CLIMATE CHANGE
ACTION PLAN

A THOUSAND
MILE JOURNEY

OPTrust

AN INFLECTION POINT

Climate change is one of the most significant risks we face today. Its effects are complex and wide-ranging, and will also play out over decades.

Despite years of debate around the risks associated with climate change, a common approach or perfect tool has yet to be realized to model and mitigate its impact.

During 2018, we continue our efforts to better understand the impact of climate change on our investments. We are building on our work with Mercer in 2017, which involved conducting a climate change scenario analysis of the total fund to evaluate the resiliency of OPTrust's portfolio to a 2° world, the goal of the Paris Climate Agreement.

This year, we took the findings and committed to identifying what steps we needed to pursue in order to take climate change into consideration in OPTrust's analysis of investment opportunities. We endorsed the Task Force on Climate-related Financial Disclosures (TCFD) recommendations and reported in accordance with this framework. We also partnered with EY to develop a practical approach to understanding climate change risks and opportunities in our investment strategy.

We are now implementing this framework — OPTrust's Climate Change Action Plan (C-Cap). We are looking at our investments from both a top-down and bottom-up perspective to evaluate our exposure to the risks and opportunities related to the transition to a low carbon economy. We recognize that we must remain agile to adapt our approach as the transition plays out.

Looking at our portfolio through this lens has identified that 7.6% of OPTrust's portfolio is invested in renewable energy and green real estate. This represents our direct investment in the transition to a low carbon economy.

Whether we take action or not, climate change is already having profound impacts, and markets are responding accordingly. It is in our members' best interests to take action and consider the financial implications. The complexity of the challenge ahead of us requires new ways of thinking and an innovative mindset.

We will continue to create and lead conversations with companies, regulators and public policy makers to enhance climate change-related disclosure and to reduce uncertainty in the investing environment. This is just the beginning of exploring the type of tools that are required to help us determine the resilience of OPTrust's existing portfolio.

With that in mind, OPTrust's C-Cap defines a clear path forward — aligned with our risk conscious approach to pension management.

Hugh O'Reilly
President and CEO

OPTRUST CLIMATE ACTION AT A GLANCE

- Became one of the **first pension funds** to report in accordance with the recommendations of the **Task Force on Climate-related Financial Disclosures** (TCFD).

- Conducted scenario analysis to better understand the implications of climate change for the Plan if the Paris Agreement target is achieved and a business as usual scenario.

- Committed 7.6% of OPTrust's portfolio to **renewable power** and **green real estate** investments.

- Joined **leading global investors** in a G7 initiative to support Global Initiatives including climate change related disclosure.

- Created an **incubation portfolio** to enable innovation, leverage strategic relationships and invest in solutions and opportunities that could include climate change.

- Partnered with our global pension peers in the **International Centre for Pension Management** (ICPM) Climate Change Working Group to develop guidance for institutional investors on understanding the risk.

- Joined **Climate Action 100+** a five-year initiative led by investors to engage with the world's largest corporate greenhouse gas emitters to improve governance on climate change, curb emissions and strengthen disclosure.

- Worked with the **Ontario Securities Commission** to support its efforts with the **Canadian Securities Administrators** to review the risks, financial impacts and governance processes related to climate change.

- Engaged **235 companies** on climate-related issues leading to improved climate risk reporting, climate-aware boards and emissions reduction.

CLIMATE CHANGE ACTION PLAN

Our goal is to build an action plan with measurable and meaningful goals. We partnered with EY[1] and consulted with our peers to identify international best practices in addressing the investment implications of climate change and how best to integrate the approach across OPTrust's portfolios.

As OPTrust implements the Climate Change Action Plan (C-Cap) over the next five years, we will do so within the framework of the TCFD. The first snapshot of this effort is featured in OPTrust's 2017 *Funded Status Report* and 2017 *Responsible Investing Report* and we will continue to share our progress at **optrust.com**.

We will use international best practices to address the investment implications of climate change.

