

**PENSION & BENEFITS COMMITTEE**
**AGENDA**

FRIDAY, 15 September 2023

9:30 a.m.-12:00 p.m. EST

NH 3318

[Governing Documents and Resources](#)

TIMING	AGENDA ITEM	PAGE	ACTION
	<b>OPEN SESSION</b>		
9:30 a.m.	1. Agenda/Additional Agenda items	Oral	Decision
9:35 a.m.	2. Minutes of the 16 June 2023 Meeting (Open Session) and Business Arising	3	Decision
9:40 a.m.	3. Execution Against Work Plan	6	Information
9:45 a.m.	4. P&B Committee Orientation [Willey-Thomas]	Oral	Information
10:00 a.m.	5. Human Resources Update [Reitsma, Hollis, & Hornberger]		
	a. Proposed Annual Non-Pension Benefits Plan Design Review (timing and process) – include items of interest such as Gender Affirmation Benefit	Oral	Information
	b. GreenShield Experience Dashboard	8	Information
	c. Pharmacy Benefit Management – GreenShield presentation including formulary management, compound policy, off-label drug usage	9	Information
	d. Family Building Benefit – GreenShield presentation including coverage parameters and administration process	30	Information
	e. Pension projection tool – early retirement actuarial reduction factor	Oral	Information
11:00 a.m.	6. Potential Revisions to the Pension Plan – CPP and COLA [Reitsma] <i>Motion: That the Pension and Benefits Committee receive the report for information.</i>	39	Decision
11:10 a.m.	7. UPP Review [Shapira]	47	Information
11:30 a.m.	8. Summary of Total Fund Investment Performance [Shapira]	64	Information
11:35 a.m.	9. Pension Risk Management Dashboard, Q2 2023 [Byron]	74	Information

 If you require assistance or need to convey regrets, please contact the Secretariat at [board@uwaterloo.ca](mailto:board@uwaterloo.ca).

TIMING	AGENDA ITEM	PAGE	ACTION
11:40 a.m.	10. Other Business  <b>CONFIDENTIAL SESSION</b>	Oral	Input
	*to be distributed. **distributed separately.		

8 September 2023

Sarah Willey-Thomas  
Associate University Secretary

<b>UPCOMING COMMITTEE MEETINGS</b>	
<b>13 October 2023</b>	Pension & Benefits Committee
<b>8 November 2023</b>	Pension Investment Committee
<b>17 November 2023</b>	Pension & Benefits Committee
<b>8 December 2023</b>	Pension & Benefits Committee

If you require assistance or need to convey regrets, please contact the Secretariat at [board@uwaterloo.ca](mailto:board@uwaterloo.ca).

**University of Waterloo**  
**Board of Governors**  
**PENSION & BENEFITS COMMITTEE**  
**Minutes of the 16 June 2023 Meeting**  
**[in agenda order]**

**Present:** Sara Cressman, Elizabeth Demers,, Melissa Graham, Mary Hardy, Michelle Hollis, Lily Hua, William Povelofskie, James Rush, Jacinda Reitsma (chair), David Saunders, David Taylor, Sarah Willey-Thomas (secretary)

**Regrets:** Aubrey Basdeo, Teresa (Fortney), Sue McGrath, Tyler Wendland

**Resources/Guests:** Carson Brett (EY), Linda Byron (Aon), Sarah Hadley, Patti Hancock, Blaine Hertzberger (EY), Lee Hornberger, Allan Shapira (Aon), Michelle St. Amour

**Organization of Meeting:** Jacinda Reitsma took the chair, and Sarah Willey-Thomas acted as secretary. The secretary advised that a quorum was present. The agenda was accepted as distributed.

**OPEN SESSION**  
**In agenda order**

**1. REPORT FROM THE PENSION INVESTMENT COMMITTEE**

Sarah Hadley delivered the report on behalf of Aubrey Basdeo. Hadley presented the PIC report and there was a request regarding the net of fees return to be brought forward at a future meeting

**2. MINUTES OF THE 19 MAY MEETING (Open Session) AND BUSINESS ARISING**

The Committee reviewed the meetings of the May 19<sup>th</sup> meeting and noted an amendment to add the following regarding the March 2023 contributions for the RPP, “The amount of the March 2023 contributions to the RPP are not yet reflected in the Aon dashboard due to being in transit at that date. The amount in transit is \$9.4M.” The minutes were further amended to note that that regarding GreenShield “The Committee’s decision was made on the commitment that it that another decision will be brought forward to a future meeting.” Taylor and Saunders. Approved as amended.

Allan Shapira shared additional details regarding the discount rate used in the most recent actuarial valuation of the University of Waterloo Pension Plan.

**3. EXECUTION AGAINST THE WORKPLAN**

The work plan was presented for information, noting an orientation for new members would be provided in September and that further information for bringing forward new motions would be outlined in the near term as well.

**4. HUMAN RESOURCE UPDATE**

**a. Employee and Family Assistance Program (EFAP)**

Michelle Hollis presented the EFAP, noting that while noted as for information, historically there has been a motion for this item; the Committee heard and overview of the RFP process and increase in budget. The Committee discussed other alternative providers.

**Motion:** to approve that the University signs a new 5-year contract (renewable for 2 years) with Homewood Health. Hollis and Graham. Carried.

**b. Family Planning Benefit**

Hollis presented the Family Planning Benefit. The Committee discussed timing of the proposal relative to September, coverage of benefit to extend to surrogates; work with

GreenShield to develop the product with all details in September. The Committee agreed to amend the motion by consensus to add the word Plan at the end of the motion for clarity.

**Motion:** to recommend to the Board of Governors, an amendment to the extended health benefit relative to the In-vitro Fertilization (IVF) provision as follows:

- I. Revise coverage by removing the exhaustion of the provincial coverage requirement
- II. Removing the two-cycle limit for coverage (while maintaining the \$30,000 maximum)
- III. Extending eligibility to individuals who are acting as surrogates for members of the benefit plan.

Hollis and Saunders. Approved as amended.

c. GreenShield update

Hollis presented the GreenShield update, noting some of the major concerns that have been raised; and that GreenShield would be invited to present at the next meeting to provide details regarding the policy and to address concerns raised by the Committee. The Committee discussed seeking clarity on the policy; discrepancies in the policy; opportunity to discuss in closed session; concerns regarding off label usage; future decision points; review of option selected in Fall 2022 in September; and further consideration of gender affirmation surgery benefit and associated costing for the September meeting.

Hollis presented a support model in place for employees contacting GreenShield.

**5. UPP REVIEW – FUNDING STRUCTURE PLAN DESIGN**

Shapira presented the UPP review, noting participating universities; structure of benefits for active and retired members; impact of transition to UPP; funding structure; ten-year transitional period and obligations during that transitional period; similarities and differences in retirement dates to UW Plan; accrual rate above and below YMPE; no hard dollar cap on UPP; and indexing of the UPP at 75% of CPI. The Committee discussed transitional period if UW's pension is fully funded; impact of 50/50 cost sharing; reason for a cap on the UW Plan; and governance of the UPP.

**6. POTENTIAL REVISIONS TO THE PESION PLAN**

a. Considerations for Review of Plan Design Change

Reitsma provided a summary of the considerations, developed in collaboration with the Chair.

b. COLA Proposal

Mary Hardy delivered a presentation, noting challenges with increases in cost of living for lower income individuals; savings levels possible by level of income and benefits to lower income earners of this proposal. The Committee discussed impact of GreenShield denying a health benefit for lower income pensioners; need to assess competitiveness of pension with the proposed adjustments; USG of most staff members and equity issues with the proposed COLA proposal; community consultation required for a change; and complexity of administering the proposal.

c. Current COLA Process

Shapira noted the current COLA provisions as outlined in the agenda package.

d. Impact of CPP Enhancement on the University of Waterloo Pension Plan

Shapira outlined the impact of CPP enhancement on the University of Waterloo Pension Plan. The Committee discussed the impact of the CPP increase relative to the Plan. The Committee agreed by consensus that next steps are for HR and Finance to provide some comments on and for Aon to cost both proposals.

**7. OTHER BUSINESS**

The Committee discussed concerns regarding implementation of bereavement leave for CUPE staff; approach for managing claims with GreenShield outside of the eligibility period; and one edge case scenario for which the pension projection tool did not calculate early retirement correctly. The Committee further discussed possible next steps in solving the above matters.

**2023-2024 Pension & Benefits Committee Work Plan**

<b>Pension &amp; Benefits Committee Agenda Items</b>  • expected *as needed/available	<b>19 May 2023</b>	<b>16 June 2023</b>	<b>15 September 2023</b>	<b>13 October 2023</b>	<b>17 November 2023</b>	<b>8 December 2023</b>	<b>19 January 2024</b>	<b>16 February 2024</b>	<b>22 March 2024</b>
<b>OPEN SESSION</b>									
Execution against Audit Committee Work Plan – Consent Agenda	▪	▪	▪	▪	▪	▪	▪	▪	▪
Minutes of the Previous Meeting – Consent Agenda				▪	▪	▪	▪	▪	▪
Budget Overview	▪								
<b>Finance</b>									
Previous Years’ Fees and Expenses	▪								
Annual Audit of the Pension Plan Fund Financial Statements	▪								
Carbon Metrics Reporting	▪								
Summary of Total Fund Investment Performance	▪		▪		▪			▪	
Statement of Investment Policies and Procedure and Fund Implementation Procedures; Pension Statement SIPP						▪			
<b>Actuarial Consultants</b>									
Pension Risk Management Dashboard (Quarterly)	▪		▪		▪			▪	
Approval of Actuarial Valuation Assumptions							▪		
RPP Actuarial Valuation, decision on filing									▪
Review of RPP Contribution and Protocol Caps						▪			
<b>Human Resources</b>									
Extended Health & Dental Benefits – Indexation of Maxima effective January 1					▪				
Retiree Life Insurance – Indexation of Coverage effective January 1					▪				
Annual Benefits Utilization Report					▪				
NEW: Annual Plan Design Review					▪				
Maximum Pension Limits and Caps Adjustments, Based on Average Industrial Wage Increase (AIW)						▪			
Cost of Living Adjustments <ul style="list-style-type: none"> <li>• Pensions in Pay</li> <li>• Deferred Pensions</li> <li>• Pensionable Earnings for Members on LTD</li> </ul>								▪	

<sup>1</sup> Annual, as required

<sup>2</sup> Note Committee approved threshold

<sup>3</sup> Completed every five years

Group Benefits Program – Annual Renewal <ul style="list-style-type: none"> <li>Life Insurance – Premium Rate</li> <li>Long Term Disability <ul style="list-style-type: none"> <li>Premium Rate</li> <li>Maximum Insured Salary (Indexation)</li> </ul> </li> <li>Healthcare Benefits – ASO Fees/Charges</li> <li>Healthcare Benefits – Budget Rates</li> </ul>									▪
<b>Governance</b>									
Review of Committee Terms of Reference		▪							
Annual Report to the Community								▪	
Annual Committee Self Assessment									▪
Committee Priorities									▪
<b>CONFIDENTIAL SESSION</b>									
Minutes of the Previous Meeting	▪	▪	▪	▪	▪	▪	▪	▪	▪
Other Business	*	*	*	*	*	*	*	*	*
<b>IN CAMERA SESSION</b>									
Minutes of the Previous Meeting and Business Arising	▪	▪	▪	▪	▪	▪	▪	▪	▪
Other Business	*	*	*	*	*	*	*	*	*

Special Topics for 2023-2024 to be Scheduled:

- Pension Plan Design Changes (Integration with CPP and COLA proposal)
- Reports from Pension Investment Committee (PIC)
  - New or terminating investment managers (as the need arises)
  - Appointment of investment consultant
- Responsible Investment Policy (recommendation to Board)

**For more information:**

uwaterloo.ca/secretariat  
[board@uwaterloo.ca](mailto:board@uwaterloo.ca)  
 NH 3060

<sup>1</sup> Annual, as required

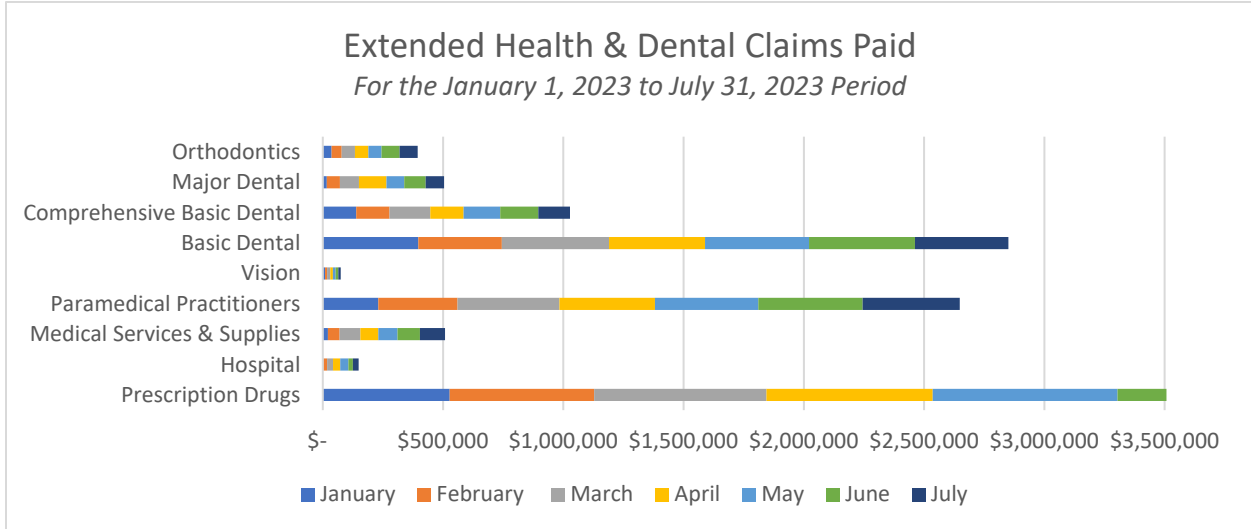
<sup>2</sup> Note Committee approved threshold

<sup>3</sup> Completed every five years

## GreenShield Experience Dashboard

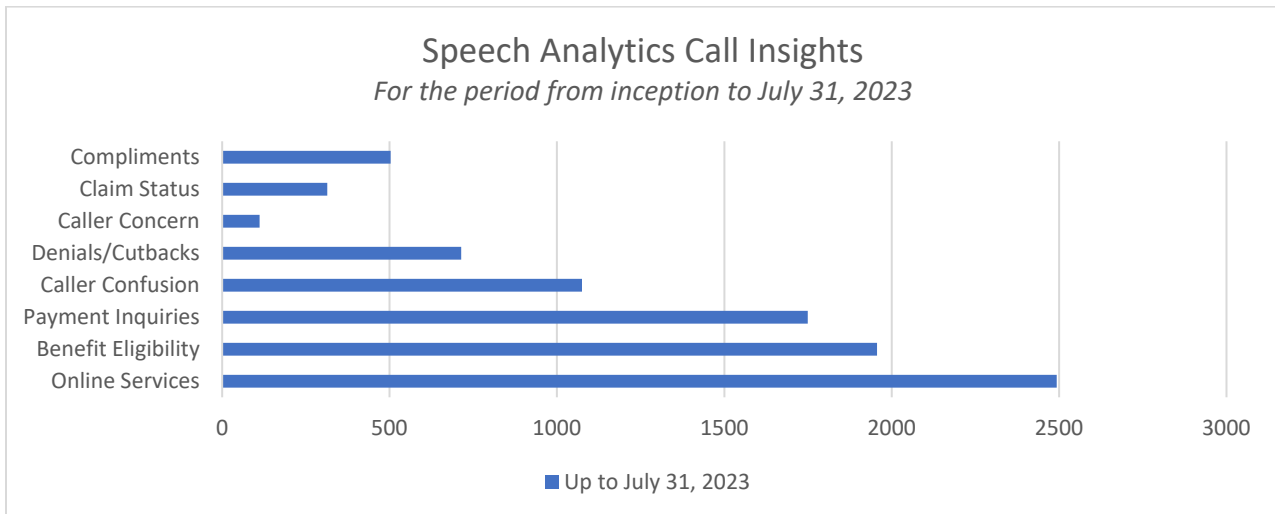
*Extended Health and Dental (EHD) benefits provider effective January 1, 2023*

**Claims Experience.** GreenShield provided expense reimbursement in the amount of \$13,064,016 for the January 1, 2023 to July 31, 2023 seven-month period; 12,347 claimants were reimbursed for 147,204 extended health expenses and 9,103 claimants were reimbursed for 57,960 dental expenses.



**Online Portal.** GSCeverywhere can be used to check benefits coverage, submit claims, and review claims status/history. As of September 1, 2023, there were 8,118 employees/retirees who have benefits with GreenShield. Of these, 5,681 (70%) have registered for the online portal and of these, 61% have registered for direct deposit. The target registration level of 70% (based on the previous registration level for Canada Life’s GroupNet) has been achieved.

**Contact Centre.** GreenShield supported 6,358 calls from inception to July 31, 2023. On average, the calls involved 332 seconds of actual talk time (does not include wait time for an agent to answer). Voice analytics indicates that support for online services continues to be the most frequent type of assistance required, followed by benefit eligibility and payment inquiries.



**Action Required:** Receive for Information



**Report to the Pension & Benefits Committee  
15 September 2023**

**FOR INFORMATION**

---

**Prescription Drug Coverage  
From Human Resources**

**Background**

At each of the September, October, November, and December 2022 P&B meetings, members received reports to support the implementation of GreenShield (GS) effective January 1, 2023. The content of the reports included a combination of information elements as well as decision items with respect to plan design and administration. The plan design items were raised as a result of GreenShield’s analyses of claims data from the previous provider, Canada Life (i.e. test the outcome of their claims system set up based on claims processed by Canada Life, in order to identify any potential differences in claims management practices between the two providers).

The following table provides a summary of the plan design items related to prescription drug coverage that required a decision by the Pension & Benefits Committee to support the implementation:

<b>Category</b>	<b>P&amp;B Meeting</b>	<b>Decision</b>
Prior Authorization	Decision in September 2022	All participants with previously paid prior authorization drugs will be grandparented to ensure no interruption of treatment
Oxycodone	Decision in September 2022	GS to send letter to member to advise that they need to switch to OxyNeo
Over-the-counter (OTC) Drugs	Decision in September 2022	GS to send a letter to inform the member that OTC drugs are not eligible
Natural Health Products (NHP)	Decision in September 2022	GS to send a letter to inform the member that NHPs are not eligible
Finasteride (Proscar)	Decision in September 2022	GS to send a letter to determine if the member has BPH. If so, provide coverage but if not, Finasteride is not eligible
Flonase (and its generic equivalent)	Decision in September 2022	GS to send a letter to inform that this coverage is not eligible for adults
Gardasil	Decision in September 2022	Coverage continuation for their remaining dosages only (max 3 doses) and new claimants must fall within the Health Canada guideline in order to be eligible for reimbursement
Compounds	Introduced in September, further information provided to enable a decision in October 2022	GS to send a letter to inform members that in order for compound medications to be eligible, they must conform to the compound policy

\*Decision amended in December 2022 to include a one-time claims exception process with an April 30, 2023 expiration date; decision amended in May 2023 to allow for continuation of benefits coverage for those members with compound medications prescribed prior to January 1, 2023, and covered by the previous provider, Canada Life

At each meeting since implementation, issues pertaining to the prescription drug coverage – largely with respect to compound medications as well as adult coverage for Flonase (and its generic equivalent) – has been discussed

due to the member feedback highlighting their experience with GreenShield and coverage differences in comparison with Canada Life.

### **Compound Medications**

A working group was struck early in 2023 with membership from the University (School of Pharmacy, Human Resources), Aon (Consultants, Pharmaceutical Specialist), and GreenShield (Account Management, Pharmaceutical Specialists). The report was presented at the March 2023 meeting and was supportive of the Committee's decision to implement the Compound Policy. GreenShield will provide more information about their compound policy within their Pharmacy Benefit Management presentation.

Aon estimates that the cost impact associated with removing the compound policy would result in an increase of approximately \$41,300 per year or 0.25% of Health costs; however, they have indicated that they continue to be supportive of the inclusion of the compound policy and caution that there is risk associated with eliminating it. The main risk is that any compound medication submitted would be covered and there would be no safeguards in place to check for on-label, approved or proven efficacy for the compound. Additionally, it would contradict previous decisions to not provide coverage for OTC and NHPs as the coverage for compound medication could be comprised of these elements in the absence of the compound policy.

### **Off-Label Drug Usage (Including Flonase for Adults)**

Early in 2023, the P&B Committee discussed feedback from plan members concerning coverage for Flonase citing that it was covered by Canada Life but no longer covered with the transition to GreenShield. It was identified that the reason for the prescription was not for the condition approved by Health Canada for Flonase but rather for an alternate medical condition. Upon further investigation, it was identified that this issue is one of several aspects of GreenShield's claims management practices relative to prescription drug coverage: where possible, limit coverage to those prescriptions that are sanctioned by Health Canada for the indicative usage (i.e. not to provide coverage for off-label usage). GreenShield will provide more information about off-label drug coverage within their Pharmacy Benefit Management presentation.

Aon is unable to provide an estimated cost impact associated with allowing all off-label prescription drug usage for benefits coverage. Aon does not recommend that the program be formally changed to allow for off-label prescription drug usage for the following reasons:

- It is not illegal for physicians to prescribe drugs for an off-label use but this practice involves risk when not supported by evidence
- This is not a functionality that GreenShield has formally built as an offering to clients, so if required to implement would generate significant GreenShield fees to code its system accordingly (assuming GreenShield has internal resources available to devote to this program)
- GreenShield does not have any clients who have formally removed this provision; industry practice with all providers is to only reimburse prescription drug claims for their intended use
- As allowing off-label use is uncommon in the industry, no data is available to estimate the cost impact to the program of this change; the cost impact to the program could be significant
- The University may wish to seek legal advice as to whether or not formally opening up the plan to allow for off-label usage would generate additional legal risk

# Pharmacy Benefit Management

A presentation to the Pension &  
Benefits Committee

*September 15, 2023*



# Introductions

Thank you for inviting us to speak with you today!

- **Stephanie Walker**, Director, Growth & Client Service
- **Holly Vincent**, Manager-Consumer & Commercial Optimization
- **Carolyn Christie**, Manager-Drug Formularies Pricing & Patient Experience
- **Ned Pojskic**, Vice President, Pharmacy Benefits Management



# Health Canada's Drug Review Process

- Health Canada approves a drug for sale in Canada, and they issue a Notice of Compliance (NOC) and a Drug Identification Number (DIN) when they have confirmed:
  - ✓ Safe
  - ✓ Effective
  - ✓ High Quality
- They do not assess value compared to other drugs used to treat the same conditions.
- They do not assess if price is fair relative to the benefit.
- DINs are not automatically added to GreenShield standard formularies.

