

CITY OF LANGLEY



Corporate Energy and GHG Emissions Progress Report

2012

FOR THE 2008, 2009, & 2010 INVENTORY YEARS



CITY OF LANGLEY

Corporate Energy & Greenhouse Gas Emissions Progress Report

Prepared for:

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Executive Summary

As a follow-up to the City's corporate greenhouse gas (GHG) emissions plan and accompanying reduction target that was endorsed by Council in 2010¹, inventories of greenhouse gas emissions, energy consumption, and costs for energy have been completed for the City for 2009 and 2010. This information augments information previously reported in the corporate plan for the 2008 inventory year. Inventory trends are summarized in Table E1.

In 2010, the City's GHG emissions decreased by 18 percent over 2008 base year levels largely from reductions in buildings and vehicle fleet. Also, as a result of BC Hydro offsetting all GHG emissions from the production of electricity in British Columbia, GHG emissions from electricity in buildings, outdoor lighting, and water and wastewater is now zero.

Table E1 - Reduction Target Calculation

Sector	2008 Base Year Emissions (tonnes CO ₂ e)	2010 Emissions (tonnes CO ₂ e)	Magnitude of Change (tonnes CO ₂ e)	Percent Change
Buildings	440	369 ¹	-71	-16.1%
Lighting	39	0 ²	-39	-100.0%
Water and Wastewater	14	0 ²	-14	-100.0%
Vehicle Fleet	423	352	-71	-16.8%
Corporate Solid Waste	186	180	-6	-3.2%
Totals	1,103†	901	-201	-18.2%

¹ Greenhouse gas emissions from electricity in 2010 are zero because BC Hydro purchased offsets for electricity.

² Greenhouse gas emissions from electricity in 2010 are lower because BC Hydro purchased offsets for electricity. The GHG emissions that remain are from natural gas consumption.

† Amended from original Corporate Energy Plan endorsed by Council in 2010. Note: rounding errors are possible

1.1 Target Update Statement

The City is on track to meet the 12 percent target for 2018 given that GHG emissions have been observed to decrease by 18 percent or 201 tonnes CO₂e between 2008 and 2010

This statement will remain true if the magnitude of change in the forecast for 2018 remains approximately the same as that reported in the City's Corporate Energy and GHG Emissions Management Plan (2010).

1.2 Next Steps

In order for the City to maintain progress towards the reduction quantity previously endorsed by Council, a number of steps are recommended in section 2 of this report and summarized as follows:

Future Growth

Ensure that all buildings and engineering assets that the City plans to construct and/or procure in the future meet the highest energy efficiency standard that is economically feasible. This is an important consideration as plans are made to replace the Timms Community Centre. For example, while operational, the Timms Community Centre consumed ~600 GJ of natural gas and 100,000 kWh of electricity. The GHG footprint of the building in 2010 was 20 tonnes CO₂e (note: considering no GHG emissions from utility-supplied electricity that has been offset). A high energy efficiency standard for the replacement building will minimize the new building's GHG emissions footprint.

¹ The target statement endorsed by Council is, "The City of Langley can lower GHG emissions by 12 percent by reducing its 2008 base year emissions by 134 tonnes CO₂e."

Buildings

Continue to improve energy efficiency in existing buildings by upgrading heating, air conditioning, lighting and ensuring that replacements for computers, monitors, and other office appliances are EnergyStar™ rated. Pursue real time monitoring of energy consumption at City Hall/Library to be able to identify problems with mechanical systems as they are occurring, as opposed to the end of a billing cycle for energy consumption.

Lighting

Recommendations for adaptive streetlighting and/or LED technology for overhead streetlights should be developed.

Water and Wastewater

Staff should continue to replace motors with high efficiency motors as required and replace backup generator sets for sewage lift stations with more efficient units.

Vehicle Fleet

Consider developing a low carbon fleet management plan that would include cost benefit analyses when considering vehicle purchases. To reduce vehicle idling, consider purchasing generator sets for vehicles that must run auxiliary equipment from an idling vehicle. Consider installing an EV charging station at the Operations Centre and/or City Hall/Library.

Corporate Solid Waste

Implement a 50 percent reduction target for emissions from corporate solid waste.

1.3 Looking Ahead

The City is a signatory to the Provincial Climate Action Charter² and voluntarily reports its' GHG emissions to the Province on an annual basis. Provincial guidance on the scope of GHG emissions inventories is becoming more stringent and the Province is encouraging local governments to include all contracted services that fall under 'traditional services' as defined by the Province in their guidance document³. Staff will report new information regarding the GHG emissions from contracted, traditional services to Council as more information on reporting requirements becomes available from the Province.

2 Province of British Columbia website 2012. <http://www.env.gov.bc.ca/cas/mitigation/charter.html#features>

3 Province of British Columbia website 2012. http://toolkit.bc.ca/sites/default/files/Carbon%20Neutral%20Workbook%20v%202_0.pdf

1 Corporate Inventory and Trends

The City of Langley has taken several steps toward corporate sustainability including a Corporate Energy and GHG Emissions Plan (2010), a Sustainability Framework (2010), and a Community Energy and GHG Emissions Plan (2010).

The City joined other local governments in BC by signing the Provincial Climate Action Charter (CAC) in 2009. At the national level, the City endorsed participation in the Federation of Canadian Municipalities' (FCM) Partners for Climate Protection (PCP) initiative in 2002.

In 2010, the City pledged to cut corporate greenhouse gas emissions by 12 percent by 2018 relative to the 2008 base year. This report is a follow up to the City's Corporate Energy and GHG Emissions Plan 2010. It adds two additional inventory years, illustrates trends, and provides a brief discussion of progress and next steps.

1.1 Report Objectives

This report contains the following components:

- Inventories of energy consumption, costs for energy, and GHG emissions by *sector* for 2008, 2009, and 2010;
- A comparison of greenhouse gas emissions and energy consumption for each sector;
- A brief summary of reduction initiatives implemented since 2010;
- A summary of reduction initiatives that the City should consider pursuing in the next two years; and,
- Minor amendments to the 2008 inventory previously reported in the City's Corporate GHG Management Plan (see Appendix I).

1.2 Report Development Process

Hyla Environmental Services Ltd. (HES) was hired to develop this report and met with City staff to compile the information contained within the report during 2011.

1.3 Inventory Methods

1.3.1 Electricity

BC Hydro provided monthly electricity consumption data and costs for consumption for assets owned by the City.

1.3.2 Natural Gas

Fortis BC provided monthly natural gas consumption data and costs for consumption for assets owned by the City.

1.3.3 Vehicle Fleet

Fuel consumption data originated from the City's records of vehicle fill ups at commercial service stations.

1.3.4 Solid Waste

Solid waste generated from operations was derived from the total volume of solid waste collected at City facilities. The volume was estimated using the volume of bins and frequency of pickup.

1.3.5 Greenhouse Gas Emissions Calculations

Data were imported into the energy and emissions module of HES' Energy & Emissions Monitoring and Reporting System™. The emissions calculator within this software conforms to the methods described in the International Panel on Climate Change Greenhouse Gas Inventory Reference Manual¹ and the principles provided in the International Standards Organization (ISO) International Standard for Greenhouse Gases².

1 IPCC (2006), IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National. Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan.

2 ISO (2006), International Standard ISO/TC 207 WG5 N162. Greenhouse Gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. 28pp.

1.3.6 Greenhouse Gas Emissions Coefficients and Electricity Emissions Factors

Emissions coefficients are reported in Table 1.1 for liquid and gaseous fuels and originate from Environment Canada's National Inventory Report³. Emissions factors for electricity are provided by BC Hydro⁴.

Table 1.1 - Emissions Factors and Coefficients

Fuel Type	Units	Emissions Coefficient			Emission Factors		
		CO ₂	CH ₄	N ₂ O	CO ₂ e		
Natural Gas	kg/GJ	50.17	0.0010	0.0009			
Gasoline	kg/L	2.289	0.000068-0.0014*	0.00005-0.00016*			
Diesel Fuel	kg/L	2.663	0.000051-0.00012*	0.000082-0.0011*			
Biodiesel 5		-3.92 % [#]	-3.92 % [#]	-3.92 % [#]			
Propane	kg/GJ	15.51	0.0010	0.0043			
Electricity by Inventory Year	Year				2008	2009	2010
	tonnes/GWh				28	25	0
Global Warming Potential		1	21	310			
* assigned according to emissions technology of the vehicle							
[#] % relative to Diesel Fuel							

1.3.7 Amendments to 2008 Base Year GHG Emissions

Amendments to the 2008 Base Year GHG emissions quantity reported in the City's Corporate Energy and GHG Emissions Plan are shown in Table 1.2. The base year amount has been amended from 1,051 tonnes to 1,103 tonnes CO₂e. The significant change is the addition of diesel fuel from a vendor not previously tracked in the same manner as the City's main fuel supplier.

Table 1.2 - Amendment to 2008 Base Year GHG Emissions

Sector	Original 2008 Base Year Emissions Reported in 2010 (tonnes CO ₂ e)	Amended 2008 Base Year Emissions Reported herein (2011; tonnes CO ₂ e)	Reason for Amendment	Magnitude of Change
Buildings	446	440	Change to GHG emissions factor for natural gas	-6
Lighting	39	39	-	-
Water and Wastewater	14	14	-	-
Vehicle Fleet	366	423	Additional Fuel from Vendor reported after original plan completion in 2010	+57
Corporate Solid Waste	186	186	-	-
Totals	1,051	1,103[†]		+51

[†] Amended from original Corporate Energy Plan endorsed by Council in 2008. Note: rounding errors are possible

³ Environment Canada (2008). National Inventory Report, Table A9-11, p. 509.

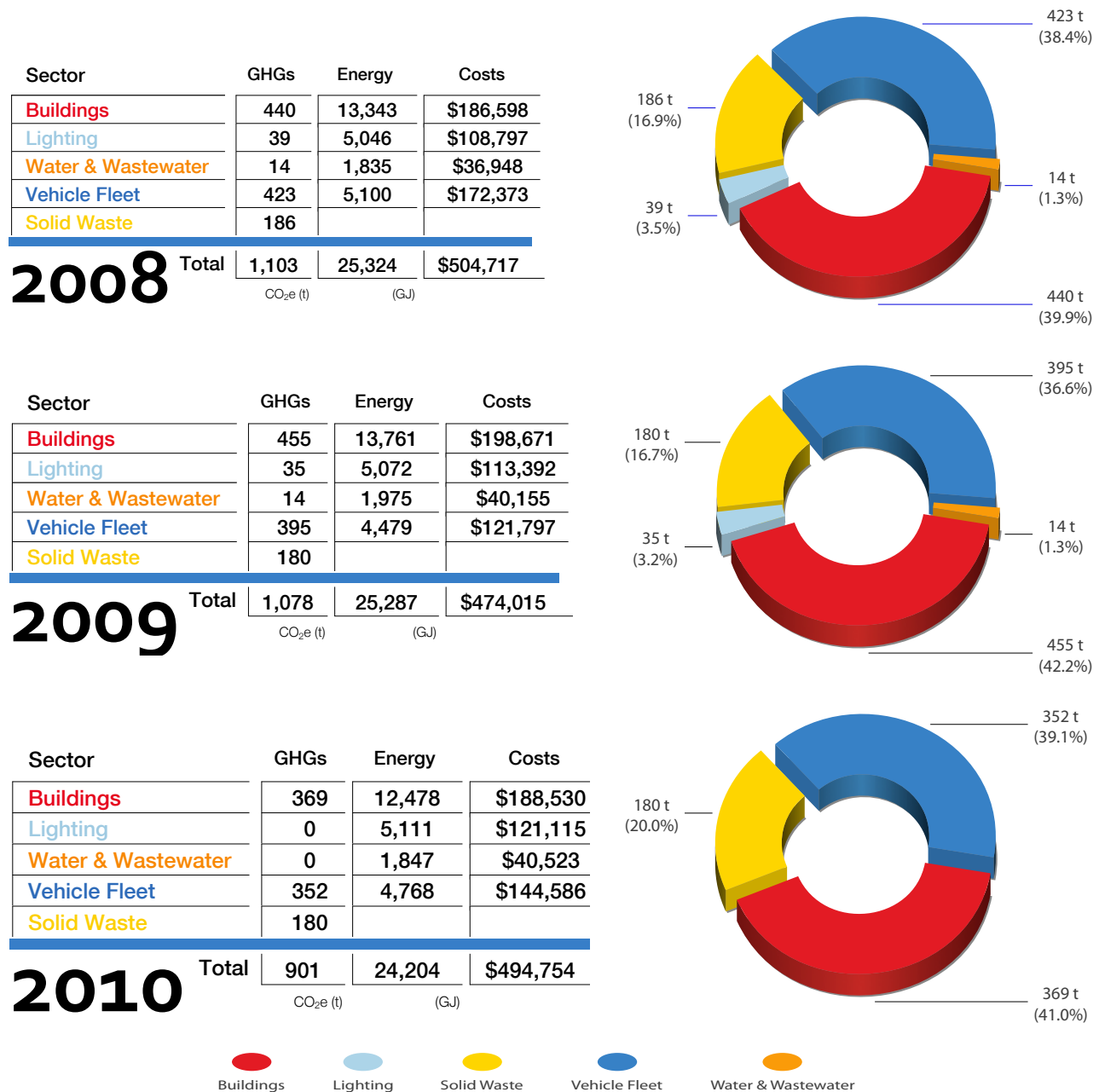
⁴ http://www.bchydro.com/about/company_information/reports/2010_gri/f2010_environmental_EN16_2.html

1.4 Corporate Inventory Overview

Chart 1.1 provides tables and pie charts for each inventory year. Charts for GHG emissions are included as well as the energy and costs for energy in each sector in each year. GHG emissions were 1,103 tonnes CO₂e in 2008, 1,078 tonnes CO₂e in 2009, and 901 tonnes CO₂e in 2010. Note that there are no greenhouse gas emissions from electricity in 2010 because of BC Hydro's purchase of offsets for electricity supplied to the City.

In terms of GHG emissions, the two largest sectors are the buildings and vehicle fleet sectors. See "2.2 Corporate GHG Emissions Inventory By Sector" on page 4 for a discussion of trends. Section 2.3 provides a table describing the level of detail in the datasets for each year and a general sense of data confidence. See the appendices for an account-by-account inventory for all inventory years.

Chart 1.1 - GHG Emissions by Sector (2008 - 2010 ; tonnes CO₂e)



1.5 Corporate Inventory Trends

Trends are illustrated in two different formats. Bar charts illustrate the City's total corporate GHG emissions and energy consumption for the years 2008 through 2010. Each cylinder represents the totals for each inventory year and include a breakdown by sector. Line charts illustrate the trend in GHG emissions for each sector for each inventory year.

1.5.1 Trends in GHG Emissions

GHG emissions in 2010 were lower than GHG emissions in 2008 (Chart 1.2). The decrease from 2008 is approximately 200 tonnes CO₂e⁵ or a decrease of approximately 18 percent.

Chart 1.2 - Total GHG Emissions by Sector (2008 - 2010 ; tonnes CO₂e)

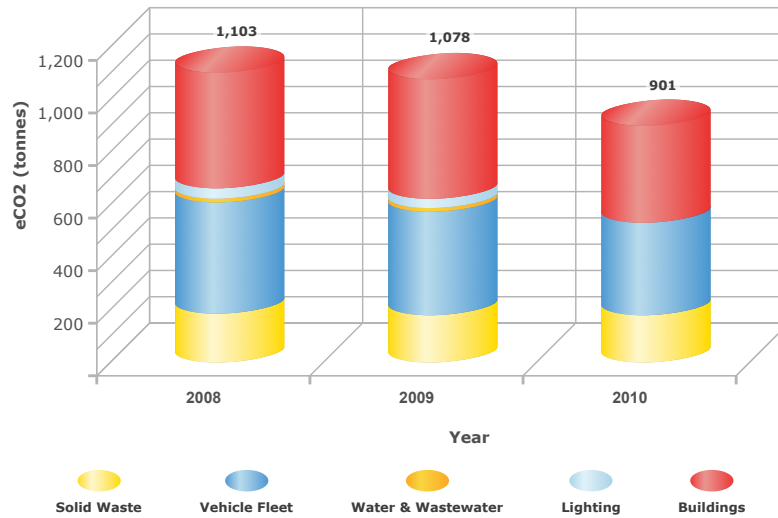
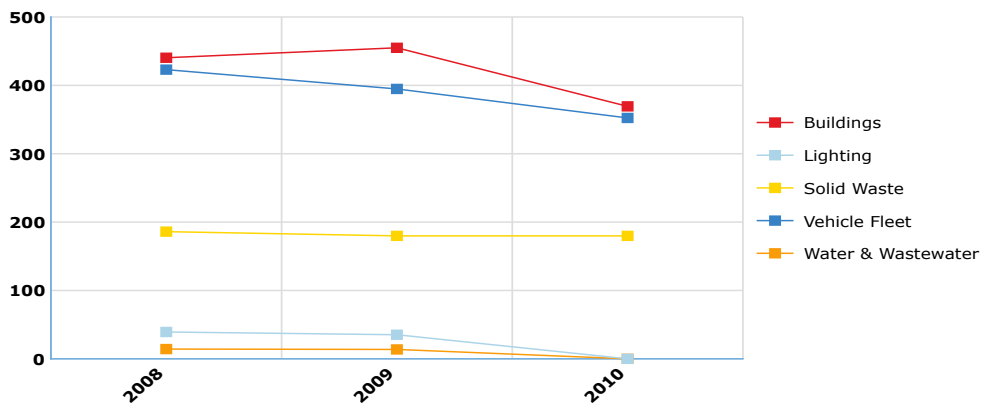


Chart 1.3 provides the overall trend in GHG emissions by sector for each inventory year. GHG emissions decreased in each year in each sector with the exception of corporate solid waste, which remained relatively constant.

