2024

University of Toronto
Asset Management Corporation

Carbon Footprint Report

Introduction

As global efforts to address climate change have grown more urgent over the past decade, UTAM has developed increasingly sophisticated processes for measuring and managing climate-related investment risks and opportunities. One of the pillars of our reporting to University of Toronto stakeholders is our annual carbon footprint report, which we've produced in various forms since 2018.

Evolution of our carbon reporting

In September 2017, UTAM became a signatory to the Montréal Carbon Pledge; in the following year, we published our first carbon footprint report. While we began by focusing on carbon emissions metrics for public equity holdings, we have subsequently expanded the scope of our analysis to include equity-like investments such as private equity, private real estate, and private infrastructure investments. Our annual Carbon Footprint Report quantifies carbon emissions associated with our long-term investment portfolio, referred to as the Endowment portfolio, and the investment holdings within it referred to as the Long-Term Capital Appreciation Portfolio (LTCAP) Sub-Portfolio (defined below).

In 2020, UTAM committed to reducing the carbon footprint of the equity (and equity-like) investments in the Endowment portfolio by at least 40% relative to 2017 levels by 2030. Then, in the fall of 2021, the university, as part of a major announcement on climate action, pledged to achieve net zero emissions in the Endowment portfolio by 2050. Coinciding with this announcement, U of T (through UTAM) joined the United Nations–convened Net-Zero Asset Owner Alliance (NZAOA), becoming the first university in the world to do so. The Alliance provides a framework for setting interim targets on decarbonization initiatives to guide members pursuing net zero emissions in their portfolios.

Guided by the Alliance's Target Setting Protocol, UTAM established interim targets in 2022 for the Endowment's carbon footprint, as well as engagement with emitting companies and transition financing. Having met our previous carbon footprint target for the Endowment nearly a decade ahead of schedule, we built on this momentum to set an ambitious goal: **UTAM's new carbon footprint target is a further 50% reduction in emissions by 2030, measured against a 2019 baseline.** Going forward, all UTAM carbon footprint reporting will gauge our progress against this target.

When Alliance members establish an overall carbon reduction target, they're also required to set comparable targets – where credible methodologies and sufficient data coverage exist. Under the Target Setting Protocol, Alliance members are expected to include public equities and publicly traded corporate bonds in the carbon footprint calculations – we term this group of assets the LTCAP Sub-Portfolio. (The Alliance defines a sub-portfolio as the asset classes within an asset owner's total portfolio that are included in the carbon footprint calculation.). Starting with the 2022 Carbon Footprint Report, we have included public and private equities, equity-like securities and publicly traded corporate bonds in the LTCAP Sub-Portfolio. Holdings in hedge funds in the absolute return portfolio, government bonds and alternative credit strategies are currently excluded from the LTCAP Sub-Portfolio.

PwC limited assurance engagement

Since 2021, PricewaterhouseCoopers LLP (PwC) has conducted a limited assurance engagement of our reported absolute emissions and carbon footprint for the LTCAP Sub-Portfolio. PwC's report begins on page 3.

Previous reports

UTAM's previous carbon footprint reporting can be found in the Reports section of our website, where we also discuss our approach to climate risk analysis under the framework of the Task Force on Climate-related Financial Disclosures (TCFD).

Independent practitioner's limited assurance report

on select performance metrics included in University of Toronto Asset Management Corporation's (UTAM's) 2024 Carbon Footprint Report

To the Board of Directors of UTAM

We have conducted a limited assurance engagement on the select performance metrics, including the greenhouse gas emissions performance metric, as detailed in Exhibit 1, included in UTAM's 2024 Carbon Footprint Report (the "select performance metrics"), as at December 31, 2024 and for the year then ended.

Responsibilities for the select performance metrics

Management of UTAM is responsible for:

- the preparation of the select performance metrics in accordance with the applicable criteria, established in UTAM's 2024 Carbon Footprint Report (the applicable criteria).
- designing, implementing and maintaining such internal control as management determines is necessary to enable the preparation of select performance metrics, in accordance with the applicable criteria, that are free from material misstatement, whether due to fraud or error; and
- the selection and application of appropriate sustainability reporting methods and making assumptions and estimates that are reasonable in the circumstances.

