MEETING

OPEN SESSION

1:30
1. Conflict of Interest
   Oral
   Declaration
2. Remarks from the Chair
   Oral
   Information
3. Agenda/Additional Agenda Items
   Oral
   Decision

Consent Agenda

Motion: To approve or receive for information by consent items 4-10 below.

4. Minutes of the 6 April 2021 Meeting
   4
   Decision

5. Report of the President
   a. Recognition and Commendation
   b. Sabbatical and Administrative Leaves, and Administrative Appointments
   c. Revision to Policy 76 – Faculty Appointments
   11
   16
   24
   Information
   Decision

6. Report of the Vice-President, Administration & Finance
   a. Incidental Fee Changes
   25
   Decision

7. Reports from Committees
   a. Finance & Investment Committee
   b. Governance Committee
   c. Pension & Benefits Committee
   37
   38
   39
   Information
   Information
   Information

8. Reports from Institute for Quantum Computing
   b. Corporate Plan 2021-22
   Link
   Link
   Decision
   Decision

9. Report from the Office of Human Rights, Equity and Inclusion regarding Sexual Violence Prevention and Response
   40
   Information

10. Reports from the University Secretary
    a. Policies
    b. Department Name Change
    51
    57
    Information
    Decision

Regular Agenda

1:45
11. Business Arising from the Minutes
## OPEN SESSION

1:50

12. Report of the President
   a. President’s Update
      i. General Update
         a. [Committee on Student Mental Health 2021 Implementation Report](#) Link
         b. Report of the Vice-President, Academic & Provost
         c. Report of the Vice-President, University Relations
         d. Report of the Vice-President, Research & International
         e. Report of the Vice-President, Advancement
         f. Report of the Vice-President, Administration & Finance
   b. Strategic Plan Update (Charmaine Dean)
      i. Global Research Impact Action Team Outcomes

2:10

13. Reports from Committees
   a. Audit & Risk Committee
   b. Building & Properties Committee
   c. Finance & Investment Committee
      i. Responsible Investment Advisory Group
   d. Pension & Benefits Committee

2:45

BRAEK

2:55

14. [Conflict of Interest Declaration Form](#) Link

3:35

15. Other Business

## CONFIDENTIAL SESSION

3:45

16. Conflict of Interest

### Consent Agenda

**Motion:** To approve by consent items 17 and 18 below.

17. Minutes
   a. 6 April 2021 Meeting
   b. 18 May 2021 Extraordinary Meeting

18. Report of the President
   a. New Appointment with Tenure

### Regular Agenda

3:55

19. Business Arising from the Minutes
   a. Board Survey Findings

4:00

20. Report of the President

4:10

21. Q&A with the President

4:20

22. Report of the Vice-President, Advancement on Campaign
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<td>a. Governance Committee</td>
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<td>b. Pension &amp; Benefits Committee</td>
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<td>a. Remarks from the Chair</td>
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<td>27. Business Arising from the Minutes</td>
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<td>29. Other Business</td>
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KJJ/ees
25 May 2021

Karen Jack
University Secretary
OPEN SESSION

1. CONFLICT OF INTEREST
   Governors were asked to declare any conflicts they may have in relation to the items on the agenda. No conflicts were declared.

2. REMARKS FROM THE CHAIR
   The chair welcomed governors to the meeting and reminded them that it is the last meeting of the governance year. After remarking on her key areas of focus in the agenda (strategic plan updates, matters in the Building & Properties report, the approval of the operating budget, and the reflection session), she asked governors to complete the Board assessment survey which will be distributed following the meeting. She remarked upon and thanked departing governors: CAL, Upkar Arora and Murray Gamble; staff representative Jeremy Steffler; faculty representatives, Anne Bordeleau, George Freeman, Ian Milligan, and Neil Randall; undergraduate student representatives, Abbie Simpson, Sabrina Khandakhar, and Sam Rubin; graduate student representatives, Julia Goyal and Max Salman.

3. AGENDA/ADDITIONAL AGENDA ITEMS
   The Board heard a motion to approve the agenda as distributed.

   Barr and Vrbanovic. Carried unanimously.

Consent Agenda

The Board heard a motion to approve and/or receive for information by consent, items 4-9 below.

Freeman and Steffler.
Governor Grant excused herself due to a potential conflict of interest with one of the items in the consent agenda.

4. **MINUTES OF THE 2 FEBRUARY 2021 MEETING**
   The Board approved the minutes of the meeting as distributed.

5. **REPORT OF THE PRESIDENT**
   **Recognition and Commendation.** The Board received the report for information.

   **Sabbatical and Administrative Leaves/Administrative Appointments.** The Board heard a motion to approve the sabbatical and administrative leaves as presented in the report. The remaining items in the report were received for information.

6. **REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST**
   **University Professor Designation.** The Board received the report for information.

   **Department Name Changes – Faculty of Health.**
   The Board heard a motion to approve changing the name of the Department of Kinesiology to the Department of Kinesiology and Health Sciences.

   The Board heard a motion to approve changing the name of the School of Public Health and Health Systems to the School of Public Health Sciences.

7. **REPORT OF THE VICE-PRESIDENT, ADMINISTRATION & FINANCE**
   **Incidental Fee Changes.**
   The Board heard a motion to recommend that approximately $3.4 million of incidental fees not be assessed for the Spring 2021 term.

   The Board heard a motion to recommend that the optional Imprint Student Publication Fee, currently assessed and collected from full-time undergraduate students enrolled on campus courses in Waterloo Region who have not opted out of the fee, also be assessed to part-time students enrolled in on-campus courses in Waterloo Region who have not opted out of the fee at 30% of the full-time fee ($5.69) per term effective Fall 2021.

8. **REPORTS FROM COMMITTEES**
   **Audit & Risk.** The Board heard a motion to delegate its authority to approve the University’s audited financial statements for the fiscal year ended 30 April 2021 to the Board Executive Committee. The remaining items in the report were received for information.

   **Governance Committee.** The Board received the report for information.

   **Pension & Benefits.** The Board received the report for information.

9. **BOARD ASSESSMENT SURVEY**
   Governors understood that the survey will be distributed following the meeting and were encouraged to participate.

   The question was called and the motion carried unanimously.

Grant returned to the meeting.
Regular Agenda

10. BUSINESS ARISING FROM THE MINUTES
There was no business arising.

11. REPORT OF THE PRESIDENT

President’s Update. The president spoke to: micro-credentials; the COVID Relief Fund; the recent Ontario budget; activity related to a quantum proposal; the Health Arena; the Committee on Student Mental Health; an update on the PAC-SLC construction. He closed with some commentary on the Fall term and factors informing decision-making.

Strategic Plan Update. Following from the small group discussions held the previous week, James Rush spoke to the Diverse and Sustainable Communities Action Team’s outcomes which relate to the student experience. Governors heard about: commitments; ways activities work together to achieve goals; specific initiatives underway re: Indigenization, internationalization, sustainability, and employee engagement; wide-ranging actions related to students in the areas of wellness, equity, and the learning environment; key insights from last week’s discussions; next steps; and to close, remarks about the shared responsibility for the student experience across the entire University and acknowledgement of the ways virtually the entire community works to enhance and ensure good student experiences. In discussion: how employees collaborate; ways the Strategic Plan informs initiatives; continuous improvement processes in communications; ways the University works with the student associations; available resources and training; how feedback is incorporated; community building initiatives; the benefits of mentorship; the value of the University’s range of societies and clubs; Waterloo’s longtime focus on effective teaching; agreement by Rush to continue to update the Board with respect to the student experience.

Policy 14 – Pregnancy and Parental Leaves (including Adoption), and the Return to Work. Following a brief overview by the president and Marilyn Thompson, associate provost, human resources, of the various improvements to the policy, members heard a motion to approve it.

Hamdullahpur and Bachher.

In discussion: many expressions of thanks from the president and governors for the good work done by the policy development committee; advice that the policy will be effective following Board approval, and will apply on a go forward basis; once approved, Human Resources will communicate the news to the community; agreement by the University Secretary to provide a status update on University of Waterloo policies, and those coming forward in the near future to the Board in June.

The question was called and the motion carried unanimously.

12. REPORT OF THE VICE-PRESIDENT, ACADEMIC & PROVOST

Following introductory comments from Rush with respect to the proposed staff salary recommendation, the Board heard a motion to approve the terms and conditions of the compensation agreement with University staff, as outlined in the report.

Steffler and Milligan. Carried unanimously.

13. REPORTS FROM COMMITTEES

Building & Properties Committee. The Board heard a motion to approve the appointment of Diamond Schmitt Architects (together with their sub-consultants*) for the $30 million renovation to the Joseph Street Warehouse on the Health Sciences Campus.

George and Vrbanovic. Carried unanimously.
Governor Cressman excused herself due to a potential conflict of interest with the next item of business.

The Board heard a motion to approve a $45.25 million total project budget for the Waterloo Eye Institute and appoint HOK architects as prime consultant. The proposed building addition and renovation to the existing Optometry building on Columbia Street will extend eastward between the current patient entrance and loading dock. The clinic modernization plan includes a new eye surgery centre, expanded optical services, state of the art biomedical sciences infrastructure with a goal to provide seamless integration for the full continuum of eye and vision care. Proceeding to tender is contingent on (i) securing 50% of the funding and (ii) developing a plan to raise the balance of the project costs.

George and Gamble.

In discussion: further details about timing and the estimate of expenses; some of the clinical services the centre will offer; the centre’s nexus with the School’s academic programming and instruction.

The question was called and the motion carried unanimously.

Cressman returned to the meeting.

Joint Report – Finance & Investment Committee and Pension & Benefits Committee. Schlegel spoke to the report distributed with the agenda and the Board heard a motion to approve Mirova Global Equity Fund and RBC Global Equity Focus Fund as investment funds/managers for both the registered pension plan and the university endowment.

Schlegel and Arora. Carried unanimously.

Finance & Investment Committee. The chair briefly spoke to the report distributed with the agenda. He invited James Rush to provide an overview of the 2021-2022 Operating Budget. Governors heard about: budget themes and priorities; ways the strategic plan priorities are being resourced; operating income and expense budget details.

The Board heard a motion to approve the 2021/22 Operating Budget, as described in Attachment 1.

Schlegel and Gamble.

In discussion: expressions of thanks and congratulations to administration on its continued sound management of the University’s budget; recognition of the hard work done by the community in ensuring the University remains fiscally strong though prudent and conservative financial management.

The question was called and the motion carried unanimously.

Pension & Benefits Committee. Following a brief review of the report by Barr, the Board heard a motion to approve amendments to the extended health benefit to add a basic vision care plan to reimburse $85 for eye exams every two years for eligible University of Waterloo employees, retirees, and their eligible dependents as described in this report and effective 1 May 2021.

Barr and Milligan. Carried unanimously.

14. OTHER BUSINESS

There was no other business.

The Board convened in confidential session and the chair invited the vice-presidents and deans to remain.
CONFIDENTIAL SESSION

The confidential minutes have been removed.
The confidential minutes have been removed.
IN-CAMERA SESSION

The *in-camera* minutes have been removed.
Recognition and Commendation

Professor Mei Nagappan has received a 2020 Outstanding Early Career Researcher Award from CS-Can/Info-Can, the nation’s professional society dedicated to representing computer science and the interests of the discipline to Canadians. He is the ninth faculty member at the Cheriton School of Computer Science to receive this prestigious award. Conferred annually since 2009, the Outstanding Early Career Researcher Award recognizes excellence in computer science research and is given to top faculty members in Canadian computer science departments, schools and faculties who are within the first decade of their career after completing their PhD. Nagappan is the current Ross & Muriel Cheriton Faculty Fellow and an associate professor, and has been a member of the faculty since September 2016. Previously, he was an assistant professor in the Department of Software Engineering at the Rochester Institute of Technology, and earlier still a postdoctoral researcher at the Software Analysis and Intelligence Lab in the School of Computing at Queen’s University. He completed his PhD in the Department of Computer Science at North Carolina State University.

(adapted from the Daily Bulletin, 31 March 2021)

Brigitte Shim and A. Howard Sutcliffe, architects who met at Waterloo and graduated together from the School of Architecture in 1983, were named the winners of the 2021 Gold Medal by the Royal Architecture Institute of Canada (RAIC). Awarded annually by the RAIC, a not-for-profit group that has represented architects and architecture for more than 100 years, the medal is its highest honour, recognizing a significant and lasting contribution to Canadian architecture. A couple as well as the founding partners of Shim-Sutcliffe Architects in Toronto, they both earned degrees at Waterloo in environmental studies in 1981 before going on to study architecture. They have been professional collaborators ever since. Shim and Sutcliffe have won 15 Governor General’s Medals for Architecture, made the Order of Canada together in 2013 and received the Team Alumni Achievement Medal from Waterloo Engineering in 2011. Celebrated projects by the duo include their own residence, the Laneway House, and the Robertson Davies Library in Toronto. They are currently working on projects in North America, Russia and Hong Kong. In addition to other qualities, their work is distinguished by meticulous attention to detail. “By their relentless pursuit of excellence, Brigitte Shim and Howard Sutcliffe have produced a significant body of exceptional design works covering architecture, landscape, interior, furniture and hardware—all developed to an incredibly high standard, with craft, rigour, sense of place, and mastery of proportions,” commented one of the award judges.

(adapted from the Daily Bulletin, 7 April 2021)

On March 5, 2021, for the second year in a row, students from the University of Waterloo Student Venture Fund (SVF) captured the 2021 Undergraduate Canada Regional Finals Championship for the Venture Capital Investment Competition (VCIC). The University of Waterloo claimed the title over the University of Alberta (2nd) and Acadia University (3rd) and has advanced to the International Finals being held on April 10. The University of Waterloo’s VCIC team will be competing in the Global
Finals on April 9 and 10 against eight prominent US universities: Berkeley, Brigham Young, Cornell, University of Chicago, Georgetown, Miami of Ohio, Oregon, and Pomona College. VCIC is the world’s largest venture capital competition with over 120 university and graduate school teams competing. This year, undergraduate student venture teams from 48 universities across the US and Canada competed in eight regional competitions. The six team members of the undergraduate team are all veterans of the University of Waterloo’s SVF: Yigga Zhang, 4A AFM; Tony Shi, 4B CFM; Sean Mark, 4A AFM; Noah Simao, 4A AFM; Roberto Babaran, 3A AFM; and Megan Boyd, 3A AFM. As members of the SVF, the team already had experience in evaluating management, completing market research, valuing companies, conducting due diligence, and recommending investments in early stage companies. In VCIC, the team reviewed live pitches from early-stage technology companies to select and prepare an investment proposal and defend their investment proposal to a panel of VC judges. Although the VCIC undergraduate team is made up of brilliant students, the students couldn’t have done it on their own. As with all SAF competition teams, the students benefited from the guidance and support of faculty mentors Ranjini Jha, Frank Hayes, and Mark Arnason.

In addition, Waterloo’s Graduate division VCIC team finished a close second to the Rotman MBA team from the University of Toronto against a competitive field of MBA schools. “I’m so proud of the students on both our teams and am excited to see our undergrad team compete against the best in the world,” said Mark Arnason, lecturer, strategy and international business.

(Adapted from the Daily Bulletin, 7 April 2021)

All six teams that earned $10,000 each at Engineering's pitch contest developed creative solutions to challenges ranging from making rock climbing safer to providing spinal cord injury patients with increased mobility. The winning teams of senior-year Engineering students were narrowed down from 10 who took three minutes each to explain their projects to a panel of judges in the Norman Esch Entrepreneurship Awards for Capstone Design contest held remotely on April 8. For the past eight months, students have been mainly working on their Capstone Design projects remotely rather than together on campus due to the pandemic.

One of those projects, a device to allow people with spinal cord injuries (SCI) to be more mobile, earned $10,000 in the pitch competition along with $3,000 as the winner of the Sedra People’s Choice Award. Members of Bless Your Sole – mechanical engineering students Anna Xiang, Debrish Sarma, Milos Zivkovic, Taha Malik, Trevor Zhu and Vatsalya Saini – developed the Lock Step, an ankle exoskeleton powered by an onboard linear actuator system allowing for freedom of mobility. Team members noted that the cost of their device is estimated to be $2,600, 20 times less expensive than their closest competitor. “Our product aims to be more of a consumer-oriented exoskeleton whereas the current exoskeletons in this market are more research-oriented so they are more one-off designs,” said Malik. “We aim to take our technology and put it in the hands of as many people as we can.”

The other winning teams are:

- **Canadian Ibex** (Daniel Bell, Christopher Friedel, Peter Morrow and Justin Swinoga – mechanical engineering)
- **EyeMove Technologies** (Oswaldo Ferro, Saejith Nair, Arjun Narayan and Ali Toyserkani – mechatronics engineering)
- **UWTensil** (Gavin Lee, Nishita Saha, Minh Trinh and Andy Yang – chemical engineering)
- **Sterilus** (Pei Liang Guo, Joe Mattekatt and Udehsaya Wadhwa – mechatronics engineering)
- **Yada** (Aravind Segu, Carl Shen, Shehan Suresh and Akshay Pall – software engineering)

(Adapted from the Daily Bulletin, 12 April 2021)
The **International Tobacco Control (ITC) Project** has been awarded one of six **Governor General’s Innovation Awards for 2021**. Celebrating excellence in innovation that makes a positive impact on quality of life in Canada, the honour is awarded jointly to the interdisciplinary ITC team including Faculty of Arts’ **Geoffrey Fong** (Psychology), Faculty of Mathematics’ **Mary Thompson** (Statistics and Actuarial Science), and Faculty of Health’s **David Hammond** (School of Public Health and Health Systems).

“With the persistent leadership of Dr. Geoffrey Fong, the ITC Project, centered at the University of Waterloo, is globally renowned for its innovative research supporting and defending effective tobacco control policies such as graphic health warnings, smoke free laws, advertising bans, and tobacco taxes,” states the Governor General’s Innovation Award citation.

“This pioneering research, across 29 countries covering over half of the world’s population, has led Canada and many other countries to strengthen their tobacco control efforts, improving the health of millions of people worldwide,” the citation continued.

Fong, a professor of social psychology, founded the ITC Project in 2002, and has been its Chief Principal Investigator heading the ITC team of more than 150 researchers across its 29 countries. Both Thompson and Hammond have been key project collaborators since then.

Evaluating key policies of the WHO Framework Convention on Tobacco Control (FCTC), the ITC Project has conducted over 170 surveys collecting nearly 400,000 completed surveys, to measure the impact of tobacco control policies of the FCTC including more recent policies such as plain packaging and bans on additives and flavourings in cigarettes. Over the past 20 years, Fong and his colleagues have built the evidence base to promote stronger actions to tackle tobacco smoking — which kills 47,000 people a year in Canada and more than 8 million people a year globally.

About the Governor General’s award, Hammond said, “It’s a testament to the importance of basic public health research and of international collaborations to understand how global risk factors for chronic disease can be addressed.”

(adapted from the *Daily Bulletin*, 4 May 2021)

The Canadian Cancer Society has just announced that Professor **Geoffrey Fong** is the **2021 recipient of the O. Harold Warwick Prize for outstanding research achievements in cancer control in Canada**. The prize recognizes Fong’s leadership of the International Tobacco Control Policy Evaluation Project (ITC Project).

“Smoking tobacco is a leading cause of cancer not just in Canada, but globally,” says Dr. Stuart Edmonds, Executive Vice-President, Mission, Research and Advocacy at CCS. “We commend Dr Fong on his research and advocacy efforts, which have helped reduce tobacco use and had an unparalleled impact on the health of millions of people around the world.”

Fong is founder and chief principal investigator of the ITC Project, based in the Department of Psychology. From the more than 300,000 completed surveys that have been conducted since 2002, the ITC team has published over 600 scientific papers, many of which have evaluated the effectiveness of FCTC policies, including smoke-free laws, graphic warnings, and higher tobacco taxes.
Recent ITC evaluation studies in Canada include plain packaging and ban of menthol cigarettes, which found that Canada’s menthol ban led to substantially greater quitting among menthol smokers and lower relapse among former menthol smokers. In fact, on April 29, the US FDA announced that the US would also ban menthol cigarettes, highlighting the ITC study and Fong’s estimates based on the Canadian findings that the US menthol cigarette ban would lead an additional 923,000 US smokers to quit.

The O. Harold Warwick Prize is named after the pioneering researcher in cancer control and treatment, who became the first executive director of both the former National Cancer Institute of Canada and the Canadian Cancer Society. The award is given annually to honour distinguished investigators in cancer control research.

(adapted from the Daily Bulletin, 13 May 2021)

The Association of University Technology Managers (AUTM) has recognized a University of Waterloo staff member with an award for leadership in the professional community. Mike Szarka, Director of Research Partnerships in the Office of Research, received the Canadian award at the virtual AUTM Canadian Region meeting on Wednesday. The annual award recognizes a Canadian member who has served the greater technology transfer community in Canada and contributed to technology transfer in a meaningful way.

“Mike checked all the boxes. He’s a model contributor and is always there to provide wise advice,” said Darren Fast, Chair of the AUTM Canadian Committee and Director of Partnerships and Innovation at the University of Manitoba. “He represents something we all aspire to.”

Mike’s leadership and support for fellow technology transfer managers includes organizing events for Canadian members, advocating for a larger Canadian AUTM presence to address specific Canadian issues, and working to develop peer networks through his previous role as Chair of the Canadian committee of AUTM. On a more informal level Mike is an active contributor to a Canadian technology transfer chat board and regularly shares his knowledge and expertise with other tech transfer professionals.

Mike joined Waterloo in 2015 with nearly 20 years of experience in academic research partnerships and technology transfer at Queen’s University, University of Ontario Institute of Technology, University of Toronto, and Ontario Centres of Excellence. He holds a bachelor’s degree and master’s degree in chemistry from the University of Waterloo and a PhD in physical chemistry from the University of Toronto.

(adapted from the Daily Bulletin, 13 May 2021)

The Waterloo Centre for German Studies is pleased to announce the recipients of its first-ever Diversity and Inclusion Grants. These grants have been created to support scholars and programs in their efforts to diversify German studies in Canada. The recipients are:

- Maria Mayr (Workshop: Anti-Racist Pedagogies in the Language Classroom)
- Angelica Fenner (East Germans: (Re)Claiming Black Identities Through Cultural Activism)
- Elizabeth Nijdam (Indigenizing the Canadian German Studies Curriculum)
- Michael Boehringer (Dis/ability in German Culture)
- John Plews (CSSG Content Diversification)
$12,000 in total has been awarded. The award holders will be making the results of their work public, and the Waterloo Centre for German Studies will publicize this information as it comes available.

(adapted from the Daily Bulletin, 21 May 2021)

On Friday May 7, 2021, eight teams of students from across Canada competed in the Map the System Canadian Finals for the chance to present their research on a global stage. For their incredible presentation and systematic investigation of the precarious foreign labour conditions in Malaysian palm oil plantations, Leah Feor, Ewomazino Iyanu Oluwa Odhigbo, and Muhammed Ahsanur Rahim will be representing the University of Waterloo as one of four Canadian teams at the finals from June 9 to 11.

Organized by the University of Oxford, Map the System is a global pitch competition that encourages students to “apprentice with the problem”, by thoroughly investigating the existing research, stakeholders and contexts behind a problem to identify gaps and address them in a meaningful, sustainable way. Unlike more traditional pitch competitions, Map the System aims to “incentivize people to deeply learn about and understand a problem,” before conceptualizing solutions.

Teams representing 16 institutions across Canada came together virtually from May 3 to 7, 2021, organized by the Institute for Community Prosperity at Mount Royal University with the support of McConnell’s Re-Code program and the Trico Charitable Foundation. After a semi-final round, eight teams were selected to present at the public adjudication on May 7. Challenges ranged from the harmful environmental and social impacts of renewable energy technologies to sex trafficking in Canada, food insecurity in Toronto, and beyond. Since joining this global competition for the first time in 2019, UWaterloo’s presence at Map the System has only continued to grow through the Kindred Credit Union Centre for Peace Advancement’s mentorship and support. In fact, students from the University of Waterloo accounted for almost one third of Map the System submissions from across Canada in 2021.

Leah Feor, Ewomazino Iyanu Oluwa Odhigbo and Muhammed Ahsanur Rahim represented Waterloo with their presentation on foreign labour conditions in Malaysian palm oil plantations. By focusing on the international supply and value chain for palm oil, they identified the need for further supervisory regulations, greater labour representation mechanisms, and consumer-targeted pull strategies to stabilize and improve labour conditions going forward. When asked why they focused on these possible solutions over others, Feor and Rahim explained that the team wanted to approach the topic realistically, and therefore targeted feasible changes that can be implemented to address the current system.

Global finalists can win additional cash prizes and are eligible for further “Apprenticing with the Problem” support to help develop their ideas. However, during her keynote presentation at the Canadian Finals, Map the System creator, Daniela Papi-Thornton emphasized that the impact of Map the System goes beyond cash prizes and accolades: “if this has opened any doors for you or changed how you think about something, you are winning.”

(adapted from the Daily Bulletin, 25 May 2021)
1. **Sabbatical and Administrative Leaves**

The University of Waterloo Policy 3 – Sabbatical and Other Leaves for Faculty Members [excerpts below, full text available at: [http://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-3](http://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-3)] sets out the purpose of leaves for faculty members as well as the requirements/responsibilities of faculty who are granted such leave.

The granting of a leave... depends on the University’s assessment of the value of such leave to the institution as well as to the individual, and on whether teaching and other responsibilities of the applicant can be adequately provided for in her/his absence. A faculty member who is granted a sabbatical or other leave is expected to return to duties in the University for at least one year and upon return will be expected to submit a brief report to the Department Chair regarding scholarly activities while on leave.

The purpose of a sabbatical leave is to contribute to professional development, enabling members to keep abreast of emerging developments in their particular fields and enhancing their effectiveness as teachers, researchers and scholars. Such leaves also help to prevent the development of closed or parochial environments by making it possible for faculty members to travel to differing locales where special research equipment may be available or specific discipline advances have been accomplished. Sabbaticals provide an opportunity for intellectual growth and enrichment as well as for scholarly renewal and reassessment.

... the granting of sabbatical leave is contingent upon the faculty member’s department being able to make the necessary arrangements to accommodate such an absence, and also upon the financial resources of the University in any given year. Should problems arise in any of the above, it may be necessary to postpone individual requests until such time as all the conditions can be satisfied.

- **Sabbatical Leaves**
  - **Balogh, Michael**, Physics and Astronomy, May 1, 2022 to April 30, 2023 at 100% salary
    I will be working on new data and building new collaborations to study galaxies in the earliest structures – protoclusters – at a time when the Universe was only 10% of its present age. I will develop models and analyse new data to learn how these systems evolve into the massive galaxy clusters we observe today.

  - **Bedi, Sanjeev**, Mechanical and Mechatronics Engineering, January 1, 2022 to April 30, 2022; January 1, 2023 to April 30, 2023; January 1, 2024 to April 30, 2024 at 100% salary
    The sabbatical times will be spent on three initiatives. First, five-axis machining methods, that use of multiple points for machining curved surfaces, will be developed, implemented, and tested for efficient and fast machining of mould, tools and dies etc. Second, an interactive book on robotics, with live examples, will be developed using the Maple platform. Third, use the time to write-up the experience of introducing real-world problem-solving in the classroom – the Ideas Clinic experience.