# Canadian Drug Reimbursement Process

*Who decides which drugs are listed on a formulary?*

## **Public**

- Federal - Health Technologies Agencies (CADTH, INESS)
- Each Provincial drug plan manager makes final decision

## **Private**

- Drug Review Committees
- May review decisions from CADTH, INESS

# Pharmacy & Therapeutics Committee

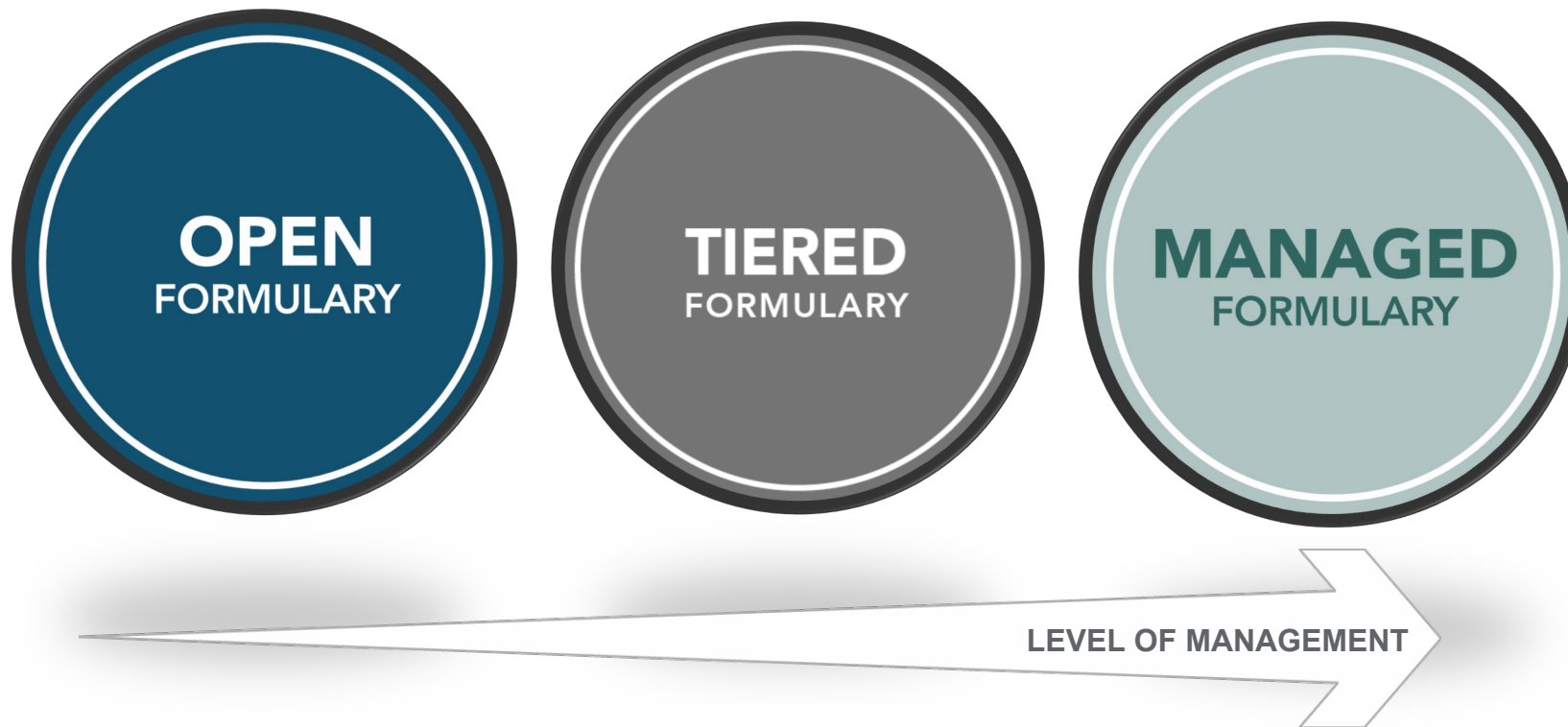
## GreenShield's Philosophy





# Formulary Management

A formulary is a list of drugs eligible for reimbursement



# Formulary Management

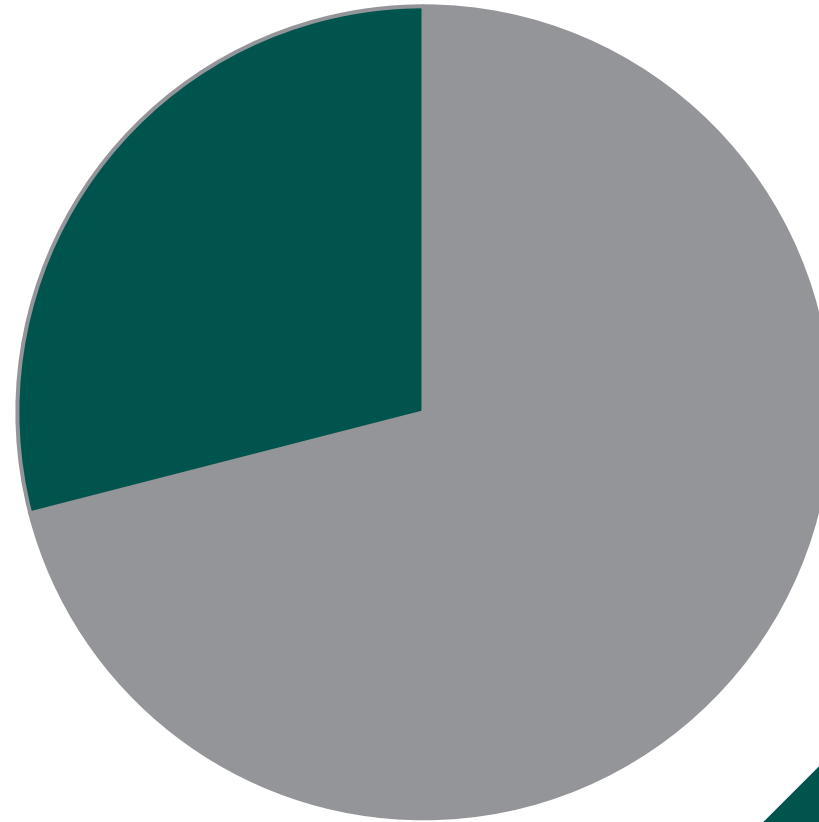
## Split by Drug Spend

### Traditional Drugs

- Costs are generally <\$10K per patient per year
- Used to treat both chronic & acute diseases
- Higher number of patients
- Lower spend per patient per drug
- Prescribed by a General Practitioner
- Typically dispensed by retail pharmacy

### Specialty Drugs

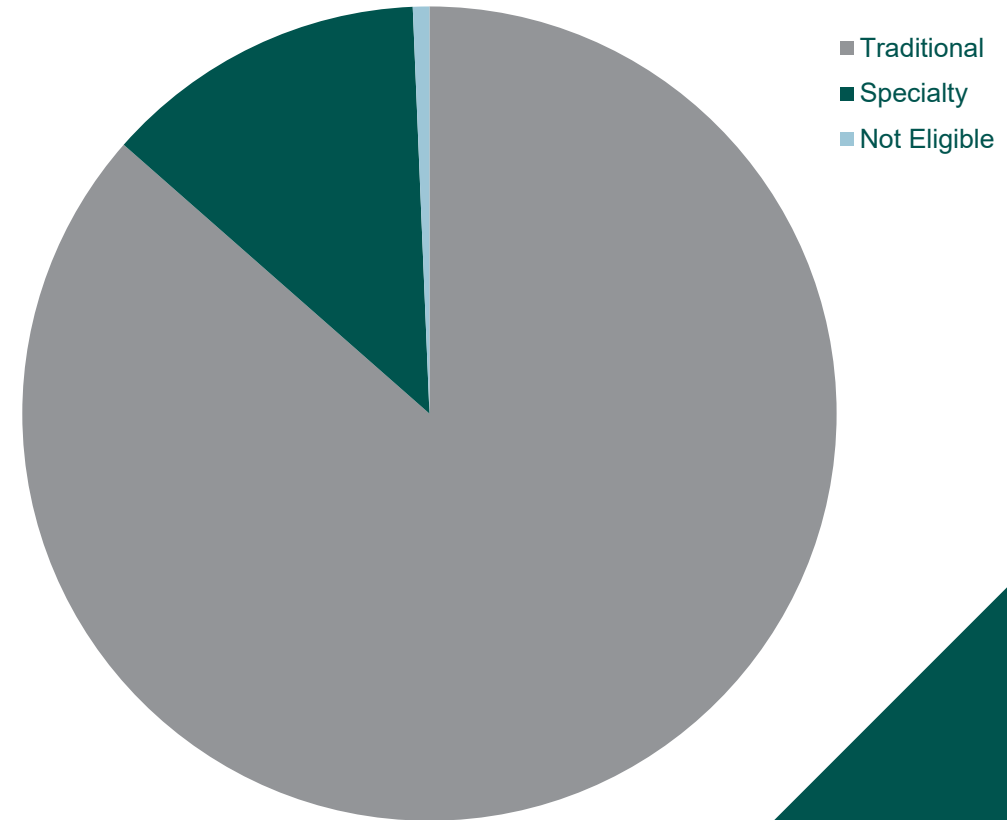
- Costs are generally \$10K+ per patient per year
- Used to treat serious complex diseases
- Lower number of patients (approx. 1%)
- Higher spend per patient per drug
- Prescribed by a Specialist
- Typically dispensed by specialty pharmacy



# Formulary Management - Open

## Split by Listing Status

- Traditional drugs are listed as **Full Benefit**
- Specialty drugs & Traditional drugs at risk for inappropriate use require **Prior Authorization**.
- Specialty drugs that did not meet key drug review elements are **Not Eligible** for reimbursement.



# Pharmacy Innovation & Patient Experience

## Cost Containment Strategies

High-Cost Drug Management

Claim Cost & Utilization Management

Patient Safety & Health Outcomes

# Pharmacy Management Approach

## Appeal Process

- GreenShield takes a diligent, high-touch management approach to pharmacy benefit management and firmly believes in the efficacy of the programs and decisions in place.
- As such, there is no standard appeals process available.

# High-Cost Drug Management

## Biosimilar Strategy

- Biosimilar First Strategy (via PA criteria) - New
- Provincial Biosimilar Initiatives
- Biosimilar Transition Program (BTP) - Existing *VA*

## Prior Authorization

- High-cost (\$10K+), or potential for misuse or abuse
- Pharmacy & Therapeutics Committee establishes criteria
- Requests are assessed by our Drug Special Autho team

## Specialty Care Program

*Not available in Quebec*

- NKS Assist
- Certain drugs only reimbursed if dispensed within PPN
- Home delivery plus retail network

## Drug Benefit Navigation

- Navigation for claimants on specialty drugs *VA*
- Recommended for plans with drug maximums
- Process begins before member reaches maximum

# Pharmacy Management Approach

## Off-Label Use

- “Off-label” use means that a drug is being used in a way that has not been reviewed and authorized by Health Canada.
- A Health Canada review occurs when a manufacturer submits an application to Health Canada. Authorization allows the manufacturer to market the product for the authorized use.
- The product monograph confirms the approved indication(s).
- Standard exclusion wording in our booklets
- Standard of care – supporting clinical evidence required

# Pharmacy Management Approach

## Off-Label Use - Examples

### **OZEMPIC (semaglutide)**

- Approved by Health Canada for treatment of adult patients with Type 2 diabetes mellitus to improve glycemic control.
- Not approved by Health Canada for weight management.

### **PROSCAR (finasteride)**

- Approved by Health Canada for treatment and control of benign prostatic hyperplasia (BPH) and for the prevention of urologic events to reduce risk of acute urinary retention and reduce risk of surgery including transurethral resection of the prostate (TURP) and prostatectomy.
- Not approved by Health Canada for treatment of pattern hair loss.

### **FLONASE (fluticasone)**

- Approved by Health Canada for treatment of seasonal and perennial allergic rhinitis and for the management of sinus pain and pressure associated with allergic rhinitis in patients 4 to 17 years of age.
- Not approved by Health Canada for adult patients or children under 4 years of age.



# Claim Cost & Utilization Management

## National Pricing Policy

- Confirmed allowed dispensing fee & mark-ups
- Balanced billing protection

## Substitution Provision

- Mandatory Generic Substitution - w/o Exception Process

## Days' Supply Limits

- Specialty Drugs - 10/30 or 30/90 days depends on cost
- Maintenance (our list) - 30 days initial then 100 days

## Compound Policy

- Contains an active ingredient that is an eligible benefit
- Not a duplication of a drug formulation
- Not experimental or for a cosmetic use

## Provincial Coordination

- Pharmacare Coordination - BC, SK, MB, ON (65+)
- Quebec Residents - RAMQ
- Disease Specific Programs

# Patient Safety & Health Outcomes

## Opioid Strategy

- Safe opioid use for chronic pain management - MEQ
- Responsible access to opioids drugs policy
- Letters to members, assessed by DSA

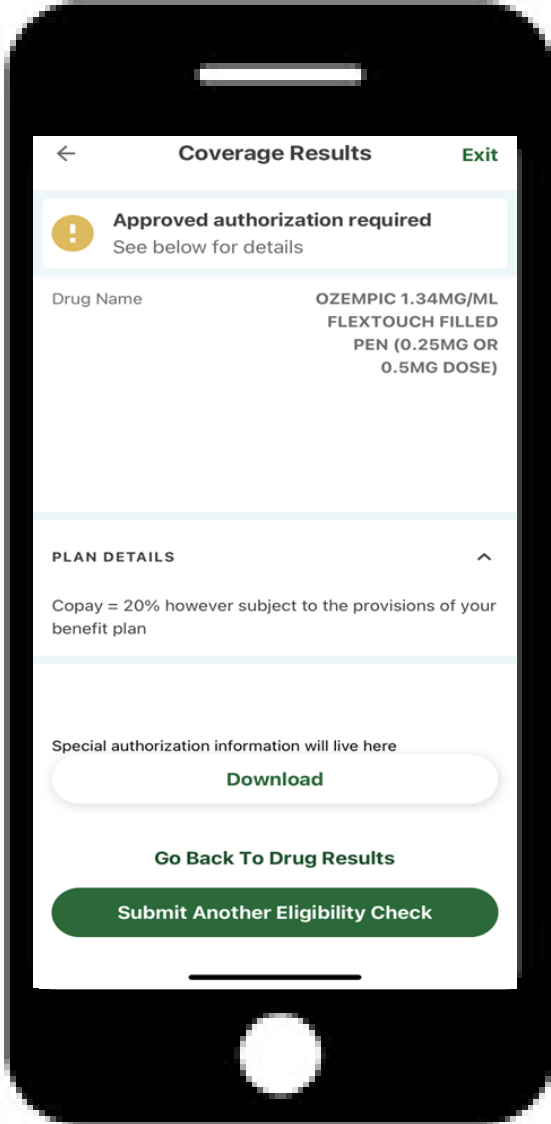
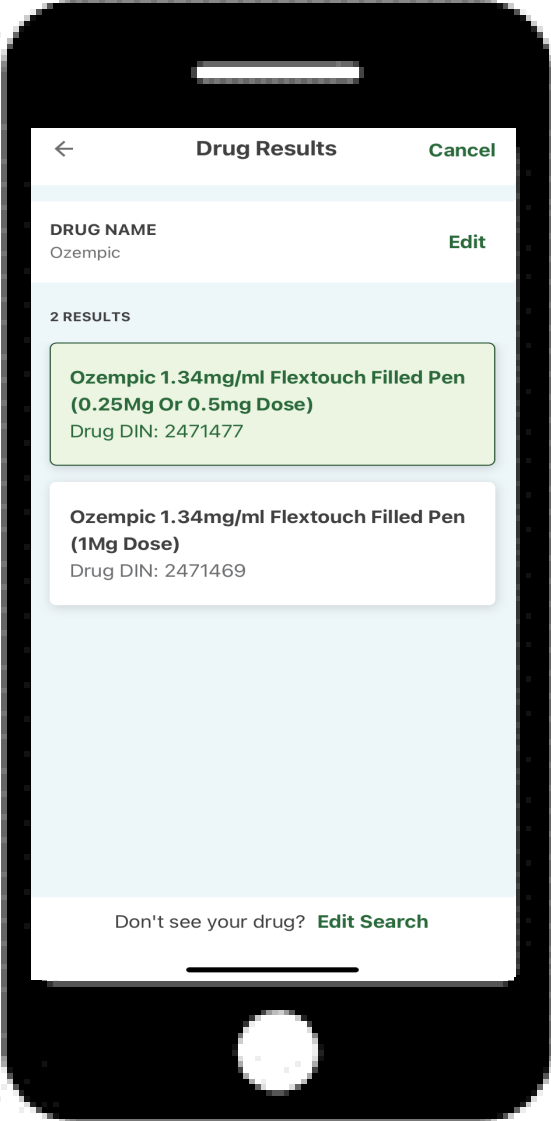
## Obesity Strategy

- Access to evidence-based drug treatments
- Personalized chronic disease management support
- Integrated with PA process & The Health Depot

## Digital Diabetes Program

- Partnership with The Health Depot & Dexcom
- Mimics the subscription model that Dexcom provided
- Help members maximize their GMS benefit dollars

# Drug Search



# Next Steps – Employee Information Session

## Proposed Agenda

- Pharmacy Benefit Management (overview only, not all details shared today)
- Clarification on claiming processes
  - Custom Foot Orthotics
  - Counselling (MSW in particular)
  - Hearing Aids
  - Custom Braces
- Any plan design updates to support (potentially the family building benefit)

# Questions

**DRAFT**  
**Report to the Pension & Benefits Committee**  
**15 September 2023**

**FOR INFORMATION**

---

**Family Building Benefit  
From Human Resources**

**Background**

The following motion was approved at the 16 June 2023 meeting:

**Motion:** to recommend to the Board of Governors, an amendment to the extended health benefit relative to the In-vitro Fertilization (IVF) provision as follows:

- Revise coverage by removing the exhaustion of the provincial coverage requirement
- Removing the two-cycle limit for coverage (while maintaining the \$30,000 maximum)
- Extending eligibility to individuals who are acting as surrogates for members of the benefit plan

Also at the June P&B meeting, members heard that GreenShield was in the process of developing a family planning benefit which would enable coverage for In-vitro Fertilization (IVF) to be extended to surrogates of plan members.

**GreenShield's Family Building Benefit**

GreenShield's presentation provides an opportunity to understand the details of the coverage which is available through their newly created Family Building Benefit which launched September 1, 2023, as an amendment to the Extended Health benefit. In addition to extending existing IVF coverage to individuals acting as surrogates for existing plan members, GreenShield's Family Building Benefit can provide coverage for adoption expenses. Adoption expenses would be considered a taxable benefit; however, a process could be developed with Human Resources' payroll team to enable the taxable benefit to be reported through annual tax slips. *This potential plan design option will be noted for inclusion within the Annual Non-Pension Benefits Plan Design Review.*

**Costing**

Aon estimates that the cost impact associated with the removal of 2 cycle limitation, removal of the provincial exhaustion requirement, incorporation of Surrogacy benefits into the current \$30,000 lifetime maximum results in a cost impact of +\$99,900 (or 0.75% of Health costs). Aon estimates that the cost impact associated with the removal of 2 cycle limitation, removal of the provincial exhaustion requirement, incorporation of Surrogacy and Adoption benefits into the current \$30,000 lifetime maximum results in a cost impact of +\$144,900 (or 1.10% of Health costs). *Note: the costing does not include the two closed retiree plans (IVF coverage does not currently extend to members of these plans); the increase to the post-employment benefit liability has not yet been quantified*

**Conclusion**

The University recommends that the Pension & Benefits Committee submits the 16 June 2023 recommendation to the Board of Governors for an amendment to the contract with GreenShield, effective the date of approval by the Board of Governors.

# Family Building Benefit

A presentation to the Pension &  
Benefits Committee

*September 15, 2023*



# Family-Building Benefit Offering

Launched September 1<sup>st</sup>, 2023

The intention of this product is to provide meaningful coverage for those looking to expand their families

- Fertility Services
- Surrogacy
- Adoption



# University of Waterloo's Current Coverage

(related to family building)

- Fertility drugs: lifetime maximum of \$3,000
- Fertility treatments & procedures: 2 cycles up to a lifetime maximum of \$30,000
- Exhaustion of provincial coverage required
- Accessible only to plan members
- No coverage for Surrogacy or Adoption costs

# GreenShield's new Family-Building Benefit

## Product Details

- Family Lifetime Maximum (\$20,000; \$30,000; \$40,000) – these standards are customizable
- Fertility Details
- Surrogacy Details
- Adoption Details

# Fertility Details

- Medical Services
- Medical Procedures
- Physician services and fees
- Services related to sperm
- Services related to insemination and fertilization
- Eligibility and processing matches current coverage
- Drugs will be processed under the current \$3,000 fertility medication lifetime max

# Surrogacy Details

- Medications
- Medical Services and Procedures
- Diagnostic Testing
- Medical Imaging
- Services related to insemination and fertilization
- Non-Health Expenses
- Administered via Surrogacy Agreement

# Adoption Details

- Legal Fees
- Adoption Agency Fees
- Travel Fees
  
- This benefit is taxable to the plan member (process with UW Payroll to be established)

# Questions



**Report to the Pension & Benefits Committee  
15 September 2023**

**FOR DECISION**

---

**Recommendation - Pension Plan Design Changes  
From Finance & Human Resources**

**Recommendation**

That the Pension and Benefits Committee receive the report for information.

**Background**

At the June P&B meeting there were presentations and discussion relating to two pension plan design change ideas: a COLA proposal and information from Aon on the impact of the CPP enhancement on the pension plan. This report provides some further comments from Finance and HR on these two plan design change ideas.

**General**

Any pension plan design change is a significant undertaking which must be clearly communicated to participants and carefully managed from an administration perspective to ensure accuracy and integrity.

A plan design change that involves a service break (i.e. when there are differences in benefits earned for different periods of service) is complex. Failure to understand the change and the corresponding rationale – even if a positive change for participants – could have an unintentionally negative impact to the employee value proposition, potentially impacting retention.

In addition, a service break plan design change increases the complexity for administration, which is currently managed by a team of dedicated pension specialists within the Human Resources department with the support of an external vendor's pension administration system (i.e. Ariel, provided by Telus Health). Ariel would require configuration changes to support the plan design change which would need to be tested by resources within Human Resources as well as by Aon as the pension plan's actuary. In addition to the charges from vendors, additional internal resources may need to be acquired in order to support such the implementation as well as the ongoing management of the revised plan design.

Both of these plan design ideas would result in service breaks in the formula on top of service breaks that already exist. Estimated costs associated with these system changes and corresponding resources required to support have not been quantified to date.

**Costing and Comparability to the Market**

Please refer to the Appendix for a report from Aon on costing the two pension plan design change ideas and comments on comparability of these ideas to other pension plans.

**COLA Proposal**

Since the June P&B meeting, a number of employees who became aware of the presentation at Pension & Benefits Committee have shared feedback through various channels that they are not supportive of this Plan design change idea.

Aon's report (see Appendix) notes that this COLA idea is atypical compared to other pension plans in the market.

**Integration with Enhanced CPP**

Other than the UPP, other established pension plans have not taken steps to integrate with the Enhanced CPP, likely because the impact of doing so does not merit the complications caused by a break in the service formula.

**UPP Review**

Aon is providing a series of education sessions on the UPP to the Pension & Benefits Committee. Due to the break in service that would result from joining the UPP, it would be helpful to conclude and debrief these education sessions prior to considering potential design changes to the plan in more detail.



---

# Memorandum

Date: August 25, 2023

To: University of Waterloo P&B Committee

From: Aon

**Re: Plan Design Analysis**

---

The University P&B Committee has requested analysis on certain design features of the University of Waterloo Pension Plan (the "Pension Plan").

## Integration Change

The first change under consideration would change the integration of the Pension Plan formula and member contribution requirements in respect of future service from being based on the Year's Maximum Pensionable Earnings (YMPE) to instead being based on the Year's Additional Maximum Pensionable Earnings (YAMPE). This change reflects the final implementation phase of enhanced CPP.

The YAMPE will be 14% higher than the YMPE.

If implemented, then members would earn benefits for service on and after the effective date at 1.4% of earnings up to the average YAMPE and 2.0% of earnings above the average YAMPE. Benefits for service before the effective date would continue to be based on 1.4% of pensionable earnings up to the average YMPE and 2.0% of pensionable earnings in excess of the average YMPE, where the Average YMPE would continue to reflect the average YMPE at the member's date of retirement (or termination/death if earlier).

Members earning in excess of the YMPE would see a reduction in their future contributions as more of their earnings would be at the lower contribution percentage of 7.80%. The higher contribution percentage would apply to earnings in excess of the YAMPE. This corresponds to the reduction in future benefit accrual mentioned above, as more of their earnings would be at the lower 1.4% benefit accrual rate.

## Indexation Change

The second consideration is to change the annual indexation adjustment on benefits earned on and after the effective date from 75% of CPI on all benefits, to a two-tier structure. At retirement a member's benefit would be separated into two components with the portion of the benefit that is earned on pensionable earnings up to the YMPE indexed at 100% of CPI and the portion of the pension earned on pensionable earnings in excess of the YMPE indexed at a lower percentage of CPI.

Initially Aon reviewed the financial impact of reducing the second tier indexation to 50%. This was not cost neutral and resulted in a lower normal cost than the current 75% indexation provision. Aon subsequently estimated that a second-tier indexation of 55% of CPI on pension benefits earned on pensionable earnings in excess of the YMPE (and 100% of CPI increase on benefits earned on pensionable earnings up to the YMPE) would be approximately cost neutral (today) compared to the current 75% indexation on all benefits provision.

