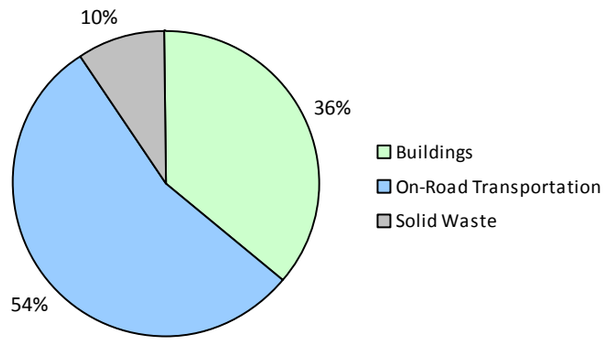
Kent District Municipality

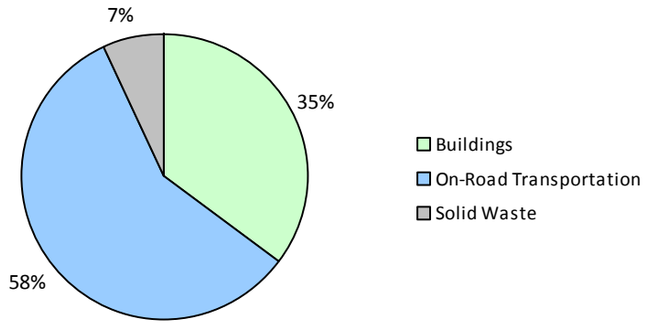
2010 Community Energy and Emissions Inventory

Monitoring and reporting on progress towards greenhouse gas emissions reduction targets

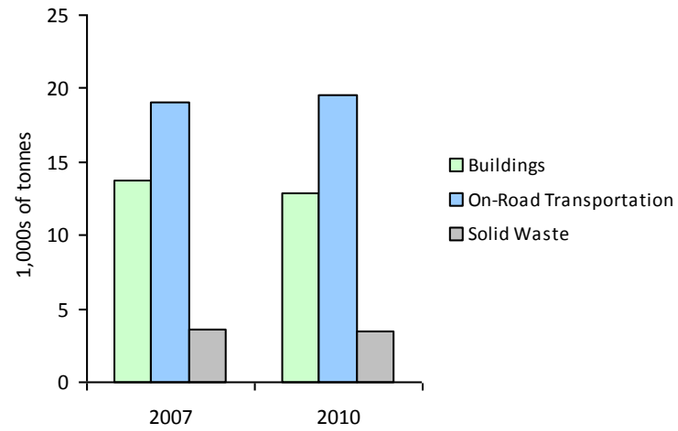
2010 GHG Emissions Sources (Total for this Community)



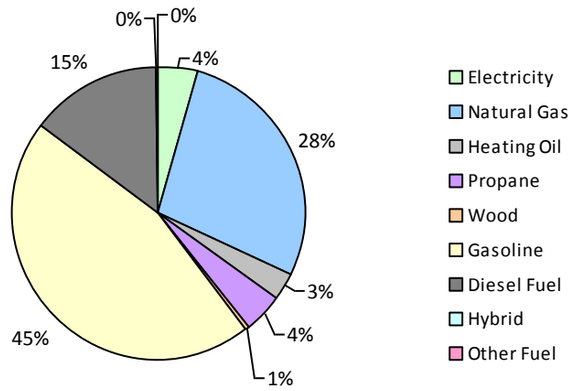
2010 GHG Emissions Sources (Total for BC)



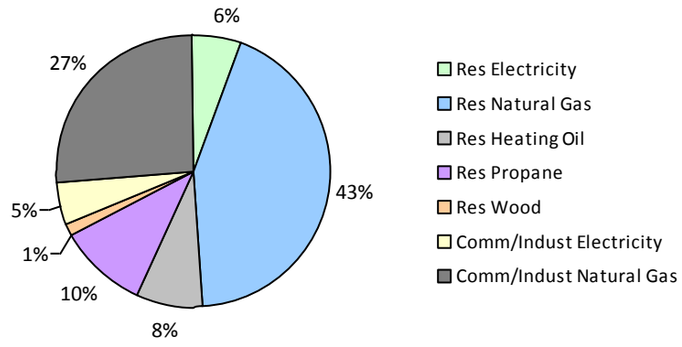
GHG Emissions Comparisons for this Community



