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Pension Fiduciaries and Climate Change: A Canadian Perspective

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Pension Fiduciaries and Climate Change: A Canadian Perspective

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Climate change has emerged as a major issue of financial risk for Canadian pension funds when determining where to place investments. The author argues that while such pension funds recognize climate change as an issue that holds the potential for significant financial risk, the funds' current approach to climate-related risks faces critical limitations. The author identifies the current practices of the five largest pension funds in Canada when faced with climate-related financial risks, then discusses the key shortcomings in current practices among the pension funds in three main areas.

First, the author examines organizational governance, which seeks to understand investment policies and guidelines related to climate risk, as well as the involvement of senior management and the pensions' boards of directors in guiding their funds in the face of these risks. Second, the author considers the funds' strategy and risk management, which encompasses any specific climate strategies adopted by the pension funds, as well as any tools or metrics used to manage and mitigate climate-related financial risk. Third, the author canvasses pension funds' engagement and advocacy, which includes any stewardship practices that monitor or seek to improve the climate practices of investee companies.

The author concludes by discussing the remaining challenges to pension funds and defining a path forward. The remaining challenges are approached by comparing Canadian funds to their international peers' approaches to climate-related financial risk, and by examining the position of Canadian pension funds within Canada's wider climate policy implementing the Paris Agreement. The author defines the path forward for pension funds as requiring a strong policy signal from government that could accelerate their transition to investments promoting the low-carbon economy.

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Introduction

In December 2015, 195 countries reached the landmark Paris Agreement to limit global warming to no more than 2°C above pre-industrial levels and even aspired to bring the global temperature increase below 1.5°C.[1] This historic commitment was made in recognition of the catastrophic consequences of climate change, such as rising sea levels, forest fires, droughts, and forced migration. Indeed, the number of climate-related disasters has already doubled in the past twenty years, with the economic losses increasing from USD 895 billion in the 1978–1997 period to USD 2.3 trillion in the 1998–2017 period.[2] The practical implication of the Paris Agreement is that greenhouse gas (GHG) emissions must be brought down to net zero before the end of the century, and likely before 2070 so that global warming is limited to 2°C.[3] The latest scientific research also suggests that the worst effects of climate change cannot be avoided

1. See United Nations Framework Convention on Climate Change (UNFCCC), "The Paris Agreement" (last visited 13 February 2019), online: UNFCCC <unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.

2. See United Nations Office for Disaster Risk Reduction, "Economic Losses, Poverty & Disasters: 1998-2017" (2018) at 3, online (pdf): *PreventionWeb* <www.preventionweb.net/files/61119_credeconomiclosses.pdf> [UNISDR]; Patricia Espinosa & Mami Mizutori, "Climate Change Is a Major Multiplier of Disaster Losses", Editorial (12 October 2018), online: *UNFCCC* <unfccc.int/news/climate-change-is-a-major-multiplier-of-disaster-losses>.

3. See *Paris Agreement*, 12 December 2015, Can TS 2016 No 9 (entered into force 4 November 2016, accession by Canada 22 April 2016), art 2(1)(a); The Intergovernmental Panel on Climate Change (IPCC), "Summary for Policymakers" (2018) at 13, 15, online (pdf): *IPCC* <www.ipcc.ch/sr15/chapter/summary-for-policy-makers/> [IPCC, "Summary for Policymakers"].

unless the temperature increase is limited to 1.5°C. To achieve this target, carbon dioxide (CO_2) emissions must be cut by forty-five per cent by 2030, which would require "rapid and far-reaching transitions" in energy, land, transport, and infrastructure.[4]

However, the deep decarbonization needed to combat global warming can only take place if the financial system is aligned with the Paris Agreement goals. This point is especially important in the Canadian context, where the government has pledged under the Paris Agreement to reduce its annual emissions to thirty per cent below 2005 levels by 2030, [5] but the capital markets are heavily dependent on the resources which produce the GHG emissions in the first place. Canada can, therefore, achieve its Paris targets only if its financial flows also become consistent with "a pathway towards low greenhouse gas emissions".[6]

At the forefront of the structural transition to a low-carbon economy are pension funds, institutional investors entrusted with providing retirement income for millions of people. In Canada, pension funds manage over CAD 3.8 trillion in gross assets, acting as major investors across the domestic and global economy.[7] As such, there is the potential for these pension funds to mobilize considerable capital for climate-friendly investments and to exert significant pressure for decarbonization in line with the Paris Agreement goals.[8] Furthermore, as long-term, highly diversified financial institutions, Canadian

