

# Investing to Address Climate Change

Report of the Responsible Investing Advisory Group

University of Waterloo

May 24, 2021

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## Investing to Address Climate Change

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#### EXECUTIVE SUMMARY

The science of climate change is irrefutable – increased concentrations of carbon dioxide equivalent emissions (“carbon”)<sup>1</sup> in the atmosphere continue to increase global temperatures to levels that elevate risks for humanity, the environment and all living creatures. As a science-based institution, the University of Waterloo acknowledges the grave realities of a warming planet. As a public educational institution, the University of Waterloo also recognizes its responsibility to contribute to climate change mitigation to allow past, present and future students to live in a sustainable and habitable world. And as a fiduciary responsible for the investment of endowment and pension funds, the University of Waterloo has a duty to manage the financial risks and opportunities associated with climate change in its investment portfolios.

In recent years, the University of Waterloo (“Waterloo”) has taken important steps toward becoming a sustainable organization in many aspects of its operations, including but not limited to its implementation of the Environmental Sustainability Policy; the *Shift*: Neutral climate action plan; and the adoption of an integrated Environmental, Social, and Governance (ESG) lens for its investment management<sup>2</sup>. This report and recommendations on climate investing build on these foundations.

The Advisory Group is motivated to recommend action on climate change with respect to the University’s investment portfolios for several reasons. First, climate instability poses systemic financial risks. Changing economic outlooks require evolving investment strategies. As a forward-looking, long-term investor, the University needs to be cognizant that inaction on climate change threatens the financial stability of the University’s investments. Second, technological and economic innovation toward a climate-aligned transition present investment opportunity for the University.

Finally, the Advisory Group recognizes the contributions of students, faculty, and staff in laying the foundation for the establishment of these recommendations. Over 2,000 individuals and 25 associations and groups have encouraged the University to take measurable action on climate investments. The message has been clear: the University has been called to show leadership by aligning its investment practices with its teaching, research, and operational priorities to address climate change. While the fiduciary duties for the Endowment and Pension Funds to act in the financial interest of current and future beneficiaries and deliver the unique purposes of each Fund has been the focus of the Advisory Group in preparing its recommendations, this call put the spotlight on the importance of the financial risks and opportunities associated with climate change and the urgency of tackling these issues.

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<sup>1</sup> The term ‘carbon’ includes all greenhouse gasses.

<sup>2</sup> See Appendix I for the 2018 report of the Responsible Investing Working Group as well as the excerpt of the Statement of Investment Policies and Procedures re: ESG

The Advisory Group therefore recommends that the University of Waterloo prioritize decarbonization actions that are founded on measurable science-based targets and are consistent with the long-term integrated ESG approach to achieve risk-adjusted investment return objectives. Public policy is increasingly focused on the science of climate change. Economic activity and financial valuations of corporations can also be expected to converge on these targets<sup>3</sup>. The University's investment strategy will, over time, need to avoid firms that are large carbon emitters and those that are materially vulnerable to the consequences of climate change insofar as they are not adjusting their business models, given the financial implications of non-action. At the same time, climate change also presents investment opportunities to support the necessary transitions.

This report sets out investment policy recommendations to address both the financial risks and opportunities associated with climate change. We acknowledge that if these recommendations are adopted, further analysis and due diligence will be required to support execution and ongoing operations that are consistent with the recommendations. Moreover, as new research, tools, and techniques are developed, the University's investment strategy will need to evolve to continue to lead in addressing the financial risks and opportunities of climate change.

The Administration will need to identify internal resources, third-party information providers, and any further advisory support required to implement the recommendations and respond to a rapidly changing environment. The Board of Governors and its Finance and Investment Committee ("F&I"), Pension and Benefits Committees ("P&B"), and Pension Investment Committee ("PIC") will need to ensure that there is effective due diligence, governance and allocation of accountability and responsibility to carry out climate change investing policies once adopted.

In summary, the Advisory Group recommends the following:

- Waterloo's Endowment and Pension Funds take a proactive approach to incorporate climate risk in their investing and management activities, in order to fulfil the risk-adjusted return objectives necessary to deliver on the purposes of those funds.
- The University pursue a gradual carbon exposure reduction strategy by phasing out investments exposed to significant climate change risks, investing instead in climate-related innovation and transition.
- That any material direct investments in fossil fuel companies be avoided. It is expected that with ESG integration and the phased carbon exposure reduction strategy, the University's active equity managers will not hold any material positions in fossil fuel exploration and extraction companies by 2025.
- It is anticipated that the carbon intensity of passive funds will reduce as capital markets fully account for climate change and stranded asset risks. A review in 2026 will assess market developments and determine if further action is required with respect to passive equity investments to meet the University's 2030 carbon exposure reduction target of 50%.

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<sup>3</sup> This convergence would be expected to arise from the combined effects of regulation, price signals, corporate social responsibility actions and accounting standards that are moving to align judgments and estimates that underly valuations in line with corporate commitments on climate change.

## **BACKGROUND**

In January 2021, the Finance and Investment Committee of the University of Waterloo's Board of Governors established a Responsible Investing Advisory Group. (See Appendices A and B for a list of members and others who participated in the work of the RIAG, and the Terms of Reference for the group). This report and recommendations are the result of the Advisory Group's research, analysis and deliberations. The Advisory Group adopted a fiduciary perspective in its work, focusing on the financial consequences of climate change on investment opportunities and risks. This being said, it is important to underline that all specific decisions to implement the Advisory Group's recommendations will require the careful consideration of the appropriate governance bodies – F&I for the Endowment Fund and the PIC and P&B for the Pension Fund, and the Board of Governors in some instances for both (see Appendix J). This will provide additional due diligence and assurance that the actions are consistent with fiduciary duty and aimed to achieve the necessary risk-adjusted returns to fulfill the unique purposes of each fund.

Climate change from carbon emissions is proving to have serious consequences for life on this planet. As a result, there has been a global effort to curb emissions and it stands to reason that there will be increased action in this regard. These changes are expected to impact the financial outlook for businesses and by extension, the investors in those businesses. The investment community is also contributing to the effort of reducing carbon emissions by creating climate-aware investment strategies. As a forward-looking institutional investor, the Advisory Group affirms the need for the University to account for the impact of climate change and emissions trends in stewarding its Endowment and Pension Funds' investment portfolios, both in terms of assessing investment risk as well as in identifying potential investment opportunities.

The Advisory Group acknowledges the University Funds' contributors and beneficiaries, including the more than 2000 students, faculty, staff, associations, and groups that motivated the establishment of the Advisory Group and laid a foundation for our work. Their message is clear: carbon emissions directly attributed to fossil fuels is the leading cause of anthropogenic climate change.

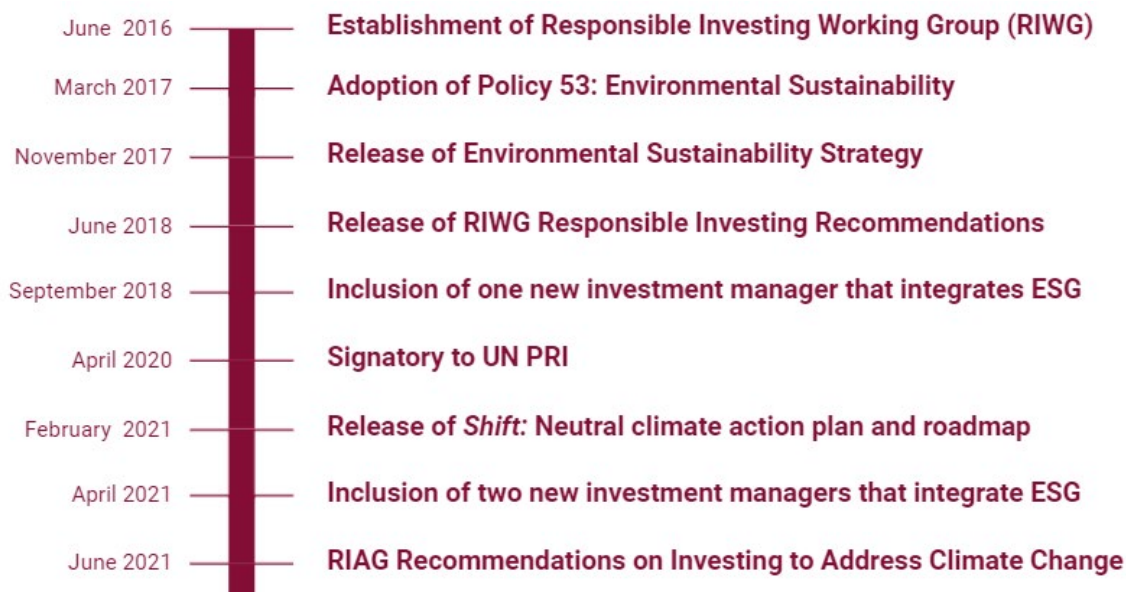
The recommendations of the Advisory Group would not be complete without directly acknowledging the fossil fuel industry as a major contributor of carbon emissions and climate instability. The systemic nature and deep interconnections of carbon emissions and economic activity, however, require that the University take a more holistic approach to the decarbonization of its portfolios, going beyond reducing fossil fuel industry exposure.

The recommended measures reflect the University's approach as a long-term investor, using external managers and operating with symmetry and coherence in the administration of the Endowment and Pension Funds. This approach captures efficiencies and cost savings, reflecting the many similar requirements of the two funds (e.g. due diligence in manager selection and monitoring). This being said, there are important differences in the nature of the purpose of the two funds, most notably the need to consider liabilities and funding stability in taking investment decisions for the Pension Fund and different liquidity requirements for the Endowment Fund. There are different governance structures for the two funds and the required risk-adjusted return, risk tolerance and asset mix are likely to vary. Accordingly, while the Advisory Group's recommendations apply to both the Endowment and the Pension Funds, it is recognized that they

may be tackled in different ways and the Endowment Fund may be able to achieve them more quickly.<sup>4</sup>

The University has concerned itself with responsible investing for some time, with several notable actions and successes to date. Following extensive deliberation from 2016 through 2018, the University established ESG as a lens for University investments and enshrined this approach in the Statement of Investment Policy and Procedures (SIPP) for the Pension Plan, as well as in the Investment Guidelines for the Endowment Fund (see Appendix I). The University committed to becoming a signatory to the UN PRI (Principles for Responsible Investment) in 2018 and achieved that goal in April 2020 after considerable groundwork was completed. The University has since also signed the Investing to Address Climate Change Charter with other Canadian universities with respect to the Endowment Fund. Between year-end 2016 (when the University embarked on its responsible investing journey) and year-end 2020, the University reduced active energy sector equity exposure by 69%, through implementation of the integrated ESG mandate, including new investment managers, and general market shifts. (See Appendix C: University of Waterloo Investment Funds Summary). We expect that the implementation of the Advisory Group’s recommendations will accelerate the University’s shift away from carbon intensive investments.

### University of Waterloo’s Sustainability and Responsible Investing Actions to Date



Considerable research and analysis went into the development of this report and our recommendations<sup>5</sup>. This included substantive reviews of the University’s Policy on Environmental Sustainability; *Shift*: Neutral – The University of Waterloo’s Roadmap to Carbon Neutrality plan; letters from faculty, staff, students, and associations; and an array of academic and investment literature. A common lexicon of terms was prepared and comparative analysis was undertaken of investment policies pertaining to climate change for peer and leading

<sup>4</sup> Re-expendable funds, which are not invested on the same time horizon, are not subject to the same investment mandates as the Endowment and Pension Funds, so are not proposed to be subject to the carbon exposure reduction investment strategy at this time.

<sup>5</sup> Refer to Appendix D: Activities of the Responsible Investing Advisory Group

endowment and pension funds in Canada and abroad<sup>6</sup>. The members, expert advisors, and observers of the Advisory Group contributed insights from the substantive reviews, as well as their own expertise and experience in climate change science, accounting, finance, risk management, and investment when discussing possible solutions and building consensus on our recommendations. Legal advice on fiduciary duty and pension regulations in respect of investing to address climate change as proposed in this report was also obtained.

## KEY CONSIDERATIONS UNDERPINNING RECOMMENDATIONS

The Advisory Group agreed on a common set of assumptions and key considerations as a basis for recommendations:

- Respect the primacy of the fiduciary duty to beneficiaries and unique purposes of the Endowment and Pension Funds and other legal requirements, which underscore the importance of making investment decisions based on financial considerations.
- Aim to maximize risk-adjusted returns while also addressing the financial implications of environmental, social, and governance (ESG) concerns.
- Address the concerns raised in the divestment letters of faculty, staff, and students and acknowledge the need to consider both fossil-fuel supply and demand perspectives.
- Place climate as a key priority within the University's Integrated ESG investment strategy journey,<sup>7</sup> recognizing that the global trajectory of climate change, and the public and private commitments to significantly reduce greenhouse gas (GHG) emissions over the coming years, pose a material financial risk to risk-adjusted investment returns for the University's Endowment and Pension Funds.
- Tailor recommendations to reflect the size and nature of the University's Funds, respecting their governance model and practice of investing through external managers, often in pooled funds, and with due consideration of the information, analytics, and administrative requirements for successful implementation.
- The financial rationale for addressing climate change risks argues for the whole of the Endowment and Pension Funds to be transitioned, not just a portion of the Endowment Fund (such as the student contributions, which was considered). This approach is consistent with the University's preference for using common approaches and managers across Funds wherever possible and appropriate, in order to benefit from synergies and efficiencies in the management and administration of its investments. This being said, the differences in the purposes, beneficiaries, liquidity requirements and governance of the two funds mean that there may well be different choices made about asset mix and other investment decisions. Furthermore, the timing of the transition may vary.
- Stress the importance of dealing with climate risk across all sectors and asset classes, recognizing it is prudent to do so in phases in order to take the time necessary to conduct due diligence; allow standards, reporting quality, and markets to develop and establish a track record; assess the effects of engagement with the funds' managers; gain knowledge

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<sup>6</sup> Refer to Appendix E: Glossary of Terms and Appendix F: Summary Information from Comparator Study

<sup>7</sup> The University may identify additional priorities within its integrated ESG framework, but the work and expertise of the Advisory Group is limited to making recommendations with respect to climate risks and opportunities. The Advisory Group did take note of social equity issues and other environmental issues, such as the loss of biodiversity that are linked to climate change, as are many of the UN Social Development Goals (SDG's). This underlines the importance of continuing to pursue an integrated ESG strategy together with the carbon exposure reduction strategy set out in these recommendations.

in the more complex investment areas as they pertain to climate change; and to learn from experience.

- Recognize the need for further data, research, and methodological development to properly assess climate risks, including physical and transition risks, in many sectors and asset classes, and at the total portfolio level. In particular, further research and development is required with respect to climate risk assessment, scenario analysis, and developing risk appetite at the total portfolio level.
- Acknowledge that climate change also presents opportunities for investors. Pools of private capital within Canada, such as pension and endowment funds, will be an important source of capital to finance innovation and the necessary transitions to support a low-carbon emissions economy and mitigate climate change risks.
- Recognize that the University, as a thought-leader and institution of research and higher learning, financially supported by public funds, understands the importance of safeguarding the value of those funds in a way that, all things equal, supports Canada's transition to a low carbon economy.
- Act as a responsible shareholder through engagement and proxy voting, as well as the buying and selling of investments.
- Highlight the importance of disclosure of the University's Responsible Investing Policy; the integrated ESG approach; and the priority on investing to address climate change; which includes a carbon exposure reduction strategy, targets, progress and performance against benchmarks relative to peer organisations where possible. This will serve the dual purpose of informing companies and investment managers of our intentions, while also being accountable to donors, beneficiaries, and other stakeholders of the Endowment and Pension Funds.
- Accept there will be a lag between the availability of carbon measures and investment performance information.
- Recognize the need to continuously learn from our experience and evolving best practices; monitor the very dynamic environment as it relates to available information, measurement, reporting and climate solution innovations; and update the University's practices, approaches, benchmarks, and targets accordingly.

## **RECOMMENDATIONS**

This report sets out investment policy recommendations to address climate change. Further analysis and due diligence will be required to support execution and ongoing operations consistent with the recommendations once adopted. Given the complexity and rapid evolution of knowledge and market practices with respect to climate risks and opportunities, the Advisory Group believes the University should reserve the right (in good faith) to revisit the recommended investment strategy as information, methodologies for measurement, reporting, and targets evolve. To begin, the Advisory Group is recommending carbon reduction targets for 2030 and 2040, with updates on progress and a review of goals and commitments in 2023 and 2026. Annual reporting of performance and carbon exposure should be communicated in an accessible manner to students, staff and faculty, and other interested stakeholders, starting in Spring 2022 (reporting on 2021 data). It is expected that the first iterations of reporting will evolve as data availability and reliability improves.



## ***Principles***

1. A proactive approach to incorporate climate change risk and opportunities should be adopted for the University's Endowment and Pension Funds, in order to meet the fiduciary duty to beneficiaries to consider the financial implications of climate change. This is consistent with the University's Responsible Investing Policy to integrate ESG factors in investment decisions – it is an elaboration and acceleration of a priority focus on climate change within the integrated ESG responsible investing framework.
2. Risk appetite and risk management for the Endowment and Pension Funds should include climate transition and stranded asset risks as priority concerns in addition to other investment and ESG risks that have been identified as high priority. Preference should be given to active managers that integrate ESG and reduce climate-related investment risks, all considerations being equal.
3. Climate change also presents investment opportunities (such as financing new, low carbon technology and transition projects with promising risk/return attributes) that the Endowment and Pension Funds should consider when determining asset class allocations and choosing active managers.

## ***Fund Level Targets, Measurement, and Disclosure***

4. It is recommended that the University pursue a gradual carbon exposure reduction strategy for its Endowment and Pension Funds by phasing out, on a continuous basis, investments exposed to significant climate change financial risks. To achieve this, the University should adopt two progressive carbon exposure reduction targets:
  - a. Reduce the carbon footprint (Scope 1 & 2) of the Endowment and Pension Funds' investments, by at least 50% by 2030 relative to year-end 2018, or 2019 depending on data availability.<sup>8</sup>
  - b. Set an aspirational goal of achieving a net-neutral carbon footprint for Endowment and Pension Fund investments by 2040.<sup>9</sup>
5. It is not recommended to use carbon offsets at the portfolio level to achieve the 2030 carbon reduction target<sup>10</sup>, as the Advisory Group determined they are best considered as a last resort. The University should re-examine the appropriateness of offsets at the portfolio level in the future when the carbon exposure reduction strategy and targets are reviewed in five years.
6. Prepare an initial analysis of climate risk scenarios once sufficient portfolio information is available and in conjunction with regular asset/liability studies thereafter. Update disclosure scorecard metrics to include climate risk measures for the Funds' portfolios, including a consideration of material physical and transition risks.
7. Measure the carbon footprint annually starting first with equity (2021), then fixed income and real assets exposure (by 2023).
8. Adopt a scorecard approach for annual disclosure, providing total carbon emissions and weighted average carbon intensity (WACI) in addition to carbon footprint. Endeavour over time, as information and appropriate methodologies become available, to scale by

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<sup>8</sup> Scope 1 covers direct emissions from owned or controlled sources. Scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating, and cooling consumed by the reporting company. Scope 3 includes all other indirect emissions that occur in a company's value chain.

<sup>9</sup> Global companies, information services, and accounting standard setters are refining their methods to estimate and report on their carbon footprint year to year. Should such changes in methodology materially impact the carbon footprint estimates associated with the University Endowment and Pension holdings, it may be appropriate to restate the targets.

<sup>10</sup> Carbon offset is an action or activity (such as the planting of trees or carbon sequestration) that compensates for the emission of carbon dioxide or other greenhouse gases to the atmosphere.

total enterprise value rather than market value of equity. The annual disclosure report should also endeavour in due course, once the quality of available information permits, to attribute changes in carbon footprint to management actions, market developments, or currency movements, with an eye to the multi-year horizon of investment strategy and the agreed carbon reduction targets. (See Appendix G for further information and additional considerations on carbon metrics and reporting).

9. Disclose reduction in active equity exposure to fossil fuel, and the broader energy sector annually, at least through 2025.

### ***Direct Investments***

10. The University's Endowment and Pension Funds will not make any material direct investments in fossil fuel companies (*NB*: presently the University does not make any direct investments except in a listed real estate and a listed infrastructure investment fund).
11. The University should consider allocating a portion of the Endowment Fund to return-seeking climate-related investments, such as low-carbon technology innovations. Such investments may include climate thematic innovations among other objectives to ensure sufficient and appropriate diversification.

### ***Active Investments Through Managers***

12. All active equity managers of the Endowment and Pension Funds integrate ESG, align with the University's carbon exposure reduction strategy, and provide carbon footprint reporting for Scope 1 and Scope 2 emissions by the end of 2022. Request that they also conduct climate risk assessments, including a climate scenario analysis, by 2023. Similarly, active fixed income managers and real asset managers should do so by 2023 (carbon footprint) and 2025 (climate risk assessments).
13. It is expected that with a focus on climate risk and the integration of ESG, the University's active equity managers will not hold any material positions in fossil fuel companies by 2025.
14. Active managers may hold "transition" investments (equity, green bonds, or direct investments) to support climate change transitions in fossil fuel companies and other high carbon emitters provided that these companies have climate action and transition plans that are substantial, credible, and include verified science-based targets to achieve net zero carbon emissions by 2050.
15. Managers will be monitored and their investment decisions will be assessed to ensure they are aligned with the University's Responsible Investing Policy (including the carbon exposure reduction strategy) and abide by their own ESG policies and commitments. If they are not aligned, they will be terminated after due process.

