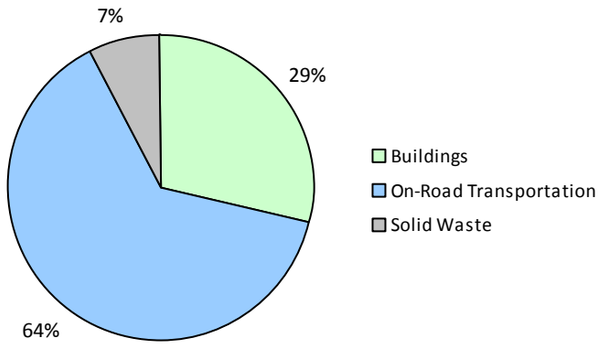
Thompson-Nicola Regional District

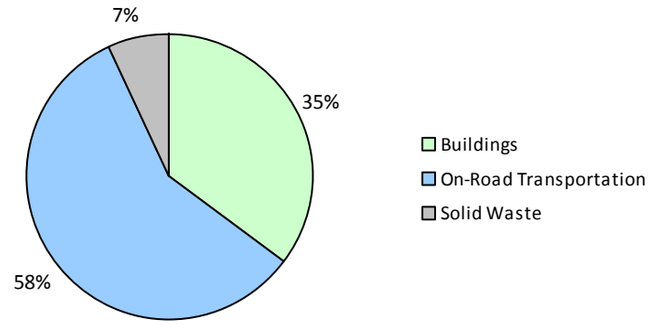
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

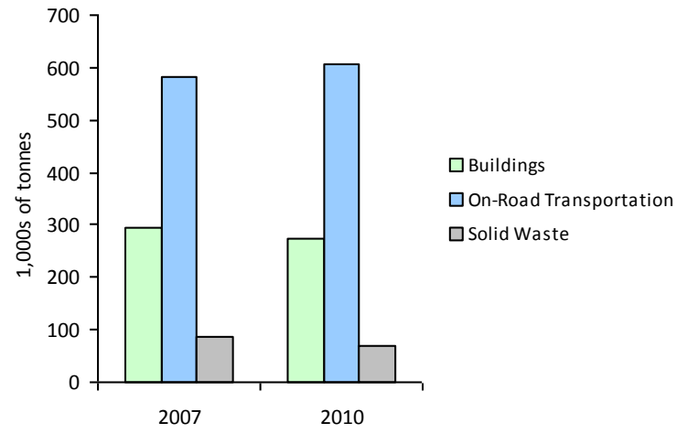
2010 GHG Emissions Sources (Total for this Community)



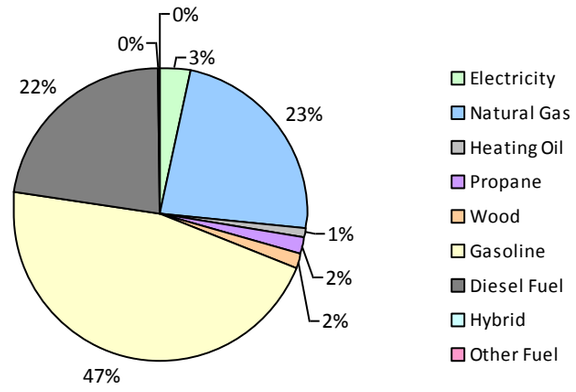
2010 GHG Emissions Sources (Total for BC)



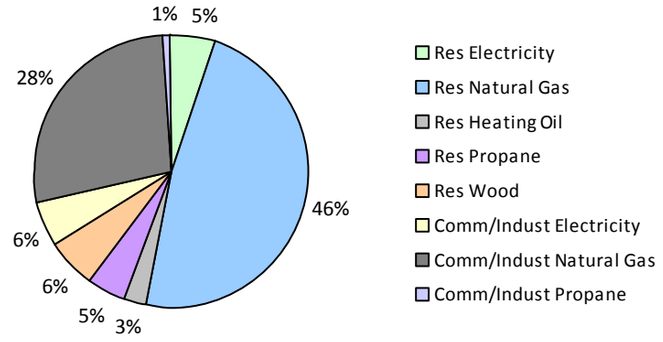
GHG Emissions Comparisons for this Community



