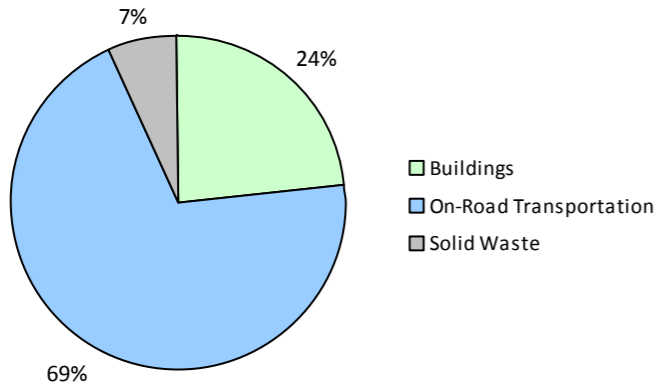
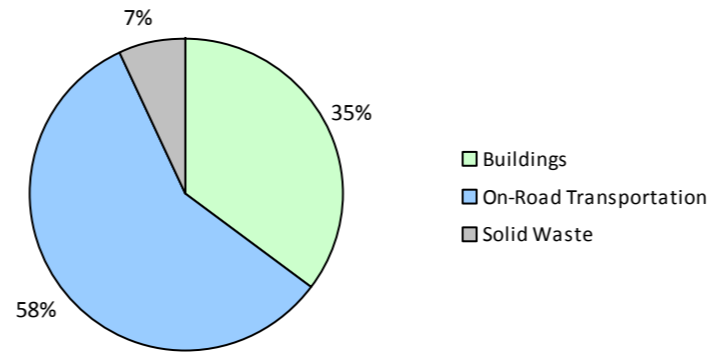


## Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

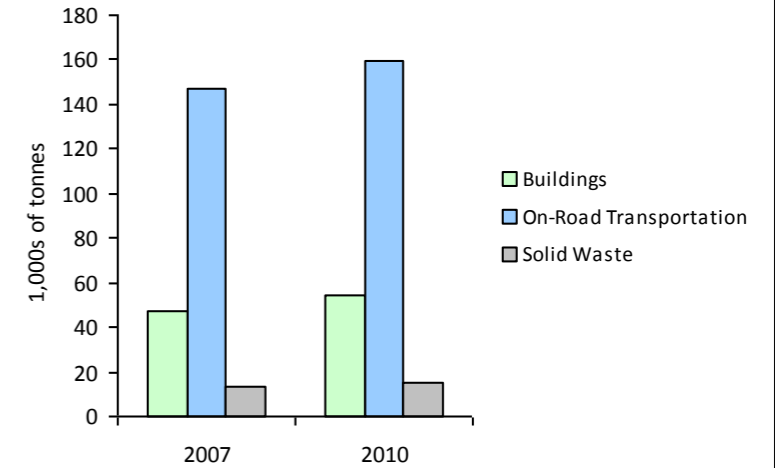
2010 GHG Emissions Sources (Total for this Community)



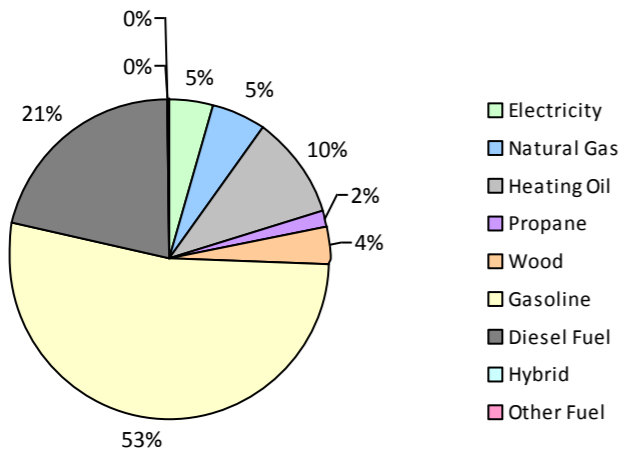
2010 GHG Emissions Sources (Total for BC)



