2021

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

OPTrust

table of CONTENTS

Our Task Force on Climate-related Financial Disclosures (TCFD) Journey 3

Messages from Our Leadership 4

Our 2021 Disclosure 6

- Governance 6
- Strategy 8
- Risk 14
- Metrics and Targets 17

Moving Forward 19

our
TCFD JOURNEY

Climate change is garnering increased attention from regulators, investors, corporations and from OPTrust stakeholders with widespread anticipated impact on the economy and sectors in which we invest. As one of Canada's largest pension funds with over $25 billion in net assets[1], we continue to better understand climate-related risks and opportunities in our investments, their impact on our funded status and investment strategy, and their role in our governance and ability to deliver on our mission.

In 2018, we initiated an approach to address climate change in our investments by launching a Climate Change Action Plan – a strategy for integrating and managing climate change in our investments. At the same time, we included our response to the TCFD in our Responsible Investing Report for the first time, capturing our climate-related activities and progress in 2017.

Since then, we have come a long way in understanding how climate change impacts the investments we make, and given the current environment, we need to evolve our ability to meet the complexities that lie ahead.

We are currently in the process of enhancing our climate change strategy to ensure continued alignment with the latest research and industry best practices. We are also onboarding climate change data to enable us to better identify and manage our climate-related risks and establishing new work streams that include top-down and bottom-up climate change due diligence to ensure we are equipped to execute our enhanced climate change strategy.

[1] As of December 31, 2021

messages from OUR LEADERSHIP

"Climate change presents a real, measurable risk to our members that cannot be ignored in our investment approach. We invest sustainably for the long-term health of the OPSEU Pension Plan (the Plan) and believe investors have an important role to play in allocating capital responsibly. Our role as a pension management organization is to look far ahead at challenges and opportunities that could affect members and their retirement security across multiple generations."

PETER LINDLEY
President and Chief Executive Officer

"It is our collective responsibility to focus on the long-term sustainability of the Plan so that we can pay pensions today and preserve pensions for tomorrow. Climate change touches all corners of our portfolio and demands our attention. Together, the Sustainable Investing and Innovation team and partners across the Investment Division and the entire organization are working collaboratively to deepen our understanding of climate change and how it impacts what we do. We are continuously learning and improving as we enhance our approach to climate change and ultimately aim to enhance the resiliency of our investments over the long term."

JAMES DAVIS
Chief Investment Officer

"OPTrust first endorsed the recommendations of the Task Force for Climate-related Financial Disclosures in 2017, and this report is an important element of our commitment to disclose to our members and stakeholders the progress we made in 2021 in addressing the risks and opportunities climate change poses to the Plan. We look forward to continuing to strengthen our efforts to further advance climate disclosures in our industry and to bring continued transparency to OPTrust's approach as it evolves."

UPTON JEANS
Chief Financial Officer

"As members of OPTrust's CRWG, we see first-hand the opportunities climate change presents to us as investment professionals. It has been an honour to work with multiple teams across OPTrust to advance our climate change strategy over the past year and to contribute to a global effort to advancing climate-related disclosures through this report."

SHWETA ARYA
Associate Portfolio Manager, Sustainable Investing and Innovation

AMY AU
Director, Finance

ALISON LOAT
Managing Director, Sustainable Investing and Innovation

our 2021
DISCLOSURE

Governance

Describe the Board's oversight of climate-related risks and opportunities

OPTrust's Board of Trustees (the Board) is responsible for the overall administration of the OPSEU Pension Plan (the Plan) and the investment of the OPSEU Pension Plan Trust Fund (the Fund). The Board is directly responsible for strategic matters such as ensuring the integration of climate change considerations into the Fund's investment and risk management, consistent with its fiduciary duty to operate in the best interest of the Plan's 100,000 members.

