



KPMG LLP
Aon Center
Suite 5500
200 E. Randolph Street
Chicago, IL 60601-6436

Independent Accountants' Review Report

The Board of Directors and Management of Northern Trust Corporation:

We have reviewed the accompanying Statement of Greenhouse Gas Emissions and related notes (the Statement) of Northern Trust Corporation (the Corporation) for the year ended December 31, 2022. The Corporation's management is responsible for presenting the Statement in accordance with the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition and the WRI/WBCSD Greenhouse Gas Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard (collectively, the GHG Protocol). Our responsibility is to express a conclusion on the Statement based on our review.

Our review was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants in AT-C section 105, *Concepts Common to All Attestation Engagements*, and AT-C section 210, *Review Engagements*. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to the Statement in order for it to be in accordance with the criteria. The procedures performed in a review vary in nature and timing from, and are substantially less in extent than, an examination, the objective of which is to obtain reasonable assurance about whether the Statement is in accordance with the criteria, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. Because of the limited nature of the engagement, the level of assurance obtained in a review is substantially lower than the assurance that would have been obtained had an examination been performed. We believe that the review evidence obtained is sufficient and appropriate to provide a reasonable basis for our conclusion.

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements related to the engagement.

The procedures we performed were based on our professional judgment and consisted primarily of inquiries of management to obtain an understanding of the methodologies applied, evaluation of the Corporation's application of the stated methodologies for deriving the greenhouse gas emissions, recalculations of the greenhouse gas emissions for a selection of relevant locations, and analytical procedures comparing changes in greenhouse gas emissions.

As described in Note 1 of the Statement, environmental and energy use data are subject to measurement uncertainties resulting from limitations inherent in the nature and methods of determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Based on our review, we are not aware of any material modifications that should be made to the Statement for the year ended December 31, 2022, in order for it to be in accordance with the GHG Protocol.

KPMG LLP

Chicago, Illinois
January 23, 2024

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022



CO₂e Emissions Metric Tonnes [MT]

	2019	2020	2021	2022
Scope 1 Direct	7,744	7,423	7,272	7,350
Scope 2 Indirect (Market-Based)	35,149	24,151	23,622	28,068
Gross Scope 1 and 2¹	42,893	31,574	30,894	35,419

The accompanying notes on pages 2 to 11 form an integral part of this GHG emissions statement.

NOTES TO THE STATEMENT OF GREENHOUSE GAS EMISSIONS

NOTE 1: THE COMPANY

Organization

Northern Trust Corporation (the Corporation or Northern Trust) is a leading provider of wealth management, asset servicing, asset management and banking solutions to corporations, institutions, families and individuals. The Corporation is a financial holding company conducting business through various U.S. and non-U.S. subsidiaries, including The Northern Trust Company (the Bank). The Corporation was originally formed as a holding company for the Bank in 1971. The Corporation has a global presence with offices in 25 U.S. states and Washington, D.C. and across 23 locations in Canada, Europe, the Middle East and the Asia Pacific region.

Basis of Presentation

The Statement of Greenhouse Gas (GHG) Emissions has been prepared based on a calendar reporting year that is the same as Northern Trust's fiscal reporting period. The Company presents Gross Scope 1 and 2 emissions and elected to report market-based emissions per full-time equivalent employee (FTE employee) and certain² Scope 3 emissions for the base year of 2019 and other years, including 2020-2022 as additional information within this Statement.

¹ Please refer to "Note 2: GHG REPORTING", of this statement, for updates to prior year calculations.

² For details, please see Table 2 of this Statement.

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022



GHG emissions have been presented in accordance with the following (collectively referred to as the “GHG Protocol” in this document):

- World Resources Institute (WRI), World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition.
- WRI/WBCSD GHG Protocol Scope 2 Guidance: An amendment to the GHG Protocol Corporate Standard.