4. IPCC, "Summary for Policymakers", *supra* note 3 at 12–15.

5. See Government of Canada, "Canada's 2017 Nationally Determined Contribution Submission to The United Nations Framework Convention on Climate Change" (2017) at 4, online (pdf): *UNFCCC* <www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Canada%20First/Canada%20First%20NDC-Revised%20submission%202017-05-11.pdf> [Government of Canada, "Contribution"]. In fact, Jeff Rubin notes that the oil sands producers account for the largest stocks on the Toronto Stock Exchange, which is among the most carbon-intensive stock indices. See Jeff Rubin, "The Case for Divesting from Fossil Fuels in Canada" (2016) CIGI Working Paper No 112 at 6, online (pdf): *Centre for International Governance Innovation* <www.cigionline.org/publications/case-divesting-fossil-fuels-canada>.

6. *Paris Agreement*, *supra* note 3, art 2(c).

7. This number is based on the latest data provided by Statistics Canada. See Statistics Canada, *Pension Satellite Account, Pension Assets at Market Value, by Type of Plan (x 1,000,000)*, Table 36-10-0576-01 (last visited 6 October 2019), online: <www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610057601>.

8. Globally, it is estimated that achieving the Paris Agreement would require investments worth CAD 100 trillion, a number which could be substantially higher if global warming is sought to be limited to 1.5°C. See Environment and Climate Change Canada, *Interim Reportof the Expert Panel on Sustainable Finance*, Catalogue No En4-350/1-2018E-PDF (Gatineau: ECCC, 2018) at 5, online: <publications.gc.ca/collections/collection_2018/eccc/En4-350-1-2018-eng.pdf> [Expert Panel, *Interim Report*]. For additional figures see also *Paris*

pension funds are increasingly exposed to climate-related financial risks. This point is becoming increasingly evident in light of a growing body of evidence that climate change will significantly impact the financial system in the coming decades.[9] Extreme weather events, such as wildfires and hurricanes, can disrupt the operations of financial institutions, impair their assets, and exponentially increase their insurable losses ("physical risks").[10] In Canada, the annual insurable losses from extreme weather events have risen from CAD 400 million a few decades ago to an astonishing CAD 1.9 billion in 2018.[11] Financial institutions are also vulnerable to risks that arise in the structural transition to a lower-carbon economy, such as vast reserves of fossil fuels becoming stranded, thereby placing significant market valuations at risk ("transition risks").[12]

It is imperative to understand the governance of climate-related financial risks in the Canadian pension sector because these institutions manage a large amount of capital, frequently adopt long-term investment strategies, and bear a

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Agreement, *supra* note 3; European Environment Agency, "Atmospheric Greenhouse Gas Concentrations" (20 March 2019), online: *European Environment Agency* <www.eea.europa.eu/data-and-maps/indicators/atmospheric-greenhouse-gas-concentrations-6/assessment>.

9. The World Bank estimates that climate change will put USD 158 trillion in assets at risk from river and coastal floods by 2050. See Global Facility for Disaster Reduction and Recovery, "The Making of a Riskier Future: How Our Decisions Are Shaping Future Disaster Risk" (2016) at 51, online (pdf): *Global Facility for Disaster Reduction and Recovery* <www.gfdrr.org/sites/default/files/publication/Riskier%20Future.pdf>. Another study by the Economist Intelligence Unit estimated that a 6°C rise in temperatures could wipe US$43 trillion off of global financial markets. See The Economist Intelligence Unit, "The Cost of Inaction: Recognizing the Value at Risk From Climate Change" (2015) at 4, online (pdf): *The Economist Intelligence Unit* <eiuperspectives.economist.com/sites/default/files/The%20cost%20of%20inaction_0.pdf>. Most recently, the Bank of Canada has explicitly cited climate change as a top vulnerability in the Canadian financial system. See Stephen Poloz, "Opening Statement Following the Release of the *Financial System Review*" (Speech delivered at Bank of Canada, 16 May 2019), online: *Bank of Canada* <www.bankofcanada.ca/2019/05/opening-statement-160519/>.

10. See UNISDR, *supra* note 2 at 3; Espinosa & Mizutori, *supra* note 2; Bank of Canada, "Financial System Review—2019" (May 2019) at 28, online (pdf): *Bank of Canada* <www.bankofcanada.ca/wp-content/uploads/2019/05/Financial-System-Review%E2%80%942019-Bank-of-Canada.pdf>.

