

BC's Community Energy and Emission Inventories...supporting efforts towards Complete, Compact, Energy-Efficient Communities





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Sectors

On Road Transport	ation	Vehicles	Consumption	Measurement	Average-VKT(km)	Energy (GJ)	<u>CO2e (t)</u>
Small Passenger Cars	Gasoline	239	330,837	Litres	14,293	11,579	782
	Diesel Fuel	< 10	4,451	Litres	14,388	170	12
				Small Pa	assenger Cars	11,749	794
Large Passenger Cars	Gasoline	117	240,254	Litres	17,225	8,409	566
	Diesel Fuel	< 10	13,656	Litres	21,059	523	37
	Other Fuel	< 10	4,737	Litres	12,568	181	7
				Large Pa	assenger Cars	9,113	610
Light Trucks, Vans, SUVs	Gasoline	633	1,916,344	Litres	20,580	67,072	4,551
-	Diesel Fuel	107	290,902	Litres	22,437	11,142	795
	Other Fuel	< 10	17,158	Litres	12,517	657	26
				Light Tr	ucks, Vans, SUVs	78,871	5,372
Commercial Vehicles	Gasoline	< 10	38,890	Litres	13,378	1,361	91
	Diesel Fuel	32	180,458	Litres	25,451	6,912	486
	Other Fuel	< 10	2,873	Litres	11,356	110	4
				Commei	rcial Vehicles	8,383	581
Tractor Trailer Trucks	Gasoline	< 10	595	Litres		21	1
	Diesel Fuel	39	1,432,270	Litres	96,097	54,856	3,854
				Tractor ⁻	Trailer Trucks	54,877	3,855
Motorhomes	Gasoline	10	12,433	Litres	2,762	435	29
	Diesel Fuel	< 10	2,521	Litres	4,426	97	7
	Other Fuel	< 10	277	Litres		11	-
				Motorho	omes	543	36
Motorcycles, Mopeds	Gasoline	13	7,704	Litres	6,019	270	18
				Motorcy	cles, Mopeds	270	18
Bus	Gasoline	< 10	4,389	Litres		154	10
	Diesel Fuel	< 10	67,146	Litres	25,705	2,572	181
				Bus		2,726	191



On Road Transportation Totals			Gasol Diese Other All Fu	ine: : Fuel: iels:	89,301 76,272 959 166,532	6,048 5,372 37 11,457
Buildings	Туре	Connections	Consumption	Measurement	Energy (GJ)	<u>CO2e (t)</u>
Residential	Electricity Heating Oil Propane Wood	856	13,132,679 12,946 22,777 27,150 Residential	Kilowatt Hours GigaJoules GigaJoules GigaJoules	47,278 12,946 22,777 27,150 110,151	324 913 1,390 10 2,637
Commercial/Small-Medium Industrial	Electricity	227	10,864,911 Commercial/Sma	Kilowatt Hours	39,114 39,114	268 268
Buildings Totals			Electri Natura Propa Wood Heatir Build i	city: al Gas: ne: g Oil: ngs:	86,392 22,777 27,150 12,946 149,265	592 1,390 10 913 2,905
Solid Waste			Community Solid Waste		<u>Mass (t)</u> 780	<u>CO2e (t)</u> 519



Grand Total	CONSUMPTION		ENERGY (GJ)	<u>CO2e (t)</u>
Diesel Fuel	1,991,404	L	76,272	5,372
Electricity	23,997,590	kWh	86,392	592
Gasoline	2,551,446	L	89,301	6,048
Heating Oil	12,946	GJ	12,946	913
Other Fuel	25,045	L	959	37
Propane	22,777	GJ	22,777	1,390
Solid Waste	780	Т	0	519
Wood	27,150	GJ	27,150	10
Total of Transportation / Buildings / Solid Waste:			315,797 G.	J 14,881 tonnes

Memo Items

Buildings	Туре	Connections	Consumption	Measurement	Energy (GJ)	<u>CO2e (t)</u>
Large Industrial	Electricity	0	0	Kilowatt Hours	-	-
			Larg	ge Industrial	-	-