Chart 1.3 - GHG Emissions Trend by Sector (2008 - 2010 ; tonnes CO₂e)



⁵ The data associated with Chart 1.2 and Chart 1.3 is presented in the tables in "1.4 Corporate Inventory Overview" on page 3.

1.5.2 Trends in Energy Consumption

Energy consumption in 2010 was lower than energy consumption in 2008 (Chart 1.4). The decrease from 2008 is approximately 1,120 GJ⁶ or approximately four percent.

Chart 1.4 - Total Energy Consumption by Sector (2008 - 2010 ; GJ)

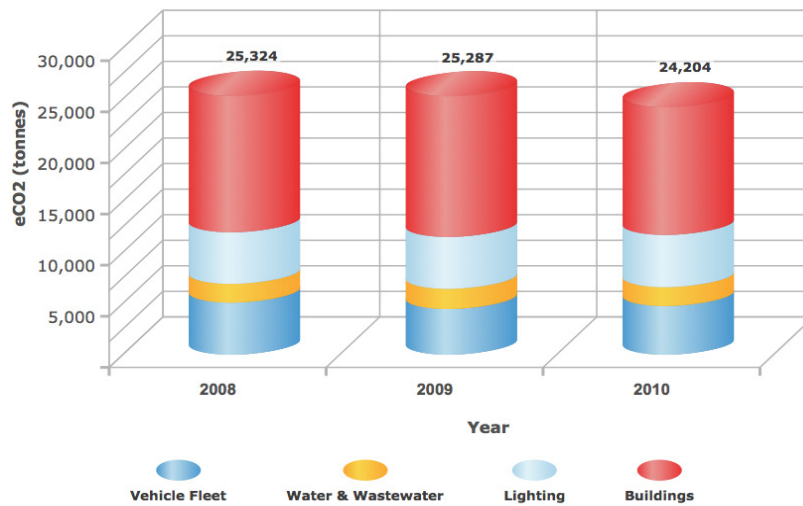
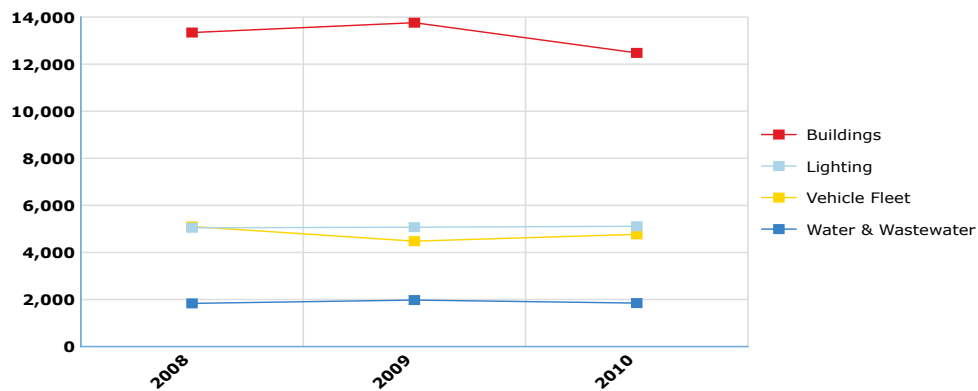


Chart 1.5 provides the overall trend in energy consumption by sector for each inventory year. Energy consumption decreased in each year in each sector with the exception of corporate solid waste, which remained relatively constant.

Chart 1.5 - Energy Consumption Trend by Sector (2008 - 2010 ; GJ)



Lower energy consumption in 2010 in the buildings sector relative to 2008 may have been due to slightly less electricity consumption in City Hall, Timms Community Centre, the Fire Hall, and Linwood Park.

⁶ The data associated with Chart 1.4 and Chart 1.5 is presented in the tables in “1.4 Corporate Inventory Overview” on page 3.

1.6 Summary of Trends

A summary of the trends for GHG emissions and energy consumption from 2008 to 2010 is presented as follows:

- i. Overall GHG emissions decreased by approximately 18 percent due to zero GHG emissions from BC Hydro-supplied electricity⁷ (note: this effect is exclusive to GHG emissions) and a net overall decrease in energy consumption; and,
- ii. Overall energy consumption in all sectors decreased from 2008 to 2010 by approximately four percent due to slightly less energy consumption in City buildings and a decrease of ~330 GJ for fleet vehicles (~11,000 litres less diesel fuel and ~4,000 litres more gasoline). Energy consumption in the outdoor lighting sector increased by ~65 GJ (~190,000 kWh more electricity) due to additional consumption for City-owned streetlighting.

1.7 Data Confidence

Table 1.3 reports an annual, non-weighted average rating for each inventory year, and an overall, non-weighted average rating for all years combined. The rating is based on the level of detail in the data for the energy types consumed for each sector. See the appendix for a description of the rating system applied and the assumptions used.

Confidence in the City's annual datasets for each year has been assigned a rating of '4.5' and is considered 'high'. For the purposes of Carbon Neutral accounting, corporate solid waste is excluded. With corporate solid waste excluded, the rating assigned would be elevated to '5' or the confidence in the data sets would be considered, 'extremely high'.

Table 1.3 - Data Confidence Rating

			Year		
Level of Detail			2008	2009	2010
	Sector	Data Type	Base Year	On-going Monitoring	
Energy Data	Buildings	Electricity	5	5	5
		Natural Gas	5	5	5
		Propane	5	5	5
	Lighting	Electricity	5	5	5
	Water Et Wastewater	Electricity	5	5	5
	Vehicle Fleet	Diesel Fuel	5	5	5
		Gasoline	5 ¹	5 ¹	5 ¹
	Solid Waste	Volume	1	1	1
annual, non-weighted average rating			4.5	4.5	4.5
overall, non-weighted average rating (all years)			★★★★★ (4.5)		

¹ Total volume of fuel is accurate. Some fuel consumption values have not been matched to a specific vehicle. These errors originated at the time of fill up.

² Corporate solid waste data is a coarse estimate based on volume of bins and frequency of pickup. There is no economical improvement that could be implemented to increase this rating because tracking of actual volumes is not practical.

⁷ In 2010, BC Hydro purchased 30,000 tonnes of carbon offsets from the Pacific Carbon Trust to achieve carbon neutrality in its corporate operations. The year of purchase of the offsets was for the 2010 calendar year as stated in the B.C. Carbon Neutral Government Regulation.

2 Target, Reduction Initiatives, and Next Steps

2.1 Council-endorsed Target

In 2010, Council endorsed a reduction target of 12 percent from 2008 GHG emissions by 2018. The reduction target was reported in the City's Corporate Energy and GHG Emissions Management Plan (2010). The base year for the report was 2008.

Within this progress report, the City's 2010 GHG emissions total is 901 tonnes CO₂e, a reduction of 201 tonnes or 18 percent from 2008 levels (Table 2.1). From Table 2.2, forty-seven percent (95 tonnes CO₂e) of that reduction amount is from zero GHG emissions from electricity, whereas 53 percent (106 tonnes CO₂e) of that reduction amount is from other energy types.

Table 2.1 - Reduction Target Calculation

Sector	2008 Base Year Emissions (tonnes CO ₂ e)	2010 Emissions (tonnes CO ₂ e)	Magnitude of Change (tonnes CO ₂ e)	Percent Increase
Buildings	440	369	-71	-16.1%
Lighting	39	0	-39	-100.0%
Water and Wastewater	14	0	-14	-100.0%
Vehicle Fleet	423	352	-71	-16.8%
Corporate Solid Waste	186	180	-6	-3.2%
Totals	1,103†	901	-201	-18.2%

† Amended from original Corporate Energy Plan endorsed by Council in 2010. Note: rounding errors are possible

Table 2.2 - Reductions from Electricity vs. Other Fuel Types

Sector	2008 Base Year Emissions (tonnes CO ₂ e)		2010 Emissions (tonnes CO ₂ e)		Magnitude of Change (tonnes CO ₂ e)	
	Other	Electricity	Other	Electricity	Other	Electricity
Buildings	398	42	369	0	-29	-42
Lighting		39		0		-39
Water and Wastewater		14		0		-14
Vehicle Fleet	423	-	352	-	-71	-
Corporate Solid Waste	186	-	180	-	-6	-
Subtotal	1,007	95	901	0		
Totals	1,103†		901		-106	-95

† Amended from original Corporate Energy Plan endorsed by Council in 2010. Note: rounding errors are possible

2.2 Reduction Initiatives Undertaken in 2010 and 2011

The City's Corporate Energy and GHG Emissions Management Plan was presented to Council in the spring of 2010. Since that time, the City has undertaken the following initiatives to reduce energy consumption and greenhouse gas reductions:

- City Hall/Library parkade T12 lighting fixtures replaced with T8;
- Ultraviolet film on south facade of City Hall;
- Motion sensor light switches in most offices at City Hall/Library;
- Motion sensors for taps in all washrooms; and,
- Replace Parks Operations vehicle with a more efficient vehicle.

Progress has been made in the buildings sector and the fleet sector although the reductions have not been verified as the result of implementation of the initiatives listed above. Regardless, observations of reduced consumption are not always the result of a quantitative initiative. Simple changes in behavior and a more conscious effort to conserve energy can result in significant differences. Further, ambient temperature has not been factored into the analysis and may play a role in the observed reductions of natural gas consumption in buildings (e.g., 470 GJ lower in 2010 compared to 2008).

2.3 Next Steps

In order for the City to continue to make progress towards the reduction quantity previously endorsed by Council, a number of administrative steps are recommended as follows:

1. Continue to monitor corporate energy consumption on an annual basis for all sectors. Consider monitoring natural gas consumption at the Al Anderson Outdoor Pool on a monthly basis to ensure the water heating systems are not malfunctioning;
2. Develop an addendum to the 2010 Corporate Energy and GHG Emissions Plan and re-post the report on the City's website; and,
3. Consider the prescriptive steps for each sector as recommended in subsections 2.3.1 to 2.3.5.

2.3.1 Buildings

Complete the installation of motion detectors on light fixtures in all offices at City Hall, implement pulse energy metering at City Hall/Library, and continue to replace workstations with Energy Star™ equipment as necessary.

Staff will discuss an energy efficiency standard for the design and construction of the building that will replace the Timms Community Centre.

2.3.2 Lighting

Recommendations for adaptive streetlighting and/or LED technology for overhead streetlights should be developed.

2.3.3 Water and Wastewater

Continue to replace motors with high efficiency models as required and replace backup generator sets for sewage lift stations with more efficient units.

2.3.4 Vehicle Fleet

Develop a low carbon fleet management plan that would include cost benefit analyses when considering vehicle purchases. To reduce vehicle idling, purchase generator sets for vehicles that must run auxiliary equipment from an idling vehicle. Consider installing an EV charging station at the Operations Centre and/or City Hall/Library.

2.3.5 Corporate Solid Waste

Implement a 50 percent reduction target for emissions from corporate solid waste by implementing the following:

- Conduct an audit of corporate solid waste to understand its composition;
- Increase the diversion rate of recyclable materials, paying particular attention to paper and cardboard; and,
- Implement organics recycling in all offices.

2.4 Looking Ahead

The City is a signatory to the Provincial Climate Action Charter¹ and voluntarily reports its' GHG emissions to the Province on an annual basis. Provincial guidance on the scope of GHG emissions inventories is becoming more stringent and the Province is encouraging local government to include all contracted services that fall under 'traditional services' as defined by the Province in their guidance document². Traditional services include:

- Administration and Governance;
- Drinking, Storm and Wastewater;
- Solid Waste Collection, Transportation and Diversion;
- Road and Traffic Operations;
- Arts, Recreational and Cultural Services; and,
- Fire Protection.

For the City, garbage collection, street resurfacing, and traffic signal maintenance are a few examples of external contracts that fall under the Province's definition of traditional services that may need to be included in future GHG emissions inventories. Other external contracts may also fall under this definition and will be identified by staff as the City renews or enters into new agreements with external contractors.

Staff will report this information to Council as more information on the details of including external contracts becomes available from the Province.

2.5 Conclusion

An inventory of energy and GHG emissions was developed for 2009 and 2010 to supplement information for 2008 that was presented in the City's Corporate Energy and GHG Emissions Plan 2010. The 2008 base year inventory was amended from 1,051 tonnes to 1,103 tonnes to reflect changes in the 2008 dataset and an amendment to the GHG emissions coefficient for natural gas.

In 2010, the City's GHG emissions decreased by 18 percent over 2008 base year levels largely from reductions in buildings and vehicle fleet and as a result of BC Hydro offsetting all their GHG emissions from the production of electricity in BC (e.g., the quantity of GHG emissions from electricity is now zero).

In 2010, the City's GHG emissions have decreased by 18 percent over 2008 levels and therefore, the City is on track to meet its corporate GHG emissions reduction target.

1 Province of British Columbia website 2012. <http://www.env.gov.bc.ca/cas/mitigation/charter.html#features>

2 Province of British Columbia website 2012. http://toolkit.bc.ca/sites/default/files/Carbon%20Neutral%20Workbook%20v%20_0.pdf

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Appendices

Appendix I: Ratings and Assumptions

Rating Descriptions

Description	Rating		
Data estimated: 96-100% of total GHGs	1	★	EXTREMELY POOR
Data estimated: 66%-95% of total GHGs	1.5	★★	POOR
Data estimated: 36%-65% of total GHGs	2	★★★	
Data estimated: 6%-35% of total GHGs	2.5	★★★★	MODERATE
Data estimated: 1%-5% total consumption of sector account	3	★★★★★	
Actual data: data aggregated annually (no account-by-account breakdown)	3.5	★★★★★	HIGH
Actual data: data aggregated monthly (no account-by-account breakdown)	4	★★★★★★	
Actual data: data aggregated annually (account-by-account breakdown)	4.5	★★★★★★	EXTREMELY HIGH
Actual data: data aggregated monthly (account-by-account breakdown)	5	★★★★★★	

Assumptions

A number of assumptions have been made regarding the quality of data received by HES Ltd. from the utilities as follows:

- Electricity data received from BC Hydro is assumed to be the same as values consumed and billed to the City; and,
- Natural gas data received from Fortis BC is assumed to be the same as values consumed and billed to the City.

Verification of local government GHG emissions inventory is not a requirement and nor should local government undertake expensive verifications of their inventories. In the absence of verification, some data errors are possible.

Appendices

Appendix II: 2008 Inventory



Langley City Corporate Inventory

2008 Account-by-Account Listing

Partners for Climate Protection and
Climate Action Charter formatting

BUILDINGS					
Administration Office	Emissions Source	Consumption	Energy	Costs	CO ₂ e
City Hall And Library - 20399 Douglas Crs					
	Electricity	599,385 kWh	2,158 GJ	\$35,347	16.8 t
	Natural Gas	1,179 GJ	1,179 GJ	\$15,153	59.5 t
	Total		3,337 GJ	\$50,500	76.3 t
Community Centre	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Douglas Recreation Centre - 20550 Douglas Crs					
	Electricity	84,867 kWh	306 GJ	\$6,948	2.4 t
	Natural Gas	605 GJ	605 GJ	\$8,002	30.6 t
	Total		911 GJ	\$14,950	32.9 t
Nicomekl Multi Purpose Room - 20050 53rd Ave					
	Electricity	1,820 kWh	7 GJ	\$209	0.1 t
	Total		7 GJ	\$209	0.1 t
Timms Community Centre - 20355 Douglas Crs					
	Electricity	99,815 kWh	359 GJ	\$8,222	2.8 t
	Natural Gas	592 GJ	592 GJ	\$7,762	29.9 t
	Total		952 GJ	\$15,984	32.7 t
Fire Services	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Fire Hall - 5785 203rd St					
	Electricity	269,967 kWh	972 GJ	\$19,369	7.6 t
	Natural Gas	949 GJ	949 GJ	\$12,356	47.9 t
	Total		1,921 GJ	\$31,726	55.5 t
Heritage Site	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Innes Corners Plaza - 20399 Fraser Hwy					
	Electricity	75,146 kWh	271 GJ	\$6,163	2.1 t
	Total		271 GJ	\$6,163	2.1 t
Outdoor Pools	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Anderson Memorial Pool - 4949 207th St					
	Electricity	140,443 kWh	506 GJ	\$12,064	3.9 t
	Natural Gas	2,533 GJ	2,533 GJ	\$7,844	127.8 t
	Total		3,039 GJ	\$19,908	131.8 t
Parks & Playing Fields	Emissions Source	Consumption	Energy	Costs	CO ₂ e

2008 Energy & Greenhouse Gas Emissions Inventory
 Hyla Environmental Services Ltd.,
 Port Moody, BC rhaycock@hesltd.ca
 M: 604.469.2910
 see next page for explanation of special formatting



Energy & Emissions Monitoring and Reporting System™ v4.0

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Brydon Park - 5353 198 St					
	Electricity	8,172 kWh	29 GJ	\$719	0.2 t
	Total		29 GJ	\$719	0.2 t
City Park - 20695 48th Ave					
	Electricity	104 kWh	0 GJ	\$77	0.0 t
	Total		0 GJ	\$77	0.0 t
City Park - 4897 207th St					
	Electricity	7,722 kWh	28 GJ	\$688	0.2 t
	Total		28 GJ	\$688	0.2 t
Conder Park - 19810 50th Ave					
	Electricity	7,423 kWh	27 GJ	\$662	0.2 t
	Total		27 GJ	\$662	0.2 t
Condor Park - 19850 50th Ave					
	Electricity	549 kWh	2 GJ	\$53	0.0 t
	Total		2 GJ	\$53	0.0 t
Linwood Park - 5470 201st St					
	Electricity	20,483 kWh	74 GJ	\$1,718	0.6 t
	Total		74 GJ	\$1,718	0.6 t
Portage Park - 5151 204th St					
	Electricity	3,843 kWh	14 GJ	\$371	0.1 t
	Total		14 GJ	\$371	0.1 t
Rotary Centennial Park - 5514 208th St					
	Electricity	23,551 kWh	85 GJ	\$1,966	0.7 t
	Total		85 GJ	\$1,966	0.7 t
Sendall Gardens - 20166 50th Ave					
	Electricity	31,602 kWh	114 GJ	\$2,212	0.9 t
	Natural Gas	644 GJ	644 GJ	\$8,201	32.5 t
	Total		757 GJ	\$10,412	33.4 t
Public Works Bldg & Yard					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Operations Centre - 5713 198th St					
	Electricity	141,222 kWh	508 GJ	\$12,660	4.0 t
	Natural Gas	1,382 GJ	1,382 GJ	\$17,831	69.7 t
	Total		1,890 GJ	\$30,491	73.7 t
LIGHTING					
Flashing Warning Lights					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Flashers - 4950 200th St					
	Electricity	2,768 kWh	10 GJ	\$287	0.1 t

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Flashers continued...