  - **Blais, Eric**, Computer Science, September 1, 2021 to August 31, 2022 at 93.3% salary
    I will be furthering my research on the effectiveness and limitations of randomized algorithms, with a particular emphasis on sublinear-time algorithms and on the use of minimax theorems in complexity theory.
Boekhorst, Janet, Conrad School of Entrepreneurship and Business, January 1, 2022 to June 30, 2022 at 100% salary

*I will focus on multiple projects that relate to compassion and employee wellbeing, workplace fun, and star scientists. These projects are broadly driven by two goals: 1) to deepen our understanding of how organizations can create an environment that improves wellbeing, and 2) to advance our understanding of the key antecedents that are critical in shaping the success of stars.*

Boido, Mario, Spanish and Latin American Studies, January 1, 2022 to June 30, 2022 at 98.9% salary

*I will deploy the general theory of memory I have been developing over the last few years in a monographic study of the construction of the shared understanding of the crimes of the 1976-1983 dictatorship in Argentina. Additionally, with the Inter-American Memory Project, I will lead a team of four researchers in a study of the collective memory of systematic human rights violations in the Americas.*

Bruce, Gary, History, September 1, 2021 to August 31, 2022 at 100% salary

*I will continue to research and then begin writing a book on Night of the Long Knives, the first state-sanctioned Nazi mass murder. I will research in the German Diary Archive and the Walter Kempowski Archive. The Institute for Contemporary History in Munich has digitized its personal papers collection, which can be accessed remotely if travel is affected by Covid-19. My intent is to have a draft manuscript by the end of the leave.*

Budman, Hector, Chemical Engineering, January 1, 2022 to December 31, 2022 at 100% salary

*I will focus on a recently awarded MITACS cluster grant in collaboration with Sartorius on optimizing mammalian cell cultures for producing monoclonal antibodies using a system of parallel microboreactors loaned by Sartorius. Also, a three month stay is projected in Israel for collaboration with a Sartorius owned company on topics related to the cluster grant.*

Cascante, Giovanni, Civil and Environmental Engineering, November 1, 2021 to April 30, 2022 at 85% salary

*Civil infrastructure is facing a major challenge: what to do about aging infrastructure such as nuclear power plants, bridges, water mains, roads, and electrical transmission lines? I will work on enhancing and developing new non-intrusive testing techniques to help distinguish the good from the bad, without taking the system apart. I will collaborate with three visiting professors from France, UAE, and Costa Rica.*

Chen, Tao, Economics, September 1, 2021 to February 28, 2022 at 85% salary

*I will majorly conducting research in the area of theoretical econometrics combining machine learning. I expect to produce two working papers with one ready for submission.*

Chen, Zhongwei, Chemical Engineering, January 1, 2022 to December 31, 2022 at 85% salary

*I will strengthen research collaborations with academic and industrial partners, develop new research proposals, design and build a significant new electrochemical power source test bench in a new research area and move the current experimental research lab to the new building. A new research program will be developed with respect to next generation high capacity lithium batteries and fuel cells.*

Cox, Jordana, Communication Arts, January 1, 2022 to June 30, 2022 at 100% salary

*Drafting two scholarly articles on the journalistic practices of 1) artist Alexandra Bell; and 2) playwrights Abram Hill and John Silvera for my SSHRC IDG-funded project on race, racism and journalistic imagination in American public culture.*
Dias, Goretty, Environment, Enterprise and Development, September 1, 2021 to August 31, 2022 at 97.5% salary
I will enhance my research program on sustainability assessment and management of food systems through collaborations to develop methods in prospective LCA (life cycle assessment) for assessing emerging food production technologies and consequential LCA for understanding sustainability of dietary patterns. I will work with experts in these methods in Sweden, France, and Portugal, and develop an international funding proposal.

Dickerson, Clark, Kinesiology, July 1, 2022 to December 31, 2022 at 100% salary
I will be pursuing innovative research into rotator cuff pathology development and prevention through a connected series of academic partnerships. These collaborations will focus on addressing the mechanical causes of tissue damage, neuromuscular responses to challenges, and novel assistive devices to mitigate risks and enhance shoulder and arm function.

Dodd, Warren, Public Health and Health Systems, January 1, 2022 to June 30, 2022 at 100% salary
I will continue to develop my research program focused on the social and ecological determinants of health through collaborations with my colleagues in Honduras and the Philippines. This work will involve the completion of existing projects at the intersection of food, nutrition, and contemporary crises (climate change and COVID-19 pandemic) in addition to applying to new funding opportunities.

Duncker, Bernard, Biology, September 1, 2021 to July 31, 2022 at 100% salary
I will be using my sabbatical to develop new avenues of research on protein factors involved in controlling the initiation of DNA replication and cell cycle checkpoints. Uncovering the molecular mechanisms underlying these processes will provide new insights into human pathologies including cancer and Meier-Gorlin syndrome. Part of the leave involves spending time at the University of Edinburgh.

Fernandes, Myra, Psychology, November 1, 2021 to April 30, 2022 at 85% salary
I will explore the utility of digital voice assistants for spatial navigation, in enhancing human cognition. This work will be conducted with colleagues at University of Bordeaux in France, and current UWaterloo graduate students. Additionally, I will be refining computational methods to examine the content of autobiographical memories and their relation to mental health indices. I will also write manuscripts outlining encoding techniques to enhance memory.

Fischer, Steven, Kinesiology, September 1, 2021 to August 31, 2022 at 100% salary
I will expedite my research aiming to strengthen the performance and use of human behaviour prediction models to address human factors and ergonomics issues during early stage workplace and product design. This will involve growing and strengthening research-industry collaborations with workplace and industrial partners.

Forand, Jean Guillaume, Economics, September 1, 2021 to August 31, 2022 at 90.6% salary
I will start new papers in my field of Political Economy, all related to two topics on which I already have papers that are either published or under revision. First, a lot of my most recent research develops theoretical models of public bureaucracies. Second, I have a long-standing interest in dynamic models of electoral competition. I have had coauthors in some of my published papers on these topics, who may be involved in these new projects. In that case I may plan short trips to visit them, pandemic permitting.

Gorbet, Maud, Systems Design Engineering, September 1, 2021 to August 31, 2022 at 100% salary
I will focus my sabbatical period on publishing recent research findings, preparing grant applications and conducting research at the interface of engineering science, design and health to further develop in
vitro models to assess inflammatory response to biomaterials and medical devices. I will work closely with my graduate students and research collaborators and explore new approaches such as microfluidics.

**Grossmann, Igor**, Psychology, January 1, 2022 to June 30, 2022 at 85% salary

*I will work on my forthcoming book on wisdom, and connect with top researchers at the University of Pennsylvania, the University of Texas in Austin, and (pandemic permitting) University of Lisbon, Portugal, and the Universities of Mannheim and Heidelberg, Germany. At the latter two institutions, I plan to forge collaboration projects, including prospective graduate student exchange programs in psychology between the University of Waterloo and the Universities of Heidelberg and Mannheim.*

**Habib, Jasmin**, Political Science, September 1, 2021 to February 28, 2022 and September 1, 2022 to February 28, 2023 at 85% salary

*I plan to conduct ethnographic, library and archival research in Israel/Palestine to explore forms of political resistance by the region’s forcibly displaced and war-affected individuals and communities. I will also be considering the local and global responses to, and the experiences of, the region’s humanitarian, peace and social justice activists.*

**Hammond, David**, Public Health and Health Systems, September 1, 2021 to February 28, 2022 at 100% salary

*I will continue my research on tobacco, nutrition and drug policy. I will visit colleagues in New Zealand and Australia (COVID situation permitting), including regulatory agencies such as the NZ and AUS Ministries of Health and national cancer agencies. I will continue to supervise my graduate students and oversee my research program.*

**Hardiman, Craig**, Classical Studies, September 1, 2021 to August 31, 2022 at 85% salary

*I will spend time in Greece exploring the ways in which new technologies can aid in the creation of new approaches to remote, on-site but online, teaching. In addition, I will continue my research on aspects of Ancient Greece and Rome in Video Games, as well as work on the history of the island of Delos.*

**Heppler, Glenn**, Systems Design Engineering, September 1, 2021 to August 31, 2022 at 100% salary

*I will finish my book on Advanced Dynamics and I will pursue some additional work on magneto-dynamics.*

**Karray, Fakhreddine**, Electrical and Computer Engineering, September 1, 2021 to August 31, 2022 at 85% salary

*I plan to carry out research work in the field of virtual care system using tools of AI and IoT. I also intend to help establish curriculum for AI in one of the Abu Dhabi centers of research interacting with researchers from Inception, Khalifa University and the newly established MBZUAI.*

**Klassen, Kenneth**, Accounting and Finance, July 1, 2021 to December 31, 2021 at 100% salary

*I will begin a new research project that explores the consequences of recent developments in environmental, social and governance (ESG) disclosures that now extend into public tax disclosures. These include detailed public disclosures on the international operations and tax payments of reporting corporations, this new and exciting development promises to hasten the pace of change in the international tax-planning landscape.*

**Krivodonova, Lilia**, Applied Mathematics, September 1, 2021 to August 31, 2022 at 100% salary

*I will conduct research in numerical methods for solution of hyperbolic problems. The particular areas to be investigated are theoretical properties of the discontinuous Galerkin method and new techniques for its efficient implementation. I will also investigate the use of modern techniques such as machine learning in solving numerical partial differential equations.*
Lakshminarayanan, Vasudevan, Optometry and Vision Science, September 1, 2021 to August 31, 2022 at 93.3% salary
I will be a visiting professor of information engineering at the universities of Padova and Brescia in Italy. I will be working on theoretical problems related to linear and/or non-linear optical waveguide physics. At Padova I will also work on some experiments related to linear waveguides. I will also complete two book manuscripts – one on quantum logic circuits and a second on special functions of mathematical optics. Alternatively I will spend the year as a science policy fellow in a US government Agency such as the NSF, State or NIH doing program evaluation and/or formulating science and education policies (this is not yet certain). Because of the COVID situation all these plans are tentative.

Law, Edith, Computer Science, September 1, 2021 to August 31, 2022 at 93.3% salary
My research focuses on how humans and intelligent systems interact and mutually benefit each other. In the past few years, I have studied how people can enhance and make sense of intelligent systems. During the sabbatical, my plan is to develop a second line of research that is focused on studying how intelligent systems can enhance human lives by fostering human virtues such as curiosity, empathy, growth mindset, etc.

Li, Jonathan, Geography and Environmental Management, January 1, 2022 to June 30, 2022 at 85% salary
The focus of my research is placed on use of the state-of-the-art Earth observation and mobile mapping systems to derive spatial and attribute information to support effective urban planning and environmental management activities; to extract geometric information of urban structures for developing theories and models of urban morphology; to detect land use and land cover changes to study spatiotemporal dynamics and consequences of urbanization as a major form of global changes.

McAuley, Tara, Psychology, September 1, 2021 to February 28, 2022 at 100% salary
I will be learning research methods for the collection and analysis of chronic stress exposure, preparing a grant to incorporate such measurement into research examining childhood adversity exposure and altered neurodevelopment, joining a working group of neuropsychologists to plan for a second wave of NIH-funded discovery science at a US psychiatric institution, and learning new statistical skills.

Nelson, Peter, Combinatorics and Optimization, September 1, 2021 to August 31, 2022 at 85% salary
I will devote my time to my work on matroid theory, and the project of formulating mathematical research so that it can be checked for correctness by a computer.

Nimubona, Alain-Désiré, Economics, July 1, 2021 to December 31, 2021 at 85% salary
My research addresses the economics of pollution control with a focus on the design of environmental policies under imperfect competition. I will work on a SSHRC funded project on “Payments for Wetland Ecosystem Services as a Nature-Based Solution to Sustainably Manage Urbanized Watersheds”, in collaboration with colleagues at the University of Waterloo and Universite de Bordeaux in France. I will also continue my investigation of the economics of carbon capture and storage with my collaborators at the University of Waterloo and the University of Strathclyde in the UK.

Parry, Diana, Recreation and Leisure Studies, September 1, 2021 to October 31, 2022 at 100% salary
My research explores women’s health/wellbeing with a particular focus on addressing gendered inequities and advancing social justice. Grounded in feminist theories, my research utilizes a variety of methodological and representational approaches. I will focus on completing two SSHRC grants, completing a second edition of a co-edited book, exploring a SSHRC partnership grant and learning a new body of literature.
Presslee, Adam, Accounting and Finance, July 1, 2021 to December 31, 2021 at 100% salary
My research applies theory from psychology and economics to understand how various incentive system features and control environments affect employee behaviour. I use experiments and field studies to test hypotheses. I will focus on publishing my existing research (six working papers), develop new research (outlined in my 2021 SSHRC application), and participate as an academic-in-resident at two organizations.

Randall, Neil, English Language and Literature, September 1, 2021 to February 28, 2022 at 100% salary
I will complete the first third of a monograph on the narrative types and structures of a multiplayer online game based on the works of J. R. R. Tolkien. The study combines the theories of game studies, adaptation studies, and semiotics and will advance scholarship in the combination of these fields.

Roberts, Julia, History, August 1, 2021 to December 31, 2022 at 100% salary
I will research and draft my new monograph project, “Invasive Species: Gardening, Gardeners, Food, and Cooks in Settler Canada”, which seeks to identify the socio-cultural, intellectual, material, and theoretical factors during the early years of the Canadas (ca. 1780s to 1850) that physically created and mapped Settler Canada, displacing Indigenous Ecologies and Environments.

Rudolph, David, Earth and Environmental Sciences, September 1, 2021 to December 31, 2022 at 100% salary
I will focus on the understanding of groundwater flow phenomena within northern landscapes where permafrost is discontinuous in nature. This is proving to be a critical factor in the disappearance of permafrost as a result of climate warming and is poorly understood. The research will involve field work in the Northwest Territories and numerical modeling.

Saari, Rebecca, Civil and Environmental Engineering, July 1, 2021 to December 31, 2021 at 100% salary
I will seek to make research contributions to quantify the air quality-related impacts of climate change and climate policy. Specifically, I will seek to assess uncertainty in the health impacts of climate change, assess the effect of climate policy design (across sectors including energy and transportation) on air quality co-benefits (including effects on environmental equity).

Schneider, Oliver, Management Sciences, January 1, 2022 to June 30, 2022 at 100% salary
I will focus on research projects that have a high potential for impact in haptics (touch-feedback), human-computer interaction (HCI), virtual reality, and robotics research, namely, further developing community and tools to make haptic technology easier to design, build, and evaluate.

Schost, Eric, Computer Science, September 1, 2021 to August 31, 2022 at 93.3% salary
My first objective is the finalization of two multi-year-long theoretical projects with colleagues from France, on the computational complexity of certain algebraic computations. My second goal is to integrate a software library I have contributed to into a pre-existing framework that enjoys a wide distribution.

Slavcev, Roderick, Pharmacy, July 1, 2021 to December 31, 2021 at 85% salary
I will dedicate toward the development (further preclinical cross-protective studies and entry into clinical) of the ‘synthetic infection’ discovered and developed as a partnership between U. Waterloo and Mediphage Biocuticals.

Stebila, Douglas, Combinatorics and Optimization, July 1, 2021 to December 31, 2021 at 100% salary.
I will focus on improving confidence in post-quantum cryptography, including improved cryptanalysis of lattice-based primitives, formal verification of security properties of post-quantum key exchange protocols, and high-assurance implementations.

**Swatuk, Larry**, Environment, Enterprise and Development, January 1, 2022 to December 31, 2022 at 87.8% salary
This leave corresponds with the final year of my SSHRC Insight grant. I propose to spend 6 months at the IRD in Montpellier, France & six months at BICC in Bonn, Germany pursuing research focusing on improved climate action for development. Work will include hosting a series of workshops, report and paper writing, book and grant preparation.

**Tahvildari, Ladan**, Electrical and Computer Engineering, January 1, 2022 to June 30, 2022 at 85% salary
I will visit Microsoft in Seattle and Google in San Francisco to initiate new R&D collaborations on Adaptive Software Security. I also plan to consolidate my research collaborations with IBM Centre for Advanced Studies (CAS) Laboratory in Toronto on “Engineering Self-Adaptive Software Systems” and Facebook in London (United Kingdom) on “Markov Decision-Making Framework for Flaky Test Cases”.

**Vavasis, Stephen**, Combinatorics and Optimization, September 1, 2021 to November 30, 2022 at 100% salary
I will collaborate with mathematicians and statisticians at the Fields Institute and University of Toronto to better incorporate statistical methodology and analytical methods in my research on optimization for unsupervised and supervised learning.

**Videkanic, Bojana**, Fine Arts, September 1, 2021 to August 31, 2022 at 85% salary
I will do one or two research trips to the region of the Balkans where I will be gathering archival and other documentation for my ongoing research project. I will also be submitting a SSHRC ID grant, and if I am awarded Fulbright Fellowship and Southeast European Centre’s research fellowship, I will plan to travel to Graz, Austria and to Yale University, US for 2- and 3- month fellowships. I will be writing two journal articles and begin work on a book manuscript.

**Wagner, David**, Combinatorics and Optimization, September 1, 2021 to August 31, 2022 at 85% salary
I will engage in research on stable polynomials and positive matrices, investigate connections between agent-based modeling and statistical mechanics, and complete the course notes for MATH 239/249 and for CO 330.

**Whitson, Jennifer**, Sociology and Legal Studies, July 1, 2021 to December 31, 2021 at 85% salary
I will 1) further analyse data and draft manuscripts stemming from my internal CPI grant and SSHRC grants (which were extended due to COVID-19), and 2) conduct research on organizational sociology and pedagogies for online learning.

**Yang, Fan**, Statistics and Actuarial Science, January 1, 2022 to June 30, 2022 at 100% salary
I plan to work on the applications of extreme value theory in quantitative risk management.

- **Sabbatical Cancellations**
  - **Cox, Jordana**, Communication Arts, July 1, 2021 to December 31, 2021 at 100% salary
  - **Lin, Jimmy**, Computer Science, May 1, 2021 to August 31, 2021 at 85% salary
Sabbatical and Administrative Leaves – June 1, 2021

Voorhees, Gerald, Communication Arts, September 1, 2021 to February 28, 2022 at 85% salary

FOR INFORMATION

2. Administrative Appointments

Clarke, Charles, appointment as Associate Dean, Innovation and Entrepreneurship, Faculty of Mathematics, April 1, 2021 to June 30, 2024.

Ferries, Leeann, appointment as Associate Dean, Undergraduate Studies and Cooperative Education, Faculty of Health, July 1, 2021 to June 30, 2026.

Gorman, Daniel, appointment as Chair, Department of History, Faculty of Arts, July 1, 2021 to June 30, 2025.

Leoni, Monica, appointment as Chair, Department of Fine Arts, Faculty of Arts, July 1, 2021 to June 30, 2025.

Liu, Jennifer, appointment as Chair, Department of Anthropology, Faculty of Arts, July 1, 2021 to June 30, 2024.

Nilsen, Jennifer, re-appointment as Interim Assistant Vice-President, Graduate Studies and Postdoctoral Affairs, July 1, 2021 to June 30, 2022.

Robinson, Mary, appointment as Associate Dean, Outreach, Equity and Inclusion, Faculty of Engineering, May 1, 2021 to April 30, 2024.

• Administrative Appointment Changes

Hoey, Jesse, appointment as Associate Dean, Innovation and Entrepreneurship, Faculty of Mathematics, January 1, 2020 to June 30, 2022, changed to January 1, 2020 to March 31, 2021.

Feridun Hamdullahpur
President and Vice-Chancellor
To: Board of Governors

From: Feridun Hamdullahpur, President and Vice-Chancellor

Date: 17 May 2021

Subject: Revision to Policy 76 – Faculty Appointments

I am pleased to bring to the Board of Governors a revision to Policy 76 – Faculty Appointments for approval. Policy 76 is classified as an “F” policy, which means it relates to the terms and conditions of members of faculty. F class policies require approval by the Faculty Relations Committee, the President, the Senate and finally, the Board of Governors.

Recently, a Policy 76 Drafting Committee (PDC) was formed with a mandate to focus on specific potential changes to the policy (and to Policy 77 – Tenure and Promotion of Faculty Members) with regard to teaching stream faculty and definite-term contract appointments. The Faculty Relations Committee recently discussed and agreed to forward for approval a relatively minor text change to Policy 76 to implement immediately. The fulsome work of the PDC to consider amendments to the policies continues as planned and will follow to the Board in the future.

After consideration, I also approved of the change and in accordance with the provisions of Policy 1, recommended it to Senate for approval. On 17 May 2021, Senate approved the change and so I am bringing the proposed change to the Board for final approval.

Motion: That the Board of Governors approve the following changes to Policy 76: (strikethrough = deleted text; bold = new text)

University Appointments Review Committee (UARC)

This Committee, appointed by the Vice-President, Academic & Provost in consultation with Deans’ Council and the President of the Faculty Association, shall advise on regular faculty appointments of duration more than two years or more.

Rationale: This proposed revision promotes clarity of intent and alignment between appointment length and other Human Resources’ administered programs for faculty contracts of this length, by allowing the maximum length of a hire not involving UARC to be 2 years rather than 2 years less a day.

Please note: As above, the PDC continues to work on other policy changes to be brought forward for approval in the future. This further work is anticipated to include revisions to define process on renewing such contracts, including the requirement for UARC review. Further, for clarity, this change does not restrict asking UARC to review appointments of less than two years should the department wish to (as is currently allowed).
FOR APPROVAL

Incidental Fees Spring 2021 – Assessment Update

Summary

• Incidental fees were assessed and collected for spring term 2021 to reflect the change to mostly online course delivery and the services that could be offered during the term
• Fees to assess were determined through consultation between the University and presidents/vice-presidents of the Waterloo Undergraduate Student Association (WUSA) and the Graduate Student Association – University of Waterloo (GSA)
• Approximately $3.4M of incidental fees were not assessed as follows:
  – Athletics and Recreation fee of $1.9M
  – Undergraduate Grand River Transit Universal Pass fee of $0.9M
  – 10 student society and 7 voluntary endowment fund fees of $0.6M

Incidental Fees Fall 2021 - General Approach to Fee Assessment

Recommendation

It is recommended that incidental fees to be assessed and collected during the fall term 2021 from full-time and part-time undergraduate and graduate students be modified based on the final details dictated by public health guidelines. The specific approach will be finalized collaboratively by the presidents/vice-presidents of the Waterloo Undergraduate Student Association (WUSA) and the Graduate Student Association – University of Waterloo (GSA), the Vice-President, Administration & Finance, and the Associate Provost, Students for approval by the President and Provost. (This is the same approach used for the past 4 terms.)

Comments:

• In a typical fall term, there are approximately 80 incidental fees assessed to undergraduate and graduate students and approximately $20M is collected in revenue to the University, WUSA and the GSA
• Those discussions will determine how the fee assessments may be modified
• One of the primary determinants for continuing with a specific fee is the student’s opportunity to benefit from the service during the fall term; other considerations are also under discussion
• A report summarizing fall term incidental fee assessments will be provided at the October Board meeting

Undergraduate Incidental Fees – Changes subject to final Fall term Assessment Approach

WUSA Administered Fees

It is recommended that the WUSA fees, assessed and collected from undergraduate students, be reconfigured for Fall 2021 following WUSA Students’ Council approval on May 16:

<table>
<thead>
<tr>
<th>Student Life Fee $35.00 for full-time (30% for part-time); compulsory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formerly assessed as 3 optional fees and 1 compulsory fee:</td>
</tr>
<tr>
<td>Community-Building Services</td>
</tr>
<tr>
<td>Clubs</td>
</tr>
<tr>
<td>Events</td>
</tr>
<tr>
<td>Health &amp; Safety</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Academic Support & Advocacy $15.39 for full-time (30% part-time); compulsory
Formerly assessed as 2 optional fees and 1 compulsory fee:

<table>
<thead>
<tr>
<th>Fee</th>
<th>Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Support</td>
<td>Compulsory</td>
<td>$6.26</td>
</tr>
<tr>
<td>University Advocacy</td>
<td>Optional</td>
<td>$4.72</td>
</tr>
<tr>
<td>Government Advocacy</td>
<td>Optional</td>
<td>$8.17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$19.15</strong></td>
</tr>
</tbody>
</table>

Operations Fee $34.66 for full-time (30% part-time); compulsory
Formerly assessed as 2 compulsory fees:

<table>
<thead>
<tr>
<th>Fee</th>
<th>Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporations Act Compliance</td>
<td>Compulsory</td>
<td>$24.58</td>
</tr>
<tr>
<td>SLC Facilities</td>
<td>Compulsory</td>
<td>$4.79</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$29.37</strong></td>
</tr>
</tbody>
</table>

Total of 3 combined fees: $85.05
Total of 9 individual fees: $87.66 + HST as indicated above

Capital Program Fund Fee:
It is recommended that the compulsory Capital Program Fund Fee, assessed and collected from full-time undergraduate students (part-time 30%), be increased from **$15.00 to $15.11** per term effective Fall 2021.

WUSA Student Refugee Program Fee
It is recommended that the optional Student Refugee Program Fee, assessed and collected from full-time and part-time undergraduate students that have not opted out of the fee, be increased from **$4.98 to $5.01** per term effective Fall 2021.

WUSA Orientation Fee
It is recommended that the optional Orientation Fee, assessed and collected from full-time first-year undergraduate students who have not opted out of the fee, be increased from **$116.36 to $117.17** and be charged during Fall 2021 only.

UW Student Publications
It is recommended that the administration and collection of the UW Student Publications (Imprint) fee be transferred to WUSA. Concurrently, it is recommended that the optional fee for full-time undergraduate students be increased from $5.69 to $5.79 (30% for part-time students) effective Fall 2021.

Comments:
- In April 1979, the University of Waterloo Board of Governors approved the creation of the Imprint Fee ($1.75/term for undergraduate students beginning that Fall) supported through a student referendum with the understanding that Imprint would be separately incorporated with its own editorial board and not controlled by the Federation of Students/WUSA
- The student newspaper is facing significant financial hardship
- The transfer of corporate control is expected to occur in Fall 2021
- The former senior staff member has joined WUSA staff to support the transition and improve the publication
- WUSA has created a Publications Committee and an Editorial Independence Policy to preserve editorial autonomy while maintaining appropriate financial oversight

Constitution of the Graduate Studies Endowment Fund (GSEF) at the University of Waterloo
It is recommended that the attached amendments to the GSEF Constitution be approved.