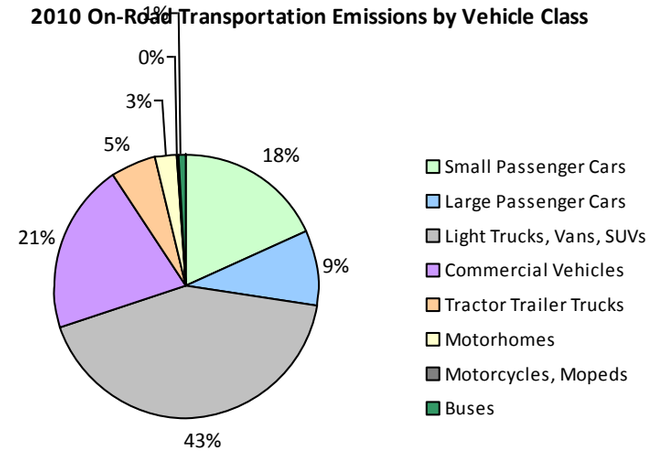
2010 Total Emissions by Fuel Type



2010 Building Emissions by Subsector



2010 On-Road Transportation Emissions by Vehicle Class



Kent District Municipality

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)	C02e (t)	Connections	Consumption	Avg VKT (km)	Energy (GJ)	C02e (t)
Small Passenger Cars	Hybrid			15,100	49	3			19,300	63	4
	Gasoline	997	1,463,056 L	15,600	51,206	3,465	1,053	1,519,080 L	15,400	53,168	3,404
	Diesel Fuel	56	82,169 L	21,500	3,147	224	43	61,485 L	20,900	2,355	163
Large Passenger Cars	Hybrid			22,900	84	6	11	12,346 L	19,500	432	27
	Gasoline	484	759,290 L	13,800	26,575	1,801	501	773,176 L	13,600	27,062	1,734
	Diesel Fuel			8,500	201	14			13,100	192	14
Light Trucks, Vans, SUVs	Hybrid			23,100	60	4			22,900	143	9
	Gasoline	1,350	3,145,345 L	16,300	110,087	7,513	1,517	3,495,820 L	16,300	122,353	7,917
	Diesel Fuel	51	131,976 L	15,200	5,055	360	43	109,528 L	15,400	4,194	290
	Other Fuel			13,400	288	17			10,600	224	14
Commercial Vehicles	Gasoline	244	611,903 L	15,100	21,416	1,437	243	568,579 L	14,100	19,900	1,272
	Diesel Fuel	256	885,052 L	19,000	33,898	2,381	299	1,102,011 L	20,400	42,207	2,878
	Other Fuel			11,400	417	24			10,100	229	13
Tractor Trailer Trucks	Gasoline			10,500	454	29					
	Diesel Fuel	41	411,448 L	23,900	15,759	1,107	44	405,326 L	22,100	15,523	1,058
Motorhomes	Gasoline	46	113,855 L	17,000	3,984	265	52	128,606 L	16,900	4,501	286
	Diesel Fuel	29	90,890 L	17,000	3,481	244	26	87,999 L	17,100	3,371	230
Motorcycles, Mopeds	Gasoline	76	19,245 L	5,600	674	44	88	24,412 L	6,100	855	54
Buses	Gasoline			17,800	594	40			17,400	572	37
	Diesel Fuel			18,500	1,128	78			16,300	1,510	103
Totals		**3,630**	**7,714,229 L**	**15,825**	**278,557**	**19,056**	**3,920**	**7,714,229 L**	**15,788**	**298,854**	**19,507**

