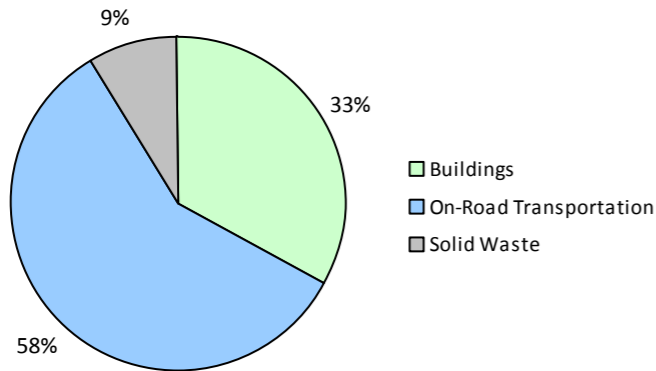


Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

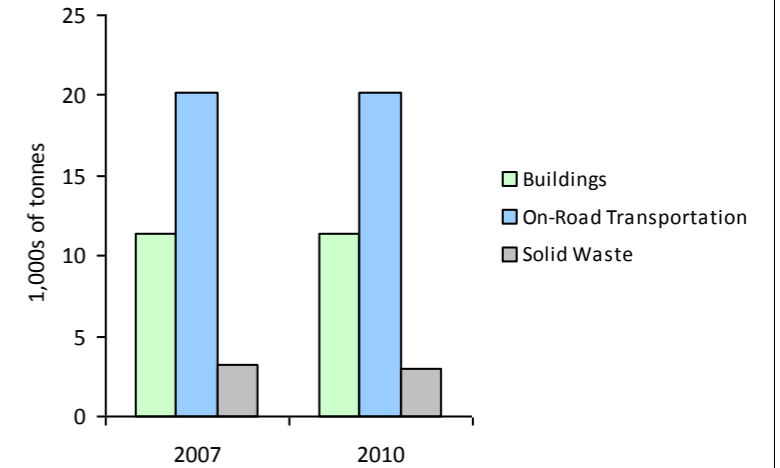
2010 GHG Emissions Sources (Total for this Community)



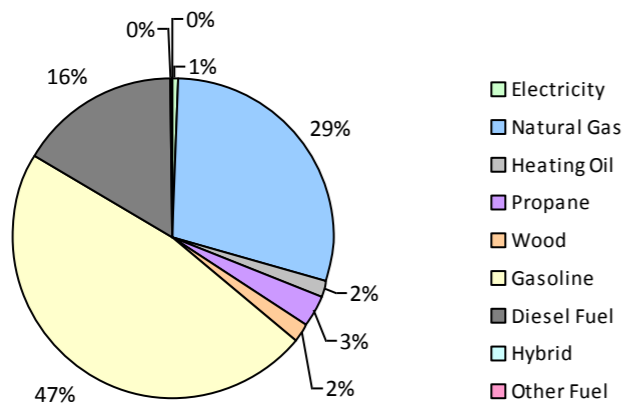
2010 GHG Emissions Sources (Total for BC)



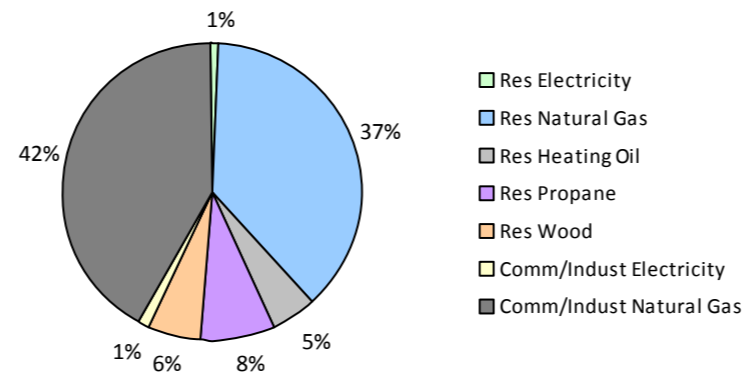
GHG Emissions Comparisons for this Community



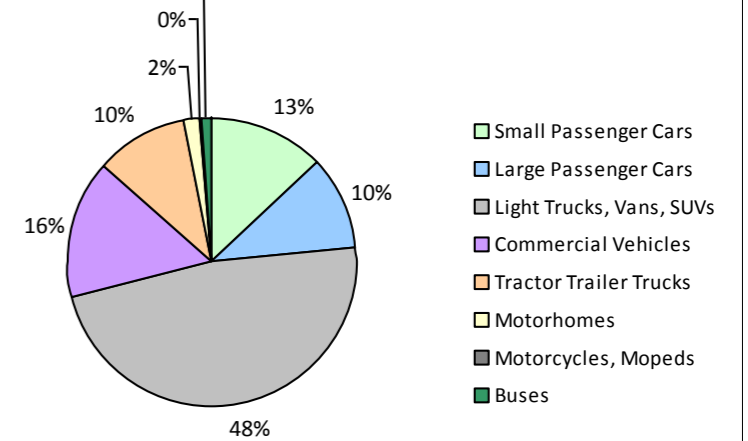
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Grand Forks City 2010 Community Energy and Emissions Inventory