11. See Insurance Bureau of Canada, "Severe Weather Causes $1.9 Billion in Insured Damage in 2018" (16 January 2019), online: *Insurance Bureau of Canada* <www.ibc.ca/on/resources/media-centre/media-releases/severe-weather-causes-190-million-in-insured-damage-in-2018>. See also Glen Hodgson, "The Costs of Climate Change Are Rising", *The Globe and Mail* (15 May 2018), online: <www.theglobeandmail.com/business/commentary/article-the-costs-of-climate-change-are-rising/>.

12. J-F Mercure et al, "Macroeconomic Impact of Stranded Fossil Fuel Assets" (2018) 8:1 Nature Climate Change 588 at 588, online: <www.nature.com/articles/s41558-018-0182-1>.

significant mandate to provide a retirement income to plan beneficiaries. There will be particularly profound consequences for young Canadians who reach the age of retirement in forty to fifty years as the worst effects of global warming unfold, and the full extent of climate-related financial risks materialize. Furthermore, Canadian law requires pension trustees and administrators to act in the best interests of their beneficiaries. If the Canadian pension sector disregards climate-related financial risks or does not sufficiently protect the investments of its plan beneficiaries, this may amount to a breach of fiduciary duty.[13]

This article provides an in-depth analysis of the current practices of the five largest pension funds in Canada regarding climate-related financial risks. The Canada Pension Plan Investment Board (CPPIB), Caisse de dépôt et placement du Québec (CDPQ), Ontario Teachers' Pension Plan (OTPP), Public Sector Pension Investment Board (PSPIB), and British Columbia Investment Management Corporation (BCIMC) were selected for analysis due to their extensive and diverse portfolios. These institutions collectively control about CAD 1.2 trillion net assets.[14]

There are a variety of avenues that pension funds may pursue to address climate-related financial risks, ranging from strategic oversight by the board of directors to direct engagement with investee companies on their approach to climate change. These activities may be conceptualized as falling into three core areas: (1) organizational governance, (2) strategy and risk management, and (3) engagement and advocacy. The category of organizational governance encompasses investment policies and guidelines, as well as the involvement of senior management and board of directors with respect to the organizational

13. The argument that pension funds' fiduciary duty encompasses climate change has found strong support among Canadian scholars. See e.g. Edward J Waitzer & Douglas Sarro, "The Public Fiduciary: Emerging Themes in Canadian Fiduciary Law for Pension Trustees" (2012) 91:1 Can Bar Rev 163 at 181; Janis Sarra, "Fiduciary Obligations in Business and Investment: Implications of Climate Change" (2018) at 6, online (pdf): *Commonwealth Climate and Law Initiative* <ccli.ouce.ox.ac.uk/wp-content/uploads/2018/08/Janis-Sarra_Fiduciary-Obligation-in-Business-and-Investment.pdf>.

14. This number is based on the author's calculation which draws upon the latest publiclyavailable information on the assets of the five Canadian pension funds. To access this information, see Canada Pension Plan Investment Board, "Our Performance" (last visited 14 October 2019), online: *CPP Investments* <www.cppib.com/en/our-performance/>; Ontario Teachers' Pension Plan, "Performance", (last visited 14 October 2019), online: *Ontario Teachers' Pension Plan* <www.otpp.com/investments/performance> ; British Columbia Investment Management Corporation, "BCI at a Glance" (last visited 14 October 2019), online: *British Columbia Investment* <www.bci.ca/investments-performance/portfolio/>; Caisse de Dépôt et Placement du Québec, "Snapshot of la Caisse" (last visited 14 October 2019), online: *Caisse du Dépôt et Placement du Québec* <www.cdpq.com/en/about-us/snapshot>; Public Sector Pension

approach of the institution on climate-related financial risk. Strategy and risk management refers to any specific climate strategies that are adopted by pension funds, and any tools and metrics that are employed to manage and mitigate climate-related financial risks. Finally, the category of engagement and advocacy pertains to any stewardship practices that monitor or seek to improve the approach of investee companies toward climate change. This article explores current progress on each of these three core areas of activity concerning the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).[15] The TCFD recommendations promote consistent and meaningful disclosure of climate-related financial risks and opportunities, and are regarded as a crucial soft law instrument that has received significant support amongst the G20 countries and the broader business and finance communities.[16]