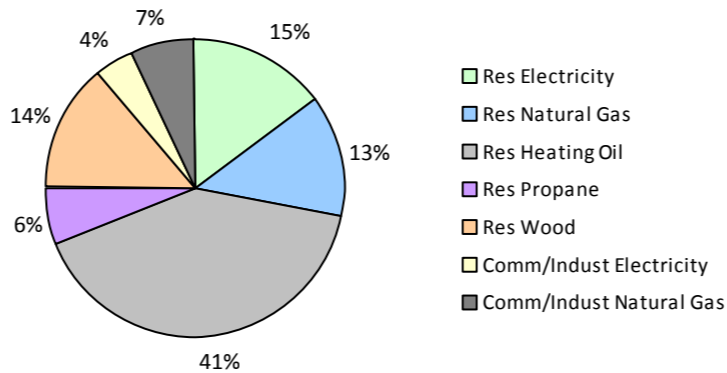
GHG Emissions Comparisons for this Community



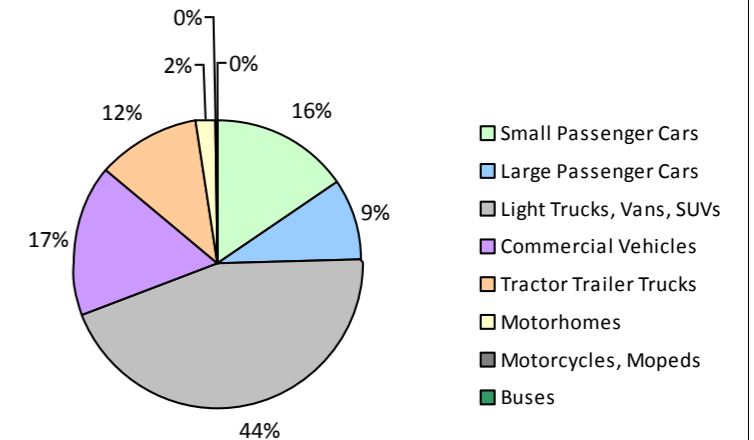
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



## Nanaimo Regional District Unincorporated Areas 2010 Community Energy and Emissions Inventory

*Monitoring and reporting on progress towards greenhouse gas emissions reduction targets*

### 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			17,600	187	14	16	14,754 L	20,500	515	32
	Gasoline	6,815	9,437,152 L	15,700	330,300	22,495	7,156	10,218,654 L	16,400	357,651	22,998
	Diesel Fuel	393	690,590 L	26,900	26,450	1,887	394	672,087 L	25,800	25,742	1,782
	Other Fuel								21,400	168	11
Large Passenger Cars	Hybrid	46	45,079 L	21,200	1,578	105	90	110,346 L	25,500	3,861	245
	Gasoline	3,922	6,472,954 L	15,400	226,552	15,406	3,749	6,218,039 L	15,700	217,632	13,982
	Diesel Fuel	102	137,333 L	14,400	5,259	373	108	131,016 L	13,200	5,019	346
	Other Fuel			17,100	113	7			18,900	35	2
Light Trucks, Vans, SUVs	Hybrid	12	21,228 L	21,600	742	51	44	85,620 L	23,500	2,996	192
	Gasoline	11,039	25,430,172 L	17,300	890,056	60,990	12,419	29,564,634 L	18,100	1,034,764	67,164
	Diesel Fuel	706	1,497,217 L	12,500	57,342	4,076	572	1,437,598 L	15,700	55,061	3,804
	Other Fuel	124	244,359 L	11,800	6,183	375	74	146,785 L	11,500	3,713	226
Commercial Vehicles	Gasoline	941	2,537,504 L	17,600	88,813	5,962	1,114	3,171,064 L	18,500	110,988	7,094
	Diesel Fuel	1,487	5,383,945 L	21,000	206,205	14,489	1,965	7,564,679 L	23,100	289,726	19,751
	Other Fuel	50	117,587 L	12,600	2,976	179	29	66,195 L	12,600	1,676	101
Tractor Trailer Trucks	Diesel Fuel	341	6,137,475 L	37,100	235,066	16,517	406	7,054,852 L	37,300	270,200	18,419
Motorhomes	Gasoline	327	757,505 L	16,400	26,510	1,768	329	771,034 L	16,400	26,985	1,716
	Diesel Fuel	181	547,784 L	16,400	20,980	1,475	164	516,766 L	16,400	19,792	1,349
	Other Fuel	10	23,851 L	16,700	603	37			16,700	331	21
Motorcycles, Mopeds	Gasoline	672	154,139 L	5,300	5,394	360	773	204,577 L	6,100	7,159	455
Buses	Gasoline	13	34,527 L	19,800	1,209	81	17	47,233 L	20,300	1,653	106
	Diesel Fuel			69,200	1,152	82			73,000	1,451	100
	Other Fuel								13,300	24	1
<b>Totals</b>		<b>27,181</b>	<b>59,670,401 L</b>	<b>16,751</b>	<b>2,133,670</b>	<b>146,729</b>	<b>29,419</b>	<b>59,670,401 L</b>	<b>17,701</b>	<b>2,437,142</b>	<b>159,897</b>

