

# Towards a Greener Future

2019  
Carbon Footprint Report

Signatory of:

 **PRIMontrealPLEDGE**  
Principles for Responsible Investment

# Towards a Greener Future

UTAM is pleased to make the following two announcements as part of our ongoing efforts to take decisive action on climate change:

## 01

UTAM commits to reducing the carbon footprint of the Pension and Endowment investment portfolios by 40% or more by the end of 2030.

## 02

UTAM, on behalf of the University of Toronto, endorses the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). U of T is the first Canadian university to endorse the TCFD's recommendations on behalf of its Pension and Endowment funds.



# Introduction

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In September 2017, UTAM became a signatory to the Montréal Carbon Pledge and committed to reporting annually on the carbon footprint of the Pension (officially called the University of Toronto Master Trust) and the Endowment (Long-Term Capital Appreciation Pool) investment portfolios that UTAM manages on behalf of the University of Toronto.

In July 2018, UTAM published its first carbon footprint report, which showed various carbon metrics for the public equity holdings (as of September 30, 2017) within the two portfolios. In this year's report, our second, we have expanded the scope of our analysis to include not only public equities, but also private equity, private real estate and private infrastructure investments. The results give a more accurate and complete picture of the carbon footprint of the assets in these portfolios.

The results presented in this report are for the Pension portfolio as of September 30, 2018. The Pension and Endowment portfolios have identical investment mandates, and we manage them the same way. As a result, the carbon footprints of the portfolios are substantially similar, as can be seen in last year's report. Therefore, for this year's analysis, we calculated the footprint for the Pension portfolio, and we use that as a proxy for the Endowment portfolio. If the two portfolios diverge in the future, we will calculate a separate footprint for the Endowment portfolio.

## **Global and national context**

UTAM's reporting on the carbon footprint of the assets it manages comes amidst increasing focus within the financial community on companies' exposure to climate-related risks and associated business opportunities. Investors are attempting to quantify the potential impact of climate change on their portfolios but often find that companies are not disclosing enough information to enable them to do so. In December 2015, the Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD) to develop a set of voluntary, consistent disclosure recommendations for use by companies in providing information to investors, lenders and insurance underwriters about their climate-related financial risks.

# Introduction cont'd

The TCFD released its final recommendations on climate-related financial disclosures in June 2017. They are structured around four key areas:

**Governance:** The organization’s governance around climate-related risks and opportunities

**Strategy:** The actual and potential impacts of climate-related risks and opportunities on the organization’s businesses, strategy and financial planning

**Risk Management:** The processes used by the organization to identify, assess and manage climate-related risks

**Metrics and Targets:** The metrics and targets used to assess and manage relevant climate-related risks and opportunities

Subsequently, Canada’s Expert Panel on Sustainable Finance – chaired by Tiff Macklem, Dean of U of T’s Rotman School of Management – released its final report in June 2019. The panel explicitly endorsed and extended the task force’s central findings. Indeed, one of the panel’s recommendations is to “Define and pursue a Canadian approach to implementing the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD).”<sup>1</sup>

The expert panel is unequivocal in stating the importance of such disclosures:

A reliable, consistent and comparable bottom-up view of climate risk exposure is essential to proper assessment and pricing, which in turn avoids systemic risk implications and helps direct investment to clean innovation. This is particularly relevant to Canada, given the severe physical and financial risks associated with our country’s accelerated rate of warming.<sup>2</sup>

Reporting in line with the TCFD’s recommendations is rapidly becoming best practice, as the expert panel predicted.

UTAM is pleased to announce, for the first time, our support for the TCFD’s recommendations. U of T (through UTAM) is the first Canadian university to endorse the recommendations on behalf of its Pension and Endowment funds, joining more than 930 public and private sector organizations – representing a market capitalization of over US\$11 trillion – that have supported the initiative (as of December 2019).<sup>3</sup> Beginning in 2020, UTAM will provide reporting following the TCFD framework.

