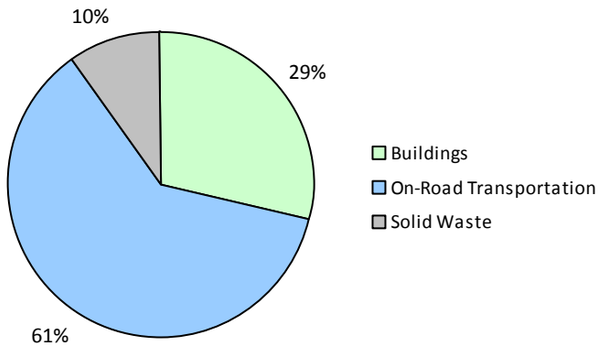
Mount Waddington Regional District

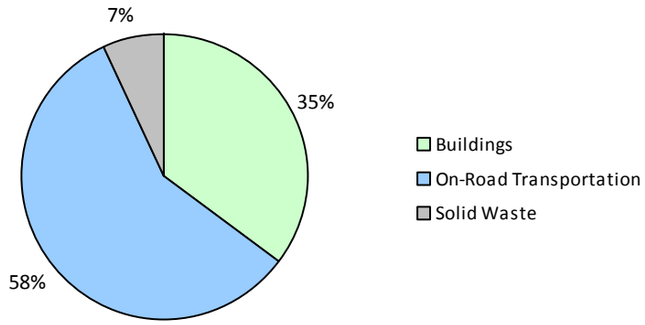
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

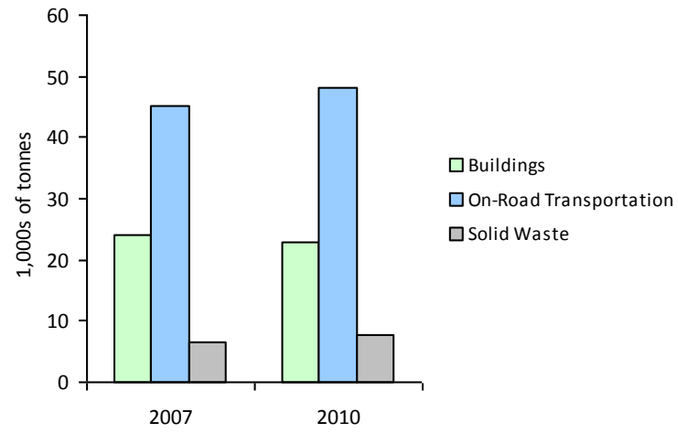
2010 GHG Emissions Sources (Total for this Community)



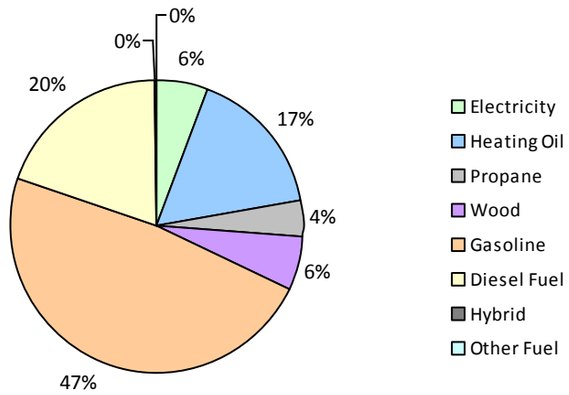
2010 GHG Emissions Sources (Total for BC)



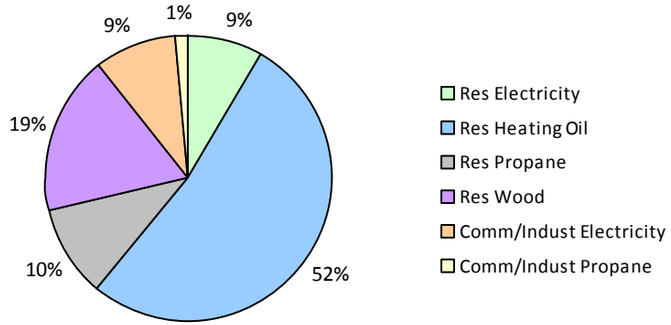
GHG Emissions Comparisons for this Community



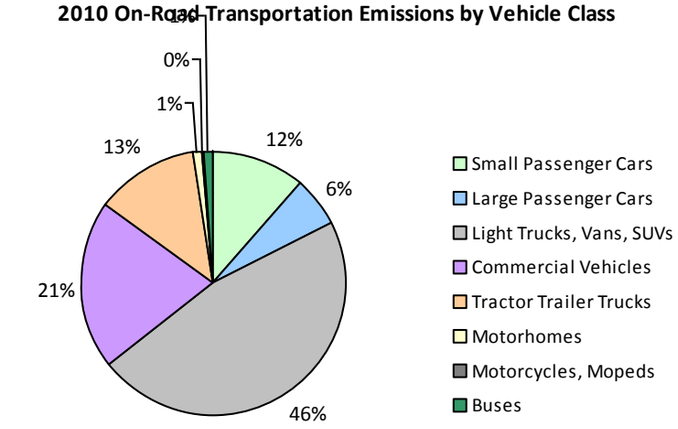
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Mount Waddington Regional District