The article argues that although the five Canadian pension funds discussed have begun to understand the importance of climate change, their current governance of climate-related financial risks faces critical limitations. The most pressing challenge to date has been the absence of a strong policy signal to sway markets in the direction of a transition to a lower-carbon economy. The lack of cohesion in Canada's climate policy, driven by enormous subsidies to the fossil fuel industry and a willingness to bail out high emitters, has distorted market incentives for climate change adaptation and mitigation. This is significant because profits and losses drive market activity. Although it may be unethical for investors to bet against the government implementing environmental policies that penalize companies, the lack of a policy signal encourages investors to disregard environmental, social, and governance (ESG) risks and maximize their profits in a very competitive market environment. Without an unequivocal cue from Canadian policymakers, the pension sector will not have enough support to make the bold changes that are necessary in order to respond to climate risks in a timely fashion.

The forthcoming analysis will identify and discuss the key shortcomings in current practices of pension funds, including: significant reliance on marketindices that have a high carbon concentration, the fragmented and

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Investment Board, "FY19: 6-month Performance" (last visited 14 October 2019), online: *PSP Investments* <www.investpsp.com/en/>.

15. See Task Force on Climate-Related Financial Disclosures, "Recommendations of the Task Force on Climate-related Financial Disclosures" (15 June 2017), online (pdf): *TCFD* <www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf> [TCFD].

16. See e.g. G7, "Communiqué: G7 Bologna Environment Ministers' Meeting Bologna" (12 June 2017), online: *University of Toronto G8 Information Centre* <www.g8.utoronto.ca/environment/2017-environment.html>; G20, "Leaders' Declaration: Shaping an Interconnected World" (7 July 2017) at 10, online (pdf): *University of Toronto G20 Information Centre* <www.g20.utoronto.ca/2017/2017-G20-leaders-declaration.pdf>; Ceres, "Nearly 400

inadequate disclosure of climate-related financial information, the significant exposure of pension funds to carbon-intensive economic sectors, a lack of clarity regarding the fiduciary duty of administrators and managers with respect to climate change, a narrow view of engagement and advocacy which disregards corporate borrowers, and the unsuitability of engagement and advocacy in the context of resource-intensive, high emission economic sectors. This article provides suggested reforms for each of these limitations. However, it remains incumbent on Canadian policymakers to create the necessary incentives to accelerate an urgently needed transition to a low-carbon economy.

The article proceeds as follows. It starts by considering the high-level governance of climate change and the pension funds boards' role in setting the overall organizational tone on climate change. It identifies several gaps in the boards' oversight of climate-related risks and offers pathways for reform. The article then moves to discuss the climate-related financial risks and the strategies, tools, and metrics that are currently used by pension funds to address them. It evaluates these practices and points to shortcomings or challenges that they currently face. The next section looks at engagement and advocacy practices of pension funds. It discusses the prevalent engagement mechanisms, challenging the current narrow focus on shareholder engagement. The article then revisits the effectiveness of engagement as the primary tool to address climate-related risks, especially in resource-intensive, high-emission economic sectors. The last section revisits how Canadian pension funds fare in comparison to their international peers and highlights areas for improvement. It considers how the governance of climate change in the pension sector is intertwined with Canada's climate policy and its progress in implementing the Paris Agreement. It calls for bolder policy signals that could accelerate the low-carbon transition in the marketplace and proposes mandating the disclosure of climate-related risks and addressing misconceptions around the scope of fiduciary duty.

I. Organizational Governance

Nearly all Canadian pension funds are created by specific federal or provincial legislation, which sets out their mandate and governance structure.[17] Independent governance is a defining feature of the Canadian pension model that can be traced back to the 1987 Rowan Task Force Report to the Ontario

Global Investors Urge G20 to Stand by Paris Agreement and Drive Its Swift Implementation" (3 July 2017), online: *Ceres* <www.ceres.org/news-center/press-releases/over-200-global-investors-urge-g7-stand-paris-agreement-and-drive-its>.

17. See *Canada Pension Plan Investment Board Act*, SC 1997, c 40 [CPPIBA]; *Public Sector Pension Investment Board Act*, SC 1999, c 34 [PSPIBA]; *Teachers' Pension Act*, RSO 1990, c

government, which recommended setting up public pension funds as independent entities.[18] Under this model, governments sponsor or contribute to pension funds, but pension funds operate at arm's length from governments and can, therefore, make decisions free from political interference.[19] Administration and management of investments are usually vested in an in-house team of professionals who seek to create long-term value for plan beneficiaries.[20] The funds allocate their portfolios across different geographies and asset classes, ranging from public and private equity markets to real estate and infrastructure.[21] Diversification is, hence, a fundamental investment strategy among Canadian pension funds.