### ***Passive Investments***

16. It is recognized that there may be risk management and other benefits to allocating a portion of the Endowment and Pension Fund portfolios to low-cost, market-wide passive index fund investments. It is anticipated that over time, the carbon intensity of these funds will reduce as companies implement their carbon reduction and climate action plans, and capital markets fully price in climate transition and stranded asset risks. The University should monitor and disclose the fossil fuel exposure, as well as the carbon footprint of these passive investments by 2025.
17. The 2026 update review should assess market developments and determine if further action is required with respect to passive equity investments to meet 2030 carbon exposure reduction targets. In anticipation of that review, development of ESG, low

carbon, fossil free index and exchange-traded funds should be monitored and assessed over the near term.

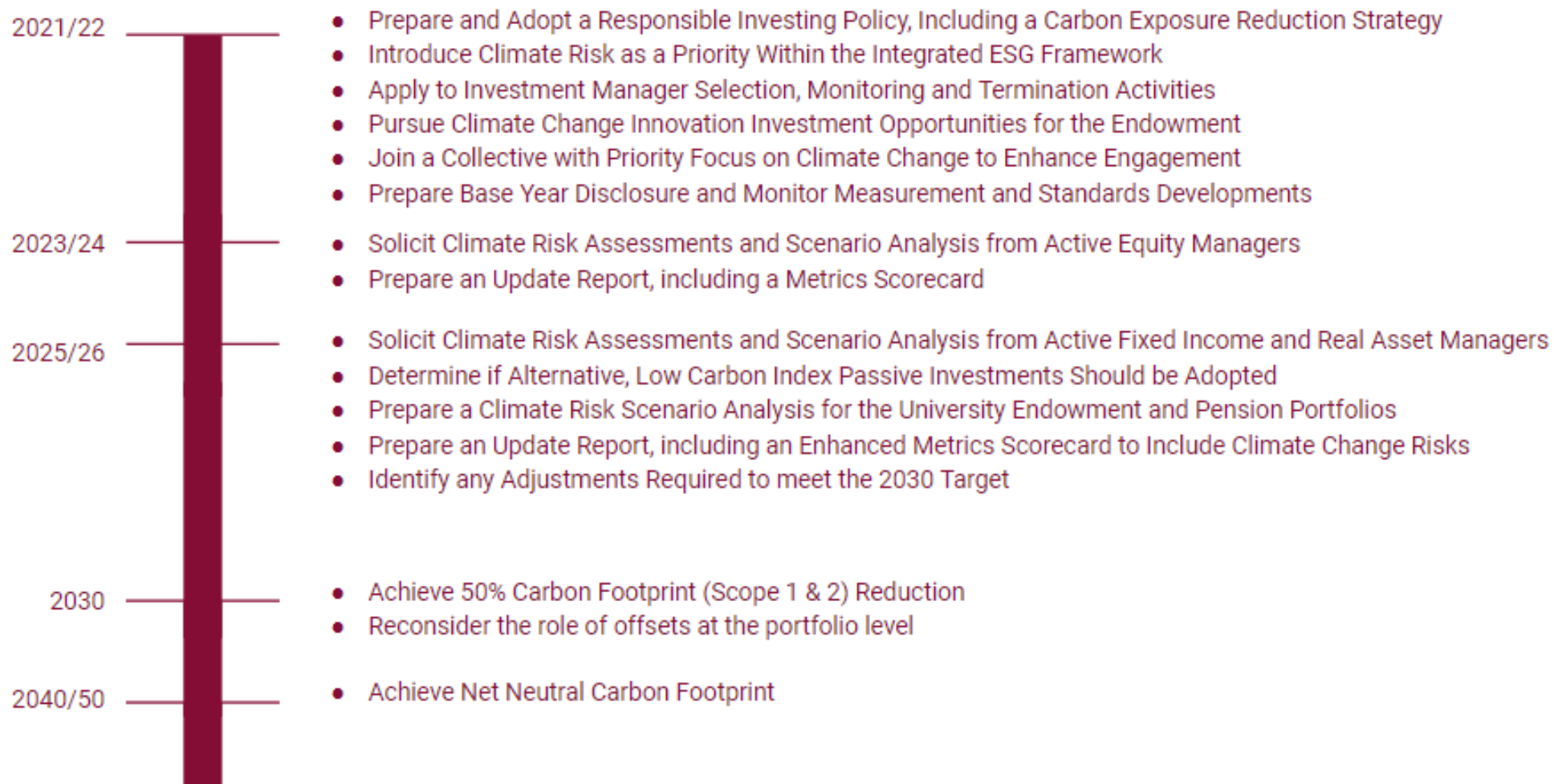
### ***Corporate Engagement***

18. Assessment of external managers' ESG and climate risk management commitment will include monitoring of their engagement strategies including: with companies directly, through collectives, and proxy voting on climate issues.
19. The University should also consider a range of engagement options including joining forces with a collective engaging with industry on climate change in Canada and one that operates globally (See Appendix H for further discussion of engagement and a review of potential partnership arrangements to be considered).

### ***Responsible Investing Policy***

20. It is recommended that the proposed investment principles, a climate financial risk appetite, agreed carbon exposure reduction targets, views on climate-related investment opportunities, disclosure commitments, and a corporate engagement strategy be included in a comprehensive Responsible Investing Policy for the University and the Investment Guidelines and Statement of Investment Policy (SIPP) for the Endowment and Pension Funds.

## Action Plan Timeline



## APPENDICES

- A. Responsible Investing Advisory Group Participants
- B. Terms of Reference for the Responsible Investing Advisory Group
- C. University of Waterloo Investment Funds Summary
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## **Appendix A - Responsible Investing Advisory Group Participants**

### Members

Sheryl Kennedy, Finance & Investment Committee member (chair)

Jean Andrey, dean of environment

Jagdeep Bachher, Finance & Investment Committee member

Angela Carter, faculty representative

Truzaar Dordi, student representative

Petra Duff, student representative

Russell Hiscock, Finance & Investment Committee member

Dennis Huber, vice-president, administration and finance

Mike Grivicic, associate university secretary

### Expert Advisors

Elizabeth Demers, faculty member - School of Accounting and Finance

Sarah Hadley, Director of Finance

Mat Thijssen, Director of Sustainability

Olaf Weber, faculty member - School of Environment, Enterprise and Development

The committee was able to invite faculty, staff, students, the Chair of the Board of Governors and/or other governors as guests to meetings to provide further insight, depth and perspective to discussions when/if needed. The committee welcomed involvement from the following individuals:

Zainab Ashraf, student

Guy Brodsky, student

Cindy Forbes, Chair of the Board of Governors

Lesley Johnston, student

## Appendix B



### Finance and Investment Committee's Advisory Group on Responsible Investments

#### Terms of Reference

The University of Waterloo recognizes that climate change is widespread and accelerating, impacting the world in large-scale and minute ways that change how we live, work and look to the future. As such, the University is committed to further developing and following a long-term strategy towards a “net-zero carbon” future while providing short and mid-term interventions to mitigate the impact of climate change.

#### Context

In addition to many academic and research programs/activities taking place across all disciplines, the following are examples of a number of key activities and the context under which the group operates:

- In 2015, the President's Advisory Committee on Environmental Sustainability was established to develop and monitor compliance with the University's [Policy on Environmental Sustainability](#) and advance campus sustainability through the [Environmental Sustainability Strategy](#), including the development of its first climate action plan.
- Shortly thereafter in 2016, the Responsible Investing Working Group was established which culminated in the 2018 Board approval of its recommendations to integrate Environmental, Social & Governance (ESG) factors into the University's investment processes.
- The integration of ESG into the University's investment processes continues to evolve as ESG data quality improves and more corporations commit to transparent goals and reporting.
- Waterloo has become a signatory to the UN Principles for Responsible Investment as well as the Investing to Address Climate Change Charter for Canadian Universities.
- Waterloo is the host institution of the Sustainable Development Solutions Network Canadian chapter, and a founding member of the University Global Coalition, both mobilizing the SDGs.
- Through partnership with WWF Canada's Living Planet on Campus program, Waterloo supports recognition of extracurricular student activities related to sustainability.
- Waterloo has fostered active local sustainability and climate change partnerships, including being a pledging partner of Sustainable Waterloo Region's Regional Sustainability Initiative, a founding member of the Region of Waterloo's TravelWise program, and through representation of multiple staff and faculty on sustainability-related municipal advisory committees and civil society governing bodies.
- Since 2009, Waterloo has been a signatory to the Council of Ontario Universities' Going Greener pledge.
- Transparent third-party reporting on sustainability progress has been prioritized through membership in the Association for the Advancement of Sustainability in Higher Education and Silver rating in AASHE's Sustainability Tracking, Assessment, and Rating System.
- Climate change and sustainability are referenced throughout the University's 2020-25 Strategic Plan, including sustainability as part of a signature commitment and taking meaningful action on climate change.
- Reorganization of the University's Sustainability Office under the Office of the President and appointment of the Director of Sustainability will further support all action on climate and sustainability.
- The University is committed to transitioning to a low carbon economy in all facets of its activities and has committed to carbon neutrality in [Shift Neutral](#).

It is, however, further recognized that climate change is a significant systemic risk that crosses all sectors and represents both investment risks and opportunities during the transition to a low-carbon economy and the University must continue to evolve its investment strategies towards net zero carbon targets. Peer institutions are beginning to take steps in this direction, and a growing number of private and public financial bodies are taking stronger action on identifying the risks and opportunities resultant from the necessary shift to a low-carbon future. Waterloo can and must explore this diligently. The evolution and transition to carbon neutral investments is intimately connected to the above actions and requires targeted and inclusive effort to understand and respond. As such, a focused Advisory Group to the Board of Governors' Finance & Investment Committee will undertake this work.

The Advisory Group will consider and identify options that support the University's transition to carbon neutrality within its investment portfolios while being cognizant that the objective of all University investment portfolios is to achieve appropriate risk-adjusted returns. In doing so, the advisory group will recommend short- and long-term options to the Finance & Investment Committee. The group will:

- be consultative and transparent to all members of the University of Waterloo community;
- have members who are committed to a collegial, objective, and solutions-minded approach to the work;
- draw upon resources from within and external to the university, including those identified below;
- consider the need for and invite guests or experts as required to fulfill its mandate;
- consult with the Pension Investment Committee and the Pension & Benefits Committee as required;
- consider whether third-party consultants might be engaged on a limited basis if appropriate;
- establish a common lexicon;
- identify short- and long-term options for the University to consider which will bolster and/or potentially accelerate its delivery of its commitments to responsible investment and carbon neutrality; and, as such
- will have a mandate to deliver a report to the Finance & Investment Committee and, subsequently, to the Board of Governors at its June 2021 meeting on these options and recommendations while providing regular updates to the Finance & Investment Committee and the Board of Governors as appropriate.

#### Membership:

- Chair: Sheryl Kennedy
- Three members of the University of Waterloo Board of Governors' Finance & Investment Committee (TBD)
- Jean Andrey, dean of environment
- Dennis Huber, vice-president, administration and finance
- Angela Carter, faculty representative
- Truzaar Dordi, student representative
- Petra Duff, student representative
- A secretary will be provided by the Secretariat

In addition:

- The committee may invite faculty, staff, students, the Chair of the Board of Governors and/or other governors as guests to meetings to provide further insight, depth and perspective to discussions when/if needed.

#### Resources:

- Mat Thijssen, Director of Sustainability
- Olaf Weber, faculty member
- Elizabeth Demers, School of Accounting and Finance
- Representative from Finance, as appropriate
- Other resources as required based on the mandate and activities of the Group

Meeting Schedule: Meetings will be scheduled every other week, February through May.



Appendix C - University of Waterloo Investment Funds Summary

University of Waterloo Investment Summary

in thousands ('000)

Investment Type	Registered Pension Plan		Endowment	
	Market Value	Asset Mix	Market Value	Asset Mix
<b>as of December 31, 2016</b>				
Cash	\$ 158,339	10.47%	\$ 3,659	1.03%
Fixed Income - Passive	\$ 295,396	19.54%	\$ 64,096	18.02%
Fixed Income - Active	\$ 313,212	20.71%	\$ 91,077	25.60%
Cdn Equity - Passive	\$ -	0.00%	\$ -	0.00%
Cdn Equity - Active	\$ 59,005	3.90%	\$ 89,757	25.23%
Cdn Equity Infrastructure	\$ 103,391	6.84%	\$ 14,901	4.19%
Cdn Equity REIT	\$ 46,030	3.04%	\$ -	0.00%
Global Equity - Passive	\$ 15,393	1.02%	\$ -	0.00%
Global Equity - Active	\$ 521,290	34.48%	\$ 92,223	25.93%
Total	\$ 1,512,056		\$ 355,713	
<b>as of December 31, 2020</b>				
Cash	\$ 83,474	3.97%	\$ 678	0.14%
Fixed Income - Passive	\$ 366,691	17.42%	\$ 46,271	9.55%
Fixed Income - Active	\$ 368,304	17.50%	\$ 85,525	17.66%
Cdn Equity - Passive	\$ 40,616	1.93%	\$ -	0.00%
Cdn Equity - Active	\$ 110,618	5.26%	\$ 107,476	22.19%
Cdn Equity Infrastructure	\$ 123,444	5.86%	\$ 24,855	5.13%
Cdn Equity REIT	\$ 56,099	2.67%	\$ -	0.00%
Global Equity - Passive	\$ 563,500	26.77%	\$ 46,422	9.58%
Global Equity - Active	\$ 392,094	18.63%	\$ 173,152	35.75%
Total	\$ 2,104,840		\$ 484,379	
<b>Purpose of the Fund</b>	The objective of the Fund is to provide members of the Plan with retirement benefits		The objective of the Fund is to provide an annual revenue stream in perpetuity to fund specific activities of UW and to preserve its purchasing power	
<b>Required Return</b>	The annualized rate of return of the Plan must exceed the annualized rate of increase in the CPI by at least 360 basis points net of the associated investment management fees over a rolling ten-year period.		The annualized rate of return of the Fund must exceed the annualized rate of increase in the CPI by 300 – 500 basis points net of the associated investment management fees over a rolling ten-year period.	
<b>Liquidity Requirements</b>	Investments should be liquid enough so that they can be sold in reasonable period of time		Investments should be liquid enough so that they can be sold in reasonable period of time	
<b>Beneficiaries</b>	University of Waterloo employees (both retired and active) and their beneficiaries.		University of Waterloo, subject to meeting expenditure restrictions.	
<b>Fiduciary Duty/Accountability</b>	Maximize investment returns on a risk adjusted basis.		Earn sufficient realized returns to fund endowment expendable and inflationary protection requirements consistently from year to year.	

**Investment Exposure in Energy Sector**  
in thousands ('000)

Investments in Energy <i>(specific industry noted in parentheses)</i>	Registered Pension Plan	Endowment	Total Investment
<b>as of December 31, 2016</b>			
Arc Resources Ltd. (Oil & Gas)	\$ -	\$ 301	\$ 301
BP PLC (Oil & Gas)	\$ 7,788	\$ -	\$ 7,788
Cameco Corp. (Uranium)	\$ -	\$ 104	\$ 104
Canadian Natural Resources Ltd. (Oil & Gas)	\$ 2,878	\$ 3,449	\$ 6,327
Cenovus Energy (Oil & Gas)	\$ -	\$ 532	\$ 532
China Petroleum & Chemical Corp (Oil & Gas)	\$ 1,343	\$ -	\$ 1,343
CNOOC Limited (Oil & Gas)	\$ 4,448	\$ 1,002	\$ 5,450
Crescent Point Energy Corp. (Oil & Gas)	\$ -	\$ 788	\$ 788
Devon Energy Corp (Oil & Gas)	\$ -	\$ 1,104	\$ 1,104
Enbridge Inc (Energy Transportation)	\$ -	\$ 1,744	\$ 1,744
Ensign Energy Services (Oilfield Services & Equipment)	\$ 479	\$ 427	\$ 906
EOG Resources Inc. (Oil & Gas)	\$ 6,430	\$ 1,448	\$ 7,878
Halliburton Co (Oilfield Services & Equipment)	\$ -	\$ 692	\$ 692
Imperial Oil Ltd. (Oil & Gas)	\$ 2,490	\$ 2,219	\$ 4,709
Keyera Corp. (Oil & Gas)	\$ -	\$ 186	\$ 186
MEG Energy Corp. (Oil & Gas)	\$ -	\$ 112	\$ 112
NK Lukoil PAO	\$ 4,846	\$ -	\$ 4,846
Now Inc. (Oilfield Services & Equipment)	\$ -	\$ 37	\$ 37
Pembina Pipeline Corp. (Energy Transportation)	\$ -	\$ 610	\$ 610
PrairieSky Royalty Ltd. (Minerals, Oil & Gas)	\$ 3,242	\$ 3,280	\$ 6,522
Royal Dutch Shell (Oil & Gas)	\$ -	\$ 1,576	\$ 1,576
Schlumberger Ltd. (Oilfield Services & Equipment)	\$ 8,410	\$ 1,192	\$ 9,602
Seven Generations Energy Ltd. (Oil & Gas)	\$ -	\$ 424	\$ 424
Shawcor Ltd. (Energy Transportation)	\$ 1,984	\$ 1,768	\$ 3,752
Suncor Energy Inc. (Oil & Gas)	\$ 7,817	\$ 4,087	\$ 11,904
Total SA (Oil & Gas)	\$ 1,523	\$ 2,042	\$ 3,565
TC Energy Corp. (Energy Transportation)	\$ -	\$ 506	\$ 506
Tourmaline Oil Corp. (Oil & Gas)	\$ -	\$ 747	\$ 747
Valero Energy Corp. (Oil & Gas)	\$ 1,512	\$ -	\$ 1,512
Unknown Oldfield Energy Holdings	\$ 2,869	\$ -	\$ 2,869
<b>Total Investments in Energy Sector*</b>	<b>\$ 58,059</b>	<b>\$ 30,377</b>	<b>\$ 88,436</b>
<b>Value of Investment Mandate</b>	<b>\$ 1,512,056</b>	<b>\$ 355,713</b>	<b>\$ 1,867,769</b>
<b>Energy Sector Exposure in Full Portfolio</b>	<b>3.84%</b>	<b>8.54%</b>	<b>4.73%</b>
<b>Value of Active Equity Portfolio</b>	<b>\$ 729,716</b>	<b>\$ 196,881</b>	<b>\$ 926,597</b>
<b>Energy Sector Exposure in Active Equity Portfolio</b>	<b>7.96%</b>	<b>15.43%</b>	<b>9.54%</b>
<b>as of December 31, 2020</b>			
Arc Resources Ltd. (Oil & Gas)	\$ -	\$ 149	\$ 149
Cameco Corp. (Uranium)	\$ -	\$ 112	\$ 112
Canadian Natural Resources Ltd. (Oil & Gas)	\$ 2,489	\$ 2,222	\$ 4,711
Cenovus Energy (Oil & Gas)	\$ -	\$ 154	\$ 154
Enbridge Inc (Energy Transportation)	\$ -	\$ 1,779	\$ 1,779
Keyera Corp. (Oil & Gas)	\$ -	\$ 290	\$ 290
Pembina Pipeline Corp. (Energy Transportation)	\$ 3,095	\$ 1,701	\$ 4,796
PrairieSky Royalty Ltd. (Minerals, Oil & Gas)	\$ 1,151	\$ 633	\$ 1,784
Suncor Energy Inc. (Oil & Gas)	\$ 3,839	\$ 2,819	\$ 6,658
TC Energy Corp. (Energy Transportation)	\$ 4,932	\$ 3,667	\$ 8,599
<b>Total Investments in Energy Sector*</b>	<b>\$ 15,506</b>	<b>\$ 13,526</b>	<b>\$ 29,032</b>
<b>Value of Investment Mandate</b>	<b>\$ 2,104,840</b>	<b>\$ 484,377</b>	<b>\$ 2,589,217</b>
<b>Energy Sector Exposure in Full Portfolio</b>	<b>0.74%</b>	<b>2.79%</b>	<b>1.12%</b>
<b>Value of Active Equity Portfolio</b>	<b>\$ 679,216</b>	<b>\$ 303,817</b>	<b>\$ 983,033</b>
<b>Energy Sector Exposure in Active Equity Portfolio</b>	<b>2.28%</b>	<b>4.45%</b>	<b>2.95%</b>
<b>Change in Energy Holdings (2016 to 2020)</b>			
<b>Change in Energy Sector Holdings</b>	<b>\$ (42,553)</b>	<b>\$ (16,851)</b>	<b>\$ (59,404)</b>
<b>Change in Energy Sector Exposure (Full Portfolio)</b>	<b>-80.73%</b>	<b>-67.33%</b>	<b>-76.32%</b>
<b>Change in Energy Sector Exposure (Active Equity Portfolio)</b>	<b>-71.36%</b>	<b>-71.16%</b>	<b>-69.08%</b>

\* Energy Sector Exposure excludes Indexed Funds and Fixed Income investments

## **Appendix D - Activities of the Responsible Investing Advisory Group**

The Advisory Group met every two weeks from mid-February to the end of May. Sub-groups and individuals took on various tasks and met more frequently. Our initial sessions were focused on confirming the mandate, scope and approach to our work, agreeing on a lexicon, establishing a work plan, creating a Metrics, Benchmarks and Disclosure Sub-Group and later a Writing Sub-Group, and committing to seek areas of agreement rather than debating areas of disagreement. It was agreed that our recommendations would respect investment prerogatives such as fiduciary duty, and that they would be science-based, focused on the financial and investment implications of climate risk and opportunities. Chatham House Rules were adopted and it was agreed that members could consult with their constituencies as our work progressed. We also agreed that we would share a draft of our report and recommendations with signatories of the letters calling for action on climate change investments and others involved in the establishment of the Advisory Group in order to solicit feedback before submitting our final report and recommendations to the Finance and Investment Committee and Board of Governors. We invited some additional student observers who had been active in bringing climate investment concerns to the attention of the Board of Governors to join our meetings and agreed that members, expert advisors and observers could all participate equally in the Advisory Group's meetings, ask questions and make their views known.