		Total	10 GJ	\$287	0.1 t	
Flashers - 20800 Grade Crs						
	Electricity	196 kWh	1 GJ	\$84	0.0 t	
		Total	1 GJ	\$84	0.0 t	
Ornamental Lighting						
		Emissions Source	Consumption	Energy	Costs	CO₂e
Decorative Lighting - 5494 Salt Lane Ltg						
	Electricity	45,130 kWh	162 GJ	\$3,720	1.3 t	
		Total	162 GJ	\$3,720	1.3 t	
Downtown Lighting - 5525 Salt Ln						
	Electricity	35,082 kWh	126 GJ	\$2,906	1.0 t	
		Total	126 GJ	\$2,906	1.0 t	
M O L - 20300 Douglas Crs						
	Electricity	42,722 kWh	154 GJ	\$3,530	1.2 t	
		Total	154 GJ	\$3,530	1.2 t	
Ornamental Street Lighting 1 - Various Locations						
	Electricity	907,106 kWh	3,266 GJ	\$67,195	25.4 t	
		Total	3,266 GJ	\$67,195	25.4 t	
Ornamental Street Lighting 10 - 5755 203rd St						
	Electricity	16,815 kWh	61 GJ	\$1,425	0.5 t	
		Total	61 GJ	\$1,425	0.5 t	
Ornamental Street Lighting 11 - 20875 Fraser Hwy						
	Electricity	2,788 kWh	10 GJ	\$289	0.1 t	
		Total	10 GJ	\$289	0.1 t	
Ornamental Street Lighting 12 - 20875 Fraser Hwy						
	Electricity	35,192 kWh	127 GJ	\$2,914	1.0 t	
		Total	127 GJ	\$2,914	1.0 t	
Ornamental Street Lighting 15 - 20151 Fraser Hwy						
	Electricity	4,626 kWh	17 GJ	\$437	0.1 t	
		Total	17 GJ	\$437	0.1 t	
Ornamental Street Lighting 16 - Ornamental Street Ltg						
	Electricity	8,006 kWh	29 GJ	\$621	0.2 t	
		Total	29 GJ	\$621	0.2 t	
Ornamental Street Lighting 2 - 19620 48th Ave						
	Electricity	24,158 kWh	87 GJ	\$2,005	0.7 t	
		Total	87 GJ	\$2,005	0.7 t	
Ornamental Street Lighting 3 - 5475 206th St						
	Electricity	1,396 kWh	5 GJ	\$282	0.0 t	
		Total	5 GJ	\$282	0.0 t	

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Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Ornamental Street Lighting 5 - 20400 Fraser Hwy					
	Electricity	18,408 kWh	66 GJ	\$1,554	0.5 t
	Total		66 GJ	\$1,554	0.5 t
Ornamental Street Lighting 6 - 5500 207th St					
	Electricity	24,074 kWh	87 GJ	\$2,010	0.7 t
	Total		87 GJ	\$2,010	0.7 t
Ornamental Street Lighting 7 - 20500 Douglas Crs					
	Electricity	34,550 kWh	124 GJ	\$2,869	1.0 t
	Total		124 GJ	\$2,869	1.0 t
Ornamental Street Lighting 8 - 20600 Douglas Crs					
	Electricity	19,208 kWh	69 GJ	\$1,618	0.5 t
	Total		69 GJ	\$1,618	0.5 t
Ornamental Street Lighting 9 - 20655 Fraser Hwy					
	Electricity	13,813 kWh	50 GJ	\$1,182	0.4 t
	Total		50 GJ	\$1,182	0.4 t
Parking Lot Lighting (open)					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Parking Lot Lights - 20376 56th Ave					
	Electricity	1,535 kWh	6 GJ	\$153	0.0 t
	Total		6 GJ	\$153	0.0 t
Parks & Playing Fields					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
City Park Ball Park Lighting - 20600 51st Ave					
	Electricity	10,800 kWh	39 GJ	\$1,746	0.3 t
	Total		39 GJ	\$1,746	0.3 t
City Park Unidentified (Field Lighting?) - 4897 207th St Lts					
	Electricity	1,975 kWh	7 GJ	\$226	0.1 t
	Total		7 GJ	\$226	0.1 t
Seasonal Decorative Outdoor Lighting					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Christmas Lighting - 20151 Fraser Hwy					
	Electricity	1,701 kWh	6 GJ	\$201	0.0 t
	Total		6 GJ	\$201	0.0 t
Electrical Outlet - 203a St South Of Logan					
	Electricity	8,206 kWh	30 GJ	\$728	0.2 t
	Total		30 GJ	\$728	0.2 t
Sign Lighting					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Landfill Kiosk - 4425 206th St					
	Electricity	24,955 kWh	90 GJ	\$2,089	0.7 t
	Total		90 GJ	\$2,089	0.7 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Sign - 20500 Mcburney Ln					
	Electricity	15,439 kWh	56 GJ	\$1,311	0.4 t
	Total		56 GJ	\$1,311	0.4 t
Traffic Signal					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Railway Crossing - 19925 Fraser Hwy					
	Electricity	2,250 kWh	8 GJ	\$245	0.1 t
	Total		8 GJ	\$245	0.1 t
Traffic Signal - 4600 200th St					
	Electricity	241 kWh	1 GJ	\$17	0.0 t
	Total		1 GJ	\$17	0.0 t
Traffic Signal - 4602 208th St					
	Electricity	878 kWh	3 GJ	\$63	0.0 t
	Total		3 GJ	\$63	0.0 t
Traffic Signal - 4800 208th St					
	Electricity	2,514 kWh	9 GJ	\$182	0.1 t
	Total		9 GJ	\$182	0.1 t
Traffic Signal - 4800 200th St					
	Electricity	2,538 kWh	9 GJ	\$183	0.1 t
	Total		9 GJ	\$183	0.1 t
Traffic Signal - Grade Crs 200th St					
	Electricity	2,587 kWh	9 GJ	\$187	0.1 t
	Total		9 GJ	\$187	0.1 t
Traffic Signal - 200th St 53rd Ave					
	Electricity	2,947 kWh	11 GJ	\$213	0.1 t
	Total		11 GJ	\$213	0.1 t
Traffic Signal - 5600 206th St					
	Electricity	2,394 kWh	9 GJ	\$173	0.1 t
	Total		9 GJ	\$173	0.1 t
Traffic Signal - 20400 53rd Ave					
	Electricity	2,166 kWh	8 GJ	\$156	0.1 t
	Total		8 GJ	\$156	0.1 t
Traffic Signal - 20500 53rd Ave					
	Electricity	9,578 kWh	34 GJ	\$692	0.3 t
	Total		34 GJ	\$692	0.3 t
Traffic Signal - 20298 Grade Crs					
	Electricity	2,683 kWh	10 GJ	\$194	0.1 t
	Total		10 GJ	\$194	0.1 t

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Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Traffic Signal - 203rd St 53rd Ave					
	Electricity	2,274 kWh	8 GJ	\$164	0.1 t
	Total		8 GJ	\$164	0.1 t
Traffic Signal - Michaud Crs 200th St					
	Electricity	2,731 kWh	10 GJ	\$197	0.1 t
	Total		10 GJ	\$197	0.1 t
Traffic Signal - Douglas Crs 203 St 56 Ave					
	Electricity	3,995 kWh	14 GJ	\$289	0.1 t
	Total		14 GJ	\$289	0.1 t
Traffic Signal - Douglas Crs 204 St					
	Electricity	2,358 kWh	8 GJ	\$170	0.1 t
	Total		8 GJ	\$170	0.1 t
Traffic Signal - 20800 Fraser Hwy					
	Electricity	1,473 kWh	5 GJ	\$106	0.0 t
	Total		5 GJ	\$106	0.0 t
Traffic Signal - 20800 51b Ave					
	Electricity	2,286 kWh	8 GJ	\$165	0.1 t
	Total		8 GJ	\$165	0.1 t
Traffic Signal - 20700 51b Ave					
	Electricity	1,949 kWh	7 GJ	\$141	0.1 t
	Total		7 GJ	\$141	0.1 t
Traffic Signal - Glover Rd Eastleigh Crs					
	Electricity	2,276 kWh	8 GJ	\$164	0.1 t
	Total		8 GJ	\$164	0.1 t
Traffic Signal - Glover Rd Kwantlen College Entrance					
	Electricity	1,952 kWh	7 GJ	\$141	0.1 t
	Total		7 GJ	\$141	0.1 t
Traffic Signal - Glover Rd Duncan Way					
	Electricity	2,036 kWh	7 GJ	\$147	0.1 t
	Total		7 GJ	\$147	0.1 t
Traffic Signal - 200th St Production Way Logan Ave					
	Electricity	3,381 kWh	12 GJ	\$244	0.1 t
	Total		12 GJ	\$244	0.1 t
Traffic Signal - 56th Ave 201a St					
	Electricity	2,298 kWh	8 GJ	\$166	0.1 t
	Total		8 GJ	\$166	0.1 t
Traffic Signal - 200th St 56th Ave					
	Electricity	3,080 kWh	11 GJ	\$223	0.1 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Traffic Signal continued...

			Total	11 GJ	\$223	0.1 t
Traffic Signal - 20000 Fraser Hwy						
	Electricity	3,405 kWh		12 GJ	\$246	0.1 t
	Total			12 GJ	\$246	0.1 t
Traffic Signal - Glover Rd Logan Ave						
	Electricity	2,373 kWh		9 GJ	\$172	0.1 t
	Total			9 GJ	\$172	0.1 t
Traffic Signal - 20400 Logan Ave						
	Electricity	719 kWh		3 GJ	\$52	0.0 t
	Total			3 GJ	\$52	0.0 t
Traffic Signal - 20300 Fraser Hwy						
	Electricity	2,346 kWh		8 GJ	\$170	0.1 t
	Total			8 GJ	\$170	0.1 t
Traffic Signal - 20150 Fraser Hwy						
	Electricity	2,659 kWh		10 GJ	\$192	0.1 t
	Total			10 GJ	\$192	0.1 t
Traffic Signal - 19900 Fraser Hwy						
	Electricity	1,757 kWh		6 GJ	\$127	0.0 t
	Total			6 GJ	\$127	0.0 t
Traffic Signal - 203rd St South Of Michaud Crs						
	Electricity	818 kWh		3 GJ	\$59	0.0 t
	Total			3 GJ	\$59	0.0 t
Traffic Signal - Fraser Hwy 56th Ave						
	Electricity	1,516 kWh		5 GJ	\$110	0.0 t
	Total			5 GJ	\$110	0.0 t
Traffic Signal - 20900 Fraser Hwy						
	Electricity	2,851 kWh		10 GJ	\$206	0.1 t
	Total			10 GJ	\$206	0.1 t
Traffic Signal - Langley B/P 56 Ave						
	Electricity	3,054 kWh		11 GJ	\$221	0.1 t
	Total			11 GJ	\$221	0.1 t
Traffic Signal - 20300 Logan Ave						
	Electricity	2,502 kWh		9 GJ	\$181	0.1 t
	Total			9 GJ	\$181	0.1 t
Traffic Signal - 20300 Grade Crs						
	Electricity	2,250 kWh		8 GJ	\$245	0.1 t
	Total			8 GJ	\$245	0.1 t
Traffic Signal - 56 Ave 208 St						

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Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Traffic Signal continued...

	Electricity	2,479 kWh	9 GJ	\$168	0.1 t
	Total		9 GJ	\$168	0.1 t
Traffic Signal - 204 St Park Ave					
	Electricity	2,538 kWh	9 GJ	\$172	0.1 t
	Total		9 GJ	\$172	0.1 t
Traffic Signal - 51b Ave 206 St					
	Electricity	2,045 kWh	7 GJ	\$139	0.1 t
	Total		7 GJ	\$139	0.1 t
Traffic Signal - 56 Ave Glover Rd					
	Electricity	2,358 kWh	8 GJ	\$160	0.1 t
	Total		8 GJ	\$160	0.1 t
Traffic Signal - 53 Ave 51b St					
	Electricity	1,709 kWh	6 GJ	\$116	0.0 t
	Total		6 GJ	\$116	0.0 t
Traffic Signal - 206 St Douglas Crs					
	Electricity	818 kWh	3 GJ	\$55	0.0 t
	Total		3 GJ	\$55	0.0 t

WATER & WASTEWATER

Liquid Waste Lift Station	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Duncan Way Lift Station - 20679 Duncan Way					
	Electricity	41,107 kWh	148 GJ	\$3,395	1.2 t
	Total		148 GJ	\$3,395	1.2 t
Langley Bypass Liftstation - 5775 Langley Byp					
	Electricity	34,289 kWh	123 GJ	\$2,846	1.0 t
	Total		123 GJ	\$2,846	1.0 t
Leachate Lift Station - 4511 204 St					
	Electricity	14,678 kWh	53 GJ	\$1,253	0.4 t
	Total		53 GJ	\$1,253	0.4 t
Old Yale Lift Station - 20918 Old Yale Rd					
	Electricity	23,252 kWh	84 GJ	\$1,944	0.7 t
	Total		84 GJ	\$1,944	0.7 t
Potable Water Reservoir					
Langley Water Reservoir - 20050 47a Ave					
	Electricity	389,621 kWh	1,403 GJ	\$26,719	10.9 t
	Total		1,403 GJ	\$26,719	10.9 t
Remote Valve Chamber					
Remote Valve Chamber - 20100 54a Ave					

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

Remote Valve Chamber continued...