Supporting Indicators

Below you will find supporting indicators for which data is provided. These are the first five supporting indicators for which data is provided as a part of the updated 2007 CEEI. Columns with all zeros indicate data unavailable in these CEEI reports. Thirteen additional supporting indicators are under consideration for future reports (see next page). Local government feedback is requested on all supporting indicators. Please take the time to complete the short CEEI Survey at http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html or contact us directly at CEEIRPT@gov.bc.ca/cas/mitigation/ceei/index.html or

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	2006	
	Units	%	Units	%	Units	%	
Single Detached House	625	46	575	80	580	85	
Semi-Detached House	15	1	20	3	15	2	
Row House	25	2	25	3	0	0	
Apartment, Duplex	10	1	10	1	0	0	
Apartment, 5 storeys or higher	0	0	0	0	0	0	
Apartment, under 5 storeys	45	3	15	2	20	3	
Other Single Attached House	0	0	5	1	20	3	
Movable Dwelling	0	0	70	10	45	7	

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		20	2001		2006	
	People	%	People	%	People	%	
Car, Truck, Van as Driver	410	60	410	71	445	70	
Car, Truck,Van as Passenge	85	13	25	4	65	10	
Public Transit	0	0	0	0	0	0	
Walked	165	24	115	20	100	16	
Bicycle	20	3	10	2	20	3	
Motorcycle	0	0	0	0	0	0	
Taxicab	0	0	0	0	0	0	
Other Method	0	0	15	3	10	2	

Residential Density

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

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
Population 1	,530.0
Net Land Area (ha) *	595.5
Residential Density (people per net ha)	2.6

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

People %

This data is currently unavailable in the CEEI 2007 Reports.



Parks and Protected Greenspace

** The quantity of parkland may be underestimated Parks and protected greenspaces are important for the protection and enhancement of community carbon sinks.

* Total is net of Indian Reserves

	2009					
	Area (ha)	%				
National Parks	0.0	0.0				
Provincial Parks / Protected Areas	0.0	0.0				
Local Parks	16.4	1.5				
Agricultural Land Reserve	140.0	12.8				
Other land use	934.0	85.7				
Total Land Area	1,090.5	100.0				



Supporting Indicators Under Consideration

The following supporting indicators are under consideration for inclusion in future CEEI reports. The 2007 CEEI reports provide these 'placeholder' indicators to give indication of data that may be provided in the future by the Province on an ongoing basis to assist in monitoring actions to reduce GHG emissions and energy consumption. Please submit feedback to <u>CEEIRPT@gov.bc.ca</u> (see survey on CEEI website).

On-Road Transportation (and Land Use) Proximity to Transit Persons, dwelling units (du) and employment within 400m of a guality transit stop/line Persons and dwelling units (du) within 400m of services (e.g. grocery store, school, other retail etc.) Proximity to Services Transit Ridership Annual per capita transit ridership **Buildings** Residential; Public Building Average energy use per person per square metre of floor space Energy Intensity Average residential dwelling unit size Floor Space Solid Waste (and Water) Waste Diversion Tonnes of waste diverted Avoided Waste Emissions Tonnes of CO2e of avoided future emissions due to reduced waste since 2007 Water Use Per capita residential water use Land-Use Change Impervious Surface Cover % change in impervious surface cover Tree Canopy Cover % change in tree canopy cover **Community and Renewable Energy Supply** 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)



This is your local government's Updated 2007 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 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, and fulfill Milestone One requirements for those local government members of the Federation of Canadian Municipalities' (FCM's) Partners in Climate Protection (PCP) program.

A first in North America!

CEEI is a first in North America and a first step for BC communities. The 2007 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 and medium from large industrial buildings, including updated land-use change and new agricultural sectors as 'memo items', and the first of a suite of 'supporting indicators'. 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 Updated 2007 CEEI Reports, CEEI Data Summary Report, Technical Methods and Guidance Document, and additional information on the Secondary 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 <<u>http://www.toolkit.bc.ca></u> and <<u>http://www.cd.gov.bc.ca/lgd/greencommunities/targets.htm></u>.

We Need Your Feedback:

- To continue to guide us on CEEI, particularly now with the new Indicators. Please take the time to complete the short CEEI Survey at http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html or contact us directly at CEEIRPT@gov.bc.ca/cas/mitigation/ceei/index.html or contact us directly at http://www.env.gov.bc.ca/cas/mitigation/ceei/index.html or contact us directly at http://www.env.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, where you do note inaccuracies, please contact us.