A Steadfast Vision

2022 annual report

UNIVERSITY PENSION PLAN ONTARIO

Land acknowledgement

We respectfully acknowledge that we live and work on the traditional territories of many nations, including the Mississaugas of the Credit, the Anishinaabeg, the Chippewa, the Haudenosaunee and the Wendat peoples. These lands fall within the territory protected by the "Dish With One Spoon" wampum treaty agreement. That wampum uses the symbolism of a dish to represent the territory, and one spoon to represent that the people are to share the resources of the land and take only what they need. It is home to many past, present, and future First Nations, Inuit, and Métis peoples. Our acknowledgment of the land is our declaration of our collective responsibility to this place and its peoples' histories, rights, and presence. We are grateful to be able to live, learn, and meet on these lands.

Delivering valuable, lifelong pension security

After more than a decade of collaboration by Ontario's university sector, University Pension Plan (UPP) launched on July 1, 2021, as a multi-university jointly sponsored pension plan (JSPP). We are honoured to continue the work of our founders and deliver their vision.

Today, we proudly serve over 39,000 working and retired members across four Ontario universities and 12 sector organizations and manage $10.8 billion in pension assets. Contributions to the Plan are funded equally by members and employers.

UPP is a sector-wide plan designed to welcome all Ontario university sector employers and employees. Our commitment is to protect the security and sustainability of members' pensions while providing service excellence.

2022 at-a-glance

As at December 31, 2022

103.3%
funded
with a $0.4B surplus[1]

$10.8B
net assets
-9.1% annual rate of return

$551M
total pension benefits paid in 2022

[1] On a smoothed asset basis

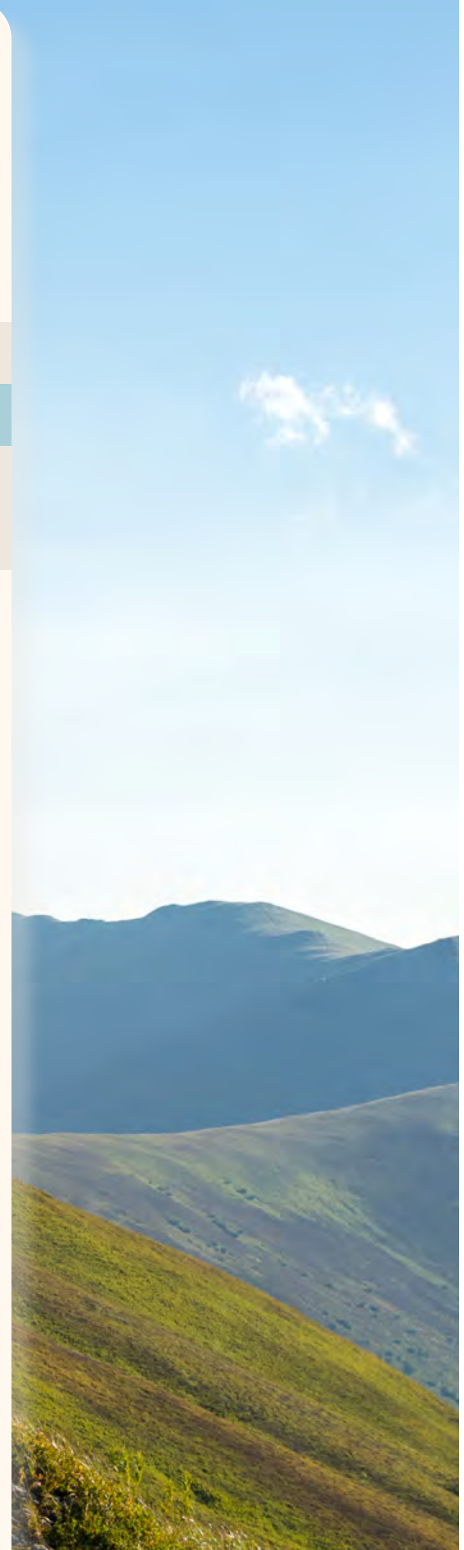
[2] Based on data at October 31, 2022

Welcomed four new participating organizations and over 2,000 new members[2]

39,000+	4	12
members	participating universities	participating sector organizations

- Established our three-year strategy to enhance Plan sustainability, deliver service and operational excellence, and welcome new members
- Transitioned all pension assets to UPP and began shaping a resilient fit-for-purpose fund
- Began building UPP's progressive, member-driven service approach

UPP's President and CEO, Barbara Zvan, was named Canada's CEO of the Year and Corporate Citizen of the Year 2022 by the Globe and Mail's Report on Business magazine.



Letter from the Chair

Gale Rubenstein, Board Chair

As Chair of UPP's Board of Trustees, I am pleased to share UPP's second annual report, delivered as UPP marks our first full year of operations as Ontario's newest jointly sponsored pension plan. UPP is a plan designed specifically for its sector, providing best-in-class retirement benefits while meeting the needs of university employers and employees alike—with stability and security being foremost among those needs.

This past year saw soaring inflation, economic volatility, and geopolitical risk that presented profound challenges to all participants in the university sector and to investors globally. Despite these headwinds and lower returns than our inaugural year, UPP finished 2022 fully funded and well positioned to continue providing lifelong, predictable pension security for members. Our commitment to delivering the pension promise today, and for generations to come, remains steadfast.

Progress in challenging times

The Board is proud of UPP's achievements this year, building out key capabilities to ensure long-term excellence in service as well as security for our members. UPP adopted a three-year strategy, welcomed new employers and members, launched our Climate Action Plan, and made meaningful progress in developing a pension administration system that will provide both high-quality and innovative service to our members. UPP also completed the transition of assets from participating universities into one cohesive and cost-efficient fund and adopted an asset strategy appropriate for a plan of UPP's size.

Environmental, social, and governance (ESG) factors, particularly climate risk, continue to be a major focus for the Board. Over the past year, we have taken steps to ensure ESG is embedded in our approach across the organization and formalized Board oversight and mandates in these areas. We believe this work is imperative to meeting UPP's fiduciary duty over the long-term by reducing uncertainty and risk and maximizing our return-generating potential. The Board strongly supports the targets and goals set by UPP's Climate Action Plan and is proud of the significant strides that have already been made.

Fostering a strong culture

Strong, dynamic cultures don't happen by accident–they require intentional work to ensure desired values are lived each day, and to ensure those values are delivering results for members. The Board understands equity, diversity, inclusion, and reconciliation (EDI & Reconciliation) is not just a core value, but a business imperative. Diverse teams, perspectives, and lived experiences contribute to a better, more engaged workplace and to better decisions in service of our members. This year, UPP made great strides in advancing key cultural areas including EDI & Reconciliation, developing a roadmap with milestones against which progress can be measured and instituting practices and traditions that have become part of the fabric of life at UPP. We recognize UPP's EDI & Reconciliation journey is just beginning and can never be taken for granted.

Good governance

The Board is committed to setting and upholding the standard for good governance on behalf of our over 39,000 members. My fellow Trustees and I are united by our shared commitment to bring diverse skills and experience to bear while delivering excellence for members, and I would like to thank them for their dedication, insights, and hard work over the past year.

I would also like to thank our departing Board members, Shelia Block and Helen Sinclair, for their countless contributions and wise counsel during UPP's launch and build period. In their stead, we were pleased to welcome two new Board members, Laura Brownell and Pierre G. Piché. They are experienced leaders in the pension and academic realms respectively, who bring the necessary expertise and experience to help serve the Plan in an evolving and complex landscape.

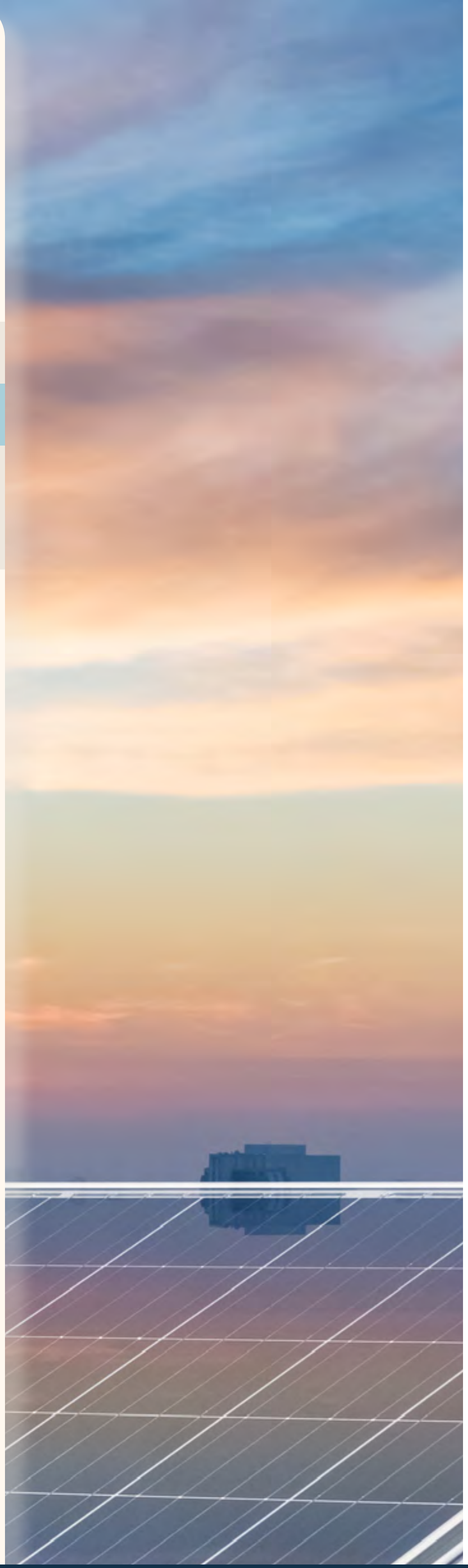
My gratitude extends to UPP's Joint Sponsors for their continued support, invaluable contributions, and partnership in service of UPP's members. We're proud to work in concert with the Joint Sponsors to ensure the Plan is run efficiently, strategically, prudently, and in the best interest of all Plan members, exemplifying best practices as set out in the joint governance model. In 2022, Cynthia Messenger concluded her term as a representative on the Employee Sponsor Committee. I offer my sincere thanks for her unwavering commitment and efforts in helping to create UPP from our earliest stages, as well as her contributions as a Joint Sponsor. We welcomed Lisa Kramer as a new employee representative, appointed by the University of Toronto Faculty Association.

Barbara Zvan and UPP's entire Executive Leadership team have demonstrated exemplary leadership and agility in balancing the short-term foundational needs of an organization with the long-term vision needed for a pension plan. We have full confidence in their ability to deliver progress against UPP's organizational strategy and continued success for UPP's members.

This exceptional leadership did not go unnoticed outside the organization, as Barbara was honoured by the Globe and Mail's Report on Business magazine as both Corporate Citizen and CEO of the Year in 2022. On behalf of the Board, I would like to congratulate Barbara for these well-deserved awards. Her tireless efforts as an ambassador for defined benefit pensions and a sustainable finance advocate are an inspiration for us all at UPP.

It is truly an honour to serve the Plan and help strengthen defined benefit pensions in the university sector across Ontario, as we all work toward a bright future.

Gale Rubenstein, Chair, UPP Board of Trustees



Letter from the CEO

Barbara Zvan, President and Chief Executive Officer

I am pleased to share our second annual report, with reflections and highlights from UPP's first full operating year. As we continue to establish UPP as a trusted plan for Ontario's university sector, our utmost priority is, as always, ensuring our members have a sustainable and predictable pension to rely on. Our annual report provides an important opportunity to share progress against our short- and long-term objectives and transparency into our decisions as we deliver on our promise of pension security for members today and tomorrow.

Market conditions

This past year brought unprecedented challenges for individuals and investors alike, with far-reaching impacts. While conditions like these can certainly be stressful, I want to assure our members there is no impact to the security of their pensions. Despite a drop in net assets in 2022, the Plan maintained a healthy funding and liquidity position, staying well-equipped to pay members' pensions today and over the long term.

While we take short-term investment performance seriously, UPP's investment strategy is purposely designed for long-term results. Over the last 12 months, UPP's team has worked hard to complete the foundation of our investment approach, putting the building blocks in place to ensure our portfolio meets or exceeds the needs of members today and in the years ahead. Looking forward to 2023 and beyond, we are primed to make new investments and take advantage of opportunities to create added value for the portfolio in a changing economic landscape.

Foundational growth

In 2022, the remainder of the assets from UPP's founding universities were successfully transitioned and integrated into one fund, marking the start of our cohesive total fund approach. A total fund approach brings many benefits for members, as set out in the creation of UPP as a sector plan. It allows for increased internal management, which in turn brings cost savings, greater transparency, and ultimately control—all important factors for long-term success. With this milestone achieved, UPP's Investment team has begun to implement its strategy and explore new investment opportunities, particularly in private markets and inflation-protected assets.

Growth continues to be an integral part of the path ahead: growth in our capabilities, and growth in our membership. As a sector-wide plan, UPP remains committed to bringing greater retirement peace of mind to as many people as possible within the university sector. To that end, we were thrilled to welcome four new participating organizations to the plan in 2022. We've also had many positive discussions with other groups as to how UPP can bring enhanced value through the benefits of scale, increased access to private markets, more comprehensive responsible investing capabilities, and the accountability and transparency of joint governance.

Organizational maturation

The past year was also marked by significant progress in UPP's maturation as an organization. With our 2022–2025 organizational strategy now in place, we are establishing the foundations for service, investment, and operating excellence.

As we work to complete our member services infrastructure and prepare to deliver a full suite of exceptional member services, I want to recognize the role of member feedback in shaping our approach—both today and in the future. The voices of our members continue to be important inputs, helping ensure we meet and exceed their needs at every point in the pension journey. Prior to beginning our search for a partner to help build our pension administration system, we embarked on a two-part member engagement series throughout 2021 and 2022 to better understand our members' expectations, values, and priorities.

With these necessary insights from surveys and town halls in hand, we selected Vitech as our partner in creating a secure, digitally enabled pension administration platform, with enhanced tools and self-service features. With Vitech on board, the development work is well underway to ensure a seamless transition in service for employers and members alike. We will continue to share progress on this transformational project in the months ahead.

Last year, we introduced our commitment to achieve net-zero portfolio emissions by 2040 or sooner via our Climate Action Plan, with an emphasis on decarbonizing the real economy. We see this systems-level approach as an essential step in meeting our fiduciary duty to our members, ensuring that every decision we make contributes to the Plan's sustainability and the health of the capital markets on which our fund relies. Since launching the Climate Action Plan, we've made considerable progress in its implementation, including the development of our Climate Transition Investment Framework, which will allow us to evaluate the transition alignment and readiness of our current portfolio and new investment opportunities, set a target for climate solution investments, and refine our approach to climate-related investment exclusions. We look forward to introducing this framework and our climate solution targets in 2023.

At UPP, we know that every team member is deeply connected to our purpose of bringing greater retirement peace of mind to the university sector by investing with integrity and serving members with care. This shared purpose unites and motivates the team, creating the foundation for a thriving and inclusive culture, where all employees feel embraced, rewarded, and empowered to perform at their peak. In 2022, we made important progress in the build of our intentional culture, including conducting employee engagement and culture surveys to ensure our core values and behaviours position the organization for future success.

Stronger together

I would like to take this opportunity to thank UPP's Board of Trustees and Joint Sponsors for their continued wisdom, dedication, and partnership in supporting both the organization and our members. Shared governance is a cornerstone of any jointly sponsored pension plan, and their contributions have helped ensure UPP is a strong and resilient organization today, and for generations to come.

Finally, the many achievements of the past year would not have been possible without all the hard work, dedication, and collaboration from my UPP colleagues. I know each member of the entire UPP team shares the commitment to strengthening pension security for our over 39,000 members and their communities across the province. I look forward to achieving many more milestones together in serving our members in the years ahead.

Barbara Zvan, President and CEO

STRATEGIC PLAN

UPP's strategic plan (2022-2025)

UPP was designed to deliver a best-in-class defined benefit pension that meets the unique needs of university employers and employees. Our 2022-2025 organizational strategy is our blueprint as we build the foundations for a resilient, high-performing Plan for members while establishing UPP as the trusted pension plan for Ontario's university community.

In developing our strategic plan, we engaged with our members and Plan Sponsors (including university employers, faculty associations, and unions) to ensure we understood their needs and experiences, as well as their expectations of UPP.

Our strategy is led by UPP's experienced Executive Leadership team and overseen by our highly qualified Board of Trustees. Progress is regularly measured and reported, and key developments are captured in our annual reports.

Serve our members

Deliver proactive, digitally enabled services that exceed member expectations

Invest for the future

Design a dynamic, purpose-driven investment program with pension security at the core

Realize sector growth

Build trust and transparency with the diverse university community and welcome new Plan participants

STRATEGIC PILLARS

Build for resilience

Future-proof operations and technology while responsibly managing costs

Foster Our culture

Build an intentional, thriving culture underpinned by our purpose-driven people

Lean Into ESG[3]

Foster a financially, socially, and environmentally sustainable future for members in all we do

END-TO-END FOUNDATIONS

[3] Environmental, social, and governance factors

Putting our strategy into action

With guidance from the Board of Trustees, UPP advanced key projects and strategies in 2022 to operate the Plan efficiently and further develop our investment and member service capabilities.

Serve our members

At the heart of our strategy is a commitment to offer distinctive pension service to all Ontario university employers and employees. The development of our digital pension administration platform is underway and will bring members and participating organizations proactive, personalized service through leading systems, tools, and techniques.

We continued our member survey and discussion series in early 2022 to understand Plan members' expectations, values, and priorities about two core aspects of their pension journey: member experience and the investment of their assets. The collective dialogue helps us build to meet members' needs and inform our strategies and foundations. Engagement and consultation remain core aspects of our member relationship. Learn more about member engagement on our website.

Member and employer contribution rates remain unchanged in 2022, and pensioners, survivors, and dependents in pay received an inflation protection increase to the post-conversion portion of their pensions of 4.75% in 2023. Together, these measures of stability reinforce the strength of a defined benefit pension in certain and uncertain times.
Learn more about our member-driven approach.

Invest for the future

In April 2022, UPP finalized the transition of assets belonging to our founding universities, thereby becoming fully responsible for managing all Plan assets. Against a challenging backdrop, our Investment team maintained focus on unbundling and optimizing the individual asset pools into one unified and purpose-driven fund that will secure members' pensions for the long term and generate stable returns in a changing world.

> As a pension plan, UPP has purposefully designed our investment strategy for long-term results, meaning we can withstand—and draw opportunity from—short-term fluctuations while continuing to create sustainable value for members.

In transitioning toward our target asset mix, we are priming the fund for new investment opportunities and diversifying into asset classes with beneficial characteristics for the Plan, such as private, inflation-hedging real estate and infrastructure. We are also leveraging our scale to build in-house investment capabilities, bringing cost savings and greater transparency and control—all key benefits that UPP was designed to provide to our members.
Learn more about our investment approach.

Realize sector growth

In 2022, UPP welcomed four new participants to the Plan, bringing our membership to four universities and 12 sector organizations. We now have member participation from a wide range of employers across the university sector, including unions, faculty members, faculty association staff, and others, such as academic publishers and research groups.

We also established a dedicated Engagement team that is engaging with groups across Ontario's university sector about their pension experiences and needs, in an effort to understand how UPP could best serve those needs and—by extension—best serve our current members. UPP's Engagement team houses decades of experience in the university sector in both the administrative and labour relations realms. Meet the Engagement team.

We look forward to continued dialogue and partnership with employers, unions, faculty associations, and others throughout the university community.

Build for resilience

UPP is laying the foundations for resilient performance, operational excellence, and growth—a strategic imperative we call "build for resilience". These intelligent, scalable structures and systems will evolve with our organization and create lasting value while helping us safeguard members' assets and information and actively manage risk. The work includes the development of UPP's risk, technology, and data platforms. Learn more about UPP's technology and delivery approach and our risk approach.

Foster our culture

As a purpose-driven organization, UPP needs to deliver strong outcomes for our members. We believe that supporting people to do their best work benefits everyone. To that end, we commit to creating a culture that attracts, retains, and inspires world-class talent—and an environment where all employees feel empowered, rewarded, and encouraged to reach their highest potential.

In 2022, we conducted employee engagement and culture surveys to help us understand and adapt to the evolving needs of our workplace and our people as we shape our culture and evolve our competitive total rewards program. Learn more about UPP's total rewards program.

We continue to make significant strides on our Equity, Diversity, Inclusion, and Reconciliation program and three-year roadmap, with the belief that diverse teams, perspectives, and lived experiences contribute to better decisions and stronger outcomes for our members. Learn more about UPP's people and culture.

EXPERIENCED LEADERSHIP

UPP is home to a diverse team of cross-functional experts, including those with experience establishing Canada's largest pension plans. In 2022, we added key roles in areas critical to our strategy, to bring dedicated leadership, enhance our operating capabilities, and deepen our in-house expertise. This included two new executive leaders who will guide execution against our "build for resilience" and "realize sector growth" strategy objectives, Brian Gill and Kathy Johnson.

Lean into ESG

As a long-term investor, we must take meaningful action to create sustainable value through evidence-based practices. That's why sustainability is a comprehensive focus across UPP—in how we both invest and operate as an organization—and a fundamental lens through which we derive and protect value for members.

> We know that companies are more sustainably profitable and resilient when they prepare for and act on the issues transforming our world. We will not only invest in these companies—we will be one.

Three key factors drive our focus on ESG in our investments, organizational practices, and culture:

- We subscribe to the evidence-based[4] view that an ESG lens helps better assess and create value, identify differentiated opportunities, and drive stronger long-term financial performance.
- As a pension fund with generational responsibilities, we rely on a healthy, functioning market, society, and environment to help us deliver sustainable value to current and future members.
- ESG matters to our member community and employees, who want to know that their pension delivers secure, lifelong income certainty while making a positive impact on the world.

> In March 2022, UPP launched an investment survey and held interactive discussion forums with Plan members on the role of responsible investing in their pension investments. The majority of respondents identified responsible investing, and climate risk management in particular, as a priority and an important driver of financial returns.

Committed to a net-zero portfolio by 2040 or sooner

In mid-2022, we introduced our Climate Action Plan detailing UPP's commitment and path to net-zero portfolio emissions by 2040 or sooner, with an emphasis on decarbonizing the real economy. We see this systems-level focus as essential in meeting our fiduciary duty to our members, ensuring every decision we make contributes to the Plan's sustainability and the health of the capital markets on which our fund relies. We have since made considerable progress on implementing the Action Plan's four pillars: Evaluate, Invest, Engage, and Advocate. We will continue to ensure that our Action Plan execution is backed by clear and transparent plans and timelines and measurable targets that demonstrate a path to success.

Read more about UPP's progress against our Climate Action Plan.

UPP's organizational sustainability strategy

UPP is developing an organizational sustainability strategy to identify material sustainability topics that we plan to manage within our own operations (e.g., office facilities, people management, data and technology systems), separate from our investment practice. This distinction acknowledges the need to advance sustainable operational practices outside of investing and to model our expectations of our investee companies in helping us deliver resilient long-term value to members.

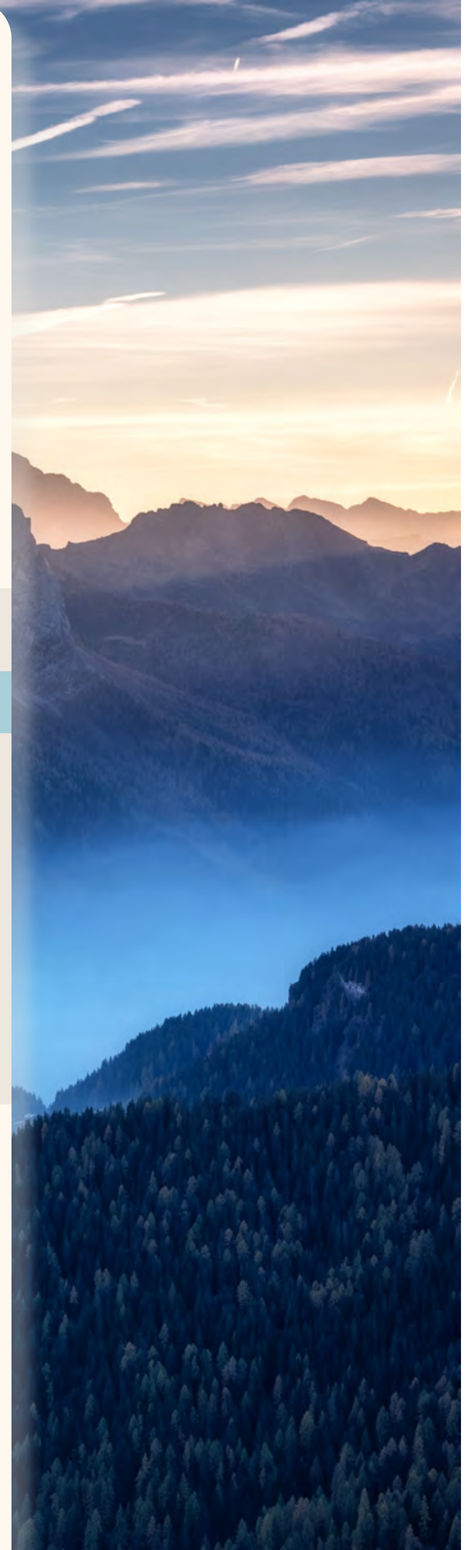
Starting in 2023, we will be seeking input from UPP's employees, who collectively create UPP's culture and will be involved in the implementation of the strategy, our strategic partners; and the broader university sector.

[4] See, for example, ESG and Financial Performance: Uncovering the Relationship by Aggregating Evidence from 1,000 Plus Studies Published between 2015 – 2020 and many individual studies compiled by the Principles for Responsible Investment, NYU/Stern, and the Institute for Sustainable Finance.

Management's discussion and analysis

Management's Discussion and Analysis (MD&A) provides commentary on UPP's 2022 activities and performance, as a complement to the financial statements.

EXPLORE SECTIONS



PLAN FUNDING

A pension promise spanning generations

A sustainable plan is one where all current and future members receive secure, stable retirement benefits at a reasonable and predictable cost. That is our commitment.

2022 HIGHLIGHTS

103.3%
funded status[5]

5.45%
discount rate

$0.4B
funding surplus[5]

$551M
in pension benefits paid to members

[5] On a smoothed asset basis

Delivering Plan sustainability

Plan sustainability requires a careful balance between the liabilities (cost of current and future pensions) and assets (member and employer contributions plus investment returns), which can vary with economic conditions and plan demographics.