1 Final Report of the Expert Panel on Sustainable Finance: Mobilizing Finance for Sustainable Growth, Government of Canada, 2019, [canada.ca/en/environment-climate-change/services/climate-change/expert-panel-sustainable-finance.html](https://canada.ca/en/environment-climate-change/services/climate-change/expert-panel-sustainable-finance.html).

2 Ibid.

3 Task Force on Climate-related Financial Disclosures: TCFD Supporters, 2019, [fsb-tcfd.org/tcfd-supporters](https://fsb-tcfd.org/tcfd-supporters).

# What is a carbon footprint?

A carbon footprint represents the greenhouse gas (GHG) emissions associated with the activities of an entity expressed in CO<sub>2</sub> equivalents (CO<sub>2</sub>e). The carbon footprint attributable to an investment portfolio measures the proportionate emissions associated with companies held by that portfolio. In this report, we analyze the carbon footprint of the public equity, private equity, private real estate and private infrastructure holdings within the Pension portfolio.

The greenhouse gases in our analysis are those covered by the internationally recognized GHG Protocol and include, where available, carbon dioxide (CO<sub>2</sub>), nitrogen trifluoride (NF<sub>3</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). All gases are converted to CO<sub>2</sub> equivalents to calculate the carbon footprint.

GHG emissions are typically divided into three scopes, as outlined in the diagram below. In this report, the carbon footprint of the Pension portfolio includes Scope 1 and 2 emissions. Data limitations and the lack of a consistent standard for measuring Scope 3 emissions prevent their inclusion. This approach is consistent with our 2018 report, and the methodology employed by most Montréal Carbon Pledge signatories.

## Scope 1: Direct

Emissions from sources that are owned or controlled by the company.

### REPORTING COMPANY



Company facilities



Company vehicles

## Scope 2: Indirect

Emissions generated in the production of electricity, heat or steam consumed by the company.

### UPSTREAM ACTIVITIES



Purchased electricity, steam, heating and cooling for own use

## Scope 3: Indirect

Emissions from sources not owned or directly controlled by the company but that are a consequence of the activities of the company.

### UPSTREAM ACTIVITIES



Purchased goods, services and capital goods



Fuel- and energy-related activities



Business travel and employee commuting



Waste generated in operations

### UPSTREAM & DOWNSTREAM



Transportation and distribution



Leased assets

### DOWNSTREAM ACTIVITIES



Use of sold products



End-of-life treatment of sold products



Company investments



Franchises

# Why are we calculating a carbon footprint?

Measuring, analyzing and disclosing the carbon footprint of the Pension and Endowment investment portfolios is part of UTAM's ongoing commitment to responsible investing, which includes:

- Incorporating environmental, social and governance (ESG) factors into our investment decision-making processes
- Active ownership, through proxy voting and engagement
- Advocacy with policy-makers and regulators
- Disclosure and reporting

We believe that material ESG factors can have a significant impact on investment returns.<sup>4</sup> Therefore, we've made ESG considerations an integral part of our investment analysis and decision-making processes, particularly in our selection of investment managers. Investors who measure their carbon footprints are better able to understand, quantify and manage the impacts, risks and opportunities related to climate change.

The results from our carbon footprint analysis are discussed with current and potential investment managers (UTAM invests primarily through third-party external managers). In doing so, we have developed a better understanding of how these managers consider GHG emissions in their investment decision-making. This in turn has led to an improvement in our investment due diligence process.

Finally, and most importantly, by measuring the carbon footprint of our investment portfolio, we can track the tangible impact of our responsible investing approach over time. The approach is premised on the idea that, by identifying the climate-related risks associated with actual and prospective investments (as part of our larger ESG framework), and through our active ownership and advocacy efforts, we should see the carbon intensity of our investments decline over time. As the companies in our portfolio adopt more sustainable practices, the planet will benefit, and the portfolio will become more resilient to climate-related risks.

4 See Appendix A (p. 11) for a description of how climate change can impact the risk and value of a company.

# Targeting a 40% carbon footprint reduction

In order to take decisive action on climate change, we are pleased to announce that we are committing to reduce the carbon intensity of the Pension and Endowment investment portfolios by 40% compared to 2017 by the end of 2030. This is an ambitious target and exceeds the national reduction target of 30% set by the Government of Canada.