Three sets of solution elements were identified by the Advisory Group that were then researched and discussed over the course of 6 weeks, from March 3, 2021 to April 14, 2021. These covered the following topic areas and questions:

### ***Portfolio-level carbon targets and Metrics***

1. How might a carbon exposure reduction/net zero/carbon neutrality investment strategy work within an integrated ESG, responsible investing philosophy, consistent with fund purposes and fiduciary obligations, and with due regard to risk/reward, return and contribution stability objectives?
2. Which metrics should be used to measure carbon emissions performance of university portfolios; whether to include Scope 1, 2 and 3 emissions; and the feasibility and appropriateness of carbon offsets at company, manager or portfolio levels.
3. Portfolio-level targets, timeline, and stages for the university long-term investment funds. Should there be a separate "green" endowment fund, say for student donations, or carbon exposure reduction targets for the total endowment fund? Should any reduction targets also apply to the pension fund?

### ***Climate risk appetite, risk assessment, risk management and investment opportunities***

1. State of play and role of climate risk scenario analysis in the investment process.
2. How to integrate risk appetite, managing climate change risks, and climate resilience (including physical, transition, reputation, liability, stranded assets and any other risks) in the investment strategy.
3. Investment opportunities, including new technologies, timberland, transition support, green bonds, and green funds.

4. Canadian considerations: role of Canadian investments in the University's Endowment and Pension Funds; importance of pools of capital to finance climate transition; high concentration of certain sectors in Canadian markets; immaturity of Canadian green bond and other climate-related markets and financial instruments; and particular climate change and carbon exposure reduction challenges for Canada and investors in Canadian financial markets.

***Active Ownership, Engagement and Implementation Considerations***

1. Responsibilities as asset owner, including specifically in relation to engagement and proxy voting expectations of external managers.
2. Engagement as a carbon exposure reduction tool, the merits of joining collectives and which ones to enhance engagement clout.
3. Implementation considerations, including: administrative considerations; manager and investment selection and monitoring.
4. Manager and investment termination or divestment.
5. Disclosure.

## Appendix E- Glossary of Terms

The following appendix includes key terms and acronyms, providing a definition and, where not intuitively obvious, a brief indication of the significance for this report.

Term/Acronym	Category	Definition/Description	Significance
<b>1.5 Degree Scenario (1.5dgc)</b>	Policy	The aspirational target of the Paris Agreement. With the release of SR15 in 2018, this has been pushed as a more appropriate target to minimize the material adverse risks between a 1.5 and 2dgc warmer world.	The 1.5dgc target scenario, while originally aspirational, has increasingly become the target on which significant policy and financial sector actions are aligned.
<b>Active Investments</b>	Finance	Hands-on investing by a portfolio manager with the goal of outperforming the asset class' benchmark, i.e. its average return net of fees	
<b>AR5</b>	Science	"Fifth assessment report" of the Intergovernmental Panel on Climate Change (IPCC), which was released in 2014 and establishes the most up-to-date consensus understanding of the science on climate change. AR6 is currently in development and is scheduled for release in 2022.	
<b>Carbon</b>	Science	For simplicity, in this document and in most communications on climate change, "carbon" is shorthand for carbon dioxide or carbon-dioxide equivalent emissions.	
<b>Carbon bubble</b>	Finance	Refers to the systemic financial risk in overvalued fossil fuel reserves which would mathematically not be able to be used while remaining within the global carbon budget. This transitional risk is macroeconomic in nature as it would impact upstream and downstream sectors connected to fossil fuels. It is difficult to define a bubble in financial markets until such time as it bursts. Values could gradually deflate over decades or burst suddenly, depending on the extent of mis-pricing in markets and how new information and changing market perception is processed.	Suggests there are financial risks related to investments in fossil-fuel-based energy producers, although the extent and timing is debatable and hard to measure.
<b>Carbon budget</b>	Science	An upper limit of the cumulative carbon emissions which can be released to keep global average temperature increase to certain levels (with stated levels of certainty/confidence). From the IPCC SR15, this has solidified globally around a budget of between 580GtCO <sub>2</sub> e and 420GtCO <sub>2</sub> e (ranges representing levels of certainty, 66% and 50% chance) to remain within the 1.5dgc target scenario. Carbon budgets, derived from respective "Representative Concentration Pathways" of emissions in the atmosphere, can then be used to map out the pace and scale of emissions reductions needed.	As a clear ecological limit, the carbon budget concept is a principal metric against which the sufficiency of decarbonisation metrics can be measured. It is also often used to compare against emissions inherent in proven reserves and the latter significantly exceed the global carbon budget.
<b>Carbon capture and storage (CCS)</b>	Science	CCS can refer to any number of technologies or practices which remove atmospheric carbon and sequester it. Most commonly, however, it is used in reference to technologies which "scrub" emissions from fossil fuels at the source (for example in chimneys of power plants). CCUS is a similar concept which introduces "utilization" of captured carbon.	
<b>Carbon Disclosure Project (CDP)</b>	Corporate	A non-profit framework for companies and cities to disclose key elements of their environmental footprint through a central repository, including climate change, water, and forests. The initiative raises transparency, compiles data for trend analysis, and features a rating system.	Disclosures through CDP are a primary source of data for corporate emissions pertinent to the carbon metrics of Waterloo's portfolio.
<b>Carbon leakage</b>	Policy	Refers to an unintended consequence of climate change policy whereby businesses relocate to jurisdictions with laxer climate/carbon regulations, simply moving rather than reducing emissions. This has significant competition implications and has been the genesis for conversations around carbon border adjustments (in the form similar to a value added tax) to level playing fields.	

Term/Acronym	Category	Definition/Description	Significance
<b>Carbon markets</b>	Policy	Refers to formal, regulated carbon markets established by government to achieve emissions reductions goals. This involves either putting a price on carbon (carbon tax), or placing a limit on carbon and auctioning permits for emissions (cap and trade). There are approximately 46 national jurisdictions covered by carbon markets, involving slightly less than 1/4 of global emissions.	By assigning a price to carbon, it sends a significant market signal towards decarbonization, supporting investments in efficiency and fuel switching. This is particularly relevant given pending federal policy to increase Canada's carbon price to \$170/tonne by 2030.
<b>Carbon neutrality</b>	Science	A state where all anthropogenic carbon emissions are balanced by carbon sequestration, leading to no net increase in atmospheric carbon concentrations. Globally, this is largely consistent with "net zero" emissions. Corporately, the difference lies within boundaries on where negative emission projects are located - often outside the corporation and facilitated by offsets.	
<b>Carbon offsets</b>	Policy	Offsets are a mechanism for one entity (typically a company or organization) to purchase from another entity the rights to actions that have reduced emissions. These are often transacted through voluntary carbon markets and allow the purchasing entity to integrate the reductions within their carbon accounting framework and emissions inventory. Numerous third-party standards have been developed to improve the rigor and credibility of the voluntary offset market. Offsets can also refer to Renewable Energy Credits (RECs), which, while technically different, are often used similarly in corporate carbon accounting.	Companies within Waterloo's portfolio are likely utilizing offsets to demonstrate emissions reductions or to make claims for carbon neutrality. Some investment portfolios could also integrate offsets at the portfolio level.
<b>Carbon sequestration/ carbon-negative technologies</b>	Science	Carbon sequestration is a means of storing carbon dioxide from the atmosphere in another form where it cannot be released. This could be through natural means such as reforestation or soil management, or through artificial means such as carbon scrubbing and underground storage. Modelling pathways of the IPCC consistent with Paris Agreement targets require some level of negative emission technologies.	
<b>Carbon Underground 200</b>	Corporate	Launched in 2014, this is a list compiled by FFI Solutions of large publicly held companies in the coal, oil, and gas sectors to track and monitor the emissions inherent in the proven reserves of these companies.	The list is used for negative screening by some "fossil free" funds and often used as an index for determining fossil fuel companies within a portfolio.
<b>Climate Justice</b>	Equity	Climate justice views climate change not just as a scientific or technical challenge but through the perspective of human systems and social justice. Although there are many articulations of this, some broad themes which are often part of a climate justice approach include: <ul style="list-style-type: none"> <li>• Acknowledging the differentiated and disproportionate impacts of climate change on existing social inequities, including but not limited to Indigeneity, race, income, and gender</li> <li>• Acknowledging the typically inverse relationship historically between those causing climate change and those most impacted, and viewing responsibility accordingly</li> <li>• Reflecting on the systemic and root causes of climate change and their connection to the impacts of colonization and other social injustices, and addressing those through multi-solving rather than perpetuating or making worse existing inequities</li> <li>• Ensuring equitable representation in decision-making</li> </ul>	Climate justice is a lens through which policy-makers can be mindful of how climate change impacts more vulnerable people and communities, as well as ensuring climate solutions do not perpetuate or exacerbate existing injustices or inequalities.
<b>Climate risk</b>	Finance	From a financial perspective, this refers to business risks arising from climate change, either in their direct physical impact (i.e. extreme weather, supply chain disruption) or in the case of transition risks to a low-carbon economy (i.e. stranded assets, carbon pricing).	

Term/Acronym	Category	Definition/Description	Significance
<b>Climate Transition Benchmarks (CTB)</b>	Finance	Sustainable Climate Transition Indices using measures to align with a 1.5dgc trajectory in conformance with proposed EU regulatory minimum standards. Standards establish minimum of 30% reduction in Scope 1 and 2 (and Scope 3 phased-in over 4 years), no exclusions and other considerations.	Being established to set standards and promote financial market development of Paris Agreement aligned benchmarks and mitigate against concerns about greenwashing, which in this case is the representation of financial products as being financing climate transition projects and firms with science-based climate transition plans when it is not really the case.
<b>CO<sub>2</sub>/CO<sub>2</sub>e</b>	Science	“Carbon dioxide” is a common greenhouse gas (GHG), and the combustion of fossil fuels and other human activities have significantly increased the release of CO <sub>2</sub> emissions and atmospheric concentrations, leading to climate change. CO <sub>2</sub> e refers to “carbon dioxide equivalent”, a metric which includes multiple GHGs normalized to CO <sub>2</sub> , typically based on 100-year global warming potential.	Carbon emissions metrics reported by investees within Waterloo’s portfolio will typically be reported in tonnes of CO <sub>2</sub> e. Note, that “carbon” is often used as shorthand, but typically refers to CO <sub>2</sub> e.
<b>Engagement</b>	Finance	Refers to the processes by which shareholders of companies can utilize their various rights to encourage corporate decisions and policy. This can include voting for/against board members, shareholder resolutions, or direct communication with corporate leadership, among other means.	Investor engagement on climate change has increased significantly, with significant advocacy efforts pushing for corporate climate risk assessment (physical and transitional) and/or decarbonization.
<b>Environmental Racism</b>	Equity	“Environmental racism refers to any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color. It also includes exclusionary and restrictive practices that limit participation by people of color in decision-making...” <sup>1</sup> This could include: <ul style="list-style-type: none"> <li>• Disproportionate impacts by environmental risks or hazards,</li> <li>• Disproportional impacts through violations of fundamental human rights as a result of environmental factors,</li> <li>• Denied access to environmental investments, benefits, and/or natural resources, and/or,</li> <li>• Denied access to information, participation in decision making, and/or access to justice in environment-related matters.</li> </ul>	There is growing evidence within North America and globally linking the extraction, processing, and use of fossil fuels to impacts which disproportionately impact Black, Indigenous, and racialized people.
<b>Environment, Social, Governance (ESG)</b>	Finance	ESG refers to categories of criteria which can be integrated alongside core financial performance metrics to support investors with more holistic information about an investee's risks and opportunities. Environment, social, and governance factors can be material risks or opportunities for many firms and there are numerous studies highlighting the consistency in evaluating ESG factors with long-term performance.	Waterloo has formally adopted ESG Integration in its investment management guidelines. ESG would conceivably include the material climate risks pertinent to decarbonization.
<b>Equity investing</b>	Finance	Investing money in a company by purchasing shares of that company in the stock market that are typically traded on a stock exchange.	
<b>Fiduciary duty</b>	Finance	Is a core concept in Canadian law which establishes the responsibility of one party (the fiduciary) to act in the best interests of a beneficiary party.	Any investment decisions in respect of endowment and investment funds to address climate change must be consistent with the fiduciary duty required vis-à-vis the beneficiaries of those funds

<sup>1</sup> Bullard, Robert D. “The Threat of Environmental Racism.” *Natural Resources & Environment*. Volume 7, No. 3. 1993. Pp 23-26.

Term/Acronym	Category	Definition/Description	Significance
<b>Finance and Investments Committee</b>	Institutional	Standing Committee of the Board of Governors responsible for the sound financial management of the University including its long-term investment funds.	
<b>Fossil Free Index</b>	Finance	Refers to various indexes that exclude fossil fuels from their ownership, as designed by financial institutions or investment firms. Creators of various indexes may use differing definitions for “fossil free”.	Fossil free indexes can be used for comparative analysis with other non-fossil fuel free indexes, and/or benchmarking performance of an investment portfolio.
<b>GHG</b>	Science	“Greenhouse gases” are classes of gases which have a radiative forcing effect on the earth's climate, contributing to climate change. These include carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, and many refrigerants (CFCs/HFCs). These are typically measured in tonnes of carbon-dioxide equivalent (CO <sub>2</sub> e).	
<b>GHG Protocol Corporate Standard</b>	Corporate	Developed by the World Resources Institute and the World Business Council for Sustainable Development, the GHG Protocol has become the most prominent global framework for consistently quantification of corporate and institutional greenhouse gas footprints and emission reduction efforts. It clarifies approaches for setting boundaries, accuracy, and materiality of inventories, as well as identifying three scopes to control overlap of reporting - Scope 1 (Direct), Scope 2 (Energy indirect), Scope 3 (other indirect).	Waterloo utilizes the GHG Protocol for its public carbon reporting under <i>Shift</i> : Neutral. Most other reporting platforms and GHG measurement frameworks are built upon the principles, approaches, and scoping of the GHG protocol.
<b>Global Reporting Initiative (GRI)</b>	Corporate	GRI is a series of standards which have become the most widely used for corporate reporting and disclosure of sustainable and corporate social responsibility reporting. These include universal standards (GRI100s), as well as topic-specific standards based on corporate materiality in three thematic areas - Economic (200s), Environmental (300s) and Social (400s)	Adoption of GRI standards by corporate investees would include disclosures on GHG emissions under Standard GRI-305, increasing transparency. These standards are consistent with the GHG Protocol and ISO 14064.
<b>Inevitable Policy Response scenario (PRI)</b>	Policy	An effort by the UN PRI (Principles for Responsible Investment) to evaluate the financial impact of an effective policy response to addressing climate change. This is an ongoing project that seeks to correct the fact that an effective policy response is currently not priced into many markets.	
<b>International Energy Agency (IEA)</b>	Policy	A global intergovernmental organization of 30 member countries that has become a dominant source of energy information, data, and market forces. The IEA authors a flagship World Energy Outlook report, which is often referenced for market trends and research. There has been some criticism in the past of the IEA being too bullish on fossil fuels and too pessimistic on renewables.	The IEA's data sets and reports inform many decisions in the industry.
<b>International Renewable Energy Agency</b>	Policy	IRENA is an international agency with observer status within the UN that focuses on cooperation and increased deployment of renewable energy at a global scale.	
<b>Investing to Address Climate Change Charter</b>	Institutional	A charter led by University of Toronto and McGill and signed by Waterloo in 2020 acknowledging the importance of climate change in investment decisions and committing to 1) adopting a framework, 2) measuring carbon intensity of portfolios and reducing over time, 3) measuring progress, 4) factoring progress into portfolio manager evaluations	This charter applies to the University of Waterloo's Endowment Fund but not its Pension Fund.
<b>IPCC</b>	Science	The Intergovernmental Panel on Climate Change is the primary intergovernmental organization within the UN which analyzes and synthesizes the scientific understanding of climate change. The IPCC releases regularly-scheduled reports to update the most current literature of the global climate system in terms of the physical science, mitigation, and adaptation.	
<b>Nationally Determined Contributions</b>	Policy	These are the national commitments within the Paris Agreement that state how countries aim to curb their own emissions. These are intended to be "ratcheted up" on 5-year intervals to increase the ambition of the agreement and the actions of signatories.	



Term/Acronym	Category	Definition/Description	Significance
<b>Negative screening/exclusions</b>	Finance	Refers to the practice of restricting investments of a certain type from a portfolio, whether by sector, location, or other corporate characteristic. Negative screens are typically based on predefined social or environmental criteria, with some common negative screens including alcohol, tobacco, gambling, or weapons.	Not investing in fossil fuels would be an example of a negative screen.
<b>Network for Greening the Financial System</b>	Finance	A network of 90 central banks and financial supervisors created in 2017 and hosted by the Banque de France that aims to accelerate the scaling up of green finance and develop recommendations for central banks' role with respect to climate change. Bank of Canada is a member.	
<b>Net Zero Carbon</b>	Corporate	Corporately, this term refers to significant drawdown of carbon emissions and implementation of negative emission or sequestration activities balancing any remaining emissions. This is very similar to carbon neutrality (often used interchangeably) while the latter tends to allow reliance on out-of-jurisdiction offsets. At the global scale, net zero carbon and carbon neutral converge on being synonymous.	
<b>Paris Agreement</b>	Policy	The Paris Agreement is a pivotal agreement within the UNFCCC to limit global temperature increase to "well below 2 degrees celsius" and attempt to limit to 1.5dgc. The agreement has been signed by 190 member countries. Adopted in 2015, it requires all countries to set reduction commitments and "ratchet up" over time.	The Paris Agreement has become the de facto "yardstick" against which most corporate or national carbon reduction commitments and plans are measured. The targets, within the agreement, would essentially render significant volumes of proven reserves unburnable.
<b>Paris Aligned Benchmarks (PAB)</b>	Finance	Refers to Sustainable Climate Indices using measures to align with a 1.5dgc trajectory in conformance with proposed EU regulatory minimum standards. Standards establish a minimum of 50% reduction in Scope 1 & 2 emissions (and Scope 3 phased-in over 4 years), and exclusion of material coal, oil, gas and high carbon lifecycle emissions electricity among other considerations.	Being established to set standards and promote financial market development of Paris Agreement aligned benchmarks and mitigate against concerns about greenwashing, which is the representation of financial products as being supportive of decarbonization and sustainability when it is not really the case.
<b>Passive investments</b>	Finance	Investing in an index fund to earn returns from a rise (or fall) of the total market, aiming to track the movement of the benchmark instead of outperforming it	
<b>Pension &amp; Benefits Committee</b>	Institutional	Standing Committee of the Board of Governors responsible for the sound management of the University's pension and benefits for staff and faculty. A Pension Investment Committee reporting to both P&B and FIC and with input and oversight from them, is responsible for the investment of the Pension Fund including recommending the asset mix and the selection and termination of managers, and monitoring performance and making reallocations as appropriate within established limits.	
<b>Proven reserves (fossil fuel)</b>	Corporate	Identified deposits of various fossil fuels which have yet to be extracted, but are reflected as assets by the owning company.	The significant overshoot of proven reserves compared to a carbon budget is, by definition, a "stranded asset" in a future which would stay within the carbon budget, leading to overvaluation of the company
<b>Proxy voting</b>	Finance	Refers to the delegation of shareholder voting power to a representative when the shareholder is unable to vote directly. Shareholder voting is a right of all shareholders which can be cast on certain corporate decisions, including to change membership in the board of directors and on corporate policy.	Proxy voting is a shareholder right and obligation that may be used to influence corporate behaviour in support of climate action and decarbonization.