## Financial Analysis

Since these changes would be prospective, there is no impact on past service liability. The financial impact of these changes would be on the normal cost.

For the purpose of our analysis, we have eliminated the hard dollar cap under the Pension Plan. The Total Normal Cost includes the PfAD and provisions for non-investment expenses. We have continued to reflect that University contributions will be no less than required member contributions.

As mentioned previously, Aon determined that a change in indexation to 100% of CPI on benefits earned on pensionable earnings up to the YMPE and 55% of CPI on benefits earned on pensionable earnings in excess of the YMPE would be approximately cost neutral to the current provisions. We note that this cost neutrality is measured as of January 1, 2023 on the basis of the current valuation assumptions. Over time as membership changes and economic conditions change the cost of the current provisions compared to the alternate will in all likelihood not be equal. Furthermore, because earnings are assumed to increase faster than the YMPE, over time the proportion of benefits eligible for the 100% of CPI indexation decreases relative to the total benefit.

All costs are expressed as a % of pensionable earnings.

	Current Provisions	Change Integration Only	Change Indexation Only	Change Integration and Indexation
<b>Integration for Contributions and Formula</b>	<b>YMPE</b>	<b>YAMPE</b>	<b>YMPE</b>	<b>YAMPE</b>
Indexation	75%	75%	100%/55%	100%/55%
Total Normal Cost	16.60%	16.30%	16.60%	16.32%
Member Contributions	8.97%	8.77%	8.97%	8.77%
University Contribution	8.97%	8.77%	8.97%	8.77%
% Savings – Member		0.20%	N/A	0.20%
% Savings – University		0.20%	N/A	0.20%

## Comparator Information

Aon has summarized the indexation practices at a number of other universities (and the CAAT Pension Plan) in an attachment to this document. The information shows that the two-tier structure would be unique in the industry.

## Individual Impact from Indexation

Aon prepared a modeler to show the impact in retirement income on various individuals under the current indexation provisions and the alternate provisions under consideration. A few examples are attached to this memo.

Example 1 – FAE of \$66,600 at retirement (equal to YMPE)

Example 2 – FAE of \$100,000 at retirement

Example 3 – FAE of \$180,000 at retirement

All examples assume the member joined on the effective date of the COLA amendment and has 20 years of post-effective date service.

## University of Waterloo Pension Plan – Indexation Examples for Other Plans

Plan	Indexation Provision
University of Ottawa	<p>Guaranteed Indexation:</p> <p>CPI &lt; 3%: 100% up to 2%</p> <p>CPI ≥ 3%: CPI -1%</p>
McMaster University	<p>Excess Interest Indexation:</p> <p>Average pension fund rate of return in excess of 4.5% or 5% depending on employee group, up to 100% of CPI</p>
Toronto Metropolitan University	<p>Guaranteed Indexation:</p> <p>100% of CPI up to 8%</p>
University of Windsor (Staff)	<p>Excess Interest Indexation:</p> <p>50% of (average pension fund rate of return in excess of 6%), up to 50% of CPI</p>
University Pension Plan	<p>Funded Conditional Indexation:</p> <p>75% of CPI</p>
CAAT Pension Plan	<p>Conditional Indexation:</p> <p>75% of CPI</p>
Wilfrid Laurier University (Hybrid Pension Plan)	<p>Guaranteed Indexation: DB</p> <p>Minimum Guarantee –</p> <p>100% of CPI, up to 4% (for service prior to January 1, 2013)</p> <p>50% of CPI, up to 4% (for service from January 1, 2013)</p> <p>Excess Interest Indexation:</p> <p>Money Purchase Pension – average pension fund rate of return in excess of conversion rate</p>
University of Windsor (Faculty) (Hybrid Pension Plan)	<p>Guaranteed Indexation: DB</p> <p>Minimum Guarantee –</p> <p>CPI &lt; 4%: 100% CPI up to 2%</p> <p>CPI ≥ 4%: 50% of CPI up to 8%</p> <p>Excess Interest Indexation:</p> <p>Money Purchase Pension – pension fund rate of return in excess of conversion rate (adjusted positively or negatively)</p>
York University (Hybrid Pension Plan)	<p>Excess Interest Indexation:</p> <p>Average pension fund rate of return in excess of 6% (non-reduction provision)</p>

FAE	66600		Inflation	2.00%
YMPE	66600		inflation_75	1.50%
Service	20		inflation_55	1.10%
Pension_belowYMPE		\$ 18,648		
Pension_aboveYMPE		\$ -		
YearlyAccrual		\$ 932.40		
Time	Proposed Indexation Change			Current Benefit
	Pension_belowYMPE	Pension_aboveYMPE	TotalPension	TotalPension
0	\$ 18,648	\$ -	\$ 18,648	\$ 18,648
1	\$ 19,021	\$ -	\$ 19,021	\$ 18,928
2	\$ 19,401	\$ -	\$ 19,401	\$ 19,212
3	\$ 19,789	\$ -	\$ 19,789	\$ 19,500
4	\$ 20,185	\$ -	\$ 20,185	\$ 19,792
5	\$ 20,589	\$ -	\$ 20,589	\$ 20,089
6	\$ 21,001	\$ -	\$ 21,001	\$ 20,391
7	\$ 21,421	\$ -	\$ 21,421	\$ 20,696
8	\$ 21,849	\$ -	\$ 21,849	\$ 21,007
9	\$ 22,286	\$ -	\$ 22,286	\$ 21,322
10	\$ 22,732	\$ -	\$ 22,732	\$ 21,642
11	\$ 23,186	\$ -	\$ 23,186	\$ 21,966
12	\$ 23,650	\$ -	\$ 23,650	\$ 22,296
13	\$ 24,123	\$ -	\$ 24,123	\$ 22,630
14	\$ 24,606	\$ -	\$ 24,606	\$ 22,970
15	\$ 25,098	\$ -	\$ 25,098	\$ 23,314
16	\$ 25,600	\$ -	\$ 25,600	\$ 23,664
17	\$ 26,112	\$ -	\$ 26,112	\$ 24,019
18	\$ 26,634	\$ -	\$ 26,634	\$ 24,379
19	\$ 27,167	\$ -	\$ 27,167	\$ 24,745
20	\$ 27,710	\$ -	\$ 27,710	\$ 25,116
21	\$ 28,264	\$ -	\$ 28,264	\$ 25,493
22	\$ 28,829	\$ -	\$ 28,829	\$ 25,875
23	\$ 29,406	\$ -	\$ 29,406	\$ 26,263
24	\$ 29,994	\$ -	\$ 29,994	\$ 26,657
25	\$ 30,594	\$ -	\$ 30,594	\$ 27,057
26	\$ 31,206	\$ -	\$ 31,206	\$ 27,463
27	\$ 31,830	\$ -	\$ 31,830	\$ 27,875
28	\$ 32,467	\$ -	\$ 32,467	\$ 28,293
29	\$ 33,116	\$ -	\$ 33,116	\$ 28,718
30	\$ 33,778	\$ -	\$ 33,778	\$ 29,148



	FAE	100000		Inflation	2.00%
	YMPE	66600		inflation_75	1.50%
	Service	20		inflation_55	1.10%
	Pension_belowYMPE		\$ 18,648		
	Pension_aboveYMPE		\$ 13,360		
	YearlyAccrual		\$ 1,600.40		
	<b>Time</b>	<b>Proposed Indexation Change</b>			<b>Current Benefit</b>
		<b>Pension_belowYMPE</b>	<b>Pension_aboveYMPE</b>	<b>TotalPension</b>	<b>TotalPension</b>
	0	\$ 18,648	\$ 13,360	\$ 32,008	\$ 32,008
	1	\$ 19,021	\$ 13,507	\$ 32,528	\$ 32,488
	2	\$ 19,401	\$ 13,656	\$ 33,057	\$ 32,975
	3	\$ 19,789	\$ 13,806	\$ 33,595	\$ 33,470
	4	\$ 20,185	\$ 13,958	\$ 34,143	\$ 33,972
	5	\$ 20,589	\$ 14,111	\$ 34,700	\$ 34,482
	6	\$ 21,001	\$ 14,266	\$ 35,267	\$ 34,999
	7	\$ 21,421	\$ 14,423	\$ 35,844	\$ 35,524
	8	\$ 21,849	\$ 14,582	\$ 36,431	\$ 36,057
	9	\$ 22,286	\$ 14,742	\$ 37,028	\$ 36,598
	10	\$ 22,732	\$ 14,905	\$ 37,636	\$ 37,147
	11	\$ 23,186	\$ 15,068	\$ 38,255	\$ 37,704
	12	\$ 23,650	\$ 15,234	\$ 38,884	\$ 38,269
	13	\$ 24,123	\$ 15,402	\$ 39,525	\$ 38,843
	14	\$ 24,606	\$ 15,571	\$ 40,177	\$ 39,426
	15	\$ 25,098	\$ 15,743	\$ 40,840	\$ 40,017
	16	\$ 25,600	\$ 15,916	\$ 41,515	\$ 40,618
	17	\$ 26,112	\$ 16,091	\$ 42,202	\$ 41,227
	18	\$ 26,634	\$ 16,268	\$ 42,902	\$ 41,845
	19	\$ 27,167	\$ 16,447	\$ 43,613	\$ 42,473
	20	\$ 27,710	\$ 16,628	\$ 44,338	\$ 43,110
	21	\$ 28,264	\$ 16,811	\$ 45,075	\$ 43,757
	22	\$ 28,829	\$ 16,995	\$ 45,825	\$ 44,413
	23	\$ 29,406	\$ 17,182	\$ 46,588	\$ 45,079
	24	\$ 29,994	\$ 17,371	\$ 47,366	\$ 45,756
	25	\$ 30,594	\$ 17,562	\$ 48,156	\$ 46,442
	26	\$ 31,206	\$ 17,756	\$ 48,962	\$ 47,138
	27	\$ 31,830	\$ 17,951	\$ 49,781	\$ 47,846
	28	\$ 32,467	\$ 18,148	\$ 50,615	\$ 48,563
	29	\$ 33,116	\$ 18,348	\$ 51,464	\$ 49,292
	30	\$ 33,778	\$ 18,550	\$ 52,328	\$ 50,031



FAE	180000			Inflation	2.00%
YMPE	66600			inflation_75	1.50%
Service	20			inflation_55	1.10%
Pension_belowYMPE		\$	18,648		
Pension_aboveYMPE		\$	45,360		
YearlyAccrual		\$	3,200.40		
Time	Proposed Indexation Change			Current Benefit	
	Pension_belowYMPE	Pension_aboveYMPE	TotalPension	TotalPension	
0	\$	18,648	\$	45,360	\$ 64,008
1	\$	19,021	\$	45,859	\$ 64,880
2	\$	19,401	\$	46,363	\$ 65,765
3	\$	19,789	\$	46,873	\$ 66,663
4	\$	20,185	\$	47,389	\$ 67,574
5	\$	20,589	\$	47,910	\$ 68,499
6	\$	21,001	\$	48,437	\$ 69,438
7	\$	21,421	\$	48,970	\$ 70,391
8	\$	21,849	\$	49,509	\$ 71,358
9	\$	22,286	\$	50,053	\$ 72,339
10	\$	22,732	\$	50,604	\$ 73,336
11	\$	23,186	\$	51,161	\$ 74,347
12	\$	23,650	\$	51,723	\$ 75,374
13	\$	24,123	\$	52,292	\$ 76,416
14	\$	24,606	\$	52,868	\$ 77,473
15	\$	25,098	\$	53,449	\$ 78,547
16	\$	25,600	\$	54,037	\$ 79,637
17	\$	26,112	\$	54,631	\$ 80,743
18	\$	26,634	\$	55,232	\$ 81,866
19	\$	27,167	\$	55,840	\$ 83,007
20	\$	27,710	\$	56,454	\$ 84,164
21	\$	28,264	\$	57,075	\$ 85,339
22	\$	28,829	\$	57,703	\$ 86,532
23	\$	29,406	\$	58,338	\$ 87,744
24	\$	29,994	\$	58,979	\$ 88,974
25	\$	30,594	\$	59,628	\$ 90,222
26	\$	31,206	\$	60,284	\$ 91,490
27	\$	31,830	\$	60,947	\$ 92,777
28	\$	32,467	\$	61,618	\$ 94,084
29	\$	33,116	\$	62,295	\$ 95,411
30	\$	33,778	\$	62,981	\$ 96,759
					\$ 100,050



# Review of University Pension Plan Ontario (UPP) – Funding Structure and Plan Design

## University of Waterloo Pension & Benefits Committee

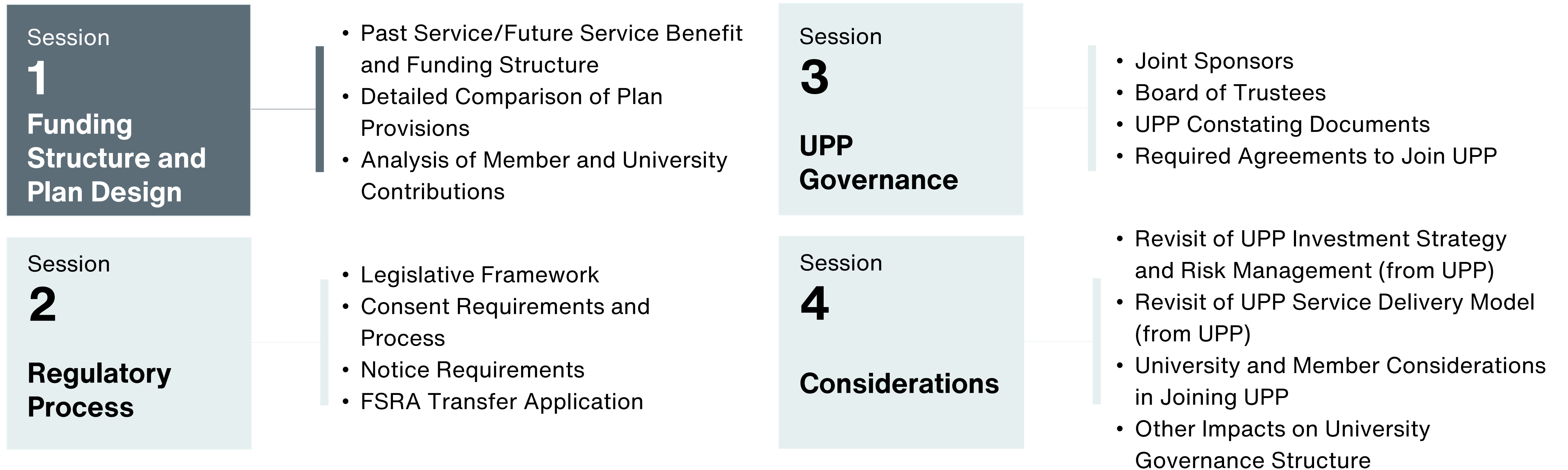
Meeting on May 19, 2023

Updated for Meeting on September 15, 2023



# Approach for Reviewing the UPP

As agreed to at March 10, 2023 meeting of P&B Committee:






# UPP Benefit Structure

Pension Benefits From UPP	
Pre-Conversion Date Pensionable Service	Post-Conversion Date Pensionable Service
Prior university plan provisions for pre-Conversion Date Pensionable Service will be replicated under UPP	UPP provisions apply as of Conversion Date forward
Each participating university will have different benefit provisions for pre-Conversion Date Pensionable Service	Common benefit provisions for all participating universities and employees



# UPP Funding Structure

UPP Pension Fund Invested as One Fund		
Assets and Liabilities for Pension Benefits Transferred Into UPP (Pre-Conversion Service)		Assets and Liabilities for Pension Benefits Earned From Conversion Date (Post-Conversion Service)
Assets and liabilities from prior university plans transferred into UPP		One joint cost- and risk-sharing arrangement across all participating universities and employees
Each participating university responsible for its own funded status on Conversion Date and for any losses/gains on pre-Conversion Date assets and liabilities for first 10 years from Conversion Date, followed by 10-year transition to 50/50		Contributions are shared 50/50 between universities and employees including sharing of any losses/gains that arise for UPP service



# Comparison of Plan Provisions

Provisions	UW Pension Plan	UPP
<b>Eligibility</b>	<p>Employees employed on a full-time or part-time basis (with at least one-third annual commitment) eligible to join on first day of any month coincident with or next following date of employment; mandatory enrollment on first day of month coincident with or next following date of employment if age 35 or over on date of employment, or first day of calendar year coincident with or next following attainment of age 35 if under age 35 at date of employment</p> <p>Full-time or part-time definite-term lecturers who have attained age 35 required to join on first day of month coincident with or next following earlier of promotion to a higher rank or completion of 5 years of service</p> <p>Employees employed at less than one-third annual commitment eligible to join on first day of any month coincident with or next following two immediately preceding calendar years of either earnings of at least 35% of YMPE or hours of work of at least 700</p>	<p><b>Full-Time Employees:</b> Mandatory enrollment on the first day of the month coincident with or next following date of employment</p> <p><b>Other Than Continuous Full-Time Employees:</b> Optional enrollment on first day of any month if either earnings* of at least 35% of YMPE or 700 hours* of work, in each of two consecutive calendar years immediately prior to applying for membership  <i>*from an eligible class of employment</i></p> <p><b>Transition:</b> All members of the university plan on the Conversion Date become members of the UPP</p>

# Comparison of Plan Provisions

Provisions	UW Pension Plan	UPP
<b>Retirement Dates</b>		
Normal Retirement Date	First day of month coincident with or next following attainment of age 65	Last day of month coincident with or in which member reaches age 65 (but no later than normal retirement date under university plan)
Early Retirement Date	Within 10 years of normal retirement date	Last day of month coincident with or in which member attains age 55
Postponed Retirement Date	First day of any month following normal retirement date, subject to pension commencing no later than December 1 of calendar year in which member attains age 71	Last day of any month in which member retires following normal retirement date, subject to no later than November 30 of calendar year in which member attains age 71
Pension Commencement Date	Same date as above for normal, early or postponed retirement	First day of month following normal, early or postponed retirement date

# Comparison of Plan Provisions

Provisions	UW Pension Plan	UPP
<b>Benefit Formula</b>		
Average Earnings	Best 60 consecutive months of pensionable earnings	Best 48 non-consecutive months of pensionable earnings (definition of pensionable earnings that applied under university plan continues under UPP)
Average Year's Maximum Pensionable Earnings (YMPE)	Last 5 years	Last 48 consecutive months; Year's Additional Maximum Pensionable Earnings (YAMPE = 1.14 × YMPE) to be used as breakpoint starting in 2025
Benefit Rate Per Year of Pensionable Service	1.4% / 2.0%	1.6% / 2.0%
Maximum Benefit	Income Tax Act maximum pension, subject to cap of \$4,000 per year of pensionable service effective January 1, 2023, increased thereafter each calendar year starting in 2024 by one-third of percentage increase in Average Industrial Wage	Income Tax Act maximum pension; automatically increased with percentage increase in Average Industrial Wage

# Comparison of Plan Provisions

Provisions	UW Pension Plan	UPP
<b>Normal Form of Payment</b>		
Without Spouse	Lifetime pension with 10-year guarantee period	Lifetime pension with 10-year guarantee period
With Spouse	Lifetime pension with 10-year guarantee period (LG10); statutory 60% survivor pension actuarially reduced from LG10 pension	Lifetime pension with 50% survivor pension; statutory 60% survivor pension actuarially reduced from 50% survivor pension
<b>Unreduced Early Retirement</b>		
	Age 62	Age 60 and 80 age-plus-service points (e.g., age 60 and 20 years of service; age 62 and 18 years of service); only applies to pension benefit earned for UPP service but pre-Conversion Date service counts for eligibility
<b>Reduced Early Retirement</b>		
	Accrued pension reduced 6% per year from age 62	Accrued pension reduced 5% per year from age 65
<b>Reduction for Early Commencement of Deferred Pension</b>		
	3% per year from ages 65 to 60, plus 6% per year from ages 60 to 55	Actuarial reduction from age 65

# Comparison of Plan Provisions

Provisions	UW Pension Plan	UPP
<b>Cost-of-Living Adjustments (Indexation)</b>		
Pensions in Payment	<p>For pension benefits accrued on and after January 1, 2014: Guaranteed indexation at 75% of increase in Consumer Price Index (CPI), up to a maximum adjustment of 3.75%; any indexation over 3.75% determined by P&amp;B Committee based on financial health of plan</p> <p>For pension benefits accrued prior to January 1, 2014: Guaranteed indexation at 100% of increase in CPI, up to a maximum adjustment of 5.00%; any indexation over 5.00% determined by P&amp;B Committee based on financial health of plan</p>	<p>Funded conditional indexation at 75% of increase in CPI</p> <p>Indexation at 75% of CPI included in contribution rates based on long-term actuarial assumptions and granted each year subject to funding policy under which Joint Sponsors can decide to reduce future indexation adjustments below 75% of CPI level given financial health of plan</p>
Deferral Period	<p>No indexation provided on pension benefit for post-January 1, 2008 Pensionable Service unless member has 20 or more years of service or is within 10 years of normal retirement date at termination of employment</p> <p>Indexation amount for eligible pension benefit determined annually by P&amp;B Committee</p>	No indexation provided

# Comparison of Plan Provisions

Provisions	UW Pension Plan	UPP
<b>Disability</b>		
	<p>Members in receipt of income under university LTD plan:</p> <ul style="list-style-type: none"> <li>• Cease to contribute while disabled; and</li> <li>• Continue to accrue pensionable service with pensionable earnings at date of disability increased each year by a percentage determined by P&amp;B Committee</li> </ul>	<p>Members in receipt of income under university LTD plan:</p> <ul style="list-style-type: none"> <li>• Cease to contribute while disabled (university makes both member and university contributions); and</li> <li>• Continue to accrue pensionable service with pensionable earnings at date of disability increased at same rate and at same time as disability income under LTD plan</li> </ul>
<b>Termination of Membership</b>		
	Deferred pension or commuted value prior to eligibility for early retirement	Deferred pension or commuted value prior to eligibility for early retirement
<b>Death in Service</b>		
	Commutated value of accrued pension	Commutated value of accrued pension



# Comparison of Plan Provisions

Provisions	UW Pension Plan	UPP
<b>Member Contributions</b>		
	7.80% up to YMPE, plus 11.20% above YMPE, up to maximum salary for contribution purposes (\$222,646 in 2023) Ratio of contribution rate to benefit rate: 5.6	9.20% up to YAMPE, plus 11.50% above YAMPE, up to maximum salary for contribution purposes (\$196,200 in 2023) Ratio of contribution rate to benefit rate: 5.75

# Comparison of Benefits – Examples

Following table compares annual pension benefit earned under UW Pension Plan (based on 5-year average earnings and 5-year average YMPE) to annual pension benefit earned under UPP (based on 4-year average earnings and 4-year average YAMPE):

5-Year Average Earnings <sup>1</sup>	Annual Pension Earned Per Year of Service (Payable as a Life Guaranteed 10-Year Pension)		
	UW Plan <sup>2</sup>	UPP <sup>3</sup>	% Increase
\$50,000	\$ 700	\$ 812	16.0%
\$75,000	\$ 1,100	\$ 1,218	10.7%
\$100,000	\$ 1,600	\$ 1,722	7.6%
\$125,000	\$ 2,100	\$ 2,230	6.2%
\$150,000	\$ 2,600	\$ 2,737	5.3%
\$175,000	\$ 3,100	\$ 3,245	4.7%
\$195,000	\$ 3,500	\$ 3,651 <sup>4</sup>	4.3%

For members with a spouse at retirement, subsidized survivor pension will increase UPP pension versus UW pension by 5% to 7% at typical retirement ages

<sup>1</sup> 4-year average earnings assumed to be 1.5% higher

<sup>2</sup> Based on 5-year average YMPE of \$66,636

<sup>3</sup> Based on 4-year average YAMPE of \$76,940

<sup>4</sup> Based on ITA maximum pension of \$3,702

# Comparison of Contributions – Examples

Following table compares annual member contributions earned under the UW Pension Plan and the UPP, based on an annual salary that approximates the final year’s salary for the average earnings used in the benefits examples:

Annual Salary	Annual Contributions			
	UW Pension Plan <sup>1</sup>	UPP <sup>2</sup>	Increase	% Increase
\$53,000	\$ 4,134	\$ 4,876	\$ 742	17.9%
\$80,000	\$ 6,570	\$ 7,360	\$ 790	12.0%
\$106,000	\$ 9,482	\$ 10,348	\$ 866	9.1%
\$133,000	\$ 12,505	\$ 13,453	\$ 948	7.6%
\$159,000	\$ 15,418	\$ 16,443	\$ 1,025	6.6%
\$186,000	\$ 18,442	\$ 19,548	\$ 1,106	6.0%
\$207,000	\$ 20,794	\$ 21,963	\$ 1,169	5.6%

<sup>1</sup> YMPE of \$70,300

<sup>2</sup> YAMPE of \$80,100

# Consent Requirements

## UPP conversion cannot proceed unless:

At least 2/3 of all active Plan members consent

For employees participating in the Plan who are represented by a union or association determined to be a trade union for purposes of the Labour Relations Act, under the Pension Benefits Act, consent must be made by the union or association for the employees it represents pursuant to its process for determining whether or not to consent.