For the reduction target, we will include equity and equity-like<sup>5</sup> investments and define carbon intensity as greenhouse gas (GHG) emissions (tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e)) per million dollars invested. Consistent with the Task Force on Climate-related Financial Disclosures (TCFD), we refer to this measure as a portfolio's carbon footprint.

In order to achieve our carbon reduction goal, UTAM expects to deploy a variety of tools, including shifting assets to lower emitting countries and sectors as well as investing in managers and strategies that have lower carbon footprints. Moreover, as part of our ESG-based framework for responsible investing, we will also continue to engage with companies on climate change and advocate with policy-makers and regulators to take action on climate change. It is through all of these efforts that we believe we will achieve our carbon reduction goal.

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“We all have a role to play in addressing climate change. As the University of Toronto's asset manager, we are pleased to do our part. Adopting the ambitious 40% reduction target and endorsing the TCFD's recommendations are key pillars in our comprehensive approach to tackling this issue.”

Daren Smith  
President and Chief Investment Officer, UTAM

5 Equity and equity-like investments include public equity, private equity, private real estate and private infrastructure, and they represented approximately 60% of the Pension portfolio's assets at September 30, 2018.

# How did we measure the carbon footprint?

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There are a number of different ways to calculate a carbon metric for a portfolio. However, we believe the best measure of a portfolio's carbon footprint is its carbon intensity as measured by tonnes of CO<sub>2</sub> equivalent (tCO<sub>2</sub>e) per million dollars invested. UTAM, working closely with the University of Toronto's administration, considered other metrics but selected GHG emissions per million dollars invested for the following reasons:

1. It is often referred to as a portfolio's "carbon footprint."
2. It is the most straightforward of the various carbon footprint metrics.
3. Adjusting GHG emissions by the market value of investments allows for fairer comparisons of portfolios with different sizes.
4. It allows for portfolio decomposition and attribution analysis.

Appendix B (p. 13) provides a detailed account of the methodology we employed in calculating GHG emissions per million dollars invested.

In calculating the carbon footprint for 2018, we used data from the Pension investment portfolio as of September 30, 2018. In future reports, we will calculate the footprint based on the investment portfolio as of December 31 of each year. This change will better align the calculation date with the timing of GHG emissions updates from our data provider, MSCI, and it will also align with our fiscal year-end.



# Summary of Pension results

The Pension portfolio's 2018 carbon footprint measures GHG emissions per million dollars invested in public equity holdings and equity-like private investments (i.e., private equity, private real estate and private infrastructure). The inclusion of equity-like investments is an improvement over last year's measurement, which only included public equities (which is typically all that is included when institutions first start reporting their carbon footprint). To allow for an apples-to-apples comparison, we have recalculated the 2017 carbon footprint so that it also includes equity-like investments, and we have expressed the result in Canadian dollars.

The revised 2017 carbon footprint for Pension is 139.2, and the target for 2030 is 83.5 or less. As shown below, the 2018 carbon footprint for Pension is 136.1, a reduction of 2.2% from 2017.