Term/Acronym	Category	Definition/Description	Significance
<b>Responsible Investment Working Group (RIWG)</b>	Institutional	Group formed by the Board of Governors in 2016, and commenced its work in 2017 which undertook the first review of divestment and ESG investing. The final report of the committee was delivered to the Board in June 2018, including acknowledgment of ESG principles, adoption of ESG into investment guidelines, plan to join the UN PRI, explore positive social investments and pilot, and commit to reviewing progress	This is the institutional foundation that this advisory group can build off of.
<b>Scenario Analysis</b>	Finance	Refers to the process of developing a logically consistent and coherent set of future circumstances on which to plan and to evaluate current decisions. In this context, for example, scenario analysis can be used to model versions of the future which is decarbonizing at various rates, and using different mixes of technology and/or policy, in order to understand risks, opportunities, and potential action strategies. This is different than forecasting based on historical trends.	
<b>SDSN</b>	Institutional	Sustainable Development Solutions Network is a global collection of higher education institutions advancing the UN Sustainable Development Goals, with regional chapters. Waterloo founded and has hosted the Canadian chapter of the global network since 2018.	Affordable and Clean Energy is the 7 <sup>th</sup> Sustainable Development Goal and Climate Action is the 13 <sup>th</sup> Goal.
<b>Shift: Neutral</b>	Institutional	Waterloo's long-term climate action plan and roadmap, developed in 2020 to set priority actions and short (-17.5% by '25), medium (35% by 2030), and long-term (carbon neutral) targets for the campus. Short/med focuses on Scope 1/2 emissions while long term includes Scope 3. Prepared and overseen by the President's Advisory Committee on Environmental Sustainability (PACES). The Climate and Energy Working Group (CEWG) of PACES coordinated development of the climate action plan and is supporting implementation.	<i>Shift: Neutral</i> does not address the University's investment activities, hence the establishment of the Responsible Investing Advisory Group to make recommendations in this regard.
<b>SR15</b>	Science	Special Report on 1.5dgc from the IPCC, released in 2018 by request of the UNFCCC to evaluate the difference between the 1.5dgc and WB2D targets of the Paris Agreement. The report provided greater insight into the escalating risks beyond 1.5dgc, and outlined stricter pathways of approximately 45% reduction from 2010 levels by 2030 and net-zero emissions by 2050 to stay within the 1.5dgc scenario.	
<b>Statement of Investment Policies and Procedures (SIPP) and Investment Guidelines</b>	Institutional	The investment policies adopted by the Board of Governors that govern the Pension Funds and Endowment investment activities respectively	These policies include integrated ESG commitments that could be elaborated to reflect policy to address climate change risks and opportunities.
<b>Stranded assets</b>	Finance	Refers to resources which once had value but no longer do, typically due to a shift in external market forces. In this discussion, it often references fossil fuels reserves ("unburnable") and fossil fuel infrastructure (wells, pipelines, refineries, etc.) which would become surplus to demand in a low-carbon future.	As these assets are integrated into firms' balance sheets, they represent a potential transition risk of overvaluation for individual companies and owners, and a potential risk of a "carbon bubble" across the wider economy.
<b>Stress Testing</b>	Finance	A simulation technique to analyze how an investment portfolio will fare under drastic economic scenarios to gauge investment risk and the adequacy and appropriateness of assets and help evaluate internal process and controls.	Methodologies are being developed to use climate risk scenarios in stress testing.
<b>Task Force on Climate-related Financial Disclosure (TCFD)</b>	Finance	The TCFD provides a framework for incorporating climate risk in financial reporting, prepared by a group established by the Financial Stability Board that includes Government Finance Departments, Securities Commissions, Prudential Regulators, Central Banks and International Financial Institutions to address systemic risks in the global financial system	

Term/Acronym	Category	Definition/Description	Significance
<b>Tipping points</b>	Science	Refers to inflection points within the climate system which could lead to accelerated or further warming, even without additional anthropogenic emissions. These are of considerable concern as they limit human ability to influence mitigation efforts and increase the need for adaptation once they are breached. Some examples include melting of ice sheets reflecting less radiation into space, or thawing permafrost releasing significant methane deposits.	
<b>UNFCCC</b>	Policy	UN Framework Convention on Climate Change is the primary international treaty governing climate change action and coordination, initiated in the early 1990s. It is through the UNFCCC mechanism that subsequent climate agreements (Kyoto, Copenhagen, Paris, etc.) were negotiated.	
<b>UN PRI</b>	Finance	UN Principles for Responsible Investment is a UN-supported network of investors working to promote sustainable investment through the incorporation of environmental, social and governance factors in investment practice. It provides the most widely utilized framework for encouraging the adoption of ESG principles in investment decisions. Signatories are investors which agree to a set of 6 principles, and must complete annual reporting on these commitments.	UW is a signatory as of 2020.
<b>UN SDGs</b>	Policy	UN Sustainable Development Goals - A set of 17 goals within Agenda 2030 to advance social, economic, and environmental sustainability in all countries, between 2015-2030. The goals have an exhaustive list of targets and indicators and form a blueprint for a sustainable future. They are universally applicable to all countries.	Many reporting benchmarks and corporate disclosures are referencing the SDGs or aligning or framing sustainability around them. Goal 13 deals with climate action and Goal 7 calls for affordable and clean energy.
<b>Well below two degrees (WB2D) Scenario</b>	Policy	The "Well below two degrees" scenario is the main target of the Paris Agreement. The 2dgc limit has been accepted as a somewhat arbitrary threshold beyond which significantly worsening climate impacts and irreversible tipping points become more likely. This scenario would require significant decreases in emissions, and reaching net-zero carbon midway through the latter half of the century.	
<b>World Energy Outlook</b>	Policy	A flagship report by the IEA, the WEO provides a thorough description of numerous dynamics of global energy markets, including production, efficiency, and carbon. The WEO relies on various scenarios to map out current and possible policy choices and pathways. These include the: <ul style="list-style-type: none"> <li>• Stated Policies Scenario, which maps current policies and programs from governments in an essentially “business as usual” scenario with no additional efforts to reach the Paris Agreement targets;</li> <li>• Sustainable Development Scenario which is consistent with the Paris Agreement “Well below two degrees” target; and</li> <li>• Net Zero 2050 Scenario which is consistent with the 1.5dgc target of the Paris Agreement.</li> </ul>	

## Appendix F - Summary Information from Comparator Study

Canadian University Comparators  
Investments & Related Climate Change Commitments  
May 2021 - Prepared by University of Waterloo Finance

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	Climate Investing Philosophy	Carbon Reduction Target	Carbon Reporting & Metrics	Transition Investments	Engagement
UTAM endowment (\$2.5B)	The planned 40 per cent carbon reduction will have three times the impact of simply eliminating all oil and gas companies, which UTAM estimates would reduce the carbon footprint of the portfolios by only about 13 per cent; ambitious yet achievable goal; having a carbon reduction target is a highly effective way to address the risks and opportunities related to climate change in an investment portfolio.	<p>Reduce the carbon intensity of the Pension and Endowment investment portfolios by 40% compared to 2017 by the end of 2030 (announced February 2020).</p> <p>For the reduction target, UTAM will include equity and equity-like 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), UTAM refers to this measure as a portfolio's carbon footprint.</p> <p>In order to achieve the 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. As part of its ESG-based framework for responsible investing, UTAM will also continue to engage with companies on climate change and advocate with policy-makers and regulators to take action on climate change.</p>	<p>A single metric - Carbon Emissions per CAD million dollars invested - is being used as the standard metric to measure the carbon footprint of equity investments and the target is against this metric. The metric includes scope 1 and scope 2 emissions. (CAD currency assumed based on review of report).</p> <p>Last measured and reported online as at September 30, 2018</p>	<p>UTAM invested \$213m in ESG debt in October 2020 (not clear if this is from endowment or pension)</p>	<p>UTAM became a UN PRI signatory with respect to the University of Toronto endowment fund only on December 16, 2016 and with respect to the University of Toronto pension plan on December 13, 2016. The University of Toronto has since joined the new Ontario sector pension plan (UPP), which is not a UN PRI signatory.</p> <p>University of Toronto is one of 15 Canadian Universities committed to the "Investing to Address Climate Change" charter (June 2020). Also a signatory of the Montréal Carbon Pledge (2017).</p> <p>*signed a Global Investor Statement to Governments on Climate Change by The Investor Agenda (September 2019)</p> <p>*became a member of the Responsible Investment Association (2016)</p> <p>*became a signatory of the CDP (Carbon Disclosure Project) (2016)</p> <p>*joined Climate Action 100+ (2017)</p> <p>*joined the 30% Club Canada (2018)</p> <p>*joined Intentional Endowments Network (2018)</p> <p>*joined Standards Board for Alternative Investments (2018)</p> <p>*member of Canadian Coalition for Good Governance (2006)</p> <p>*joined International Corporate Governance Network (2020)</p>
University of Guelph endowment (\$375M)	Lessen the environmental impacts of endowment investments	Short term (2 year) carbon reduction target of 10% while gain experience with the topic (announced January 2019); developing sustainable and responsible investment goals for the next 10 years	<p>A single metric - Carbon Emissions per USD million dollars invested - is being used as the standard metric to measure the carbon footprint of equity investments and the target is against this metric. Total emissions (scope 1 &amp; 2) are also reported for the equity portfolio. Quarterly reports to Investment Committee and annual reports to Board on carbon. Last measured and reported online as at 31 December 2019.</p>	None identified	<p>University of Guelph became a UN PRI signatory with respect to one of its investment mandates - its endowment - September 18, 2019.</p> <p>It is one of 15 Canadian Universities committed to the "Investing to Address Climate Change" charter (June 2020).</p>
UBC IMANT endowment (\$2B)	Implementing a comprehensive response to the climate emergency	<p>Has set the goal to reduce the portfolio's carbon emissions by 45% by 2030 (announced September 2020). "...the goal cannot be achieved using only one responsible investing tool. The goal can only be achieved by UBC IMANT using a combination of tools that are consistent with the PRI principles. The tools that UBC IMANT will employ include divestment, active ownership, leadership, disclosure, and measurements."</p> <p>Divestment of fossil fuel companies by 2030 (possibly earlier, pending product availability). As a manager of managers, we are not in a position to target any specific sector or a fixed list of companies but will divest managers. Divestment by UBC IMANT is an ESG integrated manager selection process that will dynamically evolve with the industry.</p>	Decided in September 2020 to start carbon reporting and to set carbon reduction targets.	<p>Achieved investment in a separate low carbon, fossil-fuel-free endowment investment mandate of \$34 million by December 2020</p> <p>UBC Investment Management Trust Inc. ("UBC IMANT") is pleased to report it has committed \$110 million to be managed by Impax Asset Management ("Impax"), a specialist asset manager which invests in opportunities arising from the transition to a more sustainable global economy. (Not clear which investment mandate this is for, likely endowment)</p>	<p>UBC Investment Management Trust Inc. on behalf of the University of British Columbia (Endowment) became a UN PRI signatory on July 7, 2020.</p> <p>University of British Columbia is one of 15 Canadian Universities committed to the "Investing to Address Climate Change" charter (June 2020).</p> <p>UBM IMANT participates within organizations such as the Canadian Coalition for Good Governance (CCGG), Pension Investment Association of Canada (PIAC) etc. that promote responsible investing by influencing corporations, governments and regulators.</p> <p>Consider joining other ESG associations in 2022.</p>

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	Climate Investing Philosophy	Carbon Reduction Target	Carbon Reporting & Metrics	Transition Investments	Engagement
UBC IMANT pensions  (Staff pension plan (SPP) - \$1.96B Faculty pension plan (FPP) - \$2.5B)	No clear statements on this from either plan	N/A	N/A	None noted	Staff Pension Plan Only: UBC Investment Management Trust Inc.on behalf of University of British Columbia Staff Pension Plan became a UN PRI signatory on July 7, 2020.
Queens endowment (\$1.1B)	"... as stewards of long-term investments, we have a responsibility to manage our capital in ways that accelerate the transition to a low-carbon economy and protect our stakeholders from the growing risks associated with climate change."	No	No	To be implemented: explore investments that will outperform with the transition to a lower carbon economy; allocate capital from its endowment to such investments, consistent with the Board of Trustees' fiduciary obligations; and allow donors to allocate capital directly to such investments, within the endowment, increasing the overall investment in the transition theme, with all endowment units receiving the same payout.  As at November 2020, a US\$30 million investment in renewable energy which is in the final stages of due diligence review per a news release (not clear which investment mandate this is for).	Queen's is not a UN PRI signatory.  It is one of 15 Canadian Universities committed to the "Investing to Address Climate Change" charter (June 2020).
University of Ottawa endowment (\$295M)	To address global warming and help Canada move to a greener economy	Reduction of the carbon footprint of entire investment portfolio by at least 30% by 2030 (announced April 2016)	Not identified	Shift uOttawa's fossil fuel-related investments towards investments in businesses involved in creating and selling the technologies of the future, especially in Canada, including renewable energy and other clean technology solutions. The Finance and Treasury Committee will report to the board annually on its progress.  Over time, create a Clean Innovations Fund with an initial investment of \$10 million, using funds from existing portfolios and donations received for this purpose.  The University of Ottawa made an initial investment in an equities index portfolio that consists of low carbon intensity companies around the globe.	University of Ottawa became a UN PRI signatory November 15, 2012.  It is one of 15 Canadian Universities committed to the "Investing to Address Climate Change" charter (June 2020).
University of Ottawa pension (\$2.6B)	N/A	No	No	None noted	No

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	Climate Investing Philosophy	Carbon Reduction Target	Carbon Reporting & Metrics	Transition Investments	Engagement
McMaster University endowment (\$1.1B)	Make a difference, on our campus, in our community, and globally	McMaster is committing to a 45% carbon reduction of the public equities within the investment pool by 2030. McMaster aspires to achieve a carbon neutral investment pool by 2050 for public equities investments. (Announced October 2020).	Yes. Last measured and reported online as at April 30, 2020 (one metric) and as at April 30, 2019 (fulsome report)	The Investment Pool includes a number of clean technology solutions. MSCI measures the weight of these solutions based on sales across the following categories: alternative energy, energy efficiency, green building, pollution prevention, and sustainable water. The Investment Pool weight of companies offering clean technology solutions is 24%, and across public equity and public infrastructure holdings the weight is 33%	McMaster University became a UN PRI signatory September 30, 2020. It is one of 15 Canadian Universities committed to the "Investing to Address Climate Change" charter (June 2020).
McMaster University pensions (\$2.1B - Pension Plans and Group RRSP Plan)	N/A	No	No	None noted	No
Dalhousie University endowment (\$608M)	Climate change is now recognized as one of the defining challenges facing humanity. It is already leading to profound social, economic and environmental changes in Canada and around the world. Universities have a responsibility to act constructively to address this challenge.	No	Additionally, Dalhousie has been monitoring its portfolio carbon emissions since 2017 using two basic factors — metric tons to revenues and metric tons to capital investment — and then compares these portfolio emissions to those of the market to evaluate emission trends. Reporting not public. Future goal to make it public.	None noted	Dalhousie University became a UN PRI signatory on May 15, 2019. It is one of 15 Canadian Universities committee to the "Investing to Address Climate Change" charter (June 2020). Member of the Responsible Investment Association
Dalhousie University pension (\$1.4B combined)	N/A	No	No	None noted	No

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	Climate Investing Philosophy	Carbon Reduction Target	Carbon Reporting & Metrics	Transition Investments	Engagement
Western University endowment (\$800M)	An environmentally sustainable future; our efforts against climate change continue to evolve	No  The University believes that, in most situations, engagement is a superior approach to divestment in effecting changes on ESG related issues. Engagement allows investors to retain their voice in terms of voting on shareholder resolutions and maintaining or escalating, as needed, a dialogue with portfolio company management. Divestment will be considered for issues in which there is wide investor consensus.	No	Western is committing to invest a portion of its Operating & Endowment Fund (5% to 10% over the next five years) in companies providing solutions along the following themes: • Clean and renewable energy • Water treatment solutions • Waste management solutions These investments will be funded from the Operating & Endowment Fund public equity investments <u>SIPP allows:</u> The university is committed to invest 5% to 10% of the portfolio in sustainable investment strategies, including but not limited to strategies trying to find solutions to the world environmental and climate change issues. Allocations to sustainable opportunities can be made through an allocation within equities, fixed income or real assets.	Western University is not a UN PRI signatory.  It is one of 15 Canadian Universities committed to the “Investing to Address Climate Change” charter (June 2020).
Western University pension (\$1.2B Defined contribution plans)	N/A	N/A	N/A	N/A	N/A
McGill University endowment (\$1.5B)	Impactful action to transition to more sustainable and environmentally conscious practices	Reducing the carbon footprint of the public equity portfolio by 33% relative to the public equities benchmark. This decarbonisation will lead to removing investments from highly carbon intensive companies, in particular those in the fossil fuel industry, cement and steel producers, and coal and gas-fired power plants. Considering the value of the portfolio as of September 30, 2019, this approach will reduce the portfolio’s carbon emissions by 38 tons of CO2 per million dollars invested annually. The majority of this sustained reduction is to be achieved in the first two years of implementation, with the balance completed by 2025.  McGill will remove investments from highly carbon intensive companies, in particular those in the fossil fuel industry, cement and steel producers, and coal and gas-fired power plants (announced April 2020). However, endowment SIPP (updated October 2020) does not note exclusions.	Beginning in spring 2021, the Investment Committee will submit an annual socially responsible investing (SRI) report to CAMSR and the Board on the percentage of assets managed by managers who are signatories of the UNPRI and/or have an ESG policy, the MIP carbon emission absolute and relative measures, the impact investment exposure, and other initiatives relevant to SRI activities related to the MIP.	The University will commit over \$75 million by 2025 to renewable energy, clean technologies, energy efficiency, green building, pollution prevention, sustainable water and other low-carbon funds. This represents 5% of the investment pool invested in low-carbon funds and funds that contribute to decarbonisation.  Within two years, the University will propose a target allocation for increasing the amounts invested in the fossil-fuel-free fund, and an appropriate mechanism for implementation (announced April 2020).	McGill University is not a UN PRI signatory.  It is one of 15 Canadian Universities committed to the “Investing to Address Climate Change” charter (June 2020).
McGill University pension (Defined contribution plan for those joining after January 1, 2009)	N/A	N/A	N/A	N/A	N/A

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	Climate Investing Philosophy	Carbon Reduction Target	Carbon Reporting & Metrics	Transition Investments	Engagement
Concordia University Foundation endowment (\$109.5M)	As institutional investors, we have a duty to act in the best longterm interests of our beneficiaries. In this fiduciary role, we believe that environmental, social and corporate governance (ESG) issues can influence the performance of investment portfolios (to varying degrees across companies, sectors, regions, asset classes and through time).	The Concordia University Foundation has committed to end investments in the coal, oil and gas sectors within five years (announced November 2019), 100% in sustainable investments and 10% towards impact investments by 2025. Sustainable investments appear to be defined as those to which responsible investment principles are applied. No carbon measurement or related reduction targets for investments were noted.	None noted.	None noted. (Impact investments are within the Alternatives asset class in its investment policy. With a range of 5% - 10%, they have a long-term target of 5%. The broad thematic approaches noted for impact investments in the investment policy do not relate directly to climate).	The Foundation became a signatory to the UNPRI January 23, 2018 and has publicly noted that they scored an 'A' in their second year report.  Joined the SHARE non-profit investor advocacy organization.
Concordia pension (\$1.13B)	Information related to pension investments was not noted online	N/A	N/A	N/A	N/A
Laval endowment (\$35M)	University of Laval has a responsibility to meet major challenges facing society, including the fight against climate change.	Using a December 31, 2018 evaluation as its benchmark, the strategy aims for a 50% reduction in UL's equity portfolio footprint by 2030. the strategy also sets a mid-point reduction target of 30% by 2025 (announced December 2019)	Carbon footprint as at December 31, 2018 has been disclosed, newer carbon measurements not yet noted online.	In 2017, Laval noted it would begin a transition of endowment fund investments in fossil energy to other types of investments such as renewable energy. Further information on the status of this transition was not noted on Laval's website.	It became a signatory to the UNPRI January 17, 2020.  It is one of 15 Canadian Universities committed to the "Investing to Address Climate Change" charter (June 2020).
Laval pension (\$3.5M)	Information related to pension investments was not noted online	N/A	N/A	N/A	N/A



## Appendix G – Metrics, Benchmarks and Disclosures

Prepared by RIAG Subgroup on Carbon Metrics (Elizabeth Demers, Sarah Hadley, Mat Thijssen)

April 2021

### Overview

A Subgroup was established to provide a summary of candidate metrics for measuring portfolio level carbon emissions for the RIAG to consider in developing their carbon exposure reduction recommendations. More specifically, this review and recommendations are undertaken from the perspective of the University of Waterloo's investments' impact on the environment, rather than from the perspective of the impact of climate risk on the University of Waterloo's portfolio.<sup>1</sup> We identify common carbon metrics, explain some of the potential pitfalls associated with their use, provide a summary of benchmarks being used by peer institutions, and offer some preliminary recommendations related to reduction targets. In what follows, we also discuss which carbon emissions should be included in the benchmarking of the University of Waterloo's portfolios, make recommendations regarding which asset classes' and funds' emissions should be tracked and included in targeted reductions, and we identify some practical considerations that are expected to arise in the implementation of a measurement and performance tracking system. We conclude by identifying some issues for ongoing monitoring and for future consideration for incorporation into performance tracking and benchmarking.

### **Summary of Key Recommendations:**

- **Adopt a dashboard approach consisting of 4-5 metrics rather than relying upon a single metric to assess performance;**
- **Use the carbon footprint metric to set and track emissions reduction targets;**
- **Adopt the following targets: using 2019 or 2018 if the data is available as the baseline year, aim for a 50% reduction by 2030, and carbon neutrality by 2040 (aspirational) or 2050 at the very latest; and**
- **Include Scope 1 and Scope 2 emissions in the calculated emissions metrics.**

### **Which Emissions Should be Tracked and Targeted for Reduction?**

*Principle: Apply best practice methodologies as they evolve over time, subject to using reliable carbon emissions data*

**We recommend that, as a starting point, Scope 1 and Scope 2 GHG emissions be included in the CO<sub>2</sub>e to be tracked.** This is consistent with what peer organizations are doing (e.g., see Appendix F) and

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<sup>1</sup> Pursuant to the TCFD framework, asset holdings may be impacted by climate change as a result of transition risks and/or physical risks. The carbon-tracking metrics proposed in this memo are likely to be highly correlated with transition risks, but the proposed metrics are not specifically designed to track such firm or portfolio level transition risks. The metrics are also not directly related to physical risks. Metrics for tracking transition and physical risks, together with climate risk assessments and scenario analysis of the University's portfolios, were not within the scope of this Subgroup's mandate. Alternative metrics are available from commercial sources such as: BlackRock Aladdin Climate, OS-Climate, The Climate Service, Baringa & XDI, Acclimatise, Carbon Delta, Trucost, ClimateAI, Jupiter, and Cervest Earth, amongst others, for consideration in future work the University is recommended to undertake in respect of climate risk assessment and scenario analysis of its portfolios.

it is in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The omission of Scope 3 CO<sub>2</sub>e is also necessitated by the current reality that most firms do not report these emissions, or when they do report Scope 3, the amounts may be either highly incomplete or otherwise less than fully reliable. We note, however, that data providers such as S&P's Trucost are increasingly providing estimates of emissions (of all scopes) for non-disclosing companies, and that the availability of company- or third-party-provided data is changing rapidly.