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Core Items

On-Road Transportation		2007					2010				
		Connections	Consumption	Avg VKT (km)	Energy (GJ)	CO2e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	CO2e (t)
Small Passenger Cars	Hybrid			14,400	24	0			14,100	22	0
	Gasoline	807	1,148,752 L	15,000	40,206	2,736	798	1,113,946 L	14,700	38,988	2,507
	Diesel Fuel	28	46,743 L	24,100	1,790	127	33	49,297 L	21,600	1,888	131
Large Passenger Cars	Hybrid			8,900	39	2			21,800	240	15
	Gasoline	600	939,697 L	13,800	32,889	2,235	609	932,315 L	13,600	32,630	2,094
	Diesel Fuel			9,900	229	17			8,800	201	14
Light Trucks, Vans, SUVs	Hybrid			29,300	77	4			19,800	127	8
	Gasoline	1,606	3,887,225 L	16,500	136,053	9,315	1,688	3,977,376 L	16,100	139,208	9,036
	Diesel Fuel	123	243,060 L	11,000	9,308	661	88	190,507 L	12,400	7,296	503
	Other Fuel	12	22,434 L	11,100	568	35			9,900	330	20
Commercial Vehicles	Gasoline	146	450,207 L	18,200	15,758	1,057	172	496,555 L	17,200	17,379	1,111
	Diesel Fuel	179	602,284 L	18,700	23,067	1,620	232	802,315 L	19,500	30,729	2,095
	Other Fuel			11,800	352	21			11,500	231	15
Tractor Trailer Trucks	Gasoline								35,700	337	20
	Diesel Fuel	37	655,612 L	40,200	25,110	1,764	44	769,340 L	40,700	29,467	2,009
	Other Fuel			8,900	54	3			9,400	58	4
Motorhomes	Gasoline	26	71,596 L	18,700	2,505	168	33	91,292 L	19,000	3,196	202
	Diesel Fuel	22	65,821 L	16,300	2,521	176	21	66,980 L	16,300	2,566	174
	Other Fuel			18,300	125	7					
Motorcycles, Mopeds	Gasoline	76	17,319 L	4,900	606	40	80	21,353 L	5,800	747	47
Buses	Gasoline								15,300	177	12
	Diesel Fuel	13	80,209 L	21,300	3,072	215	14	80,276 L	19,900	3,075	210
	Other Fuel			8,600	46	3					
Totals		3,675	8,230,959 L	15,791	294,399	20,206	3,812	8,230,959 L	15,734	308,892	20,227

Grand Forks City 2010 Community Energy and Emissions Inventory

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Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Residential	Wood	N/A	33,544 GJ	33,544	680	N/A	32,287 GJ	32,287	654
	Heating Oil	N/A	8,633 GJ	8,633	609	N/A	8,310 GJ	8,310	568
	Propane	N/A	15,196 GJ	15,196	927	N/A	14,626 GJ	14,626	892
	Natural Gas	1,313	95,168 GJ	95,168	4,773	1,297	84,369 GJ	84,369	4,232
	Electricity	1,999	20,897,348 kWh	75,230	69	1,986	20,227,460 kWh	72,819	122
Commercial/Small-Medium Industrial	Natural Gas	261	85,343 GJ	85,343	4,281	256	96,019 GJ	96,019	4,816
	Electricity	363	24,930,435 kWh	89,749	83	369	25,649,084 kWh	92,337	154
Totals		3,936		402,863	11,422	3,908		400,767	11,438

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Community Solid Waste	Solid Waste	0	1,898 t	N/A	3,169	0	1,834 t	N/A	2,972
Totals		0			3,169	0			2,972

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	CO2e (t)	Connections	Consumption	Energy (GJ)	CO2e (t)
Large Industrial	Natural Gas	3		0	0	2		0	0
	Electricity	3	92,372,320 kWh	332,540	554	2		0	0
Totals		6		332,540	554	4		0	0

Grand Forks City 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: 4,104)			2010 (Population: 3,998)		
	Consumption	Energy (GJ)	CO2e (t)	Consumption	Energy (GJ)	CO2e (t)
Hybrid	0 L	140	6	0 L	389	23
Gasoline	6,514,796 L	228,017	15,551	6,632,837 L	232,662	15,029
Diesel Fuel	1,693,729 L	65,097	4,580	1,958,715 L	75,222	5,136
Other Fuel	22,434 L	1,145	69	0 L	619	39
Wood	33,544 GJ	33,544	680	32,287 GJ	32,287	654
Heating Oil	8,633 GJ	8,633	609	8,310 GJ	8,310	568
Propane	15,196 GJ	15,196	927	14,626 GJ	14,626	892
Natural Gas	180,511 GJ	180,511	9,054	180,388 GJ	180,388	9,048
Electricity	45,827,783 kWh	164,979	152	45,876,544 kWh	165,156	276
Solid Waste	1,898 t	0	3,169	1,834 t	0	2,972
Grand Totals		697,262	34,797		709,659	34,637

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	1,315	44	1,390	77	1,375	77
Semi-Detached House	50	2	65	4	55	3
Row House	70	2	100	6	105	6
Apartment, Duplex	30	1	35	2	15	1
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	130	4	165	9	175	10
Other Single Attached House	50	2	10	1	10	1
Movable Dwelling	55	2	40	2	50	3

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	1,115	73	1,110	73	1,045	70
Car, Truck, Van as Passenger	90	6	80	5	175	12
Public Transit	0	0	0	0	0	0
Walked	245	16	230	15	205	14
Bicycle	75	5	85	6	50	3
Motorcycle	0	0	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	10	1	10	1	10	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	15	1
Agricultural Land Reserve	194	18
Other land use	854	80
Total Parks and Protected Area	15	1
Total Land Area	1,064	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	15	1
Agricultural Land Reserve	194	18
Other land use	854	80
Total Parks and Protected Area	15	1
Total Land Area	1,064	100

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

Grand Forks City
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Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

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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,