MANULIFE REAL ESTATE

GREENHOUSE GAS INVENTORY

NORTH AMERICAN CENTRE, TORONTO

FEBRUARY 25, 2019

GREENHOUSE GAS INVENTORY REPORT

NORTH AMERCIAN CENTRE, TORONTO, ON

MANULIFE REAL ESTATE

TYPE OF DOCUMENT (VERSION)

PROJECT NO.: 171-15954-00
DATE: FEBRUARY 25, 2019

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1 EXECUTIVE SUMMARY

Manulife Financial (Manulife) is applying for recertification of 5650 and 5700 Yonge Street (North American Centre), Toronto in the Canada Green Building Council (CaGBC) LEED Canada for Existing Buildings: Operation and Maintenance Program (LEED-EB) and is targeting the rating system's Energy and Atmosphere Credit 6: Emissions Reduction Reporting (EAc6)[1]. To qualify for EAc6, Manulife is reporting the building's greenhouse gas (GHG) emissions in a public GHG registry.

North American Centre is owned and managed by Manulife. WSP's Sustainability & Energy team was retained by Manulife to manage North American Centre's LEED submission and compile the GHG inventory and corresponding report in accordance with CAN/CSA-ISO Standard 14064-1-06[2]. WSP has obtained property specific information to complete the Emission Reduction Report recertification submission. 3P Analysis and Consulting has been engaged to provide independent third-party verification of the building's GHG emissions inventory.

This report details North American Centre's GHG emissions inventory, including a list of GHG emissions sources[3] and the quantity of emissions released from each source during the reporting period[4]. This is the second time North American Centre has produced a GHG inventory. This report will look at how the building has performed since the previous report was written. A summary of North American's emissions are shown below in table 1.

REPORTING PERIOD	TOTAL EMISSIONS (TONNES OF CO_2e)
Base Year	
May 1, 2012 to April 30, 2013	5,430
May 1, 2013 to December 31, 2013	2,196
January 1, 2014 to December 31, 2014	2,889
January 1, 2015 to December 31, 2015	2,745
January 1, 2016 to December 31, 2016	2,631
January 1, 2017 to December 31, 2017	2,458
Reporting Period	
January 1, 2018 to December 30, 2018	2,545

For the reporting period, North American Centre emitted the following breakdown of direct (scope 1) GHG emissions and energy indirect (scope 2) GHG emissions. No indirect (scope 3) GHG emissions were reported. Table 2 reports the breakdown of scope 1 and scope 2 emissions from the reporting period.

[1] LEED Canada for Existing Buildings: Operations and Maintenance 2009 Reference Guide. 2009, Canada Green Building Council.

[2] 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.

[3] Examples of GHG sources include consumption of natural gas for space and water heating and electricity consumption for building system operations, lighting and plug loads.

[4] The reporting period is defined as the one-year duration for which the quantity of GHG emissions from all sources is calculated.

EMISSION BREAKDOWN	NORTH AMERICAN CENTRE
Total Emissions (Tonnes of CO_2e)	2,545
Direct GHG (scope 1) emissions (Tonnes of CO_2e)	1,679
Percentage of reported scope 1 emissions from total energy use (%)	34%
Energy indirect GHG (scope 2) emissions (Tonnes of CO_2e)	866
Percentage of reported scope 2 emissions from total energy use (%)	66%

This GHG inventory has been developed in accordance with CAN/CSA-ISO Standard 14064-1-06 Greenhouse Gases – Part 1: Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals. In addition, the team has consulted with the World Resource Institute (WRI)/ World Business Council for Sustainable Development (WBCSD) Standard: Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard[5] and CAN/CSA-ISO Standard 14064-3-06 Greenhouse Gases – Part 3: Specification with Guidance for the Validation of Greenhouse Gas Assertions and additional resources.

2 PURPOSE

Manulife has made a commitment to incorporate sustainability into the ongoing operation of North American Centre. One important initiative is to participate in LEED-EB recertification, which, among other performance enhancement initiatives, includes evaluating building energy, water efficiency and GHG emissions. To achieve LEED-EB EAc6 during recertification, Manulife is reporting North American centre verified GHG emissions to the CSA CleanStart™ Registry.

3 BUILDING PROFILE

North American Centre is a 1,409,556 ft^2, 16-storey building with two levels of underground parking. The building consists primarily of office space, with retail spaces located on the first floor.

Building system characteristics that influence the energy use and GHG emissions are:

- Building Automaton System (BAS) and Controls
  - Each tower has a BAS operated through a Johnsons Controls METASYS system, retrofitted in 2005, which controls the central plant system, air handling units (AHUs), and pumps
  - Pneumatic control of terminal Variable Air Volume (VAV) boxes and heating units
- Heating Systems
  - Each tower has a central heating plant located in its mechanical penthouse with four natural gas hot water boilers that supply hot water to terminal units
  - The concourse is heated 60% by 5650 Yonge and 40% by 5700 Yonge
  - Mechanical rooms, loading docks, service rooms and corridors are heated by terminal heating units controlled by local thermostats
- Cooling Systems

[5] Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. March 2004. World Resources Institute and World Business Council for Sustainable Development.

  - Each tower has a central cooling plant located in its mechanical penthouse with chillers, a heat exchanger and cooling towers; all chillers use R-123 refrigerant
  - Pumps distribute chilled water to each tower's terminal units
  - The concourse is cooled 60% by 5650 Yonge and 40% by 5700 Yonge
- Air Conditioning and Ventilation Systems
  - Each tower has a central make-up air unit (MAU) located in its mechanical penthouse that introduces and tempers outdoor air; fan rooms introduce fresh air on tower floors
  - Local thermostats control terminal VAV boxes
- Lighting Systems
  - All lighting is controlled by a GE system with time of day scheduling and local overrides
  - The majority of office lighting is provided by fixtures with two 3ft T8 25W lamps
  - Photocells are used to control the perimeter lights and lobby bridge lights

4 GHG INVENTORY BOUNDARIES

4.1 ORGANIZATIONAL BOUNDARIES

An organizational boundary is used to determine how GHG emissions are accounted for and reported. Typically, one of the following approaches is used[6]:

- Equity share approach: accounts for GHG emissions based on share of equity in the operation
- Financial control approach: accounts for GHG emissions based on the financial control over the operation
- Operational control approach: accounts for GHG emissions based on the control of operations

CAN/CSA-ISO Standard 14064-1-06 Section 4.1 states that the organization may use a different consolidation methodology where specific arrangements are defined by a GHG program or legal contract.