Portfolio level aggregations of Scope 3 emissions are associated with a well-known problem of double- (or multiple-) counting. With a sufficiently large set of companies in a portfolio, it becomes extremely likely that the upstream and downstream emissions in the corporate value chain will overlap, either in part or to a potentially significant degree. This could lead to an inflated measurement of emissions when *aggregating* across companies in the portfolio. It is for this reason that the GHG Protocol guidance for Scope 3 Value Chain carbon accounting recommends against aggregating Scope 3 emissions.<sup>2</sup> The overlapping nature of the Scope 3 emissions also makes it difficult to detect which portfolio companies are responsible for any observed increases or reductions in the aggregated portfolio level emissions. Furthermore, as collection and disclosure of Scope 3 emissions matures, there are emerging tools that may help to correct for, or assist with the interpretation of, the double-counting problem associated with Scope 3 emissions within an aggregated portfolio.<sup>3</sup>

**Accordingly, we recommend that the inclusion of Scope 3 within the metrics and portfolio carbon performance be revisited as circumstances warrant, and at least at the periodic reviews of targets (2023 and 2026).**

Notwithstanding this aggregation problem, omitting Scope 3 emissions from the carbon tracking system ignores significant sources of emissions that may be within corporate influence, if not direct control. Indeed, in many industries, Scope 3 emissions can be several multiples of their direct Scope 1 and Scope 2 emissions. As such, Scope 3 emissions are ripe for potential engagement because, for example, changes to a company's supply chain, or changes to their product design that would reduce energy consumption by end-users, could materially affect a firm's Scope 3 emissions. **We therefore recommend that the availability of reliable Scope 3 emissions data be monitored for potential future use in this engagement capacity.**

### **Which Asset Classes Should be Subject to Carbon Measurement?**

*Principle: Progress towards carbon measurement for all asset classes*

**We recommend that metrics be tracked for all passive and active publicly traded equity holdings.** For a very large set of global firms, Scope 1 and Scope 2 emissions are readily available from numerous data providers to which the University and their asset or fund managers can access through subscription. While not all companies voluntarily provide these emissions disclosures, estimates for at least Scope 1 and Scope 2 should be available for most firms. Firms that are not voluntarily disclosing this information are likely to be either not tracking/managing their emissions, and/or they are doing so but choose not to

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<sup>2</sup> See [Greenhouse Gas Protocol Corporate Value Chain Accounting Reporting Standard](#), page 108.

<sup>3</sup> See, for example, MSCI's modelling approach for both estimation of Scope 3 emissions and de-duplication correction: [Scope 3 Carbon Emissions: Seeing the Full Picture](#).

report their emissions due to poor performance. In either case, in light of the University's policy that investment managers incorporate ESG factors, including climate change, into their investment decision making process, such firms would presumably either be excluded from, or very lightly weighted in, the University's portfolios. Accordingly, the lack of data for these firms should not introduce material errors into the overall portfolio's carbon performance measurements.

**We also recommend that the carbon emissions associated with corporate fixed income securities be tracked and measured as soon as practicable.**

**We do not recommend that carbon tracking currently be applied to investments in sovereign debt, however we would advise the University to monitor developments** in the carbon ratings of these instruments as they are the subject of considerable current discussion and reliable metrics may develop quickly.

### **Which University of Waterloo Portfolios Should be Included?**

*Principle: Progress towards carbon measurement for all investment mandates.*

**We recommend that the Endowment and Registered Pension Plan (“Pension”) be the first University of Waterloo investment pools that are subjected to carbon emissions measurement and reduction benchmarking.** Given the size of these portfolios, prioritizing the Endowment and Pension Funds should lead to material carbon emission reductions, and the financial consequences of climate change are relevant for both. Most of the large Canadian pension funds have adopted climate risk reduction strategies and some university pension funds are following suit. Several University endowments have had carbon reduction strategies for a while now. With the benefit of learning and experience from tracking carbon performance with these funds, extension to other University investment pools should also be considered<sup>4</sup>.

In addition to University's investing activities, we note that the University's primary financial institution for core operational banking activities, the TD Bank, has committed to transparent reporting of the GHG emissions associated with their loans and investments in accordance with the Partnership for Carbon Accounting Financials (“[PCAF](#)”). PCAF was undertaken to enable financial institutions to align their portfolios with the Paris Climate Agreement. As such, we expect that TD's signatory status implies a serious commitment to significant GHG emissions reductions, and we **recommend that TD Bank's performance in this regard be tracked and benchmarked to other Canadian financial institutions.**

### **Frequency and Timing of Performance Measurement and Reporting to Stakeholders**

*Principle: Annual reporting as at December 31<sup>st</sup> of each year*

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<sup>4</sup> The other investment pools to which the carbon tracking system can be rolled out include the Special Purpose Trust investment, the Student Investment Fund, the Student Venture Fund, other expendable funds, and various other ad hoc investments.

**We recommend that carbon performance be summarized as of December 31<sup>st</sup> of each year**, which is also consistent with corporate and asset managers’ expected reporting cycles.

**We recommend that the first carbon measurement be completed as at December 31<sup>st</sup>, 2021** at the latest. Subject to availability and cost, however, **we further recommend investigating whether carbon measurements (or reasonable approximations of such measurements) can be obtained for portfolio holdings as at December 31<sup>st</sup>, 2020, 2019 and 2018.** These additional measurements (or approximations) would enable the initial performance improvement tracking to make use of up to four years of data, enabling an earlier review and assessment of the information. We recognize that detailed portfolio holdings as at December 31<sup>st</sup>, 2019 and 2018 may not be available, and that estimations may be required to complete this historical view; however, we still believe that it is worthwhile to try to establish these values (at least for the primary carbon metric targeted for benchmarking as proposed below) given the anomalous nature of 2020 and the problems that this implies with respect to using it as the baseline year.<sup>5</sup>

**We recommend that the University report to its constituents on an annual basis, corresponding with the annual calendar year performance tracking.**

## **Metrics**

*Principle: Adopt a scorecard approach that includes several metrics, to be evaluated annually*

In Appendix G1, we provide the detailed definitions of four standard metrics that are used to track portfolio level carbon emissions: total carbon emissions, carbon footprint, carbon intensity; and weighted average carbon intensity.<sup>6</sup> These metrics are well-defined in the investment industry, and all are recognized within the recommendations of the TCFD as metrics that should be used for this type of reporting.<sup>7</sup> In our view, and echoed by the language of the TCFD recommendations, each of these measures has some advantages, but each is also subject to potential pitfalls.

Below, we discuss the pros and cons of each of the four measures in turn. One important limitation that applies to each of the first three measures is that the GHG emissions are allocated on the basis of market capitalization of equity, ignoring all debt financing. The potential pitfalls associated with this general disregard of the firm’s use of leverage (i.e., by not allocating a proportion of GHG emissions to the providers of debt capital) are discussed in detail in Appendix G2, wherein we illustrate the desirability of scaling emissions by enterprise value rather than market value. As our commentary should make clear, in our opinion there is no single “silver bullet” metric that is suitable as a standalone summary measure of performance. Ultimately, **we therefore recommend that a dashboard or scorecard approach be adopted in order to avoid the pitfalls associated with any one single measure, and that scaling by enterprise value rather than the market value of equity be considered eventually.**

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<sup>5</sup> We discuss the baseline year to be used for benchmark performance tracking in greater detail in a subsequent section.

<sup>6</sup> In what follows, references to “emissions” should be understood to mean “Scope 1 and Scope 2 emissions”, consistent with the recommendations made earlier that tracking begin with these two categories.

<sup>7</sup> See [Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017. Page 43-44.

### Metric 1 - Total Carbon Emissions:

***We recommend including the Total Carbon Emissions metric in the Endowment and Pension Funds' carbon measurement scorecard because it is aligned with the UW's ultimate objective of reducing total carbon emissions.***

This measure computes the (unscaled) total GHG emissions of the portfolio for the year. The greatest virtue of this metric is that it is designed to track the construct that is most consistent with the overall goal, which is to reduce the *total* GHG emissions in the economy. This benefit derives from the fact that the metric is unscaled, it is the sum of the GHG emissions that are attributed to the portfolio's holdings.

However, the lack of scaling also comes at a cost. If a portfolio doubles, say, over the course of the next 10 years (i.e., due either to positive compounded returns, and/or to net positive inflows), then presumably any targeted reduction against this metric will need to be modified. In other words, any targeted reduction in the total carbon emissions would need to be iteratively adjusted with the growth of the funds.

Consider, e.g., that the portfolio is worth CAD\$4 billion and is associated with 100 tons of CO<sub>2</sub>e at the baseline date. If the initial target is a 50% reduction to a total of 50 tonnes of CO<sub>2</sub>e by 2030 based on the \$4 billion fund, then presumably a different target would apply (e.g., perhaps 60 tonnes) in the event that the portfolio grows to \$8 billion by 2030, and still a different target if the fund grows to only \$6 billion by 2030. In other words, the size of the portfolio (i.e., scale) matters when setting total carbon emissions goals, so reliable estimates of portfolio growth would be required in order to rely on this measure for target and performance measurement.

In addition, this measure may be problematic in a time series that centers on the most recent calendar year because of the unusual reduction in activity for many firms during 2020. In other words, any observed year-over-year "improvements" in the total carbon emissions metric for 2020 may not derive from changes in the carbon-efficiency of firms' operations, but from reduced overall activity levels. Similarly, any observed year-over-year "deteriorations" in performance in 2021 may be due to investees ramping back up to a normal scale of activities *even though they may have improved their emissions efficiency* (i.e., emissions per unit of output may be declining due to improvements in technology, but output is growing faster than the improvements in carbon efficiency, such that overall performance on the basis of this metric reveals a negative trend).

### Metric 2 – Carbon Footprint

***We recommend including the Carbon Footprint metric in the Endowment and Pension Funds' carbon measurement scorecard because it is simple to understand and commonly used, thereby facilitating benchmarking with peer organizations.***

Carbon footprint is a widely-used measure that captures total carbon emissions scaled by the market value of the portfolio (i.e., CO<sub>2</sub>e/\$M invested). The primary limitation of this metric is that changes in the measure over time may result from *either* changes in carbon emissions *or* from changes in the market value of the investment. In other words, real carbon emissions performance changes may be confounded by disproportional changes in the market value of the investments. Furthermore, there is no obvious reason why the numerator and the denominator would move in tandem (unlike, e.g., carbon emissions and activity levels, as discussed in relation to carbon intensity below). Notably, this metric would suggest a period-to-period improvement in carbon emissions performance has occurred whenever the market value

of the investment (denominator) grows faster than emissions (numerator), and vice versa when emissions grow faster than the value of the investment. Since the goal is to realize *real* reductions in carbon emissions to mitigate the financial risks of climate change as the world endeavours to meet science-based net-neutral targets by 2050, rather than to realize a slower rate of growth in emissions relative to the growth in the value of assets, this drawback suggests that this should not be the only carbon metric used in performance tracking. However, as carbon footprint is one of the most commonly cited metrics, and it is also commonly used by peer institutions, this metric is readily available and useful for benchmarking purposes. The pitfalls associated with its use are particularly concerning under current circumstances, given that activity levels considerably dropped off for many firms in 2020, whereas market valuations did not. This is likely to lead to year-over-year changes that may be misleading *vis à vis* the real carbon reduction performance, making performance tracking difficult for the initial years. Example 2 in Appendix G2 demonstrates this in detail.

**We also recommend investigating with the carbon metrics service providers whether it would be feasible to obtain an additional, similar metric, as discussed in Appendix G2 - i.e., one that substitutes enterprise value in the place of the issuer’s equity market capitalization (“carbon footprint using total enterprise value”).** If this measure is available, we recommend that it also be included in the carbon measurement scorecard.<sup>8</sup>

**Finally, we recommend obtaining and reporting a breakdown of the Carbon Footprint metric by sector.**

### Metric 3 – Carbon Intensity

*We do not recommend including the Carbon Intensity metric in the Endowment and Pension Funds’ carbon measurement scorecard because it is similar to, but not as easy to understand as, Metric 4, which is discussed and recommended below.*

Carbon intensity measures the amount of emissions per million dollars of revenue. In other words, the total emissions are scaled by a measure of the firm’s level of activity for the period, and the metric therefore captures the “intensity” of emissions per unit of activity. The advantage of this metric is that it allows for sensible comparisons of performance for firms of different sizes and for the same firm across time if that firm is operating at significantly different levels of activity from period-to-period. In light of the very unusual time period in which we find ourselves embarking on this carbon performance tracking exercise, the latter point becomes extremely important – i.e., for many firms, activity levels may have declined significantly in 2020. Because it implicitly adjusts for the scale of activity, this metric will more appropriately capture any *real* changes in emissions performance in year-over-year comparisons. As such, the measure will overcome some of the limitations associated with each of the two previous metrics. Example 2 in Appendix G2 compares the scaling of carbon emissions by sales versus market valuation.

### Metric 4 – Weighted Average Carbon Intensity (WACI)

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<sup>8</sup> In their [Global GHG Accounting and Reporting Standard for the Financial Industry](#), the PCAF suggests that this metric is expected to gain more dominance, and that the availability of data is expected to improve, all as a result of recent EU regulations requiring its use (see Box 5 on page 51).

***We recommend including the Weighted Average Carbon Intensity metric in the Endowment and Pension Funds' carbon measurement scorecard because it is complementary to, and overcomes some of the limitations associated with, Metric 2.***

Similar to Metric 3, this is an intensity metric (i.e., emissions are scaled by the rate of activity, as captured by revenues). Unlike the preceding three metrics, however, WACI allocates GHG emissions on the basis of the portfolio weights. This is the measure recommended by the TCFD.<sup>9</sup> Because the measure does not rely on the market capitalization equity, it allows for (but does not require) the inclusion of carbon emissions from debt security investments in the portfolio carbon metric calculation (i.e., without explicitly computing enterprise value). Provided that the numerator and denominator are calculated in a consistent manner (i.e., each including either just equities, or both equity and debt securities), there are no double counting issues associated with this metric at the portfolio level.

#### Metric 5 – Exposure to Fossil Fuel Exploration and Extraction Companies

***We recommend a separate, explicit tracking of the Endowment and Pension Funds' investments in fossil fuel exploration and extraction companies.***

Because fossil fuel exploration and extraction companies are some of the highest CO<sub>2</sub>e emitters (including Scope 3), we recommend that a separate metric be included on the dashboard to track the value of investments in these companies (in absolute terms and as a percentage of the Endowment and Pension Funds' total portfolio).<sup>10</sup>

### **Measurement Issues**

#### **Currency Conversions**

The Endowment and Pension Funds holds assets denominated in currencies other than the Canadian dollar. Of the carbon emission metrics discussed above, Metrics 2 through 4 each expresses performance in terms of emissions per dollar (e.g., tonnes of CO<sub>2</sub>e/\$M revenue, or tonnes of CO<sub>2</sub>e/\$M investment). Of the carbon emissions metrics, only total carbon emissions are measured in a unit that is currency-free. Consequently, when using any of the three currency-based metrics, it will be necessary to convert carbon performance to a common currency in order to aggregate the metrics into a single overall summary measure of performance. It should therefore be recognized that period-over-period changes in reported performance (i.e., CO<sub>2</sub>e per million in revenue or per million in investment) may be affected either by *real* changes in CO<sub>2</sub>e emissions performance, or by changes in currency conversion rates. Example 3 in Appendix G2 demonstrates these effects.

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<sup>9</sup> [Recommendations of the Task Force on Climate-related Financial Disclosures](#), 2017 page 36 under the header GHG Emissions Associated with Investment

<sup>10</sup> For practical purposes, a materiality threshold should be applied. In other words, firms with minimal exposure to the industry should be excluded from this tracking. An example for reference in setting such materiality thresholds would be those imbedded within recent EU disclosure requirements for the fossil fuel sector, which are based on percentage of firm revenues from exploration, extraction, refining, and transportation of various fossil fuels. See, for example, the commentary from State Street [EU Climate Benchmarks: A Guide](#), on page 4.

## Timing Mismatches and Timeseries Considerations

The availability of carbon emissions data lags the availability of financial information related to the market values of investment holdings and the revenues of investee firms (i.e., key inputs into the ratio-based metrics described above)). This timing differential can lead to either a) long trailing indicators on the carbon performance of a fund because the carbon emissions are not known until significantly later in the following fiscal year, resulting in the loss of significant time for corrective action; or b) reporting more timely estimates as soon as financial measures become available, which involves a timing mismatching of carbon and financial measures (i.e., the matching of the most recent year's financial measures with the prior year's carbon measures). Further research on best practices will need to be undertaken, but it is recommended that the University report as soon as possible after each calendar year-end by using financial data as at December 31<sup>st</sup> of the current year with the most recently available carbon emissions (i.e., typically those for the prior year), while using engagement efforts to push for more timely corporate disclosure of emissions performance.

There is a risk that these emission-financial information timing mismatches will make it difficult to interpret performance changes in the time series, particularly where market values (or revenues) are changing at different rates or in different directions year-to-year relative to emissions. Nevertheless, our recommendation prioritizes the timeliness of information over the precision of performance measurement, and we note that the expected effect of the mismatching problem diminishes as the time series is extended (i.e., over longer-term performance tracking this problem is smoothed across the years).

## Performance Evaluation – Benchmarking and Baseline Year

### *Principles:*

- *Set responsible science-aligned carbon reduction targets against a single carbon metric.*
- *Carbon reduction performance should be tracked annually and compared to the University's targets once adopted, as well as to other relevant benchmarks (e.g., [MSCI](#) or similar low carbon target indices, and peer institutions' performance, all over the same time period); and*
- *Select a baseline year that avoids performance inference problems caused by the anomalous pandemic period.*

The general focal point in evaluating the Endowment and Pension Funds' investments' carbon emissions performance will be the longer-term *trend* in carbon emission reductions. Recognizing that this trend may be non-linear, benchmarks, targets, and the strategies employed to achieve them will need to be dynamically adjusted in the event that early years' reductions prove to be too modest *vis à vis* what is required for longer-term goal attainment. A significant factor that will influence the University's carbon performance is in the selection of investment managers, which might also proceed in a nonlinear fashion. In what follows, we propose some specific quantitative goals that we consider to be aligned with science-based targets.

### Targets

**We recommend that the single metric adopted for carbon reduction targeting be the Carbon Footprint.** As mentioned above, this metric is simple to understand, widely-used, and reported by peer institutions, thereby enabling benchmarking.



We recognize that there is no specific methodology to determine a precise target that fully and accurately embraces the complexity of global reductions needed to avoid the worst impacts of climate change, as articulated in the “well below 2 Degrees Celsius” (“WB2D”) and “1.5 Degrees Celsius” (“1.5D”) targets established in the Paris Agreement.<sup>11</sup> There are significant differences in emissions abatement opportunities and requirements between countries, as well as between industries, and thus it is expected that emissions from some countries and industries will need to contract faster than those of others. Mapping the Endowment and Pension Funds’s investment portfolio within this context, in order to align with global reduction pathways that are consistent with the Paris targets, is enormously complex with limited value-add.

In light of the above, **we recommend that target-setting be based on the scale of alignment with the aggregate global change needed to be consistent with the Paris 1.5D target.** This is consistent with the commitments taken by large groups of global asset managers, including the “consistent with a fair share” language used for interim 2030 targets as part of the Net Zero Asset Managers’ commitment.<sup>12</sup>

**Specifically, we recommend a carbon reduction target of 50% by 2030.** In triangulating a range of comparators, understanding of the global science behind climate change, and broader industry movements, we believe this to be consistent with the following:

- To align with the 1.5D Scenario, the widely-referenced *Science Based Targets Initiative* framework offers an approach consistent with a linear decrease of between 4.2 - 4.5% per year from a baseline, assuming global emissions peak near or around 2020, assuming an absolute contraction approach.<sup>13</sup>
- The annual Emissions Gap Report, published by the United Nations Environment Program, noted that, as of 2019, emissions would need to contract by 7.6% per year to remain consistent with the 1.5D scenario.<sup>14</sup> Compounded annually, this translates to a net change over 10 years of approximately 54%.<sup>15</sup>
- The Special Report on 1.5D developed by the IPCC in 2018 illustrated a need to reduce global emissions by 45% from a 2010 baseline by 2030.<sup>16</sup> The significant changes to the global economy, combined with delayed action since 2010, suggest that the previous two references are likely to be more indicative of what is required than the IPCC’s 2018 estimate, although the IPCC nevertheless provides another science-based reference in comparable range.
- The Net Zero Asset Managers’ coalition, collectively managing over \$32 trillion in assets, have included a commitment that is consistent with a fair share of the 50% reduction needed by 2030. This 50% scale of change seems to be gaining traction among investment managers.
- Peer institutions with targets, as referenced in Appendix F, appear to have targets ranging from 40-45%, by 2030, with varying baseline years. These benchmarks would place the recommended Endowment and Pension Funds’ 50% reduction target into a peer-leadership role. This being said, many institutions are actively reassessing their investment strategies in respect of climate change and we expect their targets to become more ambitious over time.