Comments:
- The Board of Governors approved the original version of the Constitution in February 2002 with the most recent amendment occurring in October 2012
The significant changes to the constitution include:
  - Consolidation from 28 sections to 10 sections to improve readability
  - Operational items moved into companion procedures/policy documents approved by GSEF Board
  - Additional directors have been included (Vice-Coordinator and one additional alumni position)
  - The responsibilities of the GSEF Coordinator, Vice-Coordinator and Treasurer are further delineated
  - Creation of the Long-Range Planning Committee
  - Requires that the GSEF Board must also vote on any future constitutional amendments

The endowment principal is approximately $3M

A referendum was conducted from May 17-20, 2021; a total of 102 votes were cast, 88 votes were cast in favour of the changes and 14 votes were cast in opposition to the changes; the vote exceeded the 2/3 majority required

Dennis Huber
Vice-President, Administration & Finance
Constitution of The Graduate Studies Endowment Fund at the University of Waterloo

Enacted February 5 2002, Amended April 7 2009, October 30 2012, and Spring 2021

1. Name and Purpose
The official name of the organization is The Graduate Studies Endowment Fund at the University of Waterloo, hereinafter referred to as “GSEF”. GSEF functions as a semi-autonomous, non-profit organization within the University of Waterloo, hereinafter referred to as the “University”. GSEF shall operate at arm's length from the University of Waterloo Graduate Student Association, hereinafter referred to as “GSA.” GSEF shall:

- solicit funds, in accordance with established University practices, for the purpose of funding an on-going commitment to enhance the learning, research, and overall experience of graduate students at the University,
- participate in the administration of said funds held by the University, and
- ensure the proper application for, and allocation of, said funds in accordance with this Constitution and all Board Policies established to govern GSEF.

I. POWERS AND DUTIES

GSEF shall have the following powers, subject to the provisions of The University of Waterloo Act, 1972, and the control and authority of the University's Board of Governors, the University Senate, and the Office of the President and Vice-Chancellor:

1. To appoint a Board of Directors
2. To make recommendations to the University with respect to the use of funds held by the University on behalf of GSEF,
3. To require the University to make available monthly reports to the GSEF Board of Directors summarizing the income
4. To require the University to hire one or more investment managers to administer the held funds. The direct and indirect costs of this shall be borne by GSEF.

GSEF shall not enter into any financial commitments or undertakings of any kind that might be contractually binding on the University. All formal commitments and contracts must be signed on behalf of the University by an appropriate officer of the University in accordance with the directions of the Board of Governors of the University.

The goals of GSEF are to promote graduate studies and graduate research at the University and to supplement existing funding from other sources to improve the graduate student experience.

The Fund shall be a supplementary source for graduate students and projects benefiting graduate student life, and is not a replacement for existing funding at the national, provincial, University, or any other level.
II. MEMBERSHIP

All active full-time and part-time students registered in a University graduate program are members of GSEF. For added clarity, members are not required to make a Voluntary Student Contribution, which is described in Section VIII.

III. BOARD OF DIRECTORS

1. The GSEF Board of Directors, hereinafter referred to as the “GSEF Board” shall have the following powers and duties:
   - To appoint officers pursuant to section IV
   - To approve or amend the recommendations of the Project Review Committee pursuant to V.1
   - To determine the funding priorities and eligibility each term
   - To annually publicize and report on the GSEF website the following:
     - the Project Funding recipients each term pursuant to V.1
     - a summary of GSEF expenditures and current fund sizes each Fiscal Year
   - To appoint such standing and ad hoc committees as it shall determine, and to delegate to such committees the powers and responsibilities that the GSEF Board itself possesses
   - To maintain the Board Policies

2. The GSEF Board shall be composed of the following Directors, with further stipulations given in the Board Policies
   - The GSEF Coordinator (Chair of the GSEF Board)
   - The GSEF Vice-Coordinator
   - The GSEF Treasurer
   - One graduate student per Faculty (hereinafter referred to as “At-Large Directors”) pursuant to section VIII
   - Up to two alumni of a UW graduate program pursuant to section VII
   - The Associate Vice-President, Graduate Studies and Postdoctoral Affairs (or delegate)
   - One member of the GSEF Board will be appointed by the Associate Vice-President Graduate Studies and Postdoctoral Affairs (GSPA) from among the staff or leadership of the GSPA
   - One member of the GSEF Board will be appointed by the Director of Finance in the University Finance department from among the staff or leadership of the Finance department
• One member of the GSEF Board will be appointed by the President of the Graduate Student Association from among the staff or leadership of the Graduate Student Association.
• The GSEF Board may invite non-voting guests to attend and participate in meetings on such terms as the GSEF Board may determine.

3. Directors, including the Coordinator, Vice-Coordinator, and Treasurer are expected to identify themselves as having a conflict of interest at the start of the relevant meeting, as per Board Policies on Conflicts of Interest.

The Board shall, when calling for project proposals, make public through appropriate online and/or printed publication media, the following information relevant to funding project proposals:

• Application package for requesting endowed project funding
• List of suitable endowed project categories,
• List of past endowed projects, and
• Any other information or materials deemed necessary by the Board.

An announcement of the GSEF Coordinator’s report at the GSA Annual General Meeting shall be given in the GSA Annual General Meeting agenda, in compliance with GSA regulations. *(Informational note: as of 2012, this is two weeks, specified in GSA Bylaw 4.4.)*

For Board and Review Committee meetings, notice of the meeting must be sent at least one week in advance; emergency meetings may be called with twenty-four (24) hours notice to deal with specific limited matters.

Minutes from all Board of Directors meetings shall be made publicly available on the GSEF website within ten (10) days of the meeting, and all members of the respective body shall be notified when the minutes are made available. The Chair may either take the minutes or delegate the duty to another attendee.

While it is expected that all members of the Board of Directors and Review Committee attend meetings regularly, they also may submit advance votes and comments by e-mail when they cannot attend.
IV. OFFICERS

1. GSEF Coordinator
   - The senior officer of the GSEF Board shall have the title “GSEF Coordinator” (the “Coordinator”).
   - The student serving as Coordinator may not concurrently serve as an executive officer of the GSA.
   - The Coordinator must be a registered graduate student at the University of Waterloo.
   - The term of office of the Coordinator shall normally be one year. The Coordinator is eligible to be re-appointed.
   - No remuneration shall be received by the Coordinator.
   - The duties of the Coordinator shall consist of:
     - Overseeing operations
     - Delegating tasks to a Vice-Coordinator
     - Calling and chairing meetings of the GSEF Board
     - Such other duties as may be assigned to the chair by this Constitution or through Board Policies or resolutions of the GSEF Board.

2. Vice-Coordinator
   - GSEF can appoint an officer of the GSEF Board with the title "GSEF Vice-Coordinator” (the “Vice-Coordinator”).
   - The student serving as Vice-Coordinator may not concurrently serve as an executive officer of the GSA
   - The Vice-Coordinator must be a registered graduate student at the University of Waterloo.
   - The duties of the Vice-Coordinator shall consist of:
     - Assisting the Coordinator in overseeing operations;
     - Serving as the Vice-Chair of meetings of the GSEF Board
     - Such other duties as may be assigned to the Vice-Chair by this Constitution or through the Board Policies or resolutions of the GSEF Board.

3. Treasurer
   - The Treasurer must be a registered graduate student or current staff member at the University of Waterloo.
   - The duties of the Treasurer shall consist of
     - Receiving receipts
     - Assisting funding recipients in submitting documents for reimbursement
     - Tracking expenditures
     - Liaising with the University Finance department
     - Liaising with the GSPA regarding funding
     - Completing such other duties as may be assigned to the Treasurer by this Constitution or through the Board Policies or resolutions of the GSEF Board.
V. STANDING COMMITTEES

1. Project Review Committee (PRC)
   ● The PRC shall
     o Receive and review project funding applications;
     o Make funding recommendations to the GSEF Board
     o Follow resolutions of the GSEF Board and Board Policies
   ● The PRC shall consist of the following
     o The Coordinator
     o The Vice-Coordinator
     o The Treasurer
     o Two GSEF members selected from each of the six Faculties for a maximum of two-year (non-renewable) terms
   ● If a PRC member or a group in which they have an interest applies for project funding, a “Conflict of Interest” shall be noted on the application, and that member shall be absent from all discussion on that application, and shall abstain from voting on it. PRC members, including the Coordinator, Vice-Coordinator, and Treasurer, are expected to identify themselves as having a conflict of interest as per Board Policies. Conflicts of interest shall be handled in such a manner as outlined in the Board Policies.

2. Long Range Planning Committee
   ● The Long Range Planning Committee (LRPC) shall be responsible for GSEF’s long-term financial sustainability and vision. Further stipulations of the LRPC shall be given in the Board Policies. If the LRPC is unable to be formed in a given year, the Board shall take on the responsibilities of the LRPC for that year.

VI. AD HOC COMMITTEES

The GSEF Board shall be entitled to establish such other standing or ad hoc committees as it sees fit, to determine the composition and terms of reference of such committees, and to appoint the initial members of such committees. No such committee shall remain a committee for more than two years from the date of the GSEF Board meeting at which it was established unless its composition and terms of reference are added to this Constitution or the Board Policies.

VII. VACANCIES

1. Vacancies on GSEF Committees
   ● Any Director or Reviewer who, as a graduate student of the University, ceases to be registered by the University, is deemed to have resigned.
   ● Appointments are made according to Board Policy.
Any Director or Reviewer who is found by a court to be of unsound mind is deemed to have resigned.

Any Director or Reviewer who declares personal bankruptcy is deemed to have resigned.

VIII. THE FUND

Henceforth, we shall refer to the financial component of the GSEF as “the Fund.”

1. Contributions:
   - GSEF shall accept a Voluntary Student Contribution, hereinafter referred to as the “VSC”, from its members. This fee is intended to be a charitable donation.
   - The GSEF Board shall propose changes to the VSC level when deemed necessary. The GSEF Board may also propose changes to the VSC structure, such as charging a different fee to part-time students.
   - A VSC fee per graduate student will be assessed on all graduate student fee statements each academic term.
   - Changes to the VSC must be approved by an online vote of the graduate student body, using the procedure described in Section IX. A vote to change the VSC level, or VSC structure, will be deemed to have passed if at least 2/3 of voting students are in favour of the change.
   - The University Board of Governors must ratify any VSC changes, after the vote takes place.

2. Fund Definitions:
   - Funds held by the University on behalf of GSEF are categorized as either Capital or Income. The purpose of Capital is to generate interest in the long term; the purpose of Income is to be spent in the short term. Only Income shall be used for GSEF expenditures.

3. Handling of Income:
   - Normally, when Income funds are generated, the GSEF Board shall strive for them to be spent within a year, and as soon as possible otherwise.

4. Administrative Expenditures:
   - The GSEF Board shall establish and publish, on an annual basis, reasonable thresholds that may be used for administrative expenditures, which shall include remuneration of the Coordinator, Vice-Coordinator, and Treasurer, as well as organizational expenses such as financial reviews and any other expenses that assist in the operation of GSEF.

5. Fund Inception and Maturity:
   - The Fund will be deemed mature at the end of the first fiscal year in which the interest generated by Capital exceeds fifty percent (50%) of the total of VSC contributions that year.

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1 For clarity and not part of this Constitution, the VSC has been $20 since December 2001.
• From inception until maturity, the funds raised each term shall be directed as follows:
  o Fifty percent (50%) of the VSC contributions shall be directed to Capital.
  o Fifty percent (50%) of the VSC contributions shall be directed to Income.
  o The interest on the Capital shall be directed to Capital.
  o All other contributions, donations, and bequeaths shall be directed to Capital.

• From the point of maturity onward, the funds raised each term shall be directed as follows:
  o The interest on the Capital shall be directed to Income.
  o All VSC contributions shall be directed to Capital.
  o Annual purchasing power protection shall be provided for by directing an amount equal to the annual inflation, calculated on the basis of a weighted average of the Monthly Consumer Price Index, from Income to Capital at the end of each fiscal year.
  o All other contributions, donations, and bequeaths shall be directed to Capital.

6. Reimbursement of Expenditures to the University:
   Only expenditures approved by the GSEF Board shall be committed against the account(s) of GSEF. Unless otherwise stipulated through a written agreement with the University, the general accounts of the University shall be fully reimbursed from the particular accounts of GSEF, for all services provided to GSEF or expenditures made by the University in connection with the administration, management, or operation of GSEF.

7. Preservation of Autonomy and Funding for Graduate Studies:
   GSEF, in the exercise of its powers, shall in no way interfere or otherwise adversely affect the autonomy of the Graduate Studies Office in the exercise of its powers, authorities, duties, or regular conduct of its affairs. All funds raised for GSEF and the interest earned thereon shall not have an adverse effect on the funding provided by the University to the Graduate Studies Office, graduate students, and graduate research. All funds shall be held by the University in an account separate from all general or operating funds of the University.

8. Board of Governors:
   The University Board of Governors has the power to refuse recommendations from the GSEF Board for GSEF expenditures. In the event of refusal, the University Board of Governors will provide the Board with a written explanation of the rationale behind its refusal within thirty (30) days.

   1. Should the University’s Board of Governors propose to take any action which may adversely affect GSEF in any way, the Board of Governors shall give GSEF no less than sixty (60) days written notice beforehand.
9. **Auditors:**
The GSEF accounts shall be audited by the Auditors of the University who are appointed by the University’s Board of Governors. In the event the GSEF Board requests any additional audits, any expenditures for fees or services for such audits shall be the responsibility of GSEF.

10. **Establishing a Separate Endowment:**
A referendum may be held for the specific purpose of establishing another endowment with similar objectives but held separate from the University, hereinafter referred to as a New Endowment. A 2/3 majority of GSEF members voting in favour shall be required for the referendum to pass. In such a case this Constitution shall continue to apply to any of GSEF’s funds held by the University. The following stipulations apply:

- If the University Board of Governors, after consideration of the objectives and powers of the New Endowment, determines that it is in the best interests of the University to transfer the Funds, and Canada Revenue Agency, and the Public Guardian and Trustee for the Province of Ontario approve of such a transfer, then the University shall transfer GSEF’s funds to the New Endowment. If such a transfer is approved, then following the transfer of said funds, GSEF shall be dissolved.

- In the event that such transfer is not approved by Canada Revenue Agency and/or the Public Guardian and Trustee for the Province of Ontario, and, at the time of the establishment of the New Endowment, GSEF’s funds are being held by the University, then the said funds may only be used by the University to further the objects as set out in this Constitution.

11. **Dissolution of GSEF:**
If for any reason GSEF is to be dissolved and the existing funds are not to be transferred to a New Endowment, then the following restrictions to dissolution apply:

- Voluntary dissolution shall take place only after a 2/3 majority vote to that effect in a referendum conducted for this express purpose; and

- Upon dissolution, the Funds, after payment of all debts and liabilities, shall revert to the University and remain under the authority of the University Board of Governors for the disposition of the funds for the purposes of benefiting graduate studies and graduate research.

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**IX. ONLINE VOTING PROCEDURES**

The following regulations apply to VSC level changes, amendments, dissolution, and any other decisions that require a vote of all graduate students.

1. Votes shall be implemented online, using University web services. The mechanism must ensure that only graduate students can vote and that nobody can vote twice.

2. The specific wording of all motions for voting must be announced by e-mail to all graduate students at least 7 calendar days in advance.
3. A second announcement shall be made to all graduate students when the polls open. The polls must remain open for a minimum of 72 hours from the time of this announcement. It is optional for one final reminder announcement to be made on the day that the polls close.

4. In counting votes, the total number of YES votes shall be compared to the total number of YES votes plus NO votes, in determining whether the required threshold has been reached. Declined votes and spoiled votes have no effect.

X. CONSTITUTIONAL AMENDMENTS

Any constitutional amendment will require the approval by a 2/3 majority of the GSEF Board and approval by a 2/3 majority of voting GSEF members in a referendum. Before becoming effective, the amendments must be approved by the University Board of Governors. The constitution shall be subject to periodic review by the University's Board of Governors and by the GSEF Board. Such reviews are to be carried out in light of any new or revised policies established by the University Board of Governors, the University Senate, or the GSEF Board, and deemed applicable to GSEF; and the said review shall be for the purpose of defining or controlling the affairs or earnings of GSEF.
This report is submitted following the committee’s meeting of 13 May 2021, for inclusion in the consent agenda.

FOR INFORMATION

1. General Oversight

  Investment Fund Performance. The committee reviewed the performance of the registered pension plan, endowment fund, IQC trust fund, and payroll pension plan portfolios as at 31 March 2021. On a one-year basis the registered pension fund returned 18.0% net of fees, well above its 5.9% return target. The endowment fund’s one-year performance of 20.5% trailed the fund’s policy benchmark, though performance better matches the benchmark over the 3–5 year timeframe. The IQC trust fund slightly exceeded its benchmark on a one-year basis. The payroll pension plan, which is fully indexed, continues to track closely to the policy benchmark.

/mg

James Schlegel
Chair
This report is submitted following the committee’s meeting of 13 May 2021.

FOR INFORMATION

1. **Board Self-Assessment Questionnaire**
   The committee reviewed the results of the Board and committee self-assessment surveys completed at the end of the 2020-2021 cycle. Please see the report of the chair under Business Arising in the confidential part of this agenda for more information.

2. **Board Orientation**
   The committee understood that new governors will be invited to an orientation session to be held before the June meeting. Members heard that the secretary and incoming president will consider ongoing orientation activities and resources after he begins his term.

3. **Board Retreat**
   The committee discussed the desirability of holding an in-person retreat if possible. In discussion with the incoming president, it was agreed that the retreat will be held in late November or early December with the hope that a safe, in-person event will be able to occur.

24 May 2021

Cindy Forbes
Chair
This report is submitted following the committee’s meeting of 14 May 2021, for inclusion in the consent agenda.

FOR INFORMATION

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1. General Oversight

The committee receives regular reports from the consulting actuary on legislative and policy changes anticipated and in force that impact public sector pensions, as well as changes implemented by other public sector pension plans. The committee discusses implications for the pension plan and takes the information into account when making decisions on matters including plan design, funding and administration.

As part of the general oversight function exercised by the committee, the actuary noted the provision in the recent Ontario budget pertaining to a requirement for pension plan administrators to calculate and report their plan’s Pension Benefits Guarantee Fund claim exposure.

/mg

Peter Barr
Chair
Sexual Violence Task Force

In 2019 the Ministry of Colleges and Universities mandated that each Ontario post-secondary institution implement a Sexual Violence Task Force for the 2019-2020 academic year. Task Forces were required to provide feedback regarding recommendations on the additional steps that our institutions may take to ensure a safe environment for all, and to evaluate both the sufficiency of University sexual violence policies as well as the effectiveness of current programs and services provided to address sexual violence on campus.

Our campus had already established a working group focused on educational efforts on campus, and the existing committee was supportive of re-adjusting the goals of the committee to reflect the requirement of the Ministry.

Safety Recommendations

Early Winter Term 2020, the Task Force engaged in an exercise to brainstorm concerns related to safety within the members’ own areas. In the Fall Term 2020, committee members elicited feedback from their stakeholder groups with regard to perceptions of safety on campus. This feedback was consolidated and included in an update report to the Ministry in December 2020 regarding Task Force obligations.

Evaluation

In Winter term 2020 task force co-chairs Amanda Cook and Jennifer McCorriston consulted with Institutional and Analysis and Planning (IAP) regarding the creation of an evaluation framework for both sexual violence policy and programming. In the Spring Term 2020, Amanda Cook (on
behalf of the Task Force) reached out to the Survey Research Institute to inquire about accessing their support in developing and implementing a survey regarding Policy 42 to students at UWaterloo. This survey, developed in partnership with WUSA and GSA representatives, will be available for students in the Spring term 2021 and will contribute to the Policy 42 review process being undertaken this year.

The Sexual Violence Prevention and Response Office also hired a Program Evaluation and Planning Specialist on contract from April 2021 – May 2022 to develop and implement a comprehensive program evaluation framework and to collect and interpret data related to the Policy 42 review.

**Sexual Violence Prevention & Response Office (SVPRO)**

**Pandemic Response**

COVID-19 presented particular challenges for our campus community and beyond, which has also extended into 2021. Despite this, the SVPRO has endeavored to shift and evolve in response to changing campus needs and the office remains responsive while operating remotely. While we saw a reduction in direct service requests in 2020, we do not believe this was due to a cease in sexual violence, but instead due to survivors focusing on their immediate needs in a pandemic context. This dip in service requests was noticed across Waterloo Region as well, a trend that was shared among Sexual Assault Review Team (SART) members. In contrast, the Winter term 2021 saw a slight increase in direct service requests.

The SVPRO also saw an increase in opportunities for collaboration both on and off campus which allowed for us to creatively embed sexual violence related content in a meaningful way for the departments and units who approached us. We deeply appreciate the chance to normalize conversations about sexual violence, increase awareness of sexual violence concepts, supports and resources, and contribute toward creating a consent culture on campus.

Examples of these opportunities include:

- Assisting with Counselling Services’ partnership with the Sexual Assault Support Centre of Waterloo Region (SASC) to provide sexual violence focused counselling for UWaterloo students, and supporting the enhancement of counselling offered from 2 days/week to 3 days/week to address the growing waitlist of UWaterloo students at SASC waiting for services.

- Partnering with Community Justice Initiatives (CJI) to develop a plan for incorporating restorative justice options within Policy 42 including training for staff involved in responding to complaints and education for those who have caused harm. As a part of this work we have hosted two Listening and Learning sessions for staff and one for students to contribute their thoughts about this approach.
• Collaborating with main campus Housing to enhance programming, resources and training related to sexual violence for professional staff, student staff and students in residence.

• Working with Co-op Harassment Advisors to: provide tailored training regarding Trauma Informed Communication, Online Harassment in the Workplace and Responding to Disclosures; develop and deliver a model for ongoing case conferencing; and develop a training plan for sexual violence concepts.

• Partnering with Graduate Studies and Postdoctoral Affairs (GSPA) and the Centre for Teaching Excellence (CTE) to revise the teaching assistant handbook’s guidelines for responding to disclosures of sexual violence, as well as designing synchronous and asynchronous training on responding to disclosures for teaching assistants.

• Supporting Athletics to receive six workshops provided through the Male Allies program at SASC, which was delivered to 100 male student athletes to date. This initiative will continue into the Fall Term 2021, offering this training to male student athletes who have not yet received it.

Further examples of campus engagement can be found in the chart below.

**Courage to Act**
Both the Director and Sexual Violence Response Coordinator (SVRC) were invited to participate in a two-year national initiative, entitled [Courage to Act](#), to address and prevent sexual and gender-based violence at post-secondary institutions in Canada. [Communities of practice](#) were established based upon key recommendations that emerged out of the report “Courage to Act: Developing a National Framework to Address and Prevent Gender-Based Violence”. The Director was a part of the Working With People Who Have Caused Harm community of practice, and the SVRC was a part of the Front-Line Gender Based Violence Campus Workers community of practice. The communities of practice met regularly to develop a resource or tool to present at the national skillshare this year and will support testing the materials developed at their respective post-secondary institutions. This initiative is funded by Women and Gender Equality Canada (WAGE).

**New Roles**
Due to the adjusted Campus Safety Grant eligible expenses this year, the SVPRO was able to add capacity to meet the needs of our campus community by hiring two contract roles. The Sexual Violence Project Coordinator and the Planning and Program Evaluation Specialist joined the office in April 2021. These additions will allow us to identify and implement further evidence-based programming focused on bystander intervention as well as identifying other potential programming, needs and to develop and apply ongoing evaluative methods to measure efficacy of our programming, as well as sufficiency of our policy. The addition of resources also allows for continued work in identifying, and collaborating around, systemic change to align with the strategic goals of both HREI and the University of Waterloo.
## 2020 Campus Initiatives

The following are examples of the several initiatives undertaken by SVPRO in Spring and Fall Terms 2020:

<table>
<thead>
<tr>
<th>INITIATIVE</th>
<th>AUDIENCE AND ENGAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Creating a Consent Culture with Student Leaders</strong>&lt;br&gt;Provided trainings on Unpacking Rape Culture on Campus, Responding to Disclosures and Creating a Consent Culture</td>
<td><strong>student leaders</strong>&lt;br&gt;• Senior Residence Dons (Renison)&lt;br&gt;• Residence Dons (St. Jerome’s)&lt;br&gt;• Residence Dons (St. Paul’s)&lt;br&gt;• Main Campus Residence Dons (Graduate Student Residence, centering on unpacking and addressing domestic violence)&lt;br&gt;• Women’s Centre Volunteers&lt;br&gt;• Peer Health Educators&lt;br&gt;• Orientation Leaders (via inaugural online module)&lt;br&gt;• Orientation Planning Leaders (via in person training)&lt;br&gt;• GSA Council&lt;br&gt;• Athletics Weight Room Staff – Bystander Intervention Training</td>
</tr>
<tr>
<td><strong>Guest Lectures/Panel Discussions</strong></td>
<td>• Waterloo Regional Sexual Assault Review Team (SART) – Campus Based Sexual Violence Prevention and Response Services&lt;br&gt;• GSPA Policy Information Session for graduate students to provide information about Policy 42 and the SVPRO&lt;br&gt;• OHD Community Connects Spotlight on SVPRO&lt;br&gt;• HREI Ask Us Anything panel</td>
</tr>
<tr>
<td><strong>16 Days of Activism Against Gender-Based Violence</strong>&lt;br&gt;<a href="https://uwaterloo.ca/16-days-of-activism-against-gender-based-violence/actions-campus-2020">https://uwaterloo.ca/16-days-of-activism-against-gender-based-violence/actions-campus-2020</a></td>
<td>• Campus-wide initiatives to create awareness of gender-based violence, and how best to support survivors</td>
</tr>
<tr>
<td><strong>GSA Safe Love Week</strong></td>
<td>• Provided Responding to Disclosure workshop&lt;br&gt;• Ran a Build Your Own Self-Care Kit booth in the Grad House</td>
</tr>
<tr>
<td>INITIATIVE</td>
<td>AUDIENCE AND ENGAGEMENT</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>External Facilitator:</strong> Rania El Mugammar</td>
<td>• SVPRO co-sponsored this event with the Equity Office, entitled “Cultivating Consent</td>
</tr>
<tr>
<td><em>Sudanese Canadian, Artist, Arts Educator, Equity, Anti-oppression, Liberation and Meaningful Inclusion Educator &amp; Consultant, performer, speaker and published writer.</em></td>
<td><em>Culture from an Intersectional Lens</em></td>
</tr>
<tr>
<td><strong>SVPRO Social Media Engagement</strong></td>
<td>• The SVPRO created a series of videos shared on social media platforms promoting</td>
</tr>
<tr>
<td><em>The SVPRO</em> created a series of videos shared on social media platforms promoting community partners and resources available during COVID, discussing the SVPRO services and supports, and raising awareness of the intersections between COVID and gender based violence. Piloted #ConsentConversations, a weekly social media engagement post often linked to HREI initiatives, encouraging student interaction via prizes awarded.*</td>
<td>community partners and resources available during COVID, discussing the SVPRO services</td>
</tr>
<tr>
<td><strong>Public Education Agreement with Sexual Assault Support Centre of Waterloo Region (SASC)</strong></td>
<td>and supports, and raising awareness of the intersections between COVID and gender</td>
</tr>
<tr>
<td><em>SVPRO continued the public education agreement with SASC through the remainder of 2020. Beginning in the Spring term 2021 the hours of engagement will increase to 12.75 hours per month. This includes education on campus as well as assistance and guidance on events run through the SVPRO. Additionally, SASC is regularly welcomed into classes, student services, student clubs, and so on to provide interactive learning on ending sexual violence, practicing consent, bystander intervention, male allyship and more.</em></td>
<td>based violence. Piloted #ConsentConversations, a weekly social media engagement post</td>
</tr>
<tr>
<td><strong>Safety Cards in Washrooms</strong></td>
<td>• Updated and installed safety cards in washrooms across campus to include both sexual</td>
</tr>
<tr>
<td><em>Updated and installed safety cards in washrooms across campus to include both sexual violence specific and general safety contact information, reflecting both on and off campus resources.</em></td>
<td>violence specific and general safety contact information, reflecting both on and off</td>
</tr>
<tr>
<td><strong>Reviewed and revised the SVPRO website</strong></td>
<td><strong>Roundtable: In the Media – Trinity Bellwoods Kiss</strong></td>
</tr>
<tr>
<td><em><a href="https://uwaterloo.ca/human-rights-equity-inclusion/svpro">https://uwaterloo.ca/human-rights-equity-inclusion/svpro</a></em></td>
<td>• SVPRO hosted a roundtable with panelists from WUSA, GSA and SASC to discuss the viral</td>
</tr>
<tr>
<td><em>Re-vamped the SVPRO website to include content such as: giving support, getting support, supporting a friend, education, events, resources, and more.</em></td>
<td>video of a male kissing a female while she was being interviewed, without her consent</td>
</tr>
</tbody>
</table>
#### 2021 Winter Term Campus Initiatives