Since LEED-EB evaluates buildings rather than organizations, to meet EAc6 requirements the North American Centre was used as a physical boundary, rather than using one of the organizational boundaries described above. As such, the emissions from the base building equipment and the tenant equipment (including HVAC energy, tenant plug loads and refrigerant GHG emissions) are included in the GHG inventory without taking into consideration whether Manulife or the tenants have control or ownership. In addition, since LEED-EB credit EAc6 does not take transportation into consideration, emissions from owned or leased vehicles are excluded from the inventory.

4.2 OPERATIONS BOUNDARIES

Operational boundaries are defined to prevent double counting of reported emissions. These boundaries can be separated into the following three emission types:

- Direct GHG emissions (scope 1): emissions released from sources owned or controlled by the building. They may include on-site fuel combustion, refrigerant emissions, generation of electricity, steam and/or heat in equipment.
- Energy Indirect GHG emissions (scope 2): indirect emissions from the generation of purchased energy for the building. They may include the purchase of electricity, steam and/or chilled water.

[6] Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. March 2004. World Resources Institute and World Business Council for Sustainable Development.

- Other Indirect GHG emissions (scope 3): emissions that are released from activities outside the organizational boundaries of the building. They may include business travel, employee commuting, third party manufacture of materials and resources, outsourced services, and transmission and/or distribution losses from the electricity network.

4.3 DIRECT GHG EMISSIONS

Direct GHG emissions released from sources at the building level include emissions from the combustion of natural gas and diesel and the release of refrigerant gases.

Natural gas is supplied by Enbridge Gas Distribution Inc. (Enbridge). Consumption is measured from two main meter.

As reported by Manulife, five chillers containing refrigerant R-123, are located in the building. The emissions from these are limited to the leakage from the refrigerant loop. The chillers are the following refrigerant charges:

Chillers	Refrigerant Charge (lbs)
Chiller #1 (5650 Yonge St)	1,400
Chiller #2 (5650 Yonge St)	1,400
Chiller #1 (5700 Yonge St)	1,550
Chiller #2 (5700 Yonge St)	1,550
Chiller #3 (5700 Yonge St)	675

Manulife also reported that there are no PFC's or SF_6's in the building.

There is one diesel generator on site. Manulife provided generator top up bills which are included in our calculations.

As transportation emissions are excluded in LEED-EB credit EAc6, direct emissions from North American Centre owned or leased vehicles are not included in the GHG inventory.

4.4 ENERGY INDIRECT GHG EMISSIONS

The GHG inventory includes indirect GHG emissions inventory from electricity.

Electricity is purchased from Toronto Hydro-Electric System Limited (Toronto Hydro). Consumption is measured from one main meter.

4.5 BASE YEAR GHG INVENTORY

This is the second time North American Centre emissions are being calculated. The previous inventory describes this building's "base year" emissions. The base year inventory is used as a point of comparison for the results in the most recent performance period inventory.

Base year emissions were calculated for the accounting period May 1, 2012 to April 30, 2013.

4.6 BASE YEAR RECALCULATION POLICY

In the previous report, no base year recalculation was included. Therefore, in this report, as per ISO 14064-1 clause 4.3.5c, we have not recalculated the base year inventory however for consistency we have included the refrigerants in the base year inventory where they were previously excluded. The clause states that base year emission factors that were current at the time of the quantification should be used.

Future inventories should be informed by the following base year recalculation policy.

Inventories will recalculate baseline activity data and emissions to account for changes to the following factors:

1. Changes to operational boundaries (see 4.2)
2. Changes to the ownership and control of GHG sources or sinks transferred into or out of organizational boundaries
3. Changes to GHG quantification methodologies that result in significant changes to quantified GHG emissions or removals.

The base year GHG inventory will not be recalculated to account for changes in facility use or occupancy.

5 INVENTORY QUANTIFICATION

Measuring GHG emissions directly is impractical for a project of this size. As such, we obtained the appropriate GHG emissions using activity data and emission factors, per CAN/CSA-ISO Standard 14064-1-06 Section 4.3.6, to apply to the following equation:

Activity data x emission factor = GHG emissions

Activity data was collected from site natural gas and electricity bills. Emission factors from Canada's most recent annual National Inventory Report (1990-2016)[7] were used.

5.1 NATURAL GAS

5.1.1 ACTIVITY DATA

Activity data for natural gas is based on Enbridge monthly natural gas bills. Natural gas consumption is metered and reported by the natural gas provider in meters cubed (m^3).

5.1.2 EMISSION FACTOR

WSP used the National Inventory Report (1990-2016)[7] natural gas emission factors to calculate building's GHG emissions. Ontario-specific CO_2 emission factors from Part 2, Annex 6, Table A6-1 were used. Since CH_4 and N_2O emissions are dependent on a specific sector rather than regional fuel properties, national commercial CH_4 and N_2O data from Part 2, Annex 6, Table A6-2 were used.

The natural gas emission factor units are measured in metric kilograms of emission per cubic metre (kg of emission/m^3) of natural gas.

[7] Canada's National Inventory Report 1990-2016, written in 2018

5.2 REFRIGERANT R-123

5.2.1 ACTIVITY DATA

Activity data for refrigerant R-123 are based on the estimated leakage from the heat pumps refrigerant loop. A leakage rate of 2% of the total refrigerant charge is assumed based on default rates required by LEED-EB credit EAc5: Enhanced Refrigerant Management.

5.2.2 EMISSION FACTOR

WSP used the global warming potential (GWP) factors from the IPCC Fourth Assessment Report[8] for North American Centre GHG calculations. The refrigerant GWP factor compares the amount of heat trapped by a gas relative to a similar mass of carbon dioxide.

5.3 DIESEL

5.3.1 ACTIVITY DATA

Activity data for diesel is based on top up bills provided from Manulife in litres (L) of diesel purchased.