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<sup>11</sup> [Paris Agreement](#), see article 2.1.a.

<sup>12</sup> See [Net Zero Asset Managers Initiative](#), under commitment a.1.

<sup>13</sup> [Foundations of Science-Based Target Setting](#), report by SBTi on framework, page 22. The absolute contraction approach assumes that all entities everywhere reduce emissions at the same rate.

<sup>14</sup> [UNEP Emissions Gap Report 2019](#), page XIII.

<sup>15</sup> As computed by a simple compounded annualized growth rate of -7.6% over 10 periods. Emissions after year 10 are equal to  $1 \times (1 - 0.076)^{10} = 0.4536$ , or approximately 54.6% reduction from the base year.

<sup>16</sup> [IPCC Special Report on Global Warming of 1.5 Degrees Celsius](#); Summary for Policymakers, see page 11, part C.1.

Due to pandemic related anomalies that are expected to affect 2020 performance measures, the baseline year should be either 2019 or earlier, or 2021. **In the absence of practical limitations associated with obtaining carbon measurements as at December 31, 2019 to use for this purpose, we recommend using 2019 as the baseline.** Otherwise, we recommend the use of December 31, 2018 or 2021 for the baseline (i.e., in either case, avoid using December 31<sup>st</sup>, 2020 as the baseline).

**We recommend that the longer-term goal be carbon neutrality for all investments, with an aspirational goal that this be attained by 2040, but under any circumstances that carbon neutrality be attained no later than 2050.**

### **Implementation of Carbon Measurement and Tracking System**

*Principle: Apply best practice methodologies, including the use of a third-party carbon portfolio measurement service*

**We recommend that the University investigate and select a reliable third-party service** (e.g., MSCI or similar) **that can provide carbon measurement metrics across investments**, including those held with different investment managers and in passive funds.

There may be opportunities for a future transition to investment managers providing the carbon measurement metrics that align with the University's requirements, recognizing that those requirements will evolve over time. However, using a service provider that consolidates data across investment managers should mitigate aggregation issues that may arise if the reporting is obtained directly from investment managers, and would also facilitate the inclusion of carbon metrics for passively-held investments.

### **Evolution**

*Principles:*

- *Review, assess, and continuously learn from our own experience;*
- *Monitor on an ongoing basis the external, currently very dynamic environment as it relates to changes in measurement, targeting, and reporting practices; and*
- *Update practices and approach proactively to reflect changing standards and opportunities.*

**We recommend regular monitoring of best practice methodologies and metrics, as well as enhancements to measurements and reporting over time** (i.e., in line with best practice methodologies and metrics, expanding investments in-scope for carbon measurements, etc.), with a view to evaluating annually for at least the first three 3 years, beginning with the year ended December 31, 2021.

Recognizing that there is likely to be a lot of ongoing learning during the first year or two of implementing this performance measurement, benchmarking, and reporting system, and that the investment industry is extremely dynamic at this time (i.e., with respect to passive investment options, firm and fund level disclosures and metrics becoming available, benchmarking options evolving, etc.), **we recommend that the terms of reference for relevant Board committee(s) include oversight of the University's responsible investment activities and that the University consult with experts on the topic as it evolves.**

## Ongoing Developments

### *The European Union (EU) Sustainable Finance Disclosure Regulation (SFDR):*

The SFDR is a recent EU regulation that imposes mandatory ESG disclosure obligations for asset managers and other financial market participants. The Level 1 provisions apply from March 10<sup>th</sup>, 2021, while more detailed disclosure requirements will apply from January 1<sup>st</sup>, 2022. The intent of the regulation is to enhance the transparency of sustainability-related information and to thereby prevent greenwashing. Although this is an EU regulation, it is anticipated that there will be a contagion effect, with heightened disclosures becoming the norm in other jurisdictions. This may lead to additional metrics, and/or more refined metrics, becoming widely available.

In addition, on April 21<sup>st</sup>, 2021, the European Commission adopted six amending Delegated Acts on fiduciary duties, investment, and insurance advice that will ensure that financial firms (i.e., advisers, asset managers, and insurers) include sustainability in their procedures and in their investment advice to clients.

### *The EU Taxonomy and Proposal for a Corporate Sustainability Reporting Directive (CSRD):*

On April 21<sup>st</sup>, 2021, the European Commission adopted a series of measures that are designed to improve the flow of money towards sustainable activities within the EU, which they view as instrumental to making the EU climate neutral by 2050. The EU Taxonomy Climate Delegated Act is an instrument that is designed to make clearer which economic activities most contribute to meeting the EU's environmental objectives.

The proposed CSRD would replace the existing non-financial reporting directive (NFRD), and would extend its scope to all large companies and all listed companies in the EU. According to Alain Deckers, the Vice Chair of the European Corporate Reporting Lab @ EFRAG of the European Commission, approximately 50,000 companies would be required to report sustainability information under the new directive (compared to about 10,000 today). In addition, the CSRD would require the following: more detailed reporting in accordance with new EU sustainability reporting standards to be developed by the European Financial Reporting Advisory Group (EFRAG); that the reported information be audited; and that the information be digitally "tagged" so that it is machine readable and can feed into a proposed European single access point.

### *The United Kingdom:*

#### [Responsible Investor reported on April 22<sup>nd</sup>, 2021](#) (emphasis ours):

UK lawmakers have called on the Government to consider introducing *mandatory climate labelling for financial products*.

A report into the decarbonisation of the UK economy and green finance released by the Treasury Select Committee, an influential scrutiny body composed of government and opposition MPs, said that financial products should be "clearly labelled" to allow consumers to assess the relative climate impacts of products.

It also called for the Treasury to regularly report on the Net Zero alignment of default funds for defined contribution pension schemes, saying that the Government's current

approach presented an “apparent contradiction” because default funds are not required to transition to greener strategies, but the Government “maintains that consumers should not have to switch out of the default fund to invest responsibly”.

The report follows a year-long inquiry by the Committee, which took written and oral evidence from major investors, government bodies and NGOs including the Bank of England, London Stock Exchange Group and BlackRock.

The group also recommended that the UK’s pension regulator should look at introducing ESG regulations for smaller defined benefit schemes that aren’t covered by new rules on TCFD reporting.

*While all schemes with more than £1bn in AUM will be required to report against TCFD requirements by October 2022, the Committee said that the aggregate impact of smaller schemes could still have an effect on the UK’s Net Zero target.*

Lauren Wilkinson, Senior Policy Researcher at the Pensions Policy Institute, said: “These proposals are in line with other work being conducted to help ensure pension scheme members’ contributions are being invested in a sustainable way, and should help sustain the momentum and urgency felt by many stakeholders to ensure that climate considerations are taken into account by institutional investors.”

*“In order to make sure that schemes can effectively improve the way in which they approach climate change risks, there may need to be increased reporting regulations placed on external asset managers and investee companies.”*

#### *U.S. Securities and Exchange Commission:*

On March 4<sup>th</sup>, 2021, the SEC announced the creation of a Climate and ESG Task Force in the Division of Enforcement whose mandate is to proactively identify ESG-related misconduct, having previously announced on March 3<sup>rd</sup>, 2021 that its 2021 examination priorities included a greater focus on climate-related risks.

On February 24<sup>th</sup>, 2021, acting SEC Chair, Allison Herren Lee, [asked the SEC Division of Corporate Finance](#) to enhance its focus on climate-related disclosure in public company filings. She directed them to develop a more comprehensive framework that leads to consistent, comparable, and reliable information related to climate change. On March 15<sup>th</sup>, 2021, the acting Chair [requested public input](#) into the SEC’s deliberations related to the Commission’s intended establishment of new climate change related disclosure requirements. In its response to the SEC, Cardano, a European investment group with €115bn in AUM, warned that it will find it “increasingly hard” to invest in US funds if ESG disclosure rules fall behind UK and EU standards (as [reported by Responsible Investor, April 23<sup>rd</sup> 2021](#)). Cardano further urged the SEC to mandate climate change disclosures that are consistent with the recommendations of the TCFD.

On April 9<sup>th</sup>, 2021, the SEC’s Division of Examinations issued a [Risk Alert](#) to highlight observations from recent exams of investment advisors, registered investment companies, and private funds offering ESG products and services. The North American Securities Administrators Association (NASAA) similarly issued an advisory for investors. In brief, [portfolio management for ESG investing often didn’t match client disclosures or expectations](#).

On April 21<sup>st</sup>, [U.S. Treasury Secretary Janet Yellen](#) expressed her support for sustainability reporting initiatives, including specifically the TCFD climate reporting framework and the IFRS Foundation’s initiative to develop a sustainability reporting standards board with an initial focus on climate change reporting. (The IFRS Foundation’s efforts have also been previously endorsed by [IOSCO](#).) Secretary Yellen acknowledged the importance of private capital mobilization towards financing the green transition, and she recognized that *“one of the key obstacles to opening sustainable finance flows is the lack of reliable, consistent, and comparable disclosures needed for investors to accurately compare climate-related risks and opportunities across companies.”* Secretary Yellen also stated that Treasury will work with the [SEC as it reviews its own rules](#) for sustainability reporting requirements by companies.

All of the preceding recent ESG-focused developments (including plenty of hints at more regulations to come), with top priority generally being given to climate change information, suggest that more detailed and standardized climate-related disclosures will be forthcoming in the EU, the UK, and the US. The various standards, legislations, and increased scrutiny of corporate and advisory filings will affect ESG and climate-related measurement and reporting at both the corporate and asset manager/fund levels. As such, it would be reasonable to expect that increasingly reliable and standardized climate change data may soon become even more widely available, both at the company and asset manager levels, as these three jurisdictions take the lead in setting minimum disclosure standards.

**Appendix G1**  
**GHG Protocol and TCFD Carbon Performance Metrics<sup>17</sup>**

**Total Carbon Emissions:**

Total Carbon Emissions	<i>Description</i>	The absolute greenhouse gas emissions associated with a portfolio, expressed in tons CO <sub>2</sub> e.
	<i>Formula</i>	$\sum_n^i \left( \frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's Scope 1 and Scope 2 GHG emissions}_i \right)$
	<i>Methodology</i>	Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach. Under this approach, if an investor owns 5 percent of a company's total market capitalization, then the investor owns 5 percent of the company as well as 5 percent of the company's GHG (or carbon) emissions.  While this metric is generally used for public equities, it can be used for other asset classes by allocating GHG emissions across the total capital structure of the investee (debt and equity).
	<i>Key Points</i>	<ul style="list-style-type: none"> <li>+ Metric may be used to communicate the carbon footprint of a portfolio consistent with the GHG protocol.</li> <li>+ Metric may be used to track changes in GHG emissions in a portfolio.</li> <li>+ Metric allows for portfolio decomposition and attribution analysis.</li> <li>- Metric is generally not used to compare portfolios because the data are not normalized.</li> <li>- Changes in underlying companies' market capitalization can be misinterpreted.</li> </ul>

**Carbon Footprint:**

Carbon Footprint	<i>Description</i>	Total carbon emissions for a portfolio normalized by the market value of the portfolio, expressed in tons CO <sub>2</sub> e / \$M invested.
	<i>Formula</i>	$\frac{\sum_n^i \left( \frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's Scope 1 and Scope 2 GHG emissions}_i \right)}{\text{current portfolio value (\$M)}}$
Carbon Footprint (continued)	<i>Methodology</i>	Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach as described under methodology for Total Carbon Emissions.  The current portfolio value is used to normalize the data.
	<i>Key Points</i> + / -	<ul style="list-style-type: none"> <li>+ Metric may be used to compare portfolios to one another and/or to a benchmark.</li> <li>+ Using the portfolio market value to normalize data is fairly intuitive to investors.</li> <li>+ Metric allows for portfolio decomposition and attribution analysis.</li> <li>- Metric does not take into account differences in the size of companies (e.g., does not consider the carbon efficiency of companies).</li> <li>- Changes in underlying companies' market capitalization can be misinterpreted.</li> </ul>

<sup>17</sup> These definitions, which are generally agreed upon, were excerpted from: *Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures*, 2017. Page 43-44.

## Carbon Intensity:

Carbon Intensity	<p><i>Description</i> Volume of carbon emissions per million dollars of revenue (carbon efficiency of a portfolio), expressed in tons CO<sub>2</sub>e / \$M revenue.</p>
	<p><i>Formula</i></p> $\frac{\sum_n^i \left( \frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's Scope 1 and Scope 2 GHG emissions}_i \right)}{\sum_n^i \left( \frac{\text{current value of investment}_i}{\text{issuer's market capitalization}_i} * \text{issuer's \$M revenue}_i \right)}$
	<p><i>Methodology</i> Scope 1 and Scope 2 GHG emissions are allocated to investors based on an equity ownership approach as described under methodology for Total Carbon Emissions. The company's (or issuer's) revenue is used to adjust for company size to provide a measurement of the efficiency of output.</p>
<p><i>Key Points</i> + / -</p>	<ul style="list-style-type: none"> <li>+ Metric may be used to compare portfolios to one another and/or to a benchmark.</li> <li>+ Metric takes into account differences in the size of companies (e.g., considers the carbon efficiency of companies).</li> <li>+ Metric allows for portfolio decomposition and attribution analysis.</li> <li>- The calculation of this metric is somewhat complex and may be difficult to communicate.</li> <li>- Changes in underlying companies' market capitalization can be misinterpreted.</li> </ul>

## Weighted-Average Carbon Intensity:

Weighted Average Carbon Intensity	<p><i>Description</i> Portfolio's exposure to carbon-intensive companies, expressed in tons CO<sub>2</sub>e / \$M revenue. <i>Metric recommended by the Task Force.</i></p>
	<p><i>Formula</i></p> $\sum_n^i \left( \frac{\text{current value of investment}_i}{\text{current portfolio value}} * \frac{\text{issuer's Scope 1 and Scope 2 GHG emissions}_i}{\text{issuer's \$M revenue}_i} \right)$
	<p><i>Methodology</i> Unlike the next three metrics, Scope 1 and Scope 2 GHG emissions are allocated based on portfolio weights (the current value of the investment relative to the current portfolio value), rather than the equity ownership approach (as described under methodology for Total Carbon Emissions). Gross values should be used.</p>
<p><i>Key Points</i> + / -</p>	<ul style="list-style-type: none"> <li>+ Metric can be more easily applied across asset classes since it does not rely on equity ownership approach.</li> <li>+ The calculation of this metric is fairly simple and easy to communicate to investors.</li> <li>+ Metric allows for portfolio decomposition and attribution analysis.</li> <li>- Metric is sensitive to outliers.</li> <li>- Using revenue (instead of physical or other metrics) to normalize the data tends to favor companies with higher pricing levels relative to their peers.</li> </ul>

## Appendix G2

### Scaling by Market Capitalization of Equity Versus Scaling by Enterprise Value

Three of the measures proposed by the TCFD entail allocating to each investor their share of a company's GHG emissions *on the basis of the investor's proportional share of the firm's common equity*. The most obvious flaw in this approach is that no carbon emissions are allocated to the providers of debt capital. This approach could therefore lead to many perverse outcomes, including the construction of "low (or zero) carbon" portfolios consisting of the fixed income securities of high emissions firms and incentivize high emitting firms to finance using increasing amounts of leverage. A calculation approach that assigns carbon emissions to both forms of financial capital is preferable. Scaling by enterprise value would address this limitation. Thus, in each of the TCFD formulas shown in Appendix G1, it would be preferable to substitute:

$$\frac{\text{current value of investment}_j}{\text{issuer's enterprise value}_j} \text{ for } \frac{\text{current value of investment}_j}{\text{issuer's market value}_j}$$

such that the numerator can now be common equity, preferred equity, or debt securities, and where the use of enterprise value in the denominator would ensure that there is a (value-weighted) proportional allocation to all providers of financial capital.

The following example demonstrates this more intuitively. Consider a case where there are two firms that are identical in terms of activity levels, as well as in terms of emissions levels per unit of activity and per unit of enterprise value, respectively, but that choose different financial structures:

	<u>Co. A</u>	<u>Co. B</u>
Sales	\$100	\$100
CO <sub>2</sub> e	10	10
Enterprise value	200	200
Equity value	200	100
Debt value	---	100
CO <sub>2</sub> e/million in sales	.10	.10
CO <sub>2</sub> e/million in enterprise value	.05	.05
CO <sub>2</sub> e/million if all allocated to equity	.05	.10
CO <sub>2</sub> e/million if all allocated to debt	----	.10

Several observations can be made:

1. If market value of equity is used as the scalar for both companies, as is the current convention, then \$100 million in debt financing, which is providing half of the financing (i.e., the equivalent of 5 million tonnes of CO<sub>2</sub>e) for Co. B, is not being assigned any such environmental "cost" or penalty. Thus, an all-equity (i.e., ignoring debt) allocation of CO<sub>2</sub>e could incentivize carbon-reduction-targeting investors to (over-)invest in debt securities because they are being treated as carbon zero.
2. Correspondingly, equity holders in Co. B are assigned an unduly harsh carbon intensity rating of 0.10 vs. 0.05 for equity holders in Co. A (i.e., fully 2x higher than equity holders of Co. A), even though both firms are identical in terms of: total emissions, emissions per unit of activity (i.e., sales); and emissions per unit of enterprise value.



3. If market value of equity is the scalar used to assign CO<sub>2</sub>e, then if Co. B refinances next year, raising \$100 million in equity to pay down \$100 million in debt (i.e., it becomes identical in every way to Co. A), it can effectively “cut” its CO<sub>2</sub>e emissions from 0.10 to 0.05 (i.e., improve its measured “performance” by 50%) without reducing its total emissions, its emissions per unit activity, or its emissions per unit of enterprise value.
4. Sticking with a carbon footprint measured on the basis of market value of equity, but then “layering on” an expansion to try to assign carbon to debt securities by performing the same exercise (i.e., dividing tonnes of CO<sub>2</sub>e by the market value of debt securities), as is apparently a practice being undertaken by some investors, results in the double-counting of emissions (e.g., assigning .10 to *each* of debt and equity providers of capital in the case of Co. B).

In summary, ignoring the firm’s capital structure by allocating CO<sub>2</sub>e on the basis of equity value alone, rather than on the basis of enterprise value: i) gives corporate fixed income providers of capital a “free ride” when it comes to carbon emissions; ii) excessively burdens the equity providers of capital with “more than their fair share” of carbon emissions for firms that are relatively more highly leveraged by assigning all emissions to the equity holders; iii) may lead to apparent improvements or deteriorations in “performance” that are solely driven by changes in the firm’s capital structure rather than in real changes to its absolute emissions and/or to its emissions rate per unit of activity; and iv) could result in double-counting if assignment of emissions to debtholders is layered on top of the use of a market value of equity based carbon footprint metric.

Consistent with the preceding, the PCAF’s [Global GHG Accounting and Reporting Standard for the Financial Industry](#) recommends attribution of emissions to both equity and debt (see, e.g., page 38 and Figure 4.2 of the standard for an overview, and pages 50-51 for further details and rationale).<sup>18</sup>

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<sup>18</sup> The PCAF accounting and reporting standard was built on the GHG Protocol and is designed for use by financial institutions (banks and insurance companies) as well as asset owners/managers (e.g., mutual funds, pension funds, investment trusts, etc.), as explained on page 16 of the standard.

## Example 1 - Scaling by Sales Versus Market Capitalization

As discussed in the body of this report, two common scalars for tonnes of CO<sub>2</sub>e are the market value of the investment at the end of the period and the sales for the period, respectively. The following example reveals the different inferences that each metric would lead to under a set of stylized facts that are a simplified representation of current COVID-19 conditions.

	<u>2019</u>	<u>2020*</u>	<u>2021</u>
Tonnes of CO <sub>2</sub> e	100	50	100
Sales (in millions US\$)	200	100	200
Market capitalization (assumes 100% equity financed firm)	200	180	200

\* this example assumes constant technology and a 50% reduction in activity during 2020 due to COVID; although activity for one year is reduced by half, the market value of the firm represents the discounted present value of all future cash flows, and thus market cap is assumed to have only declined by 10% in 2020; activity and market cap are assumed to both fully recover to exactly pre-pandemic levels in 2021.

Tracking the time series of CO<sub>2</sub>e emissions:

Scaled by sales	.50	.50	.50
Scaled by market capitalization	.50	.278	.50
$\Delta$ CO <sub>2</sub> e – scaled by sales		---	---
$\Delta$ CO <sub>2</sub> e – scaled by market cap		-.222	+.222
The % change is actually more dramatic		-22/50=44%	22/28≈80%

*Discussion:* Technology has not changed, emission rates per unit of activity (captured using sales) have not changed, and thus “performance” when scaling by sales shows a constant 0.50 tonne rate across years. Scaling by market cap leads to a significant “improvement” in performance in 2020 due to economic slowdown, which flips to a significant “decline” in emissions performance in 2021 when activity levels resume.<sup>19</sup>

Another potentially realistic scenario is that economic activity rebounds at the rate of 10%, and equity valuations increase by 15% in 2022. Assuming no change in technology, this would lead to the following:

	<u>2019</u>	<u>2020*</u>	<u>2021</u>	<u>2022</u>
Tonnes of CO <sub>2</sub> e	100	50	100	110
Sales (in millions US\$)	200	100	200	220
Market capitalization	200	180	200	230
$\Delta$ CO <sub>2</sub> e – scaled by sales		---	---	---
$\Delta$ CO <sub>2</sub> e – scaled by market cap		-.222	.222	-.022

<sup>19</sup> It’s true that the firm is emitting more in 2021 relative to 2020 and in this absolute sense its measured emissions performance has “declined.” However, it’s important to understand that the modest market cap decline in 2020 (i.e., relative to the decline in real output for that year) is due to the fact that the market is assuming that activity levels will return to normal levels in the future (i.e., the market is impounding higher levels of emissions activity into the 2020 price, but the emissions don’t happen until a future year).