In 2021 the Board:

- Held strategy and educational sessions on climate change to discuss the Fund's climate beliefs and the key components of the forthcoming enhanced climate change strategy.
- Reviewed the progress made against management's enhancement of OPTrust's 2018 Climate Change Action Plan, including a discussion of the Fund's resilience in different climate-related scenarios.
- Undertook the annual review and approval of management's Statement of Responsible Investing Principles (SRIP) and Proxy Voting Guidelines, the latter of which was updated to clarify OPTrust's expectations from our portfolio companies on climate change.
- Approved the acquisition of climate change data to enable improved carbon footprint calculation, climate-related risk analysis and target setting.

To support the ongoing work under the enhanced climate change strategy, the Board's Investment Committee receives regular updates.

Describe management's role in assessing and managing climate-related risks and opportunities

OPTrust's Chief Executive Officer (CEO) is responsible for executing the organization's overall strategy and implementing its Statement of Investment Policies and Procedures (SIPP) and SRIP. The CEO, in turn, delegates to the Chief Investment Officer (CIO) the responsibility for executing OPTrust's investment strategy and overseeing the overall Responsible Investing (RI) program, which includes the Fund's approach to climate change. The CIO and the investment teams are responsible for the development and delivery of the enhanced climate change strategy.

In 2021, OPTrust's management team:

- Established a cross-organizational working group – the Climate Response Working Group (CRWG). Led by the Sustainable Investing and Innovation team, the CRWG is comprised of 30 professionals from across all investment teams and other core departments to identify, prioritize and facilitate numerous work streams to enhance OPTrust's management of climate change.
- Identified key gaps in OPTrust's capabilities to address climate change based on global best practices (i.e. Task Force on Climate-related Financial Disclosures).
- Completed a top-down climate-related scenario analysis that identified potential impacts to OPTrust's funded status due to climate-related transition and physical risks.
- Initiated a bottom-up portfolio assessment to identify climate-related risks and mitigation plans in each asset class.
- Conducted several climate change training sessions for all team members and the Executive Team.
- Delivered regular updates on the climate change strategy enhancement process and key areas of work to the Board, Executive Team, several management committees – including the Responsible Investing Committee that oversees the overall RI strategy and programs, and the Total Portfolio Committee that oversees the overall investment strategy and execution – as well as at organizational town halls.

Strategy

Describe the climate-related risks and opportunities over the short, medium and long term

The risks and opportunities arising from climate change are numerous, wide-ranging and constantly evolving with the potential to impact every industry and geography in which OPTrust invests.

We acknowledge we face both transition and physical risks with respect to climate change that can alter the risk-return assessment of an investment opportunity. While the risk effects depend on the investment strategy under consideration, there is no doubt climate-related risk is systemic and cannot be diversified away. Climate-related risks can have a material financial impact on the total fund, which includes public equity, private equity, infrastructure, real estate and multi-strategy investments.

Transition risks arise from changes in regulation that increase the cost burden on high-emission industries, changes in market sentiment towards more climate-friendly businesses and the inability of companies to pivot to climate-friendly business models. Physical risks arise from the growing frequency of extreme weather events and changing weather patterns that can cause operational disruptions and property damage.

<u>Potential risk areas for OPTrust's portfolio</u>

Regulatory and policy risks

With growing attention to climate change and the risks it poses to the global economy, there is a greater call for regulators and policy-makers to update current guidelines for the financial sector. This could mean changes to future regulatory requirements, which includes establishing decarbonization targets, enhancing governance to meet those requirements and increasing the level of disclosures. Not only might this lead to escalating costs of investment ownership, but it could increase the difficulty of fulfilling our mission.

Market risks

As consumers, businesses and investors align their actions with a low-carbon future, the supply and demand of various commodities, products and services will shift and cause uncertainty in the markets. We anticipate consumer preferences will shift away from carbon-intensive goods and services coupled with a growing expectation from companies to respond to the climate change crisis. Rising input costs, including unexpected shifts in energy costs, could also impact production, and in turn, revenue. Additionally, there is growing evidence on the potential impact of climate change on both inflation and economic growth, and these macroeconomic factors can further exacerbate market risks. As investors strive to achieve their net-zero goals, carbon-intensive businesses are likely to have heightened scrutiny, lower favourability and experience decreasing valuations.