5.3.2 EMISSION FACTOR

WSP used the National Inventory Report (1990-2016)[7] diesel emission factors. The calculations used CO_2, CH_4 and N_2O emission factors from the National Inventory Report's Part 2, Annex 6, Table A6-4. The diesel emission factor is measured in metric tonnes emission per litre (tonnes/L).

5.4 ELECTRICITY

5.4.1 ACTIVITY DATA

Activity data for electricity is based on Toronto Hydro monthly electricity bills. Electricity is provided through one main meter to the building. Electricity bills report actual metered consumption in kilowatt hours (kWh).

5.4.2 EMISSION FACTOR

WSP used the National Inventory Report (1990-2016)[7] electricity emission factors.

As Manulife is reporting on only one property in Ontario, the calculations used provincial CO_2, CH_4 and N_2O emission factors from the National Inventory Report's Part 3, Annex 13, Table A13-7. The electricity emission factor is measured in metric grams emission per kilowatt-hour (g/kWh).

[8] IPPC Fourth Assessment Report (AR4), 2007

Published electricity grid emission factors do not account for Transmission and Distribution (T & D) losses. As noted in section 5.3.1, per the Greenhouse Gas Protocol, guidance indicates that organizations companies that purchase electricity from a T & D grid but do not own any part of the system should not include T & D losses in their scope 2 inventory. For this reason, T & D losses have not been included in the calculations for this building.

6 GHG INVENTORY RESULTS

6.1 EMISSIONS

The total emissions from direct and indirect GHG emissions sources during the reporting year are 4,915 tonnes of CO_2e. Building natural gas, diesel, refrigerant leakage and electricity account for 66% of building's emissions. The breakdown is as shown in Figure 1. The emissions relate to the approximately 9.5 million ekWh consumed over the course of the reporting year.

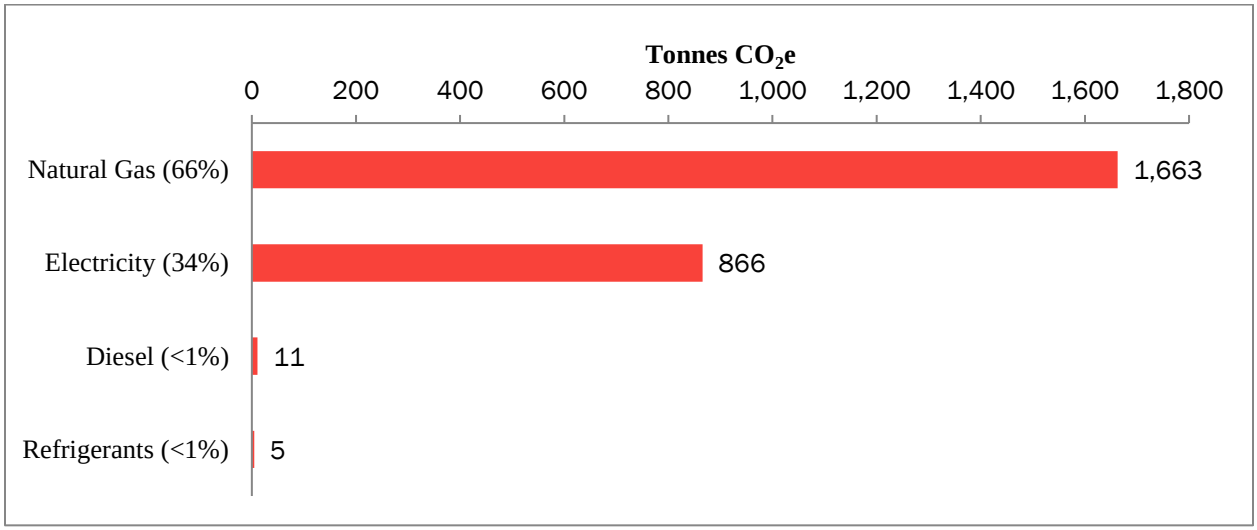

Figure 1: Greenhouse Gases by Emission Source

CO_2 emissions account for 100% of the total GHG emissions. CH_4 and N_2O emissions account for less than 1% of total GHG emissions. However, to meet CAN/CSA-ISO 14064-1-06 requirements, they have been included in the greenhouse gas inventory.

6.2 EMISSION REDUCTIONS

North American Centre is focusing on Energy Conservation Measures (ECMs) to achieve GHG reductions. During January 1, 2018 to December 31, 2018 reporting period, the building showed 3,995 tonnes of CO_2e savings compared to the buildings base year of May 1, 2012 to April 30, 2013.

The following table outlines ECMs that North American Centre is considering undertaking; the associated annual emissions savings estimates.

Table 1: GHG Emissions Reduction Strategies

Energy Conservation Measures	Potential Electricity Savings (kWh/yr)	Potential Natural Gas Savings (m^3/yr)	Estimated Emissions Savings (tCO_2e/yr)
Implement an optimum start program	130,000	-	5
Delamp lighting fixtures on each ramp of parking levels	190,000	-	7
Shut chillers down during the cooler weekend and evening summer periods	140,000	-	5
Dim tenant lighting fixtures	130,000	-	5
Install a VSD on pump 1,2 &3 to modulate flow during free cooling mode	290,000	-	10
Total Savings	**1,000,000**	**-**	**36**

6.3 INVENTORY UNCERTAINTY

Table 2: Uncertainty Ranking

MAJOR EMISSION CATEGORY	CERTAINTY RANKING
Natural Gas	High – The meter is calibrated and verified by Enbridge. Natural gas emission factors are less dependent on location and are almost always standard and accurate. Uncertainty may be derived from fluctuations in measurement equipment.
Refrigerant	Fair – Five chillers containing refrigerant R-123 that have been included. Refrigerant leakage is not measured, leakage is assumed to be 2% of the total refrigerant charge based on LEED-EB EAc5 requirements.
Diesel	Fair – Diesel top up bills were provided for the one generator located in the building for back-up generation.
Electricity	Fair – The emission factor is based on an annual provincial grid average, containing multiple fuel sources such as coal, natural gas, hydro and nuclear.

7 QUALITY MANAGEMENT

7.1 INFORMATION MANAGEMENT

In an effort to maintain a credible GHG inventory, roles and responsibilities were assigned to ensure consistency, accuracy, completeness, transparency and conformance with *CAN/CSA-ISO Standard 14064-1-06*.