The **funded status** (or funded ratio) is a key indicator of the balance between these aspects at any one time. It indicates whether the Plan as a whole has enough assets to fund all future pension obligations, assuming it continues indefinitely. It is one of the most important measures of the Plan's current and long-term financial health.

We apply a number of measures and tools to maintain Plan sustainability with stable benefits and contributions over time.

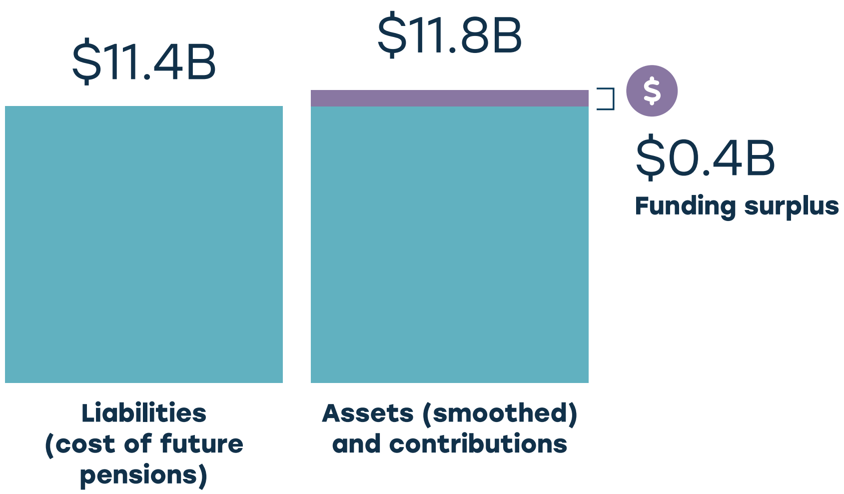
Actuarial valuations—a steady view of Plan health

Regular actuarial valuations provide point-in-time assessment of the Plan's financial health, based on a range of assumptions and in line with the Canadian Institute of Actuaries' standards about future trends and events.

Every three years, at a minimum, the Joint Sponsors must file a funding valuation with regulators showing the Plan to be at least 100% funded. Whether or not the Joint Sponsors decide to file in any one year, UPP produces an annual funding valuation to maintain a line of sight to the Plan's financial health and will disclose this information in our annual report. Valuations are considered preliminary until filed with pension regulators. View UPP's latest filed valuation at January 1, 2022.

FUNDED STATUS AT DECEMBER 31, 2022[6]

Valuation results for year-end 2022 show that the Plan remains fully funded. The decision on whether to file the valuation rests with the Joint Sponsors.



[6] Based on the January 1, 2023, valuation

Funding valuations use a variety of economic and demographic assumptions, which are sensitive to changes in our Plan and external experience and must be reviewed each year. In consultation with our Plan Actuary, we conducted a comprehensive review of the assumptions for the January 1, 2023 valuation (on which the December 31, 2022 funded status is based) to ensure their appropriateness in the current environment. This analysis resulted in three actions:

1. **Adjusted the short-term inflation assumption: While UPP's discount rate level remains unchanged, the underlying inflation assumption was adjusted from 2.0% to 3.5% in 2023 to reflect our expectation for heightened medium-term inflation. Inflation assumption will change to 2.25% in 2024 and 2.00% for 2025 and beyond.**

2. **Introduced asset smoothing: Asset smoothing is an actuarial method commonly used by JSPPs[7] to ensure that contribution and benefit levels are not unduly influenced by point-in-time market volatility. Through this method, investment gains and losses are spread over five years (the length of a typical economic cycle) to reflect a more even, long-term view of performance, which better aligns with the Plan's investment horizon.**

   > Funding liabilities are also considered to be smoothed because discount rate assumptions are measured over a long time horizon (20 to 30 years) and not one point in time.

   A fair value basis uses the market value of UPP's assets at year end, reflecting the point-in-time price a given asset would reasonably sell for on the open market. Because markets (and our investment returns) vary each year, this basis results in a funded status that also fluctuates year over year, providing a less stable basis for funding decisions. On a fair value basis (without smoothing), the Plan was 94.3% funded due to inflationary impacts and lower than expected investment returns in 2022.

3. **Maintained a steady discount rate: The primary economic valuation assumption, the discount rate, is set annually by the Board of Trustees. It reflects the long-term expected rate of return on investments net of expenses and a provision for risk. The Board introduced a risk provision in the January 1, 2023, valuation, resulting in a steady discount rate of 5.45% for 2022.** See UPP's January 1, 2022 valuation for further detail.

Get more information on the discount rate and other valuation assumptions.

Changes in surplus

(preliminary, CAD $millions)	2022
Opening surplus	**1,191.9** 111% funded ratio
Interest on surplus	64.9
Investment losses (relative to expected fund return)	(1,763.2)
Liability and other losses	(113.9)
Assumption changes (asset smoothing, inflation, and interest-rate related changes)	999.2
Ending surplus	**378.9** 103% funded ratio

[7] Most Canadian JSPPs apply asset smoothing, including Alberta Teachers' Retirement Fund (ATRF), Colleges of Applied Arts and Technology (CAAT) Pension Plan, Healthcare of Ontario Pension Plan (HOOPP), Ontario Municipal Employees Retirement System (OMERS), Ontario Teachers' Pension Plan (OTPP), OPTrust, and others.

[8] UPP's July 1, 2021 inception valuation used a nominal discount rate of 5.6%, as set by the Joint Sponsors in establishing UPP's Sponsors' Agreement. After careful deliberation and discussion with the Joint Sponsors, the Board reduced the nominal discount rate to 5.45% to reflect the evolving market outlook and UPP's consolidated liability and investment profile. The revised discount rate is reflected in the December 31, 2021 funded status and UPP's 2021 financial statements.

Asset-liability analysis

UPP uses comprehensive asset-liability (AL) modelling to understand the Plan's long-term dynamics and potential outcomes and support strategic, sustainability-driven decisions. These AL studies bring together all important aspects of the Plan to simulate possible funding outcomes under thousands of economic scenarios, including the high-level impacts of Plan amendments. Regular AL modelling allows us to stay ahead of potential challenges that could impact our sustainability and helps closely align the investment portfolio with the pension commitments it is built to fund, all to help maintain a stable Plan experience over time.

Joint Sponsors' Funding Policy

Delivering a strong and stable plan in a changing world requires prudent governance. In the event of a funding surplus or deficit, the Joint Sponsors' Funding Policy provides a decision-making framework for maintaining or bringing the Plan to a fully funded status.

The guiding document is based on sound actuarial and economic principles and contains specific provisions to promote Plan sustainability and maintain stable contributions and benefit levels.

Transitioned risk sharing is a key design element of the Plan and a sustainability provision in UPP's Funding Policy. All new plans entering UPP must be fully funded or establish a payment schedule to become fully funded over an agreed-upon initial period, subject to pension legislation. Over the long term, Plan risks—including funding risk—are shared equally and addressed jointly between Plan members and employers. This phased mechanism was designed specifically to ensure no negative impact to Plan members arising from past service liabilities brought into UPP by organizations joining the Plan, including those brought in by the founding universities.

The Joint Sponsors' primary funding levers are contribution levels, pension benefit levels, and conditional indexation. Changes to these elements are subject to consensus between the Joint Sponsors, who carefully consider and balance these components with long-term sustainability at the forefront of every decision.

Contributions: Our Joint Sponsors strive to keep UPP contribution rates stable. Rates have not changed since UPP's inception and will remain at the current level until at least 2026, unless the Joint Sponsors decide to file a valuation with the regulator that includes provision for a contribution rate change before 2026.

Defined benefit: Our commitment is to provide members predictable and stable lifetime pension income that contributes to a secure retirement.

Funded conditional indexation: Indexation is an adjustment to a pension in pay to account for the increase in the cost of living over time, based on the key economic indicator, the Canadian Consumer Price Index (CPI). UPP's target is to provide inflation protection for at least 75% of the annual increases in CPI over the long term, conditional on the Plan's financial health. Our funding is structured to deliver this benefit over the long term and, as such, indexation at 75% is assumed for the full horizon of our valuations.

> In 2023, pensions in pay for UPP's retired members, survivors, and dependents were indexed at the full 75% for UPP service accrued on and after July 1, 2021, meaning a 4.75% increase to the post-conversion portion of their pensions.

According to UPP's Plan Terms, cost of living adjustments at 75% of CPI are guaranteed for UPP pensions (applying to service rendered after joining UPP) until January 1, 2028. After that date, decisions on changes to the indexation level rest with the Joint Sponsors. When indexation increases are made, pension payments already in pay never decrease, but there could be future periods where annual indexation increases are less than 75% of CPI.

INVESTMENT OVERVIEW

$10.8B
net assets

-9.1%
annual net rate of return

3.3%↗
above median defined benefit pension returns in Canada[9]

Q4 Performance

2.3%
net return

$201M
net income

Committed to net-zero portfolio emissions by 2040 or sooner with interim targets

INVESTMENT PERFORMANCE

Investing for the future

Our investment program has one goal: to earn sufficient long-term returns, at an appropriate level of risk, that will deliver secure, stable retirement income to our members today and tomorrow.

Note: This annual report reflects two investment periods for UPP: 1) January 1–March 31, 2022, during which UPP managed the merged assets from Queen's University, the University of Guelph, and Trent University, and University of Toronto assets were managed under agency, and 2) April 1–December 31, 2022, during which UPP managed all portfolio assets.

[9] Based on a sampling of public sources, the annual average net return among Canadian DB pension plans in 2022 was -12.4% (RBC Investor & Treasury Services, January 2023, reporting -10.3%; Northern Trust Pension Universe Data, January 2023, reporting -12.8%; Financial Services Regulatory Authority of Ontario Quarterly Update on Estimated Solvency Funded Status of Defined Benefit Pension Plans in Ontario, December 2022, reporting -14.1% for plans subject to solvency funding).

A secure fund in an extraordinary time

The global investment environment we operate in today remains complex and challenging, with record levels of volatility generated by major disruptions and structural trends. Public markets had a historically tough year in 2022, with double-digit losses in both equities and fixed income securities. While market turbulence is not new, it is rare for bond and equity markets to fall at the same time, and the volatility was further exacerbated by levels of inflation coming out of 2021 not seen since the 1970s. The portfolio posted a 9.1% net loss in 2022, outperforming median defined benefit pension returns in Canada by 3.3%.[10] Performance primarily reflects UPP's transitional portfolio state amid the strained macroeconomic environment.

While we never want to incur negative returns, our focus is sustainable long-term performance and a well-funded Plan that delivers benefit and contribution rate stability through time. Despite last year's backdrop, the Plan maintained a healthy funding and liquidity position, staying well-equipped to pay members' pensions over the long term and agile to investment opportunities as markets evolve.

In 2022, we maintained a resolute focus on completing the foundation of our investment approach, putting the building blocks in place to ensure our portfolio meets the needs of members today and in the years ahead.

103.3%
funded[11]

$0.4B
funding surplus[11]

As a pension plan, UPP has purposefully designed our investment strategy, meaning we can withstand–and draw opportunity from–short-term fluctuations while continuing to create sustainable value for members in a changing economic landscape.

[10] Based on a sampling of public sources, the annual average net return among Canadian DB pension plans in 2022 was -12.4% (RBC Investor & Treasury Services, January 2023, reporting -10.3%; Northern Trust Pension Universe Data, January 2023, reporting -12.8%; Financial Services Regulatory Authority of Ontario Quarterly Update on Estimated Solvency Funded Status of Defined Benefit Pension Plans in Ontario, December 2022, reporting -14.1% for plans subject to solvency funding).

[11] On a smoothed asset basis. Smoothing is an actuarial method commonly used to ensure that contribution and benefit levels are not unduly influenced by point-in-time market volatility.

2022 investment overview

2022 was a difficult macroeconomic environment to invest in, marked by the continued impacts of the COVID-19 pandemic, geopolitical unrest, supply chain imbalances, and aggressive global policy response to historic levels of inflation, low growth, and volatility.

> In many ways, the 2022 economic course was driven by trends from late 2021, with inflation spiking to multi-decade highs and central banks struggling to control the impacts on the broader economy, including bonds and equities. Those trends continued into 2022 and intensified, fuelling one of the fastest monetary tightening cycles in recent memory.

At the beginning of the year, after managing through the first 20 months of the pandemic, markets appeared to be adjusting to the new reality. Interest rates were low, and most governments had stimulated their economies with various relief and subsidy programs. However, Russia's invasion of Ukraine in late February, and subsequent sanctions, tightened already-strained supply chains and drove commodity prices up, particularly in energy, further propelling record-high inflation levels. In response, central banks began increasing interest rates to slow the economy and level the supply and demand for goods, with the Bank of Canada policy rate increasing from 0.25% at the end of 2021 to 4.25% by the end of 2022. With interest rates near or below zero for much of the past decade in developed economies, the degree and speed of increases sparked market uncertainty and asset repricing.

Elevating growth uncertainty and costs of capital drove sharp declines in public equities in 2022, while developed market government bonds—which are a typical safe haven and tend to hold or increase their value when equities drop—fell in parallel, a rare occurrence in recent decades. Being that both asset classes are heavily represented in most pension and savings portfolios, including our own, the result was double-digit losses for the traditional 60:40 portfolio (60% equities and 40% bonds). Absolute return strategies, which are designed to deliver returns uncorrelated from market direction, provided one of the few sources of high positive returns in the fund. Long-hold assets, such as private real estate and infrastructure, kept relatively stable.

Toward the end of 2022, as the markets started to price in an orderly return to the environment experienced for most of the last 20 years, bonds and public equities began to rally. Inflation for goods started to decelerate; however, inflation for services and labour market tightness continue to hold the overall level to a multi-decade high. The outlook for 2023 and beyond remains volatile and difficult to predict. We expect markets to normalize over time, and the long-term inflation outlook remains close to the central bank target of 1% to 3%. However, the medium-term outlook continues to show risk of high inflation, low growth, and volatile interest rates, as markets adjust to the post-pandemic environment of heightened geopolitical risk and other structural shifts such as climate, technology, and demographics.

The wide range of potential outcomes solidifies our focus on building a well-balanced portfolio that aligns to our longer-term strategic view and funding needs, demonstrates resilience to an array of potential economic environments, and unlocks the unique opportunities brought by market changes.

Toward a fit-for-purpose pension fund

In spring 2022, a transitional investment agency arrangement with the University of Toronto concluded, and UPP's Investment team assumed management for all pension assets from participating organizations. The incoming portfolios were built to meet the specific objectives of their prior plans. Taken together, they create a new return, risk, and liability profile.

Target asset mix and multi-year transition plan

In preparing to assume full portfolio control, early in 2022, we established a target asset mix and multi-year transition plan. We are now unbundling and optimizing the individual asset pools into one unified and cost-effective portfolio tailored to UPP's funding objectives and investment beliefs.

We made significant changes in the total portfolio in 2022 and will continue to strategically transition UPP's asset mix over the next two to three years to:

- balance risk and return within the Plan's unique context
- selectively internalize aspects of our strategy to save costs and enhance control
- further diversify the fund in line with our investment beliefs, including growing our exposure to private market and other assets that respond well to inflation
- continue our path toward a net-zero portfolio by 2040 or sooner
- harness our structure and growing scale to yield enhanced value for members

Comprehensive portfolio analysis

The development of our target asset mix involved a deep-dive analysis of the incoming assets, liabilities, and external managers to understand not only where we could bring the benefits of scale to bear, but also to identify opportunities across the unified portfolio to balance concentrations, mitigate risk, and enhance long-term sustainable performance.

An important input to our portfolio analysis is asset-liability (AL) modelling, which helps us understand how assets and liabilities could respond—together and independently—to changes in our external environment. We use AL modelling to simulate and study the Plan's sensitivities to thousands of economic scenarios, including those involving market shocks, to validate our financial projections and determine whether any asset mix adjustments are needed.

> Liabilities can be thought of as the cost today to pay future pensions to all current Plan members (working, deferred, retired) and their beneficiaries.

Initial analysis of the combined portfolio in 2021 and 2022 identified gaps and opportunities, which will be addressed in the transition to our target asset mix. Ongoing AL analysis remains an important input to our portfolio evolution.

A look at the portfolio

Note: The total portfolio at the end of 2022 represented a transitional state between the consolidated asset pools (as is) and our target asset mix, which addresses the need to build the Plan's exposure to inflation-sensitive and longer-duration interest-rate-sensitive assets.

The total fund delivered a net loss of 9.1% in 2022, driven primarily by declines in public market asset classes, in which our current portfolio is highly concentrated. Losses were slightly neutralized by gains in absolute return strategies and private debt and inflation-sensitive cash flows from the current portfolio's small allocations to real estate and infrastructure.

With the exception of interest-rate-sensitive assets, all asset classes outperformed major market indices. Markets began to rebound in the fourth quarter of 2022, driving a 2.3% net return and $201 million increase in net assets.

Asset mix and returns by asset class

	Year end 2022		Year end 2021	
Assets	**Asset mix %**	**Net return %[12]**	**Asset mix %**	**Net return %**
Return enhancing	**62.7**	**(7.9)**	**66.0**	**8.5**
Public equity	38.8	(14.1)	46.2	8.6
Private equity	6.3	(3.0)	6.0	13.3
Private debt	8.7	3.9	7.0	4.5
Absolute return	8.9	16.0	6.8	8.8
Interest rate sensitive	**40.0**	**(12.2)**	**35.7**	**0.8**
Fixed income	40.0	(12.2)	35.7	0.8
Inflation-sensitive bonds	-	-	-	-
Inflation sensitive	**6.2**	**10.6**	**4.8**	**9.9**
Infrastructure	2.5	6.8	1.7	12.1
Real estate	3.7	12.5	3.1	8.7
Short-term money market and funding	**(8.9)**	**2.2**	**(6.5)**	**(0.1)**
	100.0	**(9.1)**	**100**	**5.7**

REPORTING UPP BENCHMARKS IN 2023

Benchmarks are used to measure relative performance, typically through a relevant market index (or blend thereof). They are an important accountability tool for our Board, members, and other stakeholders to assess the performance of our strategies relative to risk taken, particularly that of our active management relative to what could have been achieved through passive index investment.

UPP's total fund benchmarks were approved by the Board in 2022 and will be operationalized and reported against in 2023 after our first full year of direct investment management. In the meantime, we report the performance of major indices for each asset class as a general comparative reference.

[12] Net returns are net of management fees.

Asset class overview

The Plan's asset mix is diversified across a broad range of asset classes, organized under three categories: return enhancing, interest rate sensitive, and inflation sensitive. Under this structure, we divide our total fund assets based on their exposure to key economic drivers as well as their risk-return characteristics and roles in funding the pension.

Each year, we review the mandate and strategies in each asset class across a number of dimensions, including their investment performance, evolving market outlook, value-add and risk profile, and capital efficiency. The findings from these reviews inform the next stages of our portfolio evolution.

Return-enhancing assets

2022 allocation and performance

Asset mix weight: 62.7% ($6.7 billion)

One-year return: -7.9%
4.9% above major market indices (blended)

Major index performance[13]

- MSCI All Country World Net Index returned: -12.4%
- S&P/TSX Composite Index returned: -5.8%

Return-enhancing assets—which include public and private equities, private debt, and absolute return strategies—generally reduce funding risk over the long term by delivering higher relative rates of return. They can, however, display higher relative volatility (a measure of market risk) in the short term.

Our return-enhancing assets outperformed broader equity markets but returned a loss in 2022. Public equities were the primary contributor, driven by economic growth uncertainty. While equity markets stabilized in the last quarter of 2022, they still sat at significant losses for the year. Equity losses were partially offset by our absolute return strategies, which are designed to deliver performance uncorrelated to market movements.

In 2022, we reduced our exposure to public equities and allocated proceeds primarily to fixed income (part of the interest-rate-sensitive asset class) to lower fees, balance risk exposure, and decrease the asset sensitivity to economic growth. The uncertain path for economic growth and lower concentration of market opportunities continue to challenge the outlook for equities and other return-enhancing assets.

[13] Index performance is presented as general references and not UPP benchmarks.

Interest-rate-sensitive assets

2022 allocation and performance

Asset mix weight: 40.0% ($4.3 billion)

One-year return: -12.2%
0.6% below major market indices (blended)

Major index performance[14]

- FTSE Canada Universe Corporate Bond Index: -9.9%
- FTSE Canada Universe Overall Bond Index: -11.7%

Allocations to assets such as fixed income generally reduce funding risk over the long term by helping offset the effects of changing interest rates to our assets and liabilities. This includes long-dated government bonds, which are a stable source of long-term returns and help align our fixed income portfolio with the interest rate sensitivity of our liabilities.

The interest-rate-sensitive portfolio underperformed industry indices in 2022, primarily due to rapid interest rate hikes in Canada, which drove bond prices down. As we transition toward our target asset mix, we will further align the duration (or interest rate sensitivity) of the Plan's assets and liabilities.

Inflation-sensitive assets

2022 allocation and performance

Asset mix weight: 6.2% ($0.6 billion)

One-year return: 10.6%
0.6% above major market indices (blended)

Major index performance[14]

- Canadian Consumer Price Index (CPI) + 5%: 11.32%
- MSCI/REALPAC Index: 3.7%

Assets such as real estate and infrastructure provide stable long-term returns while helping mitigate the impact of inflation on the long-term value of the Plan liabilities, which are linked to salary levels and partially indexed to changes in inflation.

Despite inflationary hikes, performance for this category was steady in 2022. UPP closed our first infrastructure deal in 2022 and will continue to grow our private market program through selective fund and co-investments and strategic partnerships in 2023 and beyond.

[14] Index performance is presented as general references and not UPP benchmarks.

EXPLORE SECTIONS

Short-term money market and funding

2022 allocation and performance

Asset mix weight: -8.9% (-$0.9 billion)

One-year return: 2.2%
0.4% above major market indices (blended)

Major index performance[15]

- FTSE Canada 91 Day T-Bill Index: 1.8%

Being able to dynamically change our exposures in a fast-moving market is an important part of our strategy. Proactive liquidity planning helps us maintain our desired asset mix and meet our liability obligations while remaining a reliable source for markets when liquidity is scarce.

The reported negative exposure to this asset class represents economic leverage[16] used to increase investments across the total fund, employed through short-term money market and funding instruments, including derivatives.

[15] Index performance is presented as general references and not UPP benchmarks.

[16] Economic leverage is a common investment tool used to increase the amount of assets available for investment, to further diversify an asset base or yield enhanced risk-adjusted returns. The negative value reported for the money market and funding asset class reflects the amount of economic leverage employed at December 31, 2022.

A FOCUSED RISK LENS

Taking risk is necessary for earning the rate of return required to meet our long-term pension obligations, but a strong risk management program seeks to avoid uncompensated or poorly understood risk.

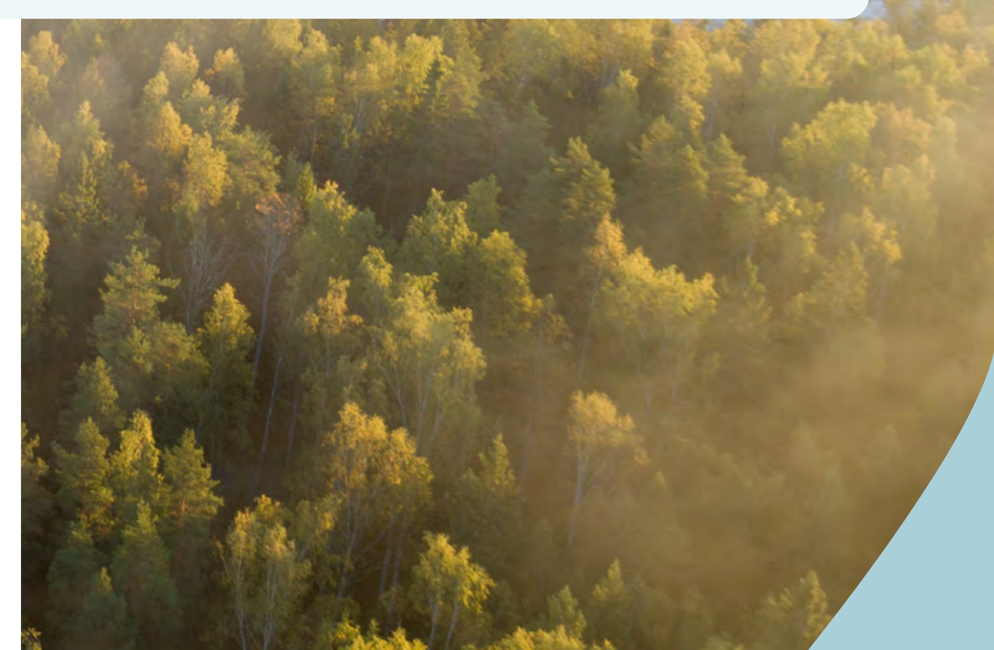
Ultimately, risk management is everyone's responsibility at UPP. Our Investment team works together to ensure risks are measured, monitored, and understood from the total fund level down to individual mandates. Investment risk is governed through a structured framework with clear policies and procedures.

Serving as a key risk partner, our Portfolio Construction and Investment Risk team plays a dual role as the analytic and planning engine for top-down asset mix construction and investment risk measurement. The team evaluates many dimensions of risk across various time horizons—market, concentration, ESG, liquidity, regulatory, strategic, operational, counterparty, and others—to gain deeper insight into the material risk exposures in our portfolio and those of our investment managers. These insights help us avoid undue risk concentrations, optimize return on risk, and inform strategy decisions and discussions. The team also provides ongoing asset mix and risk research and thought leadership.

As we progress our portfolio approach in the coming years, we will continue to advance our investment risk management capabilities, including our scope of stress testing and scenario analysis, to further protect members' assets.

"Our Investment team understands how important pension security is for our members. Our duty to those who have entrusted us with their retirement savings is to ensure our Plan assets are invested prudently, in the right combination, for long-term sustainability."

James Kwon
Director of Portfolio Construction



How we invest

In-house, professional investment management

Our experienced Investment teams deploy and manage investments across asset classes and pursue investment opportunities with an acute focus on quality, risk-adjusted value, and total fund diversification.

In line with our target asset mix, we explore new investments and evaluate those we hold today through the lenses of enhanced cost efficiency and control, alignment to the needs of our members, and resilient long-term value. Our approach combines focused investment strategies at the asset class level with sophisticated asset allocation, risk, liquidity, and ESG management at the total fund level.