Inherent limitations in preparing the select performance metrics

Non-financial data is subject to more limitations than financial data, given both the nature and the methods used for determining, calculating, sampling or estimating such data. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

Greenhouse gas quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Our independence and quality management

We have complied with independence and other ethical requirements of the relevant rules of professional conduct / code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Canadian Standard on Quality Management 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements*, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Practitioner's responsibilities

Our responsibility is to plan and perform the assurance engagement to obtain limited assurance about whether the select performance metrics are free from material misstatement, whether due to fraud or error, and to issue a limited assurance report that includes our conclusion. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence decisions of users taken on the basis of the select performance metrics.

We conducted our limited assurance engagement in accordance with Canadian Standard on Assurance Engagements (CSAE) 3000, *Attestation Engagements Other than Audits or Reviews of Historical Financial Information* (CSAE 3000), and, in respect of the greenhouse gas performance metric, Canadian Standard on Assurance Engagements (CSAE) 3410, *Assurance Engagements on Greenhouse Gas Statements Issued by the Auditing and Assurance Standards Board* (CSAE 3410).

As part of a limited assurance engagement in accordance with CSAE 3000 and CSAE 3410, we exercise professional judgment and maintain professional skepticism throughout the engagement. We also:

- Determine the suitability in the circumstances of UTAM's use of the applicable criteria as the basis for the preparation of the select performance metrics.
- Perform risk assessment procedures, including obtaining an understanding of internal control relevant to the engagement, to identify where material misstatements are likely to arise, whether due to fraud or error, but not for the purpose of providing a conclusion on the effectiveness of UTAM's internal control.
- Design and perform procedures responsive to where material misstatements are likely to arise in the select performance metrics. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Summary of the work performed

A limited assurance engagement involves performing procedures to obtain evidence about the select performance metrics. The procedures in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

The nature, timing and extent of procedures selected depend on professional judgment, including the identification of where material misstatements are likely to arise in the select performance metrics, whether due to fraud or error.

In conducting our limited assurance engagement, we:

- Obtained an understanding of UTAM's reporting processes relevant to the preparation of its select performance metrics by:
    - Making inquiries of the relevant personnel responsible for the sustainability information; and
    - Inspecting relevant documentation relating to UTAM's reporting processes;
- Evaluated whether all information identified by the process to identify the information reported in the select performance metrics is included in the select performance metrics;
- Performed inquiries of relevant personnel and analytical procedures on selected information in the select performance metrics;
- Performed substantive assurance procedures on selected information in the select performance metrics;
- Evaluated the appropriateness of quantification methods and reporting policies;
- Evaluated the methods for developing estimates; and
- Reviewed the select performance metrics disclosure in the 2024 Carbon Footprint Report to ensure consistency with our understanding and procedures performed.

Limited assurance conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the select performance metrics as at December 31, 2024 and for the year then ended are not prepared, in all material respects, in accordance with the applicable criteria.

Restriction on use

Our report has been prepared solely for the Board of Directors of UTAM for the purpose of assisting management in reporting to the Board of Directors of UTAM and the University of Toronto on the select performance metrics. The select performance metrics therefore may not be suitable, and are not to be used, for any other purpose. Our report is intended solely for UTAM. We neither assume nor accept any responsibility or liability to any third party in respect of this report.

PricewaterhouseCoopers LLP

Chartered Professional Accountants

Toronto, Ontario
June 4, 2025

Exhibit 1

Select performance metrics and criteria

1. Carbon Footprint

Description: Total carbon emissions for a portfolio normalized by the market value of the portfolio, expressed in tonnes CO_2e/$M ($tCO_2eq$) invested for the year ended December 31, 2024.

Methodology: Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach as described under methodology for Absolute Emissions. The portfolio value on the measurement date is used to normalize the data.

Investment portfolio: Endowment (Long-Term Capital Appreciation Pool or LTCAP).

Scope by asset class: Public equity and equity-like assets (including private equity, real estate, and infrastructure), and fixed income (corporate bonds only) in the LTCAP portfolio are included in the footprint (referred to as the "LTCAP Sub-Portfolio" or the "Sub-Portfolio"). All other strategies and holdings in the LTCAP portfolio are currently excluded. All holdings in the absolute return portfolio and the alternative credit portfolio are excluded from the footprint.

Results: 18.37 tonnes CO_2e/CAD$M invested

2. Absolute Emissions

Description: The absolute GHG emissions associated with the measured portfolio, expressed in tonnes CO_2-equivalent (tCO_2eq) for the year ended December 31, 2024.