NAME	ROLE	COMPANY
Pamela Kalsner	Property Director	Manulife Real Estate

Responsibilities:

— To provide WSP with required energy data via natural gas, diesel and electricity bills

- To provide WSP with refrigerant data information
- To approve and sign the CSA CleanStart™ Registry application form

NAME	ROLE	COMPANY
Diane Kim	Project Director	WSP
Martin Wong	Project Associate	WSP

Responsibilities:

- To provide the Sustainability Consultant with required energy data via natural gas, diesel and electricity bills
- To provide the Sustainability Consultant with refrigerant data information

NAME	ROLE	COMPANY
Caryn Levin	Sustainability Consultant	WSP

Responsibilities:

- To request and analyze received activity data for acceptable accuracy, to collect appropriate emission factors and perform GHG calculations
- To produce a report consistent with both the CSA CleanStart™ Registry requirements and *CAN/CSA-ISO Standard 14064-1-06*

NAME	ROLE	COMPANY
Evan Jones	Independent Verifier	3P Analysis and Consulting

Responsibilities:

- To verify that the WSP report meets CSA CleanStart™ Registry requirements and *CAN/CSA-ISO Standard 14064-3-06*
- To issue a verification statement

7.2 DOCUMENT RETENTION AND RECORD KEEPING

The following activities, conducted by the property management company, maintain a credible GHG inventory and reporting:

- Manulife should continue to record building's natural gas, electricity, diesel and refrigerant cost and consumption
- Manulife should keep this GHG inventory report for its records as it contains boundary definitions, emission factors, activity data, refrigerant history, and GHG emission quantities. This information is required should Manulife choose to again register North American Centre with the CSA CleanStart™ Registry or externally report on its emissions.

8 GHG INVENTORY VERIFICATION

Evan Jones from 3P Analysis and Consulting was engaged to provide independent third-party verification as per *CAN/CSA-ISO Standard 14064-3-06*. The verification is completed at a reasonable level of assurance.

WSP prepared for North American Centre verification by:

- Engaging a third-party verifier to provide a reasonable level of assurance
- Agreeing to verification objectives, scope, materiality and criteria with the verifier
- Reviewing each section using the CSA Registry checklist
- Using an internal review process for quality control for the inventory and the document
- Clarifying anomalous data with the WSP Team

Third-party verification is required by LEED-EB. This provides an impartial and objective review of the reported GHG emissions.

Reporting content summary for declarations to the CSA standard is presented in Appendix C.

APPENDIX

A GREENHOUSE GAS INVENTORY

APPENDIX A

SCOPE 1 AND 2 EMISSIONS NORTH AMERICAN CENTRE

Table A-1: Summary by Source Greenhouse Gas Inventory, Performance Period (January 1, 2018 to December 31, 2018)

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	EMISSIONS (t CO_2e)
DIRECT GHG EMISSIONS			
Natural Gas			
Jan-18	198,443	m^3	377
Feb-18	120,668	m^3	229
Mar-18	133,098	m^3	253
Apr-18	68,542	m^3	130
May-18	1,799	m^3	3
Jun-18	26	m^3	0
Jul-18	0	m^3	0
Aug-18	0	m^3	0
Sep-18	7,844	m^3	15
Oct-18	84,967	m^3	162
Nov-18	131,402	m^3	250
Dec-18	128,502	m^3	244
Total Natural Gas	**875,291**	**m^3**	**1,663**
Diesel			
Jan-18	227	L	<1
Feb-18	227	L	<1
Mar-18	993	L	3
Apr-18	993	L	3
May-18	132	L	<1
Jun-18	132	L	<1
Jul-18	132	L	<1
Aug-18	132	L	<1
Sep-18	132	L	<1
Oct-18	132	L	<1
Nov-18	132	L	<1
Dec-18	132	L	<1
Total Diesel	**3,496**	**L**	**11**
Refrigerant			
Annual Estimated Leakage	<1	t	5
Total Refrigerant	**<1**	**t**	**5**
ENERGY INDIRECT GHG EMISSIONS			
Electricity			
Jan-18	2,096,586	kWh	74

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Feb-18	1,857,192	kWh	66
Mar-18	1,992,288	kWh	71
Apr-18	1,909,847	kWh	68
May-18	2,107,460	kWh	75
Jun-18	2,102,601	kWh	75
Jul-18	2,296,679	kWh	82
Aug-18	2,292,453	kWh	81
Sep-18	2,044,414	kWh	73
Oct-18	1,955,539	kWh	69
Nov-18	1,879,888	kWh	67
Dec-18	1,842,757	kWh	65
Total Electricity	**24,377,704**	**kWh**	**866**
TOTAL EMISSIONS			**2,545**
CARBON INTENSITY		**1.8**	**kg CO_2e/sq.ft**
		0.5	**t CO_2e/FTE**

Table A-2: Summary by Emission Type Greenhouse Gas Inventory, Performance Period (January 1, 2018 to December 31, 2018)

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	CO_2 EMISSIONS	CH_4 EMISSIONS	N_2O EMISSIONS
DIRECT GHG EMISSIONS					
Natural Gas					
Breakdown Conversion	875,291	m^3	1,653 tCO_2	<1 tCH_4	<1 tN_2O
CO_2e emissions	1,663	tCO_2e	1,653 tCO_2e	1 tCO_2e	9 tCO_2e
Diesel					
Breakdown Conversion	4,195	L	10 tCO_2	<1 tCH_4	<1 tN_2O
CO_2e emissions	11	tCO_2e	10 tCO_2e	<1 tCO_2e	1 tCO_2e
Refrigerants					
Breakdown Conversion	<1	t			
CO_2e emissions	5	tCO_2e			
ENERGY INDIRECT EMISSIONS					
Electricity - Mixed Fossil Fuels					
Breakdown Conversion	24,377,704	kWh	853 tCO_2	<1 tCH_4	<1 tN_2O
+CO_2e emissions	866	tCO_2e	853 tCO_2e	6 tCO_2e	7 tCO_2e
TOTAL Breakdown Conversion			**2,521 tCO_2**	**<1 tCH_4**	**<1 tN_2O**
TOTAL CO_2e emissions	**2,545**	**tCO_2e**	**2,521 tCO_2e**	**7 tCO_2e**	**17 tCO_2e**

