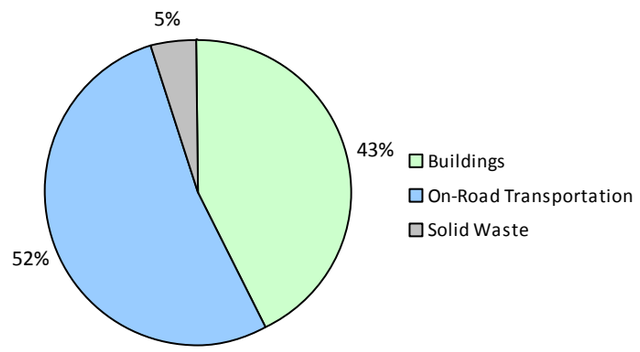
White Rock City

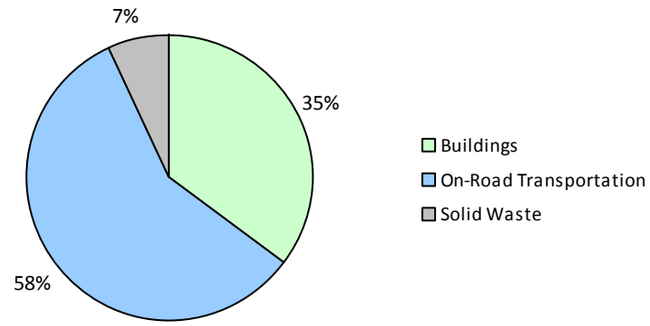
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

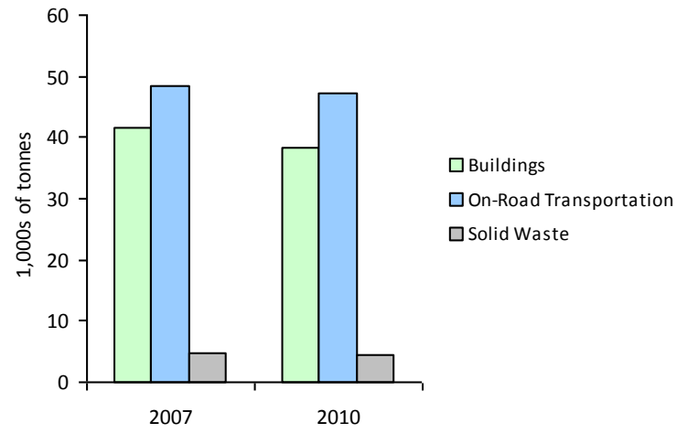
2010 GHG Emissions Sources (Total for this Community)



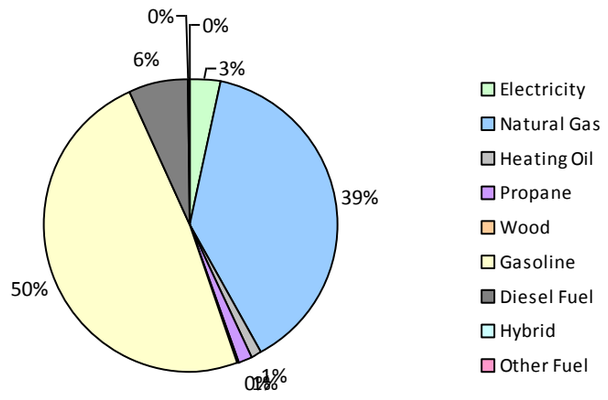
2010 GHG Emissions Sources (Total for BC)



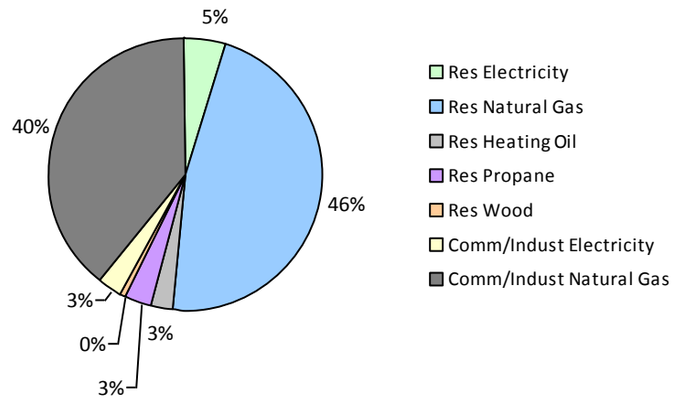
GHG Emissions Comparisons for this Community



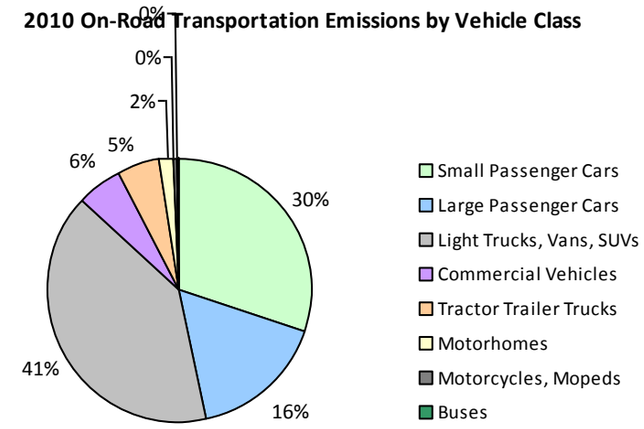
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