	Electricity	2,214 kWh	8 GJ	\$241	0.1 t
	Total		8 GJ	\$241	0.1 t
Remote Valve Chamber - 20300 54a Ave					
	Electricity	2,259 kWh	8 GJ	\$244	0.1 t
	Total		8 GJ	\$244	0.1 t
Remote Valve Chamber - 20500 53a Ave					
	Electricity	2,169 kWh	8 GJ	\$237	0.1 t
	Total		8 GJ	\$237	0.1 t
Sewage Treatment Lagoon					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Lagoon Pumps - 5243 198 St					
	Electricity	kWh	GJ	\$69	
			GJ	\$69	
VEHICLE FLEET					
Diesel Fuel Dump Trucks					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
1999 Ford Dump 6505ch - 168					
	Diesel Fuel	975 litres	38 GJ	\$1,387	2.7 t
	Gasoline	106 litres	4 GJ	\$142	0.3 t
	Total		41 GJ	\$1,529	3.0 t
2006 Ford F550 Dump 9856ky - 225					
	Diesel Fuel	1,934 litres	75 GJ	\$2,633	5.4 t
	Total		75 GJ	\$2,633	5.4 t
2006 Volvo Dumptruck - 213					
	Diesel Fuel	9,319 litres	360 GJ	\$11,404	25.9 t
	Total		360 GJ	\$11,404	25.9 t
2007 Volvo Dumptruck - 218					
	Diesel Fuel	7,257 litres	281 GJ	\$9,121	20.2 t
	Total		281 GJ	\$9,121	20.2 t
Diesel Fuel Fire Vehicles					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
E-1 08 Spartan Pumper Truck - 234					
	Diesel Fuel	8,199 litres	317 GJ	\$10,650	22.8 t
	Gasoline	358 litres	12 GJ	\$427	0.9 t
	Propane	32 litres	1 GJ	\$32	0.8 t
	Total		330 GJ	\$11,109	24.5 t
E-11 01 Spartan Pumper Truck - 235					
	Diesel Fuel	528 litres	20 GJ	\$695	1.5 t
	Gasoline	100 litres	3 GJ	\$122	0.3 t
	Total		24 GJ	\$816	1.7 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

E-12 93 Mack Pumper Truck - 236					
	Diesel Fuel	1,237 litres	48 GJ	\$1,595	3.4 t
	Gasoline	168 litres	6 GJ	\$216	0.4 t
	Total		54 GJ	\$1,812	3.9 t
R-1 International - 238					
	Diesel Fuel	420 litres	16 GJ	\$553	1.2 t
	Gasoline	28 litres	1 GJ	\$38	0.1 t
	Total		17 GJ	\$591	1.2 t
Tw-1 Spartan Tower Truck - 239					
	Diesel Fuel	849 litres	33 GJ	\$1,150	2.4 t
	Gasoline	6 litres	0 GJ	\$8	0.0 t
	Total		33 GJ	\$1,158	2.4 t
Diesel Fuel Loaders, Excavators, Graders, &					
	Emissions Source	Consumption	Energy	Costs	CO₂e
1990 John Deere Grader 2316mj - 120					
	Diesel Fuel	771 litres	30 GJ	\$896	2.1 t
	Total		30 GJ	\$896	2.1 t
1998 John Deere Backhoe 6520ch - 169					
	Diesel Fuel	568 litres	22 GJ	\$625	1.6 t
	Total		22 GJ	\$625	1.6 t
2006 John Deere 710g Backhoe - 223					
	Diesel Fuel	3,744 litres	145 GJ	\$5,113	10.4 t
	Total		145 GJ	\$5,113	10.4 t
2006 John Deere Backhoe 2526jt - 214					
	Diesel Fuel	6,774 litres	262 GJ	\$8,573	18.8 t
	Total		262 GJ	\$8,573	18.8 t
Diesel Fuel Medium to Heavy Trucks					
	Emissions Source	Consumption	Energy	Costs	CO₂e
1991 Freightliner An4645 - 137					
	Diesel Fuel	900 litres	35 GJ	\$976	2.5 t
	Total		35 GJ	\$976	2.5 t
1992 Gmc Flatdeck 5680bj - 142					
	Diesel Fuel	1,506 litres	58 GJ	\$1,875	4.2 t
	Total		58 GJ	\$1,875	4.2 t
1996 F-4450 Flatdeck 7408aa - 158					
	Diesel Fuel	1,378 litres	53 GJ	\$1,566	3.8 t
	Total		53 GJ	\$1,566	3.8 t
1996 Ford F450 - 161					
	Diesel Fuel	1,846 litres	71 GJ	\$2,490	5.1 t
	Total		71 GJ	\$2,490	5.1 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

1998 Gmc One Ton 2315mj - 171					
	Diesel Fuel	4,031 litres	156 GJ	\$5,272	11.2 t
	Total		156 GJ	\$5,272	11.2 t
2002 Ford F350 Flatdeck - 195					
	Diesel Fuel	501 litres	19 GJ	\$622	1.4 t
	Gasoline	2,935 litres	102 GJ	\$3,550	7.3 t
	Total		121 GJ	\$4,172	8.7 t
2002 Ford F450 - 189					
	Diesel Fuel	839 litres	32 GJ	\$1,132	2.3 t
	Total		32 GJ	\$1,132	2.3 t
2002 Grumman Olson (Bucket Truck) - 190					
	Diesel Fuel	231 litres	9 GJ	\$423	0.6 t
	Gasoline	4,568 litres	158 GJ	\$4,227	11.4 t
	Total		167 GJ	\$4,649	12.1 t
2004 Johnston Sweeper - 208					
	Diesel Fuel	10,743 litres	416 GJ	\$14,180	29.9 t
	Total		416 GJ	\$14,180	29.9 t
2007 Ford F450 Cube Van 2309mj - 222					
	Diesel Fuel	2,172 litres	84 GJ	\$2,905	6.0 t
	Gasoline	132 litres	5 GJ	\$200	0.3 t
	Propane	17 litres	0 GJ	\$17	0.4 t
	Total		89 GJ	\$3,122	6.8 t
2008 Ford F450 2464kn - 221					
	Diesel Fuel	3,891 litres	151 GJ	\$4,988	10.8 t
	Gasoline	115 litres	4 GJ	\$155	0.3 t
	Total		155 GJ	\$5,142	11.1 t
2009 Ford F350 Service Truck - 202					
	Diesel Fuel	817 litres	32 GJ	\$1,156	2.3 t
	Gasoline	2,144 litres	74 GJ	\$2,704	5.4 t
	Total		106 GJ	\$3,860	7.6 t
Diesel Fuel Mower and Tractor					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
2007 John Deere Tractor - 224					
	Diesel Fuel	444 litres	17 GJ	\$484	1.2 t
	Total		17 GJ	\$484	1.2 t
2007 New Holland Encl. Tractor - 228					
	Diesel Fuel	3,152 litres	122 GJ	\$4,423	8.8 t
	Gasoline	106 litres	4 GJ	\$149	0.3 t
	Total		126 GJ	\$4,571	9.0 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

1995 Bobcat continued...

Diesel Fuel Off Road Vehicle & Equipment	Emissions Source	Consumption	Energy	Costs	CO ₂ e
1995 Bobcat - 157					
	Diesel Fuel	308 litres	12 GJ	\$300	0.9 t
	Gasoline	1,302 litres	45 GJ	\$1,606	3.3 t
	Propane	107 litres	3 GJ	\$107	2.5 t
	Total		60 GJ	\$2,013	6.7 t
Various - -					
	Diesel Fuel	5,557 litres	215 GJ	\$7,901	15.5 t
	Total		215 GJ	\$7,901	15.5 t
Diesel Fuel Passenger Cars	Emissions Source	Consumption	Energy	Costs	CO ₂ e
2006 Smart Car 373 Jpk - 219					
	Diesel Fuel	294 litres	11 GJ	\$384	0.8 t
	Gasoline	17 litres	1 GJ	\$26	0.0 t
	Total		12 GJ	\$409	0.9 t
Gasoline Fire Vehicles	Emissions Source	Consumption	Energy	Costs	CO ₂ e
1-10 07 Dodge Pickup Deputy Chief - 232					
	Diesel Fuel	50 litres	2 GJ	\$69	0.1 t
	Gasoline	1,320 litres	46 GJ	\$1,042	3.3 t
	Total		48 GJ	\$1,111	3.4 t
1-8 07 Dodge Pickup Asst. Chief - 230					
	Diesel Fuel	152 litres	6 GJ	\$190	0.4 t
	Gasoline	1,198 litres	42 GJ	\$1,527	3.0 t
	Total		47 GJ	\$1,716	3.4 t
2010 Chevy Malibu - 240					
	Gasoline	83 litres	3 GJ	\$96	0.2 t
	Total		3 GJ	\$96	0.2 t
9-1 2007 Dodge Dakota Fire Chief - 231					
	Diesel Fuel	130 litres	5 GJ	\$161	0.4 t
	Gasoline	1,526 litres	53 GJ	\$1,575	3.8 t
	Propane	66 litres	2 GJ	\$66	1.6 t
	Total		60 GJ	\$1,803	5.7 t
Cm-1 99 Chev - 233					
	Gasoline	507 litres	18 GJ	\$601	1.3 t
	Propane	49 litres	1 GJ	\$49	1.2 t
	Total		19 GJ	\$649	2.4 t
Gasoline Light Trucks, Vans, and SUVs	Emissions Source	Consumption	Energy	Costs	CO ₂ e
1990 5m Swenson Sand Spreader - 197					
	Gasoline	114 litres	4 GJ	\$134	0.3 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

			Total	4 GJ	\$134	0.3 t
1993 Chev Pickup 1029br - 146						
	Diesel Fuel	77 litres	3 GJ	\$67		0.2 t
	Gasoline	364 litres	13 GJ	\$410		0.9 t
	Propane	2,207 litres	56 GJ	\$2,207		52.1 t
	Total		71 GJ	\$2,683		53.3 t
1996 Ford Cube Vav 2309mj - 160						
	Gasoline	67 litres	2 GJ	\$85		0.2 t
	Total		2 GJ	\$85		0.2 t
1997 E250 Ford Van - 164						
	Diesel Fuel	96 litres	4 GJ	\$146		0.3 t
	Gasoline	2,858 litres	99 GJ	\$3,285		7.2 t
	Total		103 GJ	\$3,431		7.4 t
1998 Chev Pickup 6500ch - 167						
	Diesel Fuel	1,077 litres	42 GJ	\$1,168		3.0 t
	Gasoline	1,033 litres	36 GJ	\$1,306		2.6 t
	Total		77 GJ	\$2,474		5.6 t
1999 Chev Pickup - 176						
	Diesel Fuel	112 litres	4 GJ	\$165		0.3 t
	Gasoline	1,810 litres	63 GJ	\$2,292		4.5 t
	Total		67 GJ	\$2,456		4.8 t
1999 Chev Pickup 7045dd - 175						
	Diesel Fuel	211 litres	8 GJ	\$288		0.6 t
	Gasoline	1,429 litres	50 GJ	\$1,754		3.6 t
	Total		58 GJ	\$2,042		4.2 t
1999 Pickup - 173						
	Gasoline	1,589 litres	55 GJ	\$2,006		4.0 t
	Total		55 GJ	\$2,006		4.0 t
2001 Chevy Pickup Budget Rental - 204						
	Diesel Fuel	2,248 litres	87 GJ	\$2,959		6.3 t
	Gasoline	174 litres	6 GJ	\$231		0.4 t
	Total		93 GJ	\$3,190		6.7 t
2002 Ford F250 - 187						
	Diesel Fuel	210 litres	8 GJ	\$231		0.6 t
	Gasoline	2,538 litres	88 GJ	\$3,073		6.4 t
	Total		96 GJ	\$3,305		6.9 t
2002 Ford F250 - 192						
	Diesel Fuel	196 litres	8 GJ	\$280		0.5 t

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

2002 Ford F250 continued...

	Gasoline	1,643 litres	57 GJ	\$2,126	4.1 t
	Total		65 GJ	\$2,405	4.7 t
2002 Ford F250 - 193					
	Diesel Fuel	297 litres	12 GJ	\$348	0.8 t
	Gasoline	2,969 litres	103 GJ	\$3,713	7.4 t
	Propane	77 litres	2 GJ	\$77	1.8 t
	Total		116 GJ	\$4,138	10.1 t
2002 Ford F250 - 194					
	Diesel Fuel	481 litres	19 GJ	\$571	1.3 t
	Gasoline	3,914 litres	136 GJ	\$4,837	9.8 t
	Total		154 GJ	\$5,408	11.1 t
2004 Ford F150 Bsw - 212					
	Diesel Fuel	172 litres	7 GJ	\$218	0.5 t
	Gasoline	707 litres	25 GJ	\$895	1.8 t
	Total		31 GJ	\$1,114	2.2 t
2004 Ford F250 - 206					
	Diesel Fuel	567 litres	22 GJ	\$792	1.6 t
	Gasoline	1,742 litres	60 GJ	\$2,336	4.4 t
	Total		82 GJ	\$3,128	5.9 t
2004 Jeep Liberty - 207					
	Gasoline	1,439 litres	50 GJ	\$1,462	3.6 t
	Total		50 GJ	\$1,462	3.6 t
2007 Ford Econ Van 8598aj - 220					
	Diesel Fuel	372 litres	14 GJ	\$484	1.0 t
	Gasoline	3,594 litres	125 GJ	\$4,509	9.0 t
	Total		139 GJ	\$4,993	10.0 t
Gasoline Passenger Car					
	Emissions Source	Consumption	Energy	Costs	CO₂e
2001 Ford Taurus - 183					
	Diesel Fuel	113 litres	4 GJ	\$154	0.3 t
	Gasoline	538 litres	19 GJ	\$654	1.3 t
	Total		23 GJ	\$808	1.7 t
2001 Ford Taurus - 185					
	Gasoline	949 litres	33 GJ	\$1,164	2.4 t
	Total		33 GJ	\$1,164	2.4 t
2008 Nissan Versa Hb - 226					
	Gasoline	1,174 litres	41 GJ	\$1,376	2.9 t
	Total		41 GJ	\$1,376	2.9 t

SOLID WASTE

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

City Hall And Library continued...

Administration Office	Emissions Source	Volume	Mass	CO ₂ e
<i>City Hall And Library - 20399 Douglas Crs</i>				
	<i>Solid Waste</i>	312 cu. yds	46.80 t	24.8 t
		312cu. yds	47 t	24.8 t
Community Centre	Emissions Source	Volume	Mass	CO ₂ e
<i>Douglas Recreation Centre - 20550 Douglas Crs</i>				
	<i>Solid Waste</i>	156 cu. yds	23.40 t	12.4 t
		156cu. yds	23 t	12.4 t
<i>Nicomekl Multi Purpose Room - 20050 53rd Ave</i>				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
<i>Timms Community Centre - 20355 Douglas Crs</i>				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
Fire Services	Emissions Source	Volume	Mass	CO ₂ e
<i>Fire Hall - 5785 203rd St</i>				
	<i>Solid Waste</i>	312 cu. yds	46.80 t	24.8 t
		312cu. yds	47 t	24.8 t
Outdoor Pools	Emissions Source	Volume	Mass	CO ₂ e
<i>Anderson Memorial Pool - 4949 207th St</i>				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
Parks & Playing Fields	Emissions Source	Volume	Mass	CO ₂ e
<i>Brydon Park - 5353 198 St</i>				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
<i>City Park - 20695 48th Ave</i>				
	<i>Solid Waste</i>	156 cu. yds	23.40 t	12.4 t
		156cu. yds	23 t	12.4 t
<i>Conder Park - 19810 50th Ave</i>				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
<i>Condor Park - 19850 50th Ave</i>				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
<i>Lindwood Park - 5470 201st St</i>				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2008

<i>Portage Park - 5151 204th St</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>Rotary Centennial Park - 5514 208th St</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>Sendall Gardens - 20166 50th Ave</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
Public Works Bldg & Yard				
Emissions Source				
Volume				
Mass				
CO₂e				
<i>Operations Centre - 5713 198th St</i>				
	<i>Solid Waste</i>	<i>624 cu. yds</i>	<i>93.60 t</i>	<i>49.6 t</i>
		<i>624cu. yds</i>	<i>94 t</i>	<i>49.6 t</i>

Appendices

Appendix III: 2009 Inventory



Langley City Corporate Inventory

2009 Account-by-Account Listing

Partners for Climate Protection and
Climate Action Charter formatting

BUILDINGS

Administration Office	Emissions Source	Consumption	Energy	Costs	CO ₂ e
City Hall And Library - 20399 Douglas Crs					
	Electricity	586,024 kWh	2,110 GJ	\$36,573	14.7 t
	Natural Gas	1,651 GJ	1,651 GJ	\$21,510	83.3 t
	Total		3,761 GJ	\$58,083	98.0 t
Community Centre	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Douglas Recreation Centre - 20550 Douglas Crs					
	Electricity	93,510 kWh	337 GJ	\$8,007	2.3 t
	Natural Gas	811 GJ	811 GJ	\$10,772	40.9 t
	Total		1,148 GJ	\$18,779	43.3 t
Nicomekl Multi Purpose Room - 20050 53rd Ave					
	Electricity	2,071 kWh	7 GJ	\$241	0.1 t
	Total		7 GJ	\$241	0.1 t
Timms Community Centre - 20355 Douglas Crs					
	Electricity	100,153 kWh	361 GJ	\$8,632	2.5 t
	Natural Gas	572 GJ	572 GJ	\$7,371	28.9 t
	Total		933 GJ	\$16,003	31.4 t
Fire Services	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Fire Hall - 5785 203rd St					
	Electricity	268,272 kWh	966 GJ	\$20,078	6.7 t
	Natural Gas	847 GJ	847 GJ	\$11,157	42.8 t
	Total		1,813 GJ	\$31,235	49.5 t
Heritage Site	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Innes Corners Plaza - 20399 Fraser Hwy					
	Electricity	72,815 kWh	262 GJ	\$6,278	1.8 t
	Total		262 GJ	\$6,278	1.8 t
Outdoor Pools	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Anderson Memorial Pool - 4949 207th St					
	Electricity	125,270 kWh	451 GJ	\$11,024	3.1 t
	Natural Gas	2,572 GJ	2,572 GJ	\$8,170	129.8 t
	Total		3,023 GJ	\$19,194	132.9 t
Parks & Playing Fields	Emissions Source	Consumption	Energy	Costs	CO ₂ e

2009 Energy & Greenhouse Gas Emissions Inventory
 Hyla Environmental Services Ltd.,
 Port Moody, BC rhaycock@hesltd.ca
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 see next page for explanation of special formatting



Energy & Emissions Monitoring and Reporting System™ v4.0

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

Brydon Park - 5353 198 St					
	Electricity	8,522 kWh	31 GJ	\$811	0.2 t
	Total		31 GJ	\$811	0.2 t
City Park - 20695 48th Ave					
	Electricity	97 kWh	0 GJ	\$74	0.0 t
	Total		0 GJ	\$74	0.0 t
City Park - 4897 207th St					
	Electricity	7,048 kWh	25 GJ	\$665	0.2 t
	Total		25 GJ	\$665	0.2 t
Conder Park - 19810 50th Ave					
	Electricity	7,459 kWh	27 GJ	\$705	0.2 t
	Total		27 GJ	\$705	0.2 t
Linwood Park - 5470 201st St					
	Electricity	18,762 kWh	68 GJ	\$1,683	0.5 t
	Total		68 GJ	\$1,683	0.5 t
Portage Park - 5151 204th St					
	Electricity	4,210 kWh	15 GJ	\$421	0.1 t
	Total		15 GJ	\$421	0.1 t
Rotary Centennial Park - 5514 208th St					
	Electricity	20,877 kWh	75 GJ	\$1,869	0.5 t
	Total		75 GJ	\$1,869	0.5 t
Sendall Gardens - 20166 50th Ave					
	Electricity	24,069 kWh	87 GJ	\$1,892	0.6 t
	Natural Gas	483 GJ	483 GJ	\$6,229	24.4 t
	Total		569	\$8,121	25.0 t
Police Services					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Community Police Office - 20408 Douglas Crs 100					
	Electricity	37,725 kWh	136 GJ	\$3,272	0.9 t
	Total		136 GJ	\$3,272	0.9 t
Public Works Bldg & Yard					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Operations Centre - 5713 198th St					
	Electricity	144,504 kWh	520 GJ	\$13,514	3.6 t
	Natural Gas	1,320 GJ	1,320 GJ	\$17,211	66.6 t
	Total		1,840 GJ	\$30,724	70.2 t
Unidentified					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
School - 20060 Fraser Hwy					
	Electricity	45,353 kWh	163 GJ	\$3,785	1.1 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

School continued...