*Discussion:* In this case, “improvements” to emissions performance are accomplished by market caps increasing faster than the rate of CO<sub>2</sub>e emissions. The “improvement” in the market cap scaled metric (i.e., carbon footprint) 2022 is .022/.222, or 10%, whereas total emissions have increased and emissions per unit of activity are unchanged.

Obviously, the reverse would occur in declining equity markets – emission “performance” deteriorates if equity prices decline more than activity levels (all assuming constant technology). Consider what will happen if there are significant equity price pressures on high CO<sub>2</sub>e emitting firms due to high rates of divestment by responsible investors, lower expected future sales levels due to changing consumer preferences, and/or lower expected rates of profitability due to anticipated carbon taxes:

	<u>2019</u>	<u>2020**</u>	<u>2021**</u>	<u>2022**</u>
Tonnes of CO <sub>2</sub> e	100	50	100	100
Sales (in millions US\$)	200	100	200	200
Market capitalization	200	180	160	140
CO <sub>2</sub> e scaled by market cap	.50	.278	.625	.714
Δ CO <sub>2</sub> e – scaled by market cap		-.222	+.347	+.089
% change emissions rates when scaled by mkt cap		-44%	+125%	+14.2%
Δ CO <sub>2</sub> e – scaled by sales		----	----	---

\*\* this example assumes constant technology, a 50% reduction in activity during 2020 due to COVID, followed by a return to pre-pandemic levels of activity thereafter, but a declining equity price due to shareholder divestments, lower expected future output levels, or lower levels of profitability per unit of sales due to carbon taxes, etc.).

Thus, at a constant level of activity and constant emissions per unit activity, but with a declining share price, the firm’s emissions performance appears to be worse and worse. Note that in 2021, the firm’s share price drops by only about 11% (and then by 12.5% in 2022), so extreme events in the equity markets are not required in order for significant performance bounces to materialize when emissions are scaled by market cap. Note further that the significant deteriorations that occur in 2021 or even 2022 as reflected above may lead to snowballing effects as more and more investors require minimum levels of environmental performance in order to hold the stock – i.e., even though the firm’s real performance (i.e., output levels and environmental technology) remains constant, as their share price deteriorates, so does their environmental performance (when scaled by market cap), which puts further pressure on the share price as the firm falls below the next rung of responsible investors’ minimum environmental performance requirements, and so forth until only environmentally agnostic investors are left to hold the stock.

## Example 2 - Currency Conversions

As the following example demonstrates, converting all scaled CO<sub>2</sub>e metrics back into CAD in order to measure total portfolio level environmental performance in a single CAD-denominated metric can result in foreign currency conversions confounding performance evaluations. Focusing only on sales as the scalar (although the same issues would apply with market cap, compounded by the previously documented problems with equity market prices varying at different rates and possibly in different directions from emissions output), consider the following scenario:

	<u>2019*</u>	<u>2020*</u>	<u>2021*</u>
Tonnes of CO <sub>2</sub> e	100	50	100
Sales (in millions US\$)	200	100	200
tCO <sub>2</sub> e/million US\$ sales	.50	.50	.50
Year end USD to CAD	1.30	1.25	

\* this example assumes constant technology and a 50% reduction in activity during 2020 due to COVID before fully recovering to exactly pre-pandemic levels in 2021. Currency conversion rates for 2019 and 2020 are approximations of actuals, rounded for ease of exposition.

tCO <sub>2</sub> e/million C\$ sales	.385	.40	
- Assuming USD to CAD @1.25			.400
- Assuming USD to CAD @1.20			.417
- Assuming USD to CAD @1.30			.385
- Assuming USD to CAD @1.35			.370

*Discussion:* When measured in tCO<sub>2</sub>e to millions of sales in US\$, because of the constant technology assumption, performance is unchanged at .50 across the entire time series, regardless of fluctuations in activity levels, as we've previously seen. However, because the closing value of the Canadian dollar increased slightly (i.e., USD buys less CAD) from the end of 2019 to 2020, the firm's tCO<sub>2</sub>e/million C\$ sales has increased (i.e., CAD-denominated environmental "performance" has declined) proportionally to the change in the value of the currency (i.e., the firm is still emitting 50 tonnes of CO<sub>2</sub>e per million in US sales, but the million in US\$ sales is worth less in CAD in 2020 – constant emissions divided by a lower valued scalar results in higher proportional emissions). The final column depicts the CAD-denominated performance for 2021 under various USD-CAD exchange rate scenarios, with total emissions and US\$-based emissions intensity being held constant.

In summary, while it may be desirable to arrive at a single consolidated measure of CO<sub>2</sub>e per unit of activity (e.g., sales in CAD) in order to assess the portfolio's overall environmental performance improvements, it will be important to understand that currency effects can impact this metric. The issue is further confounded when the market values of equities are used as the scalar as these are likely to be changing at different rates (and maybe in different directions) from the firm's real activity, on top fluctuations across a broader basket of currencies.

## Appendix H – Advocacy, Engagement, Voting and Investor Collectives

As shareholders of companies, good governance and the proper functioning of enterprise dictate that asset owners have a duty to engage with management and vote their shares either directly or through proxy. In the case of the University of Waterloo Endowment and Pension Funds where there are minimal direct investments and instead assets are bought, sold and held by external managers, generally in pooled funds, this responsibility to engage with corporations and vote the shares held is delegated to the managers. The university nonetheless has the obligation to ensure this responsibility is being properly exercised, consistent with its views as asset owner.

There is debate in the literature as to the effectiveness of shareholder engagement – certainly a small shareholder such as the University of Waterloo, acting alone, is unlikely to have meaningful influence. The exertion of influence through a collective offers an instrument for positive change by garnering attention toward a given matter AND publicly demonstrating support across a substantial portion of investors and investment funds. This approach is predicated on the view that corporations and investment managers are more likely to respond to preferences expressed within the market that are shared by large pools of capital, be they current or prospective asset owners or clients.

Research suggests that there can be influence when shareholders have a large enough shareholding or pool their actions in a collective large enough to represent a significant block of shares and are willing to act if their views are not addressed. Similarly, proxy advisory firms can have influence on corporate behaviour where they can demonstrate that they have significant influence on the actions of a large portion of shareholders.

Recently we have seen certain asset owners and investment managers dedicate efforts to influence public opinion, fellow investors and public policy. This advocacy is in addition to their engagement activities with management of corporations, in order to be more effective in achieving their objectives. The trend to undertake advocacy as well as engagement is complemented or perhaps underscored by the move to embrace stakeholder rather than just shareholder capitalism and a focus of many corporations including asset managers on purpose and their environmental, social and economic impact.

Shareholder activism also includes putting propositions before Annual General Meetings of corporations, and more investment managers and asset owners are individually or as part of collectives taking action this way if initial engagement efforts with management do not bear fruit.

A variety of investor collectives exist, with varying levels of formality, to exert influence on the wider community of asset owners and investment managers in addition to undertaking engagement with individual corporations to effect change. Each focus on one or several different issues that are important to the collective's members, including climate change. Furthermore, several collectives have been known to collaborate with each other on key issues of concern such as in respect of climate change. For this reason, it is not necessary to join many or every collective where there are overlapping interests. Furthermore, most collectives draw on their members to pursue their engagement so there are resource demands on the university to be considered in respect of each collective it joins.

In consideration of the relatively higher weight of carbon-emitting industries within the suite of Canadian investment options, participation in a collective that focuses on Canadian corporations may be particularly important for Canadian institutional investors. Global collectives may not cater to those investors who are more likely to have a specific asset allocation for Canadian investments, and so the influence on Canadian companies may be more effective via a collective of Canadian investors such as the University Network for Investor Engagement with SHARE (UNIE).

With regard to the university's Endowment and Pension Funds, some of the university's investment managers proactively engage on environmental, social and governance (ESG) factors with the companies where they have shareholdings and those where they are contemplating to buy or sell positions. Many investment managers that have integrated ESG in their investment processes have well-defined engagement practices. They tend to have a stepwise escalation of actions to be taken when companies do not act in accordance with their expectations and policies. Engagement priorities are often established annually, albeit with a multi-year horizon, and in some cases after consultation with their clients. Furthermore, some managers also belong to and indeed organize collectives to enhance their engagement effectiveness. As the university implements its responsible investing policy that applies an ESG lens to external manager selection and monitoring, it can be expected that all of the university's managers will have an active engagement program and proxy voting guidelines that can be monitored and assessed. Where the asset owner retains voting rights rather than delegating them to their external managers, in some instances they engage a third party (such as EOS at Federated Hermes or ISS) to exercise proxy voting for them in a manner consistent with an agreed voting policy.

It is recommended that the university's first priority on engagement be with their investment managers to ensure they are actively engaging with companies they invest in and to review their proxy voting policies and track record to ensure alignment with the university's views in this regard. It is recommended as a second priority that the university consider joining a collective focused on pursuing a just and effective transition to address climate change risk in Canada. If resources permit and particularly if there is seen to be pedagogical benefit, the university might also consider, as a third priority, joining a global collective of institutional asset owners and managers focused on climate action. It is recognized that there may be other ESG and UN SDG priorities that the university Endowment and Pension funds may also establish as priorities so resources for engagement and participation in collectives will need to be thoughtfully allocated accordingly. Also, certain existing relationships and commitments such as being signatory to the UN PRI may provide engagement benefits and opportunities that should be recognized and factored into any decision about joining further collectives.

The following is some preliminary information on collectives that surfaced during the course of our work and research. Before deciding to join any particular collective, a more comprehensive assessment of alternatives, resource demands and their effectiveness should be undertaken.

## Collectives focused on climate action identified by the advisory group

1. Ceres <http://www.ceres.org>

Ceres is a non-profit organization that aims to transform the economy to build a just and sustainable future for people and the planet. Ceres works with capital market leaders to solve the world's greatest sustainability challenges. Through its networks and global collaborations of investors, companies and nonprofits, Ceres seeks to drive action and inspire equitable market-based and policy solutions throughout the economy.

2. Climate Action 100+ <https://www.climateaction100.org>

Climate Action 100+ is a voluntary initiative that brings together – and builds on – a number of pre-existing, investor-led, engagement initiatives that had been operating in different regions of the world. In signing up to Climate Action 100+, investors commit to engaging with at least one of 167 focus companies that are strategically important to the net-zero emissions transition and to seek commitments on the initiative's key asks:

- Implement a strong governance framework on climate change;
- Take action to reduce greenhouse gas emissions across the value chain and;
- Provide enhanced corporate disclosure.

Asset owners who cannot engage directly can sign on to the initiative as supporters, which requires them to support the Climate Action 100+ goals and request their managers or service providers join the initiative.

3. Institutional Investors Group on Climate Change <https://www.iigcc.org>

The mission of the IIGCC is to support and enable the investment community in driving significant and real progress by 2030 towards a net zero and resilient future. This aims to be achieved through capital allocation decisions, stewardship and successful engagement with companies, policy makers and fellow investors. IIGCC works with business, policy makers and fellow investors to help define the investment practices, policies and corporate behaviours required to address climate change. IIGCC also works closely with other investor groups and plays a leading role in global investor initiatives on climate change.

4. Net-Zero Asset Owner Alliance

<https://www.unpri.org/climate-change/un-convened-net-zero-asset-owner-alliance/5370.article>

The UN-convened Net-Zero Asset Owner Alliance is an ambitious climate leadership group. The alliance has made a bold, public commitment to transitioning investment portfolios to net zero greenhouse gas emissions by 2050.

The PRI and UNEP FI are co-convening the alliance to set the pace of action in the investment industry in response to the climate and biodiversity emergency we face. PRI's CEO, Fiona Reynolds serves on the Steering Group of the alliance.

The alliance was launched in September 2019 at the UN Secretary General’s Climate Summit. In 2020, the alliance is advancing in its commitment. Practical tracks of work include monitoring, reporting and verification; engagement with asset managers and corporates; policy advocacy and investment. Mission2020 and WWF provide strategic advice to the alliance. The alliance seeks to co-ordinate with like-minded actors.

The alliance is open to all PRI signatory asset owners to join.

5. UN PRI <https://www.unpri.org>

The United Nations Principles for Responsible Investment (PRI) is the world’s leading proponent of responsible investment. It works to understand the investment implications of environmental, social and governance (ESG) factors and to support its international network of investor signatories in incorporating these factors into their investment and ownership decisions. The PRI acts in the long-term interests of its signatories and of the financial markets and economies in which they operate and ultimately of the environment and society as a whole. The PRI is independent and encourages investors to use responsible investment to enhance returns and better manage risks.

The University of Waterloo joined as a signatory to the UN PRI in April 2020.

6. University Network for Investor Engagement <https://share.ca/unie/>

The University Network for Investor Engagement (UNIE) is a corporate engagement program for university endowments and pension plans that leverages their power as institutional investors to meaningfully address climate change-related risks. In partnership with SHARE, UNIE engages companies in the investment portfolios of participating universities. Their engagements focus on accelerating the transition to a low-carbon economy in key sectors where advocacy can make the biggest difference, including energy, utilities, finance, transportation and manufacturing.



University of Waterloo  
RESPONSIBLE INVESTING WORKING GROUP  
Report to the Board of Governors  
5 June 2018

This report is submitted following the committee's meetings since the last formal report to the 6 June 2017 Board of Governors; eight meetings were held between 26 June 2017 and 22 May 2018. This report is recommended for inclusion in the regular agenda.

## RECOMMENDATION

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**Motion:** That the Board of Governors endorse the recommendations of the report of the working group as described in Attachment #1, and further that the Board of Governors direct that such actions as outlined in the report be prepared and brought forward to the Board of Governors on the timelines described.

**Rationale:** The Board of Governors ("Board") approved a motion to form the Responsible Investing Working Group ("RIWG") on 7 June 2016. The RIWG began work in January 2017 with the mandate to make recommendations to the Board through the appropriate committees and subcommittees as to whether and how to incorporate environmental, social and governance (ESG) factors into decision-making regarding the investment of endowment and pension funds.

The RIWG, in carrying out its mandate, deliberately engaged a broad range of interested constituencies in an open, transparent manner to provide significant opportunities for input from multiple sources and perspectives. These included students, faculty, staff, alumni, retirees, and donors. This approach aimed to ensure that the fullest possible array of perspectives from the University community would be considered. As a result of the group's environmental scan, direct outreach and extensive consultation, the RIWG has provided key observations as well as a set of recommendations that would provide an important start for the University in the fast-evolving space of responsible investing.

Recommendations of the RIWG were to be subject to review and approval by the Registered Pension Plan Investments Subcommittee, Finance & Investment Committee and Pension & Benefits Committee, in accordance with their mandates. It should be noted that because the Registered Pension Plan Investments Subcommittee encountered difficulty in populating its membership, for the purposes of the working group's reporting only the Finance & Investment Committee and the Pension & Benefits Committee were consulted during the process. Both the Finance & Investment Committee and Pension & Benefits Committee endorsed the attached report unanimously at the respective 17 May 2018 and 18 May 2018 meetings.

/mg

Bruce Gordon,  
Chair

Report of the Responsible Investing Working Group

to the

Board of Governors of the University of Waterloo

**June 2018**

## Summary

The Responsible Investing Working Group recommends that the Board of Governors:

1. Formally adopt environmental, social and governance (ESG) factors as a valid and important lens to be integrated into the investment decision-making processes for the endowment and pension investments;
2. Adopt the Guiding Principles and the Guidelines for the Application of ESG Principles contained in this report for University investments;
3. Undertake to make the necessary amendments to the Pension SIPP and to the Investment Guidelines for the each of the Endowment and IQC, to reflect the adoption of ESG factors in the investment decision-making process; these documents currently state that the University does not take ESG factors into consideration;
4. Direct staff to prepare a plan for the Board of Governors (outlining the costs and the monitoring and reporting requirements) for the University to become a signatory in good standing to the UN PRI with a target timeline of 12 months;
5. Explore and evaluate potential social impact investments, which would aim to provide an acceptable risk-adjusted rate of return along with the opportunity to generate positive social impact, with the aim to launch a pilot investment in this space in one year's time;
6. Commit to reviewing progress on the implementation of the recommendations outlined herein on an annual basis.

## Formation and Mandate

The Board of Governors ("Board") approved a motion to form the Responsible Investing Working Group ("RIWG") on 7 June 2016. The RIWG began work in January 2017 with the mandate to make recommendations to the Board through the appropriate committees and subcommittees as to whether and how to incorporate environmental, social and governance (ESG) factors into decision-making regarding the investment of endowment and pension funds, taking into consideration:

- Legal and regulatory requirements including, among other things, fiduciary responsibilities, investing and investments, ESG reporting and contractual commitments;
- The goals and purposes of the University pension and endowment funds;
- Existing University investments, policy and governance frameworks;
- The financial context of the University;
- Research into options for incorporating ESG factors into investment decisions;
- Approaches taken at peer institutions;
- The views of University stakeholders e.g., retirees, alumni, donors; and
- The perspectives and advice provided by University investment advisors and managers.

Recommendations of the RIWG were to be subject to review and approval by the Board of Governors' Registered Pension Plan Investments Subcommittee, Finance & Investment Committee and Pension & Benefits Committee, in accordance with their mandates. It was expected that the recommendations of the RIWG will be reflected in the statements of investment policies and procedures for the endowment and pension funds as may be appropriate. It should be noted that because the Registered Pension Plan Investments Subcommittee encountered difficulty in populating its membership, for the purposes of the working group's reporting only the Finance & Investment Committee and the Pension & Benefits Committee were consulted during the process.

## Membership

A membership listing is included as an appendix to this report.

## Investments

An overview of the University's various investments to which the group's work pertains is provided.

Name	Fixed Income	Equities	Other Asset Categories	Total for Fund/Plan
Endowment Fund	\$163,200	\$204,100	\$19,500	\$386,800
IQC Trust Fund	\$53,300	\$30,000	--	\$83,300
Payroll Pension Plan	\$16,700	\$25,100	--	\$41,800
Registered Pension Plan	\$803,900	\$686,600	\$187,100	\$1,677,600
<b>Total</b>	<b>\$1,037,100</b>	<b>\$945,800</b>	<b>\$206,600</b>	
			<b>Grand Total</b>	<b>\$2,189,500</b>

*All values are in \$000's as of 31 December 2017*

Portion of Grand Total held as direct investments = 9.4% (two holdings) (\$207 million)

Portion of Grand Total invested through investment managers or indexed holdings = 90.6% (\$1,983 million)

## Process Undertaken

The RIWG completed the following in order to fulfill its mandate:

- Analyzed exposure to fossil fuels, tobacco and oil sands within the University's portfolio;
- Inventoried ESG approaches of the University's current investment managers;
- Consulted with the University's pension advisor (Aon Hewitt) and had them present to the RIWG the different approaches to ESG in the market, other "responsible investing" approaches that have been adopted by asset owners, and overall trends in ESG and responsible investing as well as limitations and practical considerations for ESG or similar approaches (e.g. target rates of return of CPI + 3.5% to ensure the health of the pension plan on a going-concern basis);
- Obtained information on a variety of approaches that differ from ESG: negative or exclusionary screening; best-in-class screening; ownership of assets paired with engagement to effect change; impact investing; divestment;
- Consulted with two additional investment managers on ESG approaches and trends including one manager whom the University currently employs to manage its assets (Philips, Hager & North) and one manager without any current investment management relationship to the University (Manulife Asset Management), with the aim of seeking a diversity of views from managers active in the space;
- Conducted an environmental scan of the ESG approaches adopted by a sample of similar universities and major pension funds, within Canada, the United States, and internationally;
- Reviewed requests previously brought forward regarding divestment of fossil fuel investments;
- Examined numerous case studies that are seen to be significant in this space and which inform the views of pension advisors and investment managers;
- Reviewed a considerable volume of literature, including academic publications, books and other publications;
- Reviewed results of an exercise carried out by Advancement to solicit the views of targeted key endowment donors and alumni, on ESG factors; and
- Solicited input from current pensioners, using the list of the University of Waterloo Retirees Association; the constituency of current and future pensioners represents the single largest stakeholder group of the University's investment assets.