1 OPTrust Climate Change Framework in partnership with Ernst & Young LLP, 2018

AN EIGHT-POINT ACTION PLAN

As we define our long-term strategy, ensuring that OPTrust's portfolio remains resilient and agile in meeting the challenges of climate change risk is an integral part of our investment mandate. We have set out broad actions that we believe will get us there.

1. **Deliver on disclosure** — We will continue to drive for better disclosure of the information investors need to price carbon risk. We will do this in collaboration with our peers and portfolio companies and will continue to champion the TCFD as the 'gold standard' disclosure framework.
2. **Collaboration** — Climate change is a complex issue that requires collaboration to find solutions. OPTrust will work with peers, regulators and with companies in which we are invested to achieve meaningful change.
3. **Continue to build awareness** — As we gain a better understanding of climate change, the information and tools to evaluate its impacts are becoming increasingly sophisticated and accessible to the investment community. In our approach, we will continue to create awareness and alignment among our investment professionals and investee companies through education.
4. **Define a clear baseline** — We will develop a 'current state' assessment of climate-related risks to the total fund through measuring our exposure to industries and geographies that are at higher risk for climate change impacts.
5. **Integrate in portfolio construction** — We will introduce an approach that considers climate risk impact on the total fund and in our portfolio construction framework. We will focus on exploring and developing climate change scenarios integrated with our risk-based portfolio construction framework and analyze the impact on the total fund portfolio.
6. **Innovation in process and metrics** — We will focus on achieving greater disclosure within our portfolio companies and incorporate climate change-related metrics in the evaluation of new investments on an asset class or by asset basis. The precise evaluation of climate change-related risks for a broad, diversified investor is still at an early stage.
7. **Drive for improved performance** — We will use our influence across market participants — from companies to regulators — to drive for improved performance on environmental, social and governance (ESG) issues and advocate for certainty in the regulatory environment and promote the implementation of the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.
8. **Lead with transparency** — We are committed to reporting our progress against the TCFD framework and to requesting the same disclosure in the companies in which we invest. We will continue to publicly report on our efforts in managing climate change risk.

INTRODUCTION

As a pension management organization, we exist to pay pensions today and preserve pensions for tomorrow. Our members depend on us to provide secure, predictable income in retirement. As such, how we manage our investing needs to fully align with our members' interests and with our Member-Driven Investing (MDI) strategy.

MDI was a deliberate response to the sustainability challenges that impact OPTrust. It allows us to take calculated risk to generate sufficient returns, but not excessive risk that would jeopardize stability. Accepting some risk is also necessary to earn the returns required to meet our pension obligations. In doing so, we strive to harvest risk premia in a diversified and risk efficient way across regions.

We work to ensure OPTrust earns sufficient returns for the risks taken and we are purposeful and efficient in the way risk is allocated. Risk is more than volatility. It is multidimensional, dynamic and rapidly changing in a wide-range of dimensions. In this challenging investment environment, we are committed to protecting our fully funded status and avoiding undue risk.

Given our MDI strategy and focus on risk, it is only logical we apply the same lens and thoughtfulness to understanding climate change as we do other risks and opportunities we face. To ensure sustainability, we must better understand the risk climate change poses and incorporate this into our investment decision-making, investment management, and portfolio construction processes.

OUR JOURNEY: DISCLOSURE, METRICS AND ADAPTATION

We partner with like-minded peers to drive collective action including the G7, International Centre for Pension Management and Asia Investor Group on Climate Change.

Whether we take action or not, climate change is already having profound impacts, and markets are responding accordingly. It is in our members' best interests to take action and consider the financial implications.

One only needs to look to the property insurance industry to see how quickly these costs are escalating. Thus, there is an urgency to take action to price climate risk. Waiting for regulators to put an appropriate price on carbon, and enact policies to ease the transition, will take too long.

In 2017, we changed the conversation on the need for investors to better measure, model and mitigate the risks that climate change presents in our whitepaper *Climate Change: Delivering on Disclosure* with a commitment to transparency regarding the fund's portfolio exposure to the critical dimensions of climate change-related risk.

We undertook innovative research on climate change in partnership with Mercer, and in so doing, furthered our industry's understanding of the need for investors to better manage the risks that climate change presents. This study involved evaluating the resilience of OPTrust's total portfolio to four potential climate change scenarios, including a 2° scenario which is the goal of the Paris Climate Agreement.

