



**GHG Reporting Methodology
2023**

Issued by

Scotiabank's Real Estate Department

December 2023

Contents

1 Background..... 3

2 Organizational Boundaries..... 3

3 Operational Boundaries..... 4

4 Application of Boundaries..... 5

5 Historical Years Comparison..... 5

6 Renewable Energy Certificates..... 6

7 Carbon Offsets..... 6

8 Data Sources and Quality..... 6

9 Global Target Setting..... 8

10 Emission Factors..... 9

11 Glossary of Terms..... 11

1. Background

Scotiabank's corporate Real Estate Department ("RED") tracks utility consumption and greenhouse gas ("GHG") emissions for Scotiabank's global portfolio. Scope 1 and 2 emissions are tracked for all global locations operated by RED on behalf of all of Scotiabank and all its subsidiaries. Scope 3 emissions are globally tracked for: (i) Business Air Travel; and (ii) electricity grid transmission and distribution losses (T&D Losses).

Each year, RED prepares a GHG report, summarizing progress made in reducing energy and emissions across Scotiabank's global portfolio, taking into account portfolio activities, emission factors, sustainable projects and other related factors. RED's Build database is the book of record for Scotiabank's portfolio activities including population, openings, closings, and area measurements, excluding Mexico, Peru, and Columbia. For these countries, the portfolio activity is based on details reported by the individual countries.

Scotiabank tracks emission trends from our selected 2016 base year, following the guidance of the GHG Protocol – A Corporate Accounting and Reporting Standard, Revised Edition (World Resources Institute, 2004) and GHG Protocol Scope 2 Guidance – An amendment to the GHG Protocol Corporate Standard (World Resources Institute, 2015), to determine progress towards Scotiabank's emission targets.

This document details the current methodology used to track GHG emissions reported by Scotiabank for fiscal year 2023 beginning November 1, 2022, through to October 31, 2023 ("FY2023").

2. Organizational Boundaries

Organizational Boundaries define the approach to determine ownership or control over the energy and emissions reported for the global portfolio.

Scotiabank reports energy and emissions using the "Operational Control" approach. Operational Control is determined for each property and utility account. According to the GHG Protocol, Operational Control refers to when a company accounts for 100% of emissions from operations over which it, or one of its subsidiaries, has full authority to introduce and implement the operating policies. It does not account for GHG emissions from operations in which it owns an interest but has no control. Having Operational Control does not mean that a company necessarily has authority to make all decisions concerning an operation.

2.1 Scotiabank Properties

All properties (either owned or leased by Scotiabank) are reported on by RED using the Operational Control approach. Emissions are considered to be within the Scotiabank's Operational Control, at locations where Scotiabank pays the utility company directly or pays the landlord for the sub-metered utility use, or where the utility bills are paid by the landlord for which emissions are proportionate for the share of Scotiabank's total gross leasable area (GLA). Determining Responsibility for Emissions are as follows:

2.1.1 Direct Billing

The responsibility for emissions from utility consumption belongs to the party responsible for paying the utility costs. In general, utility accounts billed to Scotiabank, or their agents, are defined to be within Scotiabank's Operational Control.

2.1.2 Sub-metered

Sub-metered energy use is within the organizational boundary. Where sub-metering of Scotiabank's leased premises occurs, Scotiabank is directly responsible for the utility costs, which is a reasonable method for determining control. Where Scotiabank is a landlord and installs sub-meters for its third-party tenants, each tenant would be responsible for payment of the electricity consumed, such that Scotiabank would not be responsible for any associated emissions.

2.1.3 Landlord

When landlords pay utility bills for properties that are leased by Scotiabank without separate sub-meters, Scotiabank is charged for utilities based on the proportionate share of the building's GLA. In this scenario, Scotiabank still has control for consumption by control devices.

3. Operational Boundaries

Operational Boundaries define the parts of the operation, or "activities", for which emissions will be reported. There are 3 scopes of emissions reported for energy consumed across the portfolio, as well as for Corporate Travel.

3.1 Scotiabank Properties

Scope 1 emissions are reported for fuel combustion (excluding steam and electricity purchases) billed directly or indirectly from landlords to Scotiabank. Where Scotiabank has Operational Control over heating equipment, emissions associated with fuel combustion at source in the leased space are included in Scope 1. For oil, propane, and diesel purchased amounts during a period are equivalent to consumption.