Physical risks

As global temperatures continue to rise and the climate becomes more volatile, we expect our investments, particularly real assets, will be increasingly exposed to physical risks – both acute and chronic – and the resulting damage. This can lead to supply chain disruptions, reduced revenue from stalled production and increased operating and capital costs – impacts felt differentially based on geographic location. In response to physical risks, insurance companies may increase premiums for high-risk locations and limit, or even eliminate, coverage in some locations as seen increasingly in the real estate sector.

Stranded asset and valuation risks

Advancements in lower-emissions technology, changes in environmental regulations and changing market sentiment have the potential to cause premature writedowns and devaluations of carbon-intensive assets, such as oil and gas pipelines, leaving them 'stranded'. On the flip side, increased urgency from investors, corporations and governments to align with net-zero emissions by mid-century has led to escalating entry valuations within widely recognized sustainable industries (e.g. renewable energy).

Reputational risks

Changing consumer and stakeholder preferences and regulations favouring climate-friendly industries and businesses could potentially expose us to reputational risks if we are associated with investments that fail to consider material climate-related risks, are exposed to environmental fines or fail to establish emission-reduction targets in-line with industry expectations.

These climate-related risks are expected to continue over the medium to long term. With potential downward pressure on returns, this requires more upfront climate-related due diligence and vetting of management and external partners and priorities, as well as developing asset monitoring and value-creation plans that specifically address climate-related risks and challenges.

Conversely, the growing interest in climate-conscious and climate-positive business models also has the potential to generate new investment opportunities, alter asset allocations and improve the climate alignment of our existing investments. Heightened regulatory scrutiny on the impact a company has on climate change and vice versa, and fiscal incentives tied to climate change, could be a catalyst for promoting growth in sustainable industries and business models, opening new areas of opportunity previously under invested or unexplored. We have already begun pursuing these opportunities through allocations to our renewable energy portfolio, investments in buildings with environmental certifications, investments in green bonds and the creation of a dedicated, sustainability-focused incubation strategy.

Exploring climate change opportunities

New investment opportunities

Interest in climate-friendly investments is increasingly creating opportunities for expansion into new areas of business to generate new revenue streams and business relationships. Customers, especially younger generations, are demanding sustainable products and services. Manufacturing innovation is driving down the cost curves for clean technology and new public finance mechanisms are emerging to fund sustainable public infrastructure. As a long-term investor, we are always on the lookout for potential opportunities to enhance our asset allocations.

Active engagement

The opportunity to work with our partners and portfolio companies to enhance their approach to managing climate change and their ability to capture climate-related risks and opportunities will lead to more realistic asset valuations and improved resilience to the global transition to a low-carbon economy. Discussions on climate change readiness also provide us the opportunity to learn from our partners who are at the forefront of this space and who can influence decisions and strategic initiatives that align with our own climate change goals.

Reporting

As we launch our enhanced climate change strategy, there will be opportunities to improve and standardize reporting on various climate change metrics, including both risks and opportunities in our internally and externally managed investments. This will allow us to quantify and understand our exposure to certain risks, track progress on our climate change objectives and identify areas where more work is needed (due to current unavailability of data). Implementing such measures will help enhance the sustainability of our portfolio.

Quantification of climate risk

Continuing to leverage climate-related risk assessment tools and metrics enables us to better assess the financial impact of climate change on various assets within our portfolio. In the short-to-medium term horizon, this will allow us to have more targeted initiatives to address investments from a relative risk and financial impact perspective.