Scope 1 represents direct GHG emissions that occur from sources that are owned or controlled by the Corporation. Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the Corporation. Scope 3 generally includes certain indirect GHG emissions (not included in Scope 2) that occur in the value chain of the Corporation, including both upstream and downstream emissions. Upstream emissions are indirect GHG emissions related to purchased or acquired goods and services while downstream emissions are indirect GHG emissions related to sold goods and services.

In addition to Scope 1 and Scope 2 GHG emissions, the Company has elected to present certain Scope 3 emissions, Category 1: Purchased Goods & Services (partial); Category 3: Fuel-and Energy-Related Activities (partial); Category 5: Waste Generated in Operations; Category 6: Business Travel (partial), Category 7: Employee Commuting including Hybrid Working. These emissions have been calculated based on the guidance in the WRI/WBCSD Greenhouse Gas Protocol: Corporate Value Chain (Scope 3), Accounting and Reporting Standard. Note 6 includes further information about the types of emissions calculated.

Estimation Uncertainties

Emissions data included in this Statement of GHG Emissions are subject to measurement uncertainties resulting from limitations inherent in the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Consumption is based on raw data when available. When raw energy data is unavailable, the Corporation estimates energy consumption based on the Real Estate Environmental Benchmark (REEB 2020) and Energy Star benchmark³.

³ This methodology was introduced in 2022 as a better way to estimate energy consumption in the absence of raw data; previously energy consumption was estimated using a location-based square footage method. The change was not significant and GHG emissions for 2019 - 2021 were not recalculated.

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022



NOTE 2: GHG REPORTING

Organizational Boundaries

The Corporation presents its emissions under the operational control approach, accounting for emissions from operations over which it, or one of its subsidiaries, has the full authority to introduce and implement its operating policies.

Operational Boundaries

The operational boundary of this report includes leased and owned offices under operational control in all domestic and global regions within which the Corporation operates.

Base year

The GHG base year applies to Scope 1, Scope 2 and Scope 3 emissions as set out above and has been prepared in accordance with the GHG reporting policies set out here. In 2022, the Corporation reset its base year to 2019.

Per the GHG Protocol, the emissions base year is subject to recalculation should a significant change in total base year emissions be identified due to factors including, but not limited to, inorganic growth and a change in methodology. Northern Trust set a 5% cumulative Scope 1, Scope 2, and Scope 3 significance threshold for determining whether to adjust and/or recalculate its base year.

To improve the accuracy of our reporting, we revised our methodology to include Scope 1 – fugitive emissions and additional upstream Scope 3 emissions. We have incorporated this into the base year and subsequent years.

As a result, we have recalculated our total reported GHG emissions to reflect these changes. The cumulative amount of changes made was over 38%, and consisted of several components as follows:

- Scope 1 has increased due to disclosing fugitive emissions (refrigerants)
- Scope 3 has increased due to disclosing **partial** Category 1: Purchased Goods & Services (water); **entire** Category 5: Waste Generated in Operations (trash, recycling and food waste), **partial** Category 6: Business Travel (including rail travel); and **entire** Category 7: Employee Commuting including Hybrid Working (working from home and employee commuting). Note 6 includes further information about the types of emissions calculated.

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022

The following is a summary of revised 2019-2021 CO₂e Emissions Metric Tonnes [MT]

TABLE 1

	Previously Reported		Change due to addition of new category	Revised Reported	
Scope 1	2019	1,909	Refrigerants: 5,805	2019	7,744
	2020	1,610	Refrigerants: 5,813	2020	7,423
	2021	1,797	Refrigerants: 5,475	2021	7,272
Scope 3	2019	20,294	Purchased Goods & Services: 258 Waste Generated in Operations: 751 Business Travel: 4,076 Employee Commuting including hybrid working: 11,133	2019	36,498
	2020	5,960	Purchased Goods & Services: 138 Waste Generated in Operations: 720 Business Travel: 945 Employee Commuting including hybrid working: 24,296	2020	32,056
	2021	3,200	Purchased Goods & Services: 121 Waste Generated in Operations: 2,409 Business Travel: 378 Employee Commuting including hybrid working: 28,196	2021	34,276

Greenhouse Gases

All GHG emissions figures are in metric tonnes of carbon dioxide equivalents (CO₂e). In accordance with the GHG Protocol, the Corporation has included in its reporting, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), which are the relevant gases for the Corporation.