## Portfolio carbon intensity

Starting point  
2017

**139.2**

tCO<sub>2</sub>e/\$M invested

Results  
2018

**-2.2%**

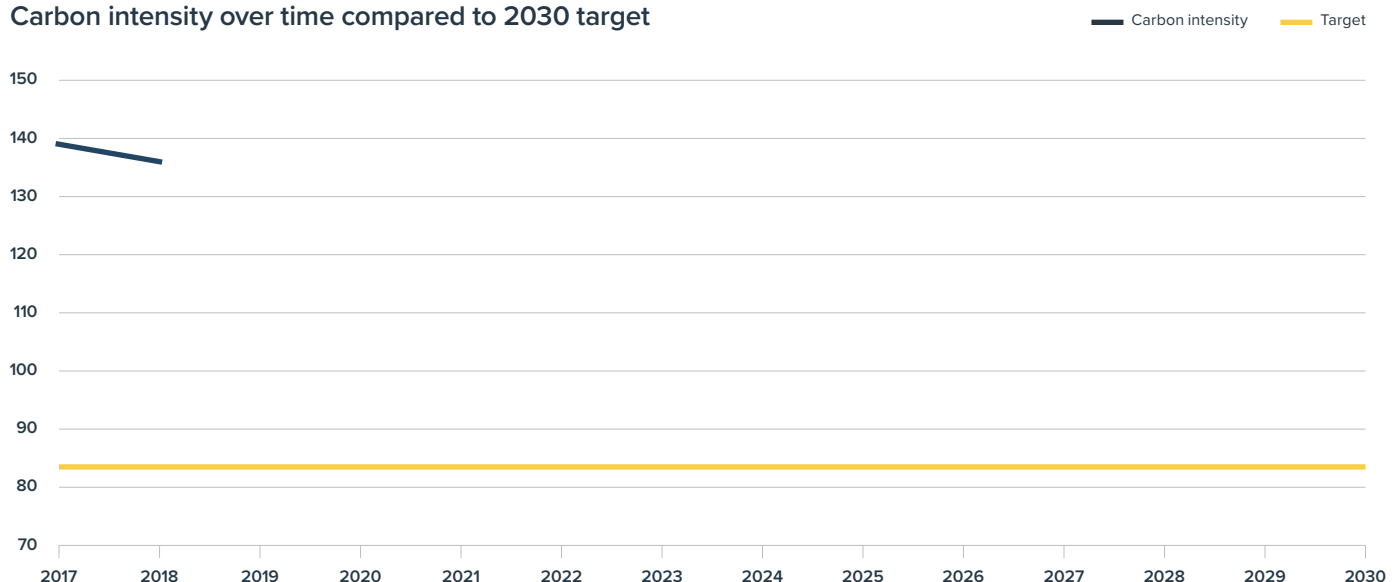
or 136.1 tCO<sub>2</sub>e/\$M invested

Target  
2030

**-40%**

or 83.5 tCO<sub>2</sub>e/\$M invested

Carbon intensity over time compared to 2030 target



# Summary of Pension results cont'd

## Sector attribution

The table below shows the share of market exposure by sector, the share of carbon emissions attributable to each sector, and the ratio of emissions to exposure by sector. Over 90% of the portfolio's emissions come from just four sectors: materials, utilities, energy and industrials. The remaining sectors have relatively low ratios of emissions to exposure, accounting for less than 10% of total emissions, but they represent more than 70% of total market exposure.

| Sector                 | Share of emissions | Share of market exposure | Ratio of emissions to exposure |
|------------------------|--------------------|--------------------------|--------------------------------|
| Materials              | 30.7%              | 5.2%                     | 5.9                            |
| Utilities              | 23.1%              | 2.2%                     | 10.5                           |
| Energy                 | 20.2%              | 8.5%                     | 2.4                            |
| Industrials            | 17.2%              | 12.6%                    | 1.4                            |
| Consumer discretionary | 2.9%               | 12.5%                    | 0.2                            |
| Financials             | 1.8%               | 17.8%                    | 0.1                            |
| Consumer staples       | 1.6%               | 5.4%                     | 0.3                            |
| Information technology | 1.1%               | 16.1%                    | 0.1                            |
| Health care            | 0.7%               | 9.2%                     | 0.1                            |
| Communication services | 0.5%               | 2.2%                     | 0.2                            |
| Real estate and other  | 0.2%               | 8.3%                     | 0.0                            |
| <b>Grand total</b>     | <b>100.0%</b>      | <b>100.0%</b>            |                                |

# Summary of Pension results cont'd

## Country attribution

The table below shows the 10 countries with the highest share of emissions within the Pension portfolio. In total, these countries represent 85% of total emissions, with the top five accounting for 65%. The country with the largest share of emissions is China (20.9%), followed by the United States (19.5%) and Canada (11.4%).

