

11%

55%

0%·

16%

46%

Greenwood City

2010 Community Energy and Emissions Inventory

16%

10%

Other Fuel

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** 3 . 7% 3 34% 2 35% 1,000s of tonnes Buildings Buildings Buildings 2 On-Road Transportation On-Road Transportation On-Road Transportation Solid Waste Solid Waste Solid Waste 58% 1 0 2007 2010 2010 Total Emissions by Fuel Type 2010 Building Emissions by Subsector 2010 On-Road Transportation Emissions by Vehicle Class 0%-4%¬ 2% 6% 15% 18% 23% Electricity Res Electricity Small Passenger Cars Natural Gas Res Natural Gas Large Passenger Cars 1% 18% Heating Oil Res Heating Oil Light Trucks, Vans, SUVs 42% Propane 11% Res Propane Commercial Vehicles 4% U Wood Res Wood Tractor Trailer Trucks 6% Gasoline Comm/Indust Electricity Motorhomes Diesel Fuel

Comm/Indust Natural Gas

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Motorcycles, Mopeds

49%

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Core Items

				2007					2010		
On-Road Transportation		Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)
Small Passenger Cars	Gasoline	103	141,589 L	14,600	4,955	337	117	155,887 L	14,100	5,456	351
	Diesel Fuel			24,300	391	28			28,500	603	42
Large Passenger Cars	Gasoline	83	118,778 L	12,400	4,157	283	66	90,669 L	12,100	3,173	206
	Other Fuel			12,600	46	4					
Light Trucks, Vans, SUVs	Gasoline	235	539,543 L	15,700	18,885	1,295	249	549,143 L	15,100	19,219	1,247
	Diesel Fuel	17	30,928 L	9,900	1,185	84	15	30,970 L	11,400	1,187	82
	Other Fuel			9,700	207	12			10,300	85	5
Commercial Vehicles	Gasoline	23	62,509 L	15,900	2,188	147	22	54,835 L	14,800	1,919	122
	Diesel Fuel	34	114,455 L	19,100	4,383	308	41	133,010 L	18,500	5,095	347
	Other Fuel			10,300	104	6			12,500	63	4
Tractor Trailer Trucks	Diesel Fuel			15,900	985	70			25,500	2,309	157
Motorhomes	Gasoline			19,700	510	34			18,100	842	53
	Diesel Fuel			16,700	602	42			16,600	770	52
Motorcycles, Mopeds	Gasoline	14	3,437 L	5,300	120	9	14	3,980 L	6,100	139	9
Totals		509	1,011,239 L	14,696	38,718	2,659	524	1,011,239 L	14,406	40,860	2,677

			2	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	9,425 GJ	9,425	191	N/A	9,072 GJ	9,072	184
	Heating Oil	N/A	2,423 GJ	2,423	171	N/A	2,332 GJ	2,332	159
	Propane	N/A	4,260 GJ	4,260	260	N/A	4,101 GJ	4,101	250
	Natural Gas	220	14,350 GJ	14,350	720	216	13,539 GJ	13,539	679
	Electricity	505	4,757,868 kWh	17,128	29	466	4,999,497 kWh	17,998	30
Commercial/Small-Medium Industrial	Natural Gas	37	6,532 GJ	6,532	328	36	5,838 GJ	5,838	293
	Electricity	118	1,586,951 kWh	5,713	10	108	1,643,375 kWh	5,916	10
Totals		880		59,831	1,709	826		58,796	1,605



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				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	293 t	N/A	489	0	314 t	N/A	509
Totals		0			489	0			509

Totals for Transportation, Buildings and Solid Waste

	2007 (Pe	opulation: 633)		2010 (8	5)		
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)	
Gasoline	865,856 L	30,815	2,105	854,514 L	30,748	1,988	
Diesel Fuel	145,383 L	7,546	532	163,980 L	9,964	680	
Other Fuel	0 L	357	22	0 L	148	9	
Wood	9,425 GJ	9,425	191	9,072 GJ	9,072	184	
Heating Oil	2,423 GJ	2,423	171	2,332 GJ	2,332	159	
Propane	4,260 GJ	4,260	260	4,101 GJ	4,101	250	
Natural Gas	20,882 GJ	20,882	1,048	19,377 GJ	19,377	972	
Electricity	6,344,819 kWh	22,841	39	6,642,872 kWh	23,914	40	
Solid Waste	293 t	0	489	314 t	0	509	
Grand Totals		98,549	4,857		99,656	4,791	



2010 Community Energy and Emissions Inventory

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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		200	1	2006		
	Units	%	Units	%	Units	%	
Single Detached House	310	48	300	95	290	92	
Semi-Detached House	0	0	0	0	0	0	
Row House	0	0	10	3	10	3	
Apartment, Duplex	0	0	5	2	10	3	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	25	4	0	0	0	0	
Other Single Attached House	0	0	0	0	0	0	
Movable Dwelling	0	0	0	0	5	2	

Parks and Protected Greenspace

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

	200	9
	Units	%
National Parks	0	0
Provincial Parks / Protected Areas	0	0
Local Parks	6	2
Agricultural Land Reserve	0	0
Other land use	262	98
Total Parks and Protected Area	6	2
Total Land Area	268	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	1
Units	%
0	0
0	0
6	2
0	0
262	98
6	2
268	100
	2009 Units 0 0 6 0 262 6 262 6 268

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

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	L	2006		
	Units	%	Units	%	Units	%	
Car, Truck, Van as Driver	150	70	165	83	180	90	
Car, Truck, Van as Passenger	10	5	10	5	20	10	
Public Transit	0	0	0	0	0	0	
Walked	40	19	15	8	0	0	
Bicycle	15	7	0	0	0	0	
Motorcycle	0	0	0	0	0	0	
Taxicab	0	0	0	0	0	0	
Other Method	0	0	10	5	0	0	

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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) <u>http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm</u>, and on the <u>http://toolkit.bc.ca</u> 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.



2010 Community Energy and Emissions Inventory

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Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

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 (<u>http://www.toolkit.bc.ca</u>), 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

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,