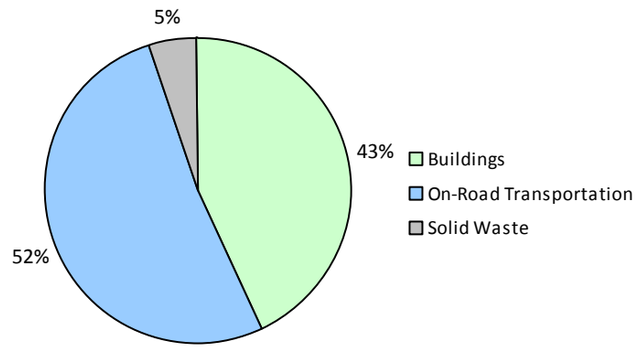
North Vancouver District Municipality

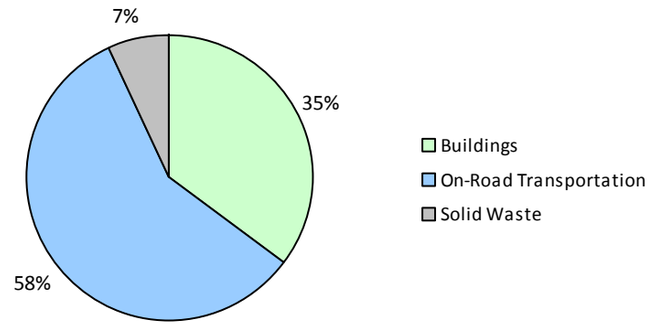
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

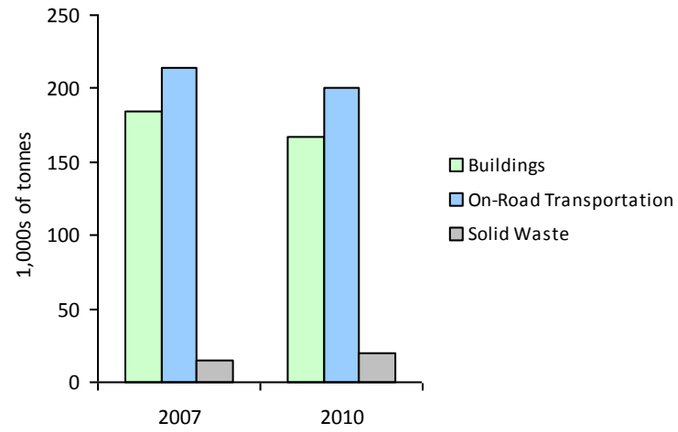
2010 GHG Emissions Sources (Total for this Community)



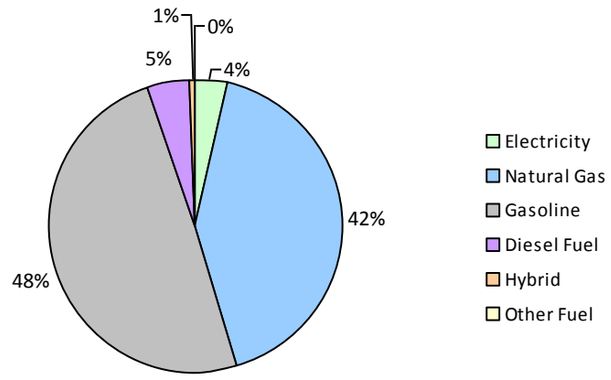
2010 GHG Emissions Sources (Total for BC)



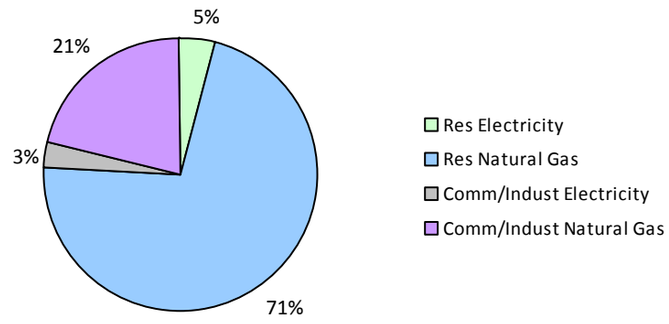
GHG Emissions Comparisons for this Community



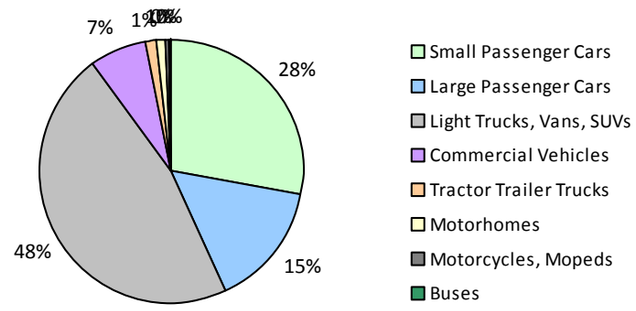
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