The following are examples of the several initiatives undertaken by SVPRO in Winter Term 2021:

<table>
<thead>
<tr>
<th>INITIATIVE</th>
<th>AUDIENCE AND ENGAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responding to Disclosures Training – Train the Trainer</td>
<td>Communication was sent out in April through UWSA and FAUW mailing lists regarding the opportunity to become a trainer with the Responding to Disclosure program and to participate in the Community of Practice. Two information sessions were held in May for those interested in learning more, and training dates will be in June.</td>
</tr>
</tbody>
</table>

*Background on the Responding to Disclosure Program:* based on the online module created by the Centre for Research and Education on Violence Against Women & Children (CREVAWC), this training is designed to support all employees to: respond supportively & effectively to disclosures of sexual violence; know where to seek tangible support & resources; examine one’s own attitudes, behaviours & beliefs; ensure that survivors are treated with respect and dignity and that they receive the supports needed to feel comfortable remaining a part of our campus community, as well as to continue on their path toward healing.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Audience and Engagement</th>
</tr>
</thead>
</table>
| Creating a Consent Culture with Student Leaders | • Peer Health Educators Volunteers  
• Campus Response Team (responding to disclosures in a crisis training, also collaborated on updating their guidelines manual and resource cards) |

| Consent Week 2021                              | • 5-day social media campaign providing tools and resources aimed at creating a #ConsentCulture on campus  
• Campus-wide callout for proposals seeking creative consent awareness initiatives, which SVPRO would fund and support  
• Wendo feminist self-defense workshop for staff and their women-identified household members |

| GSA Safe Love Week                             | • Partnered with GSA to host Eva Bloom, sexual health educator to provide two workshops for graduate students:  
• How to be your #1 Sex Partner: Solo Sex 101  
• Sex & COVID-19 |

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The following are examples of the several initiatives undertaken by SVPRO in Winter Term 2021:
<table>
<thead>
<tr>
<th>INITIATIVE</th>
<th>AUDIENCE AND ENGAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UWaterloo Staff Conference</td>
<td>• Supported the GSA to host Venus Envy, sexual health educator to provide a workshop on “Confidence, Consent and Communication” for graduate students</td>
</tr>
<tr>
<td>Sexual Health Video Series with Samantha Bitty</td>
<td>• Presented on responding to disclosure remotely and in person</td>
</tr>
<tr>
<td>Samantha Bitty is a sexual health and consent educator, speaker and social change entrepreneur.</td>
<td></td>
</tr>
<tr>
<td><a href="https://uwaterloo.ca/campus-wellness/sexual-health">https://uwaterloo.ca/campus-wellness/sexual-health</a></td>
<td></td>
</tr>
</tbody>
</table>
## Services & Statistics

### 2020 Calendar Year

<table>
<thead>
<tr>
<th>Student Supports and Services</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Direct Service Provision (unique individuals) - survivors</td>
<td>61</td>
</tr>
<tr>
<td>Carry over*</td>
<td>20</td>
</tr>
<tr>
<td>Consultations with others on campus</td>
<td>63</td>
</tr>
<tr>
<td>Formal Complaints under Policy 42</td>
<td>1</td>
</tr>
</tbody>
</table>

*Carry over refers to the number of students who “carried over” from the prior year(s) and continued to access services and support from SVPRO.

### Spring and Fall 2020, Winter Term 2021

<table>
<thead>
<tr>
<th></th>
<th>Spring 2020</th>
<th>Fall 2020</th>
<th>Winter 2021</th>
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</thead>
<tbody>
<tr>
<td>Direct Service:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Consultations</td>
<td>17</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>Formal Complaints</td>
<td>23</td>
<td>18</td>
<td>21</td>
</tr>
</tbody>
</table>

*some individuals may have sought support for more than one type of harm

### Student Experiences of Sexual Violence*  

<table>
<thead>
<tr>
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<th>Spring/Fall 2020, Winter Term 2021</th>
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</thead>
<tbody>
<tr>
<td>Sexual Assault</td>
<td>27</td>
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<tr>
<td>Sexual Harassment</td>
<td>14</td>
</tr>
<tr>
<td>Other forms of Gender Based Violence</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>
SVPRO noticed continued impacts in direct service requests, which we attribute to the effects of COVID-19. We took the opportunity to increase our social media presence and outreach, as well as enhancing our website to ensure our campus community could access the information they need. Of the direct service requests we received, we noticed that more students were disclosing historical experiences of sexual and gender-based violence (we consider historical to be more than 6 months from the date the disclosure was received), intimate partner violence, and technology-facilitated violence. It is important to note that some individuals seeking support may only come to our office one time, where many others may require continued support and case management. Our office seeks to center survivors and prioritize direct service requests to remain as responsive as possible to our campus community.

Accommodations & Support

Due to primarily remote learning and working environments, the accommodation and support needs understandably focused much less on physical space needs. Accommodation and support options are available to anyone that we are supporting and are determined on a case-by-case basis. The top two accommodation requests continued to be:

- Academic accommodations (supported through AccessAbility Services and facilitated by a referral from the SVPRO)
- Letter of support from SVPRO for academic petitions

Other supports and recommendations discussed and offered (when appropriate):

- Counselling and/or treatment supports that are either local to the person who experienced the harm or available through the University
- Coping and managing strategies, including grounding techniques
- Support in preparing Policy 42 complaints

Referrals for continued support are always provided as an option. This is not an exhaustive list and depends on individual needs. The top three referral requests where a warm hand-off is provided include:

- UW Counselling Services
- Conflict Management and Human Rights Office
- Sexual Assault Support Centre of Waterloo Region
Other services often discussed and offered (when appropriate):

- Victim Services of Waterloo Region
- Off-campus counselling services
- Peer Support Groups on Campus (Women’s Centre, Glow, RAISE)
- Sexual Assault/Domestic Violence Treatment Centre
- Community Justice Initiatives
- UW Police or Waterloo Regional Police Service (where appropriate)

Understanding the Numbers

Direct Service Requests

We believe that direct service requests do not reflect the number of incidences of sexual violence experienced by our campus community, but rather the capacity for our members to seek support from the SVPRO at any given time. We operate from the perspective that survivors will reach out when they have the energy, safety and ability to do so, and the effects of COVID-19 have likely greatly impacted this. For example, being in a remote environment may mean that confidentiality is not available in the homes where our campus members are currently residing. Further, due to the remote learning and work environment it is more likely that survivors sought support in their own communities rather than reaching out to the SVPRO. We continue to remain available to support survivors as they prepare to return to in-person learning, living and work on campus.

In addition, we acknowledge the differential experiences of trauma for those who identify as Black, Indigenous, and Racialized people and who continue to be impacted by many other forms of harm, violence and oppression occurring in our communities – which have been especially enhanced during COVID. We seek to offer space for those most targeted by sexual and gender-based violence and remain committed to working towards decolonizing support for those affected through engaging in our own unlearning, as well as through the exploration of alternative pathways to address harm. Examples include partnering with SASC to offer a racialized support worker when requested by a survivor, and our work with CJI to explore the feasibility of restorative justice approaches to addressing harm on campus.

Consultations

Consultations are provided to those in our campus community who are aware of an incident of sexual violence and are seeking support and/or guidance. Consultations may include: debriefing a disclosure that was received or an incident that was witnessed, discussing how to navigate next steps when a disclosure or complaint has come forward, sharing resources and supports available to both the person who received the disclosure as well as the person who disclosed, helping those receiving disclosures to determine when their limits to confidentiality may apply, and more.
Formal Policy Complaints

The formal complaint process through Policy 42 is not often pursued by a survivor for many reasons. In many instances, survivors seek to mitigate the impacts they are experiencing solely through means that relate to themselves, such as workplace and/or academic accommodations and referrals to supports and services. In other circumstances, our policy may not apply (for example, if the person who caused harm is not a part of our campus community). In yet other instances, an informal process has been pursued and met the needs of the survivor which did not necessitate the need for a formal complaint. In some cases, a joint complaint has been put forward by more than one survivor regarding the same individual of concern.

Sexual Violence and Gender-Based Violence Defined

The Ontario government defines sexual violence as “any sexual act or act targeting a person’s sexuality, gender identity or gender expression, whether the act is physical or psychological in nature, that is committed, threatened or attempted against a person without the person’s consent, and includes sexual assault, sexual harassment, stalking, indecent exposure, voyeurism and sexual exploitation” (Sec. 17, Ministry of Training, Colleges, Universities Act, 2016). This definition is also reflected in University of Waterloo Policy 42 – Prevention of, and Response to, Sexual Violence.

We have included the broader language of gender-based violence in the chart below to acknowledge and capture those forms of sexual violence which are not reflected within the above definition. Gender-based violence can be defined as “any form of violence that is committed against someone based on their gender identity, gender expression or perceived gender” (Status of Women Canada). This umbrella term may include, but not be limited to: intimate partner violence, emotional abuse, human trafficking, reproductive coercion, technology-facilitated violence, forced marriage, financial abuse, stealing or non-consensual condom removal, threats of violence to coerce sex, and other forms of harm.
At the 6 April 2021 Board of Governors meeting a request was made for an informational report on University of Waterloo policies and what is on the horizon. I will be pleased to answer any questions governors may have at the meeting.

Role of the Secretariat
The Secretariat manages the library of the University’s policies, procedures and guidelines. The office provides interpretation and advice on the application of these various instruments and plays a significant role in their development and promulgation. The Secretariat undertakes this work in conjunction with other individuals and offices which have operational responsibility for various University policies, procedures, and guidelines.

University of Waterloo Policy Framework
Classifications
All University of Waterloo policies are classified in one of the following categories as provided in Policy 1 – Initiation and Review of University Policies:

F – those concerning the terms and conditions of employment of faculty
S – those concerning exclusively the terms and conditions of employment of staff
FS – those concerning the terms and conditions of employment of both faculty and staff
A – those concerning the appointment/removal/dismissal of senior academic officers
G – those concerning matters of a general nature including use of buildings and grounds, physical plant, the conduct of persons on University property or persons engaged in University activities
Z – those concerning the terms and conditions of employment of students in academic contexts

Process
The process of initiation, amendment, and renewal is widely consultative; a chart of the various requirements and steps is attached. Reviews of existing policies may result in relatively minor changes. More often, a full, in-depth assessment is undertaken to clarify content, rectify defects, and/or update a policy in light of experience or new legislation. New policies arise from requests from the community and administration, and are sometimes developed in light of new regulatory or legal obligations to which the University is subject.

Current policy development activities:
Underway:
• 30 – Employment of Graduate Student Teaching Assistants [Z; updates]
• 33 – Ethical Behavior [FS; updates]
• 57 – Compassionate Leaves [FS; new policy]
• 70-72 – Student discipline, appeals, etc. [G; updates]
• 76/77 – Generally, re: faculty appointments [F; updates]

On the horizon:
• The “A” suite of policies (those which cover senior administrative appointments)
• 42 – Prevention of and Response to Sexual Violence [G; updates]
• 46 – Information Management [G; updates]
• 73 – Intellectual Property Rights [G; updates]

New and Updated Policies since 2014:
• 7 – Gift Acceptance [G]
• 11 – University Risk Management [G]
• 14 – Pregnancy and Parental Leave [FS]
• 17 – Quotations and Tenders [G]
• 18 – Staff Employment [S]
• 20 – Lost and Found [G]
• 29 – Smoking [G]
• 34 – Health, Safety and Environment [G]
• 40 – The Chair [A]
• 44 – Research Centres and Institutes [G]
• 55 – Survey Administration [G]
• 59 – Reduced Workload to Retirement [FS]
• 60 – University of Waterloo Emergency Response [G]
• 8 – Information Security (Consolidated into NEW Policy 46 – Information Management) [G]
• 12 – Records Management (Consolidated into NEW Policy 46 – Information Management) [G]
• 13 – Archives (Consolidated into NEW Policy 46 – Information Management) [G]
• 19 – Access To and Release Of Student Information (Consolidated into NEW Policy 46 – Information Management) [G]

24 May 2021

Karen Jack
University Secretary
<table>
<thead>
<tr>
<th>Type of Policy</th>
<th>Initiation</th>
<th>Development</th>
<th>Compulsory Consultation</th>
<th>Approval Process</th>
</tr>
</thead>
</table>
| Class F       | Request by any member of the community | Faculty Policy Drafting Committee (FPDC)<sup>2</sup> | 1) Senate appoints 2 faculty members to FPDC  
2) FPDC (drafts)  
3) FRC (comments)  
4) FPDC (amends, if unsatisfactory or seriously flawed, or terms of reference not satisfied, according to FRC)  
5) Senate, Provost, FAUW’s Board of Directors (comment)<sup>3</sup>  
6) FRC (reviews)  
7) FPDC (amends, if unsatisfactory for FRC)  
8) FRC (sends for approval or shelves it)<sup>4</sup> | 1) FRC<sup>5</sup>  
2) President<sup>6</sup> (approves or returns it to FRC)  
3) Senate (approves or returns it to FRC)  
4) Board of Governors (approves or returns it to FRC) |

University policies that concern exclusively the terms or conditions of employment of faculty members:

Request to be reviewed by Faculty Relations Committee (FRC)

FPDC terms of reference to be provided by FRC

Proceed if a majority of 3 members of each of the Administration and FAUW are in favour

Request automatically approved if it comes from Senate or Board of Governors

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<sup>1</sup> Other committees may be consulted, depending on the matter of the policy and the context of review or adoption of the policy.

<sup>2</sup> Composition of the FPDC: min-3/max-6 members, 1-2 members appointed by President, 1-2 members appointed by FAUW President, and 1-2 faculty members appointed by Senate, Chair to be determined by both Presidents.

<sup>3</sup> Policy 1 states that: “It is expected that they will consult widely in their respective constituencies.”

<sup>4</sup> If support is lost at this stage, the project will be shelved and the Senate and/or Board of Governors will be informed. Support = majority of (i.e., three or more) of the members appointed by each of the Administration and Faculty Association.

<sup>5</sup> If support is lost at any given stage within FRC, the project will be shelved and the Senate will be informed. Support = majority of (i.e., three or more) of the members appointed by each of the Administration and Faculty Association.

<sup>6</sup> If not otherwise described, President means the President of the University of Waterloo.
| Class S | University policies that concern exclusively the terms or conditions of employment of staff members | Request to be reviewed by Staff Relations Committee (SRC) | SRC (or appointed subcommittee) | 1) SRC (drafts)  
2) President (if sent afterwards for the approval of the Board of Governors)  
3) SRC (if returned by President) | 1) SRC or subcommittee – recommendation (majority required of each of the Staff Association appointees and the President’s appointees)  
2) President (returns it to SRC, approves it as a University policy or recommends it the Board)  
3) Board of Governors (approves) |

| Class FS | University policies that concern terms or conditions of employment of both faculty and staff members | Request to be reviewed by SRC, FRC or both committees | Faculty/Staff Policy Drafting Committee (FSPDC) | 1) Joint meeting of FRC and SRC to set terms of reference of FSPDC  
2) FSPDC (drafts)  
3) FRC and SRC (comment or approve)  
4) FSPDC (amends and presents a 2nd draft to FRC and SRC, if necessary)  
5) FRC and SRC (comment or approve) | 1) If either FRC or SRC do not approve, joint meeting to reach consensus or to split the policy into one F Policy and another S policy  
2) FRC approve  
3) SRC approve  
4) Senate and/or Board of Governors, depending on the nature of the policy |
### Class A

University policies that concern the appointment, promotion or removal of University academic administrative officers.7

- Any member of the community
- As for Class F Request automatically approved if it comes from Senate or Board of Governors

Class A Policy Drafting Committee (CADC) as for Class F but it may have a different constitution8

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
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<tbody>
<tr>
<td>1)</td>
<td>Senate appoints 2 faculty members to CADC</td>
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<tr>
<td>2)</td>
<td>CADC (drafts)</td>
</tr>
<tr>
<td>3)</td>
<td>FRC (comments)</td>
</tr>
<tr>
<td>4)</td>
<td>CADC (amends, if unsatisfactory or seriously flawed, or terms of reference not satisfied, according to FRC)</td>
</tr>
<tr>
<td>5)</td>
<td>Senate, Provost, FAUW’s Board of Directors (comment)9</td>
</tr>
<tr>
<td>6)</td>
<td>FRC (reviews)</td>
</tr>
<tr>
<td>7)</td>
<td>CADC (amends, if unsatisfactory for FRC)</td>
</tr>
<tr>
<td>8)</td>
<td>FRC (sends for approval or shelves it)</td>
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<th>Step</th>
<th>Action</th>
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<tbody>
<tr>
<td>1)</td>
<td>FRC</td>
</tr>
<tr>
<td>2)</td>
<td>President (approves or returns it to FRC)</td>
</tr>
<tr>
<td>3)</td>
<td>Senate (approves or returns it to FRC)</td>
</tr>
<tr>
<td>4)</td>
<td>Board of Governors (approves or returns it to FRC)</td>
</tr>
</tbody>
</table>

### Class G

University policies that concern the use of buildings, grounds and physical plant, the conduct of persons (students, staff, faculty and visitors) on University premises, and other matters of a general nature

- Any member of the community
- Request to be reviewed by the President

To be decided by the President

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>FRC comments and/or</td>
</tr>
<tr>
<td>2)</td>
<td>SRC comments and/or</td>
</tr>
<tr>
<td>3)</td>
<td>Union/Management Committee comments</td>
</tr>
</tbody>
</table>

President

Note: Where a Class G-policy may intersect with the student body, the Undergraduate Student Relations Committee and the Graduate Student Relations Committee are consulted.

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7 The Class A policies currently in force are: 40 – The Chair; 43 – Special Conditions of Employment for Deans; 45 – The Dean of a Faculty; 48 – The Vice-President, Academic & Provost; 50 – The President of the University; 68 – Vice-President, Research and international.

8 Composition of the CADC: min-3/max-6 members, 1-4 members appointed by President (may include staff, students), 1-2 members appointed by FAUW President, and 1-2 faculty members appointed by Senate, Chair to be determined by both Presidents.

9 Policy 1 (re: Classes F and A): “It is expected that they will consult widely in their respective constituencies.”
| Class Z | University policies that cover the terms and conditions of employment of graduate and undergraduate students as Teaching Assistants, Research Assistants or undergraduate assistants by the University. (Other forms of employment of students are governed by staff employment policies.) | Request to be reviewed by the USRC or GSRC | Policy Drafting Committee (PDC) from GSRC or USRC | 1) USRC or GSRC (comments)  
2) PDC amends if unsatisfactory for USRC or GSRC | 1) USRC or GSRC  
2) Provost  
a. Returns it to USRC or GSRC, or  
b. Refer to Senate Graduate & Research Council or Senate Undergraduate Council, or  
c. Approves it as a University Policy, or  
d. Recommends it to Senate or Board of Governors  
3) Senate or Board of Governors, if recommended by Provost |

Note: Appendix C provides the terms of reference and membership of USRC; Appendix D provides the terms of reference of GSRC

Note: The terms of reference of PDC\textsuperscript{10} will be set by USRC or GSRC

\textsuperscript{10} Composition of the PDC: 3 students of the constituency (i.e., graduate or undergraduate) affected by the proposed policy, and 3 non-students appointed by either USRC or GSRC; the PDC will choose a Chair from amongst its members.
FOR APPROVAL

Department Name Change – Police Services

Motion: To approve the change of the name of Police Services to Special Constable Services, effective 1 July 2021.

Rationale: Under the Comprehensive Ontario Police Services Act, 2019, effective 1 January 2022, all Ontario university campus security and safety services using the term “police” must cease using that term. Such departments may identify themselves as special constables where the employer is authorized by the Solicitor General to do so; the University of Waterloo has such authorization.

The 1 July implementation date will allow the department to effect immediate changes like updating key outdoor signs and its website soon, and it provides sufficient time for the department to make other necessary changes over the remainder of the year (e.g., repainting vehicles, replacing/rebranding the many notices and signs across campus issued and posted by the department, replace uniforms, etc.).

24 May 2021

Karen Jack
University Secretary
<table>
<thead>
<tr>
<th>To:</th>
<th>Board of Governors</th>
<th>Date of Report: 5/21/2021</th>
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<tbody>
<tr>
<td>From:</td>
<td>Vice-President Academic &amp; Provost</td>
<td>Date of Board Meeting: 6/1/2021</td>
</tr>
<tr>
<td>Subject:</td>
<td>Vice-President Academic &amp; Provost’s Quarterly Report</td>
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1.0 PURPOSE

☐ For Approval  ☐ For Discussion  ☒ For Information
☒ Open Session  ☐ Confidential Session

2.0 MOTION/DISCUSSION/INFORMATION

This report is for information only.

3.0 EXECUTIVE SUMMARY

This report provides an update on initiatives underway within the Vice-President Academic and Provost portfolio.

4.0 STRATEGIC ALIGNMENT / COMPLIANCE

- The Vice-President Academic and Provost’s portfolio directly includes and collaborates with stakeholders across the university and aligns initiatives with Waterloo’s Strategic Plan 2020-2025.

5.0 UNIVERSITY RISK ASSESSMENT

Many initiatives within the Office of the Provost help to mitigate risks identified in the Risk Register including but not limited to: Financial Resources, Human Resources, Information Technology and Core Mandate risks (Student Satisfaction, Academic Program Management, Strategic Enrolment Management and Resource Allocation). The Provost’s Office works closely with other senior administrative offices to develop and monitor mitigation strategies for potential risks associated with initiatives.
6.0 ANALYSIS/UPDATE

Recognizing that the theme for this Board meeting is research focussed, this report attempts to highlight some research-related items where possible, but includes other important updates on a variety of portfolio-specific issues.

Fall admissions and scheduling update. There was a total of 61,323 undergraduate applications (55,158 last year this time); 19,375 International (18,583 last yr), and 41,948 Domestic (36,575 last yr). Over 33,000 offers of admission were made with a target of 6755 registered year one admits. Preliminary confirmation data reporting begins June 4th. May 7 was the deadline for all academic depts to submit course and delivery mode data to Registrar’s Office and deadline for coding regarding course offerings/delivery formats. June 11 is the deadline for RO to assign rooms and generate schedule; this is the stage where we will know whether or not we have issues accommodating all in-person requests at 50% room capacity; we are not anticipating any issues.

The University has seen a substantive increase in its applications to graduate programs for the fall 2021 admission cycle. Applications to Masters programs grew by 27% while PhD applications remain relatively constant. We are now finalizing the admissions cycle for the fall term and will have preliminary estimates in coming weeks. The University has adapted its support for graduate teaching assistants (TAs) for FY 2021/22. In most Faculties, the practice had been to couple TA support with an academic award that collectively would constitute the students' funding for the term. The Graduate Student Relations Committee recommended to the University a change that has increased the hourly support for students such that Waterloo’s rate is consistent with its peers, while decreasing for some students the concurrent academic award. Overall, graduate students support has not decreased while the complexity for both students and the University has been reduced.

International Student Quarantine Package. As of April 22nd, we have had 738 registrations for this package. 475 have already finished or are currently in the quarantine package and 263 will arrive and take part before the end of July. Registrations continue to climb and we are seeing a spike at the beginning of May. This continues to be a cross-campus effort to support undergrad and graduate students as they arrive to Canada, including UWaterloo Portal to monitor their quarantine process, daily updates emailed to students with helpful information/supports, comfortable accommodations and meals.

Teaching and Learning Support. The Centre for Teaching Excellence organized teaching and learning conference ran April 28 and 29, after being cancelled last year. There were presentations by faculty members from every Waterloo Faculty and several ASUs, and from other schools. There were over 600 people registered for the conference, from 19 schools in Canada and the US.

The Agile Development Team in the Centre for Extended Learning has been approved for two years, and has begun recruiting with the goals of assisting instructors in accelerating their online course development. There is a firm plan in place for development of the anti-racism and anti-oppression training modules, the content expert remains to be hired, but the plan for development of the modules by CEL is set for Fall. The job descriptions for specialists in CTE in Indigenous and Anti-Racist pedagogies and teaching are now developed, and the strategy of starting with hiring the Senior Education Developer, who can then be part of building their own team to do this work is underway.

Cooperative and Experiential Education. With final reporting coming in for Winter 2021, we have now reached a new benchmark for Waterloo Co-op: With 8,371 students employed, Winter 2021 is now our highest co-op employment term ever surpassing last Winter 2020 which saw 8,355 students employed. At May 10, the co-op employment rate for Spring 2021 reached 70.4% with 6,432 students employed. The employment rate is 5.2 points behind the same point during recruiting for winter last term. First work term students currently have an employment rate of 54.3% for Spring 2021 (compared to 77.1% amongst non-1st WT students). CEE is piloting, for Spring 2021, a new form of work-integrated learning designed for unemployed first work term co-op students. This program, called WE Accelerate will consist of: career development/teamwork and intercultural training + skill development training provided by industry partners.
+ 120 hour of team based project work with industry. We are partnering with Microsoft, Manulife, Deloitte, Concept, D2L and Vidyard who are providing skills content and in many cases projects for the students to work on. Skills content was determined based on an analysis of over 70,000 job postings where employers identified the skills they were looking for in co-op students. 620 students (of 1064 eligible) have opted into the program.