Describe the impact of climate-related risks and opportunities on your team's business, strategy and financial planning

Climate change is increasingly recognized as a risk to the OPSEU Pension Plan (the Plan) over the long term. Throughout 2021, OPTrust's Climate Response Working Group (CRWG) laid the groundwork for a cross-organizational approach to enhance our approach to climate change and ensure continued alignment with the latest research and industry best practices. The strategy will ensure that climate change considerations are embedded across vital organizational functions – not just investments – and will include the establishment of new work streams and processes across the finance, legal, risk and communications departments.

Since the CRWG's inception in 2021, the committee has focused on leveraging data to help us understand how climate change may impact our portfolio along various dimensions. There are six principal work streams the CRWG has advanced in 2021 and will continue to progress in 2022:

1. **Climate scenario analysis in asset-liability management (ALM):** conducting a top-down climate-related scenario analysis to understand the macroeconomic impacts of climate change on capital markets, our funded status and total returns.
2. **Asset class-specific climate risks:** conducting a bottom-up asset class-specific analysis by developing a set of qualitative criteria to identify the highest climate-risk individual assets or strategies and identifying ways to better assess climate change impacts on current and future investments.
3. **Climate-informed asset valuations:** understanding how climate-related risks and opportunities are impacting valuation analysis and any implications for our valuation policy or approaches.
4. **Improving climate-related financial disclosures:** assessing the quality of our reporting compared to industry best practice and developing a streamlined approach to identify gaps in reporting, collecting information from relevant teams and publishing the Task Force on Climate-related Financial Disclosures report annually.
5. **Climate-risk awareness in total fund:** understanding how climate change should be integrated in risk management frameworks and processes and developing a qualitative high, medium or low risk classification for the OPSEU Pension Plan Trust Fund's (the Fund's) assets based on geographic and sector exposures.
6. **Climate data procurement:** piloting data providers to help us better understand our exposure to climate-related risks and opportunities, and to measure and monitor key climate metrics to advance our climate change objectives.

As we strengthen our approach to climate change integration and management across the Fund's assets, we will need to develop new skills, set up new systems and processes and establish the right accountabilities to ensure continued success. Our immediate goal is to build a robust climate change data infrastructure, including specialized analytics to facilitate target setting and climate-related risk assessments.

In 2020, we established a mandate for our Sustainable Investing and Innovation team to invest at the intersection of sustainability and innovation with an initial focus on climate change solutions. The mandate will contribute to the financial health of the Fund while also allowing us to identify and capitalize on emerging climate-related risks and opportunities more proactively.

Describe the resilience of your team's strategy, taking into consideration different climate-related scenarios, including a 2ºC or lower scenario

In 2021, the CRWG conducted a top-down climate scenario analysis to understand the macroeconomic impacts of climate change on capital markets, our funded status and total returns. The analysis follows an earlier climate-aware ALM pilot in 2018 and integrates refined climate-related scenarios with standard simulation-based asset-liability analysis. The project, led by our portfolio construction and actuarial teams in collaboration with Ortec Finance, deepens our understanding of the impact of climate change on key macroeconomic variables and the Plan's funding risk. While the updated analysis provides richer insight than in the past, particularly from the perspective of plan sustainability, these analyses are still new in the industry and should be viewed alongside complementary bottom-up analyses to develop a holistic understanding of material climate risks and opportunities.

For the climate scenario analysis, we considered two types of risks:

1. **Transition risks:** result from the world's actions to move to a low-carbon economy, such as changing market sentiment or government policy.
2. **Physical risks:** result from a warming climate such as increased frequency and intensity of extreme weather.

To estimate the impacts on our portfolio and funding risk, we used three scenarios which also map broadly to the Network for Greening the Financial System (NGFS) reference scenarios from June 2020:

1. **Paris orderly transition:** average global warming stabilizes at 1.5ºC and pathway is smooth.
2. **Paris disorderly transition:** average global warming stabilizes at 1.5ºC but pathway is disruptive to financial markets due to sudden and late global action to reduce CO_2 emissions resulting in abrupt asset repricing.
3. **Failed transition:** average global warming reaches 4ºC and pathway is unchanged, where physical risks are severe in the long run.