North Vancouver District Municipality

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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	40	27,663 L	14,800	969	65	76	58,064 L	15,000	2,032	129
	Gasoline	19,359	25,115,588 L	13,600	879,046	59,473	18,951	24,231,456 L	13,400	848,102	54,300
	Diesel Fuel	423	479,510 L	17,100	18,365	1,310	435	493,341 L	16,700	18,895	1,308
	Other Fuel			11,300	86	4			14,700	187	12
Large Passenger Cars	Hybrid	104	120,433 L	21,900	4,215	282	318	600,037 L	33,300	21,002	1,336
	Gasoline	9,138	14,593,449 L	13,900	510,770	34,485	8,293	13,075,743 L	13,900	457,652	29,276
	Diesel Fuel	117	146,571 L	13,300	5,614	399	123	153,661 L	13,500	5,886	407
	Other Fuel			13,600	138	8					
Light Trucks, Vans, SUVs	Hybrid	51	67,823 L	16,800	2,375	160	138	197,262 L	16,600	6,905	445
	Gasoline	18,666	39,630,205 L	15,300	1,387,058	94,391	19,703	40,409,408 L	14,900	1,414,329	91,376
	Diesel Fuel	267	651,315 L	14,900	24,946	1,776	312	805,374 L	17,500	30,846	2,134
	Other Fuel	58	113,236 L	11,800	2,865	173	36	67,439 L	11,800	1,707	104
Commercial Vehicles	Hybrid								22,900	284	18
	Gasoline	724	1,924,679 L	16,000	67,364	4,523	785	2,093,242 L	16,000	73,263	4,683
	Diesel Fuel	842	3,139,502 L	18,800	120,242	8,448	942	3,435,246 L	18,700	131,569	8,969
	Other Fuel	37	81,358 L	12,100	2,058	124	29	60,005 L	11,400	1,519	93
Tractor Trailer Trucks	Diesel Fuel	223	2,003,868 L	22,300	76,748	5,393	140	1,134,374 L	20,300	43,446	2,961
	Other Fuel			12,600	80	4			11,100	71	4
Motorhomes	Gasoline	295	687,197 L	16,700	24,052	1,605	233	541,984 L	16,600	18,970	1,207
	Diesel Fuel	112	346,851 L	16,800	13,284	933	101	327,738 L	16,700	12,553	855
	Other Fuel			18,600	212	14			15,800	241	15
Motorcycles, Mopeds	Gasoline	808	199,818 L	5,500	6,994	466	929	260,614 L	6,300	9,122	578
Buses	Gasoline	55	258,071 L	30,200	9,032	606	60	265,437 L	28,300	9,291	594
	Diesel Fuel			27,400	943	67			27,800	2,190	149
	Other Fuel			17,500	91	5			16,200	84	4
Totals		**51,319**	**89,587,137 L**	**14,397**	**3,157,547**	**214,714**	**51,604**	**89,587,137 L**	**14,303**	**3,110,146**	**200,957**

North Vancouver District Municipality

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	Natural Gas	22,173	2,714,328 GJ	2,714,328	136,151	22,173	2,357,260 GJ	2,357,260	118,240
	Electricity	27,006	309,609,391 kWh	1,114,593	7,741	27,319	305,075,144 kWh	1,098,270	7,627
Commercial/Small-Medium Industrial	Natural Gas	1,329	700,709 GJ	700,709	35,148	1,287	709,808 GJ	709,808	35,604
	Electricity	2,571	201,255,989 kWh	724,521	5,032	2,714	216,393,980 kWh	779,018	5,410
Totals		**53,079**		**5,254,151**	**184,072**	**53,493**		**4,944,356**	**166,881**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	53,554 t	N/A	14,545	0	41,187 t	N/A	19,536
Totals		**0**			**14,545**	**0**			**19,536**

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	26		0	0	19	787,712 GJ	787,712	39,512
	Electricity	4		0	0	3		0	0
Totals		**30**			**0**	**22**		**787,712**	**39,512**

North Vancouver District Municipality

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: 85,966)			2010 (Population: 88,370)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	215,919 L	7,559	507	855,363 L	30,223	1,928
Gasoline	82,409,007 L	2,884,316	195,549	80,877,884 L	2,830,729	182,014
Diesel Fuel	6,767,617 L	260,142	18,326	6,349,734 L	245,385	16,783
Other Fuel	194,594 L	5,530	332	127,444 L	3,809	232
Natural Gas	3,415,037 GJ	3,415,037	171,299	3,067,068 GJ	3,067,068	153,844
Electricity	510,865,380 kWh	1,839,114	12,773	521,469,124 kWh	1,877,288	13,037
Solid Waste	53,554 t	0	14,545	41,187 t	0	19,536
Grand Totals		**8,411,698**	**413,331**		**8,054,502**	**387,374**

North Vancouver District Municipality

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	4,090	17	4,105	20	3,390	16
Semi-Detached House	530	2	820	4	760	4
Row House	1,415	6	1,780	9	1,755	8
Apartment, Duplex	1,755	7	1,775	9	2,270	11
Apartment, 5 storeys or higher	2,415	10	3,110	15	3,750	18
Apartment, under 5 storeys	9,160	39	9,080	44	9,375	44
Other Single Attached House	35	0	15	0	45	0
Movable Dwelling	45	0	25	0	10	0

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	13,195	61	14,745	65	29,245	77
Car, Truck,Van as Passenger	1,585	7	1,315	6	2,490	7
Public Transit	4,295	20	3,670	16	3,765	10
Walked	2,035	9	2,475	11	1,360	4
Bicycle	365	2	365	2	540	1
Motorcycle	15	0	70	0	150	0
Taxicab	30	0	45	0	10	0
Other Method	175	1	110	0	245	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	2,443	15
Local Parks	2,688	16
Agricultural Land Reserve	0	0
Other land use	11,239	69
Total Parks and Protected Area	5,131	31
Total Land Area	16,370	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	2,443	15
Local Parks	2,688	16
Agricultural Land Reserve	0	0
Other land use	11,239	69
Total Parks and Protected Area	5,131	31
Total Land Area	16,370	100

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

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	10,460	31
5 to 9.9 km	12,430	37
25 km or more	1,115	3
15 to 24.9 km	3,380	10
10 to 14.9 km	6,195	18

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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,