Each Investment team is responsible for managing our investments to yield long-term risk-adjusted returns by:

Resizing, repositioning, and proposing strategies in line with our target asset mix and within defined mandates and authorities

UPP's in-house Public Markets team oversees investments in liquid strategies related to equity, credit, and absolute return. This includes in-depth internal due diligence, monitoring, and assessment of external managers to help execute and optimize our public market strategies. This team brings broad expertise in capital markets investing and external manager allocation at global investment institutions and Canada's large public pension plans.

"It's a privilege to manage UPP's active public equity strategy and to be a part of such a high-calibre team. Our goal is to build a resilient portfolio that meets the needs of our pensioners over the long term."

Nirupa Muthurajah
Senior Manager, Public Equity

We have attracted a team of global investment, risk, and sustainability professionals with deep expertise and specialized knowledge and networks of relevance to our total fund strategy. We are harnessing this breadth of experience as we source investment opportunities and partnerships and build long-term value across the fund.

We will continue to selectively grow our internal management capabilities and intellectual capital in areas where we believe we have the skills and structure to enhance cost efficiency and control while strengthening our advantage as an investor.

Our in-house Private Markets team oversees and manages all illiquid strategies related to infrastructure, real estate, private equity, and private debt and, as such, plays a role in managing both inflation-sensitive and return-enhancing assets. This includes in-depth internal due diligence, monitoring, and assessment of external managers, co-investors, and direct investment opportunities to help execute and optimize our private market strategies. The team brings experience from a range of world-class investment institutions, with deep expertise in all private asset classes as well as across asset management, fund investments, co-investments, and direct investments.

"To be an early contributor to the growing and dynamic Investment team at UPP is a great opportunity to help create long-term value for our members. It's exciting to be part of a pension fund that is providing our members access to types of investments, like private markets, they may not have been able to access before."

Ankit Sinha
Manager, Private Markets

Identifying and analyzing new investment opportunities and partnerships

Our assessment of new opportunities within each asset class involves multiple levels of deep in-house diligence on market segments, geographies, and industries of interest as well as UPP's competitive advantage. Once opportunities are identified, due diligence involves collaborative analysis of markets, valuation and fees, strategy and performance, financial, operations, tax, legal and regulatory, and ESG factors.

Selectively introducing and managing active strategies to add incremental returns

UPP employs active management strategies to help manage short-term volatility and maintain a sustainable rate of return. A thoughtful mix of passive and active strategies helps us capture opportunity and spread investment risk across factors such as geography, currencies, sector, duration, and asset classes.

Active internal strategies are used only where there is demonstrable benefit to the long-term stability of the fund. These decisions also consider cost and ability to implement and our stewardship strategies. As of December 31, 2022, the UPP portfolio employed $6.0 billion active and $4.8 billion passive strategies.

Embedding climate-related and other material ESG considerations in investment analysis, asset management, and stewardship

We know that ESG factors, such as climate change, will fundamentally influence the long-term sustainability of financial markets. With a systems-level view, we account for these factors at every stage of the investment process to better derive and protect value for members, in line with our fiduciary duty. This includes working with our external investment partners and industry peers to continuously improve performance in these areas and reinforce the health of the capital markets on which our fund relies.

Our ESG focus extends to the highest level at UPP and is embedded throughout the organization. Every investment professional is responsible for considering the economic impact of material ESG factors in their investment decision-making and for clearly communicating our related policies and expectations to our investment partners.

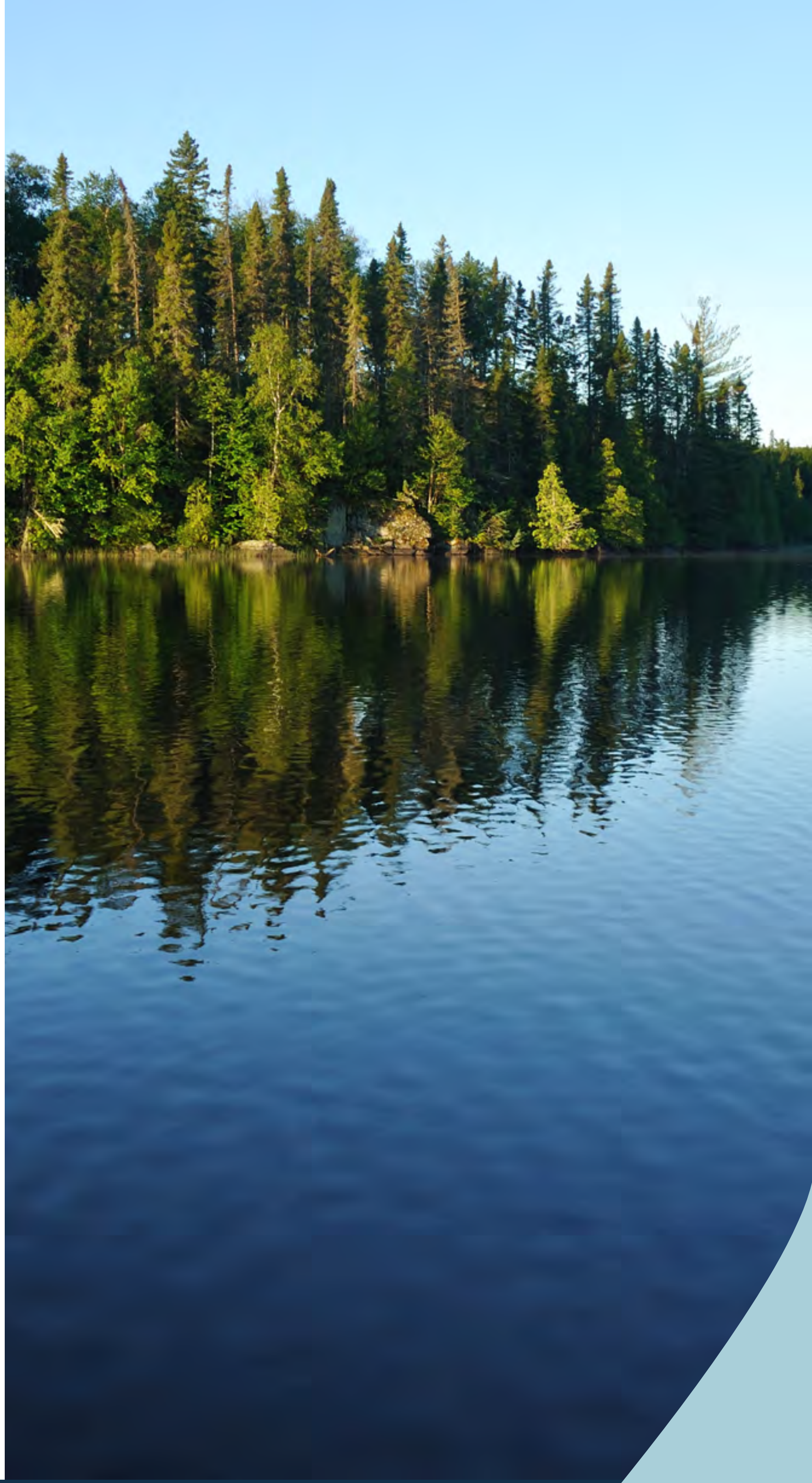
Using an array of analytical tools and resources, our Investment and Responsible Investing teams partner closely to understand and manage ESG risks, opportunities, and impacts from the total portfolio level down to our individual investment mandates.

Executing timely and cost-effective transactions, with a keen focus on total fund liquidity

Our Total Fund and Treasury team carefully manages liquidity and funding across the portfolio, ensuring we have sufficient capital to pay pensions and reserves in place to withstand market disruptions and take advantage of investment opportunities that align with our long-term strategy, including those presented by changing investment markets and the net-zero transition. This includes strategic employment of leverage, which, used prudently, is a powerful tool for optimizing risk-adjusted returns relative to the Plan's pension liabilities.

"In the Treasury department, it's our responsibility to ensure every member is covered in different market scenarios, no matter what happens. We're dedicated to ensuring our investments meet our targets and deliver guaranteed income for our members."

Yeffie Yang
Director of Total Fund Management and Treasury



Enhancing performance and impact through trusted partnerships

UPP's Investment team leverages partnerships with external investment managers and co-investors to implement our public and private market strategies. Collectively, these partners play an essential role in the success of our investment strategy and in bringing our net-zero commitment to bear—alignment in vision and values is imperative.

Strategically expanding our private market exposure

Core to our approach to private market investing is establishing mutually beneficial partnerships with like-minded, market-leading investors and positioning ourselves to achieve attractive terms on our investments and access to co-investment opportunities.

Through this partnership model, UPP is able to source proprietary deals, improve governance and transparency into the performance and stewardship of our investments, and gain access to best-in-class management—effectively enhancing the risk-adjusted return and cost of our portfolio. As our private market program matures and our internal team builds, we expect to transition toward more direct participation models of investing, further optimizing our investment costs and governance.

In 2022, UPP closed on a fund commitment with DigitalBridge in their Strategic Assets Fund, with the objective of generating attractive risk-adjusted returns principally through privately negotiated equity investments in digital infrastructure businesses and assets across the United States, Canada, and parts of developed Asia Pacific.

Digital infrastructure assets serve as the backbone of the digital economy, and the asset class is expected to play a critical role in meeting the rising global demand for data storage, processing transmission, and connectivity.

DigitalBridge is a leading global investor specializing in infrastructure that powers the generational transition toward a more digital economy and society. DigitalBridge manages over $65 billion in global digital assets, invested across 26 portfolio companies. Aligned with UPP's investment beliefs, DigitalBridge's stewardship activities are guided by its commitment to be net zero by 2030 and its comprehensive diversity, equity, and inclusion roadmap.

DIGITALBRIDGE

Comprehensive due diligence

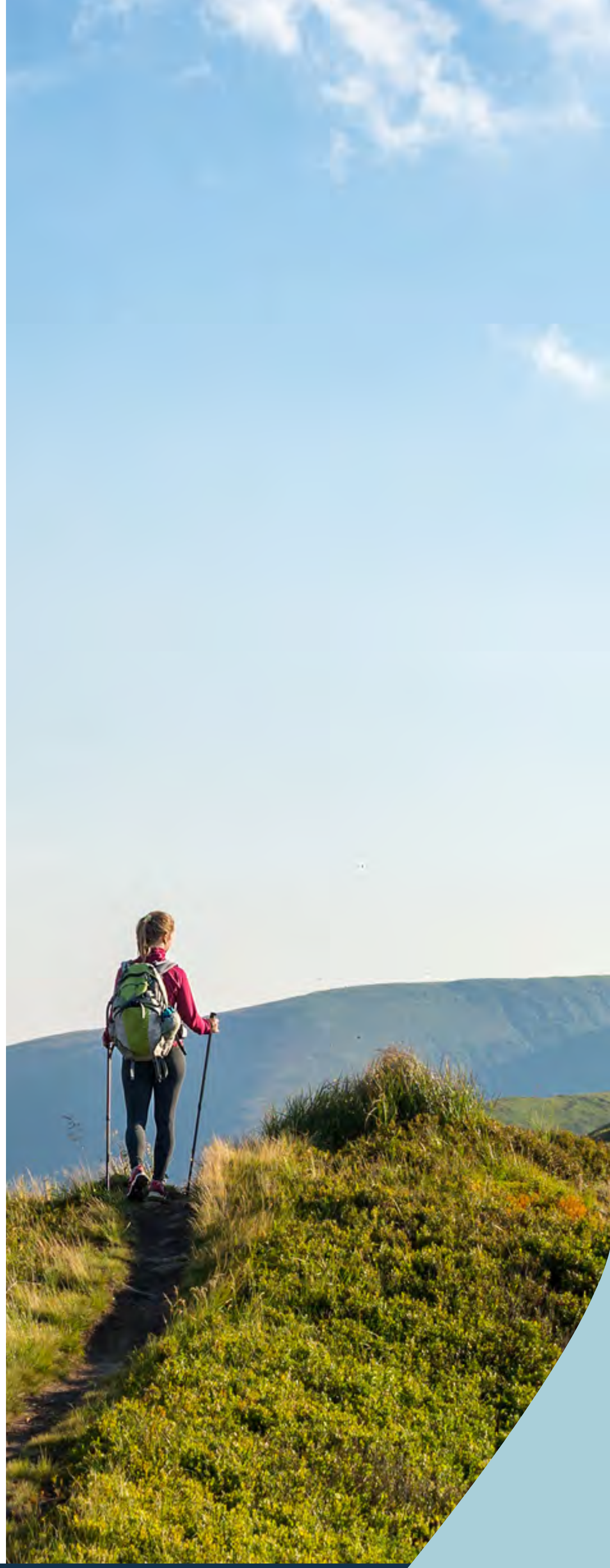
Disciplined due diligence and dialogue help us understand our partners' (and prospective partners') investment commitments, capabilities, and goals and express our objectives in return. Our Investment team performs deep analysis to evaluate investment and fund managers, with a focus on:

- philosophical and structural alignment with UPP's investment beliefs, responsible investing ambitions, and portfolio requirements
- a track record of long-term sustainable performance and risk management
- reasonable investor rights, protections, and proxy voting policies
- collaboration and responsiveness to our needs

These assessments consider a broad range of operational, investment, and ESG factors of an investment partner's organizational structure and practices, including its investment strategies and processes, consideration of ESG factors, and portfolio and risk characteristics. We also seek partners who are interested in exchanging strategic insights and best practices, creating a mutually beneficial relationship.

> In line with our belief that diverse companies yield better business outcomes, our analysis considers an investment partner's approach to equity, diversity, inclusion, and reconciliation—including its associated policies, roles, and responsibilities; targets (and progress against); and representation at every level of the company. We also assess its approach to integrating diversity considerations through the investment lifecycle and in stewardship activities.

See Appendix 4 for a list of our investment partners with $50 million or more of our assets under management. For more information, see our top single-name public equity holdings.



Building sustainable value through stewardship

At UPP, we firmly believe in the power of stewardship as a lever for value creation, risk management, and improved corporate practices.

In 2022, we welcomed Delaney Greig, UPP's Director of Investor Stewardship, to oversee ongoing relationships and dialogue with companies, partners, and sector groups, to ensure we maintain a cross-enterprise approach and continue meaningful progress in our portfolio and in the world around us.

"Using our voice with companies and regulators is an important part of creating value and managing risk, so we can build a vibrant, inclusive, and sustainable future for our members."

Delaney Greig
Director of Investor Stewardship

Exercising our influence with investee companies

As a long-term institutional investor, UPP owns shares in companies around the world—when they do well, UPP's fund does well too. In 2022, we ramped up our dialogue with companies and external managers about how to improve their corporate practices and disclosures to drive more resilient long-term value.

Collaborative engagement is a key aspect of our engagement strategy. Working with like-minded investors helps us:

- leverage the power of scale to amplify our impact
- enhance access to global tools, data, and best practices
- deliver a strong, unified voice to companies about material matters

WHAT IS STEWARDSHIP?

"Also known as 'active ownership', stewardship is the use of influence by institutional investors to maximise overall long-term value including the value of common economic, social and environmental assets, on which returns and clients' and beneficiaries' interests depend."

– UN Principles for Responsible Investment

SHARE

Partnering with SHARE to influence public companies

We partner with the Shareholder Association for Research and Education (SHARE) to expand our engagement reach with public companies in our investment portfolio, with a focus on advancing climate action, reconciliation, decent work, and human rights.

In 2022, on behalf of UPP, SHARE initiated engagement with 12 companies in Canada and the United States on racial equity and filed shareholder proposals at two Canadian companies, Intact Financial and Constellation Software, seeking a report on the companies' racial equity plans and commitments, specifically in the context of their workforces. Subsequently, Constellation Software published its first-ever ESG report, including new metrics on gender and ethnic diversity and information about EDI initiatives.

30% Club
GROWTH THROUGH DIVERSITY

Pushing for greater board diversity through the 30% Club

UPP joined 20 other Canadian institutional investor members of the 30% Club Canadian Investor Group to engage Canadian companies on gender and racial diversity at the board and executive level. UPP is co-leading engagements with Wheaton Precious Metals and Imperial Oil, seeking improved disclosure of equity, diversity, and inclusion data and initiatives and implementation of policies and targets for board and executive diversity. We anticipate progress from both companies in 2023.

CCGG

Encouraging enhanced disclosures with the Canadian Coalition for Good Governance

UPP is a member of the Canadian Coalition for Good Governance, which engages with the boards of Canadian issuers to improve governance practices. Between 2020 and 2022, 15 of the 16 companies engaged on their environmental and social disclosures had implemented the requested enhancements, and 50% of the companies engaged on diversity adopted targets for their boards and management. For commentary on our focused climate-related engagements in 2022, see our Climate Action Plan update.

Supporting sound public company governance through proxy voting

As a company shareholder, we exercise our voting rights to communicate clear expectations and hold publicly traded companies accountable on responsible governance and ESG practices. Our Proxy Voting Policy clearly states our positions and expectations on an array of issues focused on enhancing the long-term economic interests of shareholders. These guidelines are publicly available and applied consistently across our public equity holdings.

Among the many themes we vote on, two priority areas include:

1 Supporting meaningful progress on EDI & Reconciliation

UPP generally supports shareholder proposals that seek:

- greater diversity and participation of underrepresented groups on boards, in management, and across organizations
- a minimum of 30% representation of women on a board and at least one member of a traditionally underrepresented group
- defined EDI & Reconciliation policies and practices, with measurable targets and timely and comprehensive disclosure, including information on pay equity[17]

[17] Disclosure should be consistent with the UN Declaration on the Rights of Indigenous Peoples and The Truth and Reconciliation Commission of Canada's Calls to Action.

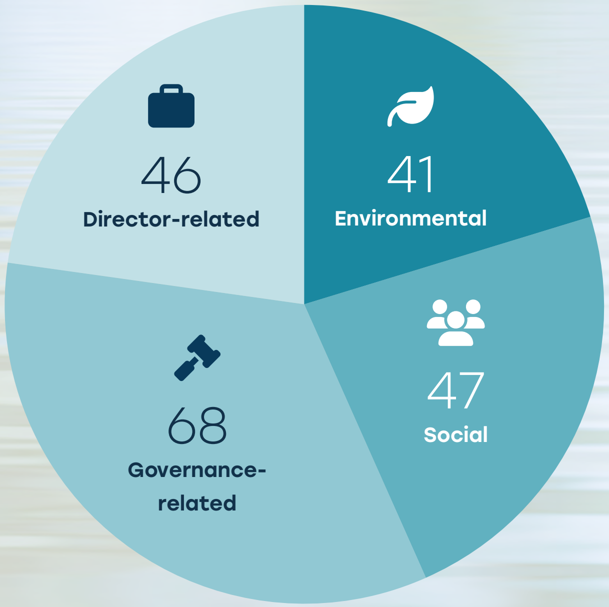
In UPP's inaugural voting year of 2022, we voted on:

5,855 proposals

594 ballots

527 meetings

We voted on 202 shareholder proposals to drive stronger practices and accountability on important ESG topics:



In 2022, UPP voted against 129 directors at 111 companies because their boards did not include at least one member from a traditionally underrepresented group.

Example: UPP voted for a shareholder proposal at Toromont Industries seeking a report on the alignment of the company's policies and practices related to Indigenous Peoples with recognized external standards. Management endorsed the shareholder proposal and 99% of votes were cast in support.

2 Driving climate transparency and accountability

UPP generally supports shareholder proposals that seek:

- clear oversight of material climate risk and opportunity to the business, with demonstrated skills, capacity, and governance structures to do so
- implementation of credible, science-based climate initiatives and targets aligned with the goals of the Paris Agreement[18]
- climate reporting based on the frameworks of the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainability Accounting Standards Board
- shareholder voting on the company's climate policies, targets, and disclosure

In 2022, UPP voted on 33 shareholder proposals and supported 26 proposals related to climate change.

Example: UPP voted for a shareholder proposal for Enbridge Inc. to set a science-based net-zero target, to strengthen alignment between the company's net-zero commitment and its capital expenditure plans. This alignment would provide shareholders with a better understanding of the company's management and oversight of related risks. Enbridge subsequently disclosed additional detail on its capital expenditure toward renewable energy and continues to be engaged by investor collaboratives on the rigour of its climate transition plans.

Transparency about our proxy voting activity is part of being accountable to our values as an organization and to our members. We disclose all votes cast on the MyUPP website. Read our Quarterly Proxy Voting Reports.

In general, as a first course of action to influence investee behaviours and effect change, we favour active engagement and constructive dialogue over excluding or selling investments. However, our principles-based investment exclusion policy and set of general parameters set out the companies we will not invest in if:

1. we do not believe they contribute to the Plan's sustainability and the health of the financial, environmental, and social systems on which the capital markets rely, and
2. where engagement and other activity has not, or is unlikely to, effect meaningful change.

[18] Including trying to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels

Advocating for sustainable public policy and market standards

We believe that UPP has a duty to advocate on behalf of our members for the good of the fund and for the good of the economic, social, and environmental systems on which long-term fund performance relies.

We selectively communicate with regulators and policymakers—either independently or with like-minded peers—to encourage fair and efficient public policy, government regulations, and market systems that support a well-managed transition to a net-zero world and the Plan's broader sustainability objectives.

In 2022, UPP issued 10 public submissions to support the conditions for long-term investor value, including improved company disclosure of financially relevant ESG risks and opportunities. Improved disclosures help us better understand and evaluate the potential impact of these factors on a company's long-term performance, allowing for better investment decisions.

Examples:

- In partnership with Canadian pension peers, UPP responded to consultations on draft climate-related disclosure standards from the Canadian Securities Administrators, U.S. Securities and Exchange Commission, and International Sustainability Standards Board, advocating for mandatory and consistent disclosure standards covering Scope 1, 2, and material Scope 3 greenhouse gas (GHG) emissions, transition plans, and climate risk management.
- UPP, with seven other institutional investors and SHARE, wrote to securities regulators across Canada seeking enhanced requirements regarding: 1) the disclosure of the representation of underrepresented groups on corporate boards and in executive officer positions, and 2) mandatory target setting for representation of women and underrepresented groups on boards and in executive officer positions. UPP and peer investors met with five provincial securities regulators to discuss why investors are seeking these disclosures and how we use the information. In April 2023, securities regulators announced proposed changes to disclosure rules and policies on board diversity, to include forms of diversity beyond gender.
- We issued a joint submission to a Government of Canada consultation on options to cap oil and gas greenhouse gas emissions. UPP joined nine other Canadian financial institutions to express support for additional federal policy measures to reduce emissions in line with Canada's 2030 and 2050 targets.

Read our latest statements and submissions.

Progressing against our Climate Action Plan

In 2022, UPP published our Climate Action Plan, detailing our commitment and path to net-zero portfolio emissions by 2040 or sooner, with an emphasis on decarbonizing the real economy.

UPP will transition our investment portfolio to

net-zero GHG emissions by 2040 or sooner

With interim carbon footprint reduction targets from a 2021 baseline (tCO2-eq/$M invested):

16.5% by 2025 60% by 2030

Our Action Plan speaks to two deeply connected objectives for UPP: 1) growing a strong, resilient fund that secures retirement benefits for our members today and far into the future, and 2) investing in a stable, healthy world for our members to retire into.

> The release of the Action Plan followed dedicated engagements in spring 2022 centred on understanding members' responsible investing values and priorities, where it was evident that climate action is a top financial and social imperative for the majority of our members.

2022 developments

Since launching the Climate Action Plan, we have made considerable progress in its implementation.

Developing UPP's Climate Transition Investment Framework

Our developing Climate Transition Investment Framework is an essential foundation to our net-zero strategy. Once in place, it enables us to systematically evaluate the transition alignment and readiness of our current portfolio and new investment opportunities, set targets for climate solution investments, and refine our approach to climate-related investment exclusions.

We look forward to introducing this framework and our climate solution targets in 2023.

Undertaking climate-related scenario analysis

UPP will undertake our first systematic scenario analysis in 2023 to understand how climate risks (both transition and physical) might impact the Plan's assets and broader capital markets under different climate-related scenarios and time horizons.

Engaging companies to drive credible climate plans and disclosures

In addition to the ongoing engagement and proxy voting discussed in our stewardship practices, we've joined with leading financial institutions, through collaborative initiatives such as Climate Action 100+ and Climate Engagement Canada, to engage top-emitting companies on the need for stronger climate risk governance, disclosure, and a swift transition to a net-zero world. We also vote at shareholder meetings to encourage companies to manage material climate-related risks and opportunities.

Promoting science-based climate targets

UPP joined the CDP[19] 2022–2023 Science Based Targets Campaign, which leverages the influence of investors and purchasing organizations to encourage targeted companies to set science-based targets for decarbonizing their companies and mitigating their climate-related risks. This campaign focuses on engagement with the 1,060+ most climate-relevant companies in the global investable market. The targeted group represents $25 trillion US in market cap and 22% of global Scope 1 and Scope 2 GHG emissions. The campaign is supported by 273 CDP signatories. In the first two years of the campaign, from 2020 to 2022, 381 targeted companies set or committed to set science-based targets.

Our engagement activities are not limited to companies. We also work with investment partners to align on best practices in managing and disclosing climate-related risks and opportunities. In 2022, we hosted a webinar for all external managers where we introduced UPP's Climate Action Plan and carbon footprint and reduction targets and discussed the critical role of our external managers and other investment partners in achieving our climate goals. We will prioritize partnerships with companies that have made, or plan to make, net-zero commitments.

In 2021, UPP joined Climate Engagement Canada as a founding participant and committed to direct engagement with the top 40 emitters on the Toronto Stock Exchange. Our work to engage three top-emitting companies began in the second half of 2022.

Example: Couche-Tard is one of the world's largest fuel and roadside convenience companies. The company has incomplete emissions measurement and lacks a climate transition plan. In 2022, we met with the company to understand its current state and intentions for action on climate change. We outlined our goals for the company to disclose emissions in line with TCFD and adopt comprehensive strategies to achieve net-zero greenhouse gas emissions by 2050, including measurable sector-relevant targets.

CLIMATE ENGAGEMENT CANADA

[19] Formerly Carbon Disclosure Project

Establishing a taxonomy roadmap through Canada's Sustainable Finance Action Council

Government of Canada

The Sustainable Finance Action Council (SFAC) is a partnership between the Government of Canada and Canada's 25 largest financial institutions and Official Sector representatives (including the Bank of Canada, the Office of the Superintendent of Financial Institutions, and other regulators). Its mandate is to support the growth of Canada's sustainable finance market and help move mainstream finance activity in the direction of global climate and decarbonization commitments while establishing Canada as a trusted source of climate-smart solutions, expertise, and investment.

In early 2023, the SFAC released a Taxonomy Roadmap Report featuring a made-in-Canada framework toward standardized and science-based definitions of climate-compatible investments, becoming an essential investor tool on the path to net zero. UPP's CEO, Barbara Zvan, chaired the SFAC's Taxonomy Technical Expert Group, which developed the report, with leadership from our Board Trustee Kathy Bardswick as SFAC Chair.