		Total	163 GJ	\$3,785	1.1 t
LIGHTING					
Flashing Warning Lights	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Flashers - 4950 200th St					
	Electricity	2,710 kWh	10 GJ	\$299	0.1 t
	Total		10 GJ	\$299	0.1 t
Flashers - 20800 Grade Crs					
	Electricity	240 kWh	1 GJ	\$86	0.0 t
	Total		1 GJ	\$86	0.0 t
Ornamental Lighting	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Decorative Lighting - 5494 Salt Lane Ltg					
	Electricity	39,685 kWh	143 GJ	\$3,454	1.0 t
	Total		143 GJ	\$3,454	1.0 t
Downtown Lighting - 5525 Salt Ln					
	Electricity	36,449 kWh	131 GJ	\$3,192	0.9 t
	Total		131 GJ	\$3,192	0.9 t
Lightstand - 203a St S Of Logan					
	Electricity	2,952 kWh	11 GJ	\$285	0.1 t
	Total		11 GJ	\$285	0.1 t
M O L - 20300 Douglas Crs					
	Electricity	52,815 kWh	190 GJ	\$4,569	1.3 t
	Total		190 GJ	\$4,569	1.3 t
Ornamental Street Lighting 1 - - Various Locations					
	Electricity	912,203 kWh	3,284 GJ	\$69,120	22.8 t
	Total		3,284 GJ	\$69,120	22.8 t
Ornamental Street Lighting 10 - 5755 203rd St					
	Electricity	17,450 kWh	63 GJ	\$1,557	0.4 t
	Total		63 GJ	\$1,557	0.4 t
Ornamental Street Lighting 11 - 20875 Fraser Hwy					
	Electricity	3,995 kWh	14 GJ	\$405	0.1 t
	Total		14 GJ	\$405	0.1 t
Ornamental Street Lighting 12 - 20875 Fraser Hwy					
	Electricity	32,358 kWh	116 GJ	\$2,856	0.8 t
	Total		116 GJ	\$2,856	0.8 t
Ornamental Street Lighting 15 - 20151 Fraser Hwy					
	Electricity	3,788 kWh	14 GJ	\$388	0.1 t
	Total		14 GJ	\$388	0.1 t

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

Ornamental Street Lighting 2 - 19620 48th Ave					
	Electricity	26,174 kWh	94 GJ	\$2,370	0.7 t
	Total		94 GJ	\$2,370	0.7 t
Ornamental Street Lighting 3 - 5475 206th St					
	Electricity	1,393 kWh	5 GJ	\$293	0.0 t
	Total		5 GJ	\$293	0.0 t
Ornamental Street Lighting 5 - 20400 Fraser Hwy					
	Electricity	18,261 kWh	66 GJ	\$1,628	0.5 t
	Total		66 GJ	\$1,628	0.5 t
Ornamental Street Lighting 6 - 5500 207th St					
	Electricity	25,458 kWh	92 GJ	\$2,296	0.6 t
	Total		92 GJ	\$2,296	0.6 t
Ornamental Street Lighting 7 - 20500 Douglas Crs					
	Electricity	38,416 kWh	138 GJ	\$3,702	1.0 t
	Total		138 GJ	\$3,702	1.0 t
Ornamental Street Lighting 8 - 20600 Douglas Crs					
	Electricity	19,107 kWh	69 GJ	\$1,725	0.5 t
	Total		69 GJ	\$1,725	0.5 t
Ornamental Street Lighting 9 - 20655 Fraser Hwy					
	Electricity	13,590 kWh	49 GJ	\$1,231	0.3 t
	Total		49 GJ	\$1,231	0.3 t
Overhead Lighting (Leased from BC Hydro)					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
<i>Overhead Streetlighting - Overhead Street Ltg</i>					
	Electricity	167,149 kWh	602 GJ	\$59,266	4.2 t
	Total		602 GJ	\$59,266	4.2 t
Parking Lot Lighting (open)					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Parking Lot Lights - 20376 56th Ave					
	Electricity	1,861 kWh	7 GJ	\$223	0.0 t
	Total		7 GJ	\$223	0.0 t
Parks & Playing Fields					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
City Park Ball Park Lighting - 20600 51st Ave					
	Electricity	12,669 kWh	46 GJ	\$1,644	0.3 t
	Total		46 GJ	\$1,644	0.3 t
City Park Unidentified (Field Lighting?) - 4897 207th St Lts					
	Electricity	1,435 kWh	5 GJ	\$188	0.0 t
	Total		5 GJ	\$188	0.0 t
Seasonal Decorative Outdoor Lighting					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

Christmas Lighting - 20151 Fraser Hwy					
	Electricity	2,197 kWh	8 GJ	\$254	0.1 t
	Total		8 GJ	\$254	0.1 t
Electrical Outlet - 203a St South Of Logan					
	Electricity	4,623 kWh	17 GJ	\$429	0.1 t
	Total		17 GJ	\$429	0.1 t
Sign Lighting					
	Emissions Source	Consumption	Energy	Costs	CO₂e
Landfill Kiosk - 4425 206th St					
	Electricity	24,392 kWh	88 GJ	\$2,139	0.6 t
	Total		88 GJ	\$2,139	0.6 t
Sign - 20500 Mcburney Ln					
	Electricity	9,961 kWh	36 GJ	\$919	0.2 t
	Total		36 GJ	\$919	0.2 t
Traffic Signal					
	Emissions Source	Consumption	Energy	Costs	CO₂e
Railway Crossing - 19925 Fraser Hwy					
	Electricity	2,241 kWh	8 GJ	\$256	0.1 t
	Total		8 GJ	\$256	0.1 t
Traffic Signal - 4600 200th St					
	Electricity	240 kWh	1 GJ	\$18	0.0 t
	Total		1 GJ	\$18	0.0 t
Traffic Signal - 4602 208th St					
	Electricity	876 kWh	3 GJ	\$66	0.0 t
	Total		3 GJ	\$66	0.0 t
Traffic Signal - 4800 208th St					
	Electricity	2,508 kWh	9 GJ	\$190	0.1 t
	Total		9 GJ	\$190	0.1 t
Traffic Signal - 4800 200th St					
	Electricity	2,532 kWh	9 GJ	\$191	0.1 t
	Total		9 GJ	\$191	0.1 t
Traffic Signal - Grade Crs 200th St					
	Electricity	2,580 kWh	9 GJ	\$195	0.1 t
	Total		9 GJ	\$195	0.1 t
Traffic Signal - 200th St 53rd Ave					
	Electricity	2,940 kWh	11 GJ	\$222	0.1 t
	Total		11 GJ	\$222	0.1 t
Traffic Signal - 5600 206th St					
	Electricity	2,388 kWh	9 GJ	\$181	0.1 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

Traffic Signal continued...

			Total	9 GJ	\$181	0.1 t
Traffic Signal - 20400 53rd Ave						
	Electricity	2,150 kWh		8 GJ	\$163	0.1 t
	Total			8 GJ	\$163	0.1 t
Traffic Signal - 20500 53rd Ave						
	Electricity	9,507 kWh		34 GJ	\$719	0.2 t
	Total			34 GJ	\$719	0.2 t
Traffic Signal - 20298 Grade Crs						
	Electricity	2,673 kWh		10 GJ	\$202	0.1 t
	Total			10 GJ	\$202	0.1 t
Traffic Signal - 203rd St 53rd Ave						
	Electricity	2,265 kWh		8 GJ	\$171	0.1 t
	Total			8 GJ	\$171	0.1 t
Traffic Signal - Michaud Crs 200th St						
	Electricity	2,724 kWh		10 GJ	\$206	0.1 t
	Total			10 GJ	\$206	0.1 t
Traffic Signal - Douglas Crs 203 St 56 Ave						
	Electricity	3,965 kWh		14 GJ	\$300	0.1 t
	Total			14 GJ	\$300	0.1 t
Traffic Signal - Douglas Crs 204 St						
	Electricity	2,341 kWh		8 GJ	\$177	0.1 t
	Total			8 GJ	\$177	0.1 t
Traffic Signal - 20800 Fraser Hwy						
	Electricity	1,476 kWh		5 GJ	\$112	0.0 t
	Total			5 GJ	\$112	0.0 t
Traffic Signal - 20800 51b Ave						
	Electricity	2,280 kWh		8 GJ	\$173	0.1 t
	Total			8 GJ	\$173	0.1 t
Traffic Signal - 20700 51b Ave						
	Electricity	1,944 kWh		7 GJ	\$147	0.0 t
	Total			7 GJ	\$147	0.0 t
Traffic Signal - Glover Rd Eastleigh Crs						
	Electricity	2,280 kWh		8 GJ	\$173	0.1 t
	Total			8 GJ	\$173	0.1 t
Traffic Signal - Glover Rd Kwantlen College Entrance						
	Electricity	1,956 kWh		7 GJ	\$148	0.0 t
	Total			7 GJ	\$148	0.0 t
Traffic Signal - Glover Rd Duncan Way						

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

Traffic Signal continued...

	Electricity	2,040 kWh	7 GJ	\$154	0.1 t
	Total		7 GJ	\$154	0.1 t
Traffic Signal - 200th St Production Way Logan Ave					
	Electricity	3,360 kWh	12 GJ	\$255	0.1 t
	Total		12 GJ	\$255	0.1 t
Traffic Signal - 56th Ave 201a St					
	Electricity	2,281 kWh	8 GJ	\$172	0.1 t
	Total		8 GJ	\$172	0.1 t
Traffic Signal - 200th St 56th Ave					
	Electricity	3,057 kWh	11 GJ	\$231	0.1 t
	Total		11 GJ	\$231	0.1 t
Traffic Signal - 20000 Fraser Hwy					
	Electricity	3,380 kWh	12 GJ	\$256	0.1 t
	Total		12 GJ	\$256	0.1 t
Traffic Signal - Glover Rd Logan Ave					
	Electricity	2,376 kWh	9 GJ	\$180	0.1 t
	Total		9 GJ	\$180	0.1 t
Traffic Signal - 20400 Logan Ave					
	Electricity	720 kWh	3 GJ	\$55	0.0 t
	Total		3 GJ	\$55	0.0 t
Traffic Signal - 20300 Fraser Hwy					
	Electricity	2,337 kWh	8 GJ	\$177	0.1 t
	Total		8 GJ	\$177	0.1 t
Traffic Signal - 20150 Fraser Hwy					
	Electricity	2,649 kWh	10 GJ	\$201	0.1 t
	Total		10 GJ	\$201	0.1 t
Traffic Signal - 19900 Fraser Hwy					
	Electricity	1,750 kWh	6 GJ	\$133	0.0 t
	Total		6 GJ	\$133	0.0 t
Traffic Signal - 203rd St South Of Michaud Crs					
	Electricity	816 kWh	3 GJ	\$62	0.0 t
	Total		3 GJ	\$62	0.0 t
Traffic Signal - Fraser Hwy 56th Ave					
	Electricity	1,505 kWh	5 GJ	\$114	0.0 t
	Total		5 GJ	\$114	0.0 t
Traffic Signal - 20900 Fraser Hwy					
	Electricity	2,856 kWh	10 GJ	\$216	0.1 t
	Total		10 GJ	\$216	0.1 t

Accounts with strikethrough formatting (e.g., ~~2,000~~) indicate consumption amounts that do not count in FCM PCP inventories.
Accounts with italicized formatting (e.g., *2,000*) indicate consumption amounts that do not count in Provincial CAC inventories.

Hyla Environmental Services Ltd., Port Moody, BC rhaycock@hesltd.ca M: 604.469.2910

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

Traffic Signal - Langley B/P 56 Ave					
	Electricity	3,060 kWh	11 GJ	\$231	0.1 t
	Total		11 GJ	\$231	0.1 t
Traffic Signal - 20300 Logan Ave					
	Electricity	2,487 kWh	9 GJ	\$189	0.1 t
	Total		9 GJ	\$189	0.1 t
Traffic Signal - 20300 Grade Crs					
	Electricity	2,241 kWh	8 GJ	\$256	0.1 t
	Total		8 GJ	\$256	0.1 t
Traffic Signal - 56 Ave 208 St					
	Electricity	2,484 kWh	9 GJ	\$187	0.1 t
	Total		9 GJ	\$187	0.1 t
Traffic Signal - 204 St Park Ave					
	Electricity	2,519 kWh	9 GJ	\$189	0.1 t
	Total		9 GJ	\$189	0.1 t
Traffic Signal - 51b Ave 206 St					
	Electricity	2,033 kWh	7 GJ	\$154	0.1 t
	Total		7 GJ	\$154	0.1 t
Traffic Signal - 56 Ave Glover Rd					
	Electricity	2,344 kWh	8 GJ	\$177	0.1 t
	Total		8 GJ	\$177	0.1 t
Traffic Signal - 53 Ave 51b St					
	Electricity	1,699 kWh	6 GJ	\$128	0.0 t
	Total		6 GJ	\$128	0.0 t
Traffic Signal - 206 St Douglas Crs					
	Electricity	812 kWh	3 GJ	\$61	0.0 t
	Total		3 GJ	\$61	0.0 t
Traffic Signal - 198 St 56 Ave					
	Electricity	1,561 kWh	6 GJ	\$119	0.0 t
	Total		6 GJ	\$119	0.0 t
Unidentified					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
-- 20188 Fraser Hwy Ltg					
	Electricity	2,434 kWh	9 GJ	\$232	0.1 t
	Total		9 GJ	\$232	0.1 t
WATER & WASTEWATER					
Liquid Waste Lift Station					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Duncan Way Lift Station - 20679 Duncan Way					

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

Duncan Way Lift Station continued...