In 2022, the Corporation began reporting on fugitive emissions from refrigerant gases, hydrofluorocarbons (HFCs), in MT of CO₂e. Fugitive emissions (refrigerants) is a required Scope 1 source of emissions; Northern Trust previously did not disclose fugitive emissions from refrigerants as it was estimated to be immaterial. Our estimate of refrigerant gases is derived from an assessment of the total F-gas emissions from the UK that includes the percentage of those emissions associated with recharging stationary air-conditioning units. Using other data of total office square footage within the UK, we determined an allocation of CO₂e per square foot of office space in the UK. Using this information, we estimated an amount of CO₂e per square foot and multiplied it

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022



by the total square feet of Northern Trust office space. Perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃) emissions have been omitted as they are not material sources of greenhouse gases for the Corporation.

GHG Emissions Factors

TABLE 2

Emissions Scope	Emissions Source	Emissions Factor Employed
Scope 1	Natural gas	UK - Department for Environment, Food & Rural Affairs (DEFRA) Conversion Factors 2022
	Diesel fuel	DEFRA Conversion Factors 2022 - <ul style="list-style-type: none"> • UK – Average Biofuel Blend, • Non-UK - 100% Mineral Fuel (Due to lack of clarity around biofuel content)
	Fugitive emissions (refrigerants)	We have estimated the fugitive emissions (refrigerants) using the following papers: The Assessment of potential to reduce UK F-gas emissions beyond the ambition of the F-gas Regulation and Kigali Amendment (Ricardo and Gluckman Consulting) - Climate Change Committee, 2019-03-12, Issue Number 6, (theccc.org.uk), page 6 - Total UK RAHCP F-gas emissions, page 19 - stationary air conditioning percentage, page 25 – global warming potentials Net Zero Technical Report – Committee on Climate Change, 2019-05-02, (theccc.org.uk), pages 252 – 268
Scope 2	Purchased electricity	United States – Environmental Protection Agency (EPA) Emissions & Generation Resource Integrated Database (Egrid), 2021 State File released, 2022-01-30 International – International Energy Agency (IEA) 2020 released 2022 United Kingdom –DEFRA Greenhouse Gas Reporting: Conversion Factors 2022 Residual Mix – Association of Issuing Bodies (AIB) European Residual Mixes 2021 - Version 1.1, 2022-05-31 Renewable Electricity – Supplier Specific Carbon Factors
Reported Scope 3	Business travel	Hotels The Climate Registry’s General Reporting Protocol, v1.1, May 2008, Table 12.1 Source: EPA CHP (Environmental Protection Agency Combined Heat and Power) Partnership, “CHP in the Hotel and Casino Market Sectors.” December 2005. Prepared by Energy and Environmental Analysis, Inc. Table 16. The Climate Registry’s General Reporting Protocol, v1.1, May 2008, Table 12.3 Source: EPA CHP Partnership. “CHP in the Hotel and Casino Market Sectors.” December 2005. Prepared by Energy and Environmental Analysis, Inc. Table ES-2. (to note that kBtu (one-thousand British Thermal Units) of natural gas have been converted to therms by dividing by 100) Assumed 10 therms = 1 MMBtu (Metric Million British Thermal Unit) and 1 MMBtu = 293 kWh (kilowatt hour) Source: GHG Protocol Emissions Factors from Cross-Sector Tools (March 2017) Table 9. US average converted to lb CO ₂ /kWh