Joining the UN-convened Net-Zero Asset Owner Alliance

UN environment programme | finance initiative

In 2022, we became the fourth Canadian organization to join the UN-convened Net-Zero Asset Owner Alliance, collectively representing over $10.9 trillion in assets under management. The Alliance focuses on driving down GHG emissions, with stringent protocols for how investors set targets in support of a stable climate. It provides UPP with access to collaborative forums and resources that will enhance our methodologies and reporting frameworks.

Alongside the other Alliance members, UPP will participate in direct and collective advocacy with policymakers and within the financial sector to help encourage the conditions for a well-managed climate transition. This includes advocating for the necessary improvement and standardization of climate-related disclosures to enable informed evaluation and decisions.

See our full list of partners and associations.

2022 carbon footprint

In 2022, UPP made a commitment to transition our investment portfolio to net-zero greenhouse gas emissions by 2040 or sooner. To track our progress, we annually calculate and report our portfolio carbon footprint, which is an analysis of the emissions associated with our investments.

We are committed to continuously improving the quality of our data and methodology for determining our carbon footprint. In 2022, we revised our process to estimate with greater accuracy the GHG emissions of investee companies that do not disclose this data. To maintain comparability in our year-over-year reporting and the integrity of our targets, we have restated our 2021 footprint under the revised methodology, which resulted in an 8% decrease in our 2021 carbon footprint and a 7% decrease in 2021 total carbon emissions. The baseline for our interim emission reduction targets is now the restated 2021 carbon footprint.

> Much like investment returns, carbon footprints are driven by a number of factors that can drive short-term fluctuations. That's why we keep a dual focus on decarbonizing both our portfolio and the real economy, with strong transparency along the way.

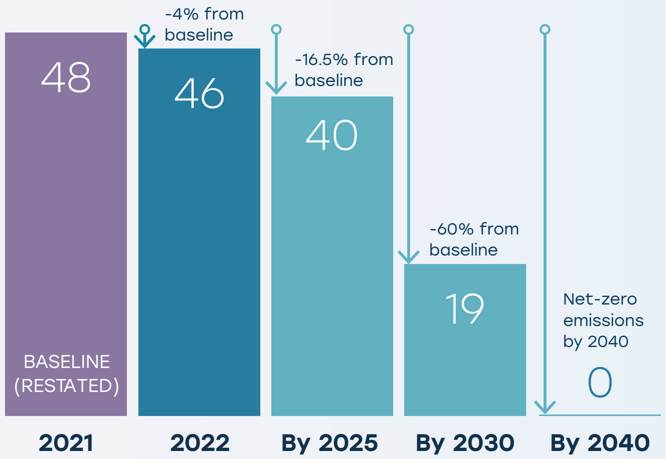
Our portfolio carbon footprint decreased by 4% in 2022, driven primarily by portfolio changes as well as a reduction in emissions intensity within many of our asset subclasses. See Appendix 2 for further details and our supporting methodology.

Committed to transparency

UPP will continue to provide updates on our progress under our Climate Action Plan, which contains many important milestones along our net-zero path. We will publish targets and report on progress in line with the Net-Zero Asset Owner Alliance requirements and publicly report on our climate management practices annually in line with the TCFD recommendations.

Learn more about UPP's Climate Action Plan and responsible investing approach.

UPP'S 2022 CARBON FOOTPRINT AND TARGETS



In 2022, we began assessing our operational greenhouse gas emissions with calculations based on The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard, and associated guidance. See Appendix 2 for an overview of our portfolio and operational carbon footprints and methodology for 2022.

Strong investment and risk accountability

With Board oversight, UPP's Investment team sets the total fund strategy and manages the asset mix with clear principles, limits, and thresholds codified in our suite of investment policies. Because investing and investment risk are intrinsically linked, these aspects are governed and managed together.

Together, our Statement of Investment Policies and Procedures (SIPP) and Asset Mix and Investment Risk (AMIR) Policy set out the principles and Board-defined guardrails within which UPP invests and manages assets. These guiding policies establish acceptable ranges of asset class and subclass exposures, risk principles and limits, and guidance on ESG integration to:

- generate sufficient returns to meet UPP's current and future pension obligations,
- create a resilient portfolio that will perform through a variety of future environments, and
- allow for an efficient asset mix transition.

We revised our SIPP in 2022 to better reflect our transition toward our Target Asset Mix.

Underpinning these total fund policies are an array of frameworks that set out clear boundaries and responsibilities for aspects such as counterparty, risk, liquidity risk, portfolio rebalancing, and currency hedging.

UPP's responsible investing policies reinforce the SIPP and AMIR with specific guidance on how we will consistently and comprehensively incorporate ESG factors in our investment management and stewardship activities.

In 2022, we updated our Responsible Investing Policy and Proxy Voting Policy to reflect advancements in our approach and introduced our Investment Exclusion Policy. Learn more about our investment governance approach.

Proactive reporting and oversight

The CIO-led[20] Management Investment Committee (MIC) is our central forum for overseeing the development and execution of UPP's asset class strategies and operational infrastructure. It includes senior representatives from across the Investment team, as well as the heads of Responsible Investing and Actuarial, who are each voting members. It is chaired by the CIO, who reports to the CEO and the Board's Investment Committee.

The Investment Committee of the Board reviews and approves UPP's investment policies, asset mix decisions, and significant new investments and monitors UPP's overall investment risk exposure, responsible investing strategies, and progress against our Climate Action Plan.

> Our oversight of climate and ESG risk at the management and Board levels reflects our belief that these complex factors carry the potential to materially impact our investments, operations, and ability to deliver long-term value to members. UPP's Senior Managing Director of Responsible Investing regularly reports on ESG strategies and developments to UPP's MIC and Board. In 2022, each reviewed, approved, and monitored progress against UPP's suite of responsible investing policies and carbon footprint and oversaw the development of our Investment Exclusion Policy.

[20] Chief Investment Officer

SERVING OUR MEMBERS

Delivering dependable, lifelong pension security

UPP was founded with a promise to preserve a comfortable and secure pension income for our members, while delivering service excellence and giving members a voice in their plan.

2022 HIGHLIGHTS

39,293
total members

20,984
active members

12,408
members receiving a pension

5,901
deferred vested members

$45,743
average annual pension for newly retired in 2022[21]

2,139
new members in 2022[21]

465
new retirees in 2022[21]

1.69
ratio of working to retired

64
average retirement age

32
retired members over 100

[21] Based on data at October 31, 2022

A dependable pension, for life

Despite a challenging year, the Plan remains in strong financial health, with a comprehensive investment strategy designed to deliver resilient long-term value. Our steadfast focus is to deliver retirement peace of mind to our members—and we remain in an excellent position to do just that.

To that end, member and employer contribution rates remain unchanged in 2022, and retired members, survivors, and dependents in pay received an inflation protection increase to the post-conversion portion of their pensions of 4.75% at January 1, 2023.[22] Together, these measures of stability reinforce the strength of a defined benefit pension in certain and uncertain times.

What is inflation protection?

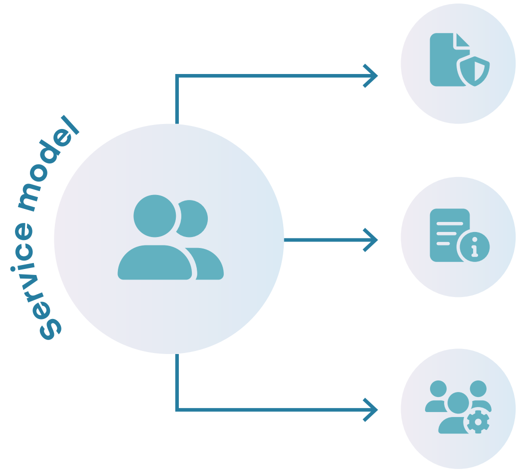
Inflation protection is a valuable benefit designed to increase the amount of your monthly pension in pay through a cost-of-living adjustment based on the increase in the Canadian Consumer Price Index (CPI). The cost-of-living adjustment is also sometimes referred to as indexation.

Building a progressive, member-driven service model

Central to our organizational strategy is a commitment to provide proactive, personalized service to members and participant organizations through state-of-the-art systems, tools, and techniques. A cornerstone of that goal is the development of a modern, digitally enabled Pension Administration Solution (PAS).

To deliver best-in-class service and build the right solutions, we first needed to understand what excellence meant to members. Prior to beginning our search for a partner to help build our PAS, we embarked on a two-part member engagement series throughout 2021 and 2022 to better understand the expectations, values, and priorities of our members.

With those necessary insights in hand, we selected Vitech as our partner in creating a secure, digitally enabled PAS with enhanced tools and self-service features.



Data: smart, secure data capabilities to deliver proactive and responsive services

Information: equipping members and employers with accessible, decision-useful information, resources, and planning tools based on their evolving needs

Personalization: personalized support along important career and life decisions

[22] Applicable to benefits accrued under UPP provisions for service on and after July 1, 2021. Pre-conversion inflation protection is based on the prior plan's indexing formula, which varies by each plan joining UPP.

Rigorous system diligence

Vitech's V3locity solution was evaluated through a comprehensive technology assessment framework with more than 300 technical requirements focused on performance, security, reliability, and operational excellence. In onboarding Vitech, UPP hosted numerous education and consultation sessions to deepen shared understanding of the Plan's provisions, processes, and system requirements. To ensure our system performs exactly as we need when it goes live, our implementation teams conduct ongoing risk analysis across project tracks.

The design and implementation of UPP's PAS will roll out in multiple phases over the coming years, led by a dedicated project team with a centre of excellence and steering committee comprising experts from across the organization. The steering committee regularly reports to the CEO and Board. We will continue to share progress on this transformational project.

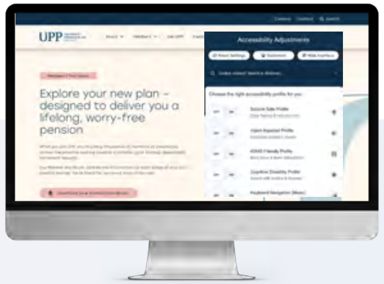
> Members from UPP's founding universities continue to receive the support of their prior administrators, as agents of UPP, to ensure a seamless Plan experience while we onboard our PAS and advance our service capabilities.

"When you join UPP as a member, you're not only gaining a defined benefit pension—you're also gaining a team of professionals in your corner, committed to helping you every step of the away along your pension journey. We work hard to ensure that the service you receive is exceptional at all points of that journey."

Laura Walsh
Associate Director of Pension Services

Designing an accessible, user-driven web experience

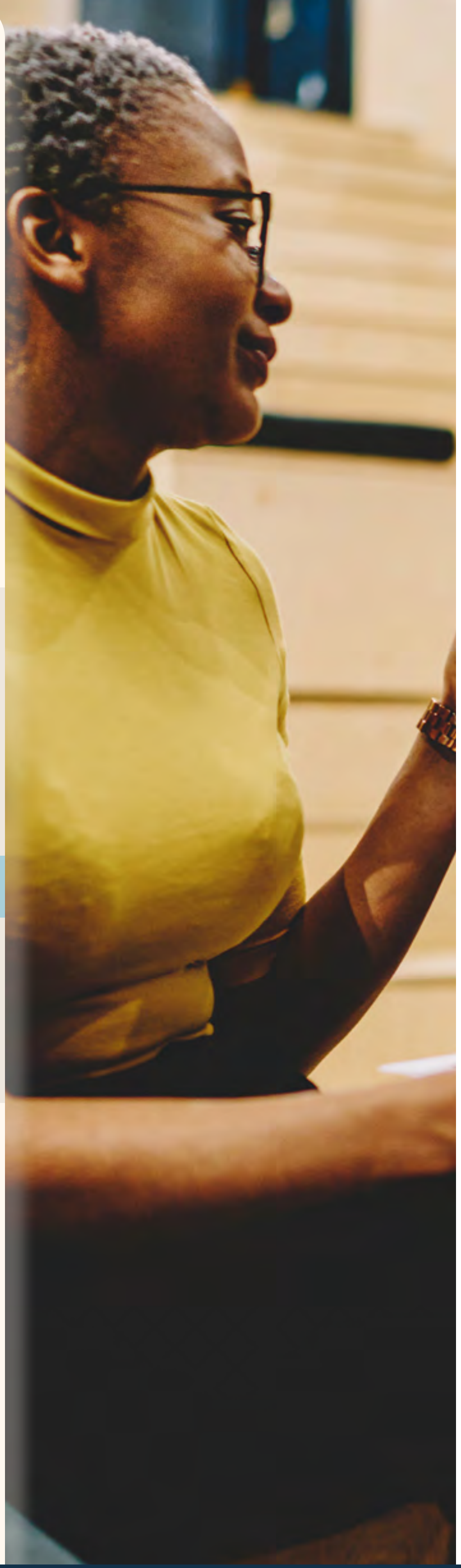
As we implement our PAS, we will continue to enhance our website with intuitive and accessible content that covers Plan features and developments. Our approach is, and always will be, member-driven. That's why we've embedded feedback surveys throughout our website in an effort to better understand and respond to our members' needs.



ENSURING EQUITABLE ACCESS

In 2022, we implemented accessiBe's accessWidget, a leading web accessibility solution designed for and in collaboration with individuals with disabilities. The accessWidget allows our web users to customize their experience to their needs. The interface offers content, colour, display, and navigation modifications in the foreground, while the AI-powered process operates in the background, making real-time adjustments for screen-readers and keyboard navigation.

To access the tool, look for this symbol at the bottom right corner of our website.



BECOMING A SECTOR PLAN

A pension plan for the university sector

UPP was designed to bring enhanced retirement security to Ontario's university sector, while delivering members the advantages of a scaled, jointly sponsored pension plan (JSPP).

In 2022, we maintained our focus on growing Plan members to bring those advantages to members today and tomorrow. The JSPP model is the bedrock for the globally renowned Canadian Pension model, which combines independent governance, professional in-house investment management, scale, and extensive geographic and asset class diversification, shown to yield:

- resilient long-term performance and value creation
- stable and predictable contribution and lifetime benefit levels
- balance sheet relief for employers
- efficiencies and economies of scale
- member service excellence
- advanced risk management and ESG capabilities

UPP was designed to deliver these hallmark features plus additional benefits tailored to the university community. See more on what the Plan offers.

Welcoming new members and connecting with sector participants

In 2022, UPP welcomed Trent University and three other new participants to the Plan, bringing our membership to four universities and 12 sector organizations. We now have member participation from a wide range of employers across the university sector, including unions, faculty members, faculty association staff, and others, such as academic publishers and research groups.

"As UPP members, Trent's faculty benefit from better value and security for their pension contributions through these uncertain economic times. UPP's commitment to securing long-term, sustainable value provides reassurance that our retiring staff will be taken care of for generations to come. Earlier this year, Trent University and OPSEU Local 365 finalized a new collective agreement that includes a commitment to convert the staff's single employer pension plan to UPP in January 2025. I look forward to celebrating more milestones on our journey ahead together as UPP continues to grow."

Stephanie Williams, Vice President, Human Resources, Trent University

As a sector-wide plan designed for growth, we are engaging with groups across Ontario's university sector about their pension experiences and needs, to understand how UPP could best serve those needs—and, by extension, best serve our current members. We look forward to continued dialogue and partnership throughout the university community.

> We are open to all universities and sector organizations, with any past and present plan types, including those without a prior plan.

In 2022, Kathy Johnson, UPP's Chief Engagement and Strategy Officer, and Andrew Naples, Managing Director, University Sector and Stakeholder Engagement, joined UPP to lead our centre for engagement. UPP's Engagement team brings extensive knowledge of the university environment and communities. Its focus is ensuring interested groups have the information and support they need to make an informed decision about their pension plan—and a smooth transition to UPP.

For more information about joining UPP, please visit our website or contact our Engagement team.

Kathy is an established public sector leader with a decades-long record of building productive relationships with internal and external stakeholders, staff, and elected government representatives.

"In a world where so many are worried about their financial futures, the ability to offer a strong, sustainable pension plan to the university community feels more important than ever. I'm proud to lead our team in working closely with groups across the sector as they explore what UPP offers—now and for generations to come."

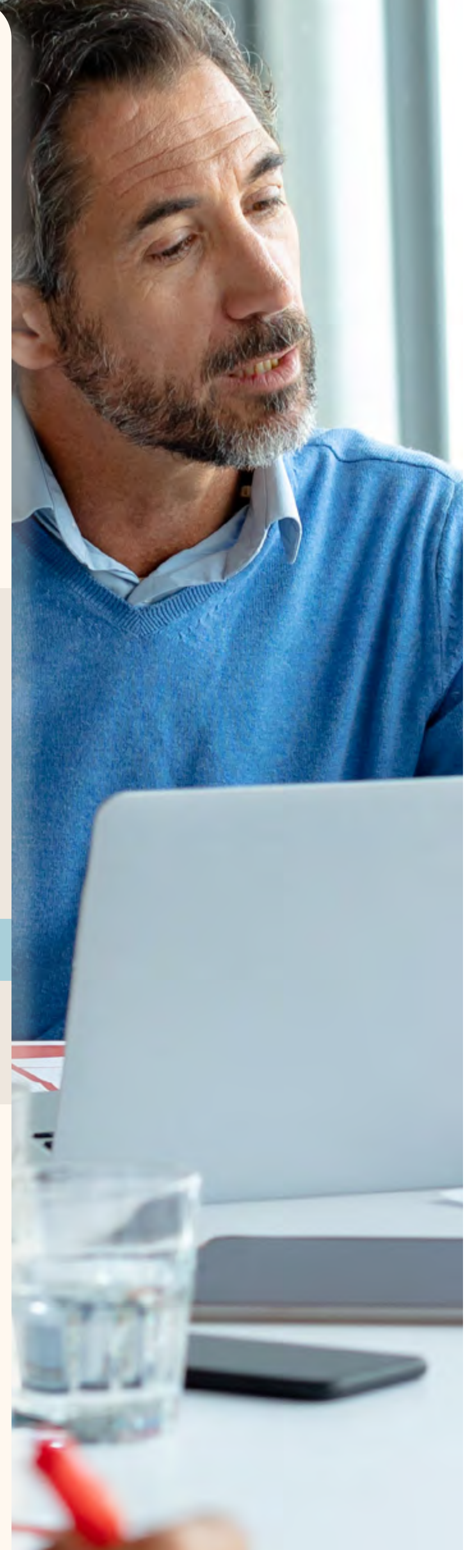
Kathy Johnson
Chief Engagement and Strategy Officer

Bringing nearly two decades of experience in Ontario's university sector, Andrew leads outreach and relations with the university sector, government, and other external stakeholders.

"As someone who's spent their entire career in the university community, I'm deeply connected to UPP's mission of delivering valuable, lifelong pension security tailored specifically for universities. I'm thrilled to contribute to the growth of UPP, helping to bring this best-in-class Plan to even more members across the sector."

Andrew Naples
Managing Director, University Sector and Stakeholder Engagement

EXPLORE SECTIONS



MANAGING COSTS

Managing costs in our transition from build to business as usual

UPP is thoughtfully investing in the foundations for long-term value and scaled advantages for our members. Our costs to date reflect our balanced focus on advancing our structural and operating core, onboarding new participants, and responsibly administering the Plan and investing our assets.

As we complete our foundational build and grow the Plan through new entrants and investment returns, UPP's expenses relative to assets will normalize to a level similar to other more mature peers. As we do so, the foundations built today will prime UPP for economies of scale and long-term cost efficiency to yield outsized benefits and value for members.

Our Corporate Finance team partners with technology and strategy leads across the organization to ensure our investment in systems and capabilities aligns with our expectations and objectives and follows our set glide path toward our more "steady state" expense ratio.

"UPP's cost-conscious approach to budgeting ensures we spend prudently and focus our resources on top priorities to both operate and grow UPP. I'm a big believer in defined benefit pensions—my father is a fortunate recipient of one—and I'm excited to be part of building a resilient Plan that will pay pensions for decades to come."

Suchorita Sen
Managing Director, Corporate Finance

2022 cost profile

Total costs (CAD$millions)	**2022** (full-year)	**2021** (Jul-Dec)
Establishing UPP	N/A	15.6
Investment costs	104.9	60.3
Pension costs	19.7	9.9
Total	**$124.6**	**$85.8**

Note: 2021 investment and pension costs are reported for UPP's first six operating months, from July 1, 2021 to December 31, 2021.

ESTABLISHING UPP

UPP incurred one-time setup costs of $15.6 million in 2021 related to the Plan's launch and associated operating infrastructure, capabilities, controls, and processes. To support UPP's establishment, Ontario's Ministry of Finance exempted the founding single-employer plans of its annual obligation to the Pension Benefits Guarantee Fund, which was used to offset most of the Plan's one-time startup costs.

Investment and pension cost segments

Build and transition

Costs to establish the core structures, talent, and tools to confidently assume pension and investment responsibilities from the founding universities and deliver sustainable financial security to members.

Run the business

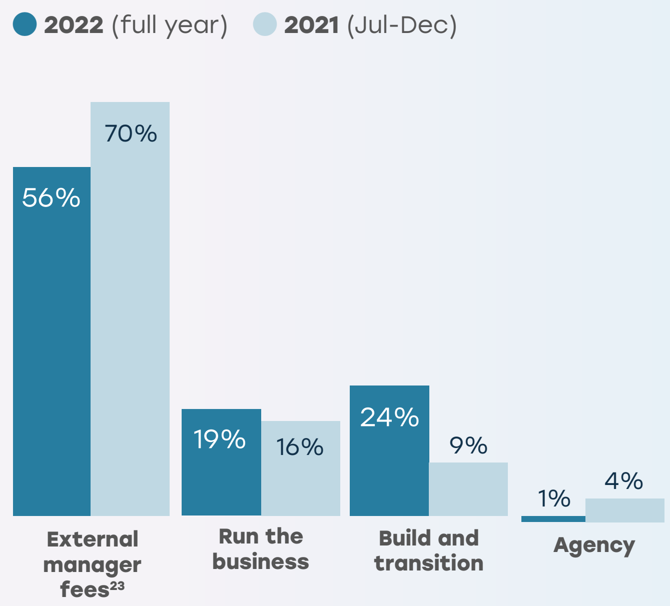
Costs reflecting day-to-day business operations, including people, technology, and corporate functions. We know that a "business as usual" state will take time to achieve and have plotted our path with the realistic view that our foundational build will continue for three to four years.

Agency

Costs associated with the focused agency agreements set with the founding universities, to ensure a smooth member experience and avoid transition risk while UPP thoughtfully builds our infrastructure and systems.

Investment costs

$104.9M
2022 investment costs



$58.7M External manager fees

The fees paid to external investment managers are based on a percentage of the assets they manage. In 2022, we reduced external manager fees in public and interest-rate-sensitive investments by shifting assets from higher-cost active managers in favour of more cost-efficient segregated and passive strategies. We will continue to optimize these exposures as they mature, focusing on managers and strategies that produce value worth their fees through consistent performance and alignment with UPP's investment beliefs.

$20.3M Run the business

The 2022 increase represents growth in our headcount as we build the internal expertise, systems, and processes to execute our investment strategy and shift away from external resources. Costs also include research, technology, data, and external custody fees.

$24.8M Build and transition

In a continuation of our strategic build, in 2022, we established the foundational systems and infrastructure for UPP's internal management and responsible investing capabilities, which enable enhanced transparency and control. This included one-time costs to migrate investment management from the University of Toronto to UPP on March 31, 2022 and establish UPP's "one fund" investment accounting and custodial structure.

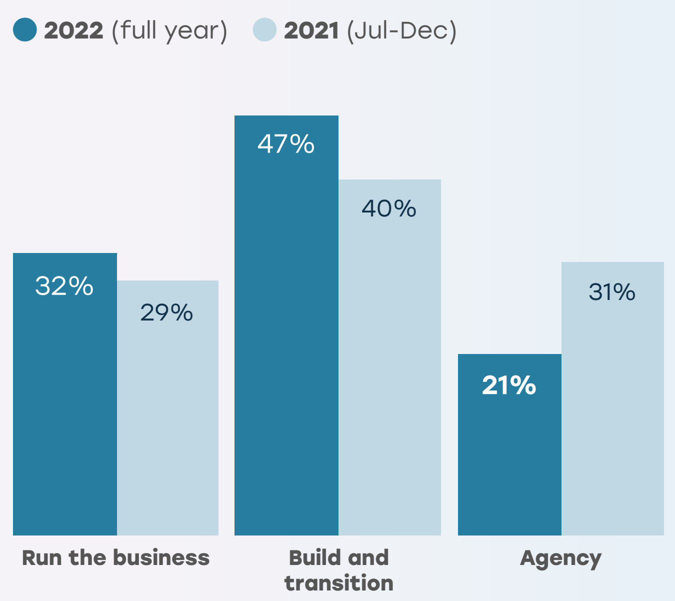
$1.1M Agency

The cost reduction in 2022 reflects the conclusion of an investment agency agreement with the University of Toronto[24] on March 31, 2022. Costs were passed through to UPP on a cost-recovery basis.

[23] Reported in Net Investment Income in the Statement of Changes in Net Assets Available for Benefits
[24] Formally with the Governing Council of the University of Toronto, through its subsidiary, UTAM.

Pension costs

$19.7M
2022 pension costs



UPP has commenced the multi-year build of our comprehensive Pension Administration Solution (PAS) to provide service excellence to members and employers. Costs will begin to be amortized once the PAS is fully operational (estimated in 2025).

$6.3M Run the business
Costs relate to building the capabilities and expertise to support the centralization of our pension administration services, including those in our pension services and corporate functions.

$9.3M Build and transition
We began the development of our PAS and continued enhancing our interim member and employer service offerings.

$4.1M Agency
Costs are for the continued pension administration services provided by the founding universities (and their respective service providers) as agents of UPP and related oversight. Costs are passed through to UPP on a cost-recovery basis.

MANAGING RISK

A risk-smart organization

Disciplined risk management at UPP began from day one and is a responsibility shared by all. Together, UPP's Executive Leadership team and Board help ensure that our risk management and compliance systems meet the Plan's evolving needs and that our risk culture remains strong. The Board and its committees may appoint professional risk advisors for support in fulfilling their risk oversight responsibilities, particularly in forming UPP's inaugural risk frameworks.

Our evolving risk management approach

In 2022, we continued to formalize our risk principles and practices and began the foundations of our Enterprise Risk Management (ERM) Framework, which provides a holistic, integrated view of material risks to the Plan and their relative financial and reputational impacts. This continues as an area of focus for 2023, along with further operationalizing our risk lines of defence. We will report progress on each in future annual reports.