APPENDIX A

Table A-2: Summary by Source Greenhouse Gas Inventory, Base Year to Start of New Performance Period (May 1, 2012 to April 30, 2013)

May 1, 2012 to April 30, 2013

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	EMISSIONS (t CO_2e)
DIRECT GHG EMISSIONS			
Natural Gas			
May-12	1,884	m^3	4
Jun-12	306	m^3	1
Jul-12	170	m^3	0
Aug-12	255	m^3	0
Sep-12	8,051	m^3	15
Oct-12	70,899	m^3	134
Nov-12	102,853	m^3	194
Dec-12	133,898	m^3	253
Jan-13	182,155	m^3	344
Feb-13	136,782	m^3	259
Mar-13	130,732	m^3	247
Apr-13	41,976	m^3	80
Total Natural Gas	**809,961**	**m^3**	**1,531**
Diesel			
May-12	0	L	0
Jun-12	0	L	0
Jul-12	0	L	0
Aug-12	1,167	L	3
Sep-12	0	L	0
Oct-12	2,293	L	6
Nov-12	0	L	0
Dec-12	0	L	0
Jan-13	0	L	0
Feb-13	3,768	L	11
Mar-13	0	L	0
Apr-13	0	L	0
Total Diesel	**7,228**	**L**	**20**
Refrigerant			
Annual Estimated Leakage	<1	t	5
Total Refrigerant	**<1**	**t**	**5**
ENERGY INDIRECT GHG EMISSIONS			
Electricity			
May-12	2,556,978	kWh	340

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Jun-12	2,614,680	kWh	348
Jul-12	2,827,277	kWh	376
Aug-12	2,738,707	kWh	365
Sep-12	2,405,203	kWh	320
Oct-12	2,356,258	kWh	314
Nov-12	2,251,451	kWh	301
Dec-12	2,247,890	kWh	299
Jan-13	2,368,830	kWh	315
Feb-13	2,134,330	kWh	285
Mar-13	2,316,230	kWh	308
Apr-13	2,276,587	kWh	303
Total Electricity	**29,094,421**	**kWh**	**3,874**
TOTAL EMISSIONS			**5,430**
CARBON INTENSITY		**3.9**	**kg CO_2e/sq.ft**
		1.2	**t CO_2e/FTE**

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	CO_2 EMISSIONS		CH_4 EMISSIONS		N_2O EMISSIONS	
DIRECT GHG EMISSIONS								
Natural Gas								
Breakdown Conversion	809,961	m^3	1,522	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	1,531	tCO_2e	1,522	tCO_2e	1	tCO_2e	8	tCO_2e
Diesel								
Breakdown Conversion	7,228	L	19	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	20	tCO_2e	19	tCO_2e	<1	tCO_2e	1	tCO_2e
Refrigerants								
Breakdown Conversion	<1	t						
CO_2e emissions	5	tCO_2e						
ENERGY INDIRECT EMISSIONS								
Electricity - Mixed Fossil Fuels								
Breakdown Conversion	29,094,421	kWh	3,840	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	3,874	tCO_2e	3,840	tCO_2e	8	tCO_2e	26	tCO_2e
TOTAL Breakdown Conversion			**5,386**	**tCO_2**	**<1**	**tCH_4**	**<1**	**tN_2O**
TOTAL CO_2e emissions	**5,430**	**tCO_2e**	**5,386**	**tCO_2e**	**8**	**tCO_2e**	**36**	**tCO_2e**

APPENDIX A

May 1, 2013 to December 31, 2013

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	EMISSIONS (t CO_2e)
DIRECT GHG EMISSIONS			
Natural Gas			
May-13	4,737	m^3	9
Jun-13	235	m^3	<1
Jul-13	278	m^3	1
Aug-13	218	m^3	<1
Sep-13	221	m^3	<1
Oct-13	62,152	m^3	118
Nov-13	112,643	m^3	213
Dec-13	181,439	m^3	343
Total Natural Gas	**361,923**	**m^3**	**684**
Diesel			
May-13	0	L	0
Jun-13	0	L	0
Jul-13	2,765	L	8
Aug-13	487	L	1
Sep-13	0	L	0
Oct-13	2,275	L	6
Nov-13	0	L	0
Dec-13	6,615	L	19
Total Diesel	**12,142**	**L**	**34**
Refrigerant			
Annual Estimated Leakage	<1	t	5
Total Refrigerant	**<1**	**t**	**5**
ENERGY INDIRECT GHG EMISSIONS			
Electricity			
May-13	2,443,261	kWh	187
Jun-13	2,443,732	kWh	187
Jul-13	2,691,000	kWh	207
Aug-13	2,599,532	kWh	200
Sep-13	2,331,344	kWh	179
Oct-13	2,312,106	kWh	178
Nov-13	2,184,433	kWh	168
Dec-13	2,170,311	kWh	167
Total Electricity	**19,175,719**	**kWh**	**1,473**
TOTAL EMISSIONS			**2,196**
CARBON INTENSITY		**1.56** **0.5**	**kg CO_2e/sq.ft** **t CO_2e/FTE**

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SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	CO_2 EMISSIONS		CH_4 EMISSIONS		N_2O EMISSIONS	
DIRECT GHG EMISSIONS								
Natural Gas								
Breakdown Conversion	361,923	m^3	680	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	684	tCO_2e	680	tCO_2e	<1	tCO_2e	4	tCO_2e
Diesel								
Breakdown Conversion	12,142	L	32	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	34	tCO_2e	32	tCO_2e	<1	tCO_2e	2	tCO_2e
Refrigerants								
Breakdown Conversion	<1	t						
CO_2e emissions	5	tCO_2e						
ENERGY INDIRECT EMISSIONS								
Electricity - Mixed Fossil Fuels								
Breakdown Conversion	19,175,719	kWh	1,457	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	1,473	tCO_2e	1,457	tCO_2e	5	tCO_2e	11	tCO_2e
TOTAL Breakdown Conversion			**2,174**	**tCO_2**	**<1**	**tCH_4**	**<1**	**tN_2O**
TOTAL CO_2e emissions	**2,196**	**tCO_2e**	**2,174**	**tCO_2e**	**5**	**tCO_2e**	**17**	**tCO_2e**