In that case:

- If the union or association consents on behalf of its members, all such members are deemed to have consented to the conversion
- If the union or association does not consent on behalf of its members, all such members are deemed to have objected to the conversion

Employees participating in the Plan not included above have an individual right to consent to the conversion. If active member is non-unionized, member has an individual right to consent to the conversion.

No more than 1/3 of all inactive Plan members (retired and former members and other beneficiaries) object

Inactive members have an individual right to object to the conversion

“Other beneficiaries” includes surviving spouses and former spouses in receipt of pension

# UPP Governance

The JSPP model is founded on cooperation, transparency and shared accountabilities between employers and plan members:

- ✓ 50/50 sharing of contributions
- ✓ Equal say in plan design, funding, administration
- ✓ Transparent plan operations, funding, decision-making
- ✓ Clear, explicit risk sharing

It's these characteristics that afford JSPPs unique benefits like solvency exemption and stable, predictable contributions.

## UPP Joint Sponsors

Two Sponsors: Universities are one Sponsor and employees are the other Sponsor; each Sponsor has a Committee with 6 members

Sets contributions and benefits formula

Defines funding policy

Appoint administrator

Sets terms for and approves new entrants

## UPP Administrator – Board of Trustees

Made up of 14 members, including an Independent Chair appointed by the Joint Sponsors<sup>1</sup>

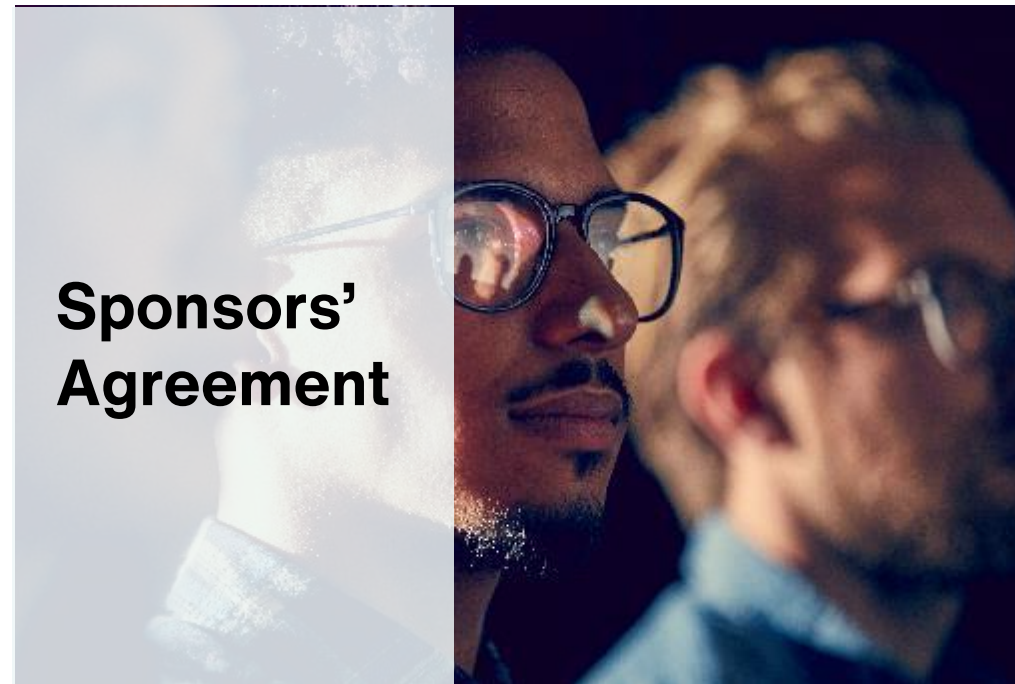
Actuarial valuation

Investment of assets

Member services and benefit payments

<sup>1</sup> 6 Board members appointed by universities, 6 Board members appointed by faculty associations and unions, and 1 Board member appointed by non-unionized employees (without a tie-breaking vote)

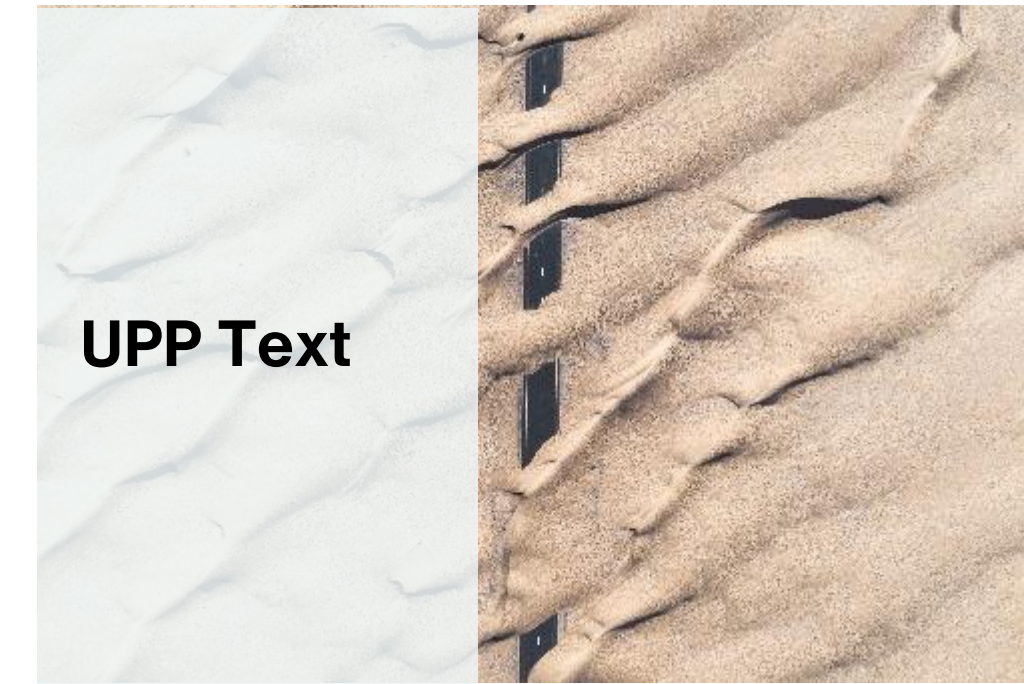
# UPP Constating Documents



- Agreement between Sponsors for the establishment of the UPP as a jointly sponsored pension plan
- Establishes Employer Sponsor and Employee Sponsor as the exclusive representatives of employers and members, respectively
- Sets out Joint Sponsor responsibility for UPP terms, Trust Agreement, Funding Policy and new employer terms and conditions



- Establishes the Board of Trustee as legal administrator of the UPP (per PBA) and the UPP Trust Fund
- Sets out powers and duties of Board of Trustee (e.g. fiduciary standard, pay benefits and collect contributions in accordance with UPP terms)
- Sets the composition of the Board, term of each Trustee and responsibility for appointment by Joint Sponsors



- Contains provisions applicable to benefits earned for service on and after date of participation
- Contains appendices for each prior plan converted to UPP to provide for replication of pre-conversion service and address any transitional provisions



- Adopted by the Joint Sponsors to set out the funding framework for the UPP
- Purpose is to provide for contribution stability, benefit security, intergenerational equity and plan sustainability
- Sets out the provisions applicable any initial deficit (or surplus) that exists on Conversion Date as well as the treatments of future gains and losses on pre-conversion assets and liabilities

# About Aon

[Aon plc](#) (NYSE: AON) exists to shape decisions for the better — to protect and enrich the lives of people around the world. Our colleagues provide our clients in over 120 countries and sovereignties with advice and solutions that give them the clarity and confidence to make better decisions to protect and grow their business.

Follow Aon on [LinkedIn](#), [Twitter](#), [Facebook](#) and [Instagram](#). Stay up-to-date by visiting the [Aon Newsroom](#) and sign up for News Alerts [here](#).

© 2023 Aon Solutions Canada Inc. All Rights Reserved.

This document contains confidential information and trade secrets protected by copyrights owned by Aon. The document is intended to remain strictly confidential and to be used only for your internal needs and only for the purpose for which it was initially created by Aon. No part of this document may be disclosed to any third party or reproduced by any means without the prior written consent of Aon.

[www.aon.com](http://www.aon.com)





*University of Waterloo Pension Plan | Quarterly Period Ending 30 June 2023*

---

# Detailed Investment Review

*Visit the **Aon Retirement and Investment Website** (<https://retirement-investment-insights.aon.com/canada>); sharing our best thinking.*





## Executive Summary

### Performance Summary<sup>1</sup>

As of 30 June 2023

	Allocation		Performance (%)								
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
<b>Total Fund</b>	<b>2,307,467</b>	<b>100.0</b>	<b>1.95</b>	<b>8.39</b>	<b>12.90</b>	<b>1.39</b>	<b>5.67</b>	<b>5.17</b>	<b>5.45</b>	<b>7.03</b>	<b>5.91</b>
CPI + 3.5% <sup>2</sup>			2.10	4.46	6.41	9.13	8.30	7.26	6.92	6.07	5.66
Value Added			-0.15	3.93	6.49	-7.74	-2.63	-2.09	-1.47	0.96	0.25
Total Fund Benchmark <sup>10</sup>			1.33	6.05	10.79	0.47	5.31	5.14	5.45	7.39	6.28
Value Added			0.62	2.34	2.11	0.92	0.36	0.03	0.00	-0.36	-0.37
<b>Canadian Equities<sup>3</sup></b>	<b>128,817</b>	<b>5.6</b>	<b>1.10 (57)</b>	<b>5.68 (48)</b>	<b>10.41 (56)</b>	<b>2.46 (93)</b>	<b>11.98 (95)</b>	<b>4.97 (100)</b>	<b>4.43 (99)</b>	<b>6.93 (98)</b>	<b>-</b>
S&P/TSX Composite Index			1.10 (57)	5.70 (48)	10.43 (56)	3.03 (87)	12.42 (83)	8.58 (70)	7.62 (64)	8.43 (80)	5.36 (89)
Value Added			0.00	-0.02	-0.02	-0.57	-0.44	-3.61	-3.19	-1.50	-
<b>TD Emerald Canadian Equity Index<sup>4</sup></b>	<b>128,817</b>	<b>5.6</b>	<b>1.10 (57)</b>	<b>5.68 (48)</b>	<b>10.41 (56)</b>	<b>3.02 (87)</b>	<b>12.42 (83)</b>	<b>8.58 (70)</b>	<b>7.62 (64)</b>	<b>8.41 (82)</b>	<b>5.36 (89)</b>
S&P/TSX Composite Index			1.10 (57)	5.70 (48)	10.43 (56)	3.03 (87)	12.42 (83)	8.58 (70)	7.62 (64)	8.43 (80)	5.36 (89)
Value Added			0.00	-0.02	-0.02	-0.01	0.00	0.00	0.00	-0.02	0.00
<b>Global Equities<sup>6</sup></b>	<b>648,322</b>	<b>28.1</b>	<b>3.54 (40)</b>	<b>12.48 (30)</b>	<b>23.32 (21)</b>	<b>3.29 (58)</b>	<b>9.05 (72)</b>	<b>7.66 (76)</b>	<b>7.70 (60)</b>	<b>11.26 (59)</b>	<b>7.63 (90)</b>
Global Equity Benchmark <sup>11</sup>			4.33 (29)	12.38 (31)	21.93 (31)	5.37 (31)	12.77 (29)	11.84 (13)	11.03 (10)	14.07 (14)	11.16 (16)
Value Added			-0.79	0.10	1.39	-2.08	-3.72	-4.18	-3.33	-2.81	-3.53
<b>Walter Scott<sup>5</sup></b>	<b>462,772</b>	<b>20.1</b>	<b>3.78 (37)</b>	<b>14.52 (14)</b>	<b>26.59 (11)</b>	<b>5.36 (32)</b>	<b>11.05 (50)</b>	<b>10.81 (22)</b>	<b>11.20 (9)</b>	<b>13.68 (19)</b>	<b>11.28 (16)</b>
MSCI World Index (Net) (CAD)			4.45 (27)	12.40 (31)	21.57 (33)	4.13 (49)	11.15 (48)	10.08 (37)	9.20 (35)	12.02 (48)	9.10 (61)
Value Added			-0.67	2.12	5.02	1.23	-0.10	0.73	2.00	1.66	2.18
<b>RBC Global Focus Equity<sup>9</sup></b>	<b>87,494</b>	<b>3.8</b>	<b>0.72 (84)</b>	<b>3.44 (91)</b>	<b>9.04 (98)</b>	<b>-4.35 (91)</b>	<b>6.79 (85)</b>	<b>7.79 (74)</b>	<b>7.96 (57)</b>	<b>-</b>	<b>-</b>
MSCI AC World Index (Net)			3.82 (36)	11.27 (38)	19.54 (55)	2.40 (67)	9.98 (62)	9.02 (55)	8.23 (52)	11.25 (59)	8.46 (77)
Value Added			-3.10	-7.83	-10.50	-6.75	-3.19	-1.23	-0.27	-	-
<b>Mirova Global Sustainable Equity<sup>9</sup></b>	<b>98,044</b>	<b>4.2</b>	<b>4.96 (20)</b>	<b>11.80 (34)</b>	<b>21.92 (31)</b>	<b>1.50 (73)</b>	<b>9.21 (70)</b>	<b>12.17 (10)</b>	<b>12.20 (5)</b>	<b>-</b>	<b>-</b>
MSCI AC World Index (Net)			3.82 (36)	11.27 (38)	19.54 (55)	2.40 (67)	9.98 (62)	9.02 (55)	8.23 (52)	11.25 (59)	8.46 (77)
Value Added			1.14	0.53	2.38	-0.90	-0.77	3.15	3.97	-	-

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

<sup>2</sup> CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup> There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup> TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup> Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup> The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup> In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup> The Currency Overlay was discontinued on 20 November 2017.

<sup>9</sup> In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup> Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup> Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

## Executive Summary

### Performance Summary<sup>1</sup>

As of 30 June 2023

	Allocation		Performance (%)										
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years		
<b>U.S. Equities</b>													
<b>TD Emerald Pooled U.S. Fund<sup>7</sup></b>	<b>385,974</b>	<b>16.7</b>	<b>6.30 (37)</b>	<b>14.12 (37)</b>	<b>22.64 (40)</b>	<b>6.88 (37)</b>	<b>13.48 (42)</b>	<b>13.11 (32)</b>	<b>12.41 (31)</b>	-	-		
S&P 500 (CAD)			6.32 (36)	14.16 (37)	22.68 (39)	6.88 (37)	13.50 (41)	13.14 (31)	12.44 (31)	15.45 (37)	12.86 (49)		
Value Added			-0.02	-0.04	-0.04	0.00	-0.02	-0.03	-0.03	-	-		
<b>International Equities</b>													
<b>TD Emerald International Equity Index<sup>7</sup></b>	<b>199,695</b>	<b>8.7</b>	<b>0.68 (63)</b>	<b>9.06 (64)</b>	<b>21.82 (51)</b>	<b>2.24 (49)</b>	<b>7.95 (64)</b>	<b>5.63 (70)</b>	<b>4.59 (61)</b>	<b>7.91 (84)</b>	<b>5.31 (91)</b>		
MSCI EAFE (Net)			0.66 (63)	9.06 (64)	21.84 (51)	2.16 (49)	7.89 (65)	5.56 (72)	4.51 (63)	7.82 (87)	5.20 (92)		
Value Added			0.02	0.00	-0.02	0.08	0.06	0.07	0.08	0.09	0.11		
<b>Fixed Income</b>													
<b>TDAM Universe Bond Index</b>	<b>687,529</b>	<b>29.8</b>	<b>-0.41</b>	<b>2.13</b>	<b>2.90</b>	<b>-2.86</b>	<b>-1.99</b>	<b>-0.03</b>	<b>1.17</b>	-	-		
<b>TDAM Universe Bond Index</b>	<b>323,112</b>	<b>14.0</b>	<b>-0.69 (81)</b>	<b>2.51 (80)</b>	<b>3.14 (87)</b>	<b>-4.41 (89)</b>	<b>-3.83 (100)</b>	<b>-1.05 (100)</b>	<b>0.57 (100)</b>	<b>2.53 (31)</b>	<b>4.02 (1)</b>		
FTSE Canada Universe Bond			-0.69 (81)	2.51 (81)	3.15 (86)	-4.40 (89)	-3.75 (98)	-0.96 (100)	0.65 (99)	2.06 (91)	3.20 (96)		
Value Added			0.00	0.00	-0.01	-0.01	-0.08	-0.09	-0.08	0.47	0.82		
<b>TDAM Active Short Term Corporate</b>	<b>364,417</b>	<b>15.8</b>	<b>-0.30</b>	<b>1.64</b>	<b>2.55</b>	<b>-1.48</b>	<b>-0.26</b>	<b>0.89</b>	<b>1.69</b>	-	-		
FTSE Canada Short Term Corporate Bond			-0.26	1.69	2.54	-1.51	-0.24	0.92	1.71	2.05	3.14		
Value Added			-0.04	-0.05	0.01	0.03	-0.02	-0.03	-0.02	-	-		
<b>Real Estate</b>													
<b>XRE ETF (Real Estate)</b>	<b>62,548</b>	<b>2.7</b>	<b>-3.77 (100)</b>	<b>0.23 (43)</b>	<b>0.81 (1)</b>	<b>-4.22 (100)</b>	<b>6.88 (100)</b>	<b>0.75 (100)</b>	<b>3.16 (100)</b>	<b>5.07 (100)</b>	-		
FTSE EPRA Nareit Developed			-1.69 (100)	-0.79 (82)	-1.10 (79)	-5.18 (100)	3.30 (100)	-0.73 (100)	0.95 (100)	6.19 (100)	5.93 (-)		
Value Added			-2.08	1.02	1.91	0.96	3.58	1.48	2.21	-1.12	-		
<b>Infrastructure</b>													
<b>Brookfield Infrastructure (BIP.UN)</b>	<b>79,802</b>	<b>3.5</b>	<b>7.16</b>	<b>18.03</b>	<b>2.69</b>	<b>6.11</b>	<b>13.86</b>	<b>14.59</b>	<b>15.19</b>	<b>17.61</b>	-		
FTSE Global Core Infrastructure 50/50 Index			-2.32	-1.72	2.76	5.31	6.44	3.83	6.12	9.72	-		
Value Added			9.48	19.75	-0.07	0.80	7.42	10.76	9.07	7.89	-		

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

<sup>2</sup>CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>The Currency Overlay was discontinued on 20 November 2017.

<sup>9</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

## Executive Summary

### Performance Summary<sup>1</sup>

As of 30 June 2023

	Allocation		Performance (%)								
	Market Value (\$000)	%	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
<b>Brookfield Renewable (BEP.UN)</b>	<b>53,679</b>	<b>2.3</b>	<b>-7.26</b>	<b>16.62</b>	<b>-8.73</b>	-	-	-	-	-	-
FTSE Global Core Infrastructure 50/50 Index			-2.32	-1.72	2.76	5.31	6.44	3.83	6.12	9.72	-
Value Added			-4.94	18.34	-11.49	-	-	-	-	-	-
<b>Operating Account</b>	<b>61,101</b>	<b>2.6</b>									
<b>BAs/U.S. and CDN Cash</b>	<b>48,083</b>	<b>2.1</b>	<b>1.17</b>	<b>2.29</b>	<b>3.79</b>	<b>2.11</b>	<b>1.46</b>	<b>1.43</b>	<b>1.49</b>	<b>1.11</b>	-
<b>Operating Account</b>	<b>13,018</b>	<b>0.6</b>	<b>0.05</b>	<b>0.12</b>	<b>0.28</b>	<b>0.16</b>	<b>0.21</b>	<b>0.23</b>	<b>0.28</b>	<b>0.22</b>	<b>0.44</b>
<b>Currency Overlay Effect (Historical)<sup>8</sup></b>											
<b>Total Fund &amp; CO</b>	<b>2,307,467</b>	<b>100.0</b>	<b>1.95</b>	<b>8.39</b>	<b>12.90</b>	<b>1.39</b>	<b>5.67</b>	<b>5.17</b>	<b>5.45</b>	<b>6.89</b>	<b>5.57</b>
<b>Total Fund ex CO</b>			<b>1.95</b>	<b>8.39</b>	<b>12.90</b>	<b>1.39</b>	<b>5.67</b>	<b>5.17</b>	<b>5.45</b>	<b>7.03</b>	<b>5.91</b>
Value Added			0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.14	-0.34

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

<sup>2</sup>CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are presentative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>The Currency Overlay was discontinued on 20 November 2017.

<sup>9</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

## Executive Summary

### Rolling Year Performance<sup>1</sup>

As of 30 June

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Total Fund</b>	<b>12.90</b>	<b>-8.94</b>	<b>14.78</b>	<b>3.68</b>	<b>6.58</b>	<b>5.96</b>	<b>10.02</b>	<b>3.99</b>	<b>10.77</b>	<b>12.65</b>
CPI + 3.5% <sup>2</sup>	6.41	11.92	6.67	4.18	5.59	6.04	4.54	5.05	4.57	5.94
Value Added	6.49	-20.86	8.11	-0.50	0.99	-0.08	5.48	-1.06	6.20	6.71
Total Fund Benchmark <sup>10</sup>	10.79	-8.89	15.71	4.63	6.69	7.46	9.34	3.89	8.96	17.61
Value Added	2.11	-0.05	-0.93	-0.95	-0.11	-1.50	0.68	0.10	1.81	-4.96
<b>Canadian Equities<sup>3</sup></b>	<b>10.41 (56)</b>	<b>-4.91 (88)</b>	<b>33.73 (65)</b>	<b>-13.53 (89)</b>	<b>2.29 (56)</b>	<b>10.15 (50)</b>	<b>16.15 (9)</b>	<b>0.62 (60)</b>	<b>-3.21 (76)</b>	<b>26.36 (80)</b>
S&P/TSX Composite Index	10.43 (56)	-3.87 (86)	33.85 (63)	-2.17 (30)	3.87 (40)	10.41 (46)	11.05 (65)	-0.20 (64)	-1.16 (64)	28.66 (65)
Value Added	-0.02	-1.04	-0.12	-11.36	-1.58	-0.26	5.10	0.82	-2.05	-2.30
<b>TD Emerald Canadian Equity Index<sup>4</sup></b>	<b>10.41 (56)</b>	<b>-3.87 (86)</b>	<b>33.88 (62)</b>	<b>-2.19 (30)</b>	<b>3.86 (40)</b>	<b>10.37 (47)</b>	<b>10.99 (67)</b>	<b>-0.21 (64)</b>	<b>-1.13 (64)</b>	<b>28.57 (65)</b>
S&P/TSX Composite Index	10.43 (56)	-3.87 (86)	33.85 (63)	-2.17 (30)	3.87 (40)	10.41 (46)	11.05 (65)	-0.20 (64)	-1.16 (64)	28.66 (65)
Value Added	-0.02	0.00	0.03	-0.02	-0.01	-0.04	-0.06	-0.01	0.03	-0.09
<b>Global Equities<sup>6</sup></b>	<b>23.32 (21)</b>	<b>-13.48 (68)</b>	<b>21.55 (80)</b>	<b>3.57 (55)</b>	<b>7.86 (25)</b>	<b>13.63 (36)</b>	<b>21.97 (31)</b>	<b>-0.57 (54)</b>	<b>19.29 (56)</b>	<b>22.03 (79)</b>
Global Equity Benchmark <sup>11</sup>	21.93 (31)	-8.94 (42)	29.18 (42)	9.09 (31)	7.86 (25)	14.77 (26)	20.20 (45)	3.48 (28)	21.25 (40)	27.75 (29)
Value Added	1.39	-4.54	-7.63	-5.52	0.00	-1.14	1.77	-4.05	-1.96	-5.72
<b>Walter Scott<sup>5</sup></b>	<b>26.59 (11)</b>	<b>-12.31 (62)</b>	<b>23.36 (75)</b>	<b>10.09 (27)</b>	<b>12.80 (6)</b>	<b>17.39 (14)</b>	<b>16.08 (74)</b>	<b>7.32 (15)</b>	<b>20.67 (46)</b>	<b>20.12 (89)</b>
MSCI World Index (Net) (CAD)	21.57 (33)	-10.81 (53)	26.64 (60)	6.95 (40)	5.74 (41)	12.52 (47)	17.84 (63)	1.45 (40)	18.88 (59)	25.25 (54)
Value Added	5.02	-1.50	-3.28	3.14	7.06	4.87	-1.76	5.87	1.79	-5.13
<b>RBC Global Focus Equity<sup>9</sup></b>	<b>9.04 (98)</b>	<b>-16.09 (80)</b>	<b>33.11 (24)</b>	<b>10.86 (24)</b>	<b>8.64 (21)</b>	<b>23.49 (5)</b>	<b>19.90 (48)</b>	<b>4.84 (22)</b>	<b>26.42 (12)</b>	<b>-</b>
MSCI AC World Index (Net)	19.54 (55)	-12.28 (62)	26.85 (59)	6.19 (45)	5.16 (45)	12.15 (51)	18.43 (58)	0.46 (48)	18.03 (65)	24.14 (64)
Value Added	-10.50	-3.81	6.26	4.67	3.48	11.34	1.47	4.38	8.39	-
<b>Mirova Global Sustainable Equity<sup>9</sup></b>	<b>21.92 (31)</b>	<b>-15.51 (79)</b>	<b>26.46 (63)</b>	<b>21.54 (7)</b>	<b>12.29 (7)</b>	<b>15.68 (23)</b>	<b>19.12 (54)</b>	<b>3.23 (30)</b>	<b>19.93 (51)</b>	<b>-</b>
MSCI AC World Index (Net)	19.54 (55)	-12.28 (62)	26.85 (59)	6.19 (45)	5.16 (45)	12.15 (51)	18.43 (58)	0.46 (48)	18.03 (65)	24.14 (64)
Value Added	2.38	-3.23	-0.39	15.35	7.13	3.53	0.69	2.77	1.90	-

<sup>1</sup>Parenteses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

<sup>2</sup>CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>The Currency Overlay was discontinued on 20 November 2017.