Kent 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	Wood	N/A	9,539 GJ	9,539	193	N/A	8,886 GJ	8,886	180
	Heating Oil	N/A	16,000 GJ	16,000	1,128	N/A	14,904 GJ	14,904	1,019
	Propane	N/A	23,663 GJ	23,663	1,444	N/A	22,043 GJ	22,043	1,345
	Natural Gas	1,629	120,487 GJ	120,487	6,043	1,689	109,662 GJ	109,662	5,501
	Electricity	2,297	30,414,096 kWh	109,491	760	2,369	30,669,734 kWh	110,411	767
Commercial/Small-Medium Industrial	Natural Gas	164	72,595 GJ	72,595	3,641	167	68,710 GJ	68,710	3,446
	Electricity	306	23,549,544 kWh	84,778	589	318	25,561,110 kWh	92,020	639
Totals		**4,396**		**436,553**	**13,798**	**4,543**		**426,636**	**12,897**

Solid Waste		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Community Solid Waste	Solid Waste	0	2,197 t	N/A	3,537	0	1,938 t	N/A	3,423
Totals		**0**			**3,537**	**0**			**3,423**

Memo Items

Buildings		2007				2010			
		Connections	Consumption	Energy (GJ)	C02e (t)	Connections	Consumption	Energy (GJ)	C02e (t)
Large Industrial	Natural Gas	3		0	0	3		0	0
Totals		**3**			**0**	**3**			**0**

Kent 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: 5,341)			2010 (Population: 5,579)		
	Consumption	Energy (GJ)	C02e (t)	Consumption	Energy (GJ)	C02e (t)
Hybrid	0 L	193	13	12,346 L	638	40
Gasoline	6,112,694 L	214,990	14,594	6,509,673 L	228,411	14,704
Diesel Fuel	1,601,535 L	62,669	4,408	1,766,349 L	69,352	4,736
Other Fuel	0 L	705	41	0 L	453	27
Wood	9,539 GJ	9,539	193	8,886 GJ	8,886	180
Heating Oil	16,000 GJ	16,000	1,128	14,904 GJ	14,904	1,019
Propane	23,663 GJ	23,663	1,444	22,043 GJ	22,043	1,345
Natural Gas	193,082 GJ	193,082	9,684	178,372 GJ	178,372	8,947
Electricity	53,963,640 kWh	194,269	1,349	56,230,844 kWh	202,431	1,406
Solid Waste	2,197 t	0	3,537	1,938 t	0	3,423
Grand Totals		**715,110**	**36,391**		**725,490**	**35,827**

Kent 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	1,320	44	1,365	78	1,540	80
Semi-Detached House	20	1	25	1	45	2
Row House	85	3	75	4	95	5
Apartment, Duplex	0	0	5	0	20	1
Apartment, 5 storeys or higher	0	0	0	0	0	0
Apartment, under 5 storeys	165	6	155	9	215	11
Other Single Attached House	10	0	15	1	15	1
Movable Dwelling	60	2	120	7	5	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	1,130	77	1,360	82	1,575	82
Car, Truck,Van as Passenger	100	7	90	5	120	6
Public Transit	0	0	20	1	20	1
Walked	155	11	140	8	165	9
Bicycle	80	5	35	2	15	1
Motorcycle	0	0	0	0	0	0
Taxicab	0	0	0	0	0	0
Other Method	10	1	20	1	20	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	809	4
Local Parks	25	0
Agricultural Land Reserve	6,519	32
Other land use	12,916	64
Total Parks and Protected Area	834	4
Total Land Area	20,268	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	809	4
Local Parks	25	0
Agricultural Land Reserve	6,519	32
Other land use	12,916	64
Total Parks and Protected Area	834	4
Total Land Area	20,268	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	605	37
5 to 9.9 km	250	15
25 km or more	315	19
15 to 24.9 km	360	22
10 to 14.9 km	100	6

This page intentionally left blank

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,