Scope 2 emissions are reported for purchased electricity (by using a location-based approach), and steam consumption that are consumed at properties where Scotiabank pays for utilities directly, or where utility use is sub-metered by the landlord and billed to Scotiabank. At locations where the landlord pays the utilities, Scotiabank is responsible for its proportionate share based on the building's total GLA.

Scope 3 emissions are reported for T&D Losses.

3.2 Corporate Travel

Scope 1 emissions are reported for Canadian Field Fleet Vehicles and Corporate Jets, using the consumption-based method, as per the GHG Protocol, whereby consumption is multiplied by the appropriate emission factor to calculate emissions that are reported under Scope 1.

Scope 3 emissions are reported for Business Air Travel using the distance-based method, as per the GHG Protocol, whereby the distance travelled is multiplied by the appropriate emission factor to calculate emissions that are reported under Scope 3 (Category 6: business travel per GHG Protocol).

3.3 Inventory Exclusions

The following emission sources are not included in the FY2023 reporting year:

- Rail, rental car, fugitive emissions from refrigerant, and personal vehicle travel.
- Upstream activities: Purchased goods and services, capital goods, transportation and distribution, waste generated in operations, employee commuting, leased assets.
- Downstream activities: Transportation and distribution, processing of sold products, use of sold products, end-of-life treatment of sold products, leased assets, franchises, financed*.

* For financed emission methodology, please refer to [Scotiabank’s Net Zero Pathways Report](#).

4. Application of Boundaries

The following table summarizes the application of the operational and organizational boundaries detailed in sections 2 and 3 above:

Portfolio Segment	Bill Payment by	Scope 1	Scope 2	Scope 3
Scotiabank Properties				
Fuel (Directly Billed)	Scotiabank	X		
Fuel (Scotiabank as Tenant)	Landlord	X		
Electricity/Steam (Directly Billed)	Scotiabank		X	
Electricity/Steam (Indirectly Billed)	Landlord		X	
T&D Losses	Scotiabank/Landlord			X
Corporate Travel				
Canadian Field Fleet Vehicles	Scotiabank	X		
Corporate Jets	Scotiabank	X		
Business Air Travel	Scotiabank			X

5. Historical Years Comparison

5.1 Base Year Selection

Scotiabank reports current year GHG emissions and the three prior years for comparative purposes. Scotiabank’s GHG reduction target was set using a 2016 base year.

5.2 Base Year Recalculation Policy

Going forward, Scotiabank will recalculate energy and emissions for the Base Year and each historical year, in keeping with GHG Protocol, to account for the following factors:

- Spaces owned/occupied or emissions from other sources in past years, but previously excluded from scope; and
- Changes to the reporting methodology; and
- Any strategic acquisition or divestment which significantly increases or reduces square footage by more than 10%.

The base year has not been recalculated.

6. Renewable Energy Certificates

Renewable Energy Certificates (RECs) evidence the rights to environmental benefits derived as a result of generating electricity from renewable sources.

Scotiabank is not currently purchasing or receiving RECs to offset its emission-causing electricity consumption globally. The reporting process leverages a location-based approach, that reflects the average intensity of grids on which energy consumption occurs and does not account for REC purchases or any other contractual instruments.

7. Carbon Offsets

Carbon Offsets (also known as “offset credits” or “verified emission reductions”) represent the reduction, removal, or avoidance of GHG emissions from a specific project that is used to compensate for GHG emissions occurring elsewhere.

Scotiabank is not currently purchasing Carbon Offsets to cover its operational Scope 1, 2 and 3 emissions globally.

8. Data Sources and Quality

The reported emissions data for Scotiabank’s global portfolio falls into one of the following three categories with respect to data quality:

Validated	Utility bill data are entered by RED’s accounting group and International Finance groups. Canadian Field Fleet Vehicles and Business Air Travel data is provided by third parties.
Non-Validated	Utility data is provided by third parties (property managers, facility managers, landlords, etc.) in spreadsheet format.
Estimated	1- Where no actual consumption data is available for the fiscal year; Canadian estimated consumption is based on each province’s average intensity, International estimated consumption is based on each country’s average intensity. Estimated consumption is calculated by multiplying the average intensity by the area of each property.