Methodology: Scope 1 and Scope 2 GHG emissions are allocated to investors based on an enterprise value including cash approach.

Investment portfolio: Endowment (Long-Term Capital Appreciation Pool or LTCAP).

Scope by asset class: Public equity and equity-like assets (including private equity, real estate, and infrastructure), and fixed income (corporate bonds only) in the LTCAP portfolio are included in the footprint (referred to as the "LTCAP Sub-Portfolio" or the "Sub-Portfolio"). All other strategies and holdings in the LTCAP portfolio are currently excluded. All holdings in the absolute return portfolio and the alternative credit portfolio are excluded from the footprint.

Results: 62,558.11 tCO_2eq

The **reporting criteria** against which the select performance metrics will be assessed as follows:

Management's internally developed criteria as outlined in UTAM's 2024 Carbon Footprint Report.

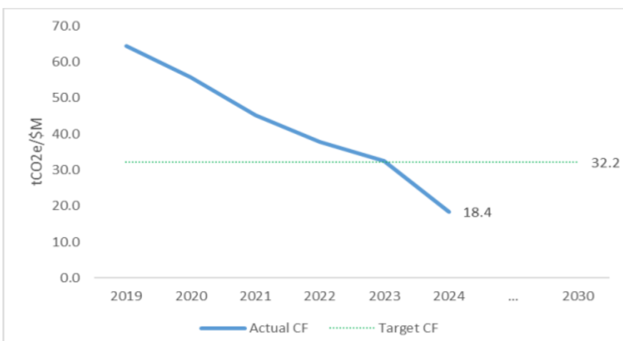
Sub-Portfolio carbon footprint

Dates are at December 31 in each year referenced unless otherwise specified.†

Starting point 2019‡	Results 2024	Change
Absolute emissions	**Absolute emissions**	**Absolute emissions**
145,404.2 tCO_2e	62,558.1* tCO_2e	-57.0%
Carbon footprint	**Carbon footprint**	**Carbon footprint**
64.4 tCO_2e/$M invested	**18.4*** tCO_2e/$M invested	-71.5%

tCO_2e/$M = tonnes of carbon dioxide equivalent per million Canadian dollars invested

Carbon footprint over time compared to the 2030 target



By calculating the annual reduction in the carbon footprint of the LTCAP Sub-Portfolio, we can track the tangible impact of our efforts over time. One of the virtues of this approach is that the impact will be felt not only in high-emitting sectors but across all sectors within the Sub-Portfolio. By identifying the climate-related risks associated with actual and prospective investments – as part of our broader responsible investing framework and through our stewardship activities (proxy voting, engagement and advocacy) – we continue to expect the carbon footprint of LTCAP's investments to decrease over time. As the companies in the LTCAP Sub-Portfolio adopt more sustainable practices, their collective absolute emissions and carbon footprint should shrink, and as a result, LTCAP should become more resilient to climate-related risks.

At the end of 2024, the carbon footprint of the LTCAP Sub-Portfolio was 18.4 tCO_2e/$M (based on total emissions of 62,558.1 tCO_2e). This calculation follows the EVIC ownership approach§ for the Sub-Portfolio and includes the impact of carbon contributions from equities (including equity-like assets) and corporate bonds.‖ The year-over-year changes in absolute emissions and carbon footprint since 2019, using calendar year periods, are summarized in Table 1.

Table 1

Carbon Footprint of the LTCAP Sub-Portfolio

Year	tCO_2e	tCO_2e/$M	Cumulative change in tCO_2e	Cumulative change in tCO_2e/$M
2019	145,404.2	64.4	-	-
2020	143,188.2	55.7	-1.5%	-13.5%
2021	132,991.1*	45.2*	-8.5%	-29.8%
2022	99,307.8*	37.8*	-31.7%	-41.3%
2023	96,760.1*	32.4*	-33.5%	-49.6%
2024	62,558.1*	18.4*	-57.0%	-71.5%

* PwC, an independent third party, conducted a limited assurance engagement on reported values indicated by an asterisk. For details, see relevant PwC limited assurance reports in the 2021 Responsible Investing Report and in the 2022, 2023, and 2024 Carbon Footprint Reports.

† The annual carbon footprint calculation is based on the December 31 unaudited Endowment portfolio. The Endowment portfolio is audited as at April 30, the university's fiscal year end.