	Electricity	38,661 kWh	139 GJ	\$3,366	1.0 t
	Total		139 GJ	\$3,366	1.0 t
Langley Bypass Liftstation - 5775 Langley Byp					
	Electricity	27,997 kWh	101 GJ	\$2,474	0.7 t
	Total		101 GJ	\$2,474	0.7 t
Leachate Lift Station - 4511 204 St					
	Electricity	21,373 kWh	77 GJ	\$1,875	0.5 t
	Total		77 GJ	\$1,875	0.5 t
Old Yale Lift Station - 20918 Old Yale Rd					
	Electricity	21,244 kWh	76 GJ	\$1,867	0.5 t
	Total		76 GJ	\$1,867	0.5 t
Potable Water Reservoir					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Langley Water Reservoir - 20050 47a Ave					
	Electricity	432,723 kWh	1,558 GJ	\$29,736	10.8 t
	Total		1,558 GJ	\$29,736	10.8 t
Remote Valve Chamber					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Remote Valve Chamber - 20100 54a Ave					
	Electricity	1,739 kWh	6 GJ	\$219	0.0 t
	Total		6 GJ	\$219	0.0 t
Remote Valve Chamber - 20300 54a Ave					
	Electricity	2,467 kWh	9 GJ	\$274	0.1 t
	Total		9 GJ	\$274	0.1 t
Remote Valve Chamber - 20500 53a Ave					
	Electricity	2,446 kWh	9 GJ	\$278	0.1 t
	Total		9 GJ	\$278	0.1 t
Sewage Treatment Lagoon					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Lagoon Pumps - 5243 198 St					
	Electricity	kWh	GJ	\$66	
			GJ	\$66	
VEHICLE FLEET					
Diesel Fuel Dump Trucks					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
1999 Ford Dump 6505ch - 168					
	Diesel Fuel	1,022 litres	40 GJ	\$1,022	2.8 t
	Total		40 GJ	\$1,022	2.8 t
2006 Ford F550 Dump 9856ky - 225					
	Diesel Fuel	2,004 litres	77 GJ	\$2,004	5.6 t
	Propane	102 litres	3 GJ	\$98	2.4 t

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

2006 Ford F550 Dump 9856ky

		Total	80 GJ	\$2,102	8.0 t	
2006 Volvo Dumptruck - 213						
	Diesel Fuel	8,445 litres	327 GJ	\$8,445	23.5 t	
		Total	327 GJ	\$8,445	23.5 t	
2007 Volvo Dumptruck - 218						
	Diesel Fuel	5,677 litres	220 GJ	\$5,677	15.8 t	
		Total	220 GJ	\$5,677	15.8 t	
Diesel Fuel Fire Vehicles						
		Emissions Source	Consumption	Energy	Costs	CO₂e
E-1 08 Spartan Pumper Truck - 234						
	Diesel Fuel	7,696 litres	298 GJ	\$7,696	21.4 t	
	Gasoline	117 litres	4 GJ	\$116	0.3 t	
		Total	302 GJ	\$7,812	21.7 t	
E-11 01 Spartan Pumper Truck - 235						
	Diesel Fuel	4,605 litres	178 GJ	\$4,605	12.8 t	
		Total	178 GJ	\$4,605	12.8 t	
E-12 93 Mack Pumper Truck - 236						
	Diesel Fuel	1,432 litres	55 GJ	\$1,432	4.0 t	
		Total	55 GJ	\$1,432	4.0 t	
R-1 International - 238						
	Diesel Fuel	292 litres	11 GJ	\$292	0.8 t	
	Gasoline	93 litres	3 GJ	\$100	0.2 t	
		Total	15 GJ	\$393	1.0 t	
Tw-1 Spartan Tower Truck - 239						
	Diesel Fuel	783 litres	30 GJ	\$783	2.2 t	
	Gasoline	48 litres	2 GJ	\$57	0.1 t	
		Total	32 GJ	\$839	2.3 t	
Diesel Fuel Light Truck						
		Emissions Source	Consumption	Energy	Costs	CO₂e
2008 Dodge Ram Quad Cab - 248						
	Diesel Fuel	97 litres	4 GJ	\$97	0.3 t	
		Total	4 GJ	\$97	0.3 t	
Diesel Fuel Loaders, Excavators, Graders, &						
		Emissions Source	Consumption	Energy	Costs	CO₂e
1990 John Deere Grader 2316mj - 120						
	Diesel Fuel	328 litres	13 GJ	\$328	0.9 t	
		Total	13 GJ	\$328	0.9 t	
2006 John Deere 710g Backhoe - 223						
	Diesel Fuel	3,362 litres	130 GJ	\$3,362	9.4 t	
		Total	130 GJ	\$3,362	9.4 t	
2006 John Deere Backhoe 2526jt - 214						

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

	Emissions Source	Consumption	Energy	Costs	CO ₂ e
	Diesel Fuel	5,339 litres	207 GJ	\$5,339	14.9 t
	Total		207 GJ	\$5,339	14.9 t
Diesel Fuel Medium to Heavy Trucks	Emissions Source	Consumption	Energy	Costs	CO₂e
1991 Freightliner An4645 - 137					
	Diesel Fuel	487 litres	19 GJ	\$487	1.4 t
	Total		19 GJ	\$487	1.4 t
1992 Gmc Flatdeck 5680bj - 142					
	Diesel Fuel	2,161 litres	84 GJ	\$2,161	6.0 t
	Total		84 GJ	\$2,161	6.0 t
1996 F-4450 Flatdeck 7408aa - 158					
	Diesel Fuel	868 litres	34 GJ	\$868	2.4 t
	Gasoline	59 litres	2 GJ	\$54	0.1 t
	Total		36 GJ	\$921	2.6 t
1996 Ford F450 - 161					
	Diesel Fuel	1,796 litres	69 GJ	\$1,796	5.0 t
	Gasoline	1,131 litres	39 GJ	\$1,141	2.7 t
	Total		109 GJ	\$2,936	7.7 t
1998 Gmc One Ton 2315mj - 171					
	Diesel Fuel	1,439 litres	56 GJ	\$1,439	4.0 t
	Gasoline	66 litres	2 GJ	\$68	0.2 t
	Total		58 GJ	\$1,507	4.2 t
2002 Ford F350 Flatdeck - 195					
	Gasoline	2,613 litres	91 GJ	\$2,734	6.4 t
	Total		91 GJ	\$2,734	6.4 t
2002 Ford F450 - 189					
	Diesel Fuel	873 litres	34 GJ	\$873	2.4 t
	Total		34 GJ	\$873	2.4 t
2002 Grumman Olson (Bucket Truck) - 190					
	Gasoline	2,672 litres	93 GJ	\$2,661	6.5 t
	Total		93 GJ	\$2,661	6.5 t
2004 Johnston Sweeper - 208					
	Diesel Fuel	9,187 litres	355 GJ	\$9,187	25.6 t
	Total		355 GJ	\$9,187	25.6 t
2007 Ford F450 Cube Van 2309mj - 222					
	Diesel Fuel	2,291 litres	89 GJ	\$2,291	6.4 t
	Gasoline	23 litres	1 GJ	\$26	0.1 t
	Total		89 GJ	\$2,316	6.4 t
2008 Ford F450 2464kn - 221					

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

	Diesel Fuel	2,659 litres	103 GJ	\$2,659	7.4 t
	Gasoline	26 litres	1 GJ	\$28	0.1 t
	Propane	16 litres	0 GJ	\$14	0.4 t
	Total		104 GJ	\$2,701	7.8 t
2009 Ford F350 Service Truck - 202					
	Gasoline	2,637 litres	91 GJ	\$2,808	6.4 t
	Propane	18 litres	0 GJ	\$15	0.4 t
	Total		92 GJ	\$2,823	6.8 t
Diesel Fuel Mower and Tractor					
	Emissions Source	Consumption	Energy	Costs	CO₂e
2007 John Deere Tractor - 224					
	Gasoline	104 litres	4 GJ	\$116	0.3 t
	Total		4 GJ	\$116	0.3 t
2007 New Holland Encl. Tractor - 228					
	Diesel Fuel	1,953 litres	76 GJ	\$1,953	5.4 t
	Total		76 GJ	\$1,953	5.4 t
Diesel Fuel Off Road Vehicle & Equipment					
	Emissions Source	Consumption	Energy	Costs	CO₂e
1995 Bobcat - 157					
	Diesel Fuel	86 litres	3 GJ	\$86	0.2 t
	Total		3 GJ	\$86	0.2 t
2008 Well Cargo Trailer - 227					
	Diesel Fuel	147 litres	6 GJ	\$147	0.4 t
	Gasoline	4,579 litres	159 GJ	\$4,776	11.1 t
	Total		164 GJ	\$4,923	11.5 t
Diesel Fuel Passenger Cars					
	Emissions Source	Consumption	Energy	Costs	CO₂e
2006 Smart Car 373 Jpk - 219					
	Diesel Fuel	226 litres	9 GJ	\$226	0.6 t
	Total		9 GJ	\$226	0.6 t
Gasoline Fire Vehicles					
	Emissions Source	Consumption	Energy	Costs	CO₂e
1-10 07 Dodge Pickup Deputy Chief - 232					
	Diesel Fuel	30 litres	1 GJ	\$30	0.1 t
	Gasoline	1,481 litres	51 GJ	\$1,438	3.6 t
	Propane	50 litres	1 GJ	\$50	1.2 t
	Total		54 GJ	\$1,519	4.9 t
1-8 07 Dodge Pickup Asst. Chief - 230					
	Gasoline	1,430 litres	50 GJ	\$1,464	3.5 t
	Total		50 GJ	\$1,464	3.5 t
9-1 2007 Dodge Dakota Fire Chief - 231					
	Gasoline	109 litres	4 GJ	\$110	0.3 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

		Total	4 GJ	\$110	0.3 t
Cm-1 99 Chev - 233					
	Diesel Fuel	83 litres	3 GJ	\$83	0.2 t
	Gasoline	730 litres	25 GJ	\$767	1.8 t
	Propane	27 litres	1 GJ	\$23	0.6 t
	Total		29 GJ	\$873	2.6 t
Gasoline Light Truck, Vans, and SUVs					
	Emissions Source	Consumption	Energy	Costs	CO₂e
2008 Chevy Cargo Van - 243					
	Gasoline	165 litres	6 GJ	\$173	0.4 t
	Total		6 GJ	\$173	0.4 t
2008 Dodge Ram Pickup - 242					
	Gasoline	113 litres	4 GJ	\$113	0.3 t
	Total		4 GJ	\$113	0.3 t
Gasoline Light Trucks, Vans, and SUVs					
	Emissions Source	Consumption	Energy	Costs	CO₂e
1993 Chev Pickup 1029br - 146					
	Diesel Fuel	290 litres	11 GJ	\$290	0.8 t
	Gasoline	450 litres	16 GJ	\$425	1.1 t
	Propane	3,116 litres	79 GJ	\$1,898	73.6 t
	Total		106 GJ	\$2,613	75.5 t
1997 E250 Ford Van - 164					
	Gasoline	96 litres	3 GJ	\$86	0.2 t
	Total		3 GJ	\$86	0.2 t
1998 Chev Pickup 6500ch - 167					
	Diesel Fuel	1,018 litres	39 GJ	\$1,018	2.8 t
	Gasoline	1,849 litres	64 GJ	\$1,930	4.5 t
	Total		103 GJ	\$2,948	7.3 t
1999 Chev Pickup - 176					
	Diesel Fuel	216 litres	8 GJ	\$216	0.6 t
	Gasoline	1,559 litres	54 GJ	\$1,608	3.8 t
	Total		62 GJ	\$1,825	4.4 t
1999 Chev Pickup 7045dd - 175					
	Diesel Fuel	251 litres	10 GJ	\$251	0.7 t
	Gasoline	1,546 litres	54 GJ	\$1,601	3.8 t
	Total		63 GJ	\$1,852	4.5 t
1999 Pickup - 173					
	Diesel Fuel	277 litres	11 GJ	\$277	0.8 t
	Gasoline	845 litres	29 GJ	\$872	2.1 t
	Total		40 GJ	\$1,150	2.8 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

2001 Chevy Pickup Budget Rental - 204					
	Diesel Fuel	2,151 litres	83 GJ	\$2,151	6.0 t
	Total		83 GJ	\$2,151	6.0 t
2002 Ford F250 - 187					
	Gasoline	2,853 litres	99 GJ	\$2,923	6.9 t
	Total		99 GJ	\$2,923	6.9 t
2002 Ford F250 - 192					
	Gasoline	1,705 litres	59 GJ	\$1,720	4.1 t
	Total		59 GJ	\$1,720	4.1 t
2002 Ford F250 - 193					
	Diesel Fuel	553 litres	21 GJ	\$553	1.5 t
	Gasoline	2,500 litres	87 GJ	\$2,569	6.1 t
	Total		108 GJ	\$3,123	7.6 t
2002 Ford F250 - 194					
	Diesel Fuel	617 litres	24 GJ	\$617	1.7 t
	Gasoline	4,203 litres	146 GJ	\$4,308	10.2 t
	Propane	66 litres	2 GJ	\$40	1.6 t
	Total		171 GJ	\$4,964	13.5 t
2004 Ford F150 Bsw - 212					
	Diesel Fuel	87 litres	3 GJ	\$87	0.2 t
	Gasoline	884 litres	31 GJ	\$905	2.1 t
	Total		34 GJ	\$992	2.4 t
2004 Ford F250 - 206					
	Diesel Fuel	113 litres	4 GJ	\$113	0.3 t
	Gasoline	2,206 litres	76 GJ	\$2,334	5.4 t
	Propane	66 litres	2 GJ	\$41	1.6 t
	Total		83 GJ	\$2,488	7.2 t
2004 Jeep Liberty - 207					
	Gasoline	1,170 litres	41 GJ	\$1,197	2.8 t
	Total		41 GJ	\$1,197	2.8 t
2007 Ford Econ Van 8598aj - 220					
	Diesel Fuel	1,276 litres	49 GJ	\$1,276	3.5 t
	Gasoline	2,512 litres	87 GJ	\$2,546	6.1 t
	Total		136 GJ	\$3,822	9.7 t
Gasoline Passenger Car	Emissions Source	Consumption	Energy	Costs	CO₂e
2001 Ford Taurus - 183					
	Gasoline	518 litres	18 GJ	\$536	1.3 t
	Total		18 GJ	\$536	1.3 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

2001 Ford Taurus - 185					
	Diesel Fuel	47 litres	2 GJ	\$47	0.1 t
	Gasoline	1,089 litres	38 GJ	\$1,123	2.6 t
	Total		40 GJ	\$1,170	2.8 t
2008 Nissan Versa Hb - 226					
	Gasoline	1,293 litres	45 GJ	\$1,337	3.1 t
	Total		45 GJ	\$1,337	3.1 t
Unidentified					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
- (Blank)					
	Gasoline	118 litres	4 GJ	\$129	0.3 t
	Total		4 GJ	\$129	0.3 t
- 1796					
	Gasoline	99 litres	3 GJ	\$107	0.2 t
	Total		3 GJ	\$107	0.2 t
- 125					
	Gasoline	104 litres	4 GJ	\$111	0.3 t
	Total		4 GJ	\$111	0.3 t
- 2222					
	Diesel Fuel	98 litres	4 GJ	\$98	0.3 t
	Gasoline	114 litres	4 GJ	\$107	0.3 t
	Total		8 GJ	\$205	0.5 t
Misc. Tank - 247					
	Gasoline	30 litres	1 GJ	\$33	0.1 t
	Total		1 GJ	\$33	0.1 t
SOLID WASTE					
Administration Office					
	Emissions Source		Volume	Mass	CO ₂ e
<i>City Hall And Library - 20399 Douglas Crs</i>					
	<i>Solid Waste</i>		<i>312 cu. yds</i>	<i>46.80 t</i>	<i>24.8 t</i>
			<i>312 cu. yds</i>	<i>47 t</i>	<i>24.8 t</i>
Community Centre					
	Emissions Source		Volume	Mass	CO ₂ e
<i>Douglas Recreation Centre - 20550 Douglas Crs</i>					
	<i>Solid Waste</i>		<i>156 cu. yds</i>	<i>23.40 t</i>	<i>12.4 t</i>
			<i>156 cu. yds</i>	<i>23 t</i>	<i>12.4 t</i>
<i>Nicomel Multi Purpose Room - 20050 53rd Ave</i>					
	<i>Solid Waste</i>		<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
			<i>78 cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>Timms Community Centre - 20355 Douglas Crs</i>					

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2009

	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
Fire Services	Emissions Source	Volume	Mass	CO₂e
<i>Fire Hall - 5785 203rd St</i>				
	<i>Solid Waste</i>	<i>312 cu. yds</i>	<i>46.80 t</i>	<i>24.8 t</i>
		<i>312cu. yds</i>	<i>47 t</i>	<i>24.8 t</i>
Outdoor Pools	Emissions Source	Volume	Mass	CO₂e
<i>Anderson Memorial Pool - 4949 207th St</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
Parks & Playing Fields	Emissions Source	Volume	Mass	CO₂e
<i>Brydon Park - 5353 198 St</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>City Park - 20695 48th Ave</i>				
	<i>Solid Waste</i>	<i>156 cu. yds</i>	<i>23.40 t</i>	<i>12.4 t</i>
		<i>156cu. yds</i>	<i>23 t</i>	<i>12.4 t</i>
<i>Conder Park - 19810 50th Ave</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>Lindwood Park - 5470 201st St</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>Portage Park - 5151 204th St</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>Rotary Centennial Park - 5514 208th St</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
<i>Sendall Gardens - 20166 50th Ave</i>				
	<i>Solid Waste</i>	<i>78 cu. yds</i>	<i>11.70 t</i>	<i>6.2 t</i>
		<i>78cu. yds</i>	<i>12 t</i>	<i>6.2 t</i>
Public Works Bldg & Yard	Emissions Source	Volume	Mass	CO₂e
<i>Operations Centre - 5713 198th St</i>				
	<i>Solid Waste</i>	<i>624 cu. yds</i>	<i>93.60 t</i>	<i>49.6 t</i>
		<i>624cu. yds</i>	<i>94 t</i>	<i>49.6 t</i>