**Information Systems & Technology.** IST is collaborating with Faculties to share ideas and solutions for **fall classroom preparation**; hiring (as possible) added capacity to install priority Faculty classrooms with overall objectives to provide flexibility, supportability, and fallback plans. Self-help training videos and documentation are in development for using streaming/recording equipment that will be installed by Fall 2021 in 17 Registrar scheduled classrooms, and planning options for all rooms (beyond 17 RO). **Teaching and learning software planning** Evolving the Edtech Ecosystem project initiation: To establish processes for governance, investigation, selection, and support frameworks, with transparency and inclusivity. **Student and instructor feedback analysis;** the Keep Learning group and IAP are assessing the feedback from Winter 2021 instructor and student surveys, to adjust advice and support. The Ontario Broader Public Sector **Cyber Incident Communications Protocol** has been incorporated into the University’s Cybersecurity Incident Response Procedure. To facilitate **migration of local N: drives to OneDrive**, IST Developed a OneDrive migration tool and piloted this tool and migrated to OneDrive in March. Currently working with area IT support reps and Change Champions to develop a plan and communications for migrating academic support units

**Strategic Enrolment Management.** Spring 2021 full-time enrolment is currently tracking slightly lower than spring 2020 and in line with targets and forecast. With co-op employment rates higher than in spring 2020, and with the WE accelerate program in place, it is anticipated that students scheduled to be on co-op work terms will enroll in fewer academic courses than in Spring 2020. New data shows **undergrad retention rates are at all-time highs** with retention to 2nd year increasing from 94.3% to 94.7%; and to 3rd year increasing from 89.3% to 90.5%. Graduation rates (within 7 years) also increased from 82.3% to 83.5%. The Ministry announced that the new tuition framework will continue to hold tuition fees for domestic Ontario students at 2020-21 levels for the 2021-22 academic year. Institutions will have the flexibility to increase tuition fees for domestic out-of-province students up to 3% in 2021-22.

The winter 2021 survey of **Instructors’ online delivery experience** completed in March. Of those who had previously taught remotely, 63% had become more comfortable in doing so. 62% indicated they would be open to teaching courses in new formats (fully on line, blended) when a return to campus is possible. 84% miss teaching classes on campus.

IAP, in collaboration with the Equity Office, is preparing a **survey-based equity data collection** from Waterloo student, staff and faculty members. This is a stakeholder driven initiative that will begin in June, with an aim to determine our equity gaps and provide evidence to support strategic equity goals. Data will be collected on: disability and accommodations; racial identity; Indigenous identity; gender identity; sexual Identity; religious or spiritual affiliation; first-generation university status (students only), and newcomer status. We expect that our first public status report will be available by the end of the year.

**Strategic Plan.** Strategic Plan action teams are in the process of submitting their implementation strategies and initiatives to the Provost Office, along with related resource requests; this prioritization and approval process will take place during the month of May/June. Action teams and other stakeholders have been including the recommendations from the three task force reports into their implementation plans. In collaboration with the Office of Research and Library, IAP continues to develop and refine the framework for measuring Waterloo’s baseline status in the six identified areas of research strength and impact; the framework will be used to monitor Waterloo performance in these areas and will include both quantitative (bibliometric) and qualitative measures (awards, funding, grants, research chair positions, social policy influence, etc.)
Library Usage and Access to Collections for Research and Teaching. Between 2019 and 2021, the monthly average for student use of online course reserves has increased 39% from 2019 to 2021. From June 2020 - May 19, 2021, faculty, students and staff picked up over 5500 books through curbside pickup, and 500 through mail. The HathiTrust digital library saw nearly 10,000 digital books accessed, some with multiple renewals. Use of the digital collections in the University's Waterloo Digital Library (WDL) has seen significant increase in users and sessions for the start of 2021. Use of the WDL digitized collections from January - mid-May, 2021 has already surpassed total 2020 usage by nearly 20%.

In 2020-21, the Library embraced expanded digital access as an immediate and long-term strategy to support student and scholar access, online learning, and research. Highlights of strategic acquisitions and investments include: Joined the HathiTrust digital library, which provided emergency digital access to several million books that are not physically accessible due to lockdown; Upgraded or increased user access to frequently used e-books; Shifted collection budget resources to support high demand for digital course reserves; Partnered with the bookstore to provide UW students with unlimited digital access to 60+ required texts; Supported immediate researcher needs, including purchasing e-books and increasing the number of simultaneous logins for PhD students studying for comprehensive and qualifying exams.

Student Experience. The April Board meeting featured an emphasis on the UWWaterloo student experience. We benefitted from some rich discussion and insight from Board members, including students. With the acknowledgement that good progress is being made on several fronts, there were key takeaways and observations that will guide ongoing planning. In the spirit of continuing regular assessment of student experience we will continue the regular student surveys and evolve these over time to measure and report the key elements of SE as they are determined. Specifically, we noted the encouragement to ensure student supports are available, accessible, adequate and beneficial, and engage students in doing so. To that end, we are initiating a review of various programs and services in an effort to ensure student needs are met and are enhancing social connections as we head into fall term through Waterloo Ready and New Student Transition. A review of programs and services including new student transition and orientation, peer support programs, student training, and student communications in the Student Success Office will identify and develop opportunities that proactively contribute to the success of equity-deserving students (scale up promising practices / rectify barriers to belonging and engagement). This work is being undertaken collaboratively and strategically by staff across the areas of responsibility, the Equity Office and various student groups to identify opportunities for cross campus alignment of initiatives. Similarly, Campus Wellness has initiated the development and implementation of a performance measurement framework that aligns with the Ontario Quality Health Framework for primary care. Implementing this framework will provide increased confidence in key service delivery areas, including access, collaboration, efficiency, effectiveness, and client service, and will apply to the important services of health care, counselling and health promotion.

Strategic Mandate Agreement 3. Due to the pandemic, the Ministry of Colleges and Universities (MCU) has implemented a number of changes to the implementation of SMA3 from what was contained in the original agreement. The government agreed to decouple the performance funding from the metrics until the third year of the agreement (2022-23) in order to understand the impacts of the pandemic on the performance metrics. The COU initiated an SMA3 working group to work on issues related to advocacy, strategy, policy and metrics including the conditions around recoupling and provided a letter to the Ministry in December requesting consideration of policy options around the continuing development of the Skills and Competency metric as well as the two reporting metrics around Faculty Workload and Faculty Compensation (COU had already provided advice on the faculty metrics in late 2019), and highlighted a number of other technical and policy issues for clarification. Universities completed their first annual report back on year one of the SMA in February 2021. Waterloo achieved the year 1 (2020-21) allowable performance targets for all metrics. MCU will continue to engage with the sector over the summer but is planning its SMA work in the fall for a political decision in early 2022.
7.0  FINANCIAL IMPLICATIONS

The Provost manages the financial implications for initiatives within the VPAP portfolio and broadly across the University.

8.0  COMMUNICATIONS STRATEGY

None

9.0  INPUT FROM OTHER SOURCES

None

ATTACHMENTS

None
1.0 PURPOSE
☐ For Approval ☐ For Discussion ☒ For Information
☐ Open Session ☐ Confidential Session

2.0 MOTION/DISCUSSION/INFORMATION

This report is for information only.

3.0 EXECUTIVE SUMMARY

The relevance, impact and volume of research conducted at UWaterloo serves as a key foundation for the communications, marketing, major events and advocacy priorities of the University Relations team.

4.0 STRATEGIC ALIGNMENT / COMPLIANCE

The overarching objective for University Relations is to enhance relationships, revenue and reputation for the University by building powerful connections with internal and external audiences in support of the University mission and strategic plan, expanding efforts to retain and recruit external partners and financial support and by delivering new models of virtual engagement and influence.

5.0 UNIVERSITY RISK ASSESSMENT

University Relations works with senior administration to estimate and mitigate risk from government policy and funding and develop relationships and strategies to protect and enhance the university’s reputation.

6.0 ANALYSIS/UPDATE

University Communications

University Communications operates a coordinated brand journalism approach to shine a light on research and discovery at Waterloo that prioritizes strategic objectives, supports academic knowledge mobilization, celebrates research expertise and advances the reputation of the institution. We share this content on multiple platforms aimed both at external and internal audiences including:
• Web storytelling
• Social media
• National and international media
• Brand marketing campaigns
• Daily Bulletin and Beyond the Bulletin Podcast

A University of Waterloo signature publication, the Global Impact Report, showcases researchers and entrepreneurs at Waterloo annually. The report focuses on impact themes of Human-Machine Interaction, Next-Generation Computing, Social and Economic Prosperity, Sustainable Planet, Technology and Human Health and Transformation Discoveries. Stories developed and told in the Global Impact Report form the backbone of our brand marketing campaign and are shared in social media throughout the year to support specific objectives. The Global Impact Report in print is distributed to more than 900 individuals a range of audiences including international university leaders, business leaders, guidance counsellors and more.

The Global Impact Report stories are supported by a wider range of research stories told regularly online on the University’s website and in the Waterloo Magazine targeted at alumni and friends of the University. News and stories shared specifically about research outcomes or research expertise number in the hundreds each year, recognizing and reflecting the enormous volume of output of Waterloo researchers.

Across a calendar year in 2020, all these stories told online generated:

• more than a million unique page views,
• reaching an audience of more than 600,000 unique users.

On average in 2020, users spent more than three minutes on each page – a key measure of audience engagement. We have grown audience time on page by more than 10 per cent over three years indicating that content is capturing greater attention of the audience.

Research also drives our media relations program with teams dedicated to discovering new research and sharing these stories with media. Our media relations program focuses on earning coverage for Waterloo researchers in key national and international media publications to drive exposure of the University. To date in 2021, we have earned key coverage on:

• Doug Stenton’s work to identify a victim of the ill-fated Franklin expedition using DNA analysis. 169 news outlets located in nine countries covered this news including New York Times, Canadian Press, Toronto Star, National Post, BBC World News, Daily Telegraph (UK), and Daily Mail (UK).
• Brokoslaw Laschowski’s, a PhD candidate in Engineering, AI exoskeleton generated coverage in 152 news outlets located in six countries notably the BBC’s Click – a tech and innovation global TV show.
• George Heckman’s work examining changes required to long-term care in a post pandemic world was covered in 149 news outlets located in twelve countries and had 5,609 associated social media interactions.
• Sushanta Mitra’s research on speeding up COVID-19 testing with a saliva-based test was covered nationally in Canada by CTV National News and the National Post and 41 other publications in five countries.

Internally, the Beyond the Bulletin podcast is a vehicle to share in depth interviews on a range of key topics. In 2021 to date, 11 episodes of Beyond the Bulletin featured faculty researchers as the interview guest, representing all 6 Faculties. These interviews have primarily focused on COVID-19 related research and have acted as an important part of our communication approaches to the ongoing management of the pandemic for employee and current student audiences.
Marketing, Brand Strategy and Digital/Social Media

The integrated You+Waterloo brand campaign highlighted faculty, student and alumni research-based stories across digital channels and platforms that include climate (Christine Dow, Environment, and Yimin Wu, Engineering); health technology (Membio, Intellijoint, MedMe Health), social robotics (Kirsten Dautenhahn, Engineering) and AI-driven mapping (Ecopia). Over 22 weeks, campaign reach included more than 57 million impressions, while engagement included 62,000 unique pageviews and more than 50,000 unique users among key business, government and academic leadership audiences.

The University was again ranked by Research InfoSource as Canada’s top comprehensive research university, and related print advertising in their nationally distributed publication was focused on health research applications featuring the work of Kelly Grindrod (Science), Karim S. Karim (Engineering) and Ellen MacEachen (Health).

Main social media channels continued to share weekly Global Impact stories covering the six impact themes. Social media amplified weekly News Releases about faculty research projects and advancements, and the monthly Waterloo Innovation E-Bulletin focused on top-performing research content and announcements.

In collaboration with GSPA, Grad Impact stories that feature the research of graduate students were shared in support of recruitment and conversion efforts. As well, the Teaching and Research Awards were the focus of attention on social channels and the homepage in late April, featuring researchers from all faculties in celebration of their achievements and research impact.

The Waterloo News website was fully integrated over the Winter term to allow all major stories to be available in one location to improve searchability. Faculties now have the ability to add their research stories directly into this storytelling ecosystem for maximum impact and engagement.

Community Relations and Events

Waterloo Innovation Summit

The first Waterloo Innovation Summit of 2021 was held on the The Future of Health Innovation. This one-hour virtual event featured keynote speaker Dr. Louise Schaper, a Melbourne-based digital health advocate. A panel, moderated by Velocity’s Adrien Cote, discussed health innovation ingredients of collaboration, research, and investment with speakers from San Francisco health science incubator, IndieBio, and the Canadian Med Tech Association.

The Summit content was aligned to an overall marketing campaign in support of the Innovation Arena. There were 292 attendees for this Summit. Plans are underway for a fall 2021 Waterloo Innovation Summit. Of note and with the help of two full-page ads in the Globe and Mail, we expanded awareness of Waterloo’s emerging and growing impact on health innovation and grew the participation of industry leaders to 51%, with academic and government leaders making up 26% of the audience.
Convocation - Spring 2021

As a reminder for the Board: Based on results of a student survey, spring 2021 convocation will include six faculty-specific live, virtual ceremonies.

- All ceremonies are scheduled for Friday and Saturday, June 18 and 19, to engage as many graduates and their families and friends as possible.
- The program will be broadcast live from campus with in-person participation from the President, Provost, Dean, and valedictorian.
- A special PhD reception will also be held virtually on Thursday, June 17.
- At all times, we have conveyed that students can attend an in-person ceremony at a future date.
- Honorary degree recipients, Calvin Choi and Chuck Magro, will address the students in the faculties of Math and Engineering, respectively. Additional reception events will also be held in early June to confer these honorary degrees.

Government Relations

The Federal budget included significant investments into targeted research including Waterloo priority areas of strength in quantum, artificial intelligence, green technologies, climate resiliency, and bio-innovation. We are watching for further details as the budget documents themselves were at a very high level.

Both governments continue to move forward on initiatives to promote and protect Canadian intellectual property. The federal budget announced a forthcoming launch of a Strategic Intellectual Property Program Review to ensure that Canada and Canadians fully benefit from innovations and IP. The 2021 federal budget also committed $90 million over 2 years to create ElevateIP to help accelerators and incubators provide startups with access to IP services. The provincial budget allocated $1.5 million to support the Special Implementation Team on IP, led by Jim Balsillie, to create a centralized resource, including web-based IP curriculum, and to develop an IP policy that will protect Ontario-made IP and prioritize commercialization to the benefit of Ontario. Minister Romano has introduced the concept of Commercialization Mandate Agreements for institutions to publicly report on our commercialization activities. At this point, this is an accountability exercise but is not tied to performance funding. Details and definitions will be finalized through a working group in the months ahead. We continue to work with COU, Universities Canada and the U15 to clarify metrics and to advocate for federal and provincial policies that recognize different approaches for different ecosystems and does not apply a one-sized-fits-all approach to IP.

7.0 FINANCIAL IMPLICATIONS

n/a

8.0 COMMUNICATIONS STRATEGY

n/a

9.0 INPUT FROM OTHER SOURCES

n/a

ATTACHMENTS: Brand and Marketing Images on next page
YOU+WATERLOO BRAND CAMPAIGN

LinkedIn Ads

Display Ads
1.0 PURPOSE

☐ For Approval  ☐ For Discussion ☒ For Information
☐ Open Session   ☐ Confidential Session

2.0 MOTION/DISCUSSION/INFORMATION

This report is for information only.

3.0 EXECUTIVE SUMMARY

The following report provides information from the Office of Research on Waterloo’s progress towards the advancing research for global impact theme. Specifically, the report highlights activities that foster both disciplinary and interdisciplinary strengths, leveraging research partnerships and propelling Waterloo’s leadership in innovation and entrepreneurship and social impact in the following areas to solve real-world global challenges:

- Quantum science, nanotechnology, connectivity, and telecommunications
- Water, energy, and climate: sustainability, security, infrastructure
- Information technology and its impact, including intelligent systems, human-machine interfaces, cybersecurity, privacy, and data science
- Robotics and advanced manufacturing
- Health technologies

4.0 STRATEGIC ALIGNMENT / COMPLIANCE

The topics in this report align with the Advancing Research for Global Impact theme.

5.0 UNIVERSITY RISK ASSESSMENT

The topics in this report are all related to the Core Mandate risk category, and specifically align to student satisfaction [Item 22], competitor reputation [Item 1] and Reputation (The risk of damage to the University’s reputation) [Item 21]

6.0 ANALYSIS/UPDATE
6.1 Faculty Research Grants

Research grants are a metric to assess “advancing research for global impact.” Since January 2021, Waterloo researchers have secured a remarkable 9.9 million in Tri-Agency\(^1\) and non-profit sponsor funding. Of this amount, approximately 37\% were from successful NSERC grants\(^2\) (e.g., Discovery Grants and Research Tool and Instruments grants). Approximately 29\% were from funded SSHRC Insight Grants. These grants aim to support “new approaches to research on complex and important topics, including those that transcend the capacity of any one scholar, institution or discipline.” This year, Waterloo’s success rate was 55\% - on par with the national SSHRC success rate of 53\%. SSHRC’s New Frontiers in Research Fund\(^2\) program, comprised of three streams: exploration, transformation and international to support groundbreaking research, contributed another 15\% to these funds. CIHR project grants, aimed to build and conduct health-related research and knowledge translation projects, comprised another 17\% of the Tri-Agency and non-profits sponsor funding with Health securing $1,091,275 over 5 years for “Improving Care for Knee Osteoarthritis by Predicting Who Will Get Worse: Exploring the Interactions of Joint Biomechanics, Inflammation and Immunity” and $229,500 over 3 years for “Developing strategies and resources to support patient and family engagement with racialized immigrant older adults.” Funding from non-profit sponsors comprised approximately 2\% of these funds.

6.2 International partnerships and grants

Waterloo aims to achieve greater research impact by leveraging international partnerships and has strengthened formal partnerships with strategic research partner institutions, world-wide.

Waterloo received $625K over three-years with the Technion Israel Institute of Technology to advance joint research and commercialization focused on quantum information science, nanotechnology, water research and artificial intelligence and cybersecurity. Research in these important areas has the potential to improve human health, transform the ways we share and store information and create new materials and technology.

The Waterloo Institute for Nanotechnology (WIN) has entered a partnership with Brainport Development NV in Eindhoven Netherlands, one of Netherland and Europe’s leading innovative top technology regions and have announced the creation of a joint Innovation Partnerships Program designed to foster rapid translation of research and the potential creation of spin-off companies.

Notably, this year, Waterloo celebrates a ten-year collaborative with the University of Bordeaux, aimed to facilitate strong research partnerships, advance grand challenge research and leverage significant new funding opportunities in the fields of artificial intelligence and health; functional materials; nanoscience; health and environment; water; energy and aging. This collaboration has resulted in over 30 new innovations and technologies (broadly defined), 135 joint publications (as per InCites data from 2009 to 2020), one spin-off company and one patent filed.

Additionally, Waterloo has formalized several research framework agreements to collaborate in joint labs with leading international research entities. For example, Michele Mosca, Combinatorics and Optimization, has joined the CERN Openlab (European Organization for Nuclear Research); Edward Lank, Cheriton School of Computer Science has joined the Université de Lille International Associated Laboratory “Reappearing Interfaces in Ubiquitous Environments” (LIA - REAPP); Hamid Reza Tizhoosh, Systems Design Engineering,

\(^{1}\) The Tri-Agency is made up of the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council (SSHRC). They are a major source of research funding for post-secondary institutions across Canada.

\(^{2}\) Results are under embargo.
has joined the International Collaboration for Cancer Classification Research (IC3R) Consortium to provide
standards for research and appraisal of evidence for tumour classification and cancer diagnosis.

**International Grants:** In 2021, Waterloo has secured **$1,333,000** in new international research partnership
agreements, creating invaluable research opportunities in areas that address significant global problems:

- **Lennart Nacke,** the Stratford School of Interaction Design and Business, in association with a European
  consortia, has been awarded an international grant ($353,000) from CIHR for EXERGETIC: “An
  innovative digital solution to individually improve physical and cognitive functions using an exergame
  (video game-based) training in an ecologically valid and safe setting for the geriatric population.”
- **John Hirdes,** School of Public Health and Health Systems, has been awarded an international grant
  ($500,000) from the New Frontiers in Research Fund (Global stream) to join a 13 country European
  consortia for the project “Individualized CARE for Older Persons with Complex Chronic Conditions in
  Home Care and Nursing Homes (I-CARE4OLD).”
- **Anita Layton,** Department of Applied Mathematics, has joined a Netherlands – Canada Type 2 Diabetes
  Research Consortium Team Grant, and has been awarded an international grant ($200,000) from CIHR
  through the University of Sherbrooke for the project “Restoring 24-hour substrate rhythmicity to
  improve glycemic control by timing of lifestyle factors.”
- **Hyock Ju Kwon,** Department of Mechanical and Mechatronics Engineering, has been awarded an
  international grant of $280,000 from the Korean Electrotechnology Research Institute to continue the
  second phase of the project “Development and Application of AI System for Manufacturing.”

6.3 Canadian Research Partnerships

Since January 2021, Waterloo received two Canadian research partnership awards totaling nearly **one
million ($943,342).** Laura Middleton and Heather Keller (Kinesiology) received **$573,342** from the Public
Health Agency of Canada, Dementia Community Investment program for “Moving, Eating, and Living Well
with Dementia.” Jean Andrey (Environment) received **$370K** from Partners for Action (P4A), Public Safety
Canada and Canadian Red Cross, Public Safety Canada’s Emergency Management Public Awareness
Contribution Program for “Socio-economic Vulnerability Index to Target Flood Risk Communication.”

6.4 Innovation and entrepreneurship

Waterloo strives to “propel [its] global leadership in innovation, entrepreneurship and social impact.”

**Startups:** Michael Tam, Chemical Engineering, has created **Cellovie Inc.,** a startup company focused on
treating a pervasive contaminant (Per-and polyfluoroalkyl) in water which threatens human health.
Sushanta Mitra, Mechanical and Mechatronics Engineering, has created **Aquabits Inc.,** a startup focused on
creating disruptive technology for quantum computing and quantum information processing.

**Prototype development:** Moreover, Waterloo has secured **$265k** in NSERC – *Idea to Innovation* funding to
support prototype development on three technologies in Waterloo Commercialization Office’s (WatCo)
intellectual property portfolio: 1) Polymer semiconductors containing acrylyl-like side chain and their
devices (Yuning Li, Chemical Engineering, **$125K**); 2) Spatial Atomic Layer Atomic Deposition System (Kevin
Musselman, **$125K**); and 3) Chromogenic substrates for beta-lactamases (Gary Dimitrienko, Chemistry
**$15K**). Additionally, Watco has developed a **$100K commercialization fund** to support faculty (and their
students) with small prototype development projects related to ventures in the sustainable, cleantech
technology application areas.

**Training:** WatCo offered Intellectual Property and Commercialization workshops to members of the
Waterloo community, expanding entrepreneurship opportunities for the Waterloo campus.
6.5 Researcher Awards and Distinctions

Waterloo’s faculty members are recognized for their outstanding contributions to their fields by exceptional awards and distinctions. Over the past five months, 19 faculty members, spanning all six Faculties, have received special awards that recognize outstanding research achievements. The awards span a range of fields from psychology, accounting and finance to astronomy, organic chemistry and computer science.

Of note, the International Tobacco Control Policy Evaluation (ITC) Project was recently awarded one of six Governor General’s Innovation Awards for 2021. This award “celebrates excellence in innovation across all sectors of Canadian society and inspire Canadians, to be entrepreneurial innovators.” The full list of the outstanding awards can be found in the Appendix.

The Canada Research Chairs Program aims to attract and retain some of the world’s most accomplished and promising researchers. Since 2021, Waterloo has secured four research chairs, of which two are new and two are renewals. One of Waterloo’s newest chairs is in Indigenous Waters, Climate and Sustainability. The other new Chairholder is in Artificial Intelligence for Human-centered Human-machine Interfaces. Combined, these four chairs represent $3,400,000 in funding in support of these exemplar scholars. In alignment with Waterloo’s objective to “create tomorrow’s research leaders by attracting and retaining outstanding, diverse research faculty,” the University currently has a total of 58 active chairholders.

The Early Researcher Awards (ERA) program provides funding to promising, recently appointed researchers to build research teams of graduate students, undergraduates, post-doctoral fellows, research associates and technicians. In the most recent Round 15 competition, nine Waterloo researchers, who demonstrate researcher excellence and excellent research quality, received an ERA. This outcome reflects a 30% success rate – a rate that is well above the provincial average of 18-20%.

7.0 FINANCIAL IMPLICATIONS

Funding received by grants, contracts, awards, is principally used by faculty members to train students (salary support); other uses include the purchase of equipment and in some instances, partial support of Waterloo faculty salaries.

8.0 COMMUNICATIONS STRATEGY

None

9.0 INPUT FROM OTHER SOURCES

None

ATTACHMENTS

Waterloo Researcher Awards and Distinctions
Waterloo International Strategic Direction
Waterloo Researcher Awards and Distinctions

1) Fellow of the Association for Psychological Science: Abigail Scholar (Psychology)
2) Donald O. Hebb Distinguished Contribution Award: Derek Besner (Psychology)
3) 2020 O. Harold Warwick Prize: Geoffrey Fong (Psychology)
4) Haim Falk Award for Distinguished Contribution to Accounting Thought: Ken Klassen (School of Accounting and Finance)
5) 2021 Fellow of the Engineering Institute of Canada: Karim Karim (Electrical and Computer Engineering)
6) Technology & Engineering Emmy Award: Dr. Zhou Wang (Electrical and Computer Engineering)
7) 2021 Krieger-Nelson Prize lectureship: Anita Layton (Applied Mathematics)
8) 2021 Sloan Research Fellow: William Slofstra (Pure Mathematics)
9) 2020 Lifetime Achievement Award in Computer Science: Ming Li (Cheriton School of Computer Science)
10) 2020 Association for Computing Machinery Fellow: Ihab Ilyas (Cheriton School of Computer Science)
11) 2020 Melinda S. Meade Distinguished Scholarship Award in Health and Medical Geography: Susan Elliott (Geography and Environmental Management)
12) Canada’s Clean 50 list for Education & Thought Leadership: Sarah Burch (Environment, Geography and Environmental Management)
13) 2021 Earth Leadership Fellow: Nandita Basu (Earth & Environmental Sciences and Civil & Environmental Engineering)
14) New Investigator Award – Parkinson Canada: Kaylena Ehgoetz Martens (Kinesiology)
15) Royal Astronomical Society’s Group Award: Avery Broderick (Physics & Astronomy)
16) 2020 Materials Research Society Medal awardee: Linda Nazar (Chemistry)
17) 2021 Keith Fagnou Award: Graham Murphy (Chemistry)
18) 2021 Macromolecular Science and Engineering Award: Jean Duhamel (Chemistry)
19) Governor General’s Innovation Award: International Tobacco Control Policy Evaluation (ITC) Project: Geoffrey Fong, Psychology; David Hammond, School of Public Health and Health Systems; Mary Thompson, Statistics and Actuarial Science)
Update: Progress on International Strategic Direction (ISD)

The following encapsulates the key work of four units working to implement the International Strategic Direction: Co-operative and Experiential Education (CEE); the Sustainability Office; Waterloo International (WI); and the AVP Academic. In addition to the work highlighted below, metrics are in development to track progress and performance of these initiatives.