	<p>2- Where actual consumption unreported for a month or months in the case of electricity (but not for the whole fiscal year), estimated consumption is based on the average of the existing reported monthly consumption of each property.</p>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

To allow for more timely data, the FY2023 GHG Report calculation process includes:

- Full reporting year data is calculated by adding the 3-month and 9-month datasets:
 - 3-Month Dataset – Scotiabank Properties’ utilities and Corporate Travel data collection for all portfolio segments for three months, starting from 1 August 2023 to 31 October 2023 is based on actual consumption from 1 August 2022 to 31 October 2022.
 - 9-Month Dataset – Scotiabank Properties’ utilities and Corporate Travel data collection for nine months, starting from 1 November 2022 to 31 July 2023 for all portfolio segments (Canadian Branches and Offices, International Branches and Offices, etc.)
- Scotiabank-paid accounts:
 - Consumption data is obtained directly from the monthly utility bills that are entered by each country in a database. There are validation procedures to prevent incorrect data entry uploads, billing errors and consumption anomalies. Where issues are detected, the RED Sustainability team will contact the appropriate parties to ensure accuracy of the data for reporting purposes. Where verifiable data is not available, consumption is estimated based on each location’s average intensity.
- Landlord-paid accounts:
 - Scotiabank requests that third party property managers enter consumption data from utility bills and submeters into a spreadsheet template. Data is then reviewed by the RED Sustainability team and compared to historical data and to other leased offices in the province/country to identify anomalies in energy consumptions. Where anomalous data is identified, Scotiabank follows up with property managers to check consumption.
- Business Air Travel:
 - Distances travelled are provided by our third-party service provider, Egencia in aggregate for each business unit and mode of transportation.
- Corporate Jets and Canadian Field Fleet Vehicles:
 - Using the consumption-based method, as per the GHG Protocol, whereby consumption is multiplied by the appropriate emission factor to calculate emissions that are reported under Scope 1. The source of data for Corporate Jets and Canadian Field Fleet Vehicles is Scotiabank’s Corporate Aviation department and Element company, respectively.

9. Global Target Setting

9.1 GHG Target Overview

In 2017, Scotiabank set a target to reduce its Canadian Absolute Scope 1 and 2 emissions by 10% by 2021, using the 2016 base year. This target was achieved in 2019.

In 2020, Scotiabank set a target to reduce its Global Absolute Scope 1 and 2 emissions by 25%, using the 2016 base year. This target was achieved in 2021.

In 2022, Scotiabank has set a target to reduce 35% of its Global Absolute Scope 1 and 2 emissions by 2030, using the 2016 base year.

In 2023, Scotiabank has set a new target to reduce 40% of its Global Absolute Scope 1 and 2 emissions by 2030, using the 2016 base year.

Absolute Scope 1 and 2 Emission Reduction (Base year 2016)	Achieved in:
10% by 2021 (Canada)	2019
25% by 2025 (Global)	2021
40% by 2030 (Global)	TBD

9.2 Summary of Target Setting and Reporting Methodology

GHG Protocol: Steps in setting a GHG Target	Scotiabank Target Methodology	Alignment with GHG Protocol
1. Obtain senior management commitment	Commitment from RED Senior Vice President (SVP)	Yes
2. Decide on the target type	Absolute Target	Yes
3. Decide on the target boundary	Operations included: Global Real Estate Portfolio Canadian Field Fleet Vehicles Corporate Jets Activities Included: Energy	Yes
4. Choose the Base Year approach	Fixed Target Base Year	Yes
5. Define the target completion date	Long-Term	Yes
6. Define the length of the target commitment period	Single Year Commitment Period	Yes
7. Decide on the use of offsets or credits	No use of offsets or credits.	Yes
8. Establish a target double counting policy	N/A	Yes
9. Decide on the target level	40% by 2030 vs. 2016	Yes

10. Track and report progress	Scotiabank reports progress annually. Scotiabank recalculates previous years' emissions, where applicable as detailed in section 5.2	Yes
-------------------------------	--------------------------------------------------------------------------------------------------------------------------------------	-----

10. Emission Factors

Emissions were calculated using emission factors from publicly available sources, wherever possible. The following sections detail the emission factors used for Canada and other international countries with the source for each factor. Global Warming Potential (GWP) figures (CH₄ and N₂O) for natural gas in Canada (NIR), and for International (IEA) are based on IPCC fourth assessment report. GHG Protocol Stationary combustion tool emission factors and DEFRA factors for Business Air Travel are aligned with IPCC fifth assessment.