## Community Engagement

The RIWG, in carrying out its mandate, deliberately engaged a broad range of interested constituencies in an open, transparent manner to provide significant opportunities for input from multiple sources and perspectives. These included students, faculty, staff, alumni, retirees, and donors. This approach aimed to ensure that the fullest possible array of perspectives from the University community would be considered. These activities included:

- Issuing two notices to the entire University community, on 5 May 2017 and 5 October 2017, to communicate the mandate of the RIWG and solicit feedback on this mandate. The two separate notices reflected and accommodated the rollover that occurs in the University community during the fall term
  - As a result of the notices, the RIWG received considerable feedback (~ 80 comments from individuals and groups on campus)
  - The RIWG also has received a considerable volume of written material above and beyond commentary on responsible investing and ESG factors, including academic publications, book chapters and other such material
- Holding direct meetings of a subgroup of the RIWG with representatives of two separate groups who had provided written submissions – faculty in support of fossil fuel divestment, and students supporting fossil fuel divestment
- Providing periodic progress updates to the Board as well as the Finance & Investment Committee and the Pension & Benefits Committee
- Issuing to the community a compilation of comments, material and input received up to January 2018

## Discussion of RIWG Observations

As a result of the group’s environmental scan, direct outreach and extensive consultation, the RIWG has reviewed and deliberated on a considerable volume of written material and community input. The RIWG is of the view that the material considered represents a comprehensive review of ESG considerations, at the same time understanding that ESG considerations are evolving in real time.

A number of findings are worth highlighting here:

1. The University must consider the interests of multiple stakeholders: students, faculty, staff, current and future pensioners, alumni, donors, taxpayers, senior levels of government, each of whom may have different interests in the short term and the long term.
2. Fiduciary duty is the single largest and most important driver that the Board should consider in assessing whether or not to include ESG factors into investment decisions, given the magnitude of University responsibility for pension plan and endowment assets. This observation has been consistently at the forefront as the RIWG acted to fulfill its mandate. There would be considerable negative impact upon the University community, and pensioners particularly, if the pension and endowment funds do not achieve performance requirements to meet the commitments that have been made. The Board has fiduciary obligations under common law and pension regulation which include duties of care, loyalty to the interests of beneficiaries, and obedience to the purposes of the funds which are paramount. The inclusion of ESG factors in the investment process is not inconsistent with fiduciary obligations, and most likely supports the execution of those duties. Other universities in Canada also recognize this and have stated so publicly.
3. Responsible investing involves integrating ESG into the investment process. In addition to using ESG to consider investment opportunities, asset owners and investment managers can also use ESG-focused proxy voting and shareholder engagement with portfolio companies.
4. The rate of adoption of ESG factors in investment decision making is increasing for investment managers and asset owners of all types including investment managers, institutional investors and universities.

5. ESG is a fundamentally useful lens for review of investments as well as for monitoring and managing current and prospective investment managers, and can be applied in support of conventional investment analysis to gauge potential rates of return and the risk of asset or capital impairment, and is not inconsistent with fiduciary obligations and most likely supports these duties.
6. The incorporation of ESG factors into investment decision should not compromise returns, and supports better risk management while promoting sustainable long-term investment returns.
7. The University largely utilizes investment managers to manage its investments, and thus the University will have to ensure these managers adopt ESG into their investment decision-making process and provide ongoing reporting to the University.
8. At the time of this writing, we are not aware of a clear direction in either Canadian or provincial law regarding whether or not to include ESG considerations in investment decisions. There currently is no legislation mandating the inclusion of ESG factors as an investment consideration, but there is a requirement for disclosure
9. In the process of fulfilling its mandate, the RIWG considered and rejected the notion of differential treatment of funds/investments e.g. endowment investments can differentially incorporate ESG in comparison to pension investments. It is felt that the same lens ought to be applied to all investments.
10. As part of the consultation process undertaken by the RIWG, the working group notes that a significant amount of feedback received from the community encouraged the University to divest from fossil fuel investments. The RIWG is also aware of the requests received by the Board in 2016 which encouraged fossil fuel divestment, and that similar divestment proposals have been put forward at universities and other institutions in Canada and worldwide, with widely-varying institutional responses which have included: resolution to implement a divestment policy for some or all of the investments in question; declining to divest but implementation of an ESG policy; preference given to approaches where an institution's investment policy would skew toward certain assets that match institutional values.

Regulators have expressed concern when divestment is considered purely for ethical reasons, which could be considered "ethical screens":

"... An administrator should be cautious to ensure that its approach to incorporating ESG factors does not conflict with its fiduciary duties, as may be the case with the use of ethical screens. The best interests of plan beneficiaries has traditionally been defined by the courts in terms of the beneficiaries' financial interests, with the result that there is a potential conflict with investing with other goals in mind, such as ethical or moral considerations. If the administrator is considering such an approach, the administrator is encouraged to consult with its legal counsel on this issue."<sup>1</sup>

The RIWG observes that the University should view any request for divestment cautiously where divestment serves as a form of ethical screening, rather than due to other factors related to risk adjusted rates of return.

The RIWG takes note of the older example of the movement to divest from South African companies in the 1980's and 1990's, and particularly the passage of provincial legislation in the form of the *South African Trust Investments Act* in 1990<sup>2</sup>. While this occurred some time ago, this legislation provided clarity to Ontario institutions proceeding that a prospective divestment would not be offside in the view of the most relevant authority. No similar such legislation exists with respect to fossil fuel divestment. This provide some precedent where little exists.

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<sup>1</sup> Financial Services Commission of Ontario, Investment Guidance Note IGN-004 ([https://www.fSCO.gov.on.ca/en/pensions/fSCO\\_consultations/Documents/IGN004.pdf](https://www.fSCO.gov.on.ca/en/pensions/fSCO_consultations/Documents/IGN004.pdf))

<sup>2</sup> South African Trust Investments Act, R.S.O. 1990, c. S.16 (<https://www.ontario.ca/laws/statute/90s16>)

Additionally, the RIWG recognizes that sectoral divestment does not consider the heterogeneity of companies that may operate within a given sector. The broadness of sectoral definitions does not differentiate between companies that may be focused on investing in innovative new technologies, as one example. Given this understanding, sectoral divestment of fossil fuels or any other sector is currently seen to be neither intrinsically effective nor advantageous.

Further, the RIWG notes that comparator Canadian institutions have generally not supported a divestment approach.

This area continues to evolve and the university will continue to monitor initiatives, actions and movements as they unfold. However, in consideration of the reasons outlined above together with the weight of fiduciary duty borne by the University, we do not support the suggestion of divestment from fossil fuel investments at this time.

## Recommendations

With there currently being no accounting for ESG factors in the University's investment decision-making, the RIWG recognizes the importance of establishing a foundation in this space with an eye to potential expansion of activity at a future date. The most important steps that the University can take presently are those that establish a framework to integrate ESG into the regular activity of investment decision-making and to make the commitment to the principles of responsible investing.

The RIWG recommends the following to the Board of Governors:

- i. That the Board of Governors formally adopt and incorporate ESG considerations as part the selection criteria for investment managers, and as part of the investment considerations for directly-held investments.

**Rationale:** Adoption of ESG considerations is increasingly occurring within the sector, and the RIWG observes that the consensus view that ESG is a valid and important lens for investment decision-making. The RIWG is aware that adoption of ESG considerations does not place the University at the forefront of this emerging space and that this recommendation does not place the University at the forefront of innovation. Nevertheless, the RIWG affirms that adoption of ESG factors constitutes an important incremental improvement which enables the potential to advance our position at a future date. For the purposes of this recommendation, ESG factors refer to the environmental, social and governance factors relevant to an investment that may have a financial impact on that investment.

- ii. That the Board of Governors adopt the following principles and guidelines for the meaningful and robust application of ESG principles to University investments:

### Guiding Principles

1. The University's approach to investing its assets to support its programs and people must be appropriate for an institution of its stature and calibre. Furthermore it must recognize that its actions will be scrutinized by others and may also carry significant influence in how other institutions approach their investing strategies as it relates to ESG and responsible investing.
2. The University recognizes ESG as an important lens to identify opportunities and risks to the University's investments.
3. The subject of ESG is continuing to evolve in real time. As a leading and innovative University, we commit to reviewing on an annual basis and recommending revisions as appropriate to ensure the University's practices are consistent with best practices for comparable institutions.
4. Waterloo shall utilize ESG as a tool in service of responsibly stewarding its assets, and investment decisions shall be made based on an investment thesis that includes consideration of ESG factors as part of the thesis.

5. ESG factors shall be applied equally across all investment funds, and normally no provision will be made for any differential treatment for a given fund or account within a fund.

#### Guidelines for the Application of ESG Principles to University Investments

1. ESG factors refer to the environmental, social and governance factors that may have a financial impact on investment.
2. The University bears fiduciary responsibility as the sponsor of the University's pension plans, as well as responsibility for the effective stewardship of funds within the University's endowment, and affirms that ESG factors are important to serving these overarching responsibilities. The University sees no requirement to lower the performance expectations of a given investment or investment manager as a result of the incorporation of ESG factors in investment decisions.
3. The University recognizes that ESG factors and market practices related to ESG are dynamic and may change from time to time. Consequently, ESG factors, trends, and practices shall be monitored and formally assessed on an annual basis through an appropriate mechanism as approved by the Board. The University may retain outside consultants and experts on the subjects of ESG and responsible investing.
4. The University acknowledges that the application of ESG factors to investment decision-making must take into consideration practical factors including, but not limited to:
  - a. Differing potential for impactful action between direct investment holdings vs. investments managed by professional investment managers with discretion over the purchase and sale of assets (e.g. pooled funds, indexed funds).
  - b. Differing levels of disclosure and transparency of information for assets based on factors that include: fixed income, equity, and indexed investment products; publicly-traded companies vs. privately-held companies, and requirements in different geographic domiciles.
5. The University acknowledges that analysis of ESG factors by an investment manager retained by the University is an important consideration in the manager's determination of the viability of a given investment in facets including, but not limited to: sustainability of a given business; viability and robustness of a business model; potential for societal rejection of a given company or sector; potential for beneficial or detrimental impact on assets, including either or both of tangible and intangible assets. The University affirms that monitoring of current and future investment managers is an important activity and this includes, but is not limited to, the following: review of managers' proactive disclosures, analysis of how ESG factors are considered by the managers, third party reporting on managers' ESG activity, monitoring adherence to UN PRI principles (if the manager is a signatory), and records of proxy voting by managers. Investment managers and commingled investment vehicles will be evaluated on their ESG capabilities and performance. Where possible, the ESG capabilities and performance will be included into the University's investment selection and monitoring processes.
6. The University shall incorporate a thoughtful analysis of ESG factors into its decision-making for the evaluation of direct investments, including for new direct investments, for increases/reductions to existing investments, and for removal of investment in a given direct investment. In carrying out analysis for ESG factors, the University may utilize the services of any consultant or resource that is deemed to be authoritative in these matters.
7. Responsibility for the execution and monitoring of investments impacted by these guidelines shall reside with the Board, and the Board may delegate this responsibility within its sole discretion to any of its committees or the staff of the University.

**Rationale:** These guiding principles and guidelines serve to codify the University's understanding of ESG considerations in a broad way, while allowing interpretation in their application. The RIWG expects that ESG will evolve over time and with that evolution these points of guidance may also be amended from time to time based on the most current understanding of ESG, providing a flexible framework to help guide the application of these considerations.



- iii. That the Board of Governors revise ESG-specific language in the Statement of Investment Policies and Procedures (SIPP) for the University of Waterloo Pension Plan and for the Statement of Investment Guidelines of the University of Waterloo Endowment Fund to reflect the substance of the above guidelines and principles as appropriate.  
Draft language is provided for consideration, and it is recommended that the University consult with experts in this area (e.g., the pension consultant) before any action is taken:

**Environmental, Social and Governance (“ESG”) Factors**

Consistent with its obligation to act in the best interest of the Plan, UW chooses investments and investment managers that it believes will deliver superior financial performance over the longer term. In this regard, UW considers ESG factors in selecting investment managers with whom it invests the assets of the Plan as well as assets that are directly held by the UW. UW recognizes, however, that managers may consider ESG factors in different ways in assessing whether a given investment will have the best economic outcome. In order to protect and enhance the value of the Plan’s investments, when selecting investment managers or direct investments, UW considers criteria that include: the managers’ business and staff; historical performance; and the consideration of ESG factors in the investment process. As well, ESG factors, including, but not limited, to the proactive disclosure and analysis of ESG factors by the investment manager will be considered in the monitoring of, and ongoing decisions pertaining to, the retention of investment managers. For the purposes of this section, ESG factors refer to the environmental, social and governance factors relevant to an investment that may have a financial impact on that investment, and it is understood that the understanding of and impact from ESG factors may change over time.

**Rationale:** Adoption of affirmative language for ESG considerations within the SIPP and the investment guidelines is the most powerful action that can be taken by the University to demonstrate that ESG considerations will be integrated into decisions and to convey this commitment outwardly.

- iv. That the Board of Governors direct staff to prepare a report on the requirements for the University to become a signatory to the United Nations Principles for Responsible Investment (UN PRI), with the aim of joining with other signatories in implementing the six principles for responsible investing and outlining costs, monitoring and reporting requirements with the objective of becoming a signatory in good standing on a 12 month timeline:

**UN Principles for Responsible Investment**

1. We will incorporate ESG issues into investment analysis and decision-making processes.
2. We will be active owners and incorporate ESG issues into our ownership policies and practices.
3. We will seek appropriate disclosure on ESG issues by the entities in which we invest.
4. We will promote acceptance and implementation of the Principles within the investment industry.
5. We will work together to enhance our effectiveness in implementing the Principles.
6. We will each report on our activities and progress towards implementing the Principles.

**Rationale:** The RIWG views the adoption of the principles of the UN PRI as an important step in conveying the commitment of the University to an initiative that has been embraced by more than 1700 institutions representing \$62 trillion in assets under management (2017 figures), and which is recognized by institutions and investment managers internationally. The RIWG notes that rather than recommending the University immediately become a signatory, it is clear that the implications and obligations of doing so need to be understood fully before embarking on this action to mitigate any reputational risk from inadvertent non-compliance. The plan should include details on the necessary commitments related to reporting and monitoring, as well as prospective costs (both financial and staff time/resources).

- v. That the Board of Governors should explore and evaluate potential social impact investments with the aim to launch a pilot investment in one year’s time.

**Rationale:** It is understood that there exists a continuum of options in this space, which could offer an acceptable risk-adjusted rate of return along with the opportunity to generate positive social impact. The

RIWG is of the belief that this area provides sufficient opportunity to merit consideration, and potential investment in this space may become very attractive to the University as time progresses.

vi. That the Board of Governors resolve to review progress on the implementation of ESG factors annually.

### Action Plan

The RIWG is aware of, and sensitive to, the considerable amount of work that the recommendations entail. The following actions will subsequently be required with the adoption of the recommendations, and suggested timelines are provided:

1. Amendment of SIPP and investment guidelines, as appropriate (staff to bring forward in consultation with pension consultant Aon Hewitt, October 2018).
2. Allocation by the Board of Governors of responsibility for making ESG decisions for each of the identified groups of investment holdings (staff to bring forward recommendation, October 2018).
3. Staff to develop a plan to become a signatory on the UN PRI, complete with details on the initial and ongoing resource obligations attendant to this commitment (June 2019).
4. Development of processes, including joining relevant industry associations such as the Responsible Investment Association, to ensure the University remains apprised of trends and concepts in the ESG space into the future, as well as the impact of ESG considerations on fiduciary duty (staff to bring forward recommendation, target of June 2019).
5. Development of processes to integrate ESG factors into the selection of investment managers and/or directly-held investments, and regular monitoring of ESG in investment holdings and managers, with the understanding that external third-party services would interface with staff to support monitoring for ESG within the University governance structure (staff to bring forward recommendation, target of June 2019).
6. Development of a transparent reporting process for ESG monitoring (staff to bring forward recommendation, target of June 2019).
7. Review of progress in the implementation of ESG annually (Board, first review June 2019).
8. Clear communication to the community on the adoption of ESG is important, and it is the view of the RIWG that the adoption of these recommendations forms the beginning of responsible investment that the University can build upon over time.

## Appendix

### 1. RIWG Membership

Per the terms of reference, the working group's membership was established as follows:

10 of 12 members will be financially literate and have knowledge of investments generally. A majority of members will have knowledge of the University's investment funds.

- Three members of the Board of Governors or its finance and/or pension committees, other than University employee or student members
- Six members of either the Board of Governors or its pension committee, as follows:
  - One faculty member to be nominated by the FAUW executive;
  - One staff member to be nominated by the UWSA executive;
  - One CUPE member to be nominated by the executive of CUPE Local 793 (The member of the Pension & Benefits Committee who is a representative of CUPE Local 793);
  - One undergraduate student to be nominated by the FEDS executive;
  - One graduate student to be nominated by the GSA executive; and
  - One retiree to be nominated by the executive of the Retirees' Association (the member of the Pension & Benefits Committee who is a representative of retirees).
- Vice-President, Administration & Finance
- Vice-President, Advancement
- Vice-President, Academic & Provost, or delegate

The Vice-President, Academic & Provost or delegate will serve as Chair. The Chair may vote, if necessary, in order to break a tie.

<b>Member Name</b>	<b>Constituency/position</b>
Bruce Gordon	Chair – delegate of the Vice-President, Academic & Provost
Alan Macnaughton	Representative – Faculty (P&B)
Ted Bleaney	Representative – Staff (P&B)
Stewart Forrest	Representative – CUPE Local 793 (P&B)
Mary Thompson	Representative – Retirees' Association (P&B)
Robert Bruce	Board Member – Graduate Student (BOG)
Andrew Clubine	Board Member – Undergraduate Student (BOG)
Upkar Arora	Three members of the Board of Governors or its finance and/or pension committees, other than University employee or student members
John Liddy	
John Lounds	
Dennis Huber	Vice-President, Administration & Finance
Joanne Shoveller	Vice-President, Advancement
<b>Former members</b>	<b>Constituency/position</b>
Christine Wagner (to April 2017)	Representative – Staff (P&B)
Ramesh Kumar (to April 2017)	Representative – Retirees' Association (P&B)
Christopher Pugh (to July 2017)	Board Member – Graduate Student (BOG)

## 2. Short List of Selected Definitions of Investment Concepts Related to ESG and Responsible Investing

Active Ownership – is when investors utilize their ownership to vote on and engage corporate managers and boards of directors to address concerns of environmental, social and corporate governance (ESG) issues. Active ownership is utilized to address business strategy and decisions made by the corporation in an effort to reduce risk and enhance sustainable long-term shareholder value.

Divestment – when investments are sold from a portfolio because they no longer meet the ESG or other criteria.

Environment, Social and Governance (ESG) – beyond the traditional financial factors, the evaluation of environmental, social, and corporate governance (ESG) factors can provide insights into investment risk, and there is growing evidence that suggests that ESG factors when integrated into investment analysis and decision-making may offer investors potential long-term performance advantages. ESG has become shorthand for investment methodologies that embrace ESG or sustainability factors as a means of helping to identify companies with superior business models.

Fiduciary Duty/Responsibility – in the institutional investment context, trustees of pension funds owe fiduciary duties to beneficiaries to exercise reasonable care, skill and caution in pursuing an overall investment strategy suitable to the purpose of the trust and to act prudently and for a proper purpose.

Negative / Exclusionary Screening – in searching the universe of prospective investments, exclusion of companies from the investible universe when said companies are poorly-rated on ESG or other criteria

Responsible Investing - Responsible investment is an approach to investing that aims to incorporate environmental, social and governance (ESG) factors into investment decisions, to better manage risk and generate sustainable, long-term returns.<sup>3</sup>

## 3. Benefits Canada “Two-thirds of institutional investors use ESG analysis”

<http://www.benefitscanada.com/news/two-thirds-of-institutional-investors-use-esg-analysis-105698>

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<sup>3</sup> <https://www.unpri.org/pri/what-is-responsible-investment>

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**3.05 Environmental, Social and Governance Factors.**

Consistent with its obligation to act in the best interest of the Plan, UW chooses investments and investment managers that it believes will deliver superior financial performance over the long term. In this regard, UW considers environmental, social and governance (“ESG”) factors in selecting investment managers with whom it invests the assets of the Plan as well as assets that are directly held. UW recognizes; however, that managers may consider ESG factors in different ways in assessing whether a given investment will have the best economic outcome. In order to protect and enhance the value of the Plan’s investments, when selecting investment managers or direct investments, UW considers criteria that include: the manager’s business and staff; historical performance; and the consideration of ESG factors in the investment process. As well, the proactive disclosure and analysis of ESG factors by the investment manager will be considered in the monitoring of, and ongoing decisions pertaining to, the retention of investment managers. For the purposes of this section, ESG factors refer to the environmental, social and governance factors relevant to an investment that may have a financial impact on that investment. It is accepted that the understanding of and the impact from ESG factors may change over time.

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Available at <https://uwaterloo.ca/secretariat/committees-and-councils/pension-benefits-committee>

Appendix J – Responsibilities of Governance Bodies for Investment-Related Activities

	<b>Pension plan assets</b>	<b>Endowment</b>
Review of investment returns at each meeting	PIC	F&I
Annual review of SIPP/Investment Guidelines, rebalancing guidelines and investment policy	PIC, with input from F&I	F&I
Amendments to SIPP/Investment Guidelines	P&B recommend to Board of Governors	F&I recommend to Board of Governors
Selection and termination of investment managers [with support from investment consultant Aon]	PIC recommend to P&B; P&B recommend to Board of Governors to adjust approved manager list	F&I recommend to Board of Governors to adjust approved manager list
Purchase/sale/allocation of assets	<p>PIC approve transactions changing asset mix and manager /investment allocations, consistent with SIPP, where the cumulative annual transaction(s) represent less than 15% of the Plan's total assets at the beginning of the calendar year.</p> <p>Where cumulative annual transactions exceed 15%, PIC, after consultation with F&amp;I, recommend transactions changing asset mix and manager/investment allocations though P&amp;B to the Board of Governors</p>	F&I approve, consistent with Investment Guidelines

May 2021