At the top of the organizational governance sit independent boards of directors that oversee pension funds' operations. For instance, the *Canada Pension Plan Investment Board Act* provides that "the board of directors shall manage or supervise the management of the business and affairs" of the pension plan.[22] Similar language can be found in other pension statutes that assign the administration of pension plans to a board of directors, tasking them with establishing investment policies, standards, and procedures.[23] The board of directors owe a fiduciary duty to the plan beneficiaries. This duty can be inferred from the pension statutes, which call upon the directors to exercise the "care, diligence, and skill" of a prudent person or explicitly require them to

T.1 [*Teachers' Pension Act* (Ont)]; *Public Sector Pension Plans Act* SBC 1999, c 44; *Public Sector Pension Plans Act*, RSA 2000, c P-41; *Act Respecting the Caisse de Dépôt et Placement du Québec*, CQLR c C-2 [CDPQA].

18. World Bank, "The Evolution of the Canadian Pension Model: Practical Lessons for Building World-class Pension Organizations" (2017) World Bank Working Group No 121375 at 8, online: *World Bank* <documents.worldbank.org/curated/en/780721510639698502/The-evolution-of-the-Canadian-pension-model-practical-lessons-for-building-world-class-pension-organizations>; Ontario, Task Force on the Investment of Public Sector Pension Fund, *In Whose Interest?* (Toronto: Ministry of Finance, 1987) (Chair: Malcolm Rowan).

19. See e.g. *CPPIBA*, *supra* note 17, ss 3(2), (4); *PSPIBA*, *supra* note 17, ss 3(2), (4); *Teachers' Pension Act* (Ont), *supra* note 17, s 7.

20. See World Bank, *supra* note 18 at 13.

21. See PricewaterhouseCoopers, "Global Pension Funds: Best Practices in the Pension Funds Investment Process" (2016) at 70–78, online (pdf): *PricewaterhouseCoopers* <www.pwc.lu/en/asset-management/docs/pwc-awm-global-pension-funds.pdf>.

22. *CPPIBA*, *supra* note 17, s 8(1).

23. See *PSPIBA*, *supra* note 17, ss 6(1), 7; *Pension Benefits Standards Act*, SBC 2012, c 30, ss 9, 35(3) [*Pension Benefits Standards Act* (BC)]; *CDPQA, supra* note 17, s 5; *Pension Benefits Act*, RSO 1990, c P.8, s 8(1)(f) [*Pension Benefit Act* (Ont)]; Ontario Teachers' Pension Plan, "Mandate of The Ontario Teachers' Pension Plan Board" (last visited 6 October2019), online (pdf): *Ontario Teachers' Pension Plan* <www.otpp.com/documents/10179/20940/mandate0608.pdf/ad67da10-5de2-41e9-9700-f52ec0a9aca6>.

act "in the best interests of the contributors and beneficiaries".[24] Furthermore, the significant discretion vested in boards for managing the retirement funds, coupled with the vulnerability of the plan members who ultimately depend on their pension funds for retirement income, is aligned with the hallmarks of the fiduciary relationship set out by the Supreme Court of Canada.[25]

The Canadian pension funds' approach to climate change can be situated within their broader investment perspectives. Investment policies of pension funds, which usually draw upon the legislative and regulatory frameworks underlying their operations, indicate a common goal of maximizing financial returns without undue risk of loss.[26] The concept of risk is broad enough to include ESG factors that can affect financial returns. The latest guidelines issued by the Canadian Association of Pension Supervisory Authorities (CAPSA) explicitly refer to certain ESG risks as a subset of investment risks that must be monitored and managed by pension funds.[27] The boards of all pension funds studied here have adopted responsible investment (RI) policies, which explain how the ESG issues are incorporated into the investment process and

24. With regards to pension statutes, see *CPPIBA*, *supra* note 17, s 14(1); *PSPIBA*, *supra* note 17, s 16(1); ON *Pension Benefits Act* (Ont), *supra* note 23, s 22(1); *Pension Benefits Standards Act* (BC), *supra* note 23, s 35(3). The Financial Services Commission of Ontario provides that a "pension plan administrator (administrator) is responsible for investing the pension fund in accordance with the administrator's standard of care, in a prudent manner, and in the best interests of the pension plan's beneficiaries." See Financial Services Commission of Ontario (FSCO), *Environmental, Social and Governance (ESG) Factors* (Public Consultation), No IGN-004, (30 June 2015) at 1, online (pdf): *FSCO* <www.fsco.gov.on.ca/en/pensions/fsco_consultations/Documents/IGN004.pdf> at 1 [FSCO, "ESG Factors"]. See also Ari Kaplan & Mitch Frazer, Pension Law, 2nd ed (Toronto: Irwin Law, 2013) at 322.