<sup>9</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

## Executive Summary

### Rolling Year Performance<sup>1</sup>

As of 30 June

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>U.S. Equities</b>										
<b>TD Emerald U.S. Pooled Fund<sup>7</sup></b>	<b>22.64 (40)</b>	<b>-6.85 (49)</b>	<b>27.92 (61)</b>	<b>12.02 (40)</b>	<b>9.66 (40)</b>	<b>15.79 (47)</b>	<b>17.80 (60)</b>	<b>8.14 (22)</b>	-	-
S&P 500 (CAD)	22.68 (39)	-6.89 (49)	28.01 (61)	12.05 (40)	9.69 (40)	15.85 (46)	17.90 (59)	8.18 (22)	25.91 (55)	25.81 (62)
Value Added	-0.04	0.04	-0.09	-0.03	-0.03	-0.06	-0.10	-0.04	-	-
<b>International Equities</b>										
<b>TD Emerald International Equity Index<sup>7</sup></b>	<b>21.82 (51)</b>	<b>-14.20 (49)</b>	<b>20.35 (70)</b>	<b>-1.05 (57)</b>	<b>0.53 (39)</b>	<b>8.32 (58)</b>	<b>20.25 (55)</b>	<b>-6.47 (66)</b>	<b>12.46 (74)</b>	<b>24.85 (58)</b>
MSCI EAFE (Net)	21.84 (51)	-14.34 (52)	20.33 (70)	-1.12 (57)	0.41 (40)	8.22 (59)	20.27 (54)	-6.55 (67)	12.26 (76)	24.77 (58)
Value Added	-0.02	0.14	0.02	0.07	0.12	0.10	-0.02	0.08	0.20	0.08
<b>Fixed Income</b>										
<b>TDAM Universe Bond Index</b>	<b>2.90</b>	<b>-8.29</b>	<b>-0.22</b>	<b>6.08</b>	<b>6.12</b>	<b>0.71</b>	<b>-2.49</b>	<b>2.10</b>	-	-
<b>TDAM Universe Bond Index</b>	<b>3.14 (87)</b>	<b>-11.40 (77)</b>	<b>-2.66 (97)</b>	<b>7.77 (77)</b>	<b>7.34 (65)</b>	<b>0.65 (93)</b>	<b>-6.22 (100)</b>	<b>10.32 (1)</b>	<b>10.98 (1)</b>	<b>7.90 (4)</b>
FTSE TMX Canada Bond Universe	3.15 (86)	-11.39 (77)	-2.43 (94)	7.88 (67)	7.36 (62)	0.76 (75)	0.02 (87)	5.22 (50)	6.25 (29)	5.34 (77)
Value Added	-0.01	-0.01	-0.23	-0.11	-0.02	-0.11	-6.24	5.10	4.73	2.56
<b>TDAM Active Short Term Corporate</b>	<b>2.55</b>	<b>-5.36</b>	<b>2.24</b>	<b>4.41</b>	<b>4.93</b>	<b>0.72</b>	<b>1.48</b>	<b>2.11</b>	-	-
FTSE Canada Short Term Corporate Bond	2.54	-5.39	2.36	4.47	4.90	0.80	1.49	1.98	3.71	4.04
Value Added	0.01	0.03	-0.12	-0.06	0.03	-0.08	-0.01	0.13	-	-
<b>Real Estate</b>										
<b>XRE ETF (Real Estate)</b>	<b>0.81 (1)</b>	<b>-9.00 (100)</b>	<b>33.10 (1)</b>	<b>-15.60 (100)</b>	<b>13.39 (1)</b>	<b>11.85 (11)</b>	<b>0.62 (100)</b>	<b>12.40 (1)</b>	<b>2.25 (100)</b>	<b>8.46 (17)</b>
FTSE EPRA Nareit Developed	-1.10 (79)	-9.09 (100)	22.58 (1)	-11.88 (100)	7.92 (54)	8.08 (62)	1.14 (100)	17.10 (1)	17.69 (1)	15.49 (1)
Value Added	1.91	0.09	10.52	-3.72	5.47	3.77	-0.52	-4.70	-15.44	-7.03
<b>Infrastructure</b>										
<b>Brookfield Infrastructure (BIP.UN)</b>	<b>2.69</b>	<b>9.65</b>	<b>31.09</b>	<b>16.81</b>	<b>17.63</b>	<b>-0.66</b>	<b>42.17</b>	<b>12.33</b>	<b>29.29</b>	<b>21.71</b>
FTSE Global Core Infrastructure 50/50 Index	2.76	7.92	8.73	-3.63	15.80	4.93	10.41	14.51	14.21	24.01
Value Added	-0.07	1.73	22.36	20.44	1.83	-5.59	31.76	-2.18	15.08	-2.30
<b>Brookfield Renewable (BEP.UN)</b>	<b>-8.73</b>	-	-	-	-	-	-	-	-	-
FTSE Global Core Infrastructure 50/50 Index	2.76	7.92	8.73	-3.63	15.80	4.93	10.41	14.51	14.21	24.01
Value Added	-11.49	-	-	-	-	-	-	-	-	-

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). All returns are reported gross of fees.

<sup>2</sup>CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>The Currency Overlay was discontinued on 20 November 2017.

<sup>9</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

## Executive Summary

### Performance Summary (Net of Fees)<sup>1</sup>

As of 30 June 2023

	Performance (%)								
	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
<b>Total Fund</b>	<b>1.90</b>	<b>8.29</b>	<b>12.70</b>	<b>1.18</b>	<b>5.45</b>	<b>4.95</b>	<b>5.22</b>	<b>6.76</b>	<b>5.63</b>
CPI + 3.5% <sup>2</sup>	2.10	4.46	6.41	9.13	8.30	7.26	6.92	6.07	5.66
Value Added	-0.20	3.83	6.29	-7.95	-2.85	-2.31	-1.70	0.69	-0.03
Total Fund Benchmark <sup>10</sup>	1.33	6.05	10.79	0.47	5.31	5.14	5.45	7.39	6.28
Value Added	0.57	2.24	1.91	0.71	0.14	-0.19	-0.23	-0.63	-0.65
<b>Canadian Equities<sup>3</sup></b>	<b>1.09</b>	<b>5.67</b>	<b>10.38</b>	<b>2.42</b>	<b>11.91</b>	<b>4.92</b>	<b>4.39</b>	<b>6.92</b>	<b>-</b>
S&P/TSX Composite Index	1.10	5.70	10.43	3.03	12.42	8.58	7.62	8.43	5.36
Value Added	-0.01	-0.03	-0.05	-0.61	-0.51	-3.66	-3.23	-1.51	-
<b>TD Emerald Canadian Equity Index<sup>4</sup></b>	<b>1.09</b>	<b>5.67</b>	<b>10.38</b>	<b>3.00</b>	<b>12.40</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
S&P/TSX Composite Index	1.10	5.70	10.43	3.03	12.42	8.58	7.62	8.43	5.36
Value Added	-0.01	-0.03	-0.05	-0.03	-0.02	-	-	-	-
<b>Global Equities<sup>6</sup></b>	<b>3.40</b>	<b>12.18</b>	<b>22.65</b>	<b>2.74</b>	<b>8.26</b>	<b>6.93</b>	<b>6.97</b>	<b>10.55</b>	<b>6.93</b>
Global Equity Benchmark <sup>11</sup>	4.33	12.38	21.93	5.37	12.77	11.84	11.03	14.07	11.16
Value Added	-0.93	-0.20	0.72	-2.63	-4.51	-4.91	-4.06	-3.52	-4.23
<b>Walter Scott<sup>5</sup></b>	<b>3.65</b>	<b>14.22</b>	<b>25.93</b>	<b>4.80</b>	<b>10.43</b>	<b>10.17</b>	<b>10.54</b>	<b>12.93</b>	<b>10.51</b>
MSCI World Index (Net) (CAD)	4.45	12.40	21.57	4.13	11.15	10.08	9.20	12.02	9.10
Value Added	-0.80	1.82	4.36	0.67	-0.72	0.09	1.34	0.91	1.41
<b>RBC Global Focus Equity<sup>8</sup></b>	<b>0.58</b>	<b>3.16</b>	<b>8.45</b>	<b>-4.86</b>	<b>6.22</b>	<b>7.22</b>	<b>7.39</b>	<b>-</b>	<b>-</b>
MSCI AC World Index (Net)	3.82	11.27	19.54	2.40	9.98	9.02	8.23	11.25	8.46
Value Added	-3.24	-8.11	-11.09	-7.26	-3.76	-1.80	-0.84	-	-

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

<sup>2</sup> CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

## Executive Summary

### Performance Summary (Net of Fees)<sup>1</sup>

As of 30 June 2023

	Performance (%)								
	1 Quarter	Year To Date	1 Year	2 Years	3 Years	4 Years	5 Years	10 Years	15 Years
<b>Mirova Global Sustainable Equity<sup>8</sup></b>	<b>4.81</b>	<b>11.47</b>	<b>22.13</b>	<b>1.56</b>	<b>9.01</b>	<b>11.82</b>	<b>11.76</b>	-	-
MSCI AC World Index (Net)	3.82	11.27	19.54	2.40	9.98	9.02	8.23	11.25	8.46
Value Added	0.99	0.20	2.59	-0.84	-0.97	2.80	3.53	-	-
<b>U.S. Equities</b>									
<b>TD Emerald Pooled U.S. Fund<sup>7</sup></b>	<b>6.30</b>	<b>14.11</b>	<b>22.61</b>	<b>6.86</b>	<b>13.45</b>	<b>13.08</b>	<b>12.38</b>	-	-
S&P 500 (CAD)	6.32	14.16	22.68	6.88	13.50	13.14	12.44	15.45	12.86
Value Added	-0.02	-0.05	-0.07	-0.02	-0.05	-0.06	-0.06	-	-
<b>International Equities</b>									
<b>TD Emerald International Equity Index<sup>7</sup></b>	<b>0.67</b>	<b>9.04</b>	<b>24.35</b>	<b>3.28</b>	<b>8.67</b>	<b>6.15</b>	<b>5.00</b>	<b>8.10</b>	<b>5.43</b>
MSCI EAFE (Net)	0.66	9.06	21.84	2.16	7.89	5.56	4.51	7.82	5.20
Value Added	0.01	-0.02	2.51	1.12	0.78	0.59	0.49	0.28	0.23
<b>Fixed Income</b>									
<b>TDAM Universe Bond Index</b>	<b>-0.42</b>	<b>2.09</b>	<b>2.83</b>	<b>-2.92</b>	<b>-2.03</b>	<b>-0.07</b>	<b>1.14</b>	-	-
FTSE Canada Universe Bond	-0.69	2.51	3.15	-4.40	-3.75	-0.96	0.65	2.06	3.20
Value Added	-0.01	-0.01	-0.04	-0.03	-0.10	-0.12	-0.11	-0.12	-0.13
<b>TDAM Active Short Term Corporate</b>	<b>-0.18</b>	<b>1.74</b>	<b>2.59</b>	<b>-1.51</b>	<b>-0.31</b>	<b>0.83</b>	<b>1.62</b>	-	-
FTSE Canada Short Term Corporate Bond	-0.26	1.69	2.54	-1.51	-0.24	0.92	1.71	2.05	3.14
Value Added	0.08	0.05	0.05	0.00	-0.07	-0.09	-0.09	-	-

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

<sup>2</sup>CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.

## Executive Summary

### Rolling Year Performance (Net of Fees)<sup>1</sup>

As of 30 June 2023

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>Total Fund</b>	<b>12.70</b>	<b>-9.16</b>	<b>14.54</b>	<b>3.48</b>	<b>6.29</b>	<b>5.65</b>	<b>9.68</b>	<b>3.72</b>	<b>10.47</b>	<b>12.34</b>
CPI + 3.5% <sup>2</sup>	6.41	11.92	6.67	4.18	5.59	6.04	4.54	5.05	4.57	5.94
Value Added	6.29	-21.08	7.87	-0.70	0.70	-0.39	5.14	-1.33	5.90	6.40
Total Fund Benchmark <sup>10</sup>	10.79	-8.89	15.71	4.63	6.69	7.46	9.34	3.89	8.96	17.61
Value Added	1.91	-0.27	-1.17	-1.15	-0.40	-1.81	0.34	-0.17	1.51	-5.27
<b>Canadian Equities<sup>3</sup></b>										
<b>TD Emerald Canadian Equity Index<sup>4</sup></b>	<b>10.41</b>	<b>-3.87</b>	<b>33.88</b>	<b>-2.19</b>	<b>3.86</b>	<b>10.37</b>	<b>10.99</b>	<b>-0.21</b>	<b>-1.13</b>	<b>28.57</b>
S&P/TSX Composite Index	10.43	-3.87	33.85	-2.17	3.87	10.41	11.05	-0.20	-1.16	28.66
Value Added	-0.02	0.00	0.03	-0.02	-0.01	-0.04	-0.06	-0.01	0.03	-0.09
<b>Global Equities<sup>6</sup></b>										
<b>Global Equity Benchmark</b>	<b>22.65</b>	<b>-13.95</b>	<b>20.21</b>	<b>3.03</b>	<b>7.12</b>	<b>13.00</b>	<b>21.17</b>	<b>-1.09</b>	<b>18.57</b>	<b>21.21</b>
Global Equity Benchmark	21.93	-8.94	29.18	9.09	7.86	14.77	20.20	3.48	21.25	27.75
Value Added	0.72	-5.01	-8.97	-6.06	-0.74	-1.77	0.97	-4.57	-2.68	-6.54
<b>Walter Scott<sup>5</sup></b>										
<b>MSCI World Index (Net) (CAD)</b>	<b>25.93</b>	<b>-12.78</b>	<b>22.62</b>	<b>9.39</b>	<b>12.06</b>	<b>16.58</b>	<b>15.26</b>	<b>6.54</b>	<b>19.78</b>	<b>19.22</b>
MSCI World Index (Net) (CAD)	21.57	-10.81	26.64	6.95	5.74	12.52	17.84	1.45	18.88	25.25
Value Added	4.36	-1.97	-4.02	2.44	6.32	4.06	-2.58	5.09	0.90	-6.03
<b>RBC Global Focus Equity<sup>8</sup></b>										
<b>MSCI AC World Index (Net)</b>	<b>8.45</b>	<b>-16.54</b>	<b>32.42</b>	<b>10.27</b>	<b>8.06</b>	<b>22.85</b>	<b>19.27</b>	<b>4.29</b>	<b>25.76</b>	<b>-</b>
MSCI AC World Index (Net)	19.54	-12.28	26.85	6.19	5.16	12.15	18.43	0.46	18.03	24.14
Value Added	-11.09	-4.26	5.57	4.08	2.90	10.70	0.84	3.83	7.73	-
<b>Mirova Global Sustainable Equity<sup>8</sup></b>										
<b>MSCI AC World Index (Net)</b>	<b>22.13</b>	<b>-15.55</b>	<b>25.60</b>	<b>20.71</b>	<b>11.52</b>	<b>14.88</b>	<b>18.31</b>	<b>2.51</b>	<b>19.11</b>	<b>-</b>
MSCI AC World Index (Net)	19.54	-12.28	26.85	6.19	5.16	12.15	18.43	0.46	18.03	24.14
Value Added	2.59	-3.27	-1.25	14.52	6.36	2.73	-0.12	2.05	1.08	-

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

<sup>2</sup> CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.



## Executive Summary

### Rolling Year Performance (Net of Fees)<sup>1</sup>

As of 30 June 2023

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
<b>U.S. Equities</b>										
<b>TD Emerald Pooled U.S. Fund<sup>7</sup></b>	<b>22.61</b>	<b>-6.87</b>	<b>27.88</b>	<b>11.98</b>	<b>9.63</b>	<b>15.75</b>	<b>17.76</b>	<b>8.10</b>	-	-
S&P 500 (CAD)	22.68	-6.89	28.01	12.05	9.69	15.85	17.90	8.18	25.91	25.81
Value Added	-0.07	0.02	-0.13	-0.07	-0.06	-0.10	-0.14	-0.08	-	-
<b>International Equities</b>										
<b>TD Emerald International Equity Index<sup>7</sup></b>	<b>24.35</b>	<b>-14.22</b>	<b>20.32</b>	<b>-1.07</b>	<b>0.51</b>	<b>8.28</b>	<b>20.21</b>	<b>-6.50</b>	<b>12.42</b>	<b>24.81</b>
MSCI EAFE (Net)	21.84	-14.34	20.33	-1.12	0.41	8.22	20.27	-6.55	12.26	24.77
Value Added	2.51	0.12	-0.01	0.05	0.10	0.06	-0.06	0.05	0.16	0.04
<b>Fixed Income</b>										
<b>TDAM Universe Bond Index</b>	<b>3.11</b>	<b>-11.42</b>	<b>-2.68</b>	<b>7.74</b>	<b>7.27</b>	<b>0.62</b>	<b>-0.15</b>	<b>5.13</b>	<b>6.24</b>	<b>5.14</b>
FTSE Canada Universe Bond Index - C\$	3.15	-11.39	-2.43	7.88	7.36	0.76	0.02	5.21	6.25	5.34
Value Added	-0.04	-0.03	-0.25	-0.14	-0.09	-0.14	-0.17	-0.08	-0.01	-0.20
<b>TDAM Active Short Term Corporate</b>	<b>2.59</b>	<b>-5.45</b>	<b>2.15</b>	<b>4.31</b>	<b>4.84</b>	<b>0.62</b>	<b>1.38</b>	<b>2.00</b>	-	-
FTSE Canada Short Term Corporate Bond	2.54	-5.39	2.36	4.47	4.90	0.80	1.49	1.98	3.71	4.04
Value Added	0.05	-0.06	-0.21	-0.16	-0.06	-0.18	-0.11	0.02	-	-

<sup>1</sup>Parentheses contain percentile rankings. (1st percentile is the best performing). Reported net returns are based on estimated fees.

<sup>2</sup>CPI+3.5% benchmark has been implemented since February 2022. CPI+3.6% benchmark has been implemented retrospectively since 1 November 2018. From 1 January 2017 to 31 October 2018, CPI+3.5% benchmark was used. From 1 January 2016 to 31 December 2016, CPI + 3.7% benchmark was used. From 1 January 2014 to 31 December 2016, CPI+3.75% benchmark was used. Prior to 1 January 2014, CPI+3.85% benchmark was used.

<sup>3</sup>There was no exposure to Canadian Equities from January 2012 to April 2012.

<sup>4</sup>TD Emerald Canadian Equity Index added July 2020. Returns prior to these dates are representative only.

<sup>5</sup>Returns for Sionna before May 2012, Oldfield before July 2011, Trilogy before April 2008 and Walter Scott before July 2009 are based on composite returns.

<sup>6</sup>The global equities return prior to August 2018 includes Trilogy.

<sup>7</sup>In November 2016, TD Emerald U.S. pooled and International Index funds were added. Returns prior to these dates are representative only.

<sup>8</sup>In August 2021, RBC Global Focus Equity and Mirova Sustainable Global Equity strategies were added. Returns prior to these dates are representative only.

<sup>10</sup>Total Fund Benchmark was implemented as a performance objective in February 2022. Due to licensing constraints

FTSE Global Infrastructure 50/50 Index is used in place of UBS 50/50

<sup>11</sup>Global Equity Benchmark is 100% MSCI ACWI as of February 2022. Prior Benchmark was MSCI World.



# Pension Risk Management Dashboard

University of Waterloo

As of June 30, 2023



# About these Materials

This dashboard was prepared for the University of Waterloo to track changes in funded status of the Pension Plan over successive reporting periods, as well as quantify the amount of risk to which the Pension Plan is exposed. The report presents the funded status and performs the analysis on three bases:

**Risk-Free Benchmark Basis** – This liability is calculated using best estimate assumptions for retirement, termination and other demographic experience, and discount rate and inflation assumptions determined with reference to the risk-free environment. For this report, the liability has been determined using the real return bond yield plus a 40 basis point credit spread to reflect the additional yield that can be achieved with relatively little additional risk. This liability differs from the solvency calculation in that the demographic assumptions are best estimate and statutory “grow-in” provisions are not included.

**Going Concern Basis** – This liability is calculated using the going concern assumptions at the most recent valuation. The analysis is performed using the market value of assets with a Provision for Adverse Deviation, as prescribed by the *Pension Benefits Act* (Ontario).

**Solvency Basis** – This liability is calculated using assumptions determined in accordance with the Canadian Institute of Actuaries Annuity Purchase guidance and Commuted Value standards in effect at each measurement date shown in this report. A summary of these assumptions is included on page 15.

This dashboard also contains a reconciliation that compares the going concern liability with the liability calculated using the risk-free benchmark. The difference between the two liabilities represents the amount of return expected to be provided by taking on risk in the investment portfolio. Over successive quarters the tool helps quantify how that risk changes as the underlying interest rates change.

On both bases the following information is shown:

- Current Funded Status and Historical Asset Liability Performance
  - How well funded is the plan?
  - What has been the return on plan assets and liabilities?
- Detailed Asset and Liability Performance Attribution
  - What factors drove the performance of assets and liabilities over the prior period?
  - What is the relative impact of these factors on the assets and liabilities in isolation and in combination?

For the Risk-Free Benchmark Basis, the following information is also shown:

- Scenario Testing
  - What risk exposures does the plan face?
  - What would be the impact of a downside event for each risk factor?

# Highlights

## Over the quarter:

- The fund had a rate of return after fees of 2.0%.
- Nominal risk-free rates increased.
- Inflation expectations implicit in the underlying bond yields increased.