Risk management is not about eliminating all risks or adding complex processes—it is about ensuring we understand, manage, and optimize risks in everything we do and make informed decisions accordingly. Our evolving approach combines systems and cultural elements to build organizational risk awareness and ensure:

- we apply a consistent, strategic risk lens to business decisions
- our risk approach is structured and disciplined, with clear oversight, roles, and responsibilities
- expected returns adequately compensate for the risks taken
- a consensus view of risk and common risk language are shared across the organization

> The development of UPP's 2022–2025 organizational strategy involved an end-to-end risk assessment to validate our areas of strategic focus through a risk lens.

UPP'S ENTERPRISE RISK CATEGORIES

Funding risk
Inability to secure total fund returns to pay benefits when they come due

Strategic risk
Internal or external risks affected or created by UPP's organizational strategy

Operational risk
Potential disruption or loss arising from UPP's people, processes, or systems or from external factors

Regulatory and legal risk
Risk of unawareness of, or non-compliance with, UPP's legal or regulatory environment

Establishing our risk lines of defence

Our risk governance model cascades risk ownership to our functional areas through three "lines of defence," with active oversight by the Board and its committees.

1 First line of defence

The leaders of our organizational functions are our primary risk owners, responsible for managing risks through effective internal controls. Our initial focus after launch was building foundational policies, frameworks, and procedures across our corporate, investment, and pension services functions. In partnership with our functional leads, and with direct oversight from the Board and CEO, investment risk and enterprise risk are overseen by dedicated risk leads.

2 Second line of defence

Focused risk partners such as legal, tax, and compliance–provide controls and oversight of the first line of risk defence. With the majority of our assets externally managed, we prioritized robust investment and operational due diligence leads, protocols, and risk assessment processes. Throughout 2021 and 2022, our due diligence teams held over 70 meetings with managers to understand how they will effectively identify, measure, and manage risk on behalf of UPP.

We also established a Compliance function to support the organization in reviewing and adhering to all applicable compliance requirements. There were no material non-compliances in 2022.

3 Third line of defence

UPP's internal audit function is in development and will provide independent assurance to the Board on the strength of UPP's risk management and control environment.

"We are dedicated to delivering stable returns and managing risk with a consistent, repeatable process so our members can sleep better at night, knowing their pension is in safe hands."

Nelson Chau
Managing Director, Portfolio Construction and Investment Risk

"It's our job to safeguard the longevity of UPP through careful consideration of appropriate investment partners. We scrutinize their operations, infrastructure, people, and controls and assess whether they have the capabilities and experience to deliver what's best for the Plan and our members."

David Higgins
Director of Operational Due Diligence

Internal controls and compliance

Before our 2021 launch, UPP established critical policies to ensure our people were set up to successfully operate the Plan and meet our fiduciary obligations to our members. We have since implemented a comprehensive framework of policies, procedures, controls, and reporting structures to maintain compliance with applicable regulations, standards, and internal policies.

These included our Code of Conduct, Conflict of Interest Policy, Related Party Transaction, and Whistleblowing Policy and reporting platform. To date, there have been no incidents reported through our whistleblowing hotline. All UPP employees are trained on these policies in our onboarding process and must formally acknowledge that they comply with the Code of Conduct.

TECHNOLOGY AND DELIVERY

Enhancing operational value through secure, cloud-centric technology

Our service, investment, and operating models are all enabled by technology.

Cloud technologies with built-in resilient infrastructure and management have enabled organizations to shift away from capital- and emission-intensive physical infrastructure and toward on-demand, business-driven virtual infrastructure.

Unencumbered by legacy systems, UPP is uniquely positioned to leverage such leading tools and practices in our technology and data foundations, bringing efficiency, security, and swift adaptability to change.

Secure by design

Protecting members', employees', and partners' information and our systems' integrity, is central to our data and technology approach. With the National Institute of Standards and Technology Cybersecurity Framework as our standard, we are designing UPP as a highly secure digital workplace.

We continue to advance our security and risk management processes and procedures, with particular focus on cyber resilience and security awareness. Our approach involves robust standards for procurement, legal, and vendor management; a comprehensive cyber-resilience program; and frequent employee awareness training and testing.

In 2022, we welcomed Brian Gill as our new Chief Technology Officer, responsible for UPP's strategic initiatives, technology infrastructure, data analytics, and business intelligence. Brian guides the Technology, Data and Delivery function in interlinking business and technology – bringing our technological advantages in line with strategic objectives while safeguarding our assets.

Brian brings decades of public and private sector experience leading technology-enabled transformations through a business-and-people-first lens.

"Members entrust us with their information to effectively do our job; it's our responsibility in turn to safeguard both their pensions and their data. We do so by placing information and cybersecurity at the core of our approach and prioritizing the resilience of our technology."

Brian Gill
Chief Technology Officer

People and culture

Our people are our success

Each person at UPP contributes their experiences, knowledge, and skills to our vision, working together to help bring retirement peace of mind to members today, and those to come. We believe that supporting people to do their best work benefits everyone and are creating an intentional culture where all employees feel embraced, rewarded, and empowered to perform at their peak.

To help us shape our employee experience and workplace culture, we launched our inaugural employee engagement and culture surveys in 2022. Our Intentional Culture Survey assessed the core values and behaviours of our organization today and those we believe are important for future success. Our Employee Engagement Survey provided a forum where employees shared their experiences and insights about working at UPP.

Participation in both surveys was industry leading, with a 95% response rate on the Employee Engagement Survey and a 92% response rate on the Intentional Culture Survey, supplemented with highly attended interviews and focus groups.

When asked what brings them to work every day, UPP employees say it's our people, our purpose, and the inspiring possibilities that lie ahead.

95%+ employees agree that our workplace is diverse and inclusive, and see that commitment in action each day (12% above best-in-class benchmark)[25]

95% of employees say they are proud to work for UPP (12% above best-in-class benchmark)[25]

The survey insights informed an array of organizational initiatives and metrics to help us continually adapt to the evolving needs of our workplace and the people within it, which is key to attracting, retaining, and engaging top talent. Learn more about careers at UPP.

[25] Mercer Employee Engagement Survey Benchmarking Report for Canadian Financial Services

UPP EMPLOYEE REFLECTIONS

"There's a sense that we're all connected to something that matters. We all bring different things, and each person in the organization contributes to the whole. There's a strong sense of it, and it feels different than any other organization I've worked with."

"There's an intangible thing here – a real clarity of purpose. It's what attracted many of us."

"UPP's culture of openness, respect, professionalism, and being down-to-earth is the recipe for the best work environment."

Equity, Diversity, Inclusion, and Reconciliation at UPP

Together, we at UPP are shaping an inclusive workplace built on collaboration and respect for one another and the world around us.

Our Equity, Diversity, Inclusion, and Reconciliation (EDI & Reconciliation) program and three-year roadmap are the blueprints for our inclusive, respectful working environment and our way of honouring the Truth and Reconciliation Commission's Call to Action #92.

Our roadmap is rooted in our belief that diverse teams, perspectives, and lived experiences spark better decisions and outcomes, new thinking, and a thriving work environment–all essential foundations to strong performance. Read more about EDI & Reconciliation at UPP.

2022 EDI & Reconciliation highlights

Make everyone accountable: We welcomed Sonam Ringpa, UPP's Associate Director of EDI & Reconciliation to champion our inclusive culture and supporting programs, practices, and initiatives.

"I'm thrilled to join an organization with such a remarkable commitment to equity and inclusivity at every level, and excited about the thoughtful and intentional culture being built at UPP as we become a champion of and thought leader for EDI & Reconciliation."

Sonam P. Ringpa
Associate Director of EDI & Reconciliation

We also formalized our Equity, Diversity, Inclusion, and Reconciliation (EDI & Reconciliation) Policy and Inclusive Language Guidelines and embedded EDI & Reconciliation objectives and metrics within our organizational scorecard. Together, these guiding documents create shared understanding and reinforce accountability across the organization.

Create an equitable, bias-free, and inclusive culture: We formed our first Employee Resource Group (ERG), Inclusion @ UPP, to lead our events and initiatives to support education, awareness, and allyship. In 2022, employees regularly participated in events and speaker series to learn from and share the experiences and cultures of diverse communities.

Examples:

- **National Day for Truth and Reconciliation:** Indigenous HR leader Tracey King led a fireside chat that detailed ways to be an inclusive employer for Indigenous Peoples.
- **Black History Month:** University of Toronto professor Maydianne Andrade led a deep-dive discussion on recognizing unconscious bias and how to interrupt it.
- **International Women's Day:** UPP's female executive leaders and Board Chair shared their experiences as women in the workplace and gave advice on how to prevent and overcome institutional biases and myths.
- **Nowruz:** Employee-led programming marked the first day of spring and the beginning of the New Year in the Persian calendar.

We also launched an EDI & Reconciliation centre on UPP's intranet as a central hub for information and resources on what EDI & Reconciliation means for our organization and how we can put our commitments into action as we learn, share, and reflect as individuals and as a collective.

Leverage EDI & Reconciliation to enhance performance: We embedded EDI & Reconciliation-related criteria and scoring into our procurement process and collaborative analysis at all stages of the investment lifecycle. Our criteria consider a company's EDI & Reconciliation policies and practices, associated roles and responsibilities, targets (and progress against), and company diversity, including firm leadership and Investment team(s).

Build team diversity: We launched our voluntary Self-Identification Survey to understand the representation of our employees and job applicants. This baseline informs and focuses our EDI & Reconciliation program and talent practices. Our talent approach includes a commitment to target 50% diverse candidates for first-round interviews and partnerships with leading organizations to help us implement best practices and further diversify our hiring pipeline.

72% of employees participated in our Self-Identification Survey

63% of our employees and 21% of our Trustees are racialized or represent different dimensions of diversity, including LGBTQ+ and persons with disabilities

Women representation at UPP is above industry average:

50%	71%	45%	57%
Board of Trustees	Executive leadership	Investment division	All levels

Strong value starts with good governance

UPP is a jointly sponsored pension plan (JSPP), meaning governance and risk are shared between members and employers, where each has equal say in plan design, funding, and administration.

Joint governance ensures a high degree of accountability and transparency while putting the interests of Plan members at the centre of every decision.

How it works at UPP

Guided by clearly defined mandates, UPP's Joint Sponsors, Board of Trustees, and Management work in concert to ensure the Plan is run efficiently, strategically, prudently, and in the best interest of all Plan members.

Role of the Joint Sponsors

UPP is jointly sponsored by representatives of our participating universities in equal partnership with member union and faculty association representatives. UPP's Joint Sponsors include a six-member Employer Sponsor Committee and a six-member Employee Sponsor Committee (seats are evenly split between faculty associations and unions, as set out in a Labour Sponsor Agreement). Each Sponsor Committee has an established advisory structure as one of many mechanisms to exchange information and views among UPP's growing membership.

The Joint Sponsors are together responsible for all decisions about the terms and conditions of UPP, including:

- amending Plan design, including benefit, contribution, and indexation levels

  > The Joint Sponsors' Funding Policy guides decisions on Plan design and risk sharing. It was designed specifically to maintain contribution stability, protect benefit security, manage intergenerational integrity, and achieve long-term Plan sustainability.

- determining when to file funding valuations and how to address any funding shortfalls and surpluses, per the Sponsors' Funding Policy
- appointing the Plan's Administrator

  > The Joint Sponsors appoint a Board of Trustees as UPP's legal Administrator, with a fiduciary obligation to all Plan members. The Board includes six Trustees selected by the Employer Sponsor, six by the Employee Sponsor, one nominated by non-unionized members and appointed by the Employee Sponsor, and an independent, jointly appointed Chair.
  >
  > UPP's 14 Trustees bring varied experience and deep expertise in areas important to UPP, as assessed under the Joint Sponsors' Attributes, Skills, and Competencies Framework.

- setting terms for and approving new participating organizations

EMPLOYER SPONSOR COMMITTEE

Donna Janiec, Queen's University

Steven Millan, Queen's University

Martha Harley, University of Guelph

Sharmilla Rasheed, University of Guelph

Angela Hildyard, University of Toronto

Kelly Hannah-Moffat, University of Toronto

"UPP is fulfilling the vision that our universities spent more than a decade building: a stable, well-managed defined benefit plan that will provide guaranteed income for our communities now and for generations to come. As I prepare for my own retirement after a long career at Queen's, I'm grateful to be a member of UPP, and to soon benefit from its secure and valuable pension income."
– Steven Millan, Employer Sponsor representative

"Having contributed to UPP's development since its early days, I am proud to see its continued growth and maturity in its second year. Together, we have built a stable, valuable pension plan that reflects our unwavering commitment to long-term retirement security for the people who make our university communities thrive. UPP's dedication to safeguarding the financial security of its members gives me peace of mind for my own upcoming retirement."
– Martha Harley, Employer Sponsor representative

EMPLOYEE SPONSOR COMMITTEE

Kelly Sedore, CUPE

Robert Hickey, QUFA

Herb Kunze, UGFA

John Tartt, USW

Colleen Burke, USW

Lisa Kramer, UTFA

"The current economic state has reinforced how vulnerable our retirement security can be and the importance of having a sustainable defined pension plan for our members. UPP is committed to building a bright future for its members through joint governance, stable funding, and predictable retirement income. We are seeing a high degree of interest from union leadership wanting to meet with UPP so their locals can learn more about what this innovative plan offers their members."
– Kelly Sedore, Employee Sponsor representative

"UPP has made significant progress in its second year to deliver on the shared goal of pension security for our university communities. Employers and employees are equal partners in making governance decisions, which means members have an equal voice in the plan's operations and evolution. We continue to build a robust advisory structure to promote inclusivity and transparency for all groups participating in the Plan, demonstrating our commitment to active and joint representation as additional universities join UPP."
– Lisa Kramer, Employee Sponsor representative

Role of the Board of Trustees

UPP's independent Board of Trustees (the Board) is responsible for directing and overseeing the day-to-day administration of UPP and the investment of our assets—as delegated to Management—with the best interests of Plan members at the heart of every decision. This includes (but is not limited to) oversight of UPP's strategy implementation, investment approach and policies, annual budgets, risk profile, benefit administration, and executive compensation.

The Board also approves the audited financial statements and conducts annual preliminary funding valuations to monitor the Plan's long-term financial health, which are reviewed each year with the Joint Sponsors. The actuarial assumptions for these valuations, including the discount rate, are set by the Board, in line with the Canadian Institute of Actuaries Standards of Practice.

The Board governs the Plan in accordance with the Pension Benefits Act (Ontario) and the Income Tax Act (Canada), as well as UPP's Trust Agreement, Plan Text, and common law.

STANDING COMMITTEES OF THE BOARD

The Board's five standing committees oversee Management activities and make recommendations to the Board in areas specified in their respective mandates. The Board approves committee recommendations in its oversight of UPP's operational, investment, strategic, and governance matters. While executive leads are assigned to each committee, no member of Management sits on a committee or the Board.

2022 BOARD AND COMMITTEE MEETINGS

The Board meets no less than once each quarter, with committee meetings occurring on a more frequent basis.

49
Trustee meetings

8
focused education sessions

75
resolutions passed

	Meeting in 2022	Average attendance
Full Board of Trustees	8	97%
Audit and Finance Committee	6	97%
Governance Committee	9	93%
Human Capital Committee	8	100%
Investment Committee	11	95%
Pension Services Committee	7	90%

2022 Board highlights

Engagement and education

As UPP evolves as an organization, shared understanding and mission clarity help us move together toward a common goal. Throughout the year, the Board and Management team engaged in deep discussion, focused education, and consultation with internal and external experts to form an aligned vision, coalesce on critical strategic objectives, and set a unified knowledge baseline.

In-house education topics in 2022 included:

- actuarial analysis and discount rate-setting
- compensation modelling best practices
- enterprise risk management
- the Canadian economic outlook and global macroeconomic trends
- unconscious biases and advancing Indigenous reconciliation
- ESG geopolitical trends and COP27

In addition to management presentations and in-house education, Trustees are encouraged to attend conferences and courses and pursue other relevant professional development opportunities and designations.

UPP regularly meets with the Joint Sponsors to inform and consult on Plan matters and provide updates on our organizational build. We share educational materials with the Joint Sponsors to help inform their decisions and build a common information foundation.

Commitment to Board effectiveness

UPP's Board of Trustees is committed to high governance standards in its oversight role and conducts regular evaluations and reviews to uphold good governance practices. This involves periodic assessments of UPP's governance structures, mandates, and policies to ensure they continue to promote governance excellence and leverage the inherent strength of our Board.

Trustee self-assessments

To understand the evolving breadth and depth of the Board's skills and expertise, a confidential self-assessment is performed by each Trustee annually against a matrix of skills relevant to the Plan. Assessments are used to inform education and development opportunities and committee composition and to determine where the Board would benefit from independent advice in the review of major projects and initiatives.

Self-assessment criteria include directorship experience, investment and asset management, risk, accounting and finance, legal/governance and regulatory, stakeholder and labour relations, communications and media relations, talent management and compensation, culture, technology and data, actuarial and funding, climate/sustainability and social responsibility, governance, pension administration and finance, and strategy.

Board evaluation

In 2022, the Board partnered with an independent advisor to establish an annual process for evaluating its performance and that of its committees. The in-depth process involved interviews and surveys among all Trustees and executive leaders about UPP's evolving governance approach and culture. The results informed action plans to ensure that UPP's delegated authority between the Board, its committees, and Management team remains appropriate and efficient and that UPP maintains a strong governance culture grounded on open communication and clear accountabilities.

Board committee reviews

Committee compositions and mandates are reviewed annually and periodically refreshed to reflect the needs of UPP's evolving strategy, accommodate new Trustees, and bring new perspectives and diversity to each of our committees. Committee mandates and compositions were adjusted in 2022 on this basis.

Board Code of Conduct and related policies

The Board of Trustees places the utmost importance on sound ethical conduct and business practices. All Trustees provide an annual Code of Conduct and related policies attestation, which includes a declaration of any real or potential conflicts of interest, related parties, outside interests, and business courtesies. Trustees are prohibited from knowingly allowing their own interests to conflict with their UPP duties and powers and must at all times act in the sole interest of UPP's members and beneficiaries.

Board appointments and reappointments

In 2022 and early 2023, new Trustees Laura Brownell (appointed by Employee Sponsor) and Pierre G. Piché (appointed by Employer Sponsor) joined the Board, replacing Sheila Block and Helen Sinclair. Alex McKinnon and Hugh Mackenzie were reappointed by the Employee Sponsor, and Janet Ecker by the Employer Sponsor, all for a second three-year term.

The UPP Board of Trustees thanks Sheila and Helen for their invaluable contributions and dedication and welcomes UPP's newest Trustees.

UPP's Board of Trustees

Note: The following reflects Board composition and committee representation at the time of reporting, in June 2023. Our Trustees bring a deep range of experience and expertise across sectors and disciplines.

Read the Trustees' full biographies and committee mandates.

Gale Rubenstein, Independent Chair
Joint Sponsor-appointed in 2020, ex officio member of all Board committees

Alan Jette, Employer Sponsor-appointed in 2020,
Investment Committee (Chair)

Alex D. McKinnon, Employee Sponsor re-appointed in 2022,
Pension Services Committee (Chair), Audit and Finance Committee

Hazel Claxton, Employer Sponsor-appointed in 2020,
Audit and Finance Committee (Chair), Human Capital Committee

Horatio Bot, Employee Sponsor-appointed in 2020, represents non-unionized members, Audit and Finance Committee, Pension Services Committee

Hugh Mackenzie, Employee Sponsor re-appointed in 2022,
Investment Committee, Human Capital Committee

Janet Ecker, Employer Sponsor re-appointed in 2022,
Pension Services Committee, Governance Committee

Jonathan Ferris, Employee Sponsor-appointed in 2020,
Human Capital Committee

Kathy Bardswick, Employer Sponsor-appointed in 2020,
Governance Committee, Human Capital Committee

Laura Brownell, Employee Sponsor-appointed in 2022,
Audit and Finance Committee, Pension Services Committee

Leanne Mac Millan, Employee Sponsor-appointed in 2020,
Governance Committee, Human Capital Committee

Pierre G. Piché, Employer Sponsor-appointed in 2023,
Audit and Finance Committee, Pension Services Committee

Ron Mock, Employer Sponsor-appointed in 2020,
Human Capital Committee (Chair), Investment Committee

Sue Wurtele, Employee Sponsor-appointed in 2020,
Governance Committee (Chair), Investment Committee

Role of Management

Accountability for UPP's day-to-day operational, strategic, and risk matters is delegated by the Board to the President and CEO and her Executive Leadership team through formal policies. Delegation is reviewed and approved by the Board at least annually.

UPP's Executive Leadership team houses the leads of each internal division, serving as an advisory body to the President and CEO. This team, in tandem with UPP's broader leadership team, brings a wide range of global experience and expertise to the organization and is responsible for building the Plan's foundations, establishing our overall strategic direction, and ensuring UPP delivers on our long-term investment, service, risk, and growth strategies. They also serve as models for our values-based culture.

Learn more about UPP's executive and senior leadership teams.

Barbara Zvan
President and Chief Executive Officer

Aaron Bennett
Chief Investment Officer

Christine Chen
General Counsel

Henry Kim
Chief Financial Officer and Head of Operations

Joanna Lohrenz
Chief Pension Services Officer

Omo Akintan
Chief People Officer

Kathy Johnson
Chief Engagement and Strategy Officer

Brian Gill
Chief Technology Officer

Compensation discussion and analysis

UPP's total rewards philosophy

As an organization responsible for delivering dependable pension income to nearly 40,000 members and investing assets of over $10 billion, our results depend on our ability to attract and retain talented employees in a competitive environment. We believe that our mission to build a high-performing organization and provide lifelong pension security to the university community is attractive to employees, and pay particular attention to creating a culture that makes UPP a place where people want to work. That includes a compensation structure that makes us competitive in the market for specialized talent and rewards performance fairly and appropriately.

Our Total Rewards program and performance management framework, Strive and Thrive, closely integrate with our organizational strategy to create clarity of purpose and alignment. The objectives of this dual approach are to:

Align the organization: Reinforce and reflect our organization's vision and values, ensuring our employees act with integrity, inclusivity, ingenuity, and impact.

Drive our strategy: Encourage prudent decision-making and informed judgment in line with our long-term strategy by rewarding successes on both annual and long-term objectives.

Promote desired behaviours and accountability: Encourage a collaborative culture and one-UPP mindset, with a focus on both what we achieve and how we achieve it and accountability for the short- and long-term impacts of our decisions on both the organization and communities around us.

Stay competitive to attract and retain top talent: Position UPP to be market-aligned and externally competitive in our compensation approach, to engage qualified talent in executing our visions.

Fairly reward strong performance: Apply equitable and fair employee practices, ensuring all employees at each job level have the same development and reward opportunities.

STRIVE AND THRIVE PERFORMANCE MANAGEMENT

UPP recognizes performance and differentiates rewards based on successful contribution to individual and organizational goals, which encompass financial, non-financial, and cultural aspects.

To maintain focus on our mission to deliver valuable, lifelong pension security to members, we develop an annual scorecard containing organizational goals, with corresponding measures and objectives aligning to the pillars of our organizational strategy. The scorecard ensures a balanced focus between key short-, medium-, and long-term objectives. Individual goals are set each year against scorecard and cultural objectives, which cascade from the CEO and Executive Leadership team to each UPP employee.

Through our Strive and Thrive framework, employee performance is assessed and managed against the strategic objectives expressed in our organization scorecard and individual goals, as well as individual intentions for living our core values.

A phased build for structure and flexibility

Great rigour has been applied in setting UPP's compensation structure as we mature. In 2022, as a continuation of this work, we engaged independent advisors to help further align our program with our long-term objectives and market practices. Our next phase of compensation elements was developed and approved by the Board in 2022, for implementation in 2023.

Total rewards elements

UPP offers total rewards (base salary, incentive pay, benefits, and our defined benefit pension plan) that are market competitive and intended to support our organizational objectives and purpose. Compensation elements in 2022 reflect UPP's phased program design, guided by defined principles set between Management and the Board.

Compensation components

Base salary

Each UPP employee is assigned a job level with a corresponding salary band providing market-competitive pay for the responsibilities, skills, knowledge, and experience required for a particular role. Salaries are reviewed upon hire, annually, and with material changes in role or responsibilities.

Performance incentives

Each year, UPP employees receive an incentive target set consistent with market levels. Incentives are designed to reward individuals for performance against specified organizational and individual objectives (financial and non-financial). Annual performance evaluations are calibrated into Board-approved organizational and individual performance multipliers, which are used to determine individual incentive allocations.

The compensation mix is designed such that, generally speaking, employees with more influence over organizational performance have a larger share of their compensation as variable annual incentives, or pay at risk. For example, at the Executive Leadership team level, the target incentive component exceeds base salary.

> In 2023, we will implement a new variable, weighted incentive structure with a deferred component to further align leadership compensation with long-term performance and with industry best practices.

Benefits and other rewards

UPP offers a comprehensive, wellness-focused insurance and benefit program that includes health and dental benefits (with extended coverage for paramedical services, mental health, fertility, gender affirmation, and travel), life insurance, disability, vacation and other leave policies (including an eight-week "work from anywhere" program), and a family assistance program. Employees also receive a defined benefit pension under the UPP Plan.

Market benchmarking

In 2021, UPP retained Mercer Canada to independently evaluate and benchmark the majority of UPP's roles against third-party market data, ensuring a sound job hierarchy and detailed compensation structure. The data points were carefully scoped to reflect UPP's size and stage, business operations, and each role's respective talent market.

In 2022, we established an in-house Total Rewards team to oversee our external benchmarking activities and bring a focused and consistent market lens to our recruitment and talent strategies. The team monitors market data to ensure that roles are consistently benchmarked and evaluated and that UPP's compensation remains competitive and in line with our principled pay practices.

Compensation oversight

Total rewards practices at UPP adhere to a formal governance process established by our Board of Trustees. The Human Capital Committee (HCC) of the Board is responsible for overseeing and recommending UPP's developing compensation philosophy and approach, policies, and programs for Board approval. Where appropriate, the HCC engages independent compensation advisors to support its review of Management's recommendations.

UPP's CEO and Chief People Officer oversee the implementation of the compensation program and make recommendations to the HCC and Board on program design, base salary budgets, incentive compensation awards, and executive pay. The Board determines total compensation for the CEO and Executive Leadership team, while the HCC approves the CEO's recommendation on aggregate annual incentives for all other employees.

> As our program evolves, we remain committed to building a rewarding and fulfilling environment for our people and delivering long-term value for all Plan members.