| Country                 | Share of emissions | Share of market exposure | Ratio of emissions to exposure |
|-------------------------|--------------------|--------------------------|--------------------------------|
| China                   | 20.9%              | 8.8%                     | 2.4                            |
| United States           | 19.5%              | 34.1%                    | 0.6                            |
| Canada                  | 11.4%              | 15.6%                    | 0.7                            |
| Russia                  | 6.7%               | 1.0%                     | 6.7                            |
| Japan                   | 6.6%               | 6.8%                     | 1.0                            |
| Germany                 | 5.8%               | 3.3%                     | 1.8                            |
| Spain                   | 4.0%               | 1.0%                     | 3.9                            |
| India                   | 3.8%               | 1.5%                     | 2.5                            |
| Brazil                  | 3.2%               | 1.2%                     | 2.7                            |
| Switzerland             | 3.2%               | 1.9%                     | 1.6                            |
| <b>Total for top 10</b> | <b>85.0%</b>       | <b>75.2%</b>             |                                |

# Moving forward

Climate change is a rapidly evolving issue, and we believe that institutional investors like UTAM have an important role to play in responding to this global challenge.

We are focused on understanding and managing our investment exposure to climate-related risks and opportunities. UTAM's commitment to analyzing and reporting on the Pension and Endowment portfolios' carbon footprints and seeking to achieve our 40% carbon reduction target, along with our approach to integrating ESG factors into our investment decisions, proxy voting, company engagement and advocacy with policy-makers and regulators, are all important tools to help us achieve this goal.

We will continue to encourage companies to provide greater levels of transparency and to describe more clearly and comprehensively their approach to climate-related issues. Disclosing GHG emissions data is an important part of this process. In turn, UTAM will continue to refine and improve our own approach to managing climate-related risks and opportunities and encourage our investment managers to continue to improve their approaches.

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“UTAM’s formalized approach to responsible investing is a key component of our overall investment strategy for the university’s Pension, Endowment and short-term working capital assets. By considering the relevant ESG dimensions of current and potential investments, including carbon emissions, we’re able to make better-informed decisions and, we believe, achieve superior results for beneficiaries of U of T’s portfolios over the long term.”

Daren Smith  
President and Chief Investment Officer, UTAM

# Appendix A: How climate change can impact the risk and value of a company

Climate change has the potential to significantly impact the value of a company. According to the TCFD’s recommendations,<sup>6</sup> companies are subject to two different types of climate-related risks: physical risks and transition risks.

**Physical risks** can be either:

- **Acute:** related to extreme weather events, such as hurricanes and wildfires, becoming more frequent and more severe; or
- **Chronic:** related to increasing global temperatures, such as more frequent heat waves and droughts, rising sea levels and changes in weather patterns.

Transition risks are described in the following chart:

| Type of risk          | Examples of risk  | Examples of financial impact  |
|-----------------------|---|---|
| Policy and legal risk | <ul style="list-style-type: none"> <li>• The introduction of regulation designed to reduce negative environmental impacts.</li> <li>• Increased exposure to environmental lawsuits if regulation becomes more stringent.</li> </ul> | <ul style="list-style-type: none"> <li>• If a company is operating in a sector that is subject to new regulation, there could be increased costs to ensure compliance.</li> <li>• Increased exposure to litigation could result in increased legal costs or costs if a fine or judgment is issued.</li> </ul>   |
| Technology risk       | <ul style="list-style-type: none"> <li>• Pressure for companies to develop technology that lowers the emissions of their products.</li> </ul>   | <ul style="list-style-type: none"> <li>• If a company is operating in a sector that is being pressured to develop and/or adopt new technology, then research, development and/or operational costs could increase.</li> <li>• If a company loses customers to a competitor that is offering lower-emitting products, revenue could decrease.</li> </ul> |
| Market risk           | <ul style="list-style-type: none"> <li>• Changing consumer behaviours in the face of climate change.</li> </ul>   | <ul style="list-style-type: none"> <li>• Changing consumer behaviour can impact demand for products and services – if consumers opt for those with a lower environmental impact (e.g., lower associated carbon emissions, less plastic packaging), a company’s revenue may decrease.</li> </ul>   |
| Reputation risk       | <ul style="list-style-type: none"> <li>• Changing perception of certain sectors and/or products amidst growing awareness and concern about climate change.</li> </ul>   | <ul style="list-style-type: none"> <li>• Sectors that are perceived to have a negative impact on the environment could be subject to increased scrutiny and negative media attention, which could impact revenues and costs (e.g., product boycotts, protests that delay production).</li> </ul>  |

6 Final Report: Recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD), 2017, [fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf](https://fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf).