## As a result,

- The going concern deficit decreased from \$23.8 million to \$5.0 million over the quarter primarily due to better than assumed asset performance and contributions exceeding the cost of benefit accrual.
- The risk-free deficit decreased from \$840.3 million to \$805.3 million over the quarter due to strong asset performance and increases in risk-free rates. This was partially offset by a rise in expected inflation.
- The solvency surplus increased from \$202.6 million to \$241.5 million over the quarter primarily due to the plan's asset performance exceeding expectations.

## Highlights (cont'd)

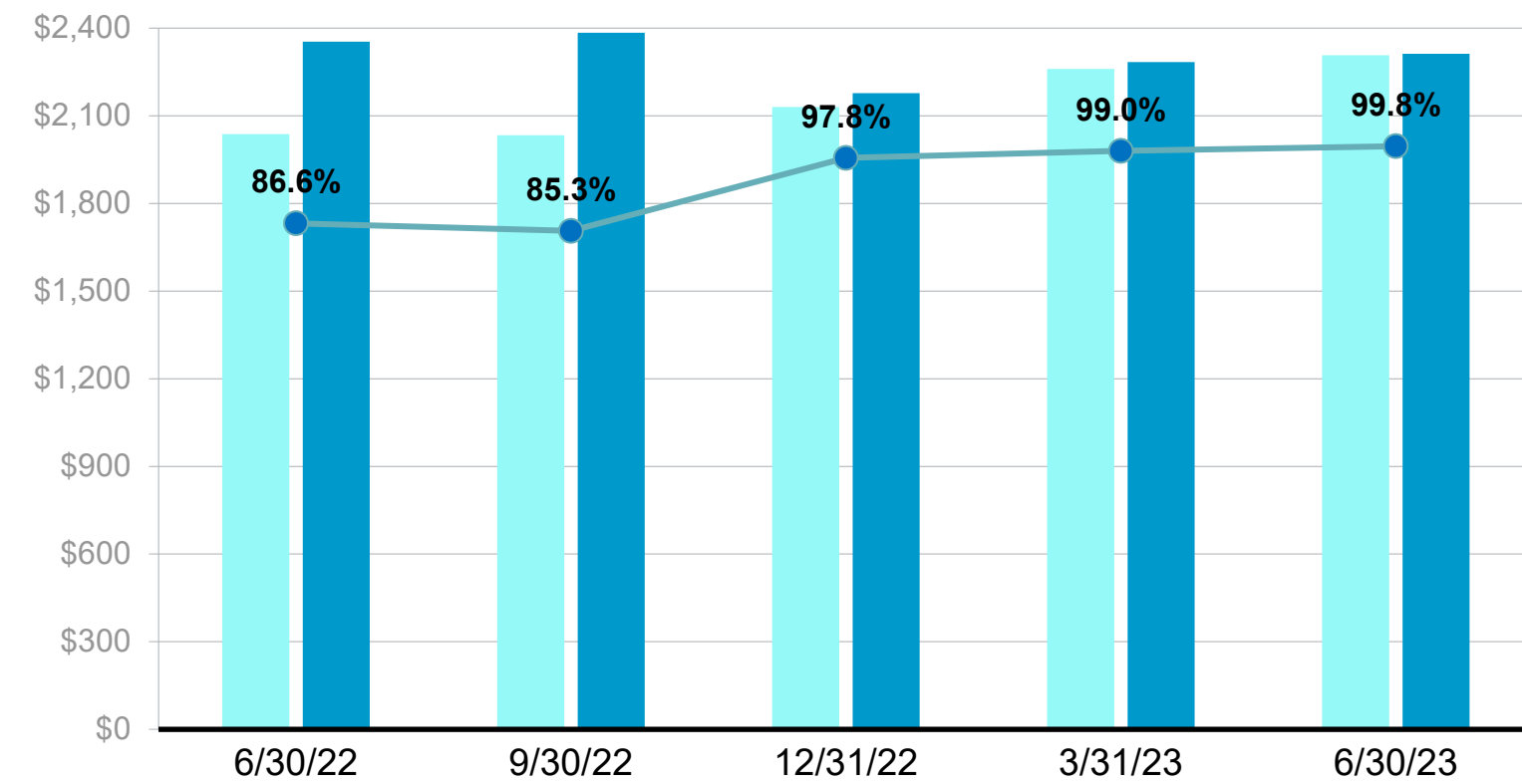
- The estimated June 30, 2023 liabilities are projected based on the results of the most recent actuarial valuation of the Plan as at January 1, 2023.
- The December 31, 2022 liabilities shown are based on the December 31, 2021 actuarial valuation projected forward.
- The annuity purchase guidance educational note for valuations as of June 30, 2023 and July 1, 2023 (published as of July 24, 2023) has been reflected in the interest rates used to calculate the June 30, 2023 Solvency liabilities.
- The estimated transfer ratio has not decreased by 10% or more over the period; no Regulation 19 filing is required.
- All figures are in \$1,000,000 (CAD).



# Executive Summary – Going Concern

Values in \$1,000,000 (CAD)

## Funded Status



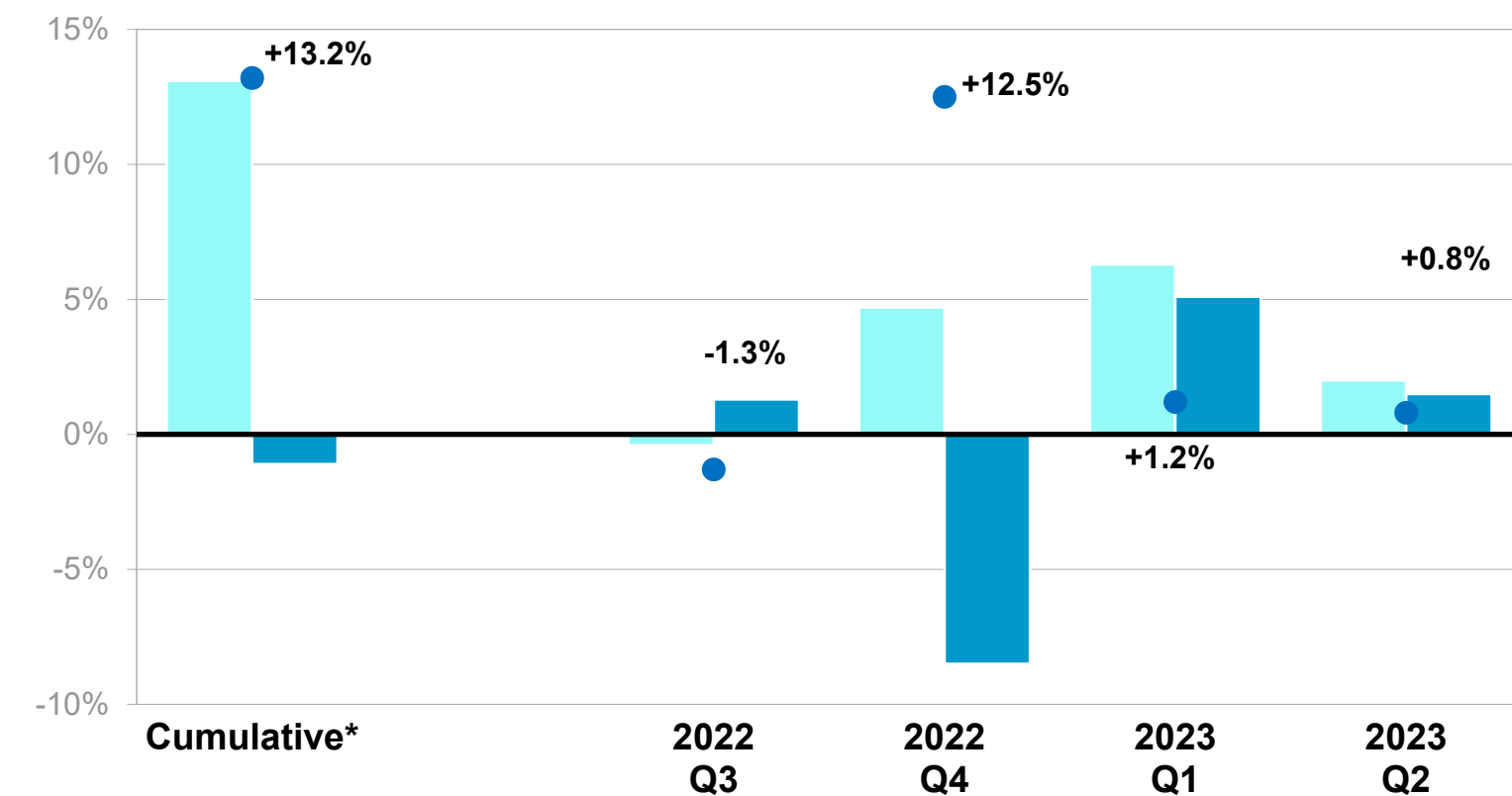
## Highlights for the Quarter-Ending 6/30/23

The plans' funded ratio increased to 99.8% at 6/30/23. This result was primarily due to the combined effects of:

- Better than expected asset returns,
- Contributions of \$28.8 million, which exceeds the benefit accruals

	6/30/22	9/30/22	12/31/22	03/31/23	06/30/23
Market Value of Assets	\$ 2,037.5	\$ 2,033.6	\$ 2,130.3	\$ 2,260.4	\$ 2,307.5
Going Concern Liability	2,353.8	2,384.4	2,177.8	2,284.2	2,312.5
Surplus/(Deficit)	\$ (316.3)	\$ (350.8)	\$ (47.5)	\$ (23.8)	\$ (5.0)
Periodic Contributions	\$ 27.1	\$ 27.9	\$ 28.1	\$ 18.1	\$ 28.5
Effective Interest Rate	5.50%	5.50%	6.25%	6.25%	6.25%
Funded Ratio:	86.6%	85.3%	97.8%	99.0%	99.8%
Interest rate sensitivity:					
Asset:	1.5	1.5	1.6	1.5	1.5
Going Concern Liability					
Duration:	14.1	14.1	13.2	13.2	13.2

## Asset-Liability Return



## Asset Liability Return for Quarter-Ending 6/30/23

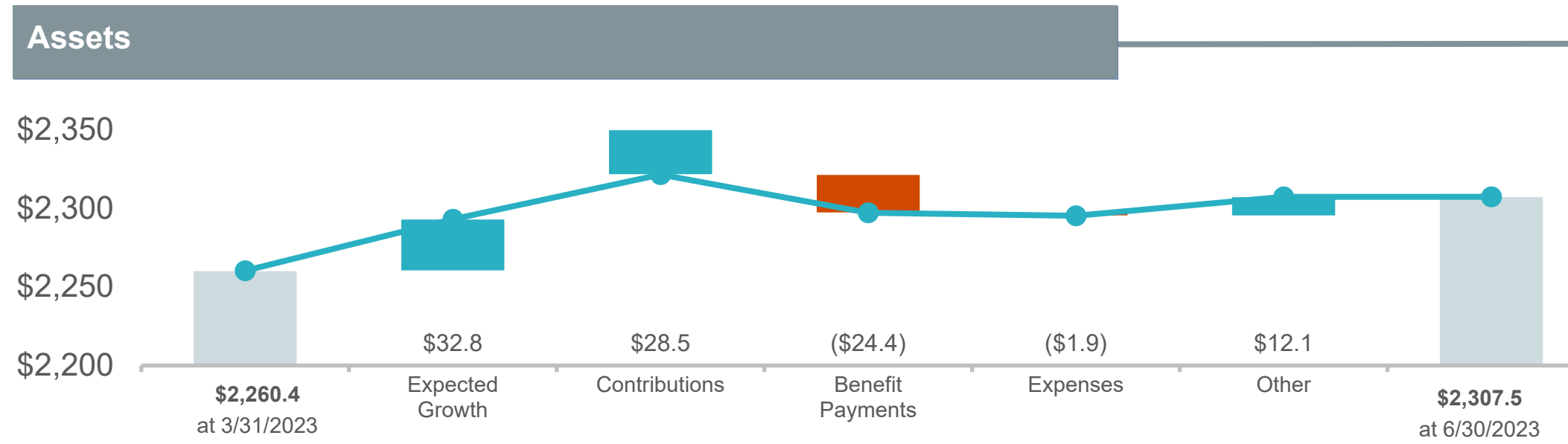
Assets returned 2.0% during the quarter while liabilities returned 1.5%, resulting in a funded status increase of 0.8%.

Periodic Return/Change	Cumulative	9/30/22	12/31/22	3/31/22	6/30/22
Market Value of Assets Return	13.1%	-0.4%	4.7%	6.3%	2.0%
Going Concern:					
Return	-1.1%	1.3%	-8.5%	5.1%	1.5%
Funded Ratio Change	13.2%	-1.3%	12.5%	1.2%	0.8%

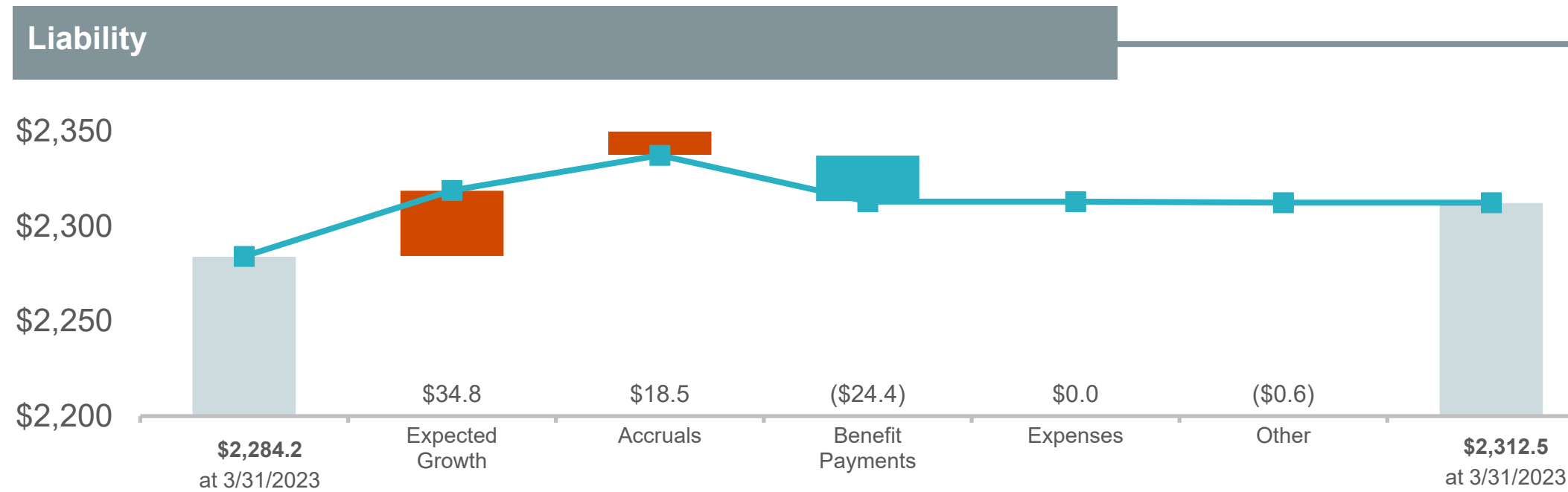
# Asset-Liability Performance Attribution – Going Concern

6

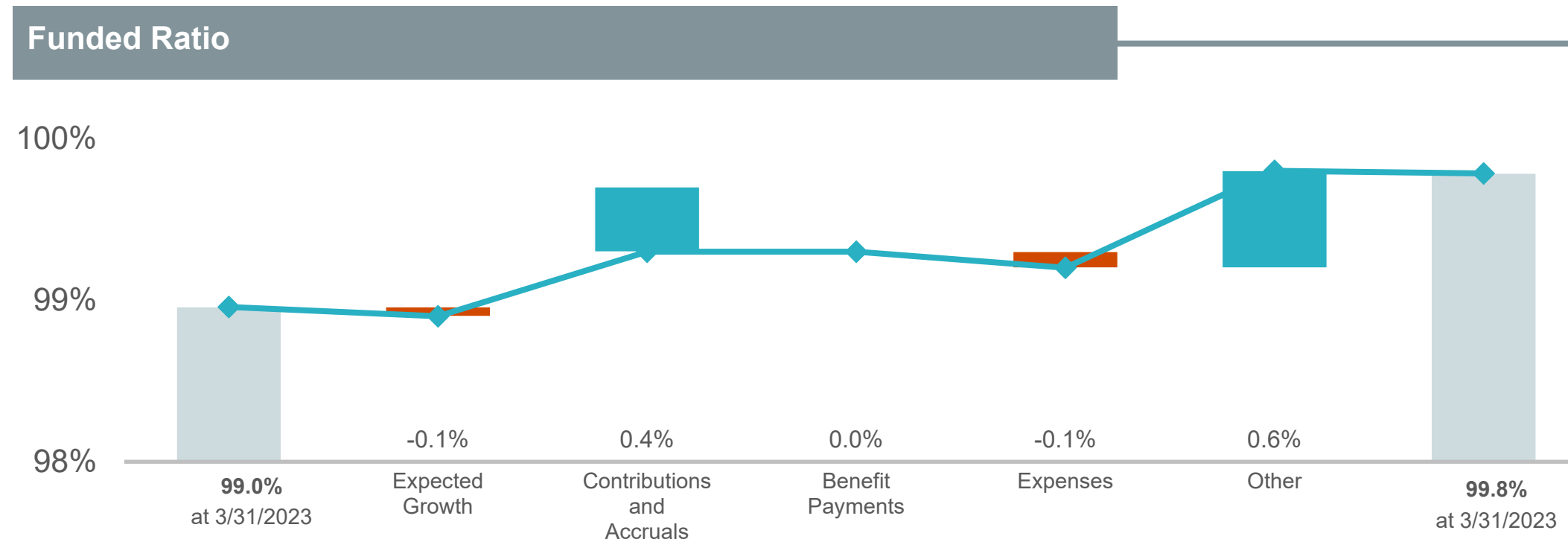
Values in \$1,000,000 (CAD)



- Overall, assets returned 2.0% during this quarter.
- The fixed income assets lost value due to an increase in the underlying risk-free rates, partially offset by narrowing credit spreads.
- The plans' return-seeking assets performed better than expected during the quarter.
- The University and members made \$28.5 million in contributions during the quarter and the trust paid \$24.4 million in benefits to the participants.
- "Other" represents the scale of the over performance of the Plan's assets versus expectation.



- Liabilities were expected to grow by \$34.8 million due to interest cost during the quarter.
- New benefit accruals increased the liability by \$18.5 million during the quarter.
- Plan liabilities decreased by \$24.4 million during the quarter as benefits were paid.

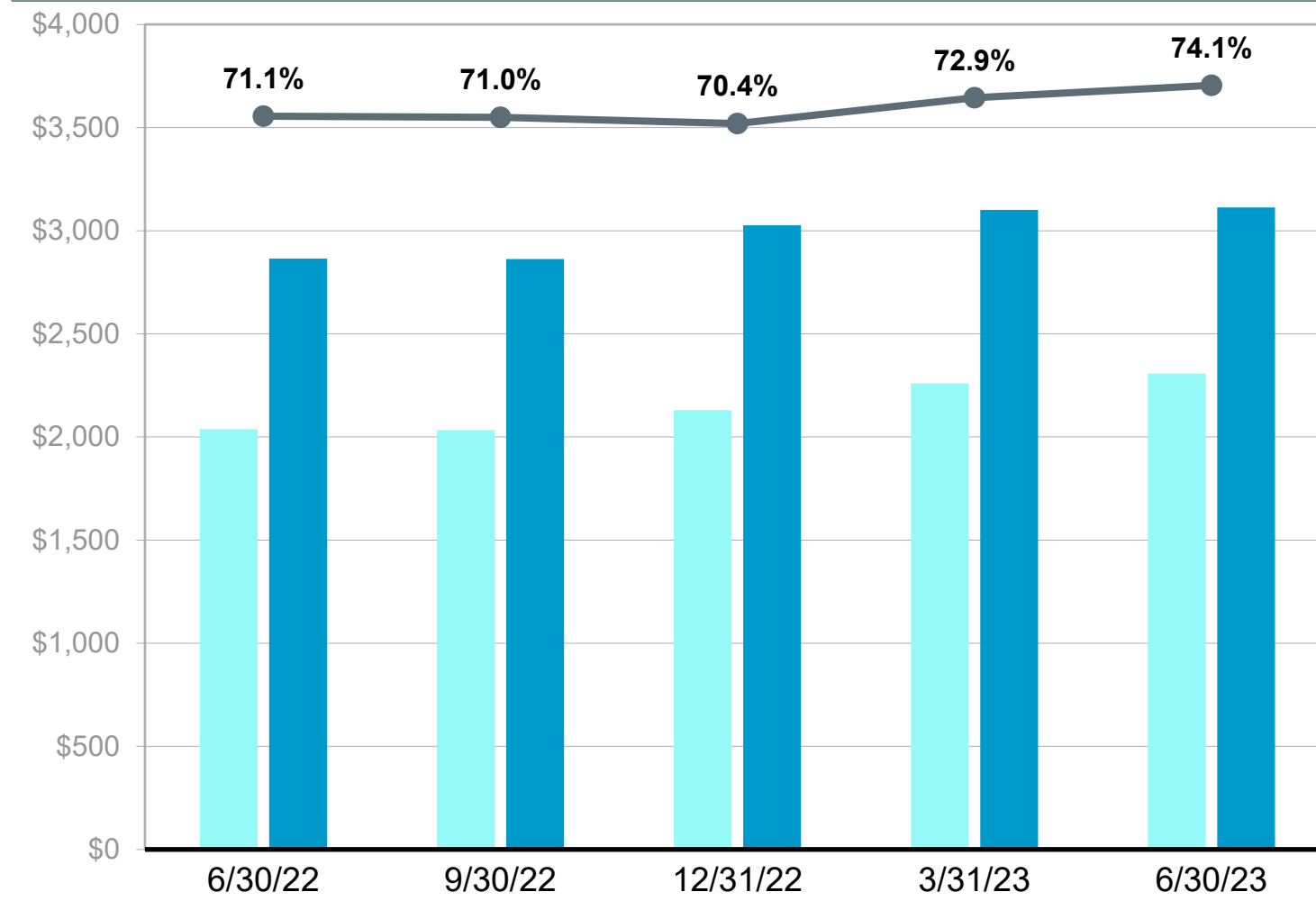


- Contributions exceeded the cost of new benefit accruals during the quarter, resulting in a net increase of 0.4% in the funded status.
- Assets returned 2.0% during the quarter while liabilities returned 1.5%, resulting in a funded status increase of 0.6%.
- "Other" represents the impact of asset outperformance relative to the liabilities.