Executive compensation

As described on the previous page, executive compensation at UPP is determined by the Board of Trustees. Refer to the table to the right for 2022 compensation for UPP's Named Executive Officers (NEOs), being the President and CEO, Chief Financial Officer, and three other highest-paid executive officers.

Executive compensation is set in line with UPP's 50th percentile pay target. Annual incentives consider an array of financial and non-financial performance dimensions. With 2022 as a foundational build year for UPP, these dimensions included the speed and success with which Management established core infrastructure, systems, and capabilities in line with UPP's strategic objectives, as discussed throughout this annual report.

Generally, in addition to their remuneration, Trustees are reimbursed for reasonable and necessary expenses incurred in carrying out the business of UPP. These reimbursements relate primarily to travel, meals, and accommodations related to attendance at UPP Board, committee, or similar meetings or to relevant professional and educational programs or designations. For 2022, these expenses totalled $32,600 (2021: $13,900 for UPP's six operating months from July to December).

2022 Executive Compensation

($ thousands, annualized)	Base salary A	Annual incentive B	Benefits C	Pension contribution D[26]	Total A+B+C+D
Barbara Zvan President and Chief Executive Officer	500.0	966.0	8.7	20.5	1,495.2
Aaron Bennett Chief Investment Officer	350.0	759.0	8.7	26.4	1,144.1
Henry Kim Chief Financial Officer and Head of Operations	325.0	537.7	8.7	20.5	891.9
Christine Chen General Counsel	325.0	488.8	8.6	28.7	851.1
Joanna Lohrenz Chief Pension Services Officer	280.0	510.6	9.2	20.5	820.3

2022 Board of Trustee remuneration

($ thousands)	
Chair	150
Trustee	50

[26] Changes in pension values are not included in total compensation.

Financial statements

Management's Responsibility for Financial Reporting

The financial statements of the University Pension Plan Ontario ("UPP") have been prepared by management and approved by the Board of Trustees. Management is responsible for the preparation and fairness of the financial statements, which have been prepared in accordance with Canadian accounting standards for Pension Plans, as set out in the Chartered Professional Accountants of Canada Handbook Section 4600 – Pension Plans. The financial statements also comply with the financial reporting requirements of the Pension Benefits Act (Ontario) and Regulations (PBA). For accounting policies that do not relate to its investments or pension obligations, the financial statements follow the requirements of International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board. To the extent that IFRS in Part 1 is inconsistent with Section 4600, Section 4600 takes precedence. The financial statements include certain amounts based on management's judgments and best estimates where deemed appropriate.

Systems of internal controls and procedures over financial reporting and disclosure controls have been designed and established to maintain proper records and to safeguard the assets. These controls include appropriate segregation of responsibilities, an organizational Code of Conduct, and accountability policies and framework that outlines delegated authorities at UPP. We report any significant deficiencies to the Audit and Finance Committee ("Committee") of the Board of Trustees of UPP.

The Committee assists the Board of Trustees in discharging its responsibility to approve the annual financial statements. The Committee meets regularly with management and with the External Auditors to discuss the scope and findings of audits and to satisfy itself that their responsibilities have been properly discharged.

The Committee reviews the annual financial statements and recommends them to the Board of Trustees for approval. UPP's External Auditor, PricewaterhouseCoopers LLP, (the "External Auditor") have conducted an independent audit of the financial statements in accordance with Canadian generally accepted auditing standards, performing such tests and other procedures as they consider necessary to express an opinion in their Auditor Report. The External Auditors have full and unrestricted access to management and the Committee to discuss findings related to the integrity of UPP's financial reporting and the adequacy of internal control systems.

Barbara Zvan
President and Chief Executive Officer

Suchorita Sen
Managing Director, Corporate Finance

June 8, 2023

Actuarial Opinion

Eckler Ltd. (Eckler) was retained by the University Pension Plan Ontario Board of Trustees (the "Board"), as legal administrator of the plan, to perform an actuarial valuation of the going concern liabilities of University Pension Plan Ontario ("UPP" or "the Plan") as at January 1, 2023 for inclusion in UPP's financial statements covering the period from January 1, 2022 to December 31, 2022 in accordance with Section 4600 of Part IV of the *Chartered Professional Accountants of Canada (CPA Canada) Handbook*.

The valuation of UPP's actuarial liabilities was based on:

- UPP provisions in effect at December 31, 2022
- membership data provided by UPP as at November 1, 2022, appropriately extrapolated to December 31, 2022 and reflecting member movement and payouts to December 31, 2022;
- methods prescribed by Section 4600 of the CPA Canada Handbook for pension plan financial statements; and
- assumptions regarding future investment returns, inflation, salary growth and demographic experience, etc., as approved by the Board, in consultation with Eckler;

This valuation was undertaken for purposes of the Plan's financial statements under Section 4600 of the CPA Canada Handbook and it might not be suitable for other purposes. Any party reviewing these valuation results for other purposes should have their own actuary or other qualified professional assist in their review to ensure that the party understands the assumptions, results and uncertainties inherent in our estimates.

We have reviewed the data used for the valuation and have performed tests of reasonableness and consistency, and it is our opinion that the membership data on which the valuation is based are sufficient and reliable for the purpose of the valuation. Additionally, it is our opinion that the assumptions and the methods employed in the valuation are appropriate for the purpose of the valuation.

The actuarial value of assets used for plan funding purposes was determined based on the financial information provided by UPP Management and the actuarial asset valuation methodology adopted by the Board.

Notwithstanding the foregoing opinion, emerging experience differing from the assumptions will result in gains or losses which will be revealed in future valuations.

Our valuation has been prepared, and our opinions given, in accordance with accepted actuarial practice in Canada.

Jill Wagman
Fellow, Canadian Institute of Actuaries

Jasenka Brcic
Fellow, Canadian Institute of Actuaries

June 8, 2023

Independent auditor's report

To the Trustees of University Pension Plan Ontario

Our opinion

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of University Pension Plan Ontario (the Plan) as at December 31, 2022 and 2021 and the changes in its net assets available for benefits and changes in its pension obligations for the years then ended in accordance with Canadian accounting standards for pension plans.

What we have audited

The Plan's financial statements comprise:

- the statement of financial position as at December 31, 2022 and 2021;
- the statement of changes in net assets available for benefits for the years then ended;
- the statement of changes in pension obligations for the years then ended; and
- the notes to the financial statements, which include significant accounting policies and other explanatory information.

Basis for opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report.

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

Independence

We are independent of the Plan in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada. We have fulfilled our other ethical responsibilities in accordance with these requirements.

Other information

Management is responsible for the other information. The other information comprises the information, other than the financial statements and our auditor's report thereon, included in the Annual Report.

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of management and those charged with governance for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for pension plans, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Plan's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Plan or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Plan's financial reporting process.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Plan's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Plan to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Chartered Professional Accountants, Licensed Public Accountants
Toronto, Ontario

June 8, 2023

Statement of Financial Position

As at December 31 (Canadian $ in thousands)		**2022**		**2021**
Net Assets Available for Benefits				
Assets				
Investments (Note 4)	$	10,818,524	$	11,649,544
Investment-related assets (Note 4)		9,335		159,589
Contributions receivable:				
Employee		532		1,296
Employer		1,764		1,200
Other assets		31,801		23,603
Total Assets		10,861,956		11,835,232
Liabilities				
Accounts payable and accrued liabilities		17,517		14,225
Investment-related liabilities (Note 4)		81,480		26,252
Total Liabilities		98,997		40,477
Net Assets Available for Benefits		10,762,959		11,794,755
Accrued Pension Obligations and (Deficit) Surplus				
Accrued pension obligations (Note 7)		11,412,569		10,602,828
(Deficit) Surplus:				
Funding surplus		378,929		1,191,927
Actuarial value adjustment (Note 7)		(1,028,539)		-
Total (Deficit) Surplus		(649,610)		1,191,927
Accrued Pension Obligations and (Deficit) Surplus	$	10,762,959	$	11,794,755

See accompanying notes to financial statements.

On behalf of the Trustees: [signature]

Gale Rubenstein, Board of Trustees Chair

Statement of Changes in Net Assets Available for Benefits

Years ended December 31 (Canadian $ in thousands)		2022		2021
Changes due to Investment Activities				
Net investment (loss) income (Note 6)	$	**(1,113,268)**	$	647,980
Investment administrative expenses (Note 10)		**(45,400)**		(18,043)
Total Changes due to Investment Activities		**(1,158,668)**		629,937
Changes due to Pension Activities				
Transfer from predecessor plans (Note 3)		**277,236**		11,232,518
Contributions (Note 8)		**419,910**		214,338
Benefit payments (Note 9)		**(550,557)**		(253,832)
General and pension administrative expenses (Note 10)		**(19,717)**		(25,550)
Total Changes due to Pension Activities		**126,872**		11,167,474
Total (decrease) increase in Net Assets Available for Benefits		**(1,031,796)**		11,797,411
Net Assets (Liabilities) Available for Benefits, Beginning of Year		**11,794,755**		(2,656)
Net Assets Available for Benefits, End of Year	$	**10,762,959**	$	11,794,755

See accompanying notes to financial statements.

Statement of Changes in Pension Obligations

Years ended December 31 (Canadian $ in thousands)		2022		2021
Increase in Pension Obligations				
Transfer from predecessor plans (Note 3)	$	**271,393**	$	10,151,124
Current service costs		**410,249**		186,507
Interest on accrued benefits		**589,052**		317,431
Changes in actuarial assumptions		**29,355**		190,941
Past service buybacks		**8,440**		10,657
Net experience losses		**51,809**		-
Total Increase		**1,360,298**		10,856,660
Decrease in Pension Obligations				
Benefit payments (Note 9)		**550,557**		253,832
Total Decrease		**550,557**		253,832
Total increase in Pension Obligations		**809,741**		10,602,828
Pension Obligations, Beginning of Year		**10,602,828**		-
Pension Obligations, End of Year	$	**11,412,569**	$	10,602,828

See accompanying notes to financial statements.

Notes to the Financial Statements

1. Description of the Plan

(a) General

The University Pension Plan Ontario (UPP or the Plan) and the Trust Fund (the Fund) were established on January 1, 2020, pursuant to a Sponsors' Agreement between the Employee Sponsor (made up of the Faculty Associations and the Non-Faculty Unions that sponsor and participate in the Plan acting through their Employee Sponsor Committee) and the Employer Sponsor (made up of the Universities that sponsor and participate in the Plan, acting through their Employer Sponsor Committee) and a Trust Agreement between the Employee Sponsor, the Employer Sponsor and the Board of Trustees as the legal administrator of the new jointly sponsored pension plan (JSPP).

As a trust, without separate legal personality, UPP must act through its Board of Trustees, who take all actions and enter all contracts in their capacity as Trustees. The UPP Board of Trustees is comprised of 14 individuals including an independent Chair and was established as plan administrator through the Trust Agreement between the joint sponsors officially constituted on January 1, 2020.

Member universities transitioning their existing single employer pension plans (collectively the Predecessor Plans) to UPP include the following (see Note 3):

- On July 1, 2021, the net assets and pension obligations of the Revised Pension Plan of Queen's University, the University of Toronto Pension Plan, Pension Plan for Professional Staff of University of Guelph, the Pension Plan for Non-Professional Staff of University of Guelph, and the Retirement Plan of University of Guelph were transferred to UPP.
- On January 1, 2022, the net assets and pension obligations of the Contributory Pension Plan of Trent University Faculty Association were transferred to UPP.

In addition, on January 1, 2022, the staff of the University of Guelph and University of Toronto faculty associations and eligible UPP employees joined UPP. These are new pension plans with no net assets and pension obligations transferred.

The Plan is registered provincially under the Pension Benefits Act Ontario (PBA) with the Financial Services Regulatory Authority of Ontario (FSRA) and federally under the Income Tax Act (Canada) with the Canada Revenue Agency under registration number 1357243.

The Plan is a registered pension plan as defined in the Income Tax Act and is not subject to income tax in Canada. The Plan may be subject to tax on income earned in other jurisdictions.

The following is a summary description of the Plan. For more complete information, reference should be made to the Plan text.

(b) Funding

Plan benefits are funded by member and employer contributions and investment income. The determination of the Plan's funded status and contribution requirements to fund regular benefits and any deficits are made on the basis of periodic actuarial valuations.

(c) Contributions

Each member shall contribute to the Plan by payroll deductions each Plan Year effective July 1, 2021, 9.2% of pensionable earnings up to or equal to the Year's Maximum Pensionable Earnings (YMPE) and 11.5% of pensionable earnings above the YMPE up to the maximum pensionable earnings for contributions. Contributions made by members of the Plan are matched 100% by their employers.

(d) Retirement Pensions

Under the Plan, active members have two parts to their pensions. The first part is brought in from the pension plan they were previously participating in before they joined UPP, which is called pre-conversion service. In this first part, members keep the pensions they've earned based on the prior plan's benefit formula for service to the transfer date. The pre-conversion service does not change going forward; however, the pre-conversion pensions can increase as members' future earnings increase.

The second part is for service on and after transfer date, which is called post-conversion service or UPP service. All active members from any prior plan can only earn UPP service on and after the transfer date. UPP pensions are determined in accordance with the Plan text using a formula that considers a member's best average earnings as the highest 48 months of pensionable earnings up to a maximum limit under the Income Tax Act, average of YMPE established by the federal government in the last 48 months before a member's retirement, and years of pensionable service. A member is eligible for a reduced retirement pension from age 55. An unreduced retirement pension is available from age 65 or on and after age 60 if the sum of a member's age and qualifying service equals at least 80 at such pension commencement date.

(e) Inflation Protection

Inflation protection is designed to increase the amount of a pensioner's monthly pension to maintain purchasing power.

Under UPP, pensioners receive pre-conversion inflation protection based on the prior plan's indexing formula which varies by each plan joining UPP. For post-conversion service, UPP's target funded conditional indexation is 75% of the increase in Consumer Price Index for Canada. The funded conditional indexing is subject to the Plan's funded status and terms of the Funding Policy, and is not guaranteed at this level except during the first 7 years of the Plan for UPP service.

(f) Death Benefits

Death benefits are available on the death of an active member, deferred vested member, or retired member. For retirees, the survivor benefit depends on the guarantee period and/or survivor pension elected at time of retirement. In general, the benefit may take the form of a lump-sum payment, an immediate pension, or deferred pension to the surviving spouse.

(g) Disability Pensions

A member who becomes disabled shall continue to accrue pensionable service until the earliest that the member is no longer disabled, the member retires after reaching their earliest retirement date, or the member passes away. While a member is disabled, employer contributions will fund both employer and member contributions, provided a member satisfies the Plan's definition of disability.

2. Summary of Significant Accounting Policies

(a) Basis of Presentation

These financial statements have been prepared by management in accordance with Canadian accounting standards for Pension Plans, as set out in the Chartered Professional Accountants of Canada Handbook Section 4600 – Pension Plans (Section 4600). The recognition and measurement of UPP's assets and liabilities, inclusive of pension obligations, are consistent with the requirements of Section 4600. The financial statements also include disclosures required by Regulation 909 of the PBA.

For accounting policies that do not relate to its investments or pension obligations, the financial statements follow the requirements of International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board. To the extent that IFRS in Part 1 is inconsistent with Section 4600, Section 4600 takes precedence.

(b) Functional and Presentation Currency

These financial statements are presented in Canadian dollars, which is the Plan's functional currency.

(c) Use of Estimates

The preparation of the financial statements requires management to make estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities at the date of the statement of net assets available for benefits and the reported amounts of changes in net assets available for benefits during the year. Actual results may differ from those estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised.

The recent rapid increases in interest rates and inflation contribute to heightened uncertainty related to estimates and assumptions for these valuations. In all cases, UPP's estimates are sensitive to key assumptions and drivers that are subject to material change, and management continues to monitor developments in these inputs.

Measurement uncertainty exists in the valuation of the pension obligations of the Plan and the Plan's Level 3 investments. Measurement uncertainty arises because:

- the Plan's actual experience may differ, perhaps significantly, from assumptions used in the valuation of the pension obligations of the Plan; and
- the estimated fair values of the Plan's Level 3 investments, where the valuation inputs for assets and liabilities are not based on observable market data, may differ significantly from the values that would have been used had an active market existed for these investments.

While best estimates have been used in the valuation of the pension obligations of the Plan and the Plan's Level 3 investments, management considers that it is possible, based on existing knowledge, that changes in future conditions in the short-term could require a material change in the recognized amounts.

Differences between actual results and expectations in the pension obligations of the Plan are recorded in changes in actuarial assumptions, experience gains and experience losses in the Statement of Changes in Pension Obligations in the year when actual results are known.

Differences between the estimated fair values and the amounts ultimately realized for investments are included in net investment income in the year when the ultimate realizable values are known.

The Plan is exposed to a variety of financial risks as a result of its investment activities which are described in Note 5 – Financial Risk Management.

(d) Foreign Currency Translation

Assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the exchange rates prevailing on the year-end date. Income and expenses are translated into Canadian dollars at the exchange rates prevailing on the dates of the transactions. The realized and unrealized gains and losses arising from these translations are included within net realized and unrealized gains on investments in investment (loss) income.

(e) Net Investment (Loss) Income

Investment (loss) income is recorded on an accrual basis and includes interest income, dividends, distributions from hedge funds, pooled funds, private equity investments and funds, and other income. Realized gains and losses on the disposal of investments and unrealized gains and losses in the fair value of investments are recognized in net investment (loss) income.

(f) Management Fees

Management fees for external investment managers are recognized in external manager fees reported in net investment (loss) income as incurred in Note 6 – Net Investment (Loss) Income. For certain investments, including pooled funds and for certain private equity investments, where the investment return is net of fees and are not separately invoiced, the external manager fees are offset directly to investment (loss) income.

(g) Financial Assets and Financial Liabilities

i) Financial Assets

Financial assets are recognized initially on the trade date, which is the date that the Plan becomes a party to the contractual provisions of the instrument. Certain investments are invested through master trusts, that are 100% owned by UPP.

Investment assets are measured at fair value. The change between the fair value of investments at the beginning and end of each year is recognized as unrealized gains or losses included in net investment (loss) income in the Statement of Changes in Net Assets Available for Benefits.

All non-investment financial assets are subsequently measured at amortized cost.

The Plan derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred or in which the Plan neither transfers nor retains substantially all the risks and rewards of ownership and does not retain control of the financial asset.

On derecognition of a financial asset, the difference between the average cost of the asset and consideration received is recognized in the Statement of Changes in Net Assets Available for Benefits as a net realized gain or loss on sale of investments.

ii) Financial Liabilities

All financial liabilities are measured at fair value and recognized initially on the trade date at which the Plan becomes a party to the contractual provisions of the instrument.

The Plan derecognizes a financial liability when its contractual obligations are discharged, cancelled, or expired.

All non-investment financial liabilities are subsequently measured at amortized cost.

iii) Derivative Financial Instruments

Derivative financial instruments are financial contracts where the value is determined based on changes in prices of the underlying assets, interest rates, foreign exchange rates or indices. The fair values of derivative assets and derivative liabilities are presented in investment-related assets and investment-related liabilities, respectively, in the Statement of Financial Position. The changes in fair value of these instruments are recognized in net investment (loss) income in the Statement of Changes in Net Assets Available for Benefits in investments.

iv) Fair Value Measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

In determining fair value, the Plan follows the guidance in IFRS 13, Fair Value Measurement (IFRS 13), in Part I of the Chartered Professional Accountants of Canada Handbook as required by Section 4600. As allowed under IFRS 13, if an asset or a liability measured at fair value has a bid and an ask price, the price within the bid-ask spread that is the most representative of fair value in the circumstances shall be used to measure fair value. The Plan uses closing market price as a practical expedient for fair value measurement.

When available, the Plan measures the fair value of an instrument using quoted prices in an active market for that instrument. A market is regarded as active if quoted prices are readily and regularly available and represent actual and regularly occurring market transactions on an arm's length basis.

If a market for a financial instrument is not active, then the Plan establishes fair value using a valuation technique. Valuation techniques include using recent arm's length transactions between knowledgeable, willing parties (if available), reference to the current fair value of other instruments that are substantially the same, discounted cash flow analyses and option pricing models.

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e., the fair value of the consideration given or received, unless the fair value of that instrument is evidenced by comparison with other observable current market transactions in the same instrument or based on a valuation technique whose variables include only data from observable markets.

All changes in fair value are recognized in the Statement of Changes in Net Assets Available for Benefits as part of net investment (loss) income.

Fair values of the investments held by the Plan are determined as follows:

- Cash and short-term investments are valued based on cost plus accrued interest, which approximates fair value. Cash includes cash balances held with investment managers.
- Money market funds are valued based on closing quoted market prices.
- Bonds and publicly traded equities are valued based on quoted closing market prices. If quoted closing market prices are not available for bonds, estimated values are calculated using discounted cash flows based on current market yields and comparable securities, as appropriate.
- Investments in pooled funds (other than private investment interests and hedge funds) are valued at their net asset value per unit supplied by the pooled fund manager, who is directly investing the funds in the underlying operating units. The net asset value is determined using quoted market prices or alternative valuation methods where quoted market prices are not available.

- Fair value is based on the net asset values as reported by the hedge fund managers.
- Private investments, real estate and infrastructure are recognized at fair values using amounts supplied by the fund managers. The fund managers use a valuation methodology that is based upon the best available information that may incorporate assumptions and best estimates after considering a variety of internal and external factors. Investments in derivative financial instruments, including futures, forwards, and bond and equity return swaps, are valued at year-end quoted market prices where available. If quoted market prices are not available, values are determined using pricing models, which consider current market and contractual prices of the underlying instruments, as well as time value and yield curve or volatility factors underlying the positions.

The fair value of certain financial instruments are based on interest rates. A comprehensive review of major interest rate benchmarks has been undertaken globally, including the replacement of some interbank offered rates (IBORs) with alternative nearly risk-free rates (referred to as IBOR reform). The Plan may invest in instruments that have exposure to IBORs that will be replaced or reformed as part of this market-wide initiative.

In response to IBOR reform, the International Accounting Standards Board (IASB) issued Interest Rate Benchmark Reform: Phase 2 Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 in August 2020.

The Plan monitors the progress of transition from IBORs to new benchmark rates by reviewing each financial instrument and the total number and amount of financial instruments that have yet to transition to an alternative benchmark rate. The Plan has exposure to Canadian Dollar Offered Rate (CDOR) on its fixed income assets and derivatives as included in interest rate risk in Note 5 – Financial Risk Management.

(h) Accrued Pension Obligations

Pension obligations are determined based on the results of an actuarial valuation prepared by an independent firm of actuaries and these results are summarized using an actuarial valuation report prepared for funding purposes. This valuation uses the projected benefits method pro-rated on service for actuarial cost and various economic and demographic assumptions. All assumptions are set by management and approved by the Board of Trustees with the concurrence of the Plan's independent actuaries, and each assumption, except for the discount rate, is typically best estimate but may include a margin for conservatism. The discount rate is a risk adjusted long-term rate of return on the pension fund reflecting its long-term asset mix.

(i) Actuarial Value Adjustment

Beginning in January 2022, the actuarial value of net assets for the Plan is used to assess the funded position of the Plan. The actuarial value adjustment is applied to the fair value of net assets available for benefits to arrive at the actuarial values of net assets. The actuarial adjustment represents a portion of the pension fund's unrecognized cumulative investment gains or losses (above or below the actuarial smoothing rate) over a five-year period. The actuarial value adjustment cannot exceed 15% of the fair value of net assets.

(j) Contributions

Contributions from the members and employers of the Plan as at the end of the year are recorded on an accrual basis.

(k) Sales Taxes

Non-refundable sales taxes are recognized as administrative expenses. Refundable amounts are recognized as a recoverable amount from tax authorities and recoveries are netted against the respective investments that they pertain to.

(l) Future Changes to Accounting Disclosure

During 2021, amendments were made to IAS 1, Presentation of Financial Statements (IAS 1) and IAS 8, Accounting Policies, Changes to Accounting Estimates and Errors (IAS 8). IAS 1 requires companies to disclose their material accounting policy information rather than their significant accounting policies while IAS 8 introduces a new definition of accounting estimates and clarifies the distinction between changes in accounting estimates and changes in accounting policies and the correction of errors. The amendments are effective for annual periods beginning on or after January 1, 2023. UPP has concluded that these amendments do not have a significant impact on the disclosures presented in the financial statements. During 2022, amendments were issued to s4600 that are effective for annual periods beginning on or after January 1, 2024. These amendments have not been adopted early by UPP and are not expected to have a significant impact on the financial statements.

3. Transfer from Predecessor Plans

On November 3, 2021, FSRA consented to the conversion of the Contributory Pension Plan of Trent University Faculty Association to a jointly sponsored pension plan, through the transfer of assets and liabilities of the plan to UPP, pursuant to s. 80.4 of the Pension Benefits Act (Ontario) and Conversions and Transfers, regulation 311/15. Pension benefits are accrued in accordance with the Plan's text.

On November 12, 2020, FSRA consented to the conversion of the Revised Pension Plan of Queen's University, University of Toronto Pension Plan, and University of Guelph Pension Plan[1] from single employer pension plans to a jointly sponsored pension plan, effective July 1, 2021, through the transfer of assets and liabilities of the plans to UPP, pursuant to s. 80.4 of the Pension Benefits Act (Ontario) and Conversions and Transfers, regulation 311/15. Pension benefits are accrued in accordance with the Plan's text.

(Canadian $ in thousands)	January 1, 2022	July 1, 2021
Net Assets Transferred from Predecessor Plans		
Revised Pension Plan of Queen's University	$ -	$ 2,556,749
University of Toronto Pension Plan	-	6,866,089
University of Guelph Pension Plan[1]	-	1,809,680
Contributory Pension Plan of Trent University Faculty Association	**277,236**	-
Total Net Assets Available for Benefits	**277,236**	11,232,518
Total Pension Obligation[2]	**$ 271,393**	$ 10,151,124

1. University of Guelph Pension Plan includes the Pension Plan for Professional Staff of University of Guelph, the Pension Plan for Non-Professional Staff of University of Guelph, and the Retirement Plan at University of Guelph.
2. The Total Pension Obligation for all plans was measured using a 5.6% discount rate when the net assets of the predecessor plans transferred to UPP. At January 1, 2022, the Contributory Pension Plan of Trent University Faculty Association was immediately remeasured on UPPs funding basis using a 5.45% discount rate, along with all UPP pension obligations.

The net assets transferred from the University of Toronto Pension Plan and University of Guelph Pension Plan were previously administered in master trust structures. 100% of the units of the master trusts were transferred into UPP at fair value.