## Nanaimo Regional District Unincorporated Areas 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	Wood	N/A	398,058 GJ	398,058	8,065	N/A	385,335 GJ	385,335	7,807
	Heating Oil	N/A	331,946 GJ	331,946	23,399	N/A	321,336 GJ	321,336	21,976
	Propane	N/A	57,203 GJ	57,203	3,490	N/A	55,375 GJ	55,375	3,378
	Natural Gas	335	17,740 GJ	17,740	890	2,701	144,958 GJ	144,958	7,271
	Electricity	19,255	320,730,681 kWh	1,154,630	8,019	20,293	326,587,837 kWh	1,175,715	8,165
Commercial/Small-Medium Industrial	Natural Gas	46	21,221 GJ	21,221	1,064	156	75,998 GJ	75,998	3,812
	Electricity	2,094	84,465,575 kWh	304,076	2,112	2,316	87,135,199 kWh	313,686	2,179
<b>Totals</b>		<b>21,730</b>		<b>2,284,874</b>	<b>47,039</b>	<b>25,466</b>		<b>2,472,403</b>	<b>54,588</b>

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	19,872 t	N/A	13,550	0	16,782 t	N/A	15,382
<b>Totals</b>		<b>0</b>			<b>13,550</b>	<b>0</b>			<b>15,382</b>

### Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 37,886)			2010 (Population: 39,925)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	66,307 L	2,507	170	210,720 L	7,372	469
Gasoline	44,823,953 L	1,568,834	107,062	50,195,235 L	1,756,832	113,515
Diesel Fuel	14,394,344 L	552,454	38,899	17,376,998 L	666,991	45,551
Other Fuel	385,797 L	9,875	598	212,980 L	5,947	362
Wood	398,058 GJ	398,058	8,065	385,335 GJ	385,335	7,807
Heating Oil	331,946 GJ	331,946	23,399	321,336 GJ	321,336	21,976
Propane	57,203 GJ	57,203	3,490	55,375 GJ	55,375	3,378
Natural Gas	38,961 GJ	38,961	1,954	220,956 GJ	220,956	11,083
Electricity	405,196,256 kWh	1,458,706	10,131	413,723,036 kWh	1,489,401	10,344
Solid Waste	19,872 t	0	13,550	16,782 t	0	15,382
<b>Grand Totals</b>		<b>4,418,544</b>	<b>207,318</b>		<b>4,909,545</b>	<b>229,867</b>

## 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	12,255	25	13,595	88	13,755	88
Semi-Detached House	230	0	285	2	365	2
Row House	135	0	160	1	190	1
Apartment, Duplex	140	0	160	1	275	2
Apartment, 5 storeys or higher	0	0	25	0	30	0
Apartment, under 5 storeys	130	0	120	1	110	1
Other Single Attached House	25	0	35	0	45	0
Movable Dwelling	1,300	3	1,130	7	950	6

#### 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	11,290	85	11,720	86	11,980	84
Car, Truck, Van as Passenger	700	5	750	5	1,005	7
Public Transit	205	2	150	1	210	1
Walked	600	5	590	4	645	5
Bicycle	185	1	205	2	220	2
Motorcycle	25	0	40	0	50	0
Taxicab	0	0	0	0	0	0
Other Method	270	2	225	2	195	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	2,600	1
Local Parks	1,179	1
Agricultural Land Reserve	17,558	9
Other land use	171,962	89
Total Parks and Protected Area	3,776	2
Total Land Area	193,299	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	2,600	1
Local Parks	1,179	1
Agricultural Land Reserve	17,558	9
Other land use	171,962	89
Total Parks and Protected Area	3,776	2
Total Land Area	193,299	100

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

**Nanaimo Regional District Unincorporated Areas**  
**2010 Community Energy and Emissions Inventory**  
*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](mailto: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](mailto: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,