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Appendices

Appendix IV: 2010 Inventory



Langley City Corporate Inventory

2010 Account-by-Account Listing

Partners for Climate Protection and
Climate Action Charter formatting

BUILDINGS

Administration Office	Emissions Source	Consumption	Energy	Costs	CO ₂ e
City Hall And Library - 20399 Douglas Crs					
	Electricity	556,635 kWh	2,004 GJ	\$36,928	0.0 t
	Natural Gas	947 GJ	947 GJ	\$12,959	47.8 t
	Total		2,951 GJ	\$49,887	47.8 t
Community Centre	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Douglas Recreation Centre - 20550 Douglas Crs					
	Electricity	103,200 kWh	372 GJ	\$9,383	0.0 t
	Natural Gas	342 GJ	342 GJ	\$4,868	17.3 t
	Total		714 GJ	\$14,251	17.3 t
Nicomekl Multi Purpose Room - 20050 53rd Ave					
	Electricity	1,885 kWh	7 GJ	\$239	0.0 t
	Total		7 GJ	\$239	0.0 t
Timms Community Centre - 20355 Douglas Crs					
	Electricity	93,460 kWh	336 GJ	\$8,665	0.0 t
	Natural Gas	401 GJ	401 GJ	\$5,596	20.3 t
	Total		738 GJ	\$14,260	20.3 t
Fire Services	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Fire Hall - 5785 203rd St					
	Electricity	252,387 kWh	909 GJ	\$20,742	0.0 t
	Natural Gas	946 GJ	946 GJ	\$12,618	47.7 t
	Total		1,854 GJ	\$33,360	47.7 t
Heritage Site	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Innes Corners Plaza - 20399 Fraser Hwy					
	Electricity	69,880 kWh	252 GJ	\$6,548	0.0 t
	Total		252 GJ	\$6,548	0.0 t
Outdoor Pools	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Anderson Memorial Pool - 4949 207th St					
	Electricity	136,005 kWh	490 GJ	\$12,415	0.0 t
	Natural Gas	2,497 GJ	2,497 GJ	\$8,724	126.0 t
	Total		2,987 GJ	\$21,139	126.0 t
Parks & Playing Fields	Emissions Source	Consumption	Energy	Costs	CO ₂ e

2010 Energy & Greenhouse Gas Emissions Inventory
 Hyla Environmental Services Ltd.,
 Port Moody, BC rhaycock@hesltd.ca
 M: 604.469.2910
 see next page for explanation of special formatting



Energy & Emissions Monitoring and Reporting System™ v4.0

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Brydon Park - 5353 198 St					
	Electricity	7,076 kWh	25 GJ	\$725	0.0 t
	Total		25 GJ	\$725	0.0 t
City Park - 20695 48th Ave					
	Electricity	77 kWh	0 GJ	\$76	0.0 t
	Total		0 GJ	\$76	0.0 t
City Park - 4897 207th St					
	Electricity	7,473 kWh	27 GJ	\$742	0.0 t
	Total		27 GJ	\$742	0.0 t
Conder Park - 19810 50th Ave					
	Electricity	5,634 kWh	20 GJ	\$590	0.0 t
	Total		20 GJ	\$590	0.0 t
Linwood Park - 5470 201st St					
	Electricity	11,449 kWh	41 GJ	\$1,130	0.0 t
	Total		41 GJ	\$1,130	0.0 t
Portage Park - 5151 204th St					
	Electricity	6,008 kWh	22 GJ	\$607	0.0 t
	Total		22 GJ	\$607	0.0 t
Rotary Centennial Park - 5514 208th St					
	Electricity	21,975 kWh	79 GJ	\$2,094	0.0 t
	Total		79 GJ	\$2,094	0.0 t
Sendall Gardens - 20166 50th Ave					
	Electricity	23,975 kWh	86 GJ	\$2,042	0.0 t
	Natural Gas	964 GJ	964 GJ	\$10,873	48.7 t
	Total		1,050 GJ	\$12,915	48.7 t
Police Services					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
<i>Community Police Office - 20408 Douglas Crs 100</i>					
	Electricity	45,696 kWh	165 GJ	\$4,198	0.0 t
	Total		165 GJ	\$4,198	0.0 t
Public Works Bldg & Yard					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Operations Centre - 5713 198th St					
	Electricity	136,094 kWh	490 GJ	\$13,731	0.0 t
	Natural Gas	1,220 GJ	1,220 GJ	\$16,195	61.6 t
	Total		1,710 GJ	\$29,926	61.6 t
Unidentified					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
School - 20060 Fraser Hwy					
	Electricity	488 kWh	2 GJ	\$40	0.0 t
	Total		2 GJ	\$40	0.0 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Flashers continued...

LIGHTING					
Flashing Warning Lights	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Flashers - 4950 200th St					
	Electricity	2,237 kWh	8 GJ	\$277	0.0 t
	Total		8 GJ	\$277	0.0 t
Flashers - 20800 Grade Crs					
	Electricity	241 kWh	1 GJ	\$93	0.0 t
	Total		1 GJ	\$93	0.0 t
Ornamental Lighting	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Decorative Lighting - 5494 Salt Lane Ltg					
	Electricity	33,557 kWh	121 GJ	\$3,207	0.0 t
	Total		121 GJ	\$3,207	0.0 t
Downtown Lighting - 5525 Salt Ln					
	Electricity	32,965 kWh	119 GJ	\$3,179	0.0 t
	Total		119 GJ	\$3,179	0.0 t
Lightstand - 203a St S Of Logan					
	Electricity	6,827 kWh	25 GJ	\$713	0.0 t
	Total		25 GJ	\$713	0.0 t
M O L - 20300 Douglas Crs					
	Electricity	43,039 kWh	155 GJ	\$3,954	0.0 t
	Total		155 GJ	\$3,954	0.0 t
Ornamental Street Lighting 1 - - Various Locations					
	Electricity	946,839 kWh	3,409 GJ	\$75,657	0.0 t
	Total		3,409 GJ	\$75,657	0.0 t
Ornamental Street Lighting 10 - 5755 203rd St					
	Electricity	15,572 kWh	56 GJ	\$1,520	0.0 t
	Total		56 GJ	\$1,520	0.0 t
Ornamental Street Lighting 11 - 20875 Fraser Hwy					
	Electricity	6,109 kWh	22 GJ	\$632	0.0 t
	Total		22 GJ	\$632	0.0 t
Ornamental Street Lighting 12 - 20875 Fraser Hwy					
	Electricity	32,335 kWh	116 GJ	\$3,052	0.0 t
	Total		116 GJ	\$3,052	0.0 t
Ornamental Street Lighting 15 - 20151 Fraser Hwy					
	Electricity	4,171 kWh	15 GJ	\$460	0.0 t
	Total		15 GJ	\$460	0.0 t
Ornamental Street Lighting 2 - 19620 48th Ave					

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Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Ornamental Street Lighting 2

	Electricity	25,050 kWh	90 GJ	\$2,415	0.0 t
	Total		90 GJ	\$2,415	0.0 t
Ornamental Street Lighting 3 - 5475 206th St					
	Electricity	1,394 kWh	5 GJ	\$319	0.0 t
	Total		5 GJ	\$319	0.0 t
Ornamental Street Lighting 5 - 20400 Fraser Hwy					
	Electricity	16,446 kWh	59 GJ	\$1,614	0.0 t
	Total		59 GJ	\$1,614	0.0 t
Ornamental Street Lighting 6 - 5500 207th St					
	Electricity	21,955 kWh	79 GJ	\$2,128	0.0 t
	Total		79 GJ	\$2,128	0.0 t
Ornamental Street Lighting 7 - 20500 Douglas Crs					
	Electricity	37,499 kWh	135 GJ	\$3,402	0.0 t
	Total		135 GJ	\$3,402	0.0 t
Ornamental Street Lighting 8 - 20600 Douglas Crs					
	Electricity	17,341 kWh	62 GJ	\$1,680	0.0 t
	Total		62 GJ	\$1,680	0.0 t
Ornamental Street Lighting 9 - 20655 Fraser Hwy					
	Electricity	12,936 kWh	47 GJ	\$1,284	0.0 t
	Total		47 GJ	\$1,284	0.0 t
Overhead Lighting (Leased from BC Hydro)					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Overhead Streetlighting - Overhead Street Ltg					
	Electricity	172,397 kWh	621 GJ	\$64,105	0.0 t
	Total		621 GJ	\$64,105	0.0 t
Parking Lot Lighting (open)					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Parking Lot Lights - 20376 56th Ave					
	Electricity	1,995 kWh	7 GJ	\$256	0.0 t
	Total		7 GJ	\$256	0.0 t
Parks & Playing Fields					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
City Park Ball Park Lighting - 20600 51st Ave					
	Electricity	6,928 kWh	25 GJ	\$1,611	0.0 t
	Total		25 GJ	\$1,611	0.0 t
City Park Unidentified (Field Lighting?) - 4897 207th St Lts					
	Electricity	2,262 kWh	8 GJ	\$277	0.0 t
	Total		8 GJ	\$277	0.0 t
Seasonal Decorative Outdoor Lighting					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Christmas Lighting - 20151 Fraser Hwy					

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Christmas Lighting continued...

	Emissions Source	Consumption	Energy	Costs	CO ₂ e
	Electricity	661 kWh	2 GJ	\$139	0.0 t
	Total		2 GJ	\$139	0.0 t
Sign Lighting	Emissions Source	Consumption	Energy	Costs	CO₂e
Landfill Kiosk - 4425 206th St					
	Electricity	24,200 kWh	87 GJ	\$2,257	0.0 t
	Total		87 GJ	\$2,257	0.0 t
Sign - 20500 Mcburney Ln					
	Electricity	10,294 kWh	37 GJ	\$1,036	0.0 t
	Total		37 GJ	\$1,036	0.0 t
Traffic Signal	Emissions Source	Consumption	Energy	Costs	CO₂e
Railway Crossing - 19925 Fraser Hwy					
	Electricity	2,248 kWh	8 GJ	\$277	0.0 t
	Total		8 GJ	\$277	0.0 t
Traffic Signal - 4600 200th St					
	Electricity	240 kWh	1 GJ	\$20	0.0 t
	Total		1 GJ	\$20	0.0 t
Traffic Signal - 4602 208th St					
	Electricity	875 kWh	3 GJ	\$72	0.0 t
	Total		3 GJ	\$72	0.0 t
Traffic Signal - 4800 208th St					
	Electricity	2,506 kWh	9 GJ	\$205	0.0 t
	Total		9 GJ	\$205	0.0 t
Traffic Signal - 4800 200th St					
	Electricity	2,530 kWh	9 GJ	\$207	0.0 t
	Total		9 GJ	\$207	0.0 t
Traffic Signal - Grade Crs 200th St					
	Electricity	2,577 kWh	9 GJ	\$211	0.0 t
	Total		9 GJ	\$211	0.0 t
Traffic Signal - 200th St 53rd Ave					
	Electricity	2,937 kWh	11 GJ	\$240	0.0 t
	Total		11 GJ	\$240	0.0 t
Traffic Signal - 5600 206th St					
	Electricity	2,386 kWh	9 GJ	\$195	0.0 t
	Total		9 GJ	\$195	0.0 t
Traffic Signal - 20400 53rd Ave					
	Electricity	2,160 kWh	8 GJ	\$177	0.0 t
	Total		8 GJ	\$177	0.0 t

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Traffic Signal - 20500 53rd Ave					
	Electricity	9,552 kWh	34 GJ	\$781	0.0 t
	Total		34 GJ	\$781	0.0 t
Traffic Signal - 20298 Grade Crs					
	Electricity	2,676 kWh	10 GJ	\$219	0.0 t
	Total		10 GJ	\$219	0.0 t
Traffic Signal - 203rd St 53rd Ave					
	Electricity	2,268 kWh	8 GJ	\$185	0.0 t
	Total		8 GJ	\$185	0.0 t
Traffic Signal - Michaud Crs 200th St					
	Electricity	2,721 kWh	10 GJ	\$223	0.0 t
	Total		10 GJ	\$223	0.0 t
Traffic Signal - Douglas Crs 203 St 56 Ave					
	Electricity	3,984 kWh	14 GJ	\$326	0.0 t
	Total		14 GJ	\$326	0.0 t
Traffic Signal - Douglas Crs 204 St					
	Electricity	2,352 kWh	8 GJ	\$192	0.0 t
	Total		8 GJ	\$192	0.0 t
Traffic Signal - 20800 Fraser Hwy					
	Electricity	1,476 kWh	5 GJ	\$121	0.0 t
	Total		5 GJ	\$121	0.0 t
Traffic Signal - 20800 51b Ave					
	Electricity	2,278 kWh	8 GJ	\$186	0.0 t
	Total		8 GJ	\$186	0.0 t
Traffic Signal - 20700 51b Ave					
	Electricity	1,942 kWh	7 GJ	\$159	0.0 t
	Total		7 GJ	\$159	0.0 t
Traffic Signal - Glover Rd Eastleigh Crs					
	Electricity	2,280 kWh	8 GJ	\$186	0.0 t
	Total		8 GJ	\$186	0.0 t
Traffic Signal - Glover Rd Kwantlen College Entrance					
	Electricity	1,956 kWh	7 GJ	\$160	0.0 t
	Total		7 GJ	\$160	0.0 t
Traffic Signal - Glover Rd Duncan Way					
	Electricity	2,040 kWh	7 GJ	\$167	0.0 t
	Total		7 GJ	\$167	0.0 t
Traffic Signal - 200th St Production Way Logan Ave					
	Electricity	3,372 kWh	12 GJ	\$276	0.0 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Traffic Signal continued...

	Total		12 GJ	\$276	0.0 t
Traffic Signal - 56th Ave 201a St					
Electricity	2,292 kWh	8 GJ	\$187	0.0 t	
Total		8 GJ	\$187	0.0 t	
Traffic Signal - 200th St 56th Ave					
Electricity	3,072 kWh	11 GJ	\$251	0.0 t	
Total		11 GJ	\$251	0.0 t	
Traffic Signal - 20000 Fraser Hwy					
Electricity	3,396 kWh	12 GJ	\$278	0.0 t	
Total		12 GJ	\$278	0.0 t	
Traffic Signal - Glover Rd Logan Ave					
Electricity	2,373 kWh	9 GJ	\$194	0.0 t	
Total		9 GJ	\$194	0.0 t	
Traffic Signal - 20400 Logan Ave					
Electricity	719 kWh	3 GJ	\$59	0.0 t	
Total		3 GJ	\$59	0.0 t	
Traffic Signal - 20300 Fraser Hwy					
Electricity	2,340 kWh	8 GJ	\$191	0.0 t	
Total		8 GJ	\$191	0.0 t	
Traffic Signal - 20150 Fraser Hwy					
Electricity	2,652 kWh	10 GJ	\$217	0.0 t	
Total		10 GJ	\$217	0.0 t	
Traffic Signal - 19900 Fraser Hwy					
Electricity	1,752 kWh	6 GJ	\$143	0.0 t	
Total		6 GJ	\$143	0.0 t	
Traffic Signal - 203rd St South Of Michaud Crs					
Electricity	815 kWh	3 GJ	\$67	0.0 t	
Total		3 GJ	\$67	0.0 t	
Traffic Signal - Fraser Hwy 56th Ave					
Electricity	1,512 kWh	5 GJ	\$124	0.0 t	
Total		5 GJ	\$124	0.0 t	
Traffic Signal - 20900 Fraser Hwy					
Electricity	2,856 kWh	10 GJ	\$234	0.0 t	
Total		10 GJ	\$234	0.0 t	
Traffic Signal - Langley B/P 56 Ave					
Electricity	3,060 kWh	11 GJ	\$250	0.0 t	
Total		11 GJ	\$250	0.0 t	
Traffic Signal - 20300 Logan Ave					

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Traffic Signal continued...

	Electricity	2,496 kWh	9 GJ	\$204	0.0 t
	Total		9 GJ	\$204	0.0 t
Traffic Signal - 20300 Grade Crs					
	Electricity	2,247 kWh	8 GJ	\$277	0.0 t
	Total		8 GJ	\$277	0.0 t
Traffic Signal - 56 Ave 208 St					
	Electricity	2,484 kWh	9 GJ	\$196	0.0 t
	Total		9 GJ	\$196	0.0 t
Traffic Signal - 204 St Park Ave					
	Electricity	2,532 kWh	9 GJ	\$199	0.0 t
	Total		9 GJ	\$199	0.0 t
Traffic Signal - 51b Ave 206 St					
	Electricity	2,036 kWh	7 GJ	\$161	0.0 t
	Total		7 GJ	\$161	0.0 t
Traffic Signal - 56 Ave Glover Rd					
	Electricity	2,347 kWh	8 GJ	\$185	0.0 t
	Total		8 GJ	\$185	0.0 t
Traffic Signal - 53 Ave 51b St					
	Electricity	1,700 kWh	6 GJ	\$134	0.0 t
	Total		6 GJ	\$134	0.0 t
Traffic Signal - 206 St Douglas Crs					
	Electricity	816 kWh	3 GJ	\$64	0.0 t
	Total		3 GJ	\$64	0.0 t
Traffic Signal - 198 St 56 Ave					
	Electricity	1,896 kWh	7 GJ	\$155	0.0 t
	Total		7 GJ	\$155	0.0 t
Unidentified	Emissions Source	Consumption	Energy	Costs	CO₂e
-- 20188 Fraser Hwy Ltg					
	Electricity	14,246 kWh	51 GJ	\$1,401	0.0 t
	Total		51 GJ	\$1,401	0.0 t
WATER & WASTEWATER					
Liquid Waste Lift Station	Emissions Source	Consumption	Energy	Costs	CO₂e
Duncan Way Lift Station - 20679 Duncan Way					
	Electricity	40,349 kWh	145 GJ	\$3,830	0.0 t
	Total		145 GJ	\$3,830	0.0 t
Langley Bypass Liftstation - 5775 Langley Byp					
	Electricity	27,684 kWh	100 GJ	\$2,622	0.0 t

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

Langley Bypass Liftstation continued...