To support the establishment of UPP, the Employer Sponsors made an interest free facility in the amount of $9,000 available to the Plan on a recourse basis. Once 10% of the total assets to be transferred from the Predecessor Plans to UPP was received, any amount drawn by UPP was repayable to the Employer Sponsors within 15 business days. On December 31, 2020, the Plan had utilized $2,713, classified as a pre-funding facility on the Statement of Financial Position. In 2021, UPP had drawn $4,787 of the pre-funding facility for a total payable of $7,500 at June 30, 2021. The facility was fully repaid on July 16, 2021.

4. Investments

(a) Investments by Fair Value and Cost:

The following table summarizes these investments at both their fair value and cost as at December 31:

(Canadian $ in thousands)	2022 Fair Value	2022 Cost[1]	2021 Fair Value	2021 Cost[1]
Cash and Short-Term Money Market	$ 1,802,225	$ 1,797,282	$ 2,362,382	$ 2,355,946
Interest Rate Sensitive Assets				
Fixed Income				
Canadian bonds	1,801,898	1,883,415	904,442	898,108
Non-Canadian bonds	-	-	2,062	2,073
Bond funds	858,445	1,030,120	1,405,442	1,400,077
Private debt	-	-	371	375
Return Enhancing Assets				
Private Debt				
Bond funds	142,404	160,040	165,657	165,810
Private debt	664,504	547,765	525,971	455,812
Mortgages	130,502	136,421	131,818	131,685
Absolute Return				
Hedge funds	853,281	467,954	797,422	526,775
Public Equity				
Canadian equity	258,487	259,577	220,151	209,249
Non-Canadian equity	149,484	148,847	166,011	159,858
Hedge funds	24,071	22,256	28,898	22,256
Equity funds	2,789,840	2,736,409	3,646,931	2,925,108
Private Equity	676,078	520,715	717,788	520,160
Inflation Sensitive Assets				
Infrastructure	264,437	252,162	194,352	186,196
Real estate	402,868	375,074	379,846	327,615
Total Investments not including Investment-related Assets and Liabilities	10,818,524	10,338,037	11,649,544	10,287,103
Investment-related Assets				
Derivatives (Note 4d)	9,335	-	159,589	-
Investment-related Liabilities				
Derivatives (Note 4d)	(81,480)	-	(26,252)	-
Total Investments including Investment-related Assets and Liabilities	$ 10,746,379	$ 10,338,037	$ 11,782,881	$ 10,287,103

[1] The fair value of assets held within master trust structures are $4,865,115 (2021: $7,255,944) and the unit values of the master trusts have a cost of $4,809,816 (2021: $6,822,162).

(b) Investment Fair Value Hierarchy:

Determination of fair values of investments and derivatives are as described in Note 2. The fair values of cash, accrued investment income, contributions receivable and accounts payable and accrued liabilities approximate their carrying values due to the short-term nature of these financial instruments.

Fair value measurements recognized in the Statement of Net Assets Available for Benefits are categorized using a fair value hierarchy, which reflects the significance of inputs used in determining the fair values.

- Level 1 – unadjusted quoted prices in active markets for identical assets or liabilities; primarily includes publicly listed equity instruments;
- Level 2 – inputs other than quoted prices included in Level 1 that are observable by market participants either directly through quoted prices for similar but not identical assets or indirectly through observable market information used in valuation models; and
- Level 3 – inputs for assets and liabilities that are not based on observable market data.

The following table illustrates the classification of the Plan's assets and liabilities recognized at fair value as at December 31:

				2022
(Canadian $ in thousands)	**Fair Value Level 1**	**Fair Value Level 2**	**Fair Value Level 3**	**Total**
Cash and Short-Term Money Market	$ 450,247	$ 1,351,978	$ -	$ 1,802,225
Interest Rate Risk Sensitive Assets				
Fixed Income				
Canadian bonds	-	1,801,898	-	1,801,898
Non-Canadian bonds	-	-	-	-
Bond funds	-	562,451	295,994	858,445
Private debt	-	-	-	-
Return Enhancing Assets				
Private Debt				
Bond funds	-	-	142,404	142,404
Private debt	-	-	664,504	664,504
Mortgages	-	130,502	-	130,502
Absolute Return				
Hedge funds	-	138,003	715,278	853,281
Public Equity				
Canadian equity	258,487	-	-	258,487
Non-Canadian equity	149,484	-	-	149,484
Hedge funds	-	-	24,071	24,071
Equity funds	-	1,414,339	1,375,501	2,789,840
Private Equity	-	-	676,078	676,078
Inflation Sensitive Assets				
Infrastructure	-	-	264,437	264,437
Real estate	-	-	402,868	402,868
Total Investments not including Investment-related Assets and Liabilities	858,218	5,399,171	4,561,135	10,818,524
Investment-related Assets				
Derivatives	9,335	-	-	9,335
Investment-related Liabilities				
Derivatives	(15,175)	(66,305)	-	(81,480)
Total Investments including Investment-related Assets and Liabilities	$ 852,378	$ 5,332,866	$ 4,561,135	$ 10,746,379

The following table illustrates the classification of the Plan's assets and liabilities recognized at fair value as at December 31:

				2021
(Canadian $ in thousands)	**Fair Value Level 1**	**Fair Value Level 2**	**Fair Value Level 3**	**Total**
Cash and Short-Term Money Market	$ 104,550	$ 2,257,832	$ -	$ 2,362,382
Interest Rate Risk Sensitive Assets				
Fixed Income				
Canadian bonds	-	904,442	-	904,442
Non-Canadian bonds	-	2,062	-	2,062
Bond funds[1]	-	887,061	518,381	1,405,442
Private debt	-	371	-	371
Return Enhancing Assets				
Private Debt				
Bond funds	-	-	165,657	165,657
Private debt	-	-	525,971	525,971
Mortgages	-	131,818	-	131,818
Absolute Return				
Hedge funds[1]	-	113,705	683,717	797,422
Public Equity				
Canadian equity	220,151	-	-	220,151
Non-Canadian equity	166,011	-	-	166,011
Hedge funds	-	-	28,898	28,898
Equity funds[1]	-	1,529,639	2,117,292	3,646,931
Private Equity	-	-	717,788	717,788
Inflation Sensitive Assets				
Infrastructure	-	-	194,352	194,352
Real estate	-	-	379,846	379,846
Total Investments not including Investment-related Assets and Liabilities	490,712	5,826,930	5,331,902	11,649,544
Investment-related Assets				
Derivatives	46	159,543	-	159,589
Investment-related Liabilities				
Derivatives	(972)	(25,280)	-	(26,252)
Total Investments including Investment-related Assets and Liabilities	$ 489,786	$ 5,961,193	$ 5,331,902	$ 11,782,881

[1] The 2021 previously reported amounts for Bond fund investments with a fair value of $356,053, Hedge fund investments with a fair value of $113,705 and Equity fund investments with a fair value of $1,242,547 were reclassified from Level 3 to Level 2.

The following table reconciles the Plan's Level 3 fair value measurements on December 31:

(Canadian $ in thousands)	Fair Value December 31, 2021	Gain (Loss) included in Total Net Investment (Loss) Income[1]	Purchases	Sales and Return of Capital	Fair Value December 31, 2022
Bond, equity and hedge funds	$ 3,513,945	$ (290,353)	$ 166,917	$ (837,261)	$ 2,553,248
Private debt	525,971	62,408	182,263	(106,138)	664,504
Private equity	717,788	(8,708)	61,467	(94,469)	676,078
Infrastructure	194,352	5,423	68,946	(4,284)	264,437
Real estate	379,846	10,269	89,273	(76,520)	402,868
Total	**$ 5,331,902**	**$ (220,961)**	**$ 568,866**	**$ (1,118,672)**	**$ 4,561,135**

(Canadian $ in thousands)	Fair Value July 1, 2021	Gain (Loss) included in Total Net Investment (Loss) Income[1]	Purchases	Sales and Return of Capital	Fair Value December 31, 2021
Bond, equity and hedge funds[2]	$ 2,943,620	$ 156,773	$ 836,528	$ (422,976)	$ 3,513,945
Private debt	490,750	13,486	22,389	(654)	525,971
Private equity	637,449	54,088	26,306	(55)	717,788
Infrastructure	174,360	18,630	179,526	(178,164)	194,352
Real estate	337,022	42,452	216,500	(216,128)	379,846
Total	$ 4,583,201	$ 285,429	$ 1,281,249	$ (817,977)	$ 5,331,902

[1] Includes net realized gain of $260,310 (2021: loss of $334,373) and net unrealized loss of $481,271 (2021: gain of $619,802) in 2022.

[2] The 2021 previously reported amounts for Bond fund investments with a fair value of $356,053, Hedge fund investments with a fair value of $113,705 and Equity fund investments with a fair value of $1,242,547 were reclassified from Level 3 to Level 2.

Included in Purchases and Sales and Return of Capital is $nil (2021: $484,836) of bond, equity, and hedge funds transfers out of Level 3. Transfers in and transfers out of Level 3 are due to the change in the availability of observable inputs used for fair value measurement of investment assets.

The fair values of Level 3 investments are provided by external parties. Sensitivity to changes in assumptions are not provided for these investments as the fair values are based on information provided by external parties where the Plan has a lack of information rights over assumptions and methodologies used to determine the fair value.

(c) Significant Investments

The following information is provided in respect of individual investments with a cost or fair value in excess of 1% of the cost or fair value of the Plan, as at December 31:

(Canadian $ in thousands)	2022 Number of Investments	2022 Fair Value	2022 Cost	2021 Number of Investments	2021 Fair Value	2021 Cost
Canadian bonds	**2**	**$ 391,274**	**$ 418,920**	-	$ -	$ -
Bond funds and Mortgages	**6**	**1,118,596**	**1,313,648**	8	1,679,274	1,674,006
Hedge funds	**2**	**266,757**	**103,003**	-	-	-
Equity funds	**10**	**2,305,525**	**2,278,118**	12	2,867,612	2,325,741
Real estate and Infrastructure	**2**	**265,130**	**230,158**	2	245,715	230,158

Canadian bonds – Government of Canada

Bond funds and Mortgages – Addenda Commercial Mortgages Pooled Fund, CIBC Canadian Bond Long Term Index Pool, PIMCO Canadian CorePLUS Bond Trust, Robeco High Yield Bonds, RP Debt Opportunities Fund Trust and SLC Management Private Fixed Income Plus Fund

Hedge funds – AQR Alternative Trends Fund, L.P. and MW TOPS Composite Fund

Equity funds – Arrowstreet (Canada) Global All-Country Alpha Extension Fund I, Artisan International Value Fund, BlackRock CDN MSCI Emerging Markets Index Class A, BlackRock CDN US Equity Index Non-Taxable Class A, Cooper Square Fund, L.P., MSCI World ex Canada Index, MW World TOPS 150-50 Fund, Orbis Institutional Global Equity LP, State Street Global Advisors Multi-Currency and TD Emerald Canadian Market Capped Pooled Fund Trust

Real estate and Infrastructure – OIM B5 2014 LP and OIM O2 2014 LP

(d) Derivatives

Derivatives are financial contracts, where the value is derived from the value of the underlying assets, interest rates, or exchange rates. The Plan utilizes such contracts to enhance investment returns and for managing exposure to interest rate and foreign currency volatility. Derivative contracts transacted either on a regulated exchange market or in the over-the-counter market directly between two counterparties include:

i) Futures and forwards:

Futures and forwards are contractual obligations either to buy or to sell a specified amount of money market securities, bonds, equity indices, commodities, or foreign currencies at predetermined future dates and prices.

Futures are transacted in standardized amounts on regulated exchanges and are subject to daily cash margining.

Forwards are contractual customized contracts transacted in the over-the-counter market between two parties to exchange a notional amount of one currency for another at a specified price for settlement at a future date. UPP utilizes foreign exchange forward contracts to modify currency exposure for both economic hedging and active currency management.

ii) Bond and equity swap contracts:

A bond/equity swap is a contractual agreement between two parties to provide the investment return on a referenced asset. The receiver of the total return on the asset pays a fixed or floating rate of interest to the payor of the asset total return. UPP utilizes bond/equity swaps to promote asset risk diversification.

At December 31, the Plan had the following derivative contracts outstanding. The notional amounts represent the economic exposure and are the contractual amounts to which a rate or price is applied for computing the cash flows to be exchanged. The notional amounts do not necessarily represent the amount of potential market risk or credit risk arising from derivatives.

2022

(Canadian $ in thousands)	Notional Value	Fair Value Assets	Fair Value Liabilities
Interest Rate Contracts			
Bond futures	$ -	$ -	$ -
Bond swap contracts	1,691,182	-	(65,406)
Equity Contracts			
Equity futures	-	-	-
Equity swap contracts	946,928	-	(3,798)
Foreign Exchange Forward Contracts	2,369,372	9,335	(12,276)
Total	$ 5,007,482	$ 9,335	$ (81,480)

2021

(Canadian $ in thousands)	Notional Value	Fair Value Assets	Fair Value Liabilities
Interest Rate Contracts			
Bond futures	$ 54,359	$ 11	$ (160)
Bond swap contracts	1,869,980	27,020	-
Equity Contracts			
Equity futures	140,170	35	(811)
Equity swap contracts	1,368,898	116,617	(3,323)
Foreign Exchange Forward Contracts	2,965,844	15,906	(21,958)
Total	$ 6,399,251	$ 159,589	$ (26,252)

5. Financial Risk Management

The Plan is exposed to a variety of financial risks from the significant challenges of rapidly increasing interest rates, geopolitical tensions, high inflation and stress in the financial markets. As a result, the Plan's investment activities have formal policies and procedures that govern the management of market, credit, foreign currency, and liquidity risk.

(a) Market Price Risk:

Market price risk is the risk that the value of an instrument will fluctuate as a result of changes in market prices, whether those changes are caused by factors specific to an individual investment, its issuer or all factors affecting all instruments traded in the market. As all of the Plan's financial instruments are carried at fair value with fair value changes recognized in the Statement of Changes in Net Assets Available for Benefits, all changes in market conditions will directly result in an increase (decrease) in net assets. Market price risk is managed by the Plan through construction of a diversified portfolio of assets traded on global markets and across various industries.

The Plan's investments in equities are also sensitive to market fluctuations. An immediate hypothetical appreciation or decline of 10% in equity values will impact the Plan's equity investments by an approximate gain or loss of $416,881 (2021: $417,451).

The following are other key components of market price risk:

i) Foreign Currency Risk:

Foreign currency risk is the risk that the value or future cash flows of a financial instrument will fluctuate due to changes in foreign exchange rates. The Plan is exposed to risk that the exchange rates of the various currencies may change in a manner that has an adverse effect on the value of the portion of the Plan's assets or liabilities denominated in currencies other than the Canadian dollar.

In accordance with the Plan's Statement of Investment Policies and Procedures (SIPP), foreign currency hedging may be employed for certain non-Canadian currency exposures to mitigate this volatility.

Net investments by currency after the impact of currency hedging as at December 31 are as follows:

(Canadian $ in thousands)		2022 Net Exposure		2021 Net Exposure
Canadian Dollar	$	**8,324,428**	$	9,126,616
Foreign Currency Exposure				
United States dollar		**2,389,020**		3,098,068
Other		**32,931**		(441,803)
Total	$	**10,746,379**	$	11,782,881

The impact of a 5% absolute change in the Canadian dollar against the United States dollar currency exposure, holding all other variables constant would have resulted in a $119,451 (2021: $154,903) change in net assets available for benefits.

ii) Interest Rate Risk:

Interest rate risk refers to the effect on the fair value of the Plan's assets and liabilities due to fluctuations in interest rates. The rapid increases in rates and inflation contribute to heightened uncertainty. This risk arises from changes in floating interest rate risk impacting investment (loss) income or changes in fixed income securities held directly by the Plan that increase or decrease unrealized gains or losses.

The fair value of total exposure in fixed income was $3,088,450 (2021: $3,191,258) composed of Canadian and non-Canadian bonds, private debt, short-term money market, and derivative instruments.

The following table summarizes the profile of the Plan's directly held fixed income investments, which are subject to interest rate risk, based on term to maturity as at December 31:

2022

(Canadian $ in thousands)		Within 1 year		1-5 years		5-10 years		Over 10 years		Total
Short-term money market	$	1,351,958	$	-	$	-	$	-	$	1,351,958
Canadian bonds		420		73,148		15,032		1,713,298		1,801,898
Derivatives		(65,406)		-		-		-		(65,406)
Total	$	1,286,972	$	73,148	$	15,032	$	1,713,298	$	3,088,450

2021

(Canadian $ in thousands)		Within 1 year		1-5 years		5-10 years		Over 10 years		Total
Short-term money market	$	2,257,512	$	-	$	-	$	-	$	2,257,512
Canadian bonds		11,022		686,358		119,486		87,576		904,442
Non-Canadian bonds		-		183		1,879		-		2,062
Private debt		-		2		369		-		371
Derivatives		6,744		20,127		-		-		26,871
Total	$	2,275,278	$	706,670	$	121,734	$	87,576	$	3,191,258

As at December 31, 2022, for every 1% increase or decrease in prevailing market interest rates, the fair value of the direct fixed income holdings in the Plan would decrease or increase by approximately $(506,892) (2021: $(318,223)) and $617,593 (2021: $365,974), respectively.

The following table outlines UPP's derivative and non-derivative exposures to IBOR reform that have yet to transition to alternative benchmark rates as at December 31:

		2022				2021		
(Canadian $ in thousands)		CAD CDOR		USD LIBOR		CAD CDOR		USD LIBOR
Non-derivative financial assets	$	330,712	$	-	$	471,245	$	-
Derivative notional amounts		407,565		-		449,700		1,367,800
Total	$	738,277	$	-	$	920,945	$	1,367,800

CAD CDOR is transitioning to CORRA – Canadian Overnight Repo Rate Average, and USD LIBOR transitioning to SOFR – Secured Overnight Financing Rate.

(b) Liquidity Risk:

Liquidity risk is defined as an inability to meet payment obligations in a timely manner when they become due, and the risk that assets may not be in the form required (e.g., converted into cash when needed). Liquidity exposures are created when derivatives and other financial instruments are used in the management of statement of financial position exposures. Since the liquidity risk from these exposures is triggered by market volatility outside of UPP's control, these exposures are closely monitored and managed. Various other investment activities create demand for liquidity such as capital calls as well as operational aspects.

UPP's liquidity management approach is to ensure UPP has sufficient liquidity to meet its expected and unexpected obligations in normal and stressed market conditions, while preserving its desired asset mix exposure. UPP accesses liquidity through cash or cash equivalents, high quality liquid assets and redemptions from external managed assets.

As at December 31, 2022, UPP maintained $1,802,225 (2021: $2,362,382) liquid assets in the form of cash and short-term money market instruments. The remaining terms to contractual maturity of UPP's derivative and non-derivative liabilities as at December 31 are presented in the table below.

	2022	2021
(Canadian $ in thousands)	**Within 1 year**	**Within 1 year**
Accounts payable and accrued liabilities	$ 17,517	$ 14,225
Derivative contracts	81,480	26,252
Total	$ 98,997	$ 40,477

(c) Credit Risk:

Credit risk is the risk that an issuer or counterparty will be unable or unwilling to meet a commitment that it has entered into with the Plan.

The Plan's credit risk exposure is primarily in Canadian Bonds, which are diversified among federal, provincial, corporate, and other issuers, and derivative contract counterparties. There were no significant concentrations of credit risk in the portfolio in 2022 or 2021.

Credit ratings issued by S&P Global, Fitch, DBRS and Moody's rating agencies are regularly monitored and analyzed. The breakdown of the Canadian Bonds portfolio by credit rating as at December 31 is:

	2022		2021	
(Canadian $ in thousands)	**Fair Value**	**Percentage of Portfolio**	**Fair Value**	**Percentage of Portfolio**
AAA	$ 24,255	2%	$ 147,619	14%
AA	1,278,947	74	407,483	39
A	423,106	24	425,137	41
BBB	3,445	-	49,511	5
NR	-	-	8,954	1
Total	$ 1,729,753	100%	$ 1,038,704	100%

Certain financial transactions, such as derivatives transactions, involve a legally enforceable right to offset the recognized amounts and to settle payments on a net basis, or to realize upon an asset and liability simultaneously. Financial assets and liabilities that are offset are reported as a net amount in the financial statements.

In the following table, the net amount presents the effect of the amounts that are subject to conditional netting arrangements or similar arrangements at December 31:

2022

(Canadian $ in thousands)	Gross Amounts of Recognized Financial Instruments	Amounts Available for Offset in Financial Statements	Net Amounts before Collateral	Financial Collateral Pledged	Net Amount
Derivative assets	$ 9,335	$ (146)	$ 9,189	$ -	$ 9,189
Derivative liabilities	(81,480)	146	(81,334)	14,774	(66,560)

2021

(Canadian $ in thousands)	Gross Amounts of Recognized Financial Instruments	Amounts Available for Offset in Financial Statements	Net Amounts before Collateral	Financial Collateral Pledged	Net Amount
Derivative assets	$ 159,589	$ (1,347)	$ 158,242	$ -	$ 158,242
Derivative liabilities	(26,252)	1,347	(24,905)	17,099	(7,806)

6. Net Investment (Loss) Income

The Plan's net investment (loss) income for the twelve months ended December 31, 2022 and six months ended December 31, 2021 is presented in the table below. This note presents the net investment (loss) income of the Plan beginning July 1, 2021, as the Plan did not hold any investments prior to this date.

			2022
(Canadian $ in thousands)	**Investment Income (Loss)**	**Net Gain (Loss) on Investments[1,2]**	**Total Investment Income (Loss)[1,2]**
Cash and Short-Term Money Market	$ 9,963	$ 19,581	$ 29,544
Interest Rate Risk Sensitive Assets			
Fixed Income			
Canadian bonds	71,108	(136,866)	(65,758)
Non-Canadian bonds	10	(335)	(325)
Bond funds	46,133	(215,159)	(169,026)
Private debt	-	(3,443)	(3,443)
Return Enhancing Assets			
Private Debt			
Bond funds	6,130	(17,307)	(11,177)
Private debt	10,995	62,408	73,403
Mortgages	4,736	(6,051)	(1,315)
Absolute Return			
Hedge funds	-	128,938	128,938
Public Equity			
Canadian equity	6,594	(20,855)	(14,261)
Non-Canadian equity	5,069	(21,697)	(16,628)
Hedge funds	-	(4,827)	(4,827)
Equity funds	142,855	(523,590)	(380,735)
Private Equity	13,422	(8,708)	4,714
Inflation Sensitive Assets			
Infrastructure	11,350	5,423	16,773
Real estate	25,154	10,269	35,423
Derivative Instruments	(8,755)	(702,941)	(711,696)
Total Investment Income	344,764	(1,435,160)	(1,090,396)
Investment Management Expenses			
External manager fees	(22,872)	-	(22,872)
Net Investment Income (Loss)	$ 321,892	$ (1,435,160)	$ (1,113,268)

2021

(Canadian $ in thousands)	Investment Income (Loss)	Net Gain (Loss) on Investments[1,2]	Total Investment Income (Loss)[1,2]
Cash and Short-Term Money Market	$ (2,204)	$ (42,948)	$ (45,152)
Interest Rate Risk Sensitive Assets			
Fixed Income			
Canadian bonds	17,629	5,827	23,456
Non-Canadian bonds	(7)	(47)	(54)
Bond funds	16,831	558	17,389
Private debt	(10)	(4,650)	(4,660)
Return Enhancing Assets			
Private Debt			
Bond funds	3,214	(247)	2,967
Private debt[3]	5,311	27,618	32,929
Mortgages	2,163	(795)	1,368
Absolute Return			
Hedge funds	-	67,527	67,527
Public Equity			
Canadian equity	5,163	26,256	31,419
Non-Canadian equity	6,765	22,552	29,317
Hedge funds	20,464	(7,896)	12,568
Equity funds	9,201	179,075	188,276
Private Equity[3]	6,749	91,408	98,157
Inflation Sensitive Assets			
Infrastructure[3]	2,763	8,598	11,361
Real estate[3]	1,690	42,493	44,183
Derivative Instruments	(2,064)	156,802	154,738
Total Investment Income	93,658	572,131	665,789
Investment Management Expenses			
External manager fees	(17,809)	-	(17,809)
Net Investment Income (Loss)	$ 75,849	$ 572,131	$ 647,980

[1] Includes net realized loss of $353,013 (2021: gain $183,177) and net unrealized loss of $1,082,146 (2021: gain $405,390) in 2022.

[2] Net of certain investment management fees and performance management fees.

[3] Income previously classified as Net Gains on Investments of $16,436 was reclassified to Investment Income (Private debt: $5,234, Private equity: $6,749, Infrastructure: $2,763, and Real estate: $1,690).

7. Accrued Pension Obligations

The accrued pension obligations are the actuarial present value of pension obligations, applying the best estimate and discount rate assumptions set by management and approved by the Board of Trustees, using the projected benefits method pro-rated on the service.

The pension obligation at December 31, 2022 was prepared using the discount rate approved by the Board of Trustees for the January 1, 2023 actuarial valuation. This reflects the revised long-term asset mix return estimates for the purposes of the actuarial valuation going forward. Under the Pension Benefits Act, an actuarial valuation report prepared by an independent external actuarial firm must be filed with FSRA at least once every three years. The Plan valuation report was last filed for the January 1, 2022 period-end.

The pension obligation at December 31, 2021 was prepared using the discount rate approved by the Board of Trustees for the January 1, 2022 actuarial valuation. This reflects the revised long-term asset mix return estimates for the purposes of the actuarial valuation going forward.

The following are the significant assumptions used in the actuarial valuation of the Plan as at December 31:

	2022	2021
Discount rate[1]	**5.45%**	5.45%
Inflation rate[2]	**2.00%**	2.00%
Cost-of-living adjustments	**1.50%**	1.50%
YMPE and ITA maximum pension	**2.75%**	2.75%
Pensionable earnings	**4.00%**	4.00%
Mortality table	**95% of 2014 Canadian Public Sector Pensioners' Mortality Table, with mortality improvement scale MI-2017 from 2014**	95% of 2014 Canadian Public Sector Pensioners' Mortality Table, with mortality improvement scale MI-2017 from 2014
Retirement rates	**Age-related table[3]**	Age-related table[3]

[1] The pension obligation at December 31, 2022 was prepared using the discount rate approved by the Board of Trustees for the January 1, 2023 actuarial valuation. This reflects the revised long-term asset mix return estimates for the purposes of the actuarial valuation The pension obligation at December 31, 2021 was prepared using the discount rate approved by the Trustees for the January 1, 2022 actuarial valuation.

