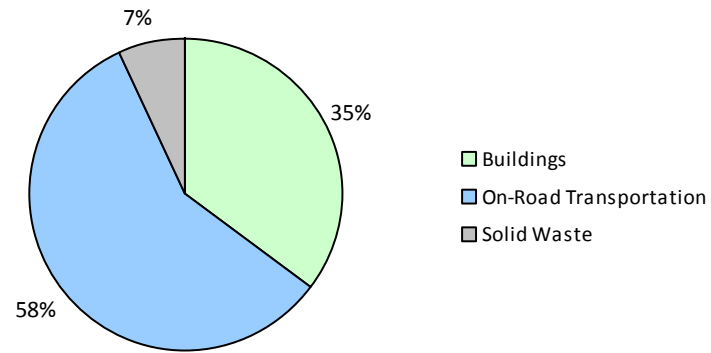


Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

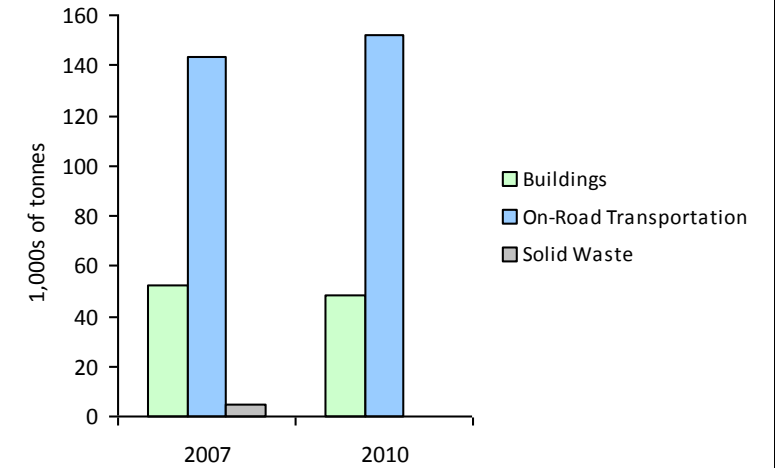
2010 GHG Emissions Sources (Total for this Community)



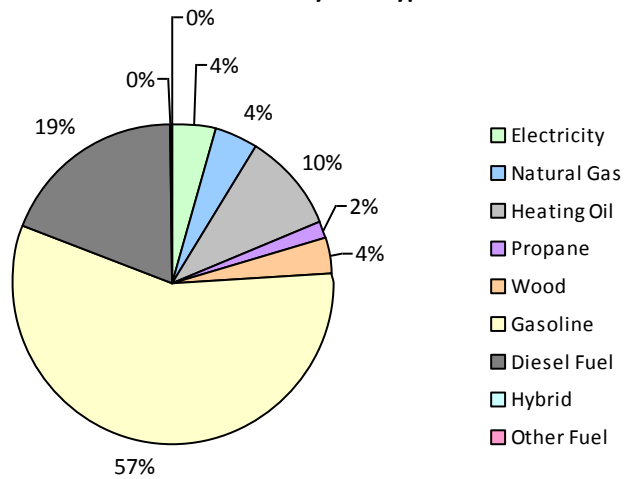
2010 GHG Emissions Sources (Total for BC)



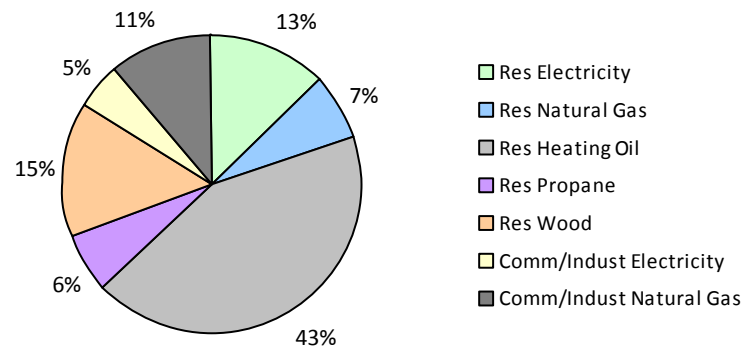
GHG Emissions Comparisons for this Community