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								19,400	66	4
	Gasoline	1,540	2,308,625 L	16,100	80,802	5,478	1,516	2,358,440 L	16,700	82,546	5,293
	Diesel Fuel	79	145,257 L	27,300	5,564	397	75	133,853 L	26,200	5,126	355
	Other Fuel								15,900	44	4
Large Passenger Cars	Hybrid			18,700	83	6	10	14,936 L	28,000	523	33
	Gasoline	705	1,289,508 L	16,100	45,133	3,067	665	1,257,843 L	16,700	44,024	2,825
	Diesel Fuel	14	17,306 L	12,600	663	48	23	25,081 L	11,800	960	66
Light Trucks, Vans, SUVs	Hybrid			10,400	98	7			20,800	156	9
	Gasoline	3,341	8,352,928 L	17,000	292,353	19,986	3,543	9,552,129 L	18,400	334,325	21,654
	Diesel Fuel	165	346,226 L	12,100	13,260	943	110	253,738 L	14,300	9,718	672
	Other Fuel	27	44,973 L	9,600	1,138	69	12	19,969 L	9,700	504	31
Commercial Vehicles	Gasoline	503	1,506,158 L	17,600	52,716	3,539	565	1,753,437 L	18,300	61,370	3,922
	Diesel Fuel	525	1,792,186 L	18,700	68,641	4,822	600	2,325,169 L	21,400	89,055	6,071
	Other Fuel	21	48,266 L	12,500	1,221	74	15	32,628 L	11,700	825	50
Tractor Trailer Trucks	Gasoline			14,300	419	28			32,700	1,224	78
	Diesel Fuel	124	2,118,860 L	40,100	81,152	5,702	129	2,328,616 L	42,900	89,185	6,081
Motorhomes	Gasoline	40	90,474 L	16,400	3,167	211	45	104,654 L	16,400	3,663	233
	Diesel Fuel	22	67,606 L	15,900	2,589	182	23	76,448 L	16,200	2,928	200
	Other Fuel			23,800	91	6					
Motorcycles, Mopeds	Gasoline	103	20,588 L	4,500	720	47	129	34,328 L	6,000	1,202	76
Buses	Gasoline	12	36,155 L	19,100	1,265	84	16	46,495 L	17,500	1,627	105
	Diesel Fuel	23	134,233 L	19,900	5,141	361	24	171,422 L	26,400	6,565	447
	Other Fuel			10,600	114	8					
Totals		**7,244**	**18,319,349 L**	**17,061**	**656,330**	**45,065**	**7,500**	**18,319,349 L**	**18,334**	**735,636**	**48,209**

Mount Waddington Regional District

2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	215,782 GJ	215,782	4,372	N/A	208,885 GJ	208,885	4,232
	Heating Oil	N/A	179,639 GJ	179,639	12,663	N/A	173,897 GJ	173,897	11,893
	Propane	249	41,519 GJ	41,519	2,533	235	38,026 GJ	38,026	2,320
	Electricity	5,688	84,205,762 kWh	303,141	2,105	5,729	79,526,831 kWh	286,296	1,988
Commercial/Small-Medium Industrial	Propane	14	5,343 GJ	5,343	326	14	4,895 GJ	4,895	299
	Electricity	1,181	87,747,397 kWh	315,890	2,194	1,228	83,647,186 kWh	301,130	2,091
Totals		**7,132**		**1,061,314**	**24,193**	**7,206**		**1,013,129**	**22,823**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	7,761 t	N/A	6,670	0	7,067 t	N/A	7,629
Totals		**0**			**6,670**	**0**			**7,629**

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Electricity					1		0	0
Totals		**0**				**1**			**0**

Land-use Change - Deforestation		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Settlement	Deforestation	162	0 ha	0	141,692				
Totals		**162**			**141,692**	**0**			

Mount Waddington Regional District

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: 11,914)			2010 (Population: 12,057)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	0 L	181	13	14,936 L	745	46
Gasoline	13,604,436 L	476,575	32,440	15,107,326 L	529,981	34,186
Diesel Fuel	4,621,674 L	177,010	12,455	5,314,327 L	203,537	13,892
Other Fuel	93,239 L	2,564	157	52,597 L	1,373	85
Wood	215,782 GJ	215,782	4,372	208,885 GJ	208,885	4,232
Heating Oil	179,639 GJ	179,639	12,663	173,897 GJ	173,897	11,893
Propane	46,862 GJ	46,862	2,859	42,921 GJ	42,921	2,619
Electricity	171,953,159 kWh	619,031	4,299	163,174,017 kWh	587,426	4,079
Solid Waste	7,761 t	0	6,670	7,067 t	0	7,629
Grand Totals		**1,717,644**	**75,928**		**1,748,765**	**78,661**

Mount Waddington Regional District

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	3,460	40	3,160	62	3,435	73
Semi-Detached House	140	2	125	2	165	4
Row House	470	5	520	10	435	9
Apartment, Duplex	65	1	50	1	40	1
Apartment, 5 storeys or higher	65	1	40	1	20	0
Apartment, under 5 storeys	545	6	530	10	385	8
Other Single Attached House	80	1	20	0	10	0
Movable Dwelling	470	5	640	13	215	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	4,675	67	4,360	69	3,795	70
Car, Truck,Van as Passenger	780	11	660	10	480	9
Public Transit	55	1	60	1	20	0
Walked	1,070	15	920	15	790	14
Bicycle	70	1	70	1	80	1
Motorcycle	0	0	10	0	15	0
Taxicab	20	0	10	0	10	0
Other Method	315	5	200	3	270	5

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	192,773	9
Local Parks	44	0
Agricultural Land Reserve	2,027	0
Other land use	1,872,011	91
Total Parks and Protected Area	192,817	9
Total Land Area	2,066,856	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	192,773	9
Local Parks	44	0
Agricultural Land Reserve	2,027	0
Other land use	1,872,011	91
Total Parks and Protected Area	192,817	9
Total Land Area	2,066,856	100

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

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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,