[2] Inflation assumptions used in the actuarial valuation will change from 2.00% to 3.50% for 2023, 2.25% for 2024, and 2.00% for 2025 and beyond.

[3] Faculty retirement rates are as follows: 2% from ages 55 through 59 inclusive, 5% from ages 60 through 64 inclusive, 30% from ages 65 through 68 inclusive, 50% from ages 69 through 70 inclusive, 100% age 71, and additional 5% at age 60 with 80 age-plus-service points; staff retirement rates are as follows: 2% from ages 55 through 59 inclusive, 7% from ages 60 through 64 inclusive, 50% from ages 65 through 67 inclusive, 100% at age 68, and additional 15% at age 60 with 80 age-plus-service points.

Actuarial Value Adjustment

The Plan adopted the actuarial value adjustment effective January 1, 2022 on commencement of the first full year of Plan operations and concurrent with and consistent with the adoption of the use of the actuarial value adjustment (smoothing of gains and losses) in its funding valuation. The actuarial value adjustment was adopted prospectively, and the impact on the accrued pension obligations and surplus was to reduce the funding deficit in the Statement of Financial Position by $1,028,539 as at December 31, 2022.

The change in the actuarial value adjustment is as follows:

(Canadian $ in thousands)	2022	2021
Current year returns below the actuarial smoothing rate	$ (1,221,538)	$ -
Prior years' return above the actuarial smoothing rate recognized in a year	96,722	-
Other adjustments[1]	96,277	-
Decrease in Actuarial Value Adjustment	**(1,028,539)**	-
Actuarial Value Adjustment, Beginning of Year	**-**	-
Actuarial Value Adjustment, End of Year	**$ (1,028,539)**	$ -

[1] Other adjustments represent the reversal of actuarial value adjustments applied to the market value of the defined contribution plan assets transferred from Queen's University ($967,355).

8. Contributions

Contributions received or receivable for the twelve months ended December 31, 2022 and six months ended December 31, 2021 were comprised of the following:

(Canadian $ in thousands)	2022	2021
Member Contributions		
Current service contributions[1]	$ **202,994**	$ 94,032
Total Member Contributions	**202,994**	94,032
Employers		
Current service contributions[1]	**208,476**	98,326
Past service buybacks	**-**	14
Total Employer Contributions	**208,476**	98,340
Transfers in from Other Plans	**8,440**	8,303
Total Defined Benefit Contributions	**419,910**	200,675
Special Contributions	**-**	13,663
Total Contributions	$ **419,910**	$ 214,338

[1] All contributions paid by members for current service are required contributions.

In support of the establishment of UPP and the transfer of assets and liabilities from single employer pension plans to UPP, Employer Sponsors provide special contributions to defray some of the costs to transfer their plan to UPP. The Plan recognizes these amounts as special contributions receivable and special contributions in the Statement of Financial Position and the Statement of Changes in Net Assets Available for Benefits, respectively.

The Employer Sponsors of the 2021 Predecessor Plans to UPP received an exemption from the Ministry of Finance from their obligation under the PBA to pay the Pension Benefits Guarantee Fund annual assessments in respect of their single employer pension plans. The cash flows of $20,700 that would have been used to pay these annual assessments were used to defray the one-time set up costs of UPP. Special contributions of $13,663 were received from the Employer Sponsors of the Predecessor Plans in 2021.

9. Benefit Payments

The Plan started paying benefits from July 1, 2021. Benefit payments for the twelve months ended December 31, 2022 and six months ended December 31, 2021 were comprised of the following:

(Canadian $ in thousands)		2022		2021
Retirement benefits	$	(459,243)	$	(211,071)
Termination/death benefits		(88,861)		(39,202)
Transfers to other pension plans		(2,453)		(3,559)
Total Benefit Payments	$	(550,557)	$	(253,832)

10. Investment Administrative, Pension Administrative and General Administrative Expenses

The Plan began incurring investment administrative and pension administrative expenses when assets and liabilities transferred to UPP on July 1, 2021.

(a) Investment Administrative Expense:

(Canadian $ in thousands)		2022		2021
Salaries and benefits	$	24,251	$	7,886
Professional, agency, and consulting fees[1]		13,527		7,996
Technology and communications		5,406		1,796
Premise		1,175		267
Other		1,041		98
Total Investment Administrative Expenses	$	45,400	$	18,043

(b) Pension Administrative Expense:

(Canadian $ in thousands)	2022	2021
Salaries and benefits	$ 7,531	$ 2,144
Professional, agency, and consulting fees[1]	10,333	7,491
Technology and communications	946	147
Premise	525	73
Other	382	21
Total Pension Administrative Expenses	**$ 19,717**	$ 9,876

[1] Total professional fees include $1,624 (2021: $638) in actuarial fees and $351 (2021: $216) in external audit fees.

(c) General Administrative Expenses incurred in 2021 include the costs to establish UPP prior to the transfer of assets and liabilities from the Predecessor Plans. Special contributions, as described in Note 8, were used to defray one-time set up costs incurred by the Plan.

General Administrative Expense (incurred prior to the transfer of assets and liabilities from the Predecessor Plans on July 1, 2021):

(Canadian $ in thousands)	2021
Salaries and benefits	$ 2,178
Professional, agency, and consulting fees	12,853
Technology and communications	559
Other general and administrative	84
Total General Administrative Expenses	$ 15,674

11. Related party transactions

Related party transactions include the following:

(a) an agency agreement with each of University of Toronto, University of Guelph and Queen's University to provide pension administrative services for the twelve-month period ended December 31, 2022, and an agency agreement with University of Toronto to provide investment management services for the three-month period ended March 31, 2022. In 2022, $6,419 in fees were expensed for administrative and investment management services for the twelve-month period ended December 31, 2022 ($2,929 for the six-month period ended December 31, 2021); and

(b) compensation to key management personnel, which includes the Board of Trustees of the Plan and members of the executive leadership team who are responsible for planning, controlling, and directing the activities of the Plan.

The aggregate key management compensation is included in the table below:

(Canadian $ in thousands)	12 months ended December 31, 2022	Six months ended December 31, 2021
Salaries and short-term employee benefits	$ 7,174	$ 4,527

12. Capital

UPP defines its capital as the Plan's surplus or deficit. The objective of managing the Plan's capital is to ensure that the Plan is fully funded to meet the pension obligations over the long term. Refer to Note 5 for further disclosure on management of financial risks.

13. Commitments

In the normal course of business, UPP may enter into commitments to fund certain investments over the next several years in accordance with the terms and conditions agreed to, including a significant infrastructure asset. As at December 31, these commitments totalled $992,067 (2021: $1,064,306). UPP also has future lease commitments for office premises.

14. Subsequent Events

Subsequent to year-end UPP entered into a 12-year lease for a premise office space ending in 2036.

Appendix

Appendix 1. Actuarial assumptions used in the funding valuation

Plan net assets are measured at fair market value. Pension benefits are funded through set contributions from employees and employers and investment earnings.

Plan liabilities are measured on a going-concern basis using various long-term economic and demographic assumptions following actuarial standards, industry practice, and as required under Ontario's Pension Benefits Act. The going-concern basis assumes the Plan will continue over a very long time horizon, reflecting the period of active employment of current members and the expected lifetime of such members after their retirement.

> To estimate our benefit funding needs, economic assumptions reflect the external market environment and Plan experience. These assumptions include expected investment returns, inflation and salary trends, and other regulatory elements such as growth in the Yearly Maximum Pensionable Earnings limit.

The discount rate is the most important economic assumption in any pension valuation. It is used to "discount" future pension payments and contributions into a present value, or value in today's dollars. It considers what the pension fund can earn over the long term, net of costs and provisions for risk, and how conservative to be today to ensure sufficient future funding.

Changing the discount rate is an important decision made by UPP's Board of Trustees, which must be made judiciously, taking many factors into account. Its timing will impact "who pays and when" and is an important tool in managing a fair Plan experience between current, retired, and future members.

> Demographic assumptions help forecast when and for how long pension benefits will be payable to members, on average, based on Plan experience and industry-wide standards.

Two key assumptions underpinning UPP's liability forecast are the retirement scale, which is the range of ages at which members switch from active contributors to pensioners, and life expectancy, which informs how long we can expect to pay a pension.

Our retirement scale reflects the combined expected experience of the founding universities over the past five consecutive years. It indicates what percentage of the active employee population is expected to retire at each age. The scale is reviewed and compared to actual experience annually.

With respect to life expectancy, we expect our members to continue enjoying longer lives and track this experience against a custom mortality table based on industry-accepted Canadian public sector employee mortality rates and improvement scales.[27] This table is commonly used by all large public sector plans across the country.

UPP's active-to-retiree ratio is 1.67, meaning over one-and-a-half active members for every retiree. This common measure of plan maturity indicates how many active contributing members UPP has relative to retired members receiving pension payments in the Plan. Our strong active-to-retiree ratio helps maintain a strong long-term cashflow profile, which further reinforces Plan sustainability.

Both the retirement and mortality scales are set by UPP's external actuary and regularly reviewed with UPP Management.

[27] A standard Canadian Pensioners' Mortality table for public sector employees published by the Canadian Institute of Actuaries in 2014

Appendix 2. 2022 carbon footprint and methodology

Portfolio carbon footprint

In 2022, UPP made a commitment to transition our investment portfolio to net-zero greenhouse gas emissions (GHG) by 2040 or sooner. To track our progress, we annually calculate and report our portfolio carbon footprint, which is an analysis of the emissions associated with our investments.

The GHG emissions associated with our investments are part of UPP's Scope 3 emissions (Category 15: Investments of the GHG Protocol). Calculating and disclosing carbon footprint metrics meets one aspect of the Task Force on Climate-related Financial Disclosures recommendation that we disclose Scope 1, Scope 2, and, if appropriate, Scope 3 GHG emissions, and the related risks.

Methodology and scope

Our methodology for calculating our carbon footprint is based on the Global GHG Accounting and Reporting Standard for the Financial Industry developed by the Partnership for Carbon Accounting Financials (PCAF Standard).

> Emissions from UPP's investments are attributed to UPP based on the proportion of the investment we own. For example, if UPP owns 1% of an investee company's enterprise value including cash, 1% of its GHG emissions are included in our carbon footprint.

Our carbon footprint metrics include the Scope 1 and Scope 2 emissions of investee companies. In exhibit 1, we separately report the Scope 1 and Scope 2 emissions for sovereign bonds and the estimated Scope 3 emissions of investee companies. See more on these calculations.

Three scopes of GHG emissions

Our methodology calculates carbon dioxide equivalent (CO_2-eq) GHG emissions and includes the GHG emissions included in the Greenhouse Gas Protocol: carbon Dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorcarbons (HFCs), perfluorcarbons (PFCs), sulphur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

Scope 1: direct GHG emissions from sources a company directly owns or controls

Scope 2: indirect GHG emissions associated with the electricity or heat a company consumes

Scope 3: indirect GHG emissions associated with a company's value chain, including, for example, emissions associated with products from a supplier and emissions from its products when customers use them

Reporting scope

Our methodology is intended to help UPP prepare a true and fair inventory of our financed GHG emissions and is based on the principles of relevance, completeness, consistency, transparency, and accuracy.

UPP's current portfolio footprint includes the GHG emissions associated with our long investment exposures in equities and fixed income (publicly traded and privately held), including total return swaps. Short exposures are not included and we have excluded cash, cash equivalents, derivatives funding, absolute return assets, and investments for which it was not possible to determine GHG emissions. Because of these exclusions, the value of analyzed exposures in our footprint will not always match UPP's total asset exposure reported on page 22.

2022 restatement

We are committed to continuously improving the quality of our data and methodology for our carbon footprint. As such, we revised our process in 2022 to estimate with greater accuracy the GHG emissions of investee companies that do not disclose this data. To maintain comparability in our year-over-year reporting and the integrity of our targets, we have incorporated restatement requirements into our carbon footprint methodology that require us to recalculate and restate values for prior years if methodology changes result in total carbon emissions changing by more than our significance threshold of 5%. As our 2021 carbon footprint declined by 8%, and total carbon emissions declined by 7%, as a result of our methodology improvement, we have restated our 2021 carbon footprint. The baseline for our interim emission reduction targets is now the restated 2021 carbon footprint.

2022 results

Total carbon emissions (tonnes CO2-eq)

345,269 tonnes CO2-eq

21% reduction since the base year

The total carbon emissions of the portfolio for 2022 was 345,269 tonnes CO2-eq, a reduction of 21%. The primary reason for the reduction is changes to the portfolio and asset base, which resulted in an 18% reduction in the value of analyzed investment exposure.

Carbon footprint (tonnes CO2-eq/$M CAD invested)

46 tonnes CO2-eq/$M CAD invested

4% reduction since the base year

The carbon footprint of UPP's portfolio for 2022 was 46 tonnes CO2-eq/$M CAD invested, a 4% reduction from the 2021 base year. Again, changes to the portfolio are the primary reason for the reduction.

Exhibit 1. UPP's financed greenhouse gas emissions

Note: PricewaterhouseCoopers LLP conducted an independent, third-party limited assurance on the public equity portion of our 2022 carbon footprint metrics, as noted by the check marks (✓) below. Its limited assurance covers 39% of our net investment exposures as of December 30, 2022. As a result of the 2022 restatement, the 2021 Total carbon emissions (tonnes CO2-eq) was revised from 301,131 to 288,640 and the Carbon footprint (tonnes CO2-eq/ $M CAD invested) was revised from 53 to 51 for public equity investments. See assurance report.

To maintain year-over-year comparability, we have recalculated our financed GHG emissions for the 2021 baseline year using our refined methodology.

	Value of exposure analyzed ($M CAD)		Total carbon emissions (tonnes CO2-eq)		Carbon footprint (tonnes CO2-eq/$M CAD invested)		Weighted average carbon intensity (tonnes CO2-eq/$M CAD revenue)		Emission weighted data quality score	
	Dec 2021	Dec 2022	Dec 2021	Dec 2022	Dec 2021	Dec 2022	Dec 2021	Dec 2022	Dec 2021	Dec 2022
Public equity	5,669	4,185	288,640	240,784 ✓	51	58 ✓	134	128	1.9	2.0
Private equity	731	691	21,415	12,955	29	19	84	44	5.0	4.9
Private debt	885	1,008	23,098	20,157	26	20	83	63	5.0	5.0
Infrastructure	196	264	26,862	26,480	137	100	534	326	5.0	5.0
Real estate	400	407	3,881	3,522	10	9	34	62	5.0	5.0
Corporate fixed income	1,245	884	75,898	41,371	61	47	225	155	3.3	3.7
Total	**9,125**	**7,439**	**439,793**	**345,269**	**48**	**46**	**141**	**118**	**2.7**	**2.8**

Dec 2021 values were recalculated and are restated.

Emissions associated with sovereign debt investments

Aligning with the updated PCAF Standard and the expectations of Net-Zero Asset Owner Alliance members, we have also calculated the emissions associated with our sovereign debt investments, but these emissions cannot be included with the corporate emission calculations because of variances in methodology and inherent double counting.

The Scope 1 carbon footprint of UPP's sovereign bond portfolio is 264 tonnes CO2-eq/$M CAD invested when including land use, land-use change, and forestry (LULUCF), and 267 tonnes CO2-eq/$M CAD invested when excluding LULUCF. The Scope 2 carbon footprint of UPP's sovereign bond portfolio is 48 tonnes CO2-eq/$M CAD invested. The Scope 1 carbon emissions including LULUCF and excluding LULUCF are 405,314 tonnes CO2-eq and 409,431 tonnes CO2-eq, respectively. The Scope 2 carbon emissions are 73,010 tonnes CO2-eq.

Scope 3 emissions associated with our portfolio companies

Measuring Scope 3 emissions associated with portfolio companies is still a relatively new exercise for pension funds and we rely heavily on estimates from our third-party data provider. Scope 3 emissions associated with our energy (oil and gas) and mining investments totalled approximately 1 million tonnes CO2-eq for 2022, nearly the same as 2021. Scope 3 emissions for all investments in our portfolio totalled approximately 2.3 million tonnes CO2-eq.

Data quality

To calculate our 2022 carbon footprint, 52% of the analyzed value was based on data reported by companies and collected by our third-party data provider. Exhibit 2 describes our data origins and how we assigned a data quality score to each investment. It further explains how emission data is generated for our calculation.

The data quality of our sovereign debt emissions is a Score 1, as we have used verified GHG emissions reported by the country.

Exhibit 2. Description of data quality scores

	Data quality score	Source of GHG emissions data
More certain	1	Reported by issuer and issuer-indicated emissions have been verified or assured by a third party
	2	Reported by issuer
	3	Estimated by third-party data provider using physical activity data (for example, electricity generation)
	4	Estimated by third-party data provider using historical issuer emissions or geography/ industry averages
Less certain	5	Estimated by UPP using geography/industry averages or other means

Carbon footprint methodologies, including the attribution of investee emissions to investors, are evolving at a rapid pace. We have calculated our metrics to the best of our ability as of the timing of publication, but our approach is subject to various limitations and challenges. For example, we rely on two types of data to calculate our metrics: emission data reported by companies and collected by our third party data provider, and estimates from a third-party data provider. Much of the reported company data is not third party verified, a process that would provide greater certainty in the data. Our third-party data provider does not provide a Systems and Organization Controls Report to support their estimates, however, data quality control documentation is provided. Nearly half of our carbon footprint relies on estimated data from our third-party data provider or on internal calculation.

Going forward, we plan to continually improve quality of the input data through engagement with companies and data providers, and we also plan to enhance our analytical capabilities.

Operating carbon footprint

We apply the operational control approach to our emissions accounting. We have identified Scope 2 and 3 emissions associated with our operations; UPP does not directly own or control direct GHG emissions (i.e., Scope 1 emissions) from our operations.

Scope 2 emissions arise from electricity and heat consumed at our office space. Scope 3 emissions include category 1 (purchased goods and services), category 5 (waste generated in operations), category 6 (business travel), category 7 (employee commuting), and category 15 (investments, reported above).

In 2022, Scope 3 categories 5 and 15 emissions are reported. UPP is establishing systems to collect Scope 3 emissions data for categories 1, 6, and 7 in future years. Once additional Scope 3 emissions are collected, a baseline operational footprint year will be established.

Data was collected from the property manager on electricity and steam use for 222 Bay Street and adjusted for the proportional size of UPP's office. Similarly, we received information on waste sent to landfill for the entire complex, which was adjusted for UPP's proportion of the waste by square footage.

Exhibit 3. UPP's operational emissions

	Electricity use (Scope 2)	Steam use (Scope 2)	Waste sent to landfill (Scope 3)
Consumption data	305,712.2426 kWh	1,036,349.46 lb.	3.0732 short ton
Emissions factor	28.00 g CO2e/ kWh[28]	N/A[29]	0.52 t CO2e / short ton[30]
Emissions	8.56 t CO2e	65.37 t CO2e	1.59 t CO2e

[28] Ontario emissions factor as defined by Government of Canada's 2022 Emission Factors and Reference Values.

[29] Consumption data and CO2e data provided directly by the property manager.

[30] Mixed municipal solid waste in landfill emissions factor as defined by 2023 United States Environmental Protection Agency Emissions Factor for Greenhouse Gas Inventories.

Appendix 3. TCFD disclosure matrix

In line with our expectation of investee companies, we publicly report on our climate management practices annually, in line with the recommendations of the Task Force on Climate-Related Financial Disclosures. Below is a cross-reference to where the recommended disclosures can be found throughout the report.

Disclosure	Page
Governance	
a) Describe the Board's oversight of climate-related risks and opportunities.	41
b) Describe management's role in assessing and managing climate-related risks and opportunities.	41
Strategy	
a) Describe the climate-related risks and opportunities the organization has identified over the short-, medium-, and longer terms	In progress
b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	12, 28, 31, 37
c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	In progress
Risk management	
a) Describe the organization's processes for identifying and assessing climate-related risks	26, 28, 31, 33-39
b) Describe the organization's processes for managing climate-related risks	26, 28, 31, 37-39
c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	26, 28, 31-37
Metrics and targets	
a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	40, 75-79
b) Disclose Scope 1, Scope 2, and if appropriate, Scope 3 GHG emissions and related risks	40, 75-79
c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	37, 40, 75-78

Appendix 4. Top external managers

$50 million or more of our assets under management[31]

Name	Active/passive
Acadian Asset Management LLC	Active
Addenda Capital	Active
AQR Capital Management	Active
Arbour Lane Capital Management LP	Active
Arrowstreet Capital L.P.	Active
Artisan Partners Limited Partnership	Active
Bayview Asset Management	Active
BlackRock Asset Management Canada Limited	Passive
Bridgewater Associates, LP.	Active
Brookfield Asset Management	Active
Capital Fund Management	Active
CC&L Investment Management Ltd	Active
CIBC Asset Management	Passive
Clearlake Capital Group, L.P.	Active
Crestline Management, L.P.	Active
DigitalBridge	Active
First Pacific Advisors, LP	Active
Fourth Sail Capital L.P.	Active
Impax Asset Management Group	Active

Name	Active/passive
Marshall Wace LLP	Active
Orbis Investment Management Limited	Active
PAG	Active
PIMCO Canada Corp.	Active
Q Residential	Active
Redwheel	Active
Robeco Institutional Asset Management B.V.	Active
RP Investment Advisors LP	Active
Select Equity Group, L.P.	Active
Springs Capital (Hong Kong) limited	Active
State Street Global Advisors	Passive
Stepstone Group	Active
Sun Life Capital Management (Canada) Inc.	Active
TD Asset Management	Active/Passive
Triton Investment Management Limited	Active
Trustbridge Partners	Active
Two Sigma Advisers, LP	Active
Voloridge Investment Management, LLC	Active

[31] For external managers who have consented to disclosure. UPP provides this investment information for information purposes only. The information is not intended to provide investment or financial advice and should not be relied upon for that purpose. The information is current as of December 31, 2022 and may not reflect UPP's current holdings. UPP does not guarantee the completeness, timeliness, or accuracy of this information. UPP will not accept any liability in relation to the use of or reliance on the information. Any reliance on or use of the information for any purpose is at the risk of the user.

Appendix 5. Limited assurance opinion on public equity portion of carbon footprint

pwc

Independent practitioner's limited assurance report on the select performance metrics of University Pension Plan Ontario (UPP) as presented in UPP's 2022 Annual Report

To the Board of Trustees and Management of UPP

We have undertaken a limited assurance engagement on select performance metrics detailed below (the select performance metrics) as presented in UPP's 2022 Annual Report for the year ended December 31, 2022.

Our limited assurance engagement was performed on the following select performance metrics:

Performance metrics	December 31, 2022
Total Carbon Emissions	240,784 tCO2e
Carbon footprint	58 tCO2e/$M invested

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"PwC" refers to PricewaterhouseCoopers LLP, an Ontario limited liability partnership.

Management's responsibility

Management is responsible for the preparation of the select performance metrics in accordance with the applicable criteria established in Exhibit 1 (the applicable criteria). Management is also responsible for such internal control as management determines necessary to enable the preparation of the select performance metrics that are free from material misstatement, whether due to fraud or error.

Our responsibility

Our responsibility is to express a limited assurance conclusion on the select performance metrics based on the evidence we have obtained. We conducted our limited assurance engagement in accordance with Canadian Standard on Assurance Engagements (CSAE) 3000, *Attestation Engagements Other than Audits or Reviews of Historical Financial Information*. This standard requires that we plan and perform this engagement to obtain limited assurance about whether the select performance metrics are free from material misstatement.

A limited assurance engagement involves performing procedures (primarily consisting of making inquiries of management and others within the entity, as appropriate, and applying analytical procedures) and evaluating the evidence obtained. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users of our report. The procedures are selected based on our professional judgment, which includes identifying areas where the risks of material misstatement, whether due to fraud or error, in preparing the select performance metrics in accordance with the applicable criteria are likely to arise.

The extent of our procedures included but was not limited to inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records. Given the circumstances of the engagement, in performing the procedures listed above we:

- Reviewed the UPP methodology and evaluated whether UPP's methods for determining the boundaries and quantification of the select performance metrics were appropriate and consistent with the applicable criteria;
- Through inquiries, obtained an understanding of the UPP control environment and the information systems relevant to the select performance metrics quantification and reporting. Our procedures did not evaluate the design of particular control activities, obtain evidence about their implementation or test their operating effectiveness;
- Evaluated whether UPP's methods for developing estimates are appropriate and consistently applied;
- For a limited sample of assets, reconciled the select performance metrics data back to the underlying records.
- Reviewed the select performance metrics disclosure in UPP's 2022 Annual Report to ensure consistency with our understanding and procedures.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and, consequently, the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our independence and quality management

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

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

Inherent limitations

Emissions data are subject to inherent limitations given the nature and the methods used for determining such data. The selection of different but acceptable measurement techniques can result in materially different measurements. The precision of different measurement techniques may also vary.

Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that UPP's select performance metrics for the year ended December 31, 2022 are not prepared, in all material respects, in accordance with the applicable criteria.

Purpose of statement and restriction of use

The select performance metrics have been prepared in accordance with the applicable criteria prepared by UPP's management to report to the Board of Trustees. As a result, the select performance metrics may not be suitable for another purpose. Our report is intended solely for UPP. We acknowledge the disclosure of our report, in full only, by UPP at its discretion, without assuming or accepting any responsibility or liability to any third party in respect of this report.

PricewaterhouseCoopers LLP

Chartered Professional Accountants

Vancouver, British Columbia
June 8, 2023

Exhibit 1

Select performance metrics and reporting criteria

1. Total carbon emissions

Description: The absolute GHG emissions associated with the measured portfolio, expressed in Metric tonnes CO2-equivalent (tCO2eq) as at December 31, 2022.

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

Scope by asset class: Public Equity

2. Carbon footprint

Description: Total carbon emissions for a portfolio normalized by the market value of the portfolio, expressed in tCO2eq/$M invested as at December 31, 2022.

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

Scope by asset class: Public Equity

The reporting criteria against which the select performance metrics will be assessed includes:

- Management's internally developed criteria as outlined in UPP's 2022 Annual Report.
- Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures, available at: https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFDImplementing_Guidance.pdf
- Greenhouse Gas Protocol, Portfolio Carbon Initiative, Guidance for financial institutions to assess the climate impact from investing and lending activities. Available at: https://ghgprotocol.org/portfolio-carbon-initiative.
- The Global GHG Accounting and Reporting Standard for the Financial Industry developed by the Partnership for Carbon Accounting Financials (PCAF), available at: https://carbonaccountingfinancials.com/standard.