Co-operative and Experiential Education has several international strategic initiatives that support the ISD. These include an MOU with the IFC, a part of the World Bank, and creation of the World Association of Co-operative and Work-Integrated Education’s (WACE) home Secretariat at the University of Waterloo. CEE hosted the first virtual world conference on this with over 450 delegates from 120 institutions and 20 countries. Finally, to future proof our students and employers, CEE developed programming to strengthen the development of intercultural capabilities and awareness of the UN Sustainable Development Goals (SDGs) for our students.

The Sustainability Office has led or supported several projects connecting sustainability research and impact to international partnerships. Over the past year, the Sustainability Office updated, in collaboration with the Library, Institutional Analysis and Planning, and other stakeholders, analysis of faculty members conducting international research related to the UN SDGs. Moreover, in partnership with Waterloo International, IC3, and Finance, they are exploring tools to better track carbon emissions related to both domestic and international travel.

The AVP Academic Portfolio is investigating ways to ensure more reliable broadband access to Waterloo learning resources for students around the world, and to build mechanisms that will benefit students at a distance in the future.

Waterloo International, the main nexus of implementing the ISD, continues to host events, participate in policy meetings, and respond to requests for meetings with international partners; work with CEE in supporting risk management measures to allow international co-op students who are currently in different countries and unable to return to Canada to complete co-op work terms abroad (including financial support for 10 remote-from-Canada international internships focused on SDG projects around the world); and, facilitate the high-risk travel request process on behalf of the Provost’s Office. WI also completed efforts to collate experiences and plans from various individuals and units across campus in virtual internationalization and chairs the International Operations Council to enhance and encourage collaboration between over 30 units and faculties on campus to enhance internationalization. Moreover, WI continues their work with Sustainability Office and IC3 on greening international travel. WI, in collaboration with the Deans, is developing metrics and analyses to identify and assess strategic partners.

Another successful implementation of the ISD includes the growth in International Research Partnerships (IRP). This includes over $3 million in new funding from the New Frontiers in Research Fund and a Global award for $500,000 for a UW researcher to join a prestigious Horizon2020 project that involves over 13 EU associated countries. IRP secured a second installment of funding from the Gerald Schwartz and Heather Reisman Foundation for $625,000 to continue the highly successful joint UW-Technion research programs. Moreover, nine Research Partnership Agreements were signed with high-ranking international institutions in Brazil, France, China, Japan, the Netherlands and Switzerland.
1.0 PURPOSE

☐ For Approval ☐ For Discussion ☒ For Information
☒ Open Session ☐ Confidential Session

2.0 MOTION/DISCUSSION/INFORMATION

This report is for information only.

3.0 EXECUTIVE SUMMARY

This report provides a summary of Advancement activities and financial results as of April 30, 2021. A complete 2020-2021 Advancement financial summary will be included in the Confidential Session materials as an appendix.

The Office of Advancement began planning for a university-wide fundraising Campaign, in alignment with the University’s strategic plan, in 2018/19. The goal was to build a Campaign in support of the transformational promise “Connecting Imagination with Impact.”

Two key events have affected our Campaign plans. The global pandemic, which has caused deep and widespread economic and social uncertainty, and the presidential transition. This has led to an expanded Campaign timeline and a brief pause in active campaign building until President Designate Goel is in place. We have seized the opportunity to expand the elements of the Campaign Operating Plan that we will develop with campus partners in advance of President Goel’s arrival, building out elements of the Campaign Operating Plan for strategic direction and guidance for the future success of the Campaign.

In parallel to this, we continue to conduct extensive outreach with alumni, donors and prospective donors and develop exciting cases for support and proposals for existing and emerging opportunities. Central Advancement continues to focus on the growth of a robust pipeline of 7-, 8- and 9-figure donors in the non-alumni, high-net worth prospect pool.

In our ongoing efforts to engage our alumni and current donors, we continue to:

- develop the student-alumni bridge,
- strengthen our global alumni volunteer network,
• engage alumni in digital events, programs and communications,
• continue the alumni data collection project to enhance our database,
• enhance the communications strategy, and
• continue targeted fundraising mini-campaigns for student and campus support.

4.0 STRATEGIC ALIGNMENT / COMPLIANCE

Based on Advancement’s strategic areas of focus, we have identified several strategic objectives for the next six months.

Campaign case for support
• Identify and weave together transformative philanthropic initiatives with long-term impact that align with Waterloo’s strategic plan, the Office of Research Strategic Plan, Strategic Plan Task Forces and Office of Research working groups and support the themes of Developing Talent, Research for Global Impact and Strengthening Sustainable and Diverse Communities.
• Collaborate with the Office of Research and other campus partners to harness uniquely Waterloo “big ideas” and funding opportunities that build on the recommendations of the three task forces of innovation and entrepreneurship, interdisciplinary and health innovation.
• Support Waterloo’s commitment to advancing research for global impact, fostering both disciplinary and interdisciplinary strengths including areas of Quantum science, nanotechnology, connectivity, and telecommunications.
• Support interdisciplinary future initiatives including water, energy, and climate: sustainability, security, infrastructure; information technology and its impact, including intelligent systems; human-machine interfaces, cybersecurity, privacy, and data science; robotics and advanced manufacturing and health technologies.
• Grow our inventory of faculty and pan-university funding priorities and support materials. This includes several interdisciplinary “big ideas” such as the Science Centre for Innovation, Velocity, Innovation Arena, Health Innovation, Digital Futures and the Waterloo Engine of Business concept.
• Continue to build a strong and diverse Campaign Operating Board to support the President’s fundraising objectives and guide the foundation of the campaign.

Fundraising and relationship building
• Engage, cultivate and solicit top prospects
  o Update – The President is currently engaged in several meaningful 7- and 8-figure prospect discussions; strategies for 20 additional prospects are in development.
  o Update – Strategizing on key relationships for the incoming President to engage with during his first 100 days.
  o Update – Science Centre for Innovation presentations are underway with influencers to build momentum and activate a broad network of potential donors. We are expanding the pipeline as we identify prospects and fundable opportunities within the $5M range.
  o Update – Actively engaging top volunteers and donors in a concept paper on the Waterloo Engine of Business concept.
  o Update – Velocity Innovation Arena fundraising is well underway and we are actively engaging community leaders and influencers to build momentum and awareness.
• Build fundraising pipeline
  o Completed – Launched the inaugural donor acquisition appeal for parents of first-year students for an appeal in support of Student Wellness.
o Update – Working with several donors interested in supporting Indigenous and Black students; several new awards created available in the next academic year. We will continue to build support for this important area.

o Update – Launched fundraising initiative in support of students to honour President Hamdullahpur’s Decade of Impact.

o Ongoing - Continue to refine the pipeline, with a focus on expanding the number of non-alumni $1M+ prospects

o Ongoing - Continue leadership, planned giving and annual fund qualification activities.

Recruit and engage volunteers

o Completed – Celebrated National Volunteer Week, recognizing more than 1,600 volunteers who gave more than 11,000 hours to alumni programs in 2020.

o Ongoing - Continue to focus on identifying and strengthening volunteer relationships.

Enhance alumni and community engagement

o Completed - Hosted two global fireside chats with President Hamdullahpur and key alumni to celebrate his Decade of Impact, including pre-receptions with top volunteers.

o Completed - Conducted address update campaign with Class of 2020, resulting in more than 800 updated files.

o Completed – Achieved 100% success rate with proposed 2021 sponsorship proposals with affinity partners (TD Insurance Meloche Monnex, BMO, and Manulife).

o Completed – Hosted the Library Town Hall in March and published the Library Annual Report in April.

o New – Awarded the CCAE TDMMI Fellowship in Advancement, allowing us to hire a new graduate to support fundraising and student-alumni initiatives for 12 months.

o New - Launched LinkedIn Learning access for newest graduates; only the third Canadian university to offer this service.

o New – Beginning discussions for an Alumni Engagement Survey (distributed Fall 2021).

o Ongoing - Strengthen Global Alumni Volunteer Network (GAVN) and build global alumni engagement, capitalizing on virtual and hybrid models.

5.0 UNIVERSITY RISK ASSESSMENT

Advancement’s efforts to increase the donor base and scholarship/award support is recognized as mitigation for reputational risk and fundraising is identified as mitigation for financial risk. Alumni Relations activities are also recognized as mitigation for reputational risk.

6.0 ANALYSIS/UPDATE

Fundraising analysis

• Year-end results in the <$5M category are projected to be lower with a 10% decrease year-over-year.

• Across the system, there were no gifts at the >$5M+ level which contributed significantly to a projected overall decline of 30% for the year. These gifts take much more time and effort to realize and are highly sensitive to external factors affecting personal wealth. Elevating work in this area continues to be the priority of the Central Advancement Strategy Team.

• Several outstanding asks at the 6- and 7-figure level are in play, and there are several active proposals at the 7- and 8-figure level with foundations, corporations and individuals.
The Central Development and Advancement Strategy team is:

- strengthening our planned gift pipeline, recently surpassing 800 confirmed gift expectancies with a future value of more than $125M,
- making great strides in top prospect activity in partnership with the President, including developing 7- and 8-figure asks,
- moving forward on several large bank partnerships,
- preparing to make significant asks in support of our students from a number of our most engaged volunteers,
- working with our Chair, Campaign Operating Board to pitch the Innovation Arena with a well-developed list of prospects and influencers, and
- working closely with Science Advancement to help build interest in the Science Centre for Innovation project.

7.0 FINANCIAL IMPLICATIONS

University-wide fundraising results to April 30, 2021 are $33.6M compared with $45.7M at the same time last year. Faculty fundraisers report that their results continue to be depressed for many reasons including:

- the COVID-19 pandemic and how donors responded during the economic uncertainty of 2020,
- the new, remote way we needed to work with our donors using digital platforms,
- the intentional pause taken in spring/summer 2020 for any major and annual fundraising asks,
- the uncertainty that is always present during a presidential transition.

The Central Advancement team fundraising efforts have been generally tracking well with previous years, including fundraising for planned giving, annual giving, Athletics and pan-university projects led by the Central team. Central Advancement re-oriented its fundraising focus in 2019/2020 to build a new pipeline of non-alumni donors and this has also had an effect on fundraising results.

Overall, these factors have resulted in a lag in the system, especially with $5M+ gifts, but our activity remains intensely focused on ambitious asks and proposals to support our students, faculty and research.

8.0 COMMUNICATIONS STRATEGY

Advancement worked with University Relations on four key projects this term:

- Developing the Spring 2021 Waterloo Magazine in on the theme of resilience; digital launch May 18 and print launch early June.
- Piloting a digital marketing fundraising campaign with external media company M/Six, which concluded April 30, 2021.
- Developing Presidential Transition communications to honour President Hamdullaphur’s Decade of Impact and introduce President Designate Goel to our alumni and donor audience.
- Updating the alumni communications framework and alumni brand guidelines to align with You+Waterloo campaign expression.

9.0 INPUT FROM OTHER SOURCES

Advancement works collaboratively with campus partners on numerous initiatives. In the last quarter, we have worked with:

- Office of Research, Waterloo centres and institutes, IAP, University Relations, Faculties and Associate Provost, Students – ‘big ideas’ and strategic initiatives.
• Student Success Office, Waterloo Undergraduate Student Association, Graduate Students Association, GLOW – student-alumni bridge projects.
• Registrar’s Office, Student Awards, Graduate Studies and Postdoctoral Affairs and Institutional Analysis and Planning - awards for Black and Indigenous students.
• Campus-wide Dub Hub committee – CRM project.
• University Relations – Presidential Transition, Waterloo Magazine.
• All faculty Deans, Advancement directors and senior campus leaders – campaign projects, prospect review and planning.
• All faculties, colleges and schools – alumni engagement survey, Convocation, Alumni Weekend and National Volunteer Week.

ATTACHMENTS

A) Alumni events
B) Confidential 2020-2021 Advancement financial summary (Confidential appendix)

Appendix A – Alumni events

Upcoming alumni events and outreach
• May 18 – Israel & UAE Alumni Ambassadors event
• May 20 – Vancouver Alumni Chapter event “What has the pandemic taught us about investing?”
• June 4/5 – Alumni Weekend
• June 18/19 – Convocation
• Sept 24/25 – Alumni Black and Gold Day

Alumni events and outreach completed
• March 3 – Singapore Alumni Chapter Speaker Series Building (Tech) Products in SEA – Innovating for the World
• March 25 – Humans and...Climate, target audience North America (523 registrations)
• Month of April – Student send-off events for graduating students in collaboration with faculties
• April 15 – Building bridges: From co-op to community, target audience North America, Australia & NZ (126 attendees)
• April 27 – Toronto Alumni Chapter’s Trivia Night (200 registrations)
• April 29 – Building bridges: From Waterloo to the globe, target audience Asia+ (72 attendees)
• April 30 – Waterloo Region Chapter Free Yoga sessions (172 registrations)
To: Board of Governors  
From: Vice-President Administration & Finance  
Subject: Quarterly Administration & Finance Report  

Date of Report: 5/20/2021  
Date of Board Meeting: 6/1/2021

1.0 PURPOSE

☐ For Approval  ☐ For Discussion  ☒ For Information  
☒ Open Session  ☐ Confidential Session

2.0 MOTION/DISCUSSION/INFORMATION

This report is for information only.

3.0 EXECUTIVE SUMMARY

This Administration & Finance quarterly report covers the period from April 6, 2021 to May 20, 2021.

4.0 STRATEGIC ALIGNMENT / COMPLIANCE

Administration and Finance collaborates with stakeholders across the university to support the Strategic Plan, the Campus Master Plan, the annual development of the operating budget as well as providing relevant administrative and physical infrastructure support for research activities.

5.0 UNIVERSITY RISK ASSESSMENT

Administration and Finance works with senior administration to develop strategies to mitigate potential institutional risks including but not limited to: Capital Availability, Liquidity, Interest Rate, Credit/Default, Financial Instruments, and Physical Infrastructure.

6.0 ANALYSIS/UPDATE

The University continues to maintain its strong financial position and adequate liquidity levels which will be reported in more detail in the April 30, 2021 annual financial statements.
These financial statements are presented on a consolidated basis and include both general operating revenue and expenses as well as research revenue and expenses. Research grants are generally classified as externally restricted revenues and are recognized in the year in which the related expenses are incurred. Unspent research grants are included in the deferred contribution liabilities together with restricted donations/trust funds.

7.0 FINANCIAL IMPLICATIONS

There are no financial implications.

8.0 COMMUNICATIONS STRATEGY

None

9.0 INPUT FROM OTHER SOURCES

None

ATTACHMENTS

None
University of Waterloo Strategic Plan
Discussion Guide for the Board of Governors Roundtable Discussions
May 18, 2021

Theme: Advancing Research for Global Impact

Preamble

In 2020, the University began implementing its 2020-2025 Strategic Plan with a focus on seven signature commitments that encompass the three impact thematic areas: Developing Talent, Research for Global Impact and Strengthening Sustainable and Diverse Communities.

University leadership established three task forces to identify recommendations in key areas of strategic importance including innovation and entrepreneurship, interdisciplinary and health innovation. The final reports and recommendations by each of these task forces have been presented to the University leadership.

In addition to the three task forces, the University established three action teams to lead the implementation of each of the theme areas. Broad participation from academic support units, faculties and representative committees continues to inform the implementation process.

Introduction: Advancing Research for Global Impact

One of the key themes in the plan focuses on Waterloo’s commitment to advancing research for global impact. This theme highlights the importance of fostering both disciplinary and interdisciplinary strengths, leveraging research partnerships (private sector, not-for-profit, research partner institutions) and propelling Waterloo’s leadership in innovation and entrepreneurship and social impact to solve real-world, global challenges. Waterloo is committed to aligning our research strengths in the following areas to address important global challenges:

- Quantum science, nanotechnology, connectivity, and telecommunications
- Water, energy, and climate: sustainability, security, infrastructure
- Information technology and its impact, including intelligent systems, human-machine interfaces, cybersecurity, privacy, and data science
- Robotics and advanced manufacturing
- Health technologies
Informed by the task force recommendations, the Research Action Team has identified several key initiatives.

**Advancing Research for Global Impact – Key Proposed Initiatives**

1. **Develop the Waterloo Institute for Health, Society and Technology**
   
   This Institute will provide health research services to support and grow health technology research, knowledge mobilization, and commercialization. It will form and develop sustainable partnerships with stakeholders including local and regional hospitals, health care providers, medical schools, and other stakeholders including industry partners. Importantly, it will coordinate and leverage existing activities of health centres like the Centre for Bioengineering and Biotechnology (CBB), the Waterloo Eye and Brain Research Centre, the Centre for Health Data Research.

2. **Identify global challenges where Waterloo can effect change (including the UN’s 17 Sustainable Development Goals)**
   
   The global community is facing an unprecedented period in combating a devastating pandemic while a worldwide climate crisis poses an existential threat. On other fronts, state-sponsored and terrorist cyberattacks are increasing, while the rise of populism and political extremism threatens the underpinnings of democratic societies. Waterloo can seize the moment and further align our research strengths with these and other global challenges and take an international leadership role.

   To achieve our objectives, and to ensure our actions are relevant to global problems, Waterloo will:

   - Facilitate stronger collaboration/coordination between the Faculties and Research Centres/Institutes, with a focus on engaging broad, interdisciplinary teams to tackle “wicked problems” and grand challenges.
   - Cultivate strategic national and international partners and partnerships, including developing new relationships with strategic partners in the Global South.
   - Engage students and researchers in diverse interdisciplinary research teams to identify and solve real-world problems in collaboration with our national and international corporate and not-for-profit partners (including co-op opportunities).
3. Establishing Waterloo as a global leader in mobilizing research into action for social impact

Identifying challenging real-world problems and developing interdisciplinary research teams to identify potential solutions is one part of the picture. The outcomes of research and knowledge generation must be moved into practice, and this is often an iterative procedure requiring agility and flexibility. Waterloo commits to making a difference by mobilizing research effectively into actions that will improve peoples’ lives in the region, in Canada, and around the world.

To achieve our objectives, and to ensure our actions are relevant to global problems, Waterloo will:

- Implement a research assessment framework including targeted strategic initiatives, funding, publications and citations, and relevant rankings and awards.

- Develop partnerships with knowledge-using organizations (public or private, for-profit, or not-for-profit) to translate and mobilize research outcomes into effective policies and/or changes in best practices.

- Leverage these partnerships to provide experiential learning opportunities (co-op, internships) for students to engage in knowledge mobilization.

- Connect entrepreneurs to outputs of the research enterprise to accelerate knowledge translation and beneficial social impact.
Discussion Guide

While the Research theme covers a broad range of initiatives that are fundamental to Waterloo’s success in achieving all the strategic commitments and corresponding goals, the May 18th session will be dedicated to discussions related to research partnerships, global leadership, and societal impact, all of which are central in realizing the goals and objectives within the Research for Global Impact theme. Board members are invited to reflect on and offer strategic input to advance in these key areas. Questions for consideration out outlined below.

Questions

Based on the proposed initiatives and directions, the Board of Governors are invited to offer further strategic insights to the following questions:

1. Establishing Waterloo as a health leader in the community, nationally and globally
   a. Based on your experience within your own sector, when developing the Waterloo Institute for Health, Society and Technology, what three things should Waterloo do in the first two years to establish itself as a leader in this area?

2. Addressing global challenges and real-world problems in partnership
   a. Based on your experience within your own sector, what new strategic initiatives should Waterloo undertake to attract purposeful, sustainable, and long-term industry and community partnerships to address real-world problems?
      i. What role should commercialization play in these initiatives?
      ii. What role should students and experiential learning play in these initiatives?

3. Establishing Waterloo as a global leader in mobilizing research into action for social impact
   a. Based on your experience within your own sector, what strategic activities should Waterloo undertake to accelerate research results into real-world actions that will have social impact (e.g., quality of life, health, security, prosperity)?
      a. What role should commercialization play in a knowledge mobilization strategy?
      b. What role should students and experiential learning play in a knowledge mobilization strategy?
This report is submitted following discussion at the 6 April 2021 Board of Governors meeting where it was agreed that the committee would report on how high priority risks are being managed at the University.

Institutional Risk Programs
The three main activities of the institutional risk management program overseen by the Secretariat are: the University Risk Management Program (URM), the Statutory Compliance Program (SC), and the Internal Audit Program (IA). These work together to create an optimized risk framework which is in turn overseen by the Audit & Risk Committee.

The committee receives reports at each meeting from the University Secretary on the URM, and annually, on the SC. It receives reports at each meeting from the University’s Internal Auditor, Deloitte on IA activities, and also regular reports from the External Auditor, Ernst & Young. In addition, regular reports are provided from key units like the Safety Office and Information Security Services in IST. Ad hoc visits by leaders of other departments occur upon request to provide the committee with further information about how risks are being managed in various areas.

1. University Risk Management Program
Initiated in 2015 through the adoption of Policy 11 - University Risk Management, the URM Program helps with management of the University’s key risks. Risk assessments and descriptions of risk mitigation practices that are being undertaken are reported on in accordance with the Policy. This activity is undertaken two times a year by the President, the Vice-Presidents, and the University Secretary, and reports include identified risks and their status relative to the risk appetite as defined in the University’s risk registry. In Fall 2020, the Secretariat undertook a survey of Executive Council and Audit & Risk Committee members with a view to updating the University’s risk registry. The findings resulted in a refresh of the top ten risks at the university:

<table>
<thead>
<tr>
<th>Rank</th>
<th>2016</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government Policy</td>
<td>Government Policy</td>
</tr>
<tr>
<td>2</td>
<td>Reputation</td>
<td>Student Satisfaction</td>
</tr>
<tr>
<td>3</td>
<td>Institutional Information, Systems and Technology</td>
<td>Competition in the post-secondary sector</td>
</tr>
<tr>
<td>4</td>
<td>Physical Infrastructure</td>
<td>Advancement and fundraising</td>
</tr>
<tr>
<td>5</td>
<td>Strategic Enrolment Management</td>
<td>Reputation</td>
</tr>
<tr>
<td>6</td>
<td>Change Readiness</td>
<td>IT – Data Governance, Security</td>
</tr>
<tr>
<td>7</td>
<td>Student Satisfaction</td>
<td>Physical Infrastructure</td>
</tr>
<tr>
<td>8</td>
<td>Capital Availability</td>
<td>Strategic Enrolment</td>
</tr>
<tr>
<td>9</td>
<td>Confidentiality/Access</td>
<td>Resource Allocation</td>
</tr>
<tr>
<td>10</td>
<td>Productivity</td>
<td>Capital Availability</td>
</tr>
</tbody>
</table>

Recent and Current Activities and Priorities Being Tracked:
- Government Policy (budget, enrolment, tuition, policies, regulations)
- Planning (ongoing and pandemic-related)
- Physical Infrastructure
- International Travel
- Information Security

2. Statutory Compliance Program
The Statutory Compliance Program monitors the University of Waterloo’s statutory and regulatory obligations. The Secretariat provides annual reporting to the Audit & Risk Committee and the Building & Properties
Committee on the activity and confirmation of the verifications received from managers with front-line compliance responsibility for the various codes, regulations, and legislation to which the University is subject.

3. Internal Audit Program
The Secretariat has administrative responsibility for the Internal Audit Program, and acts as liaison between management and the Internal Auditors, Deloitte. Internal Audit provides independent review and testing with respect to risk management and control at the University within the scope of their engagement. This is achieved through conducting reviews approved by the Audit & Risk Committee. Internal Audit reports on observations, recommendations, and implementation status. Internal Audit activities derive from a pool of potential projects which are agreed upon by management, Deloitte, and the Audit & Risk Committee each year.

Recent IA Audits and Reviews have included:
- Co-operative Education & Co-op Systems Review
- Cloud Computing Risk Review
- Accommodation Process Review
- Cyber Incident Response Review
- Identity Management Review
- International Travel Process Review
- Campus Email Security Review
- Reviews of Privacy in all Six Faculties, and the Central Privacy Office
- Six Faculty IT Reviews

Planned 2021-2022 Projects include:
- Workday Post-Implementation Review
- Student Services Review
- Life Long Learning Review

19 May 2021
/kjj
Russell Hiscock
Chair
FOR DECISION

1. Appointment of Architects – Math 4 Building

Motion: That the Board of Governors approve the appointment of Moriyama & Teshima Architects as the prime consultants for the recently approved Math 4 building.

Background:
At its 2 February 2021 meeting, the Board of Governors approved the submission of the $90m project budget for the new Math 4 building. The approval also included the siting of the building in the interstitial space between the Math & Computer and Davis Centre buildings.

On 8 February 2021, the University issued a Request for Service Qualifications inviting architectural/engineering firms with appropriate experience and qualifications to make a submission. In total, 21 submissions were received which were shortlisted based on the evaluation criteria summarized in the RFSQ. The four shortlisted firms were issued a Request for Proposal for Consultant Services on 23 March 2021. The RFP summarized the evaluation criteria for the final selection.

The President’s Advisory Committee on Design* (which was supplemented with a graduate student representative) interviewed the four teams on 6 May and 10 May 2021. The seven-person PACOD committee ranked Moriyama & Teshima Architects as the clear preference (6 of 7 members ranked them first and one member ranked them a close second).

The proposed fees are competitive with a percentage fee proposal of 7.75% (based on a percentage of the final cost of construction excl. HST)

The President received PACOD’s recommendation on 19 May 2021 and confirmed his support for the recommendation.

Moriyama & Teshima Architects previously designed the Minota Hagey Residence as well as the Laurel Creek pedestrian bridges on the south campus. Their team will be led by two UW graduates of the School of Architecture and includes:

- Blackwell       Structural Engineers
- Integral Group Mechanical Engineers
- Integral Group Electrical Engineers
- RDH Building Science Sustainability & Building Envelope
- LMDG Building Code Building Code & Safety
- Turner & Townsend Cost Consultant
- WalterFedy       Civil Engineer
- PLANT              Landscape Architect
- Two Row Architecture Indigenous Design Consultant
FOR INFORMATION

2. General Oversight

The committee reviewed and accepted for information:

- the capital financing commitments associated with capital projects, and advises that these commitments fall within the University of Waterloo’s Board-approved debt policy;
- environmental sustainability practices in the context of campus planning and development;
- the maintenance program and energy conservation efforts; and,
- the work plan of the committee.

/ees

Martha George
Chair
This report is submitted following the committee’s meeting of 13 May 2021. This report is recommended for inclusion in the regular agenda.

RECOMMENDATION

1. New Investment Fund with Approved Investment Manager – Endowment

Motion: That the Board of Governors approve TD Asset Management (TDAM) to provide a passively managed all country ex-Canada fund for the Endowment Fund.

Rationale: On 27 October 2020 the Board of Governors approved updates to the Endowment Investment Guidelines, effective 1 November 2020, which included a change to the benchmark index for global equities to MSCI ACWI (includes emerging markets, previously MSCI World). In March 2021 the committee directed staff to make a recommendation of a passive equity fund based on the benchmark index, into which the committee could deploy assets from time to time. The University’s investment consultant Aon provided a number of institutional pooled funds that meet these criteria.