January 1, 2014 to December 31, 2014

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	EMISSIONS (t CO_2e)
DIRECT GHG EMISSIONS			
Natural Gas			
Jan-14	202,801	m^3	383
Feb-14	189,022	m^3	357
Mar-14	127,184	m^3	240
Apr-14	56,308	m^3	107
May-14	5,315	m^3	10
Jun-14	119	m^3	<1
Jul-14	0	m^3	0
Aug-14	3	m^3	<1
Sep-14	0	m^3	0
Oct-14	46,696	m^3	88
Nov-14	126,167	m^3	239

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Dec-14	169,464	m^3	320
Total Natural Gas	**923,079**	**m^3**	**1,745**
Diesel			
Jan-14	0	L	0
Feb-14	517	L	1
Mar-14	0	L	0
Apr-14	0	L	0
May-14	0	L	0
Jun-14	0	L	0
Jul-14	0	L	0
Aug-14	0	L	0
Sep-14	524	L	1
Oct-14	705	L	2
Nov-14	2,695	L	8
Dec-14	0	L	0
Total Diesel	**4,441**	**L**	**12**
Refrigerant			
Annual Estimated Leakage	<1	t	5
Total Refrigerant	**<1**	**t**	**5**
ENERGY INDIRECT GHG EMISSIONS			
Electricity			
Jan-14	2,381,644	kWh	1745
Feb-14	2,112,969	kWh	86
Mar-14	2,303,915	kWh	93
Apr-14	2,177,355	kWh	88
May-14	2,353,162	kWh	95
Jun-14	2,467,283	kWh	100
Jul-14	2,536,483	kWh	103
Aug-14	2,462,743	kWh	100
Sep-14	2,359,049	kWh	96
Oct-14	2,313,290	kWh	94
Nov-14	1,992,167	kWh	80
Dec-14	2,341,898	kWh	95
Total Electricity	**27,801,958**	**kWh**	**1,127**
TOTAL EMISSIONS			**2,889**
CARBON INTENSITY		**2.05**	**kg CO_2e/sq.ft**
		0.6	**t CO_2e/FTE**

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SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	CO_2 EMISSIONS		CH_4 EMISSIONS		N_2O EMISSIONS	
DIRECT GHG EMISSIONS								
Natural Gas								
Breakdown Conversion	923,079	m^3	1,734	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	1,745	tCO_2e	1,734	tCO_2e	1	tCO_2e	10	tCO_2e
Diesel								
Breakdown Conversion	4,441	L	12	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	12	tCO_2e	12	tCO_2e	<1	tCO_2e	<1	tCO_2e
Refrigerants								
Breakdown Conversion	<1	t						
CO_2e emissions	5	tCO_2e						
ENERGY INDIRECT EMISSIONS								
Electricity - Mixed Fossil Fuels								
Breakdown Conversion	27,801,958	kWh	1,112	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	1,127	tCO_2e	1,112	tCO_2e	7	tCO_2e	8	tCO_2e
TOTAL Breakdown Conversion			**2,863**	**tCO_2**	**<1**	**tCH_4**	**<1**	**tN_2O**
TOTAL CO_2e emissions	**2,889**	**tCO_2e**	**2,863**	**tCO_2e**	**8**	**tCO_2e**	**18**	**tCO_2e**

January 1, 2015 to December 31, 2015

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	EMISSIONS (t CO_2e)
DIRECT GHG EMISSIONS			
Natural Gas			
Jan-15	226,154	m^3	430
Feb-15	189,798	m^3	360
Mar-15	125,810	m^3	239
Apr-15	45,302	m^3	86
May-15	45	m^3	0
Jun-15	0	m^3	0
Jul-15	0	m^3	0
Aug-15	0	m^3	0
Sep-15	8,527	m^3	16
Oct-15	54,066	m^3	102
Nov-15	105,561	m^3	201
Dec-15	107,777	m^3	205
Total Natural Gas	**863,040**	**m^3**	**1,639**

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Diesel			
Jan-15	0	L	0
Feb-15	2,803	L	8
Mar-15	0	L	0
Apr-15	0	L	0
May-15	0	L	0
Jun-15	728	L	2
Jul-15	0	L	0
Aug-15	0	L	0
Sep-15	0	L	0
Oct-15	3,089	L	9
Nov-15	1,495	L	4
Dec-15	0	L	0
Total Diesel	**8,115**	**L**	**23**
Refrigerant			
Annual Estimated Leakage	<1	t	5
Total Refrigerant	**<1**	**t**	**5**
ENERGY INDIRECT GHG EMISSIONS			
Electricity			
Jan-15	2,077,096	kWh	84
Feb-15	2,419,579	kWh	98
Mar-15	2,299,678	kWh	93
Apr-15	2,171,903	kWh	88
May-15	1,330,464	kWh	54
Jun-15	2,408,169	kWh	98
Jul-15	2,577,413	kWh	104
Aug-15	2,481,992	kWh	101
Sep-15	2,447,752	kWh	99
Oct-15	2,165,267	kWh	88
Nov-15	2,098,829	kWh	85
Dec-15	2,121,405	kWh	86
Total Electricity	**26,599,547**	**kWh**	**1,078**
TOTAL EMISSIONS			**2,745**
CARBON INTENSITY		**1.95**	**kg CO_2e/sq.ft**
		0.6	**t CO_2e/FTE**

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SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	CO_2 EMISSIONS		CH_4 EMISSIONS		N_2O EMISSIONS	
DIRECT GHG EMISSIONS								
Natural Gas								
Breakdown Conversion	863,040	m^3	1,629	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	1,639	tCO_2e	1,629	tCO_2e	1	tCO_2e	9	tCO_2e
Diesel								
Breakdown Conversion	8,115	L	22	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	23	tCO_2e	22	tCO_2e	<1	tCO_2e	1	tCO_2e
Refrigerants								
Breakdown Conversion	<1	t						
CO_2e emissions	5	tCO_2e						
ENERGY INDIRECT EMISSIONS								
Electricity - Mixed Fossil Fuels								
Breakdown Conversion	26,599,547	kWh	1,064	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	1,078	tCO_2e	1,064	tCO_2e	6	tCO_2e	8	tCO_2e
TOTAL Breakdown Conversion			**2,720**	**tCO_2**	**<1**	**tCH_4**	**<1**	**tN_2O**
TOTAL CO_2e emissions	**2,745**	**tCO_2e**	**2,720**	**tCO_2e**	**7**	**tCO_2e**	**18**	**tCO_2e**

