

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** 30 11% 7% 25 32% 1)000s of tonnes 12 10 10 10 35% Buildings Buildings Buildings On-Road Transportation On-Road Transportation On-Road Transportation Solid Waste Solid Waste Solid Waste 58% 5 57% 0 2007 2010 2010 Total Emissions by Fuel Type 2010 Building Emissions by Subsector 2010 On-Road Transportation Emissions by Vehicle Class 0%-0%-%0 **−**ור 3%-9% 7% 11% -0% 3% Electricity 10% Small Passenger Cars 26% 27% 🗖 Natural Gas Res Electricity 17% Large Passenger Cars Res Natural Gas Heating Oil Light Trucks, Vans, SUVs 21% Res Heating Oil Propane Commercial Vehicles U Wood Res Propane Tractor Trailer Trucks Res Wood Gasoline 9% Motorhomes 8% Diesel Fuel Comm/Indust Electricity 15% 1% Motorcycles, Mopeds Comm/Indust Natural Gas 🗖 Hybrid 3% 56% 43% Buses 1% Other Fuel 26% 4%-

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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	Hybrid			14,000	137	8	12	7,005 L	11,300	246	16
	Gasoline	2,803	2,893,647 L	10,900	101,278	6,899	2,900	2,994,569 L	10,900	104,811	6,739
	Diesel Fuel	66	60,436 L	14,000	2,315	165	78	69,405 L	13,700	2,658	184
	Other Fuel			8,000	20	0					
Large Passenger Cars	Hybrid	10	7,204 L	14,000	251	17	35	26,093 L	13,400	913	58
	Gasoline	1,445	1,845,095 L	11,100	64,577	4,399	1,343	1,664,759 L	10,900	58,266	3,753
	Diesel Fuel	24	23,634 L	10,300	906	64	17	17,369 L	10,700	665	46
	Other Fuel			14,300	47	4			9,400	31	1
Light Trucks, Vans, SUVs	Hybrid			17,500	146	10			15,600	231	14
	Gasoline	2,500	4,593,122 L	13,100	160,760	11,006	2,680	4,836,998 L	13,000	169,295	10,981
	Diesel Fuel	113	232,005 L	11,800	8,886	630	81	176,316 L	12,900	6,753	466
	Other Fuel	15	25,819 L	10,200	654	40	12	19,545 L	9,600	495	30
Commercial Vehicles	Gasoline	141	310,412 L	13,100	10,864	729	161	360,874 L	13,500	12,630	808
	Diesel Fuel	148	501,921 L	17,900	19,223	1,350	179	657,815 L	19,600	25,194	1,718
	Other Fuel			10,400	437	26			11,300	213	13
Tractor Trailer Trucks	Diesel Fuel	47	430,734 L	22,400	16,497	1,159	42	349,328 L	20,500	13,379	912
Motorhomes	Gasoline	83	186,961 L	16,200	6,544	437	79	176,659 L	16,300	6,183	394
	Diesel Fuel	44	127,126 L	16,200	4,869	342	42	125,736 L	16,600	4,815	328
	Other Fuel			15,100	57	4					
Motorcycles, Mopeds	Gasoline	191	43,377 L	5,300	1,518	101	202	51,895 L	6,000	1,817	115
Buses	Gasoline			10,900	61	4			17,900	188	12
	Diesel Fuel								20,600	203	14
	Other Fuel			11,200	56	4					
Totals		7,630	11,281,493 L	11,895	400,103	27,398	7,863	11,281,493 L	11,935	408,986	26,602



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			20	007				2010	
Buildings		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	22,263 GJ	22,263	451	N/A	21,552 GJ	21,552	437
	Heating Oil	N/A	58,189 GJ	58,189	4,102	N/A	56,329 GJ	56,329	3,852
	Propane	N/A	10,069 GJ	10,069	614	N/A	9,748 GJ	9,748	595
	Natural Gas	1,471	62,809 GJ	62,809	3,151	1,556	62,280 GJ	62,280	3,123
	Electricity	5,495	67,422,600 kWh	242,721	1,686	5,572	65,163,596 kWh	234,589	1,629
Commercial/Small-Medium Industrial	Natural Gas	254	89,034 GJ	89,034	4,466	205	82,143 GJ	82,143	4,120
	Electricity	906	52,440,801 kWh	188,787	1,311	899	50,616,430 kWh	182,219	1,265
Totals		8,126		673,872	15,781	8,232		648,860	15,021

				2007				2010	
Solid Waste		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	8,506 t	N/A	5,691	0	5,753 t	N/A	5,093
Totals		0			5,691	0			5,093

Totals for Transportation, Buildings and Solid Waste

	2007 (Pop	ulation: 11,551)		2010 (Population: 11,600)		
Fuel Type	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	7,204 L	534	35	33,098 L	1,390	88
Gasoline	9,872,614 L	345,602	23,575	10,085,754 L	353,190	22,802
Diesel Fuel	1,375,856 L	52,696	3,710	1,395,969 L	53,667	3,668
Other Fuel	25,819 L	1,271	78	19,545 L	739	44
Wood	22,263 GJ	22,263	451	21,552 GJ	21,552	437
Heating Oil	58,189 GJ	58,189	4,102	56,329 GJ	56,329	3,852
Propane	10,069 GJ	10,069	614	9,748 GJ	9,748	595
Natural Gas	151,843 GJ	151,843	7,617	144,423 GJ	144,423	7,243
Electricity	119,863,401 kWh	431,508	2,997	115,780,026 kWh	416,808	2,894
Solid Waste	8,506 t	0	5,691	5,753 t	0	5,093
Grand Totals		1,073,975	48,870		1,057,846	46,716



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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	200	6
	Units	%	Units	%	Units	%
Single Detached House	2,405	33	2,550	51	2,105	40
Semi-Detached House	300	4	465	9	430	8
Row House	490	7	465	9	475	9
Apartment, Duplex	260	4	215	4	615	12
Apartment, 5 storeys or higher	105	1	105	2	105	2
Apartment, under 5 storeys	1,340	18	1,155	23	1,445	28
Other Single Attached House	10	0	30	1	20	0
Movable Dwelling	75	1	60	1	15	0

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	25	5
Agricultural Land Reserve	41	8
Other land use	442	87
Total Parks and Protected Area	25	5
Total Land Area	508	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	25	5
Agricultural Land Reserve	41	8
Other land use	442	87
Total Parks and Protected Area	25	5
Total Land Area	508	100

* 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		200:	L	2006	
	Units	%	Units	%	Units	%
Car, Truck, Van as Driver	2,885	75	2,850	74	2,820	65
Car, Truck, Van as Passenger	170	4	170	4	240	6
Public Transit	170	4	250	6	325	7
Walked	395	10	385	10	675	16
Bicycle	190	5	160	4	195	4
Motorcycle	0	0	50	1	0	0
Taxicab	0	0	0	0	0	0
Other Method	45	1	10	0	85	2

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	1,795	48
5 to 9.9 km	290	8
25 km or more	580	16
15 to 24.9 km	860	23
10 to 14.9 km	205	6



Sidney Town 2010 Community Energy and Emissions Inventory

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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.



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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,