10.1 Canada

The following table provides the source for each emission factor used:

Utility Type	Province	Factor	Unit	Source
Electricity	AB	510.0	gCO ₂ e/kWh	National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada (2023)
	BC	14.0		
	MB	1.9		
	NB	290.0		
	NL	16.0		
	NS	660.0		
	ON	28.0		
	PE	3.0		
	QC	1.3		
	SK	670.0		
	YT	70.0		
NT	170.0			
Natural Gas	AB	1973.4	gCO ₂ e/m ³	National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada (2023)
	BC	1977.4		
	MB	1926.4		
	NB	1932.4		
	NL	1930.4		
	NS	1932.4		
	ON	1932.4		
	PE	1932.4		
	QC	1937.4		
	SK	1931.4		
	YT	1977.4		
NT	1977.4			
Oil/Propane	Canada	2690.0/ 162.0	gCO ₂ e/liters	GHG Protocol Stationary combustion tool (V4-1)
Steam	Canada	76.4	gCO ₂ e/lb	Enwave Toronto District Steam

10.2 International

Country	Electricity Factor (gCO ₂ e/kWh)	Gas Factor (gCO ₂ e/m ³)	Oil Factor (gCO ₂ e/Liter)	Propane Factor (gCO ₂ e/Liter)	Diesel Factor (gCO ₂ e/Liter)	Source
Australia	651.4	1890.0	2690.0	1620.0	2690.0	IEA (International Energy Agency) considering CH ₄ and N ₂ O factors. For Oil, Diesel, and Propane, GHG Protocol Stationary combustion tool (Version4- 1).
Bahamas	188.2					
Barbados	188.2					
Brazil	134.2					
Cayman Islands	188.2					
China	612.7					
England	206.3					
India	716.6					
Ireland	316.9					
Japan	465.0					
Malaysia	620.5					
Singapore	383.3					
Turks And Caicos Islands	188.2					
United States	369.2					
Chile	374.2					
Costa Rica	0.7					
Colombia	152.9					
Dominican Republic	573.3					
Jamaica	510.6					
Mexico	407.8					
Panama	291.5					
Peru	186.2					
Trinidad Tobago	547.2					
Uruguay	90.9					

10.3 Travel

Mode of Transportation	Emission Factor	Unit	Source
Car (Tier 3 Gasoline)	2312.0	gCO ₂ e/Liter of fuel	National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada (2023)
Long-haul - Business	580290.0	gCO ₂ e/passenger km	Government GHG Conversion Factors for Company Reporting (DEFRA, 2023)
Long-haul - Economy	200110.0		
Long-haul - First	800400.0		
Long-haul - Premium	320160.0		
Long-haul - Other	261280.0		
Short-haul - Business	274300.0		
Short-haul - Economy	182870.0		
Short-haul - Other	185920.0		
Short-haul - All	185920.0		
Jet Fuel	1406.3	gCO ₂ e/lb	GHG Protocol Stationary combustion tool (Version4-1)

11. Glossary of Terms

Base Year	The earliest year selected for inclusion in reporting, for comparative purposes, as per Section 5
Build	Build database is the book of record for Scotiabank's portfolio activities including population, openings, closings, and area measurements
CO₂e	Carbon Dioxide equivalent
gCO₂e	Grams of Carbon Dioxide equivalent
tCO₂e	Metric tons of Carbon Dioxide equivalent
GHG	Greenhouse Gases, for the purposes of this report: CO ₂ , CH ₄ , N ₂ O
GWP	Global Warming Potential
IEA	International Energy Agency
IPCC	The Intergovernmental Panel on Climate Change
kWh	Kilowatt-hours of electricity
m³	Cubic meter
NIR	National Inventory Report

REC	Renewable Energy Certificate
RED	Real Estate Department
Scope 1	Direct GHG emissions occur from sources that are owned or controlled by the company.
Scope 2	Indirect GHG emissions occur from the generation of purchased electricity and steam consumed by the company.
Scope 3	Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company.
T&D Losses	Transmission and Distribution losses for electricity grid