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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			12,800	84	6	17	12,266 L	14,100	429	28
	Gasoline	5,151	6,421,949 L	13,100	224,768	15,224	5,080	6,205,580 L	12,800	217,195	13,919
	Diesel Fuel	132	144,573 L	16,300	5,537	394	137	148,209 L	15,900	5,676	393
	Other Fuel			10,000	45	3			16,400	166	10
Large Passenger Cars	Hybrid	23	17,982 L	15,600	629	42	63	53,084 L	14,900	1,859	119
	Gasoline	2,613	3,550,648 L	11,800	124,273	8,422	2,483	3,317,241 L	11,700	116,103	7,444
	Diesel Fuel	25	31,611 L	13,400	1,211	86	26	31,583 L	13,100	1,209	84
	Other Fuel			5,300	17	1					
Light Trucks, Vans, SUVs	Hybrid	16	21,677 L	17,400	758	52	37	52,018 L	16,600	1,820	117
	Gasoline	3,738	7,607,562 L	14,600	266,264	18,149	4,151	8,167,235 L	14,300	285,853	18,487
	Diesel Fuel	65	140,322 L	12,600	5,375	383	64	158,389 L	16,400	6,067	419
	Other Fuel	10	21,290 L	12,600	539	33			11,700	299	17
Commercial Vehicles	Gasoline	171	415,332 L	14,700	14,537	976	166	409,983 L	14,800	14,350	917
	Diesel Fuel	175	600,958 L	17,600	23,017	1,616	199	671,125 L	17,700	25,704	1,752
	Other Fuel			11,000	351	22			12,600	225	14
Tractor Trailer Trucks	Diesel Fuel	34	669,180 L	49,600	25,630	1,801	43	940,954 L	55,700	36,039	2,457
Motorhomes	Gasoline	98	233,441 L	16,800	8,170	547	92	216,082 L	16,800	7,563	482
	Diesel Fuel	39	118,080 L	16,800	4,522	318	31	100,135 L	16,800	3,836	262
	Other Fuel			18,100	69	4					
Motorcycles, Mopeds	Gasoline	221	54,124 L	5,500	1,895	127	276	77,886 L	6,300	2,725	174
Buses	Gasoline			28,600	1,404	93	11	45,230 L	26,200	1,583	101
	Diesel Fuel			28,400	596	41			25,000	718	49
Totals		**12,511**	**20,048,729 L**	**13,408**	**709,691**	**48,340**	**12,876**	**20,048,729 L**	**13,301**	**729,419**	**47,245**

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Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	8,990 GJ	8,990	182	N/A	8,374 GJ	8,374	170
	Heating Oil	N/A	15,133 GJ	15,133	1,067	N/A	14,097 GJ	14,097	964
	Propane	N/A	22,452 GJ	22,452	1,370	N/A	20,914 GJ	20,914	1,276
	Natural Gas	4,090	401,187 GJ	401,187	20,124	4,073	351,648 GJ	351,648	17,638
	Electricity	9,438	76,084,385 kWh	273,904	1,902	9,719	76,545,701 kWh	275,564	1,914
Commercial/Small-Medium Industrial	Natural Gas	440	318,836 GJ	318,836	15,993	424	303,431 GJ	303,431	15,220
	Electricity	808	42,106,744 kWh	151,584	1,053	804	41,137,776 kWh	148,096	1,028
Totals		**14,776**		**1,192,086**	**41,691**	**15,020**		**1,122,124**	**38,210**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	12,829 t	N/A	4,869	0	9,138 t	N/A	4,334
Totals		**0**			**4,869**	**0**			**4,334**

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas					4		0	0
Totals		**0**				**4**			**0**

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Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 18,996)			2010 (Population: 19,278)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	39,659 L	1,471	100	117,368 L	4,108	264
Gasoline	18,283,056 L	641,311	43,538	18,439,237 L	645,372	41,524
Diesel Fuel	1,704,724 L	65,888	4,639	2,050,395 L	79,249	5,416
Other Fuel	21,290 L	1,021	63	0 L	690	41
Wood	8,990 GJ	8,990	182	8,374 GJ	8,374	170
Heating Oil	15,133 GJ	15,133	1,067	14,097 GJ	14,097	964
Propane	22,452 GJ	22,452	1,370	20,914 GJ	20,914	1,276
Natural Gas	720,023 GJ	720,023	36,117	655,079 GJ	655,079	32,858
Electricity	118,191,129 kWh	425,488	2,955	117,683,477 kWh	423,660	2,942
Solid Waste	12,829 t	0	4,869	9,138 t	0	4,334
Grand Totals		**1,901,777**	**94,900**		**1,851,543**	**89,789**

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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	3,330	28	3,330	37	2,685	28
Semi-Detached House	145	1	105	1	105	1
Row House	165	1	165	2	130	1
Apartment, Duplex	605	5	760	8	1,490	16
Apartment, 5 storeys or higher	640	5	540	6	780	8
Apartment, under 5 storeys	3,840	32	4,140	46	4,270	45
Other Single Attached House	10	0	35	0	50	1
Movable Dwelling	0	0	0	0	10	0

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	5,545	78	6,170	80	6,315	78
Car, Truck,Van as Passenger	350	5	445	6	385	5
Public Transit	520	7	390	5	670	8
Walked	540	8	595	8	535	7
Bicycle	45	1	50	1	25	0
Motorcycle	10	0	10	0	20	0
Taxicab	10	0	20	0	15	0
Other Method	65	1	60	1	95	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	32	6
Agricultural Land Reserve	0	0
Other land use	481	94
Total Parks and Protected Area	32	6
Total Land Area	512	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	32	6
Agricultural Land Reserve	0	0
Other land use	481	94
Total Parks and Protected Area	32	6
Total Land Area	512	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	2,285	34
5 to 9.9 km	245	4
25 km or more	1,995	30
15 to 24.9 km	1,410	21
10 to 14.9 km	820	12

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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,