We supported the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) as the global disclosure standard to provide investors with the information required to assess the financial impact of climate change. At a high level, accurate, comparable disclosure is critical to assessing climate risk and is therefore essential to our MDI strategy.

We believe investors have a responsibility to understand the impacts of the transition to a low carbon economy, and we are engaged in finding solutions to manage the challenges we face. To date, we have made significant progress in advancing our understanding of climate change implications for the Plan. And in 2018 we partnered with EY to define a clear framework that articulates OPTrust's Climate Change Action Plan (C-Cap) for the next five years. This plan builds on our climate change disclosure conversations and outlines the steps we will take to assess climate risk and opportunities across our portfolio. The foundation of our approach lies in our beliefs about climate change and how it may influence our ability to deliver on our mission. Our beliefs will evolve over time and we will be transparent in any adjustments we make.

OUR BELIEFS

- **Change happens with influence.** As a global pension citizen, we believe we have a responsibility to use our voice to influence companies and governments to better manage this risk. We engage with our investee companies, policymakers and stakeholders to understand how they are managing the transition to a low carbon economy.

- **Measurement matters.** Metrics and tools to price the risks posed by climate change are currently imperfect. We are focused on developing and using measures that matter.

- **A risk to sustainability if not managed.** If not managed, climate change could be a risk to plan sustainability that could play out over decades. It is a complex problem that does not lend itself to a simple solution.

- **Agility and adaptation are key.** Our approach will evolve over time and must adapt to the evolving landscape. We are focused on dynamically managing the risk in our portfolio and climate change-related risk is part of this process.

- **Impact through innovation.** The increasingly rapid pace of change, exponential developments in technology and the potential for disruption is foundational to how we think about climate change risk and opportunities. We believe the transition will be complex requiring ingenuity in defining climate risk measurement and management solutions.

- **Emission reduction targets are not today's objective.** Our view is that emission reduction targets do not effectively capture our value at risk. We believe in a holistic, dynamic approach across the total fund; that our exposure to climate risk can be offset by our exposure to solutions, and it is keeping this in balance which will be our measure of our success.

- **Harness market forces.** The most effective way to drive climate outcomes is to harness market forces. We believe there is an urgency to take action by pricing climate risk, the impacts are already being felt, and regulation is not the only solution.

CHANGE HAPPENS WITH INFLUENCE

We ignite thoughtful debate in bringing together climate scientists and investors to engage on critical risk and emerging issues.

Change does not happen overnight. We recognize the challenges of climate change are vast and require solutions that are tailored to OPTrust's unique needs. Responses to climate change are multi-faceted and include government policy, regulation, technological disruption and innovation.

We have a responsibility to our members to use our voice and influence to move the needle on this critical issue.

Engagement is a cornerstone of our approach to responsible investing and we use our ownership position regularly to manage ESG-related risks to our portfolio by promoting better practices among our investee companies. Climate change is a major part of this dialogue. By engaging companies, policy makers, regulators and other actors on how climate related risk is being managed, the impact is far greater than if we were to divest. Though we view divestment from tobacco as an exception to our engagement practices as investments in tobacco do not align with our responsible investing principles.

In changing the conversation, we are advancing the ability of asset owners to understand the risks they face from climate change. At the same time, we engage policymakers and regulatory bodies to influence regulatory reform. Over the year, we have witnessed significant positive momentum in our industry and broader sectors. For example, the Canadian Securities Administrators (CSA) efforts will realize the creation of educational initiatives for companies around the risks and opportunities and potential impacts of climate change. Similarly, the CSA will consider new disclosure requirements regarding risk governance, oversight and management of climate change-related risks.

For OPTrust the lack of consensus is both a challenge and an opportunity. We aim to promote new thinking and develop better tools with which to tackle climate change. This is something we are working towards by bringing people together to generate ideas that will lead to innovation and action over the long term.

