

Royal Trust Tower
77 King Street West, Toronto, ON
Greenhouse Gas Inventory Report

December 8th, 2009 209xL006



APPENDIX B – ACTIVITY DATA AND EMISSION FACTORS

ACTIVITY DATA

Activity data was collected by Loop initiatives using the methodology summarized in Table B1.

Table B1 – Activity Data

Activity Data	Collection Methodology
Electricity	Halsall submitted the Royal Trust Tower's Toronto Hydro electricity monthly utility bill to Loop Initiatives on behalf of Cadillac Fairview.
Imported Steam	Halsall submitted the Royal Trust Tower's Enwave steam monthly utility bills to Loop Initiatives on behalf of Cadillac Fairview.
Imported Chilled Water	Halsall submitted the Royal Trust Tower's Enwave imported chilled water monthly utility bills to Loop Initiatives on behalf of Cadillac Fairview.
Natural Gas	Halsall reported no natural gas on site on behalf of Cadillac Fairview.
Refrigerant	Halsall reported no refrigerants on site on behalf of Cadillac Fairview.

EMISSION FACTORS

Table B2 summarizes the emission factors and sources used in the calculations completed for the Cadillac Fairview's Royal Trust Tower GHG inventory.

Table B2 – Emission Factors

Emission Source	Emission Factor	Source of Emissions Factor
Electricity (Carbon Dioxide) (Ontario): 2007	237.6 g CO ₂ /kWh ¹⁸	Canada's National Inventory Report, 2009, Annex 9 (most recent year: 2007)
Electricity (Methane) (Ontario): 2007	0.00432 g CH ₄ /kWh ⁴	Canada's National Inventory Report, 2009, Annex 9 (most recent year: 2007)
Electricity (Nitrous Oxide) (Ontario): 2007	0.00216 g N ₂ O /kWh ⁴	Canada's National Inventory Report, 2009, Annex 9 (most recent year: 2007)
Imported Steam (Carbon Dioxide Equivalent) (Enwave): 2003-2006	72.4 kg CO _{2e} /Mlb	Enwave Energy Corporation
Imported Chilled Water (Carbon Dioxide Equivalent) (Enwave): 2004-2007	0.09 kg CO _{2e} /tonhour	Enwave Energy Corporation
Carbon Dioxide Conversion (100-yr)	1	IPCC 2 nd Assessment Report
Methane Conversion (100-yr)	21	IPCC 2 nd Assessment Report
Nitrous Oxide Conversion (100-yr)	310	IPCC 2 nd Assessment Report

¹⁸ The emission factor for electricity production in Ontario is 220 g CO_{2e}/kWh. This value was increased by 8% to account for transmission and distribution losses (Reference: "The Report of the National Advisory Panel on Sustainable Energy Science and Technology – Version 1", by NRCan, 2006).

APPENDIX C – Standard Reporting Declaration

1 REPORTING INFORMATION

The following table provides a summary of the reporting information required by CAN/CSA-ISO 14064-1-06¹⁹ provided in the “declaration” column is Cadillac Fairview’s assertion for the Royal Trust Tower’s inventory.

Note: This GHG inventory report is the first GHG inventory report issued from Cadillac Fairview for the Royal Trust Tower.

No.	CSA Reporting Requirement	Declaration
A	Description of the reporting organization.	Cadillac Fairview is the property management company for the Royal Trust Tower, located at 77 King Street West. Cadillac Fairview is registered in the Canadian Green Building Council’s LEED-EB Program and is targeting LEED-EB Energy and Atmosphere credit 6: Emission Reduction Reporting. As part of Cadillac Fairview’s initiative to green this 46 floor facility, they are reporting the Royal Trust Tower’s greenhouse gas (“GHG”) emissions with the CSA Registry. The Royal Trust Tower emits GHG’s through their use of electricity, imported chilled water and steam. The total floor area of the building is approximately 1,278,046 sq. ft. (excluding the parking) and the building occupancy is approximately 4,674 people.
B	Person responsible	Francisca Quinn, Project Director and Agent to Adrian Sluga, Senior Manager at the Royal Trust Tower.
C	Reporting period covered	Nov. 1, 2008 to Oct. 31, 2009
D	Documentation of organizational boundary.	Different consolidation methodology defined by the LEED-EB Canada Energy and Atmosphere credit 6 emissions reduction reporting program. Physical facility approach.
E	Direct GHG emissions, quantified separately for each GHG, in tonnes of CO ₂ e.	See Appendix A.
F	A description of how CO ₂ emissions from the combustion of biomass are treated in the GHG inventory.	Not applicable to this inventory.

¹⁹ CAN/CSA ISO 14064-1 Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. March 2006, International Standards Organization.

No.	CSA Reporting Requirement	Declaration
G	If quantified, GHG removals, quantified in tonnes of CO ₂ e.	Not applicable to this inventory.
H	Explanation for the exclusion of any GHG sources or sinks from quantifications.	This inventory includes all energy indirect GHG emissions. GHG sinks are not applicable to this inventory.
I	Energy indirect GHG emissions associated with the generation of imported electricity, heat or steam, quantified separately in tonnes of CO ₂ e.	See Appendix A.
J	The historical base year selected and the base-year GHG inventory.	Base year: Nov. 1, 2008 to Oct. 31, 2009 This base year was chosen due to the performance period requirements of the Canadian Green Building Council LEED-program. It is a starting point for potential future GHG inventories. See Appendix A for the base year GHG emission summary.
K	Explanation of any change to the base year or other historical GHG data, and any recalculation of the base year or other historical GHG inventory.	Not applicable to this inventory.
L	Reference to, or description of, quantification methodologies including reasons for their selection.	Calculations are based on GHG activity data multiplied by GHG emission factors.
M	Explanation of any change to quantification methodologies previously used.	Not applicable to this inventory.
N	Reference to, or documentation of, GHG emission or removal factors used.	See Appendix B for details.
O	Description of the impact of uncertainties on the accuracy of the GHG emissions and removals data.	Uncertainties in calculations include error margins in emissions factors and measured activity data. Emission factors were determined by the most local and credible source available at the time of reporting. Activity data is based on utility bills received by Halsall from Cadillac Fairview. There is a higher level of uncertainty associated with imported chilled water and steam emission factors. There is a higher level of uncertainty associated with multi-building metered data. Based on these sources, the level of uncertainty is assumed to be fair.

No.	CSA Reporting Requirement	Declaration
P	A statement that the GHG report has been prepared in accordance with ISO 14064-1.	This report has been prepared in accordance with the following standard: CAN/CSA-ISO 14064-1-06 - Part 1: Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals.
Q	A statement describing whether the GHG inventory, report or assertion has been verified, including the type of verification and level of assurance achieved	Evan Jones at 3P Analysis and Consulting will provide third party verification for this GHG inventory report and will provide a reasonable level of assurance. See the third party verification report for further details.