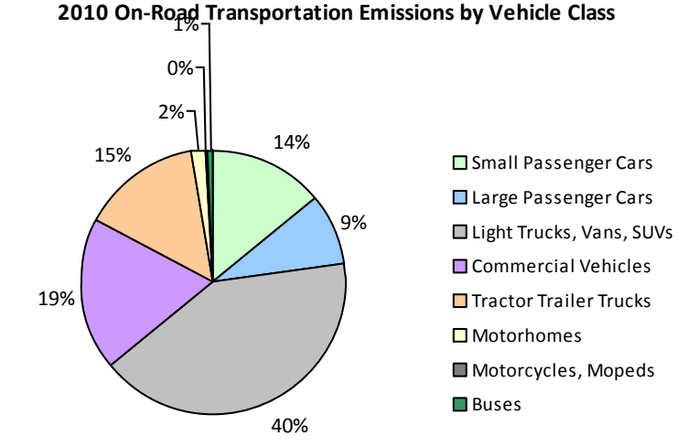
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



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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	23	23,398 L	21,500	819	54	56	62,350 L	20,900	2,182	139
	Gasoline	23,022	35,467,834 L	16,300	1,241,374	84,202	23,497	36,921,305 L	16,700	1,292,246	82,806
	Diesel Fuel	768	1,262,765 L	24,200	48,364	3,449	847	1,400,699 L	24,000	53,648	3,714
	Other Fuel			16,700	120	7			22,300	283	18
Large Passenger Cars	Hybrid	41	49,984 L	23,800	1,750	117	190	297,208 L	26,500	10,403	662
	Gasoline	12,712	24,276,022 L	16,800	849,660	57,642	12,036	23,020,374 L	17,000	805,713	51,659
	Diesel Fuel	140	199,629 L	14,800	7,645	544	119	158,512 L	14,300	6,071	420
	Other Fuel	17	27,805 L	12,600	703	44	12	18,021 L	11,600	456	27
Light Trucks, Vans, SUVs	Hybrid	18	35,734 L	24,800	1,252	85	81	189,260 L	28,300	6,625	427
	Gasoline	34,249	93,043,856 L	18,600	3,256,535	222,609	37,258	103,788,244 L	19,200	3,632,589	235,338
	Diesel Fuel	2,032	5,064,475 L	14,000	193,969	13,785	1,503	4,314,211 L	16,800	165,234	11,409
	Other Fuel	449	947,568 L	12,500	23,974	1,452	243	459,532 L	11,000	11,625	704
Commercial Vehicles	Hybrid								15,900	259	16
	Gasoline	3,639	11,672,895 L	19,000	408,551	27,435	4,221	13,652,747 L	19,300	477,847	30,545
	Diesel Fuel	5,651	24,376,961 L	23,900	933,638	65,596	6,684	32,183,691 L	26,900	1,232,636	84,030
	Other Fuel	146	352,442 L	13,100	8,917	540	92	205,579 L	12,200	5,201	315
Tractor Trailer Trucks	Gasoline	11	76,529 L	22,300	2,678	179			23,100	1,470	94
	Diesel Fuel	1,578	34,625,761 L	49,000	1,326,167	93,176	1,555	34,263,802 L	48,800	1,312,304	89,462
Motorhomes	Gasoline	582	1,666,295 L	19,700	58,320	3,894	674	1,945,341 L	19,800	68,088	4,331
	Diesel Fuel	470	1,784,394 L	20,200	68,342	4,801	461	1,833,685 L	20,100	70,230	4,786
	Other Fuel	31	92,191 L	19,700	2,333	141	23	72,099 L	20,100	1,824	110
Motorcycles, Mopeds	Gasoline	1,511	356,166 L	5,100	12,466	831	2,037	584,975 L	6,200	20,475	1,298
Buses	Gasoline	97	274,427 L	17,400	9,605	646	94	267,802 L	17,900	9,372	599
	Diesel Fuel	164	906,639 L	19,600	34,724	2,439	237	1,225,489 L	30,200	46,937	3,199
	Other Fuel			13,100	132	7			10,600	157	10
Totals		**87,351**	**236,583,770 L**	**18,323**	**8,492,038**	**583,675**	**91,920**	**236,583,770 L**	**19,079**	**9,233,875**	**606,118**