MEASUREMENT MATTERS

No single tool can measure climate change risk. The models and tools for assessing climate risk are relatively immature. Scenario analysis is a helpful exercise for investors to build understanding of how a portfolio can be impacted by various future states. Our MDI approach is unique in the way we construct our portfolios with our members' interests in mind — it is another way to assess risk.

OPTrust believes in measuring what matters. In doing so, climate change is appropriately integrated throughout investment and risk management processes. This means employing quantitative models and scenario analysis to assess climate risk and not relying on qualitative methods alone.

Similarly, in understanding OPTrust's exposure to climate change risk we implement metrics to compile and monitor data. In doing so, we are developing a baseline measure of OPTrust's portfolio exposure to the critical dimensions of climate change-related risks with an ongoing assessment of metrics. Though the tools and data required to measure this risk are still nascent, OPTrust is developing its approach to assessing and managing the risks and ensuring opportunities are captured.

We are working with others to build out better metrics and until we get there, we are looking at other ways to assess our portfolio and gain insight into potential exposure to climate-change-related risk. However, our view is that carbon footprinting provides an incomplete picture of carbon risk in an investment portfolio and to company value.

Our risk factor framework allows OPTrust to look at the fund to understand where risks may be concentrated. Rather than an asset class framework, this approach lends itself to exploring how climate change risk may be embedded across the total fund.

OPTrust uses the TCFD framework to assess and disclose how we are managing the impact of climate change on the fund. Our first report against the framework was released in OPTrust's *Funded Status Report* in March 2018.

A RISK TO SUSTAINABILITY IF NOT MANAGED

We invest in renewable power and green real estate investments across the globe.

Pension funds need to take a long-term view. For OPTrust that means our investment approach is inextricably linked to the goal of full funding. Our job is to balance sustainability by achieving sufficient investment returns without taking on excess risk that could undermine the stability. To deliver on this mandate, our investment strategy is dynamically aligned to manage a wide range of risks in the current environment and to remain resilient over the long term.

According to the World Economic Forum, the growing urgency of acting to halt climate change was demonstrated in 2017 with the news that emissions of CO_2 had risen for the first time in four years.[2] While it is not yet clear how climate change impacts will play out in the global investment landscape, it is possible to identify drivers of climate-related shifts and monitor these drivers for investment risks and opportunities. We also don't believe regulation will be enough. Market forces will be the more effective means to accelerate the mitigation and adaptation required to thrive in a changing climate.

As with other risks, we view climate change as a financial risk that is systemic in nature, and therefore cannot be ignored. Due to its multi-dimensional impacts on regulations, weather systems and technological innovation over a potentially long-term time horizon, it is a challenging risk to price. Our MDI approach is rooted in risk management and in only taking on risk when we will receive appropriate returns. Currently, it's not clear whether climate change is a risk that is being appropriately priced, meaning it can impact the ability to achieve our goal of sustainability, which is why it is a strategic priority for OPTrust.

We are expanding OPTrust's understanding of our exposure to both the upside and downside of climate change in a way that aligns with the fund's risk conscious approach to investing. Over the five-year action plan, we are pursuing a total-fund approach that underpins our MDI strategy to create a more balanced, risk-efficient portfolio that is resilient to different economic and market environments.

2 The Global Risks Report 2018, 13th Edition, World Economic Forum

AGILITY AND ADAPTATION ARE KEY

The world is changing and is increasingly complex to navigate. The global market is highly competitive and will not wait for us. In this environment, agility is key to managing climate risk and we must be adaptable to thrive in any market condition. Our portfolio construction process is critical in adapting to changing and emerging risks over time.[3]

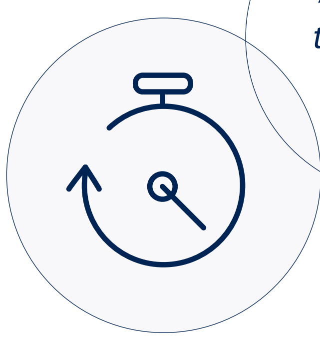
Climate change scenarios allow an organization to explore and develop an understanding of how the physical, regulatory and transition risks and opportunities from climate change might plausibly impact the business over time. We want the companies we invest in to use this approach so as investors, we can understand the climate risk that our portfolio contains, and take appropriate action.