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# Appendix A: How climate change can impact the risk and value of a company cont'd

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Conversely, for some companies, effective management of physical and transitional risks could create climate-related financial opportunities related to resource efficiency, energy sources, new products/services, new markets and business resilience. For example:

- Companies could reduce operating costs by improving energy efficiency across their operations.
- Companies may be able to increase their revenue by capitalizing on increased demand for more products and services that have a lower environmental impact.
- Companies investing in clean energy sources and innovative low-carbon technologies could access new and growing markets for their products and services.

# Appendix B: Methodology and additional information

## Formula for calculating the carbon footprint

The carbon footprint has been calculated by determining the Pension portfolio's share of GHG emissions (Scopes 1 and 2) for equity and equity-like Included Investments (as defined below) and dividing it by the total market value of the Included Investments. The portfolio's share of GHG emissions has been calculated using the ownership method, which takes the market value of the portfolio's investment in a company and divides it by the total market capitalization of the company.

## Carbon emissions (tonnes CO<sub>2</sub>e) per CAD \$million invested

$$\left( \frac{\sum_{i=1}^n \frac{\text{\$ investment}_i}{\text{Total market cap of issuer}_i} \times \text{Scope 1 and Scope 2 carbon emissions in tonnes}_i}{\text{Market value of Included Investments in millions}} \right)$$

## Included Investments

All public equity holdings (long and short<sup>7</sup>) and equity-like private investments (private equity, private real estate and private infrastructure) within the Pension portfolio were included in the analysis except for these holdings in the absolute return hedge fund portfolio. In total, the investments included in the analysis represented approximately 60% of the Pension portfolio's assets as of September 30, 2018.

## Source of emissions data

All calculations in this report were completed by UTAM using GHG emissions data from MSCI. We approximated the emissions for private holdings by using emissions for corresponding public equity indexes (e.g., country and/or sector indexes).

7 A short position occurs when an investor sells shares of borrowed stock in the open market; the investor hopes to subsequently buy the stock back at a lower price than they sold it for. Emissions from short positions are included as negative emissions. If all investors calculated their total GHG emissions in this way, the sum would match the total GHG emissions of all underlying companies.

# Appendix B: Methodology and additional information cont'd

## Number of positions included in the analysis and how emissions were calculated

The table below shows that almost 9,500 positions (i.e., individual investments) were included in our analysis. Of these positions, carbon emissions data was reported for 24.6% and estimated for 50.3%, and there was no data for 25.1%. However, as a share of the market value of Included Investments, 59.3% had reported data, 35.4% had estimated data and 5.3% had no data. Where there was no data available, we used the average emissions from each manager's portfolio that held the positions with missing data.

| How carbon emissions were calculated | Number of positions | As a percentage of the number of positions | As a percentage of the market value of Included Investments |
|--------------------------------------|---------------------|--|---|
| Reported                             | 2,323               | 24.6%                                      | 59.3%   |
| Estimated                            | 4,759               | 50.3%                                      | 35.4%   |
| No data                              | 2,372               | 25.1%                                      | 5.3%  |
| <b>Grand total</b>                   | <b>9,454</b>        | <b>100.0%</b>                              | <b>100.0%</b>   |





777 Bay Street, Suite 2502  
Toronto, Ontario  
Canada M5G 2C8  
416-306-8730  
[feedback@utam.utoronto.ca](mailto:feedback@utam.utoronto.ca)  
[utam.utoronto.ca](http://utam.utoronto.ca)