Thompson-Nicola Regional District

2010 Community Energy and Emissions Inventory

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Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Residential	Wood	N/A	802,308 GJ	802,308	16,255	N/A	772,249 GJ	772,249	15,646
	Heating Oil	N/A	108,403 GJ	108,403	7,641	N/A	104,342 GJ	104,342	7,136
	Propane	753	219,566 GJ	219,566	13,395	844	214,265 GJ	214,265	13,072
	Natural Gas	34,915	2,829,699 GJ	2,829,699	141,938	35,872	2,572,648 GJ	2,572,648	129,043
	Electricity	55,332	579,069,507 kWh	2,084,649	14,477	57,344	598,004,531 kWh	2,152,815	14,951
Commercial/Small-Medium Industrial	Propane	24	54,180 GJ	54,180	3,306	31	41,189 GJ	41,189	2,513
	Natural Gas	3,464	1,610,655 GJ	1,610,655	80,791	3,433	1,522,725 GJ	1,522,725	76,380
	Electricity	8,258	615,088,644 kWh	2,214,317	15,378	8,550	606,330,665 kWh	2,182,789	15,159
Totals		**102,746**		**9,923,777**	**293,181**	**106,074**		**9,563,022**	**273,900**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	135,890 t	N/A	87,329	0	74,686 t	N/A	69,960
Totals		**0**			**87,329**	**0**			**69,960**

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	33		0	0	27		0	0
	Electricity	21		0	0	20	1,470,271,987 kWh	5,292,975	36,758
Totals		**54**			**0**	**47**		**5,292,975**	**36,758**

Agriculture		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Enteric Fermentation	Methane	144,519	8,775 t	0	184,275				
Totals		**144,519**			**184,275**	**0**			

Land-use Change - Deforestation		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Agriculture	Deforestation	30	0 ha	0	13,726				
Settlement	Deforestation	108	0 ha	0	52,124				
Totals		**138**			**65,850**	**0**			

Totals for Transportation, Buildings and Solid Waste

Fuel Type	2007 (Population: 127,335)			2010 (Population: 131,641)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	109,116 L	3,821	256	548,818 L	19,469	1,244
Gasoline	166,834,024 L	5,839,189	397,438	180,180,788 L	6,307,800	406,670
Diesel Fuel	68,220,624 L	2,612,849	183,790	75,380,089 L	2,887,060	197,020
Other Fuel	1,420,006 L	36,179	2,191	755,231 L	19,546	1,184
Wood	802,308 GJ	802,308	16,255	772,249 GJ	772,249	15,646
Heating Oil	108,403 GJ	108,403	7,641	104,342 GJ	104,342	7,136
Propane	273,746 GJ	273,746	16,701	255,454 GJ	255,454	15,585
Natural Gas	4,440,354 GJ	4,440,354	222,729	4,095,373 GJ	4,095,373	205,423
Electricity	1,194,158,151 kWh	4,298,966	29,855	1,204,335,196 kWh	4,335,604	30,110
Solid Waste	135,890 t	0	87,329	74,686 t	0	69,960
Grand Totals		**18,415,815**	**964,185**		**18,796,897**	**949,978**

Thompson-Nicola Regional District

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	28,155	39	30,785	65	31,775	63
Semi-Detached House	2,290	3	2,470	5	2,705	5
Row House	2,885	4	3,385	7	3,270	6
Apartment, Duplex	1,515	2	1,190	3	2,385	5
Apartment, 5 storeys or higher	570	1	715	2	720	1
Apartment, under 5 storeys	5,425	7	5,370	11	6,535	13
Other Single Attached House	85	0	150	0	130	0
Movable Dwelling	3,765	5	3,580	8	2,835	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	39,770	80	40,680	81	44,890	80
Car, Truck,Van as Passenger	4,220	8	3,635	7	4,740	8
Public Transit	1,075	2	1,195	2	1,725	3
Walked	3,325	7	3,650	7	3,460	6
Bicycle	675	1	650	1	745	1
Motorcycle	95	0	55	0	125	0
Taxicab	55	0	20	0	80	0
Other Method	505	1	500	1	590	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	792,819	18
Local Parks	1,649	0
Agricultural Land Reserve	574,519	13
Other land use	3,099,870	69
Total Parks and Protected Area	794,468	18
Total Land Area	4,468,858	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	792,819	18
Local Parks	1,649	0
Agricultural Land Reserve	574,519	13
Other land use	3,099,870	69
Total Parks and Protected Area	794,468	18
Total Land Area	4,468,858	100

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

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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,