		Total	100 GJ	\$2,622	0.0 t
Leachate Lift Station - 4511 204 St					
	Electricity	18,175 kWh	65 GJ	\$1,703	0.0 t
		Total	65 GJ	\$1,703	0.0 t
Old Yale Lift Station - 20918 Old Yale Rd					
	Electricity	17,183 kWh	62 GJ	\$1,616	0.0 t
		Total	62 GJ	\$1,616	0.0 t
Potable Water Reservoir					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Langley Water Reservoir - 20050 47a Ave					
	Electricity	403,281 kWh	1,452 GJ	\$29,884	0.0 t
		Total	1,452 GJ	\$29,884	0.0 t
Remote Valve Chamber					
Remote Valve Chamber - 20100 54a Ave					
	Electricity	1,951 kWh	7 GJ	\$251	0.0 t
		Total	7 GJ	\$251	0.0 t
Remote Valve Chamber - 20300 54a Ave					
	Electricity	2,230 kWh	8 GJ	\$270	0.0 t
		Total	8 GJ	\$270	0.0 t
Remote Valve Chamber - 20500 53a Ave					
	Electricity	2,210 kWh	8 GJ	\$276	0.0 t
		Total	8 GJ	\$276	0.0 t
Sewage Treatment Lagoon					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
Lagoon Pumps - 5243 198 St					
	Electricity	kWh	GJ	\$71	
			GJ	\$71	
VEHICLE FLEET					
Diesel Fuel Dump Trucks					
	Emissions Source	Consumption	Energy	Costs	CO ₂ e
1999 Ford Dump 6505ch - 168					
	Diesel Fuel	1,365 litres	53 GJ	\$1,516	3.7 t
		Total	53 GJ	\$1,516	3.7 t
2006 Ford F550 Dump 9856ky - 225					
	Diesel Fuel	2,548 litres	99 GJ	\$2,849	6.9 t
		Total	99 GJ	\$2,849	6.9 t
2006 Volvo Dumptruck - 213					
	Diesel Fuel	7,699 litres	298 GJ	\$8,645	20.9 t
		Total	298 GJ	\$8,645	20.9 t
2007 Volvo Dumptruck - 218					

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

	Diesel Fuel	7,460 litres	289 GJ	\$8,366	20.3 t
	Total		289 GJ	\$8,366	20.3 t
Diesel Fuel Fire Vehicles	Emissions Source	Consumption	Energy	Costs	CO₂e
E-1 08 Spartan Pumper Truck - 234					
	Diesel Fuel	7,805 litres	302 GJ	\$8,756	21.2 t
	Gasoline	90 litres	3 GJ	\$105	0.2 t
	Total		305 GJ	\$8,861	21.4 t
E-11 01 Spartan Pumper Truck - 235					
	Diesel Fuel	4,584 litres	177 GJ	\$5,086	12.4 t
	Gasoline	67 litres	2 GJ	\$78	0.2 t
	Total		180 GJ	\$5,165	12.6 t
E-12 93 Mack Pumper Truck - 236					
	Diesel Fuel	1,725 litres	67 GJ	\$1,865	4.7 t
	Gasoline	115 litres	4 GJ	\$124	0.3 t
	Total		71 GJ	\$1,989	5.0 t
R-1 International - 238					
	Diesel Fuel	328 litres	13 GJ	\$370	0.9 t
	Total		13 GJ	\$370	0.9 t
Tw-1 Spartan Tower Truck - 239					
	Diesel Fuel	640 litres	25 GJ	\$715	1.7 t
	Total		25 GJ	\$715	1.7 t
Diesel Fuel Light Truck	Emissions Source	Consumption	Energy	Costs	CO₂e
2008 Dodge Ram Quad Cab - 248					
	Diesel Fuel	53 litres	2 GJ	\$58	0.1 t
	Gasoline	108 litres	4 GJ	\$125	0.3 t
	Propane	18 litres	0 GJ	\$15	0.4 t
	Total		6 GJ	\$199	0.8 t
2010 Ford F550 Van - 257					
	Diesel Fuel	135 litres	5 GJ	\$148	0.4 t
	Total		5 GJ	\$148	0.4 t
Diesel Fuel Loaders, Excavators, Graders, &	Emissions Source	Consumption	Energy	Costs	CO₂e
1990 John Deere Grader 2316mj - 120					
	Diesel Fuel	590 litres	23 GJ	\$699	1.6 t
	Total		23 GJ	\$699	1.6 t
2006 John Deere 710g Backhoe - 223					
	Diesel Fuel	5,028 litres	194 GJ	\$5,656	13.6 t
	Total		194 GJ	\$5,656	13.6 t
2006 John Deere Backhoe 2526jt - 214					

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

	Emissions Source	Consumption	Energy	Costs	CO ₂ e
	Diesel Fuel	3,794 litres	147 GJ	\$4,203	10.3 t
	Total		147 GJ	\$4,203	10.3 t
Diesel Fuel Medium to Heavy Trucks	Emissions Source	Consumption	Energy	Costs	CO₂e
1991 Freightliner An4645 - 137					
	Diesel Fuel	445 litres	17 GJ	\$515	1.2 t
	Total		17 GJ	\$515	1.2 t
1992 Gmc Flatdeck 5680bj - 142					
	Diesel Fuel	1,882 litres	73 GJ	\$2,116	5.1 t
	Total		73 GJ	\$2,116	5.1 t
1996 Ford F450 - 161					
	Diesel Fuel	1,510 litres	58 GJ	\$1,704	4.1 t
	Gasoline	25 litres	1 GJ	\$29	0.1 t
	Total		59 GJ	\$1,733	4.2 t
1998 Gmc One Ton 2315mj - 171					
	Diesel Fuel	2,123 litres	82 GJ	\$2,391	5.8 t
	Propane	83 litres	2 GJ	\$71	2.0 t
	Total		84 GJ	\$2,462	7.7 t
2002 Ford F350 Flatdeck - 195					
	Diesel Fuel	259 litres	10 GJ	\$290	0.7 t
	Gasoline	2,793 litres	97 GJ	\$3,211	6.8 t
	Total		107 GJ	\$3,501	7.5 t
2002 Ford F450 - 189					
	Diesel Fuel	830 litres	32 GJ	\$927	2.3 t
	Propane	12 litres	0 GJ	\$10	0.3 t
	Total		32 GJ	\$937	2.5 t
2002 Grumman Olson (Bucket Truck) - 190					
	Gasoline	1,858 litres	64 GJ	\$2,119	4.5 t
	Total		64 GJ	\$2,119	4.5 t
2004 Johnston Sweeper - 208					
	Diesel Fuel	11,141 litres	431 GJ	\$11,363	30.2 t
	Total		431 GJ	\$11,363	30.2 t
2007 Ford F450 Cube Van 2309mj - 222					
	Diesel Fuel	2,689 litres	104 GJ	\$3,150	7.3 t
	Gasoline	68 litres	2 GJ	\$74	0.2 t
	Total		106 GJ	\$3,224	7.5 t
2008 Ford F450 2464kn - 221					
	Diesel Fuel	2,144 litres	83 GJ	\$2,381	5.8 t
	Gasoline	133 litres	5 GJ	\$160	0.3 t

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Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

2008 Ford F450 2464kn continued...

		Total	88 GJ	\$2,541	6.1 t	
2009 Ford F350 Service Truck - 202						
	Diesel Fuel	259 litres	10 GJ	\$302	0.7 t	
	Gasoline	2,552 litres	88 GJ	\$2,914	6.2 t	
	Propane	46 litres	1 GJ	\$40	1.1 t	
	Total		100 GJ	\$3,257	8.0 t	
2009 Sterling - 241						
	Diesel Fuel	416 litres	16 GJ	\$469	1.1 t	
	Total		16 GJ	\$469	1.1 t	
2010 Dodge 5500 - 251						
	Diesel Fuel	1,455 litres	56 GJ	\$1,667	3.9 t	
	Gasoline	114 litres	4 GJ	\$134	0.3 t	
	Total		60 GJ	\$1,802	4.2 t	
Diesel Fuel Mower and Tractor		Emissions Source	Consumption	Energy	Costs	CO₂e
2002 Holland Tractor - 188						
	Gasoline	114 litres	4 GJ	\$130	0.3 t	
	Total		4 GJ	\$130	0.3 t	
2007 New Holland Encl. Tractor - 228						
	Diesel Fuel	2,057 litres	80 GJ	\$2,293	5.6 t	
	Total		80 GJ	\$2,293	5.6 t	
Diesel Fuel Off Road Vehicle & Equipment		Emissions Source	Consumption	Energy	Costs	CO₂e
1995 Bobcat - 157						
	Gasoline	82 litres	3 GJ	\$96	0.2 t	
	Total		3 GJ	\$96	0.2 t	
1996 Rainbow Parks Trailer - 162						
	Diesel Fuel	118 litres	5 GJ	\$130	0.3 t	
	Gasoline	111 litres	4 GJ	\$130	0.3 t	
	Total		8 GJ	\$260	0.6 t	
2008 Well Cargo Trailer - 227						
	Diesel Fuel	171 litres	7 GJ	\$215	0.5 t	
	Gasoline	2,445 litres	85 GJ	\$2,722	5.9 t	
	Total		91 GJ	\$2,937	6.4 t	
Gator Utility Vehicle - 229						
	Diesel Fuel	53 litres	2 GJ	\$59	0.1 t	
	Total		2 GJ	\$59	0.1 t	
Diesel Fuel Passenger Cars		Emissions Source	Consumption	Energy	Costs	CO₂e
2006 Smart Car 373 Jpk - 219						
	Diesel Fuel	79 litres	3 GJ	\$88	0.2 t	

Langley City Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

2006 Smart Car 373 Jpk continued...

	Gasoline	62 litres	2 GJ	\$68	0.1 t
	Total		5 GJ	\$156	0.4 t
Gasoline Fire Vehicles					
	Emissions Source	Consumption	Energy	Costs	CO₂e
1-10 07 Dodge Pickup Deputy Chief - 232					
	Gasoline	3,804 litres	132 GJ	\$4,450	9.3 t
	Total		132 GJ	\$4,450	9.3 t
2010 Chevy Malibu - 240					
	Gasoline	109 litres	4 GJ	\$129	0.3 t
	Total		4 GJ	\$129	0.3 t
9-1 2007 Dodge Dakota Fire Chief - 231					
	Gasoline	1,864 litres	65 GJ	\$2,044	4.5 t
	Total		65 GJ	\$2,044	4.5 t
Cm-1 99 Chev - 233					
	Gasoline	141 litres	5 GJ	\$152	0.3 t
	Total		5 GJ	\$152	0.3 t
Gasoline Light Truck, Vans, and SUVs					
	Emissions Source	Consumption	Energy	Costs	CO₂e
2008 Chevy Cargo Van - 243					
	Diesel Fuel	347 litres	13 GJ	\$406	0.9 t
	Gasoline	2,547 litres	88 GJ	\$2,961	6.2 t
	Total		102 GJ	\$3,367	7.1 t
2008 Dodge Ram Pickup - 242					
	Gasoline	1,572 litres	54 GJ	\$1,839	3.8 t
	Total		54 GJ	\$1,839	3.8 t
2010 Dodge Dakota Crew Cab - 250					
	Gasoline	537 litres	19 GJ	\$615	1.3 t
	Total		19 GJ	\$615	1.3 t
2010 Ford F250 Crew Cab - 249					
	Diesel Fuel	113 litres	4 GJ	\$190	0.3 t
	Gasoline	1,589 litres	55 GJ	\$1,850	3.9 t
	Total		59 GJ	\$2,040	4.2 t
Gasoline Light Trucks, Vans, and SUVs					
	Emissions Source	Consumption	Energy	Costs	CO₂e
1993 Chev Pickup 1029br - 146					
	Diesel Fuel	335 litres	13 GJ	\$364	0.9 t
	Gasoline	2,845 litres	99 GJ	\$3,272	6.9 t
	Propane	442 litres	11 GJ	\$333	10.5 t
	Total		123 GJ	\$3,970	18.3 t
1998 Chev Pickup 6500ch - 167					
	Diesel Fuel	745 litres	29 GJ	\$884	2.0 t

Accounts with strikethrough formatting (e.g., ~~2,000~~) indicate consumption amounts that do not count in FCM PCP inventories.
Accounts with italicized formatting (e.g., *2,000*) indicate consumption amounts that do not count in Provincial CAC inventories.

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Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

1998 Chev Pickup 6500ch continued...

	Gasoline	2,097 litres	73 GJ	\$2,382	5.1 t
	Total		101 GJ	\$3,266	7.1 t
1999 Chev Pickup - 176					
	Gasoline	498 litres	17 GJ	\$544	1.2 t
	Total		17 GJ	\$544	1.2 t
1999 Chev Pickup 7045dd - 175					
	Diesel Fuel	195 litres	8 GJ	\$216	0.5 t
	Gasoline	1,458 litres	51 GJ	\$1,670	3.5 t
	Total		58 GJ	\$1,886	4.1 t
1999 Pickup - 173					
	Diesel Fuel	212 litres	8 GJ	\$242	0.6 t
	Gasoline	783 litres	27 GJ	\$891	1.9 t
	Total		35 GJ	\$1,133	2.5 t
2001 Chevy Pickup Budget Rental - 204					
	Diesel Fuel	1,708 litres	66 GJ	\$1,886	4.6 t
	Total		66 GJ	\$1,886	4.6 t
2002 Ford F250 - 187					
	Diesel Fuel	312 litres	12 GJ	\$364	0.8 t
	Gasoline	1,849 litres	64 GJ	\$2,103	4.5 t
	Total		76 GJ	\$2,467	5.3 t
2002 Ford F250 - 192					
	Gasoline	1,815 litres	63 GJ	\$2,098	4.4 t
	Total		63 GJ	\$2,098	4.4 t
2002 Ford F250 - 193					
	Diesel Fuel	230 litres	9 GJ	\$265	0.6 t
	Gasoline	2,496 litres	86 GJ	\$2,833	6.1 t
	Propane	90 litres	2 GJ	\$78	2.1 t
	Total		98 GJ	\$3,175	8.8 t
2002 Ford F250 - 194					
	Diesel Fuel	228 litres	9 GJ	\$269	0.6 t
	Gasoline	3,915 litres	136 GJ	\$4,482	9.5 t
	Total		145 GJ	\$4,751	10.1 t
2004 Ford F150 Bsw - 212					
	Gasoline	330 litres	11 GJ	\$373	0.8 t
	Propane	85 litres	2 GJ	\$92	2.0 t
	Total		14 GJ	\$465	2.8 t
2004 Ford F250 - 206					
	Gasoline	2,438 litres	84 GJ	\$2,814	5.9 t

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

- 159	Gasoline	90 litres	3 GJ	\$97	0.2 t
	Total		3 GJ	\$97	0.2 t
- 205	Diesel Fuel	410 litres	16 GJ	\$462	1.1 t
	Total		16 GJ	\$462	1.1 t
- 2194	Diesel Fuel	18 litres	1 GJ	\$19	0.0 t
	Total		1 GJ	\$19	0.0 t
- 2222	Diesel Fuel	132 litres	5 GJ	\$141	0.4 t
	Total		5 GJ	\$141	0.4 t

SOLID WASTE

Administration Office	Emissions Source	Volume	Mass	CO ₂ e
<i>City Hall And Library - 20399 Douglas Crs</i>				
	Solid Waste	312 cu. yds	46.80 t	24.8 t
		312cu. yds	47 t	24.8 t
Community Centre	Emissions Source	Volume	Mass	CO ₂ e
<i>Douglas Recreation Centre - 20550 Douglas Crs</i>				
	Solid Waste	156 cu. yds	23.40 t	12.4 t
		156cu. yds	23 t	12.4 t
<i>Nicomekl Multi Purpose Room - 20050 53rd Ave</i>				
	Solid Waste	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
<i>Timms Community Centre - 20355 Douglas Crs</i>				
	Solid Waste	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
Fire Services	Emissions Source	Volume	Mass	CO ₂ e
<i>Fire Hall - 5785 203rd St</i>				
	Solid Waste	312 cu. yds	46.80 t	24.8 t
		312cu. yds	47 t	24.8 t
Outdoor Pools	Emissions Source	Volume	Mass	CO ₂ e
<i>Anderson Memorial Pool - 4949 207th St</i>				
	Solid Waste	78 cu. yds	11.70 t	6.2 t
		78cu. yds	12 t	6.2 t
Parks & Playing Fields	Emissions Source	Volume	Mass	CO ₂ e
<i>Brydon Park - 5353 198 St</i>				

Langley City

Corporate Energy & Greenhouse Gas Emissions Inventory: 2010

	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78 cu. yds	12 t	6.2 t
City Park - 20695 48th Ave				
	<i>Solid Waste</i>	156 cu. yds	23.40 t	12.4 t
		156 cu. yds	23 t	12.4 t
Conder Park - 19810 50th Ave				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78 cu. yds	12 t	6.2 t
Lindwood Park - 5470 201st St				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78 cu. yds	12 t	6.2 t
Portage Park - 5151 204th St				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78 cu. yds	12 t	6.2 t
Rotary Centennial Park - 5514 208th St				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78 cu. yds	12 t	6.2 t
Sendall Gardens - 20166 50th Ave				
	<i>Solid Waste</i>	78 cu. yds	11.70 t	6.2 t
		78 cu. yds	12 t	6.2 t
Public Works Bldg & Yard				
	<i>Solid Waste</i>	624 cu. yds	93.60 t	49.6 t
		624 cu. yds	94 t	49.6 t