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022

Emissions Scope	Emissions Source	Emissions Factor Employed
		<p>Flights GHG Protocol Emissions Factors from Cross-Sector Tools (March 2017) IPCC 2006 Guidelines for National Greenhouse Gas Inventories, (Tables 1-3 of the WRI GHG inventories) Department for Environment, Food & Rural Affairs (DEFRA) Conversion Factors 2022</p>
		<p>Rental Cars Table 14 from GHG Protocol Emissions Factors from Cross-Sector Tools (March 2017) U.S. vehicles: U.S. EPA Climate Leaders (updated May 2008)</p>
		<p>Shuttle vehicles GHG Protocol Emissions Factors from Cross-Sector Tools (March 2017)</p>
		<p>Rail UK - Department for Environment, Food & Rural Affairs (DEFRA) Conversion Factors 2022 United States – Environmental Protection Agency (EPA)</p>
	Fuel-and-energy-related activities not included in Scope 1 or 2 (Transmission and Distribution (T&D) losses)	<p>Transmission and Distribution (T&D) losses IEA (International Energy Agency) 2020 released 2022, T&D losses adjustment file</p>
	Employee Commuting including Hybrid working	<p>Commuting UK Government Travel Statistics DEFRA Conversion Factors 2022</p>
		<p>Working From Home EcoAct Whitepaper Climate Data DEFRA Conversion Factors 2022 Working from Home and Employee Commuting has been calculated at an office level and may include contractors on site.</p>
	Water (purchased) and Waste	<p>Water (purchased) and Waste DEFRA - UK Government GHG Conversion Factors for Company Reporting 2022</p>

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022



Market-Based Approach

The Corporation applies utility/supplier-specific factors or residual mix factors where available to facilities in Illinois, Europe and the Middle East. These factors are not available for the remainder of the facilities and, therefore, location-based factors are applied for these sites.

Global Warming Potentials

GHG emissions were calculated using the Global Warming Potentials (GWP) from the International Panel on Climate Change (IPCC) Fifth Assessment Report for CO₂, CH₄, N₂O and HFCs.

Note 3 – GHG Emissions by Region (MT CO₂e)

TABLE 3

	North America	Europe Middle East	Asia Pacific	Total
Scope 1	4,842	1,212	1,297	7,350
Scope 2 Location-Based Approach	18,009	1,710	6,938	26,657
Scope 2 Market-Based Approach	21,315	143	6,611	28,068
Scope 3	14,367	5,571	23,246	43,184

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022

NOTE 4 – CO₂e INTENSITY

The Corporation has selected global FTE employee as the basis for its intensity calculation. One FTE represents an employee working a forty-hour work week as of December 31 for each year presented.

Market Based: MT CO₂e per FTE

TABLE 4

	2019	2020	2021	2022
Scope 1 – per FTE Employee	0.391	0.356	0.342	0.311
Scope 2 – per FTE Employee	1.775	1.158	1.112	1.189
Reported Scope 3 – per FTE Employee	1.843	1.536	1.614	1.830
Total – per FTE Employee	4.010	3.050	3.068	3.331
Total FTE Employee	19,800	20,864	21,243	23,600

NOTE 5 – MT CO₂e 2022 GHG EMISSIONS BY TYPE

TABLE 5

	Carbon Dioxide (CO ₂)	Methane (CH ₄)	Nitrous Oxide (N ₂ O)	Hydrofluorocarbons (HFCs)	Total
Scope 1	1,838	2	5	5,505	7,350
Scope 2 Location-Based Approach	26,484	53	120	0	26,657
Scope 2 Market-Based Approach	27,895	53	120	0	28,068
Scope 3	43,002	21	161	0	43,184

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022



Note 6 – Scope 3 Reporting (MT CO₂e)