25. See *Alberta v Elder Advocates of Alberta Society*, 2011 SCC 24 at paras 27–36; *Frame v Smith*, [1987] 2 SCR 99 at 148–50, 42 DLR (4th) 81; *Lac Minerals Ltd v International Corona Resources Ltd*, [1989] 2 SCR 574 at 598–99, 61 DLR (4th) 14; *Professional Institute of the Public Service of Canada v Canada (Attorney General)*, 2012 SCC 71 at para 142.

26. For examples of investment mandates in pension legislations, see *CPPIBA*, *supra* note 17, s 5(c); *PSPIBA*, *supra* note 17, s 4(b); *CDPQA*, *supra* note 17, s 4.1. For examples of investment mandates as interpreted and applied by pension funds, see e.g. Canadian Pension Plan Investment Board, "Our Mandate" (last visited 6 October 2019), online: *The Canadian Pension Plan Investment Board* <www.cppib.com/en/who-we-are/our-mandate/>; Ontario Teachers' Pension Plan, "Investment Strategy" (6 October 2019), online: *Ontario Teachers' Pension Plan* <www.otpp.com/investments/performance/investment-strategy>.

27. See Canadian Association of Pension Supervisory Authorities (CAPSA), "Guideline No. 4: Pension Plan Governance Guideline" (December 2016) at 9, online: *Canadian Association of Pension Supervisory Authorities* <www.capsa-acor.org/Documents/View/52>.

decision-making.[28] A common theme across these policies is the understanding that responsible corporate behaviour addressing ESG issues can enhance financial returns in the long run.[29] These policies recognize that as long-term investors with a fiduciary duty to their beneficiaries, the pension funds have a duty to consider the ESG risks and opportunities in their investment process. The BCIMC Responsible Investing Policy, for instance, indicates that the fund's approach to ESGs comprises of three core activities: (1) integration of ESG factors into the investment analysis and decision-making, (2) active participation and addressing systemic risks in capital markets, and (3) active ownership of portfolio companies.[30] The PSPIB Responsible Investment Policy indicates that it focuses on "identifying material ESG risks and opportunities" that can potentially affect "a company's ability to create or preserve long-term financial value".[31] The fund expects the companies to go beyond meeting the essential legal and regulatory requirements to embrace ESG practices that contribute to their long-term performance.[32]

The pension funds recognize climate change as a material ESG factor that is anchored in their responsible investment philosophies. All the funds studied here publicly acknowledge that climate change can pose a significant risk to

28. See Canadian Pension Plan Investment Board, "Policy on Responsible Investing" (10 August 2010), online (pdf): *The Canada Pension Plan Investment Board* <www.cppib.com/content/dam/cppib/Who%20We%20Are/Governance/Policies/Responsible_Investing_Policy_August2010.pdf> [CPPIB, "RI Policy"]; British Columbia Investment Management Corporation , "An Overview of BCI's Approach to Responsible Investing" (2015), online: *British Columbia Investments* <read.uberflip.com/i/605664-an-overview-of-bcis-approach-to-responsible-investing> [BCIMC, "RI Approach"]; Caisse du Dépôt et Placement du Québec, "Policy on Responsible Investment" (last visited 6 October 2019), online (pdf): *Caisse du Dépôt et Placement du Québec* <www.cdpq.com/sites/default/files/medias/pdf/en/politique_investissement_responsable_en.pdf> [CDPQ, "RI Policy"]; Ontario Teachers' Pension Plan, "2018 Responsible Investing Report" (2018), online: *Ontario Teachers' Pension Plan* <www.otpp.com/documents/10179/803196/Ontario+Teachers+2018+RI+Report/be541cfb-15c2-4c43-bfb7-729a229c857a> [OTPP, "2018 RI Report"]; Public Sector Pension Investmenr Board, "Responsible Investment Policy" (November 2017), online (pdf): *PSP Investments* <https://www.investpsp.com/media/filer_public/02-we-are-psp/02-investing-responsibly/content-2/documents/Responsible_Investment_Policy_November_2017_English_FINAL-new_logo.pdf> [PSPIB, "RI Policy"].