We know fossil fuels are not going to disappear in the near future, as an energy source, fuel or input to manufactured products. For example, under the International Energy Agency's Sustainable Development Scenario (SDS) — designed to be consistent with the 2°C goal — fossil fuels will still make up over half of the global energy mix in 2040.[4]

We believe in engagement, not divestment as the best way to influence fossil fuel companies, to ensure as they look to the future, they are making appropriate strategic decisions today. We also believe the innovation occurring within companies will be a critical source of solutions to ease the transition. These commitments cannot be ignored, and must be a key part of the conversation.

As this transition takes place, our investments will include fossil fuel companies. Our approach is to engage in an active dialogue with companies on how they are integrating the low carbon transition into their business strategy.

Agility is key to managing climate risk.



3 The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities, TCFD, June 2017

4 International Energy Agency **www.iea.org/weo**

IMPACT THROUGH INNOVATION

Climate change is not an issue that can be managed by a single entity alone. By engaging with investee companies, OPTrust gathers the information required from companies to conduct a proper assessment. We look for partners to provide knowledge sharing and collaboration across a broad spectrum of investment disciplines to help increase our internal capacity and capabilities.

Past successes do not guarantee future success. The pension industry has not historically been associated with high levels of innovation. Efforts often tend to focus on investment activities, or the application of new technologies. Innovation truly occurs when it is embedded in systems and in practice. When making investment decisions about established companies and assets, it is common to examine track records of products and finances to evaluate the merits of an investment. Yet, these are indicators of past success.

An innovation mindset — particularly in the context of long-term investing for our plan's members — demands an evaluation of investing in future success and not the past. Successful, innovative investing requires an emphasis on assessing and understanding of a changing environment, such as relationships and skill sets possessed by the people who run different organizations, in addition to underlying traditional fundamentals.

Similarly, we acknowledge that new technologies will be key in our process to better understand climate change risks and opportunities. In the spirit of sustainability, we look to innovation in the new economy as a tool to drive opportunities and investments — a "just transition" that supports the retention and creation of jobs.

We have launched an incubation portfolio to focus on the development of innovative investment strategies that could enhance the resilience of the total fund. The portfolio builds on our approach to investing in opportunities created by the transition to a low carbon economy, which already encompasses a long history of investing in renewables in private markets. We look for partners to provide knowledge sharing and collaboration across a broad spectrum of investment disciplines to help increase our internal capacity and capabilities.

EMISSION REDUCTION TARGETS ARE NOT TODAY'S OBJECTIVE

Setting an emission reduction target today will not help us achieve our MDI objective to preserve our fully funded status — nor will it reduce the exposure to carbon embedded throughout our portfolio. We believe in a holistic, dynamic approach across the total fund where our exposure to climate risk can be offset by exposure to low carbon solutions, and that keeping our exposure in balance will contribute to plan sustainability — as that is the measure that matters. As disclosure, metrics and assessment tools improve over time, we will continue to revisit our climate change objectives to deliver on our sustainability goal.

ORGANIZATIONAL STEWARDSHIP

In addition to considering climate change implications to our investment portfolio, we understand the importance of environmental sustainability with our own operations. OPTrust's commitment to reducing the impact of climate change in our own operations encompasses and is reflected in measurable activities across the organization.

During 2017, we implemented a program to offset the carbon dioxide (CO_2) emissions from business air travel. The amount of carbon offset was equivalent to the carbon sequestered by approximately 95,000 trees grown in Ontario over the course of one year.

For OPTrust climate change is not only about how we invest and price risk, it's how we engage our people through organizational stewardship. Our staff continue to devise strategies to reduce OPTrust's environmental impact throughout our organization. We will continue to explore opportunities to green our organization because we believe that together we can create a more sustainable future for our people and our planet.

TAKING ACTION

While the work conducted thus far has been useful we recognize that we are at the beginning of this journey. We will continue to work collaboratively to improve our understanding of these impacts and seek solutions as we head toward a carbon-neutral future.

We will continue to explore opportunities to green our organization because we believe that together we can create a more sustainable future for people and our planet.

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