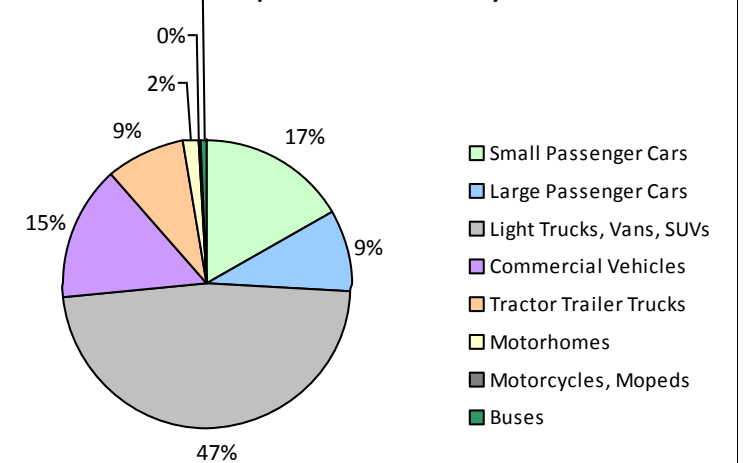
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Cowichan Valley Regional District Unincorporated Areas 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			19,200	192	13	21	20,706 L	19,900	725	47
	Gasoline	7,112	10,133,463 L	15,400	354,671	24,163	7,281	10,731,778 L	16,000	375,613	24,160
	Diesel Fuel	430	729,040 L	25,300	27,923	1,990	406	672,949 L	24,600	25,773	1,784
Large Passenger Cars	Hybrid	27	31,268 L	21,200	1,095	73	78	108,218 L	23,600	3,788	240
	Gasoline	3,504	5,881,492 L	14,900	205,851	14,006	3,291	5,645,266 L	15,200	197,585	12,704
	Diesel Fuel	74	89,058 L	13,400	3,411	242	91	102,050 L	12,400	3,909	270
Light Trucks, Vans, SUVs	Hybrid						19	37,121 L	23,300	1,298	83
	Gasoline	10,678	25,302,758 L	16,900	885,595	60,696	12,096	30,075,774 L	17,700	1,052,652	68,301
	Diesel Fuel	734	1,524,493 L	11,800	58,388	4,152	584	1,422,736 L	14,500	54,491	3,764
	Other Fuel	92	179,885 L	11,500	4,549	276	46	84,095 L	11,000	2,128	128
Commercial Vehicles	Gasoline	871	2,381,468 L	17,100	83,352	5,594	1,045	2,867,781 L	16,800	100,373	6,414
	Diesel Fuel	1,307	4,428,400 L	18,900	169,607	11,918	1,670	6,417,302 L	21,300	245,782	16,756
	Other Fuel	40	85,875 L	11,700	2,173	133	29	58,656 L	11,000	1,485	88
Tractor Trailer Trucks	Gasoline							27,300	1,408	89	
	Diesel Fuel	325	5,998,647 L	44,400	229,748	16,143	316	5,195,499 L	42,600	198,987	13,566
Motorhomes	Gasoline	262	604,920 L	16,400	21,172	1,413	266	626,884 L	16,500	21,942	1,394
	Diesel Fuel	168	516,194 L	16,500	19,769	1,390	152	478,021 L	16,500	18,307	1,248
Motorcycles, Mopeds	Gasoline	543	122,222 L	5,100	4,277	284	674	180,458 L	6,000	6,316	400
Buses	Gasoline	39	116,521 L	17,700	4,077	274	29	80,323 L	17,700	2,813	179
	Diesel Fuel	25	219,519 L	24,900	8,409	591	30	241,191 L	25,400	9,237	631
Totals		26,231	58,345,223 L	16,393	2,084,259	143,351	28,124	58,345,223 L	17,157	2,324,612	152,246