29. See CPPIB, "RI Policy", *supra* note 28 at 2; BCIMC, "RI Approach", *supra* note 28 at 4; CDPQ, "RI Policy", *supra* note 28 at 2; PSPIB, "RI Policy", *supra* note 28 at 2; OTPP, "2018 RI Report", *supra* note 28 at 2.

30. BCIMC, "RI Approach", *supra* note 28 at 6.

31. PSPIB, "RI Policy", *supra* note 28 at 2.

32. See *ibid* at 3.

their financial returns and their ability to fulfil their long-term obligations.[33] The CPPIB, for instance, considers climate change "one of the most significant physical, social, technological and economic challenges of our time", and the OTPP acknowledges that "climate change is one of the biggest and most daunting challenges facing the world."[34]

Four pension funds, namely the BCIMC, CDPQ, CPPIB, and OTPP, report that their boards of directors oversee the climate-related risks and opportunities through approving the funds' climate change plans and receiving status updates from senior management.[35] The BCIMC's management, for instance, reports to the board on climate change strategy, risk assessments, and any changes to the fund's overall approach to climate change.[36] It is also important to note that two pension funds, namely the CPPIB and OTPP, have established working groups composed of senior management to better understand the structural shifts arising from climate change and examine its long-term impacts on their investment portfolios.[37]

A. Pathways to Improve Boards' Oversight of Climate Change

As these examples suggest, climate change is slowly appearing on the boardroom agenda, though the level of board engagement is still quite limited.

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33. See Canadian Pension Plan Investmen Board, "CPPIB's Approach to Climate Change" (March 2017), online: *The Canada Pension Plan Investment Board* <www.cppib.com/en/public-media/headlines/2017/cppibs- approach-climate-change/> [CPPIB, "Approach to Climate Change"]; Ontario Teachers' Pension Plan, "Climate Change" (last visited 6 October 2019), online (pdf): *Ontario Teachers' Pension Plan* <www.otpp.com/documents/10179/859251/-/152d6724-3d35-4f69-8971-641ec13ed737/2018%20Climate%20Change%20Report.pdf> [OTPP, "Climate Change"]; Public Sector Pension Investment Board, "2019 Responsible Investment Report" (2019) at 5, online (pdf): *PSP Investments* <www.investpsp.com/media/filer_public/documents/PSP-2019-responsible-investment-report-en.pdf> [PSPIB, "2019 RI Report"].

34. CPPIB, "Approach to Climate Change", *supra* note 33; OTPP, "Climate Change", *supra* note 33 at 1.

35. See Canadian Pension Plan Investmenr Board, "2019 Annual Report: Investing for Generations" (2019) at 28, online (pdf): *The Canada Pension Plan Investment Board* <www.cppib.com/documents/2048/F2019-annual-report_-june-6-2019-EN.pdf> [CPPIB, "2019 Annual Report"]; OTPP, "2018 RI Report", *supra* note 28 at 7; CDPQ, "RI Policy", *supra* note 28 at 6; British Columbia Investment Management Corporation, "BCI's Climate Action Plan and Approach to the TCFD Recommendations" (2018) at 12, online: *British Columbia Investment Management Corporation* <www.bci.ca/bci-releases-climate-action-plan-and-approach-to-the-tcfd-recommendations/> [BCIMC, "Climate Action Plan"].

36. See BCIMC, "Climate Action Plan", *supra* note 35 at 12.

37. See CPPIB, "Approach to Climate Change", *supra* note 33; Ontario Teachers' Pension

As fiduciaries, the boards of directors have a duty to evaluate the risks caused by climate change to change their portfolios. This requires going beyond just passive receipt of information and instead establishing a robust process to oversee and verify their funds' progress in tackling climate change. Similar to financial statements that are subject to significant scrutiny by directors and auditors, the measurement and management of climate risks must also undergo adequate vetting and verification. As a prerequisite for effective oversight, boards need to acquire a thorough knowledge of how relevant and significant climate change is to their organizations' investment strategy, financial performance, and asset allocation. Undertaking specialized training and drawing upon external services, such as those offered by consultancies specializing in climate risk management, are among the measures that can help boards become "climate competent".