The analysis confirmed climate change is a material risk to the Plan's sustainability, significantly increasing funding risk in all climate-related scenarios under examination. While the anticipated impact of climate change will be pervasive, the magnitude of the impact varies by asset class, time horizon and the scenario under consideration. We are actively contemplating enhancing the integration of climate-related risks in the portfolio construction framework and identifying how we can continue to build resiliency to climate change. The specific impacts on our actual portfolio will also be influenced by the actions we take in our investment planning and asset management.

Risk

Describe the organization's process for identifying and assessing climate-related risks

Given the long-term nature of the OPSEU Pension Plan Trust Fund's liabilities and the varying time frame over which different types of climate-related risks can materialize, we are developing a comprehensive approach to climate-related risk management. This approach requires us to identify risks at two levels: total fund and asset class.

In 2021, we initiated a total fund top-down assessment of climate-related risk exposure by country and industry. Leveraging established industry research, we categorized each investment in the total fund portfolio as a high, medium or low climate-related risk. This helped establish a baseline understanding of our exposure to climate-related risk and highlighted areas where further investigation of risks is needed.

We also conducted a bottom-up risk assessment at the asset-class level to establish a baseline understanding of risks in each portfolio. We used a set of qualitative criteria to identify climate-risk exposed investments and high-risk investments were prioritized for engagement.

In addition, the investment teams use a variety of approaches on an ongoing basis to identify climate-related risks during the investment life cycle:

- **Responsible Investing Partner Evaluation (RIPE):** an assessment to evaluate our process for identifying, managing and reporting environmental, social and governance (ESG) issues, including climate change, in our externally managed investments.
- **Physical risk toolkit:** a tool to measure the physical risks of climate change including floods, heat stress, hurricanes and typhoons, rising sea levels, water stress and wildfires. In our real estate portfolio, we have modelled risks for all our existing direct investments and have scorecards for each property that will help with asset management decisions. As part of our due diligence for new direct investments, potential sites are analyzed for any risks related to their location.
- **Qualitative due diligence:** a process in our private equity and infrastructure portfolios where we have access to qualitative information on ESG policies and climate change goals and initiatives to allow us to identify and assess relevant climate-related risks and opportunities. In many cases, ESG and/or environmental considerations are also reviewed externally by specialized due diligence advisors.

- **Post-investment monitoring:** a regular collection and reporting on data related to the environmental certification of our directly owned real estate properties (e.g. Leadership in Energy and Environmental Design (LEED), Building Owners and Managers Association (BOMA)). We aim to increase the number of certified buildings in our portfolio by making improvements to existing properties. In our private equity and infrastructure portfolios, we ensure active monitoring of risks during the hold period for our direct investments. Through ongoing engagement with management, we advocate that climate-related risks are monitored at the portfolio-company level and reported to its board of directors.

To build on our capabilities, we are currently in the process of partnering with an ESG data provider to track and monitor physical and transition risks for our investments using more sophisticated metrics such as greenhouse gas emissions, climate value-at-risk and portfolio warming potential. This will help us supplement our qualitative due diligence with quantifiable climate metrics. We are also developing a cross-asset class climate change due diligence toolkit that will enable our deal teams to analyze climate-related risks and opportunities more systematically in their investments, where applicable.

Describe the organization's process for managing climate-related risks

Over time, we will develop a data governance process that involves tracking, analytics and reporting so key risk metrics can be documented and shared with relevant stakeholders through various board and management committees.

The investment teams use a variety of approaches to manage climate-related risks across our portfolio:

- **Direct holdings:** in our private equity and infrastructure portfolios, we work directly with our portfolio companies to respond to potential risks and ensure climate-related risks are discussed annually at their board of director meetings. For companies without specific climate-related policies, we help shape the strategic direction of their approach and share information on best practices, where available. In our real estate portfolio, we conduct an insurance review during underwriting to understand the scope and cost of insurance coverage that would mitigate against the adverse financial impact of physical risks.