TABLE 6

Scope 3 Category		2019	2020	2021	2022	Note	
Upstream Scope 3 Emissions	1 Purchased Goods & Services (partial)	258	138	121	46	Currently this figure only reflects Northern Trust water purchased. The carbon is calculated using DEFRA and a value of water supply and treatment.	
	2 Capital Goods	Relevant, not yet calculated	Relevant, not yet calculated	Relevant, not yet calculated	Relevant, not yet calculated	While Northern Trust is working with a number of suppliers to calculate this data, figures for these time periods are not available.	
	3 Fuel- and Energy-Related Activities (partial) (Not included in Scope 1 or 2)	3,381	2,416	1,936	2,061	The fuel-and-energy-related activities that are tracked for Scope 3 are the transmission and distribution line losses. T&D losses are calculated using the T&D emissions factors from IEA and DEFRA.	
	4 Transportation & Distribution	Not Relevant	Not Relevant	Not Relevant	Not Relevant	Northern Trust does not produce physical products.	
	5 Waste Generated in Operations	751	720	2,409	553	Northern Trust generates waste through its operations. It consists mainly of municipal solid waste and recycling generated in its offices. The carbon is calculated using DEFRA carbon factors. For municipal waste, landfill is assumed, unless notified otherwise.	
	6 Business Travel - Total	Business Travel - Total	16,874	3,540	1,237	7,848	Business Travel emissions are based on vendor-reported travel type and distance.
		Business Travel - Air	11,056	2,198	642	5,408	—
		Business Travel - Car Rental	484	168	122	162	—
		Business Travel – Hotel Stays	1,235	229	96	437	—
		Business Travel – Rail (partial)	Relevant, not yet calculated	Relevant, not yet calculated	Relevant, not yet calculated	6	Northern Trust started to calculate data for rail travel beginning April 5, 2022. Data figures before April 5 2022 are not available.
7 Employee Commuting including Hybrid working	Business Travel - Shuttle	4,099	946	378	1,835	Shuttle bus services are provided in Chicago and Bangalore offices for commuting and interoffice travel for Northern Trust's employees. Fuel and mileage provided by third party vendors.	
	Employee Commuting including Hybrid working	15,232	25,242	28,574	32,677	Employee commuting constitutes employee travel to their offices and working from home. Commuting mode of transport is provided by employee surveys, with commuting distances estimated. DEFRA carbon factors are used. The number of employees working from home is provided through Total FTE employee number minus card and badge swipes. Emission factors for electricity and gas utilize IEA, eGRID and DEFRA, depending on location.	

Statement of Greenhouse Gas Emissions

For the year ended December 31, 2022



Note 6 – Scope 3 Reporting *(continued)*

Scope 3 Category		2019	2020	2021	2022	Note
Upstream Scope 3 Emissions	8 Leased Assets	Not relevant	Not relevant	Not relevant	Not relevant	Scope 3 emissions from the operation of leased assets are already accounted for in Scope 2 emissions as they are under Northern Trust's operational control.
	9 Transportation and Distribution	Not Relevant	Not Relevant	Not Relevant	Not Relevant	Northern Trust does not produce physical products.
	10 Processing of Sold Products	Not Relevant	Not Relevant	Not Relevant	Not Relevant	Northern Trust does not produce physical products.
	11 Use of Sold Products	Not Relevant	Not Relevant	Not Relevant	Not Relevant	Northern Trust does not produce physical products.
	12 End of Life	Not Relevant	Not Relevant	Not Relevant	Not Relevant	Northern Trust does not produce physical products.
	13 Leased Assets	Not Relevant	Not Relevant	Not Relevant	Not Relevant	Emissions from physical assets leased by Northern Trust to third parties do not have a material impact on our emissions.
	14 Franchises	Not Relevant	Not Relevant	Not Relevant	Not Relevant	Northern Trust does not have franchises.
15 Investments	Relevant, not yet calculated	Relevant, not yet calculated	Relevant, not yet calculated	Relevant, not yet calculated	While Northern Trust is in the process of calculating this data, figures for these time periods are not available.	
Total Reported Scope 3		36,498	32,056	34,276	43,184	