# Executive Summary – Risk Free

Values in \$1,000,000 (CAD)

## Funded Status



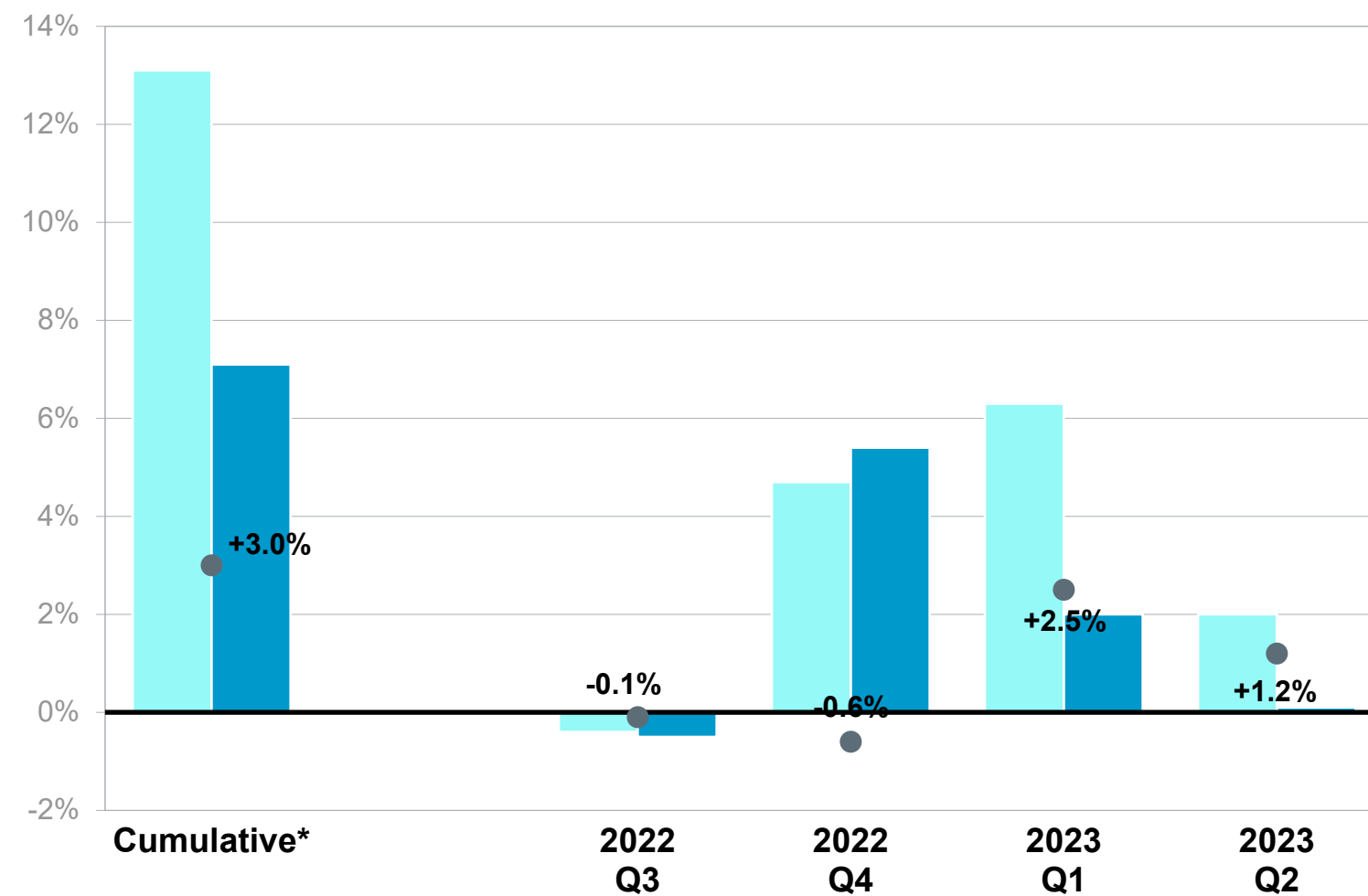
## Highlights for the Quarter-Ending 6/30/23

The plans' funded ratio increased to 74.1% at 6/30/23. This result was primarily due to the combined effects of:

- Better than expected asset returns
- A small increase in the net interest rate used to value liabilities, offset by
- New benefit accruals that exceeds the contributions of \$28.5 million

	6/30/22	9/30/22	12/31/22	3/31/23	06/30/23
Market Value of Assets	\$ 2,037.5	\$ 2,033.6	\$ 2,130.3	\$ 2,260.4	\$ 2,307.5
Risk-Free Liability	2,864.9	2,863.0	3,025.9	3,100.7	3,112.8
Surplus/(Deficit)	\$ (827.4)	\$ (829.4)	\$ (895.6)	\$ (840.3)	\$ (805.3)
Periodic Contributions	\$ 27.1	\$ 27.9	\$ 28.1	\$ 18.8	\$ 28.5
Discount Rate	1.76%	1.84%	1.59%	1.74%	1.79%
Funded Ratio:					
Assets/Risk-Free Liability	71.1%	71.0%	70.4%	72.9%	74.1%
Interest rate sensitivity:					
Assets:	1.5	1.5	1.6	1.5	1.5
Risk-Free Liability:	17.2	17.0	17.4	17.2	16.8

## Asset-Liability Return



## Asset Liability Return for Quarter-Ending 6/30/23

Assets returned 2.0% during the quarter while liabilities returned 0.1%, resulting in a funded status increase of 1.2%.

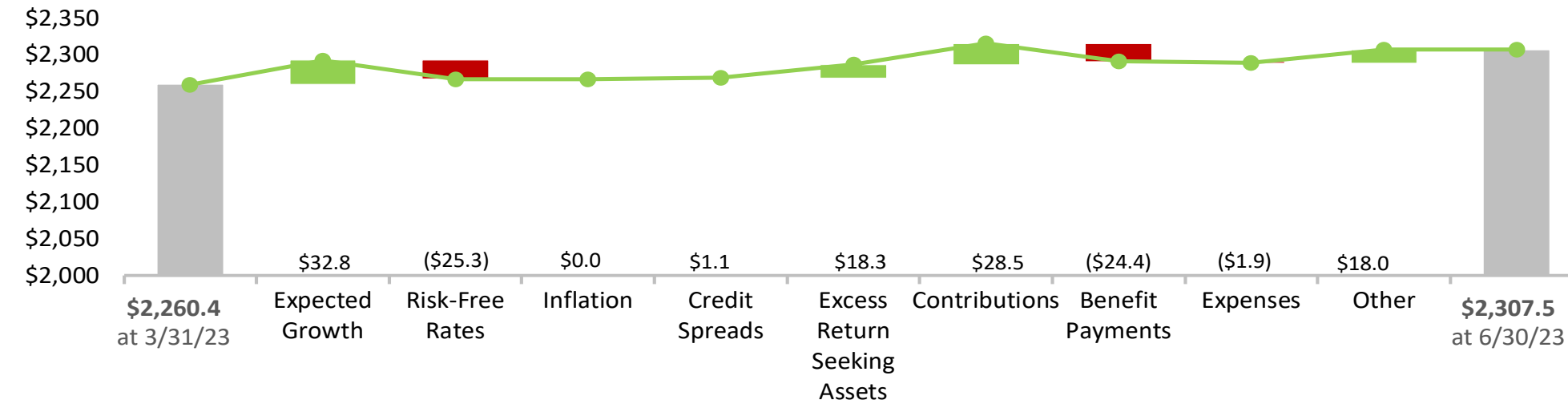
	Periodic Return/Change	Cumulative	9/30/22	12/31/22	3/31/22	6/30/22
Market Value of Assets Return		13.1%	-0.4%	4.7%	6.3%	2.0%
Risk-Free Liability:						
Return		7.1%	-0.5%	5.4%	2.0%	0.1%
Funded Ratio Change		3.0%	-0.1%	-0.6%	2.5%	1.2%



# Asset-Liability Performance Attribution – Risk Free

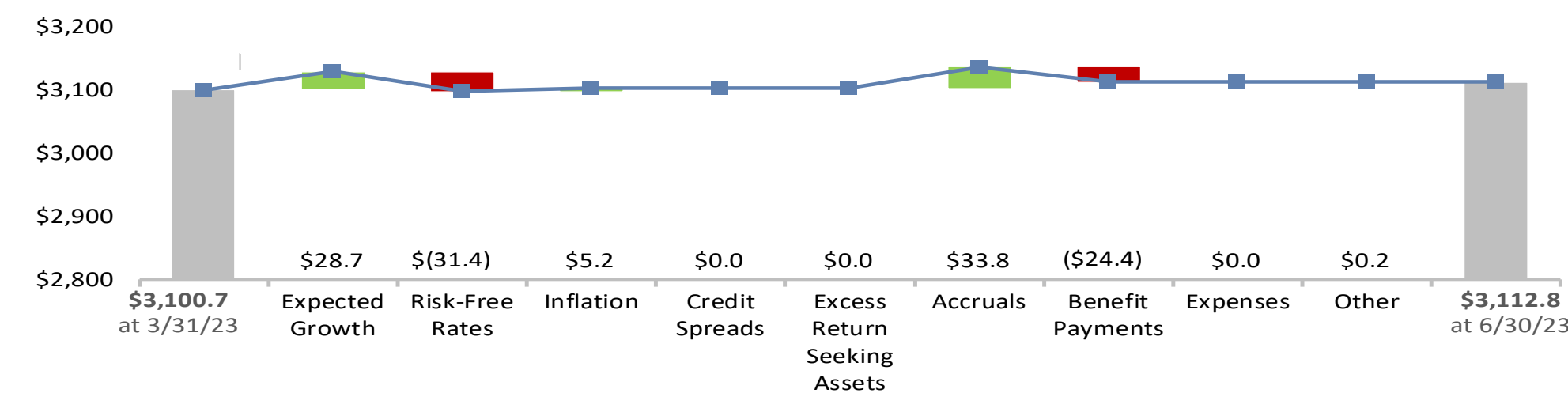
Values in \$1,000,000 (CAD)

## Assets



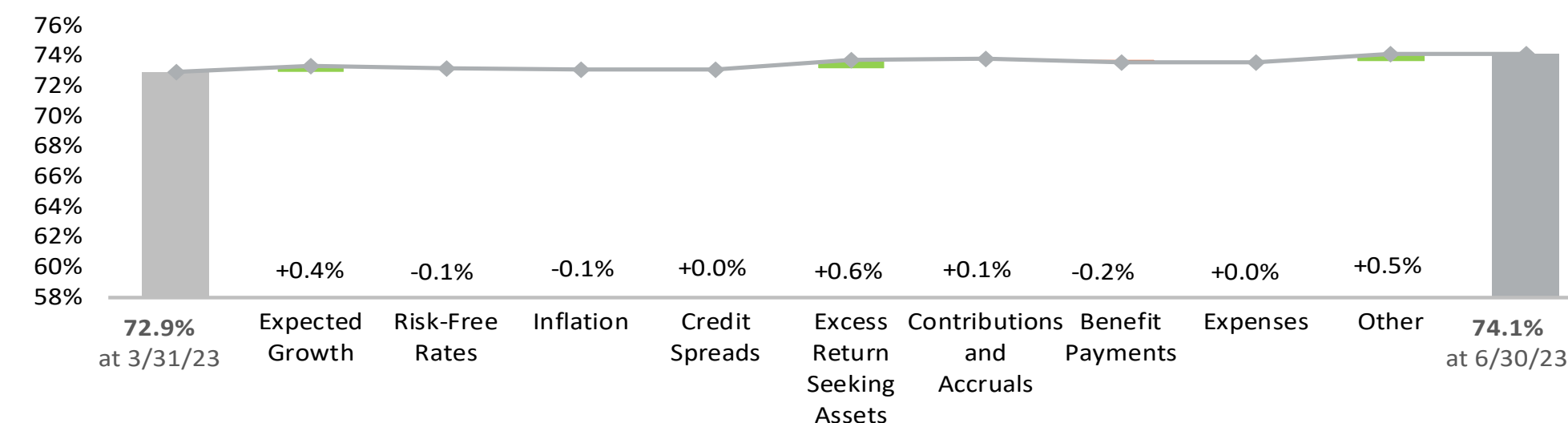
- Overall, assets returned 2.0% during this quarter.
- The fixed income assets lost value due to an increase in the underlying risk-free rates, marginally offset by a slight narrowing in credit spreads.
- The plans' return-seeking assets performed better than expected during the quarter.
- The University and members made \$28.5 million in contributions during the quarter and the trust paid \$24.4 million in benefits to the participants.
- "Other" includes the impact of active management, and differences between benchmark and actual investment allocations.

## Liability



- Liabilities were expected to grow by \$28.7 million due to the interest cost during the quarter.
- New benefit accruals increased the liability by \$33.8 million during the quarter.
- Plan liabilities decreased by \$24.4 million during the quarter as benefits were paid out.
- An increase in risk-free rates led to a decrease in the Plan's liabilities, although this was partially offset by an increase in inflation expectations.

## Funded Ratio

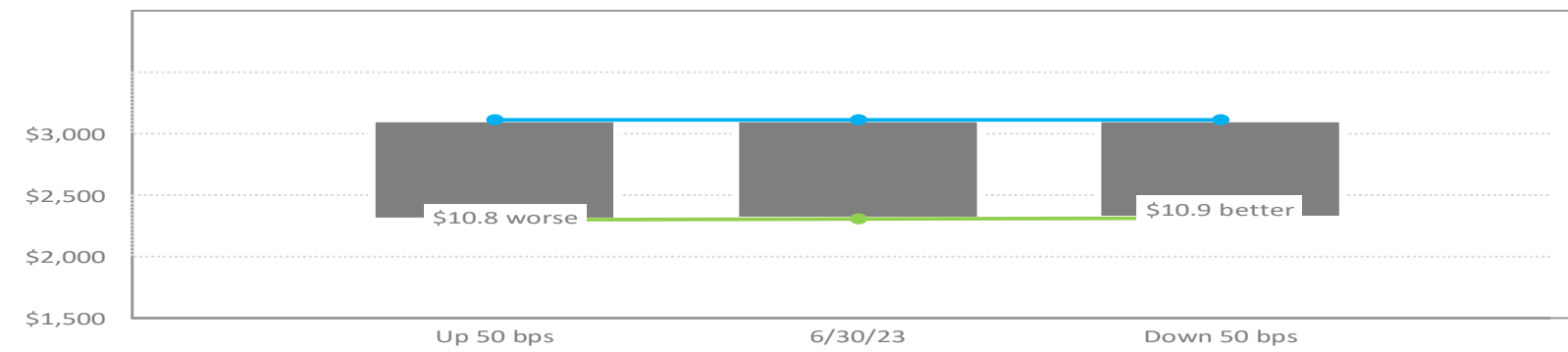


- Return-seeking assets experienced gains during the quarter in excess of expected, adding 0.6% to the plans' funded status during the period.

# Sensitivity Analysis – Risk Free Benchmark

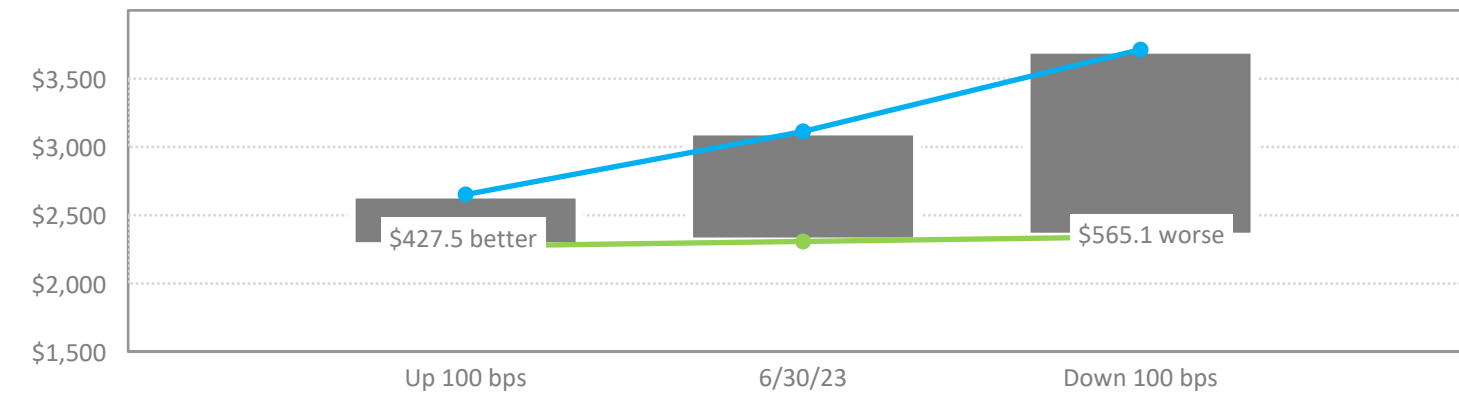
Values in \$1,000,000 (CAD)

## Credit Spreads



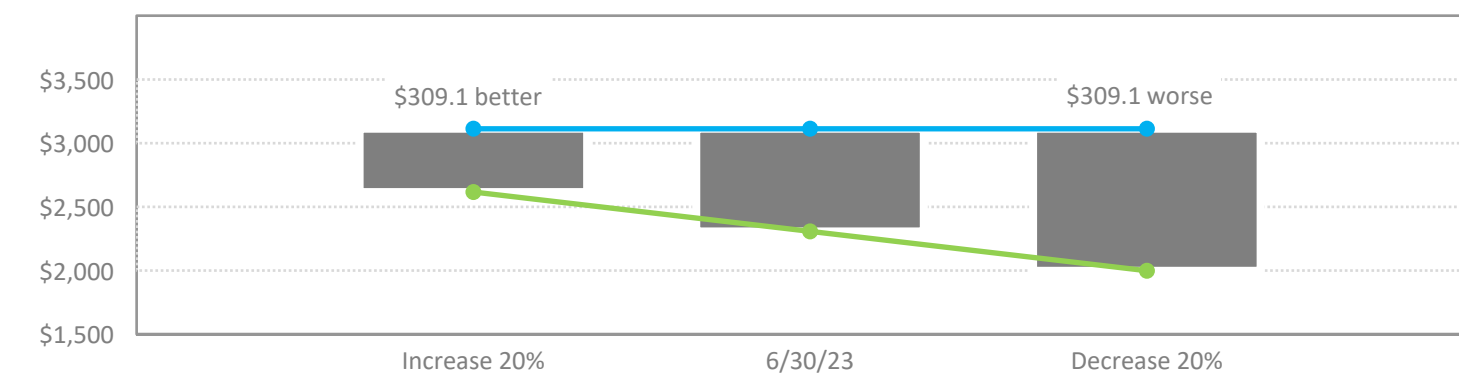
	Up 50bps	Current	Down 50bps
Market Value of Assets	\$2,296.9	\$2,307.5	\$2,318.4
Risk Free Liability	\$3,112.8	\$3,112.8	\$3,112.8
Surplus/(Deficit)	(\$816.1)	(\$805.3)	(\$794.4)
Change		(\$10.8)	\$10.9

## Risk Free Rates



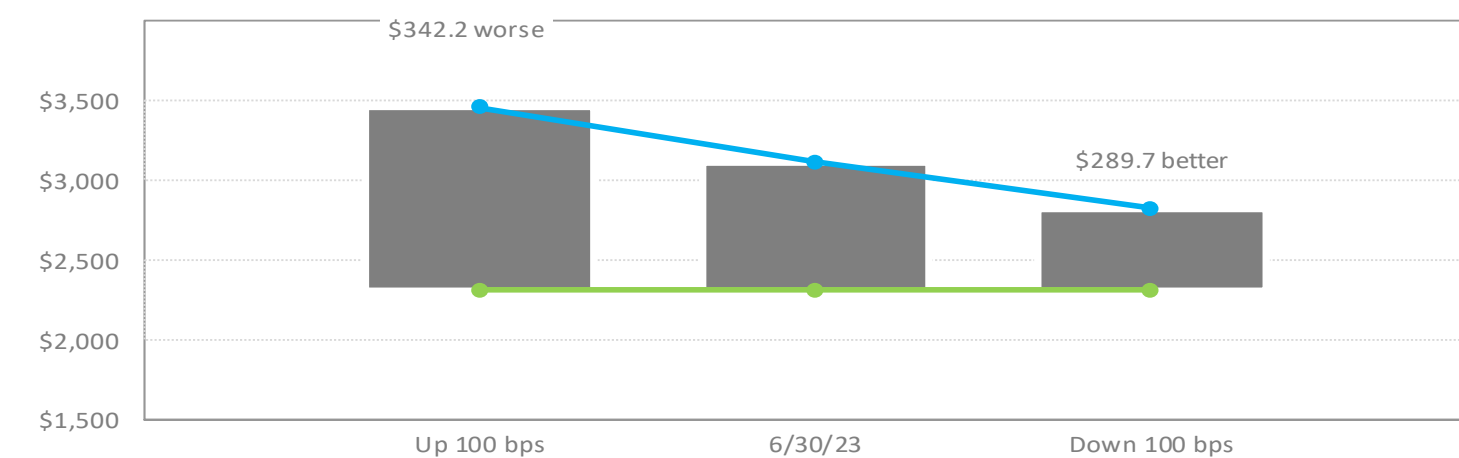
	Up 100bps	Current	Down 100bps
Market Value of Assets	\$2,273.4	\$2,307.5	\$2,342.1
Risk Free Liability	\$2,651.2	\$3,112.8	\$3,712.5
Surplus/(Deficit)	(\$377.8)	(\$805.3)	(\$1,370.4)
Change		\$427.5	(\$565.1)

## Return-Seeking Assets



	Increase 20%	Current	Decrease 20%
Market Value of Assets	\$2,616.6	\$2,307.5	\$1,998.4
Risk Free Liability	\$3,112.8	\$3,112.8	\$3,112.8
Surplus/(Deficit)	(\$496.2)	(\$805.3)	(\$1,114.4)
Change		\$309.1	(\$309.1)

## Inflation

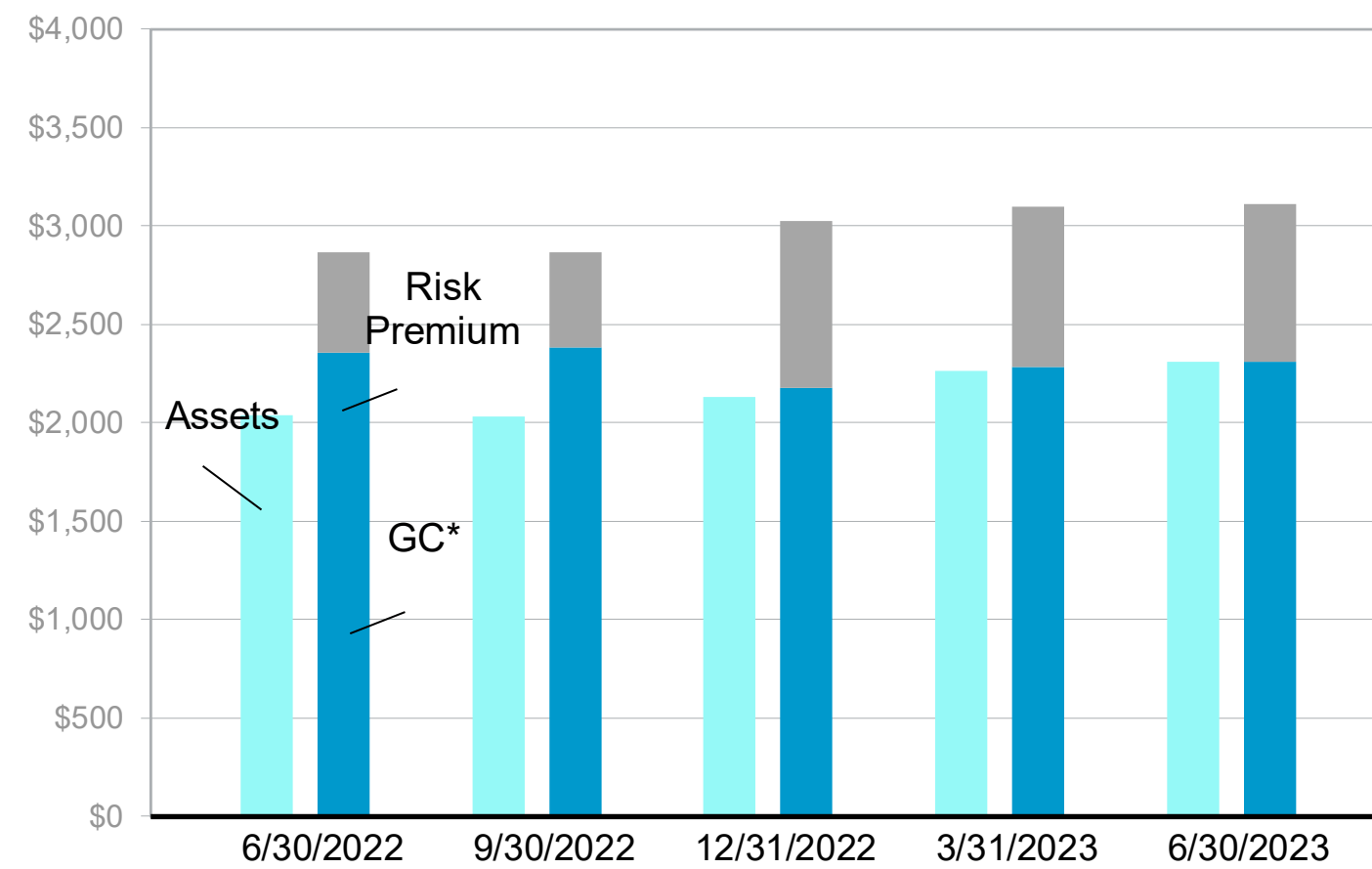


	Up 100bps	Inflation	Down 100bps
Market Value of Assets	\$2,307.5	\$2,307.5	\$2,307.5
Risk-Free Liability	\$3,455.0	\$3,112.8	\$2,823.1
Surplus/(Deficit)	(1,147.5)	(\$805.3)	(\$515.6)
Change		(\$342.2)	\$289.7