January 1, 2016 to December 31, 2016

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	EMISSIONS ($t CO_2e$)
DIRECT GHG EMISSIONS			
Natural Gas			
Jan-16	119,709	m^3	227
Feb-16	157,203	m^3	299
Mar-16	133,076	m^3	253
Apr-16	86,303	m^3	164
May-16	54,563	m^3	104
Jun-16	5,852	m^3	11
Jul-16	354	m^3	1
Aug-16	0	m^3	0
Sep-16	2,212	m^3	4
Oct-16	58,625	m^3	111
Nov-16	109,389	m^3	208
Dec-16	149,586	m^3	284
Total Natural Gas	**876,872**	**m^3**	**1,666**

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Diesel			
Jan-16	0	L	0
Feb-16	0	L	0
Mar-16	0	L	0
Apr-16	0	L	0
May-16	0	L	0
Jun-16	0	L	0
Jul-16	0	L	0
Aug-16	532	L	<1
Sep-16	650	L	2
Oct-16	650	L	2
Nov-16	650	L	2
Dec-16	1,066	L	3
Total Diesel	**3,548**	**L**	**9**
Refrigerant			
Annual Estimated Leakage	<1	t	5
Total Refrigerant	**<1**	**t**	**5**
ENERGY INDIRECT GHG EMISSIONS			
Electricity			
Jan-16	2,169,590	kWh	77
Feb-16	2,077,108	kWh	74
Mar-16	2,206,766	kWh	78
Apr-16	2,113,913	kWh	75
May-16	2,256,384	kWh	80
Jun-16	2,379,809	kWh	85
Jul-16	2,536,690	kWh	90
Aug-16	2,620,025	kWh	93
Sep-16	2,293,143	kWh	81
Oct-16	2,098,933	kWh	75
Nov-16	2,005,312	kWh	71
Dec-16	2,017,784	kWh	72
Total Electricity	**26,775,457**	**kWh**	**951**
TOTAL EMISSIONS			**2,631**
CARBON INTENSITY		**1.9**	**kg CO_2e/sq.ft**
		0.6	**t CO_2e/FTE**

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SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	CO_2 EMISSIONS		CH_4 EMISSIONS		N_2O EMISSIONS	
DIRECT GHG EMISSIONS								
Natural Gas								
Breakdown Conversion	876,872	m^3	1,656	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	1,666	tCO_2e	1,656	tCO_2e	<1	tCO_2e	10	tCO_2e
Diesel								
Breakdown Conversion	3,548	L	9	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	9	tCO_2e	9	tCO_2e	<1	tCO_2e	<1	tCO_2e
Refrigerants								
Breakdown Conversion	<1	t						
CO_2e emissions	5	tCO_2e						
ENERGY INDIRECT EMISSIONS								
Electricity - Mixed Fossil Fuels								
Breakdown Conversion	26,775,457	kWh	937	tCO_2	<1	tCH_4	<1	tN_2O
CO_2e emissions	952	tCO_2e	937	tCO_2e	7	tCO_2e	8	tCO_2e
TOTAL Breakdown Conversion			**2,607**	**tCO_2**	**<1**	**tCH_4**	**<1**	**tN_2O**
TOTAL CO_2e emissions	**2,632**	**tCO_2e**	**2,607**	**tCO_2e**	**7**	**tCO_2e**	**18**	**tCO_2e**

January 1, 2017 to December 31, 2017

SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	EMISSIONS (t CO_2e)
DIRECT GHG EMISSIONS			
Natural Gas			
Jan-17	142,567	m^3	271
Feb-17	144,334	m^3	274
Mar-17	130,097	m^3	247
Apr-17	47,517	m^3	90
May-17	27,263	m^3	52
Jun-17	65	m^3	<1
Jul-17	0	m^3	0
Aug-17	0	m^3	0
Sep-17	0	m^3	0
Oct-17	22,665	m^3	43
Nov-17	128,068	m^3	243
Dec-17	183,344	m^3	349
Total Natural Gas	**825,920**	**m^3**	**1,569**

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Diesel			
Jan-17	~110	L	<1
Feb-17	~110	L	<1
Mar-17	~110	L	<1
Apr-17	~110	L	<1
May-17	~110	L	<1
Jun-17	~110	L	<1
Jul-17	~110	L	<1
Aug-17	~110	L	<1
Sep-17	~110	L	<1
Oct-17	~110	L	<1
Nov-17	227	L	<1
Dec-17	227	L	<1
Total Diesel	**1,553**	**L**	**4**
Refrigerant			
Annual Estimated Leakage	<1	t	5
Total Refrigerant	**<1**	**t**	**5**
ENERGY INDIRECT GHG EMISSIONS			
Electricity			
Jan-17	2,030,440	kWh	72
Feb-17	1,832,044	kWh	65
Mar-17	2,064,951	kWh	73
Apr-17	1,902,254	kWh	68
May-17	2,070,062	kWh	74
Jun-17	2,180,661	kWh	77
Jul-17	2,276,623	kWh	81
Aug-17	2,319,547	kWh	82
Sep-17	2,153,170	kWh	76
Oct-17	2,006,431	kWh	72
Nov-17	1,952,063	kWh	69
Dec-17	1,986,124	kWh	71
Total Electricity	**24,774,370**	**kWh**	**880**
TOTAL EMISSIONS			**2,458**
CARBON INTENSITY		**1.7**	**kg CO_2e/sq.ft**
		0.5	**t CO_2e/FTE**