Cowichan Valley Regional District Unincorporated Areas 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	367,963 GJ	367,963	7,455	N/A	356,201 GJ	356,201	7,217
	Heating Oil	N/A	306,836 GJ	306,836	21,629	N/A	297,029 GJ	297,029	20,314
	Propane	N/A	52,874 GJ	52,874	3,226	N/A	51,184 GJ	51,184	3,123
	Natural Gas	1,894	93,668 GJ	93,668	4,699	1,689	70,748 GJ	70,748	3,548
	Electricity	13,771	245,364,472 kWh	883,311	6,135	14,514	250,932,301 kWh	903,356	6,273
Commercial/Small-Medium Industrial	Natural Gas	401	133,691 GJ	133,691	6,706	221	105,537 GJ	105,537	5,293
	Electricity	1,818	99,085,049 kWh	356,706	2,478	1,950	97,247,527 kWh	350,091	2,431
Totals		17,884		2,195,049	52,328	18,374		2,134,146	48,199

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Community Solid Waste	Solid Waste	0	23,473 t	N/A	4,976	0	22,702 t	N/A	0
Totals		0			4,976	0			0

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 34,921)			2010 (Population: 36,620)		
	Consumption	Energy (GJ)	CO2e (t)	Consumption	Energy (GJ)	CO2e (t)
Hybrid	31,268 L	1,287	86	166,045 L	5,811	370
Gasoline	44,542,844 L	1,558,995	106,430	50,208,264 L	1,758,702	113,641
Diesel Fuel	13,505,351 L	517,255	36,426	14,529,748 L	556,486	38,019
Other Fuel	265,760 L	6,722	409	142,751 L	3,613	216
Wood	367,963 GJ	367,963	7,455	356,201 GJ	356,201	7,217
Heating Oil	306,836 GJ	306,836	21,629	297,029 GJ	297,029	20,314
Propane	52,874 GJ	52,874	3,226	51,184 GJ	51,184	3,123
Natural Gas	227,359 GJ	227,359	11,405	176,285 GJ	176,285	8,841
Electricity	344,449,521 kWh	1,240,017	8,613	348,179,828 kWh	1,253,447	8,704
Solid Waste	23,473 t	0	4,976	22,702 t	0	0
Grand Totals		4,279,308	200,655		4,458,758	200,445

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	10,325	32	10,660	87	11,520	88
Semi-Detached House	125	0	125	1	285	2
Row House	80	0	135	1	120	1
Apartment, Duplex	140	0	195	2	280	2
Apartment, 5 storeys or higher	10	0	15	0	10	0
Apartment, under 5 storeys	170	1	180	1	145	1
Other Single Attached House	20	0	25	0	40	0
Movable Dwelling	885	3	950	8	680	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	9,855	85	10,470	85	11,495	82
Car, Truck, Van as Passenger	820	7	860	7	1,330	9
Public Transit	120	1	95	1	155	1
Walked	390	3	580	5	685	5
Bicycle	120	1	45	0	155	1
Motorcycle	10	0	30	0	45	0
Taxicab	10	0	0	0	5	0
Other Method	205	2	180	1	210	1

Parks and Protected Greenspace

Parks and protected greenspaces are important for the protection and enhancement of community carbon sinks.

	2009	
	Units	%
National Parks	5,582	2
Provincial Parks / Protected Areas	18,813	6
Local Parks	629	0
Agricultural Land Reserve	12,453	4
Other land use	289,527	89
Total Parks and Protected Area	25,024	8
Total Land Area	327,004	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	5,582	2
Provincial Parks / Protected Areas	18,813	6
Local Parks	629	0
Agricultural Land Reserve	12,453	4
Other land use	289,527	89
Total Parks and Protected Area	25,024	8
Total Land Area	327,004	100

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

Cowichan Valley Regional District Unincorporated Areas
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

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,