- **Externally managed assets:** for investments with funds or third-party managers, we require the completion of a RIPE assessment, which reviews the partners' approach to climate change. As we develop the climate change due diligence toolkit, we plan to enhance our ability to review partners' activities in more detail. For fund investments, we negotiate for robust governance rights, such as advisory committee seats, which give us the opportunity to engage with partners and advocate for the importance of managing climate-related risks.
- **Integrating into portfolio strategy:** our real estate team seeks to enhance the quality and sustainability of our portfolio by undertaking the development and acquisition of 'new generation' properties. These properties are designed to minimize carbon emissions and environmental waste, and maximize energy efficiency, improving our ability to address climate-related risks proactively. In our public markets portfolio, we are prioritizing the management of transition risks in our equities holdings, where possible, and starting to increase our allocation to green bonds with longer maturities.

Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management

Investment teams are responsible for identifying, assessing and managing climate- and ESG-related risks in their respective portfolios. We are currently in the process of integrating climate-related risks into our organizational risk management framework, which will be a collaborative initiative led by our risk, portfolio construction and investment teams.

Metrics and Targets

Disclose the metrics used by the organization to assess climate-related risks and opportunities in-line with its strategy and risk management process

We conducted a pilot in 2019-20 to analyze our portfolio emissions on a combined $8.2 billion of assets in our capital markets, private markets and real estate portfolios. This included initial assessments of our carbon exposure, carbon intensity and the associated earnings at risk for a subset of our assets where information was available, either directly or using proxies, via a data partner.

This was valuable in helping us refine our approach through 2021, which included piloting additional climate change data providers. We are currently developing an approach to capture and track progress against four types of targets:

1. **Process:** ensuring we consistently incorporate climate change considerations into our investment processes and activities by conducting climate change due diligence on all new investments, where applicable.
2. **Engagement:** tracking the impact of our proxy and engagement programs including our high-risk assets.
3. **Solutions:** defining and tracking allocations to climate change solutions.
4. **Climate impact:** regularly tracking indicators of transition risk (e.g. greenhouse gas emissions), physical risk and overall portfolio temperature alignment.

Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks

We disclosed the results of our 2019-20 emissions pilot in our 2019 Responsible Investing Report. Before doing so again, we invested time in exploring the various methodologies and data sources in the market to understand which ones are best suited for our complex, multi-strategy portfolio. We are currently in the process of onboarding a more comprehensive suite of climate data, which will enable us to work toward disclosing GHG emissions across our portfolio to the extent data are available, including understanding how best to apply proxies to our private holdings. Incomplete data availability, particularly in the mid-market in which we primarily invest, will limit our ability to fully disclose against all three scopes in the near term, but we are committed to working with our partners to advance disclosure in the coming years.

Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets

We have initiated our target-setting process with the intention to finalize targets in 2023. Targets will be an important way to track progress towards the achievement of our enhanced climate change strategy and we will use the four sets of targets listed on page 17 to establish baselines and measure success in an ongoing way.

moving FORWARD

Our response to the Task Force on Climate-related Financial Disclosures is not an end in itself, but an opportunity to reflect on our progress and identify the strengths and challenges in our approach. As we continue our journey and work on finalizing our enhanced climate change strategy, we are mindful of:

- Articulating an ambition for our work that is rightsized for our organization.
- Fostering a learning mindset and an organizational culture that embraces uncertainty and complexity.
- Identifying the right tools and data that will enable us to act on our ambition.

CONNECT WITH US

OPTrust
1 Adelaide Street East, Suite 1200
Toronto, ON M5C 3A7

Tel: 416 681-6161 in Toronto
1 800 906-7738 toll-free in Canada

optrust.com

OPTrust