This recommendation leverages the existing relationship between the University and TDAM, allowing for a more efficient investment process and lower fees than the comparable options. The TDAM is structured for non-taxable investors (such as endowments and pension plans), will not be currency-hedged, and is being benchmarked to the MSCI ACWI ex-Canada index. Fees would be established under the existing contractual agreement between TDAM and the University (~2.5 bps), and investments in the fund can be accommodated through the existing endowment custodial account assigned to TDAM.

James Schlegel
Chair
This report is submitted following the group’s meetings since the approval of its terms of reference in January 2021. Eight meetings were held between February and May 2021, with additional meetings for various subgroups of the advisory group. This report is recommended for inclusion in the regular agenda.

RECOMMENDATION

Motion: That the Board of Governors endorse the recommendations of the attached report of the advisory group, and further that the Board of Governors direct that such actions as outlined in the report be prepared and brought forward on the timelines described in the report.

Rationale: The Finance & Investment Committee approved the terms of reference to form the advisory group in January 2021, and the group began work in February 2021 with the mandate to report to the Board of Governors at the June 2021 meeting. The Advisory Group was tasked to 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 would recommend short- and long-term options to the Finance & Investment Committee.

The advisory group’s work included: environmental scan of policies and practices at comparator universities; review of academic literature and key institutional reports; establishment of a common lexicon; review and consideration of a wide variety of solution sets to assess what solution(s) might be most suitable for the University of Waterloo. In carrying out its mandate, the advisory group engaged in a targeted consultation with campus stakeholders. As the sum of the group’s work, the attached report provides key observations and considerations to provide context for the included set of recommendations. The activities recommended in the report would be anticipated to occur over a period of time (e.g. amendments to investment guidelines/ Statement of Investment Policies and Procedures, asset mix, decisions on investment managers etc.) and would variously involve decisions from the Finance & Investment Committee, the Pension & Benefits Committee, and Pension Investment Committee, and the Board of Governors in their approval and implementation.

This report obtained the endorsement of the Finance & Investment Committee at its 13 May 2021 meeting, and is brought forward to the Board of Governors on that basis.

/mg

James Schlegel
Chair
EXECUTIVE SUMMARY

The science of climate change is irrefutable – increased concentrations of carbon dioxide equivalent emissions (“carbon”)\(^1\) 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\(^2\). 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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\(^1\) The term ‘carbon’ includes all greenhouse gasses.

\(^2\) 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. 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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3 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.\(^4\)

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 2016</td>
<td>Establishment of Responsible Investing Working Group (RIWG)</td>
</tr>
<tr>
<td>March 2017</td>
<td>Adoption of Policy 53: Environmental Sustainability</td>
</tr>
<tr>
<td>November 2017</td>
<td>Release of Environmental Sustainability Strategy</td>
</tr>
<tr>
<td>June 2018</td>
<td>Release of RIWG Responsible Investing Recommendations</td>
</tr>
<tr>
<td>September 2018</td>
<td>Inclusion of one new investment manager that integrates ESG</td>
</tr>
<tr>
<td>April 2020</td>
<td>Signatory to UN PRI</td>
</tr>
<tr>
<td>February 2021</td>
<td>Release of Shift: Neutral climate action plan and roadmap</td>
</tr>
<tr>
<td>April 2021</td>
<td>Inclusion of two new investment managers that integrate ESG</td>
</tr>
<tr>
<td>June 2021</td>
<td>RIAG Recommendations on Investing to Address Climate Change</td>
</tr>
</tbody>
</table>

Considerable research and analysis went into the development of this report and our recommendations\(^5\). 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

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\(^4\) 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.

\(^5\) Refer to Appendix D: Activities of the Responsible Investing Advisory Group
endowment and pension funds in Canada and abroad\textsuperscript{6}. 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,\textsuperscript{7} 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

\textsuperscript{6} Refer to Appendix E: Glossary of Terms and Appendix F: Summary Information from Comparator Study

\textsuperscript{7} 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.8
   b. Set an aspirational goal of achieving a net-neutral carbon footprint for Endowment and Pension Fund investments by 2040.9

5. It is not recommended to use carbon offsets at the portfolio level to achieve the 2030 carbon reduction target10, 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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8 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.

9 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.

10 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

2021/22
- Prepare and Adopt a Responsible Investing Policy, Including a Carbon Exposure Reduction Strategy
- Introduce Climate Risk as a Priority Within the Integrated ESG Framework
- Apply to Investment Manager Selection, Monitoring and Termination Activities
- Pursue Climate Change Innovation Investment Opportunities for the Endowment
- Join a Collective with Priority Focus on Climate Change to Enhance Engagement
- Prepare Base Year Disclosure and Monitor Measurement and Standards Developments

2023/24
- Solicit Climate Risk Assessments and Scenario Analysis from Active Equity Managers
- Prepare an Update Report, including a Metrics Scorecard

2025/26
- Solicit Climate Risk Assessments and Scenario Analysis from Active Fixed Income and Real Asset Managers
- Determine if Alternative, Low Carbon Index Passive Investments Should be Adopted
- Prepare a Climate Risk Scenario Analysis for the University Endowment and Pension Portfolios
- Prepare an Update Report, including an Enhanced Metrics Scorecard to Include Climate Change Risks
- Identify any Adjustments Required to meet the 2030 Target

2030
- Achieve 50% Carbon Footprint (Scope 1 & 2) Reduction
- Reconsider the role of offsets at the portfolio level

2040/50
- Achieve Net Neutral Carbon Footprint
APPENDICES

A. Responsible Investing Advisory Group Participants
B. Terms of Reference for the Responsible Investing Advisory Group
C. University of Waterloo Investment Funds Summary
D. Activities of the Responsible Investing Advisory Group
E. Glossary of Terms
F. Summary Information from Comparator Study
G. Metrics, Benchmarks and Disclosure
H. Advocacy, Engagement Voting and Investor Collectives
J. Responsibilities of Governance Bodies for Investment-Related Activities
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
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.
### University of Waterloo Investment Summary

#### in thousands ('000)

<table>
<thead>
<tr>
<th>Investment Type</th>
<th>Registered Pension Plan</th>
<th>Endowment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Market Value</td>
<td>Asset Mix</td>
</tr>
<tr>
<td>as of December 31, 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$158,339</td>
<td>10.47%</td>
</tr>
<tr>
<td>Fixed Income - Passive</td>
<td>$295,396</td>
<td>19.54%</td>
</tr>
<tr>
<td>Fixed Income - Active</td>
<td>$313,212</td>
<td>20.71%</td>
</tr>
<tr>
<td>Cdn Equity - Passive</td>
<td>$-</td>
<td>0.00%</td>
</tr>
<tr>
<td>Cdn Equity - Active</td>
<td>$59,005</td>
<td>3.90%</td>
</tr>
<tr>
<td>Cdn Equity Infrastructure</td>
<td>$103,391</td>
<td>6.84%</td>
</tr>
<tr>
<td>Cdn Equity REIT</td>
<td>$46,030</td>
<td>3.04%</td>
</tr>
<tr>
<td>Global Equity - Passive</td>
<td>$15,393</td>
<td>1.02%</td>
</tr>
<tr>
<td>Global Equity - Active</td>
<td>$521,290</td>
<td>34.48%</td>
</tr>
<tr>
<td>Total</td>
<td>$1,512,056</td>
<td></td>
</tr>
<tr>
<td>as of December 31, 2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$83,474</td>
<td>3.97%</td>
</tr>
<tr>
<td>Fixed Income - Passive</td>
<td>$366,691</td>
<td>17.42%</td>
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<tr>
<td>Fixed Income - Active</td>
<td>$368,304</td>
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<td>Cdn Equity - Passive</td>
<td>$40,616</td>
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<tr>
<td>Cdn Equity - Active</td>
<td>$110,618</td>
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<tr>
<td>Cdn Equity Infrastructure</td>
<td>$123,444</td>
<td>5.86%</td>
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<tr>
<td>Cdn Equity REIT</td>
<td>$56,099</td>
<td>2.67%</td>
</tr>
<tr>
<td>Global Equity - Passive</td>
<td>$563,500</td>
<td>26.77%</td>
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<tr>
<td>Global Equity - Active</td>
<td>$392,094</td>
<td>18.63%</td>
</tr>
<tr>
<td>Total</td>
<td>$2,104,840</td>
<td></td>
</tr>
</tbody>
</table>

#### Purpose of the Fund

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.

#### Required Return

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.

#### Liquidity Requirements

Investments should be liquid enough so that they can be sold in a reasonable period of time. Investments should be liquid enough so that they can be sold in a reasonable period of time.

#### Beneficiaries

University of Waterloo employees (both retired and active) and their beneficiaries. University of Waterloo, subject to meeting expenditure restrictions.

#### Fiduciary Duty/Accountability

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 ($) unless noted)*

### as of December 31, 2016

<table>
<thead>
<tr>
<th>Investments in Energy (specific industry noted in parentheses)</th>
<th>Registered Pension Plan</th>
<th>Endowment</th>
<th>Total Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arc Resources Ltd. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 301</td>
<td>$ 301</td>
</tr>
<tr>
<td>BP PLC (Oil &amp; Gas)</td>
<td>$ 7,788 $</td>
<td>-</td>
<td>$ 7,788</td>
</tr>
<tr>
<td>Cameco Corp. (Uranium)</td>
<td>$ - $</td>
<td>$ 104</td>
<td>$ 104</td>
</tr>
<tr>
<td>Canadian Natural Resources Ltd. (Oil &amp; Gas)</td>
<td>$ 2,878 $</td>
<td>$ 3,449</td>
<td>$ 6,327</td>
</tr>
<tr>
<td>Cenovus Energy (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 532</td>
<td>$ 532</td>
</tr>
<tr>
<td>China Petroleum &amp; Chemical Corp (Oil &amp; Gas)</td>
<td>$ 1,343 $</td>
<td>-</td>
<td>$ 1,343</td>
</tr>
<tr>
<td>CNOOC Limited (Oil &amp; Gas)</td>
<td>$ 4,448 $</td>
<td>$ 1,002</td>
<td>$ 5,450</td>
</tr>
<tr>
<td>Crescent Point Energy Corp. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 788</td>
<td>$ 788</td>
</tr>
<tr>
<td>Devon Energy Corp (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 1,104</td>
<td>$ 1,104</td>
</tr>
<tr>
<td>Enbridge Inc (Energy Transportation)</td>
<td>$ - $</td>
<td>$ 1,744</td>
<td>$ 1,744</td>
</tr>
<tr>
<td>Ensign Energy Services (Oilfield Services &amp; Equipment)</td>
<td>$ 479 $</td>
<td>$ 427</td>
<td>$ 906</td>
</tr>
<tr>
<td>EOG Resources Inc. (Oil &amp; Gas)</td>
<td>$ 6,430 $</td>
<td>$ 1,448</td>
<td>$ 7,878</td>
</tr>
<tr>
<td>Halliburton Co (Oilfield Services &amp; Equipment)</td>
<td>$ - $</td>
<td>$ 692</td>
<td>$ 692</td>
</tr>
<tr>
<td>Imperial Oil Ltd. (Oil &amp; Gas)</td>
<td>$ 2,490 $</td>
<td>$ 2,219</td>
<td>$ 4,709</td>
</tr>
<tr>
<td>Keyera Corp. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 186</td>
<td>$ 186</td>
</tr>
<tr>
<td>MEG Energy Corp. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 112</td>
<td>$ 112</td>
</tr>
<tr>
<td>NK Lukoil PAO</td>
<td>$ 4,846 $</td>
<td>-</td>
<td>$ 4,846</td>
</tr>
<tr>
<td>Now Inc. (Oilfield Services &amp; Equipment)</td>
<td>$ - $</td>
<td>$ 37</td>
<td>$ 37</td>
</tr>
<tr>
<td>Pembina Pipeline Corp. (Energy Transportation)</td>
<td>$ - $</td>
<td>$ 610</td>
<td>$ 610</td>
</tr>
<tr>
<td>PrairieSky Royalty Ltd. (Minerals, Oil &amp; Gas)</td>
<td>$ 3,242 $</td>
<td>$ 3,280</td>
<td>$ 6,522</td>
</tr>
<tr>
<td>Royal Dutch Shell (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 1,576</td>
<td>$ 1,576</td>
</tr>
<tr>
<td>Schlumberger Ltd. (Oilfield Services &amp; Equipment)</td>
<td>$ 8,410 $</td>
<td>$ 1,192</td>
<td>$ 9,602</td>
</tr>
<tr>
<td>Seven Generations Energy Ltd. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 424</td>
<td>$ 424</td>
</tr>
<tr>
<td>Shawcor Ltd. (Energy Transportation)</td>
<td>$ 1,984 $</td>
<td>$ 1,768</td>
<td>$ 3,752</td>
</tr>
<tr>
<td>Suncor Energy Inc. (Oil &amp; Gas)</td>
<td>$ 7,817 $</td>
<td>$ 4,087</td>
<td>$ 11,904</td>
</tr>
<tr>
<td>Total SA (Oil &amp; Gas)</td>
<td>$ 1,523 $</td>
<td>$ 2,042</td>
<td>$ 3,565</td>
</tr>
<tr>
<td>TC Energy Corp. (Energy Transportation)</td>
<td>$ - $</td>
<td>$ 506</td>
<td>$ 506</td>
</tr>
<tr>
<td>Tourmaline Oil Corp. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 747</td>
<td>$ 747</td>
</tr>
<tr>
<td>Valero Energy Corp. (Oil &amp; Gas)</td>
<td>$ 1,512 $</td>
<td>-</td>
<td>$ 1,512</td>
</tr>
<tr>
<td>Unknown Oldfield Energy Holdings</td>
<td>$ 2,869 $</td>
<td>-</td>
<td>$ 2,869</td>
</tr>
<tr>
<td><strong>Total Investments in Energy Sector</strong></td>
<td><strong>$ 58,059</strong></td>
<td><strong>$ 30,377</strong></td>
<td><strong>$ 88,436</strong></td>
</tr>
<tr>
<td><strong>Value of Investment Mandate</strong></td>
<td><strong>$ 1,512,056</strong></td>
<td><strong>$ 355,713</strong></td>
<td><strong>$ 1,867,769</strong></td>
</tr>
<tr>
<td><strong>Energy Sector Exposure in Full Portfolio</strong></td>
<td><strong>3.84%</strong></td>
<td><strong>8.54%</strong></td>
<td><strong>4.73%</strong></td>
</tr>
<tr>
<td><strong>Value of Active Equity Portfolio</strong></td>
<td><strong>$ 729,716</strong></td>
<td><strong>$ 196,881</strong></td>
<td><strong>$ 926,597</strong></td>
</tr>
<tr>
<td><strong>Energy Sector Exposure in Active Equity Portfolio</strong></td>
<td><strong>7.96%</strong></td>
<td><strong>15.43%</strong></td>
<td><strong>9.54%</strong></td>
</tr>
</tbody>
</table>

### as of December 31, 2020

<table>
<thead>
<tr>
<th>Investments in Energy (specific industry noted in parentheses)</th>
<th>Registered Pension Plan</th>
<th>Endowment</th>
<th>Total Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arc Resources Ltd. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 149</td>
<td>$ 149</td>
</tr>
<tr>
<td>Cameco Corp. (Uranium)</td>
<td>$ - $</td>
<td>$ 112</td>
<td>$ 112</td>
</tr>
<tr>
<td>Canadian Natural Resources Ltd. (Oil &amp; Gas)</td>
<td>$ 2,489 $</td>
<td>$ 2,222</td>
<td>$ 4,711</td>
</tr>
<tr>
<td>Cenovus Energy (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 154</td>
<td>$ 154</td>
</tr>
<tr>
<td>Enbridge Inc (Energy Transportation)</td>
<td>$ - $</td>
<td>$ 1,779</td>
<td>$ 1,779</td>
</tr>
<tr>
<td>Keyera Corp. (Oil &amp; Gas)</td>
<td>$ - $</td>
<td>$ 290</td>
<td>$ 290</td>
</tr>
<tr>
<td>Pembina Pipeline Corp. (Energy Transportation)</td>
<td>$ 3,095 $</td>
<td>$ 1,701</td>
<td>$ 4,796</td>
</tr>
<tr>
<td>PrairieSky Royalty Ltd. (Minerals, Oil &amp; Gas)</td>
<td>$ 1,151 $</td>
<td>$ 633</td>
<td>$ 1,784</td>
</tr>
<tr>
<td>Suncor Energy Inc. (Oil &amp; Gas)</td>
<td>$ 3,839 $</td>
<td>$ 2,819</td>
<td>$ 6,658</td>
</tr>
<tr>
<td>TC Energy Corp. (Energy Transportation)</td>
<td>$ 4,932 $</td>
<td>$ 3,667</td>
<td>$ 8,599</td>
</tr>
<tr>
<td><strong>Total Investments in Energy Sector</strong></td>
<td><strong>$ 15,506</strong></td>
<td><strong>$ 13,526</strong></td>
<td><strong>$ 29,032</strong></td>
</tr>
<tr>
<td><strong>Value of Investment Mandate</strong></td>
<td><strong>$ 2,104,840</strong></td>
<td><strong>$ 484,377</strong></td>
<td><strong>$ 2,589,217</strong></td>
</tr>
<tr>
<td><strong>Energy Sector Exposure in Full Portfolio</strong></td>
<td><strong>0.74%</strong></td>
<td><strong>2.79%</strong></td>
<td><strong>1.12%</strong></td>
</tr>
<tr>
<td><strong>Value of Active Equity Portfolio</strong></td>
<td><strong>$ 679,216</strong></td>
<td><strong>$ 303,817</strong></td>
<td><strong>$ 983,033</strong></td>
</tr>
<tr>
<td><strong>Energy Sector Exposure in Active Equity Portfolio</strong></td>
<td><strong>7.96%</strong></td>
<td><strong>15.43%</strong></td>
<td><strong>9.54%</strong></td>
</tr>
</tbody>
</table>

### Change in Energy Holdings (2016 to 2020)

<table>
<thead>
<tr>
<th>Description</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in Energy Sector Holdings</td>
<td>$(42,553)</td>
<td>-80.73%</td>
</tr>
<tr>
<td>Change in Energy Sector Exposure (Full Portfolio)</td>
<td>-16,851</td>
<td>-67.33%</td>
</tr>
<tr>
<td>Change in Energy Sector Exposure (Active Equity Portfolio)</td>
<td>-16,702</td>
<td>-76.32%</td>
</tr>
</tbody>
</table>

*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.

<table>
<thead>
<tr>
<th>Term/Acronym</th>
<th>Category</th>
<th>Definition/Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 Degree Scenario (1.5dgc)</td>
<td>Policy</td>
<td>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.</td>
<td>The 1.5dgc target scenario, while originally aspirational, has increasingly become the target on which significant policy and financial sector actions are aligned.</td>
</tr>
<tr>
<td>Active Investments</td>
<td>Finance</td>
<td>Hands-on investing by a portfolio manager with the goal of outperforming the asset class’ benchmark, i.e. its average return net of fees</td>
<td></td>
</tr>
<tr>
<td>AR5</td>
<td>Science</td>
<td>&quot;Fifth assessment report&quot; 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.</td>
<td></td>
</tr>
<tr>
<td>Carbon</td>
<td>Science</td>
<td>For simplicity, in this document and in most communications on climate change, “carbon” is shorthand for carbon dioxide or carbon-dioxide equivalent emissions.</td>
<td></td>
</tr>
<tr>
<td>Carbon bubble</td>
<td>Finance</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Carbon budget</td>
<td>Science</td>
<td>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 580GtCO₂e and 420GtCO₂e (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.</td>
<td>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.</td>
</tr>
<tr>
<td>Carbon capture and storage (CCS)</td>
<td>Science</td>
<td>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 &quot;scrub&quot; 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.</td>
<td></td>
</tr>
<tr>
<td>Carbon Disclosure Project (CDP)</td>
<td>Corporate</td>
<td>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.</td>
<td>Disclosures through CDP are a primary source of data for corporate emissions pertinent to the carbon metrics of Waterloo’s portfolio.</td>
</tr>
<tr>
<td>Carbon leakage</td>
<td>Policy</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Term/Acronym</td>
<td>Category</td>
<td>Definition/Description</td>
<td>Significance</td>
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</tr>
<tr>
<td>Carbon markets</td>
<td>Policy</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Carbon neutrality</td>
<td>Science</td>
<td>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 &quot;net zero&quot; emissions. Corporately, the difference lies within boundaries on where negative emission projects are located - often outside the corporation and facilitated by offsets.</td>
<td></td>
</tr>
<tr>
<td>Carbon offsets</td>
<td>Policy</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Carbon sequestration/carbon-negative technologies</td>
<td>Science</td>
<td>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 forestation 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.</td>
<td>The list is used for negative screening by some &quot;fossil free&quot; funds and often used as an index for determining fossil fuel companies within a portfolio.</td>
</tr>
<tr>
<td>Carbon Underground 200</td>
<td>Corporate</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Climate Justice</td>
<td>Equity</td>
<td>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: • Acknowledging the differentiated and disproportionate impacts of climate change on existing social inequities, including but not limited to Indigeneity, race, income, and gender • Acknowledging the typically inverse relationship historically between those causing climate change and those most impacted, and viewing responsibility accordingly • 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 • Ensuring equitable representation in decision-making</td>
<td>Climate justice is a lens through which policymakers 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.</td>
</tr>
<tr>
<td>Climate risk</td>
<td>Finance</td>
<td>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).</td>
<td></td>
</tr>
<tr>
<td>Term/Acronym</td>
<td>Category</td>
<td>Definition/Description</td>
<td>Significance</td>
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</tr>
<tr>
<td>Climate Transition Benchmarks (CTB)</td>
<td>Finance</td>
<td>Sustainable Climate Transition Indices using measures to align with a 1.5°C 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.</td>
<td>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.</td>
</tr>
<tr>
<td>CO₂/CO₂e</td>
<td>Science</td>
<td>“Carbon dioxide” is a common greenhouse gas (GHG), and the combustion of fossil fuels and other human activities have significantly increased the release of CO₂ emissions and atmospheric concentrations, leading to climate change. CO₂e refers to “carbon dioxide equivalent”, a metric which includes multiple GHGs normalized to CO₂, typically based on 100-year global warming potential.</td>
<td>Carbon emissions metrics reported by investees within Waterloo’s portfolio will typically be reported in tonnes of CO₂e. Note, that “carbon” is often used as shorthand, but typically refers to CO₂e.</td>
</tr>
<tr>
<td>Engagement</td>
<td>Finance</td>
<td>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.</td>
<td>Investor engagement on climate change has increased significantly, with significant advocacy efforts pushing for corporate climate risk assessment (physical and transitional) and/or decarbonization.</td>
</tr>
<tr>
<td>Environmental Racism</td>
<td>Equity</td>
<td>“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…”¹ This could include:</td>
<td>There is growing evidence within North America and globally linking the extraction, processing, and use of fossil fuels to impacts which disproportionally impact Black, Indigenous, and racialized people.</td>
</tr>
<tr>
<td>Environment, Social, Governance (ESG)</td>
<td>Finance</td>
<td>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.</td>
<td>Waterloo has formally adopted ESG Integration in its investment management guidelines. ESG would conceivably include the material climate risks pertinent to decarbonization.</td>
</tr>
<tr>
<td>Equity investing</td>
<td>Finance</td>
<td>Investing money in a company by purchasing shares of that company in the stock market that are typically traded on a stock exchange.</td>
<td>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</td>
</tr>
<tr>
<td>Fiduciary duty</td>
<td>Finance</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term/Acronym</th>
<th>Category</th>
<th>Definition/Description</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance and Investments Committee</td>
<td>Institutional</td>
<td>Standing Committee of the Board of Governors responsible for the sound financial management of the University including its long-term investment funds.</td>
<td></td>
</tr>
<tr>
<td>Fossil Free Index</td>
<td>Finance</td>
<td>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”.</td>
<td>Fossil free indexes can be used for comparative analysis with other non-fossil fuel free indexes, and/or benchmarking performance of an investment portfolio.</td>
</tr>
<tr>
<td>GHG</td>
<td>Science</td>
<td>“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 (CO₂e).</td>
<td></td>
</tr>
<tr>
<td>GHG Protocol Corporate Standard</td>
<td>Corporate</td>
<td>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).</td>
<td>Waterloo utilizes the GHG Protocol for its public carbon reporting under Shift: Neutral. Most other reporting platforms and GHG measurement frameworks are built upon the principles, approaches, and scoping of the GHG protocol.</td>
</tr>
<tr>
<td>Global Reporting Initiative (GRI)</td>
<td>Corporate</td>
<td>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)</td>
<td>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.</td>
</tr>
<tr>
<td>Inevitable Policy Response scenario (PRI)</td>
<td>Policy</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>International Energy Agency (IEA)</td>
<td>Policy</td>
<td>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.</td>
<td>The IEA's data sets and reports inform many decisions in the industry.</td>
</tr>
<tr>
<td>International Renewable Energy Agency</td>
<td>Policy</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Investing to Address Climate Change Charter</td>
<td>Institutional</td>
<td>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</td>
<td>This charter applies to the University of Waterloo’s Endowment Fund but not its Pension Fund.</td>
</tr>
<tr>
<td>IPCC</td>
<td>Science</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Nationally Determined Contributions</td>
<td>Policy</td>
<td>These are the national commitments within the Paris Agreement that state how countries aim to curb their own emissions. These are intended to be &quot;ratcheted up&quot; on 5-year intervals to increase the ambition of the agreement and the actions of signatories.</td>
<td></td>
</tr>
<tr>
<td>Term/Acronym</td>
<td>Category</td>
<td>Definition/Description</td>
<td>Significance</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Negative screening/exclusions</td>
<td>Finance</td>
<td>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.</td>
<td>Not investing in fossil fuels would be an example of a negative screen.</td>
</tr>
<tr>
<td>Network for Greening the Financial System</td>
<td>Finance</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Net Zero Carbon</td>
<td>Corporate</td>
<td>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.</td>
<td>The Paris Agreement has become the de facto &quot;yardstick&quot; 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.</td>
</tr>
<tr>
<td>Paris Agreement</td>
<td>Policy</td>
<td>The Paris Agreement is a pivotal agreement within the UNFCCC to limit global temperature increase to &quot;well below 2 degrees celsius&quot; 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 &quot;ratchet up&quot; over time.</td>
<td>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.</td>
</tr>
<tr>
<td>Paris Aligned Benchmarks (PAB)</td>
<td>Finance</td>
<td>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 &amp; 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.</td>
<td></td>
</tr>
<tr>
<td>Passive investments</td>
<td>Finance</td>
<td>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</td>
<td></td>
</tr>
<tr>
<td>Pension &amp; Benefits Committee</td>
<td>Institutional</td>
<td>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&amp;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.</td>
<td>The significant overshoot of proven reserves compared to a carbon budget is, by definition, a &quot;stranded asset&quot; in a future which would stay within the carbon budget, leading to overvaluation of the company.</td>
</tr>
<tr>
<td>Proven reserves (fossil fuel)</td>
<td>Corporate</td>
<td>Identified deposits of various fossil fuels which have yet to be extracted, but are reflected as assets by the owning company.</td>
<td></td>
</tr>
<tr>
<td>Proxy voting</td>
<td>Finance</td>
<td>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.</td>
<td>Proxy voting is a shareholder right and obligation that may be used to influence corporate behaviour in support of climate action and decarbonization.</td>
</tr>
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<thead>
<tr>
<th>Term/Acronym</th>
<th>Category</th>
<th>Definition/Description</th>
<th>Significance</th>
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<tbody>
<tr>
<td>Responsible Investment Working Group (RIWG)</td>
<td>Institutional</td>
<td>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</td>
<td>This is the institutional foundation that this advisory group can build off of.</td>
</tr>
<tr>
<td>Scenario Analysis</td>
<td>Finance</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>SDSN</td>
<td>Institutional</td>
<td>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.</td>
<td>Affordable and Clean Energy is the 7th Sustainable Development Goal and Climate Action is the 13th Goal.</td>
</tr>
<tr>
<td>Shift: Neutral</td>
<td>Institutional</td>
<td>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.</td>
<td>Shift: Neutral does not address the University’s investment activities, hence the establishment of the Responsible Investing Advisory Group to make recommendations in this regard.</td>
</tr>
<tr>
<td>SR15</td>
<td>Science</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Statement of Investment Policies and Procedures (SIPP) and Investment Guidelines</td>
<td>Institutional</td>
<td>The investment policies adopted by the Board of Governors that govern the Pension Funds and Endowment investment activities respectively</td>
<td>These policies include integrated ESG commitments that could be elaborated to reflect policy to address climate change risks and opportunities.</td>
</tr>
<tr>
<td>Stranded assets</td>
<td>Finance</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Stress Testing</td>
<td>Finance</td>
<td>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.</td>
<td>Methodologies are being developed to use climate risk scenarios in stress testing.</td>
</tr>
<tr>
<td>Task Force on Climate-related Financial Disclosure (TCFD)</td>
<td>Finance</td>
<td>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</td>
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<tr>
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<tr>
<td>Tipping points</td>
<td>Science</td>
<td>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.</td>
<td></td>
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<tr>
<td>UNFCCC</td>
<td>Policy</td>
<td>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.</td>
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<tr>
<td>UN PRI</td>
<td>Finance</td>
<td>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.</td>
<td>UW is a signatory as of 2020.</td>
</tr>
<tr>
<td>UN SDGs</td>
<td>Policy</td>
<td>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.</td>
<td>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.</td>
</tr>
<tr>
<td>Well below two degrees (WB2D) Scenario</td>
<td>Policy</td>
<td>The &quot;Well below two degrees&quot; 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.</td>
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<tr>
<td>World Energy Outlook</td>
<td>Policy</td>
<td>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: • 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; • Sustainable Development Scenario which is consistent with the Paris Agreement “Well below two degrees” target; and • Net Zero 2050 Scenario which is consistent with the 1.5dgc target of the Paris Agreement.</td>
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<tr>
<td>Climate Investing Philosophy</td>
<td>Carbon Reduction Target</td>
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<td>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.</td>
<td>Reduce the carbon intensity of the Pension and Endowment investment portfolios by 40% compared to 2017 by the end of 2030 (announced February 2020).</td>
<td>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 (tCO2e)) 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.</td>
<td>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).</td>
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<tr>
<td>UTAM endowment ($2.5B)</td>
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<tr>
<td>University of Guelph endowment ($375M)</td>
<td></td>
<td>lessen the environmental impacts of endowment investments</td>
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<td>UBC IMANT endowment ($3B)</td>
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<td>Implementing a comprehensive response to the climate emergency</td>
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<tr>
<td>UBC IMANT pensions (Staff pension plan (SPP): $1.96B; Faculty pension plan (FPP): $2.58)</td>
<td>No clear statements on this from either plan</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Queens endowment ($1.18B)</td>
<td>&quot;... 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.&quot; No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>University of Ottawa endowment ($295M)</td>
<td>To address global warming and help Canada move to a greener economy</td>
<td>Reduction of the carbon footprint of entire investment portfolio by at least 30% by 2030 (announced April 2016)</td>
<td>Not identified</td>
</tr>
<tr>
<td>University of Ottawa pension ($2.6B)</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
## McMaster University (endowment ($1.1B))

**Climate Investing Philosophy**

Make a difference, on our campus, in our community, and globally.