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SOURCE AND FUEL	QUANTITY OF ACTIVITY	ACTIVITY UNIT	CO_2 EMISSIONS	CH_4 EMISSIONS	N_2O EMISSIONS
DIRECT GHG EMISSIONS					
Natural Gas					
Breakdown	825,920	m^3	1,559 tCO_2	<1 tCH_4	<1 tN_2O
Conversion					
CO_2e emissions	1,569	tCO_2e	1,559 tCO_2e	1 tCO_2e	9 tCO_2e
Diesel					
Breakdown	1,553	L	4 tCO_2	<1 tCH_4	<1 tN_2O
Conversion					
CO_2e emissions	4	tCO_2e	4 tCO_2e	<1 tCO_2e	<1 tCO_2e
Refrigerants					
Breakdown	<1	t			
Conversion					
CO_2e emissions	5	tCO_2e			
ENERGY INDIRECT EMISSIONS					
Electricity - Mixed Fossil Fuels					
Breakdown	24,774,370	kWh	867 tCO_2	<1 tCH_4	<1 tN_2O
Conversion					
CO_2e emissions	881	tCO_2e	867 tCO_2e	6 tCO_2e	8 tCO_2e
TOTAL Breakdown Conversion			**2,435 tCO_2**	**<1 tCH_4**	**<1 tN_2O**
TOTAL CO_2e emissions	**2,459**	**tCO_2e**	**2,435 tCO_2e**	**7 tCO_2e**	**17 tCO_2e**

APPENDIX

B ACTIVITY DATA AND EMISSION FACTORS

APPENDIX B

Table B-1: Activity Data

ACTIVITY DATA	COLLECTION METHODOLOGY
Natural Gas	Manulife provided North American Centre's Enbridge monthly natural gas bills to WSP.
Refrigerant	Manulife provided the number of refrigerant-containing base building systems to WSP. Chiller leakage rates were not provided; WSP assumed a conservative 2% estimate.
Diesel	Manulife provided diesel top up bills to WSP..
Electricity	Manulife provided North American Centre's Toronto Hydro monthly electricity bills.

Table B2 summarizes the emission factors and sources used in the calculations completed for North American Centre's GHG Inventory.

Table B-2: Emission Factors

EMISSION SOURCE	EMISSION FACTOR	SOURCE OF EMISSIONS FACTOR
Natural gas, Carbon Dioxide (CO_2), Ontario	1.888 kg CO_2/m^3	Canada's National Inventory Report 1990-2016, Part 2, Annex 6, written in 2018
Natural gas, Methane (CH_4), National	0.000037 kg CH_4/m^3	Canada's National Inventory Report 1990-2016, Part 2, Annex 6, written in 2018
Natural gas, Nitrous Oxide (N_2O), National	0.000035 kg N_2O/m^3	Canada's National Inventory Report 1990-2016, Part 2, Annex 6, written in 2018
Electricity, Carbon Dioxide (CO_2), Ontario	35 g CO_2/kWh	Canada's National Inventory Report 1990-2016, Part 3, Annex 11, written in 2018
Electricity, Methane (CH_4), Ontario	0.01 g CH_4/kWh	Canada's National Inventory Report 1990-2016, Part 3, Annex 11, written in 2018
Electricity, Nitrous Oxide (N_2O), Ontario	0.001 g N_2O/kWh	Canada's National Inventory Report 1990-2016, Part 3, Annex 11, written in 2018
Diesel, Carbon Dioxide (CO_2)	2681 g CO_2/L	Canada's National Inventory Report 1990-2016, Part 2, Annex 6, written in 2018
Diesel, Methane (CH_4)	0.133 g CH_4/L	Canada's National Inventory Report 1990-2016, Part 2, Annex 6, written in 2018
Diesel, Nitrous Oxide (N_2O)	0.4 g N_2O/L	Canada's National Inventory Report 1990-2016, Part 2, Annex 6, written in 2018

Table B3 summarizes the Global Warming Potentials (GWP) and sources used in the calculations completed for the North American Centre GHG Inventory

Table B-3: Global Warming Potentials (GWP)

EMISSION TYPE	GWP (GCO_2E/G)	SOURCE
CO_2	1	Intergovernmental Panel on Climate Change, fourth assessment report.
CH_4	25	
N_2O	298	

APPENDIX

C STANDARD REPORTING DECLARATION

APPENDIX C

The following table provides a summary of the reporting information required by CAN/CSA-ISO Standard14064-1-06. Provided in the 'declaration' column is Manulife's assertion of North American Centre's inventory.

Table C-1: Reporting Information

NO.	CSA REPORTING REQUIREMENT	DECLARATION
A	Description of the reporting organization.	Manulife is North American Centre's owner and manger. Manulife has registered the building in the Canada Green Building Council's LEED-EB Program and is targeting LEED-EB Energy and Atmosphere credit 6: Emission Reduction Reporting Recertification. As part of Manulife's initiative to green this centre, they are reporting North American Centre's GHG emissions with the CSA CleanStart Registry. North American Centre emits GHGs through their use of natural gas, refrigerants, diesel and electricity.
B	Person responsible.	Diane Kim and agent to Pamela Kalsner, Property Director
C	Reporting period covered.	January 1, 2018 to December 31, 2018
D	Documentation of organizational boundary.	"Physical facility approach" defined by the LEED-EB Canada Energy and Atmosphere credit 6 Emission Reduction Reporting Program; this is a different consolidation methodology than typically defined, however still within CSA/ISO 14064-1 guidelines.
E	Direct GHG emissions, quantified separately for each GHG, in tonnes of CO_2e.	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.
G	If quantified, GHG removals, quantified in tonnes of CO_2e.	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_2e.	See Appendix A
J	The historical base year selected and the base-year GHG inventory.	Base year for North American Centre is May 1, 2012 to April 30, 2013. This base year was chosen as this is the period that was stated as the base year in the previous GHG inventory completed by North American Centre and due to the performance period requirements of the Canada Green Building Council LEED-program, it was listed as a starting point for future GHG inventories. See Appendix A for the CSA CleanStart Registry's 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

APPENDIX C

NO.	CSA REPORTING REQUIREMENT	DECLARATION
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 emission factors and measured activity data. Emission factors were determined by the most local and credible sources available at the time of reporting. Activity data is based on utility bills consumption and top up bills received by WSP on behalf of Manulife. Refrigerant data is based on default leakage rates. Based on these sources, the level of uncertainty is assumed to be fair.
P	A statement that the GHG report has been prepared in accordance with ISO Standard 14064-1.	This report has been prepared in accordance with the following standard: CAN/CSA-ISO Standard 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 provided third party verification for this GHG Inventory report and provided it with a reasonable level of assurance. See third party verification report for further details.