‡ UTAM has set a target end date of December 31, 2029, and a baseline year starting from December 31, 2019. Although the Alliance publishes targets on a five-year cycle, members who join the Alliance mid-cycle have the flexibility to extend the length of their initial target period.

§ For sub-portfolios with multiple asset classes (e.g., equities and corporate bonds), the Net-Zero Asset Owner Alliance recommends using enterprise value, including cash (EVIC), to determine an asset owner's proportional share of an issuer's emissions.

‖ All public equity holdings (long and short) and equity-like private investments (private equity, private real estate and private infrastructure), as well as publicly traded corporate bonds within the LTCAP portfolio, were included in the analysis, except for these holdings in the absolute return hedge fund portfolio and the alternative credit strategies. As stated in Methodology (page 8), public market indexes are used to proxy the emissions contributions of the private investments that are included in the LTCAP Sub-Portfolio.

Since 2019, the LTCAP Sub-Portfolio's carbon footprint has realized a cumulative decrease of 71.5%. In the past few years, we have observed significant decreases in both the absolute emissions and the carbon footprint of the Sub-Portfolio and at December 31, 2024, the targeted 50% reduction goal set for the carbon footprint by 2030 was achieved.

Although emissions for the Sub-Portfolio have declined significantly and consistently since 2019 (see Table 1), we do not expect emissions to decrease every year. In the short term, factors beyond UTAM's control – such as economic conditions, market movements, manager holdings, and changes in equity index composition – may cause year-to-year fluctuations. For example, absolute emissions for many companies have increased since 2020 as the economy has recovered from the COVID pandemic. Similarly, the carbon footprint is sensitive to swings in the value of the Sub-Portfolio, and all things equal, a weak capital market environment will result in a higher carbon footprint. In 2024, the year-over-year reduction in the Sub-Portfolio's emissions was driven by changes in the holdings of select LTCAP public equity managers. While UTAM has sought to establish new strategies that eliminate fossil fuel exposure (and therefore emissions) with public equity managers, to date we have had limited success. Therefore, until such time we establish amended mandates to specifically preclude high emitting fossil fuel companies, we believe there is a high risk of reversion in the absolute emissions and the carbon footprint of the Sub-Portfolio.

Sector and country contributions

Sector attribution

Table 2 shows the carbon emission contribution by the different sectors in the Sub-Portfolio (denoted in the table as % of Sub-Portfolio). Just over 80% of emissions come from only four sectors: Materials, Industrials, Energy, and Utilities. These four sectors have been the primary contributors to the Sub-Portfolio's total emissions in the past four years. On a year-over-year basis, Materials, and Energy saw an overall decrease in their emissions contribution. Utilities was relatively flat, but the Industrials sector saw an increase in its year-over-year emissions contribution. It is also worth noting that, as in past years, despite these four sectors driving the Sub-Portfolio's emissions, they represent a relatively small exposure in terms of dollars invested. At December 31, 2024, these four sectors represented less than 17.0% of the Sub-Portfolio's net asset value.

Table 2

Sector attribution

Sector	Emissions Contribution	% of Sub-Portfolio
Materials	28.3%	2.5%
Industrials	21.0%	12.1%
Energy	16.7%	1.3%
Utilities	14.4%	1.0%
Consumer Discretionary	6.1%	11.6%
Consumer Staples	4.3%	4.1%
Information Technology	4.3%	21.4%
Health Care	1.5%	9.3%
Communication Services	1.4%	7.6%
Financials	1.0%	19.5%
Real Estate	0.8%	3.6%
Cash and Others	0.2%	5.9%
TOTAL	100.0%	100.0%

Numbers may not add up to 100% due to rounding.

Country attribution

Table 3 shows the top 10 countries (based on securities' place of issue) that contribute most to the LTCAP Sub-Portfolio's emissions. These countries accounted for 82.4% of the Sub-Portfolio's market value and represent 85.5% of total emissions. The top three countries with the largest share of emissions are the United States, Canada, and Ireland.

Table 3
Country attribution

Country	Emissions Contribution	% of Sub-Portfolio
United States	29.6%	53.5%
Canada	10.5%	10.5%
Ireland	8.9%	2.1%
Japan	6.9%	3.5%
China	6.3%	3.7%
India	6.2%	0.9%
Switzerland	5.9%	1.9%
United Kingdom	5.5%	3.7%
South Korea	3.0%	1.2%
Taiwan	2.6%	1.2%
Top 10 Countries	85.5%	82.4%

Carbon footprint methodology and limitations

UTAM's carbon footprint calculation follows a systematic process grounded in current leading practices within the investment industry.