**Carbon Reduction Target**

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).

**Carbon Reporting & Metrics**

Yes. Last measured and reported online as at April 30, 2020 (one metric) and as at April 30, 2019 (fulsome report).

**Transition Investments**

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%.

**Engagement**

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).

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## McMaster University pensions ($2.1B - Pension Plans and Group RRSP Plan)

**Climate Investing Philosophy**

N/A

**Carbon Reduction Target**

No

**Carbon Reporting & Metrics**

No

**Transition Investments**

None noted

**Engagement**

No

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## Dalhousie University (endowment ($608M))

**Climate Investing Philosophy**

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.

**Carbon Reduction Target**

No

**Carbon Reporting & Metrics**

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.

**Transition Investments**

None noted

**Engagement**

Dalhousie University became a UN PRI signatory on May 15, 2019. It is one of 15 Canadian Universities committed to the “Investing to Address Climate Change” charter (June 2020). Member of the Responsible Investment Association

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## Dalhousie University pension ($1.4B combined)

**Climate Investing Philosophy**

N/A

**Carbon Reduction Target**

No

**Carbon Reporting & Metrics**

No

**Transition Investments**

None noted

**Engagement**

No
<table>
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<tr>
<th>University</th>
<th>Climate Investing Philosophy</th>
<th>Carbon Reduction Target</th>
<th>Carbon Reporting &amp; Metrics</th>
<th>Transition Investments</th>
<th>Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western University (SKOSUM)</td>
<td>An environmentally sustainable future; our efforts against climate change continue to evolve</td>
<td>No</td>
<td>No</td>
<td>Western is committing to invest a portion of its Operating &amp; 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 &amp; Endowment Fund public equity investments. SIPP allows: 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.</td>
<td>Western University is not a UN PRI signatory. It is one of 15 Canadian Universities committed to the &quot;Investing to Address Climate Change&quot; charter (June 2020).</td>
</tr>
<tr>
<td>Western University pension (S$1.2B Defined contribution plans)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>McGill University (S$1.8B)</td>
<td>Impactful action to transition to more sustainable and environmentally conscious practices</td>
<td>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.</td>
<td>Beginning in spring 2021, the Investment Committee will submit an annual socially responsible investing (SRI) report to CAANR 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.</td>
<td>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).</td>
<td>McGill University is not a UN PRI signatory. It is one of 15 Canadian Universities committed to the &quot;Investing to Address Climate Change&quot; charter (June 2020).</td>
</tr>
<tr>
<td>McGill University pension (Defined contribution plan for those joining after January 1, 2009)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Climate Investing Philosophy</td>
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<tr>
<td><strong>Concordia University Foundation endowment ($109.5M)</strong></td>
<td>As institutional investors, we have a duty to act in the best long-term 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).</td>
<td>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.</td>
<td>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.</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td><strong>Concordia pension ($1.18B)</strong></td>
<td>Information related to pension investments was not noted online</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
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<tr>
<td><strong>Laval endowment ($355M)</strong></td>
<td>University of Laval has a responsibility to meet major challenges facing society, including the fight against climate change.</td>
<td>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)</td>
<td>Carbon footprint as at December 31, 2018 has been disclosed, newer carbon measurements not yet noted online.</td>
<td>It became a signatory to the UNPRI January 17, 2020. It is one of 15 Canadian Universities committed to the &quot;Investing to Address Climate Change&quot; charter (June 2020).</td>
<td></td>
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<tr>
<td><strong>Laval pension ($3.57B)</strong></td>
<td>Information related to pension investments was not noted online</td>
<td>N/A</td>
<td>N/A</td>
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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.¹ 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 CO₂e to be tracked. This is consistent with what peer organizations are doing (e.g., see Appendix F) and

¹ 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\textsubscript{2e} 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.\textsuperscript{2} 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.\textsuperscript{3}

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.

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**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


\textsuperscript{3} 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.

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 31st of each year*

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4 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 31st 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 31st, 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 31st, 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 31st, 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.5

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.6 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.7 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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5 We discuss the baseline year to be used for benchmark performance tracking in greater detail in a subsequent section.
6 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.
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 CO₂e at the baseline date. If the initial target is a 50% reduction to a total of 50 tonnes of CO₂e 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., CO₂e/$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.8

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)

8 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.\(^9\) 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\(_2\)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).\(^{10}\)

**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\(_2\)e/$M revenue, or tonnes of CO\(_2\)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\(_2\)e per million in revenue or per million in investment) may be affected either by *real* changes in CO\(_2\)e emissions performance, or by changes in currency conversion rates. Example 3 in Appendix G2 demonstrates these effects.

\(^9\) *Recommendations of the Task Force on Climate-related Financial Disclosures*, 2017 page 36 under the header GHG Emissions Associated with Investment

\(^{10}\) 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 31st 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. 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.

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.
- 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. Compounded annually, this translates to a net change over 10 years of approximately 54%.
- 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. 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.

11 Paris Agreement, see article 2.1.a.
12 See Net Zero Asset Managers Initiative, under commitment a.1.
13 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.
14 UNEP Emissions Gap Report 2019, page XIII.
15 As computed by a simple compounded annualized growth rate of -7.6% over 10 periods. Emissions after year 10 are equal to $*(1-0.076)^10 = 0.4536, or approximately 54.6% reduction from the base year.
16 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 31st, 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 10th, 2021, while more detailed disclosure requirements will apply from January 1st, 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 21st, 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 21st, 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 22nd, 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 4th, 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 3rd, 2021 that its 2021 examination priorities included a greater focus on climate-related risks.

On February 24th, 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 15th, 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 23rd 2021). Cardano further urged the SEC to mandate climate change disclosures that are consistent with the recommendations of the TCFD.

On April 9th, 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 21st, 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.
### Total Carbon Emissions:

<table>
<thead>
<tr>
<th>Description</th>
<th>The absolute greenhouse gas emissions associated with a portfolio, expressed in tons CO₂e.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formula</strong></td>
<td>$\sum \left( \frac{\text{current value of investment}}{\text{issuer's market capitalization}} \times \text{issuer's Scope 1 and Scope 2 GHG emissions} \right)$</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>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).</td>
</tr>
</tbody>
</table>
| **Key Points** | + Metric may be used to communicate the carbon footprint of a portfolio consistent with the GHG protocol.  
+ Metric may be used to track changes in GHG emissions in a portfolio.  
+ Metric allows for portfolio decomposition and attribution analysis.  
- Metric is generally not used to compare portfolios because the data are not normalized.  
- Changes in underlying companies' market capitalization can be misinterpreted. |

### Carbon Footprint:

<table>
<thead>
<tr>
<th>Description</th>
<th>Total carbon emissions for a portfolio normalized by the market value of the portfolio, expressed in tons CO₂e / $M invested.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formula</strong></td>
<td>$\sum \left( \frac{\text{current value of investment}}{\text{issuer's market capitalization}} \times \text{issuer's Scope 1 and Scope 2 GHG emissions} \right)$</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>
| **Key Points** | + Metric may be used to compare portfolios to one another and/or to a benchmark.  
+ Using the portfolio market value to normalize data is fairly intuitive to investors.  
+ Metric allows for portfolio decomposition and attribution analysis.  
- Metric does not take into account differences in the size of companies (e.g., does not consider the carbon efficiency of companies).  
- Changes in underlying companies' market capitalization can be misinterpreted. |

---

17 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:

<table>
<thead>
<tr>
<th>Carbon Intensity</th>
<th>Description</th>
<th>Formula</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Volume of carbon emissions per million dollars of revenue (carbon efficiency of a portfolio), expressed in tons CO₂e / $M revenue.</td>
<td>[ \sum_{n} \left( \frac{\text{current value of investment}}{\text{issuer's market capitalization}} \times \text{issuer's Scope 1 and Scope 2 GHG emissions} \right) \div \sum_{n} \left( \frac{\text{current value of investment}}{\text{issuer's market capitalization}} \times \text{issuer's $M revenue} \right) ]</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Key Points

- Metric may be used to compare portfolios to one another and/or to a benchmark.
- Metric takes into account differences in the size of companies (e.g., considers the carbon efficiency of companies).
- Metric allows for portfolio decomposition and attribution analysis.
- The calculation of this metric is somewhat complex and may be difficult to communicate.
- Changes in underlying companies' market capitalization can be misinterpreted.

## Weighted-Average Carbon Intensity:

<table>
<thead>
<tr>
<th>Weighted Average Carbon Intensity</th>
<th>Description</th>
<th>Formula</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Portfolio's exposure to carbon-intensive companies, expressed in tons CO₂e / $M revenue. Metric recommended by the Task Force.</td>
<td>[ \sum_{n} \left( \frac{\text{current value of investment}}{\text{current portfolio value}} \times \text{issuer's Scope 1 and Scope 2 GHG emissions} \right) \div \text{issuer's $M revenue} ]</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Key Points

- Metric can be more easily applied across asset classes since it does not rely on equity ownership approach.
- The calculation of this metric is fairly simple and easy to communicate to investors.
- Metric allows for portfolio decomposition and attribution analysis.
- Metric is sensitive to outliers.
- Using revenue (instead of physical or other metrics) to normalize the data tends to favor companies with higher pricing levels relative to their peers.
**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:

\[
\frac{\text{current value of investment}_j}{\text{issuer’s enterprise value}_j} \quad \text{for} \quad \frac{\text{current value of investment}_j}{\text{issuer’s market value}_j}
\]

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:

<table>
<thead>
<tr>
<th></th>
<th>Co. A</th>
<th>Co. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$100</td>
<td>$100</td>
</tr>
<tr>
<td>CO(_2)e</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Enterprise value</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Equity value</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>Debt value</td>
<td>---</td>
<td>100</td>
</tr>
<tr>
<td>CO(_2)e/million in sales</td>
<td>.10</td>
<td>.10</td>
</tr>
<tr>
<td>CO(_2)e/million in enterprise value</td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td>CO(_2)e/million if all allocated to equity</td>
<td>.05</td>
<td>.10</td>
</tr>
<tr>
<td>CO(_2)e/million if all allocated to debt</td>
<td>----</td>
<td>.10</td>
</tr>
</tbody>
</table>

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\(_2\)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\(_2\)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 CO₂e, 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 CO₂e 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 CO₂e 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 CO₂e 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).¹⁸

¹⁸ 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$_2$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.

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020*</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonnes of CO$_2$e</td>
<td>100</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Sales (in millions US$)</td>
<td>200</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Market capitalization (assumes 100% equity financed firm)</td>
<td>200</td>
<td>180</td>
<td>200</td>
</tr>
</tbody>
</table>

* 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$_2$e emissions:

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020*</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaled by sales</td>
<td>.50</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>Scaled by market capitalization</td>
<td>.50</td>
<td>.278</td>
<td>.50</td>
</tr>
</tbody>
</table>

\[ \Delta \text{CO}_2\text{e} - \text{scaled by sales} \]

\[ \Delta \text{CO}_2\text{e} - \text{scaled by market cap} - .222 \]

The % change is actually more dramatic

\[ -22/50 \approx 44\% \quad 22/28 \approx 80\% \]

**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.\(^{19}\)

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:

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020*</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonnes of CO$_2$e</td>
<td>100</td>
<td>50</td>
<td>100</td>
<td>110</td>
</tr>
<tr>
<td>Sales (in millions US$)</td>
<td>200</td>
<td>100</td>
<td>200</td>
<td>220</td>
</tr>
<tr>
<td>Market capitalization</td>
<td>200</td>
<td>180</td>
<td>200</td>
<td>230</td>
</tr>
</tbody>
</table>

\[ \Delta \text{CO}_2\text{e} - \text{scaled by sales} \]

\[ \Delta \text{CO}_2\text{e} - \text{scaled by market cap} - .222 \]

\[ \Delta \text{CO}_2\text{e} - \text{scaled by market cap} - .022 \]

\(^{19}\) 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$_2$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$_2$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:

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020**</th>
<th>2021**</th>
<th>2022**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonnes of CO$_2$e</td>
<td>100</td>
<td>50</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Sales (in millions US$)</td>
<td>200</td>
<td>100</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Market capitalization</td>
<td>200</td>
<td>180</td>
<td>160</td>
<td>140</td>
</tr>
<tr>
<td>CO$_2$e scaled by market cap</td>
<td>.50</td>
<td>.278</td>
<td>.625</td>
<td>.714</td>
</tr>
<tr>
<td>Δ CO$_2$e – scaled by market cap</td>
<td>-.222</td>
<td>+.347</td>
<td>+.089</td>
<td></td>
</tr>
<tr>
<td>% change emissions rates when scaled by mkt cap</td>
<td>-44%</td>
<td>+125%</td>
<td>+14.2%</td>
<td></td>
</tr>
<tr>
<td>Δ CO$_2$e – scaled by sales</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
</tbody>
</table>

** 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 CO₂e 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:

<table>
<thead>
<tr>
<th></th>
<th>2019*</th>
<th>2020*</th>
<th>2021*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonnes of CO₂e</td>
<td>100</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>Sales (in millions US$)</td>
<td>200</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>tCO₂e/million US$ sales</td>
<td>.50</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>Year end USD to CAD</td>
<td>1.30</td>
<td>1.25</td>
<td></td>
</tr>
</tbody>
</table>

* 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.

tCO₂e/million C$ sales
- Assuming USD to CAD @ 1.25          .385
- Assuming USD to CAD @ 1.20          .400
- Assuming USD to CAD @ 1.30          .417
- Assuming USD to CAD @ 1.35          .385

Discussion: When measured in tCO₂e to millions of sales in US$, because of the constant technology assumption, performance is unchanged at .50 across the entire time series, regardless of fluctuations in activity levels, as we’ve previously seen. However, because the closing value of the Canadian dollar increased slightly (i.e., USD buys less CAD) from the end of 2019 to 2020, the firm’s tCO₂e/million C$ 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 CO₂e 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 CO₂e 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


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.


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.


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.
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

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.

/sg

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.

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

*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.”

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. 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.


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.
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).
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.

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Constituency/position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce Gordon</td>
<td>Chair – delegate of the Vice-President, Academic &amp; Provost</td>
</tr>
<tr>
<td>Alan Macnaughton</td>
<td>Representative – Faculty (P&amp;B)</td>
</tr>
<tr>
<td>Ted Bleaney</td>
<td>Representative – Staff (P&amp;B)</td>
</tr>
<tr>
<td>Stewart Forrest</td>
<td>Representative – CUPE Local 793 (P&amp;B)</td>
</tr>
<tr>
<td>Mary Thompson</td>
<td>Representative – Retirees’ Association (P&amp;B)</td>
</tr>
<tr>
<td>Robert Bruce</td>
<td>Board Member – Graduate Student (BOG)</td>
</tr>
<tr>
<td>Andrew Clubine</td>
<td>Board Member – Undergraduate Student (BOG)</td>
</tr>
<tr>
<td>Upkar Arora</td>
<td>Three members of the Board of Governors or its finance and/or pension committees, other than University employee or student members</td>
</tr>
<tr>
<td>John Liddy</td>
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</tr>
<tr>
<td>John Lounds</td>
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</tr>
<tr>
<td>Dennis Huber</td>
<td>Vice-President, Administration &amp; Finance</td>
</tr>
<tr>
<td>Joanne Shoveller</td>
<td>Vice-President, Advancement</td>
</tr>
</tbody>
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**Former members**

<table>
<thead>
<tr>
<th>Member Name</th>
<th>Constituency/position</th>
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</thead>
<tbody>
<tr>
<td>Christine Wagner (to April 2017)</td>
<td>Representative – Staff (P&amp;B)</td>
</tr>
<tr>
<td>Ramesh Kumar (to April 2017)</td>
<td>Representative – Retirees’ Association (P&amp;B)</td>
</tr>
<tr>
<td>Christopher Pugh (to July 2017)</td>
<td>Board Member – Graduate Student (BOG)</td>
</tr>
</tbody>
</table>
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.3

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


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

Available at https://uwaterloo.ca/secretariat/committees-and-councils/pension-benefits-committee
## Pension plan assets

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<th>Responsibilities</th>
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<tr>
<td>Review of investment returns at each meeting</td>
<td>PIC, with input from F&amp;I</td>
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<tr>
<td>Annual review of SIPP/Investment Guidelines, rebalancing guidelines and investment policy</td>
<td>F&amp;I</td>
</tr>
<tr>
<td>Amendments to SIPP/Investment Guidelines</td>
<td>P&amp;B recommend to Board of Governors</td>
</tr>
<tr>
<td>Selection and termination of investment managers</td>
<td>PIC recommend to P&amp;B; P&amp;B recommend to Board of Governors to adjust approved manager list</td>
</tr>
<tr>
<td>Purchase/sale/allocation of assets</td>
<td>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. 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</td>
</tr>
</tbody>
</table>
The University of Waterloo  
PENSION & BENEFITS COMMITTEE  
Report to the Board of Governors  
1 June 2021

This report is submitted following the committee’s meeting of 14 May 2021, for inclusion in the regular agenda.

FOR APPROVAL

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1. Actuarial Valuation of the Pension Plan, 1 January 2021

Motion: To approve the filing of the actuarial valuation report as at 1 January 2021 with the Financial Services Regulatory Authority of Ontario (FSRA) and the Canada Revenue Agency (CRA).

Background: The University of Waterloo pension plan is an inflation-linked defined-benefit plan. The plan is funded by contributions from the employees and the University, and by investment returns. The total annual contribution is determined by applying actuarial methods with assumptions about investment returns, mortality, inflation and salaries. An actuarial valuation report is required to be filed at least every three years; notwithstanding this, in practice the committee commissions a report on an annual basis for its planning and the University’s budgeting purposes.

The 1 January 2021 report shows that the registered pension plan (the “Registered Plan”) is in a deficit position. The going concern deficit position has held steady since the 1 January 2020 filed valuation report both in terms of overall deficit and deficit as a percentage of total plan assets, and it would be considered prudent to file this valuation with the regulator.

The University continues to make additional contributions to meet the unfunded liability. Filing of this valuation will allow the plan to continue to direct a portion of the annual contributions to improve the going concern financial position of the plan. See Attachment #1 for a detailed summary of the actuarial valuation results for the Registered Plan. A complete copy of the report can be requested through the committee’s secretary.

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Peter Barr  
Chair
Attachment #1 - Summary of the Actuarial Valuation Results, 1 January 2021

1. Financial Position of the Registered Plan
   a. Going Concern Basis. A valuation conducted on a going-concern basis is to determine the relationship between the respective values of the Registered Plan’s assets and accumulated liabilities, assuming the Registered Plan will be maintained indefinitely.

<table>
<thead>
<tr>
<th></th>
<th>01.01.2020¹</th>
<th>01.01.2021²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuarial (Market) value of assets</td>
<td>$1,938,502,000</td>
<td>$2,105,435,000</td>
</tr>
<tr>
<td>Actuarial liability³</td>
<td>$(1,868,707,000)</td>
<td>$(2,036,523,000)</td>
</tr>
<tr>
<td>Going Concern Position</td>
<td>$69,795,000</td>
<td>$68,912,000</td>
</tr>
<tr>
<td>Adjustment, Provision for Adverse Deviation</td>
<td>$(145,837,000)</td>
<td>$(158,269,000)</td>
</tr>
<tr>
<td>Funding excess (unfunded liability)</td>
<td>$(76,042,000)</td>
<td>$(89,357,000)</td>
</tr>
<tr>
<td>Market value of assets</td>
<td>$1,938,502,000</td>
<td>$2,105,435,000</td>
</tr>
</tbody>
</table>

   b. Solvency Basis. A valuation conducted on a solvency basis is used to determine the relationship between the respective values of the Registered Plan’s assets and its liabilities assuming the Registered Plan was wound up and settled on the valuation date by the purchase of annuities or the payment of lump-sum values. In accordance with the Pension Benefits Act, solvency liabilities exclude certain contractual benefits (e.g., indexing) in order to limit the magnitude of additional funding requirements for solvency purposes. Ignoring these obligations for solvency funding purposes does not alter the contractual obligation with respect to indexing in place under the terms of the Registered Plan (the liability for indexation benefits is reflected in the going concern valuation position and funding requirements).

<table>
<thead>
<tr>
<th></th>
<th>01.01.2020</th>
<th>01.01.2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvency assets⁴</td>
<td>$1,938,002,000</td>
<td>$2,104,935,000</td>
</tr>
<tr>
<td>Solvency liability</td>
<td>$(2,146,037,000)</td>
<td>$(2,423,689,000)</td>
</tr>
<tr>
<td>Financial position</td>
<td>$(208,035,000)</td>
<td>$(318,754,000)</td>
</tr>
<tr>
<td>Adjustments</td>
<td>$50,680,000</td>
<td>$59,453,000</td>
</tr>
<tr>
<td>Surplus / (unfunded Deficit)</td>
<td>$(157,355,000)</td>
<td>$(259,301,000)</td>
</tr>
</tbody>
</table>

   The additional wind-up liability for indexation benefits is approximately $764 million at 1 January 2021, resulting in a hypothetical wind-up deficit of approximately $1,142.3 million at 1 January 2021 (including indexation). The solvency ratio decreased from 0.90 to 0.87 from the previous years’ valuation.

2. Funding Requirements. Member contributions for 2021 are approximately $44.0 million, or 8.4% of pensionable earnings. The University’s normal cost is approximately $54.0 million or 10.3% of pensionable earnings. The University is also making mandatory special payments of $9.3 million in 2021 ($10.9 million in 2022 and 2022) as well as additional payments to maintain its commitment to contribute 12.45% of pensionable earnings. This brings the University’s total contribution for 2020 to $65.3 million.

¹ 2020 figures reflect discount rate of 5.60% (CPI + 3.60%), and provision for adverse deviation equaling 9.00% of non-indexed liabilities and current service cost
² 2021 figures reflect discount rate of 5.30% (CPI + 3.30%), and provision for adverse deviation equaling 9.00% of non-indexed liabilities and normal cost
³ The liability figures reflect the adoption of the 2014 Canadian Pensioners’ Public Sector Mortality Table (CPM2014Publ)
⁴ Solvency assets are net of $500,000 in estimated wind-up expenses
3. Asset Mix

<table>
<thead>
<tr>
<th>Asset Mix (% of Total Market Value)</th>
<th>01.01.2020</th>
<th>01.01.2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Return Bonds</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Fixed Income, Cash</td>
<td>46%</td>
<td>39%</td>
</tr>
<tr>
<td>Equities</td>
<td>45%</td>
<td>52%</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4. Membership Data

<table>
<thead>
<tr>
<th>Membership Data</th>
<th>01.01.2020</th>
<th>01.01.2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Members</td>
<td>4891</td>
<td>4905</td>
</tr>
<tr>
<td>LTD Members</td>
<td>90</td>
<td>104</td>
</tr>
<tr>
<td>Suspended Members</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Current Pensioners</td>
<td>2092</td>
<td>2176</td>
</tr>
<tr>
<td>Deferred Pensioners</td>
<td>584</td>
<td>632</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7659</strong></td>
<td><strong>7818</strong></td>
</tr>
</tbody>
</table>

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5 Asset mix is based on the underlying assets excluding in-transit contributions and payments.