# Reconciliation of Risk-Free Benchmark and Going Concern Funded Status

Values in \$1,000,000 (CAD)

## Funded Status



\*Going Concern

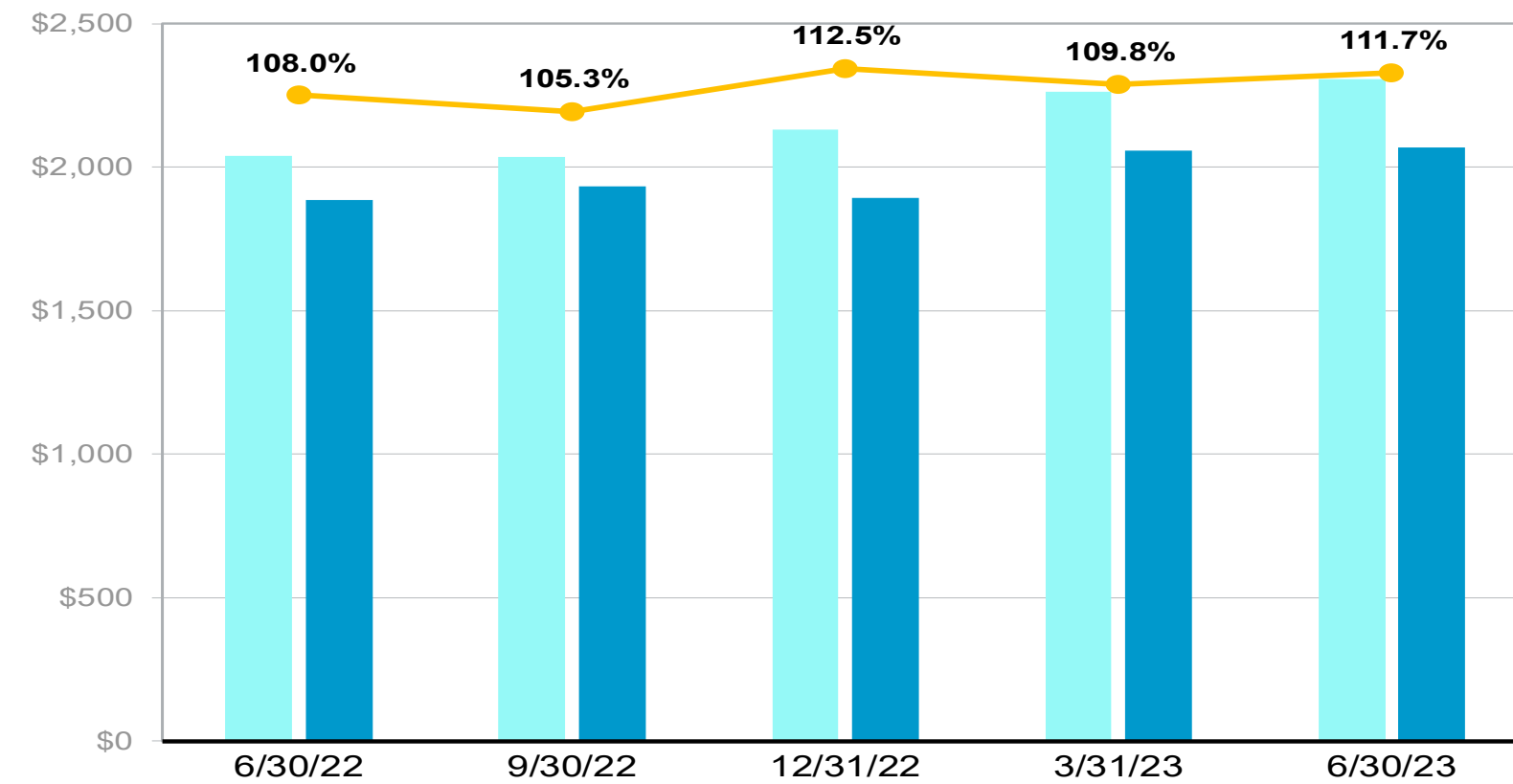
	6/30/22	9/30/22	12/31/22	03/31/23	06/30/23
Market Value of Assets	\$ 2,037.5	\$ 2,033.6	\$ 2,130.3	\$ 2,260.4	\$ 2,307.5
Going Concern Liability	\$ 2,353.8	\$ 2,384.4	\$ 2,177.8	\$ 2,284.2	\$ 2,312.5
Risk Premium	<u>511.1</u>	<u>478.6</u>	<u>848.1</u>	<u>816.5</u>	<u>800.3</u>
Risk-Free Liability	\$ 2,864.9	\$ 2,863.0	\$ 3,025.9	\$ 3,100.7	\$ 3,112.8

The difference between the Risk-Free Liability and the Going Concern Liability is a measure of the amount of risk premium on which the Pension Plan funding is based.

# Executive Summary – Solvency

Values in \$1,000,000 (CAD)

## Funded Status



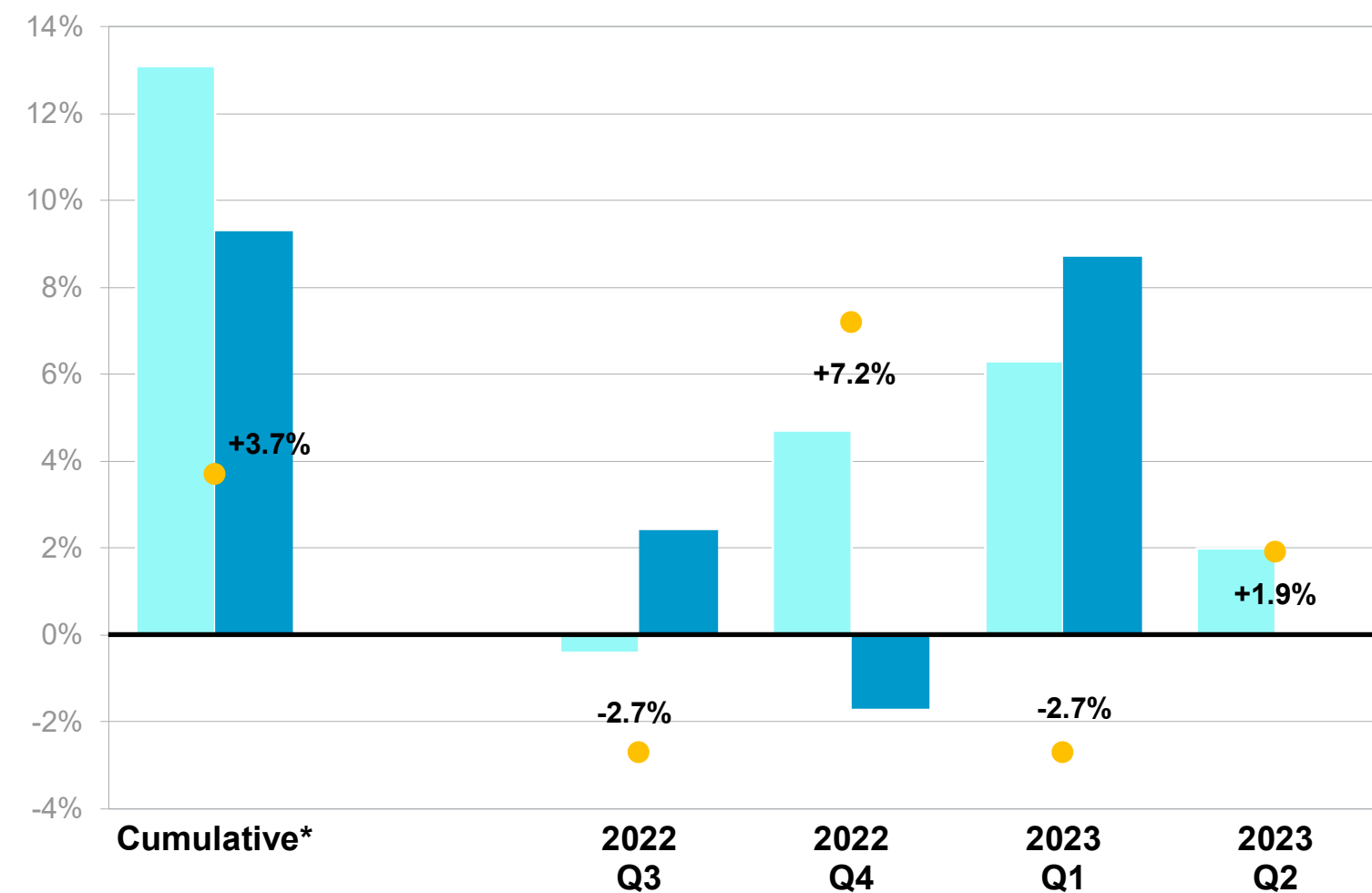
### Highlights for the Quarter-Ending 6/30/23

The plans' funded ratio increased to 111.7% at 6/30/23. This result was primarily due to the combined effects of:

- Better than expected asset returns and
- An increase in nominal interest rates which reduced liabilities by more than assets, offset by
- New benefit accruals that exceeded contributions,

	6/30/2022	9/30/2022	12/31/2022	03/31/2023	06/30/2023
Market Value of Assets	\$ 2,037.5	\$ 2,033.6	\$ 2,130.3	\$ 2,260.4	\$ 2,307.5
Solvency Liability	1,885.8	1,930.8	1,893.5	2,057.8	2,066.0
Surplus/(Deficit)	\$ 151.7	\$ 102.8	\$ 236.8	\$ 202.6	\$ 241.5
Periodic Contributions	\$ 27.1	\$ 27.9	\$ 28.1	\$ 18.8	\$ 28.5
Effective Interest Rate	4.62%	4.52%	4.76%	4.52%	4.61%
Funded Ratio:					
Assets/Solvency Liability	108.0%	105.3%	112.5%	109.8%	111.7%
Interest rate sensitivity:					
Assets	1.5	1.6	1.6	1.5	1.5
Solvency Liability	12.5	12.6	12.4	12.6	12.6

## Asset-Liability Return



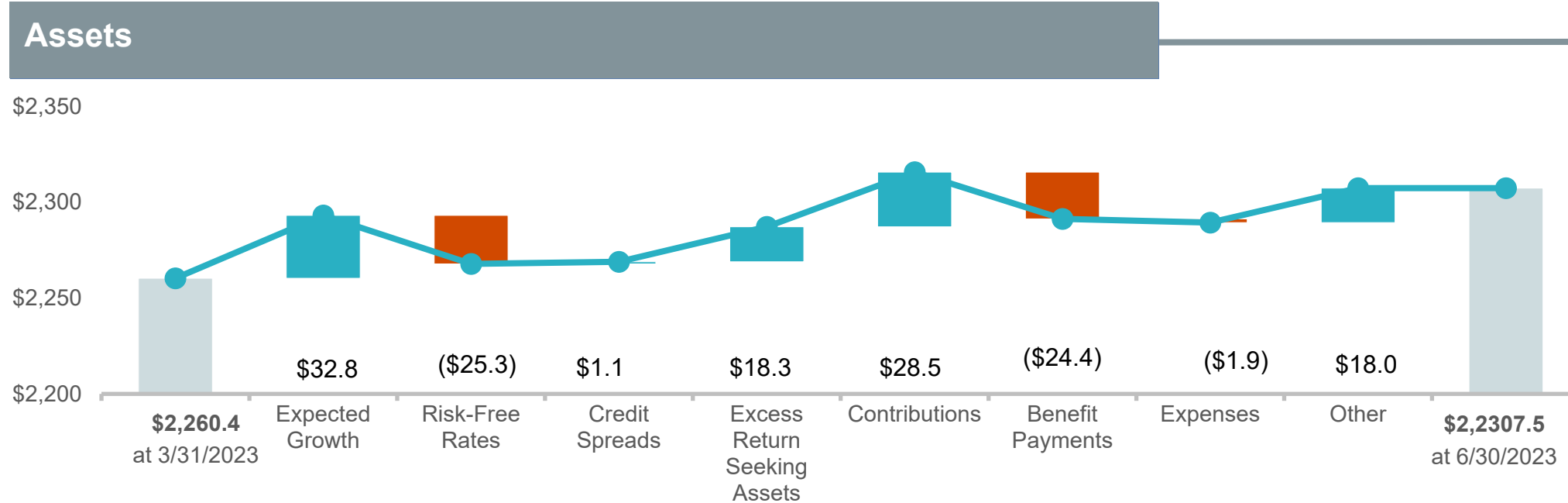
### Asset Liability Return for Quarter-Ending 6/30/23

Assets returned 2.0% during the quarter while liabilities returned -0.0%, resulting in a funded status decrease of 1.9%.

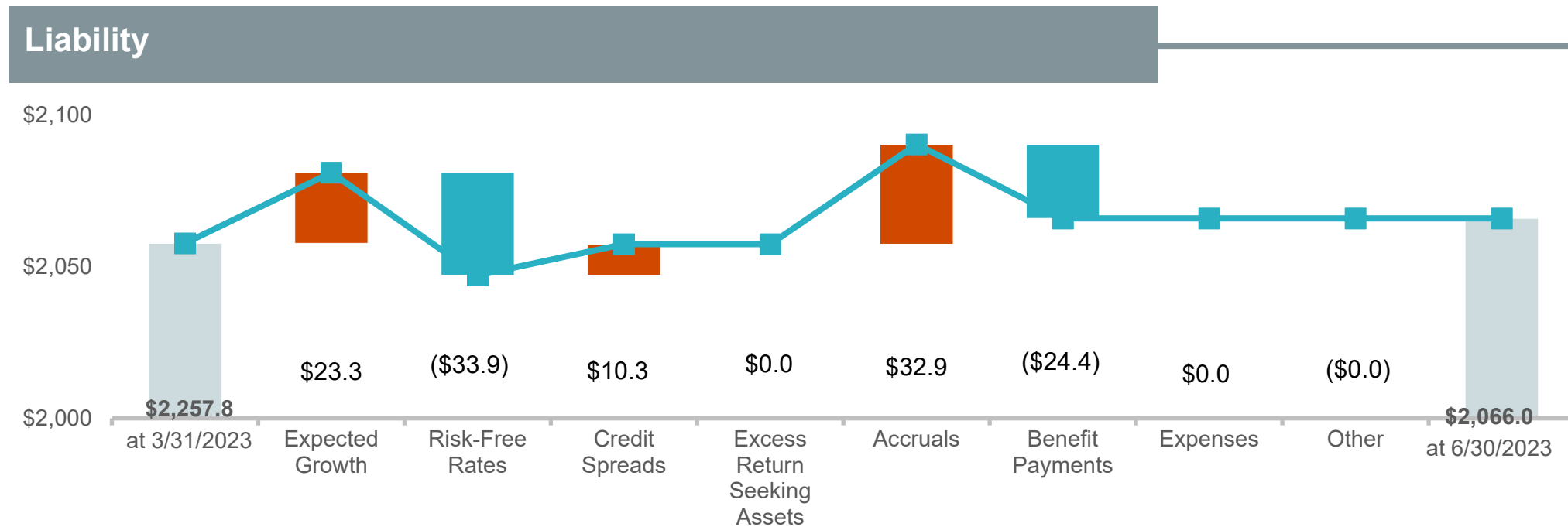
Periodic Return/Change	Cumulative	9/30/22	12/31/22	03/31/23	06/30/23
Market Value of Assets Return	13.1%	-0.4%	4.7%	6.3%	2.0%
Solvency Liability:					
Return	-9.3%	2.4%	-1.7%	8.7%	0.0%
Funded Ratio Change	3.7%	-2.7%	7.2%	-2.7%	1.9%

# Asset-Liability Performance Attribution – Solvency

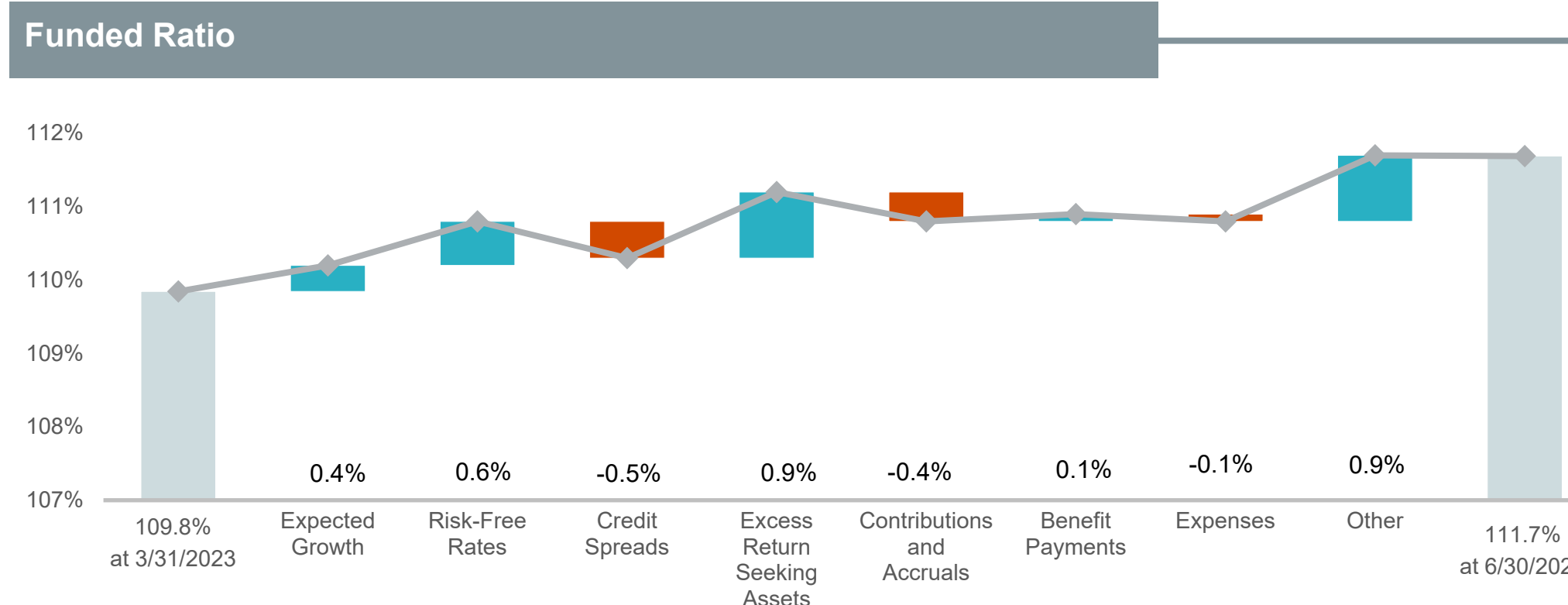
Values in \$1,000,000 (CAD)



- Overall, assets returned 2.0% during this quarter.
- The fixed income assets lost value due to an increase in the underlying risk-free rates, marginally offset by narrowing credit spreads.
- The plans' return-seeking assets performed better than expected during the quarter.
- The University and members made \$28.5 million in contributions during the quarter and the trust paid \$24.4 million in benefits to the participants.
- “Other” includes the impact of active management, and differences between benchmark and actual investment allocations.



- Liabilities were expected to grow by \$23.3 million due to interest cost during the quarter.
- Risk-free rates increased, and credit spreads narrowed, resulting in a net decrease of \$23.6 million (\$33.9 million - \$10.3 million).
- New benefit accruals increased the liability by \$32.9 million during the quarter.
- Plan liabilities decreased by \$24.4 million during the quarter as benefits were paid out.



- The difference in exposure to risk-free rates between assets and liabilities combined with changes in risk-free rates resulted in a increase in funded status of 0.6%.
- Return-seeking assets experienced gains during the quarter in excess of assumed, adding 0.9% to the plans' funded status during the period.
- Benefit accruals exceeded contributions during the quarter, resulting in a net decrease of 0.4% in the funded status.

# Appendix



# Plan Provisions & Membership Data



Plan Provisions and membership data are outlined in the Actuarial Valuation Results Presentation as of January 1, 2023.

# Actuarial Methods & Assumptions

Our analysis of the estimated financial position of the Pension Plan is based on the following:

	6/30/22	9/30/22	12/31/22	03/31/23	06/30/23
<b>Going Concern</b>					
Discount Rate	5.50%	5.50%	6.25%	6.25%	6.25%
Inflation	2.00%	2.00%	2.00%	2.00%	2.00%
Salary Increase	3.00%/4.00% <sup>1</sup>	3.00%/4.00% <sup>1</sup>	3.00%/4.00% <sup>1</sup>	3.00%/4.00% <sup>1</sup>	3.00%/4.00% <sup>1</sup>
PfAD	9.00%	9.00%	9.00%	9.60%	9.60%
Mortality	CPM2014Public	CPM2014Public	CPM2014Public	CPM2014Public	CPM2014Public
<b>Risk-Free Benchmark</b>					
Discount Rate (Net of inflation)	1.76%	1.84%	1.59%	1.74%	1.79%
<b>Solvency</b>					
Annuity Purchase Interest Rate	4.69%	4.64%	4.91%	4.63%	4.74%
Effective Date of Annuity Purchase Guidance Used	6/30/22	9/30/22	12/31/22	05/01/23	07/24/23
Lump Sum Value Interest Rate (Years 1-10) <sup>2</sup>	4.30%	4.30%	4.30%	4.10%	4.40%
Lump Sum Value Interest Rate (Years 10+) <sup>2</sup>	4.60%	4.30%	4.70%	4.50%	4.40%
Mortality <sup>3</sup>	CPM2014	CPM2014	CPM2014	CPM2014	CPM2014
<b>Underlying Canadian Reference Data</b>					
CANSIM v39054 (7 Year)	3.15%	3.19%	3.27%	2.86%	3.38%
CANSIM v39056 (30 Year Long Term)	3.14%	3.09%	3.28%	3.02%	3.09%
CANSIM v39057 (30 Year Real Return)	1.36%	1.44%	1.19%	1.34%	1.39%
CANSIM v39062 (Over 10 Years)	3.19%	3.14%	3.31%	3.03%	3.14%

<sup>1</sup> 3.00% per year for 1 year; 4.00% year thereafter

<sup>2</sup> Lump Sum Value Interest Rates are based on rates in effect on the first day of the month following quarter end (i.e., January 1st, April 1st, July 1st and October 1st).

<sup>3</sup> With improvement scale MI-2017 for Going Concern and Risk Free and CPM-B for Solvency.

All other assumptions and methods are the same as those shown in the Actuarial Valuation Results presentation as of January 1, 2023. For the Risk-Free Benchmark basis, all other assumptions and methods are the same as those used for the Going Concern basis.



# Actuarial Attestation

**This document is intended to provide the University of Waterloo with a summary of the performance of the Pension Plan as of June 30, 2023.**

This analysis is intended to assist the University of Waterloo with a review of the associated issues and options, and its use may not be appropriate for other purposes. This analysis has been prepared solely for the benefit of the University of Waterloo. Any further dissemination of this report is not allowed without the written consent of Aon.

In conducting the analysis, we have relied on plan design, demographic and financial information provided by other parties, including the plan sponsor. While we cannot verify the accuracy of all the information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy or completeness of the information and believe that it has produced appropriate results.

Experience different than anticipated could have a material impact on the ultimate costs of the benefits. In addition, changes in plan provisions or applicable laws could have a substantial impact on cost. Actual experience may differ from our modeling assumptions.

Aon  
August 2023

# Asset Allocation and Benchmarking

<b>Asset Class</b>	<b>06/30/23</b>
Alternatives	
• FTSE EPRA NAREIT DEVELOPED Total Return Index USD	2.9%
• MSCI USA Infrastructure Index	5.9%
Fixed Income	
• FTSE TMX Universe Bond Index	33.0%
International Equities	
• MSCI World Index	52.5%
• S&P TSX	5.7%
Total	100.0%

# Legal Disclaimer

© 2023 Aon Solutions Canada Inc. All Rights Reserved.

This document contains confidential information and trade secrets protected by copyrights owned by Aon. The document is intended to remain strictly confidential and to be used only for your internal needs and only for the purpose for which it was initially created by Aon.

No part of this document may be disclosed to any third party or reproduced by any means without the prior written consent of Aon.