Methodology

- We use a carbon footprint calculation methodology based on the following:
  - The Global GHG Accounting and Reporting Standard for the Financial Industry (Second Edition, December 2022), developed by the Partnership for Carbon Account Financials (PCAF).
  - Target Setting Protocol, third edition (January 2023), published by the Net-Zero Asset Owner Alliance.
  - UTAM's internally developed criteria for year-end carbon footprint calculations. (for example, we use market values for all assets in the Sub-Portfolio for the footprint calculation, and re-scale the footprint results up to account for missing emissions data). We typically use emissions data available one month after the reporting date.
  - The total absolute emissions and carbon footprint metrics reported by UTAM follow the financed emissions approach: a portfolio's share of emissions is calculated based on proportional ownership relative to a company's enterprise value, including cash (EVIC). The calculations are first carried out in USD terms (due to data availability) and then converted back to Canadian dollar terms using the December 31st exchange rate.

Carbon emissions (tonnes CO_2e) per $million invested

$$\frac{\sum_{i=1}^{n}\left(\frac{C_i}{EV_i}\times I_i\right)}{\sum_{i=1}^{n} I_i}$$

I: Current value of investment in issuer i
EV: Enterprise value of issuer i
C: Carbon emissions of issuer i

- Both Scope 1 and Scope 2 emissions are currently included in the footprint calculations and results.
- The PCAF standard provides guidance on how to score the quality of emissions data. We obtain position data from our risk aggregator, State Street's truView, and emissions data from MSCI Inc. On this basis, we estimate the average data quality score for public equities and public fixed income to be 2 and 3, respectively. For private assets where public equities are used as proxies, an average data quality score of 5 is implied.
- All assets classified within the Equity component of the Reference Portfolio,* as well as publicly traded corporate bonds in the Canadian Corporate Bonds component of the Reference Portfolio, are included in carbon footprint calculations.
- For private market investments, primarily in private equity and private real estate investments, we use public indexes to proxy the emissions contributions to the LTCAP Sub-Portfolio.

Limitations

- The methodologies used in UTAM's carbon footprint calculation, as well as the scope of assets covered, will continue to evolve. As new methods and data become available, we will evaluate how they can best be incorporated into our calculation process. For example, private equity and real estate assets were added to the footprint calculation in 2018, while corporate bonds and the EVIC approach were integrated for 2021 year-end calculations.
- We also recognize that there are limitations to the footprint metrics themselves. Calculated results can be affected by factors outside UTAM's control, including lags in emissions reporting or missing emissions data, shifts in foreign exchange rates and changes in the market values of the securities included in the LTCAP Sub-Portfolio. We endeavour to use a consistent approach that employs the most recently available information in our calculations and have adopted a standardized approach to data gathering and the treatment of missing data. For the 2024 carbon footprint results, emissions data available by January 31, 2025, was used in the calculations.
- The carbon emissions of Sovereign Bond holdings (specifically Canadian Federal Government Bonds) are also being calculated and monitored by UTAM following the methodology recommended by PCAF and the NZAOA. This calculation is not within the scope of the limited assurance process as it cannot be readily aggregated into the total reported carbon footprint for LTCAP (for example, the methodology recommends the usage of Purchasing Power Parity (PPP) GDP to attribute emissions as opposed to EVIC). Since the data set and data source are different for this exercise, UTAM will continue to monitor the evolution of the measurement process and may incorporate enhancements as they are established as valid and reliable.
- Carbon footprint metrics are not a forward-looking measure of the LTCAP Sub-Portfolio's exposure to climate risk (i.e., its climate risk sensitivity). By the nature of the calculations and data used, metrics are snapshots at one point in time of the Sub-Portfolio's attributed emissions.

* The Reference Portfolio is a benchmark (currently 60% equity exposure and 40% fixed income) that serves as an objective yardstick for measuring active risk and value gained or lost through investment management activities. It is developed jointly by UTAM and the University's Investment Committee and approved by the University Administration.

University of Toronto
Asset Management Corporation

777 Bay Street, Suite 2502
Toronto, Ontario
Canada M5G 2C8
416-306-8730

utam.utoronto.ca