A further issue for boards is to revisit the suitability of their governance structures for climate change adaptation and mitigation. This point particularly concerns the market indices that Canadian pension funds currently replicate or use as benchmarks to measure performance. For example, the TSX 60, S&P 500, and MSCI World, which are among the most commonly used benchmarks, are respectively consistent with 4.6°C, 4.0°C, and 3.7°C global warming scenarios.[38] Such levels of carbon intensity make these indices inappropriate indicators of long-term value generation and provide a misguided tool for management compensation.[39] Given the significance of market indices

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Plan, "2018 Climate Change Report" (2018) at 2, online (pdf): *Ontario Teachers' Pension Plan* <www.otpp.com/documents/10179/859251/Climate+Change+Report+2018/152d6724-3d35-4f69-8971-641ec13ed737> [OTPP, "2018 Climate Change Report"].

38. See Expert Panel, *Interim Report*, *supra* note 8 at 30. For a list of indices used by Canadian pension funds, see Public Sector Pension Investment Board, "2019 Annual Report" (2019) at 36, online: *PSP Investments* <www.investpsp.com/media/filer_public/documents/PSP-2019-annual-report-en.pdf>; Ontatio Teachers' Pension Plan, "Benchmarks" (last visited 6 October 2019), online: *Ontario Teachers' Pension Plan* <www.otpp.com/investments/performance/benchmarks>; British Columbia Investment Management Corporation, "Corporate Annual Report 2018-2019" (2019) at 31, online (pdf): *British Columbia Investment Management Corporation* <www.bci.ca/wp-content/uploads/2019/07/F2019-Corporate-Annual-Report_Final_SECURED.pdf>; CPPIB, "2019 Annual Report", *supra* note 35 at 30. It is interesting to note the CPPIB uses as a reference portfolio the S&P Global LargeMidCap, which has a higher carbon intensity than the S&P 500. See S&P Dow Jones Indices, "S&P Global LargeMidCap (USD)" (last visited 6 October 2019), online: *S&P Dow Jones Indices* <www.spglobal.com/spdji/en/indices/equity/sp-developed-largemidcap/#overview>; S&P Dow Jones Indices, "S&P 500" (last visited 6 October 2019), online: *S&P Dow Jones Indices* <ca.spindices.com/indices/equity/sp-500>.

39. For example, the CPPIB rewards its senior management based on their performance relative to the reference portfolio, using S&P Global LargeMidCap which, as mentioned above, has a particularly high carbon intensity. See CPPIB, "2019 Annual Report", *supra* note 35 at 91.

for capital allocation and measuring performance, it is imperative that they capture climate considerations.[40]

Pension funds can play an instrumental role by demanding that index providers develop low-carbon indices that are aligned with future low-carbon scenarios. However, the misalignment between market indices and the collective goal of transitioning to a low-carbon economy cannot simply be left to markets to fix. Regulatory intervention is essential to require consistent and meaningful reporting of climate risks on market indices so that investors, including pension funds, can understand how a market index is aligned with Canada's emission targets under the Paris Agreement.[41] Regulators should also set minimum standards for the development of indices that can have a positive impact in terms of emission reductions and redirecting investments to sustainable assets and projects.[42]

Finally, improvements can be made in how boards communicate and engage with their beneficiaries on climate change. At the time of writing this paper, there is no indication that the pension funds studied seek to engage with their plan members on their climate change strategy. This gap seems problematic as giving beneficiaries a voice in pension fund governance is consistent with the principles of fiduciary law.[43] There is increasing evidence that many individuals view climate change as a pressing issue warranting urgent action.[44] It is therefore important for boards to hear the views of

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40. The Canadian Expert Panel on Sustainable Finance acknowledges that "[t]raditional market-based benchmark indices remain a dominant driver of investment allocation" and goes on to observe that "[m]ost of today's core benchmark indices are not constructed with climate or sustainability criteria, nor do they provide transparency into forward-looking climate impacts or emissions exposure." See Expert Panel on Sustainable Finance, *Final Report of the Expert Panel on Sustainable Finance*, by Tiff Macklem et al, Catalogue No En4-350/2-2019E-PDF (Gatineau: Environment and Climate Change Canada, 2019) at 33, online (pdf): <publications.gc.ca/collections/collection_2019/eccc/En4-350-2-2019-eng.pdf> [Expert Panel, *Final Report*].

41. It is important to note here that the Toronto Stock Exchange does not require ESG disclosure as a listing prerequisite and any such disclosure follows the materiality test which is discussed in the next section. See Sustainable Stock Exchanges Initiative, "TMX Group Inc (Toronto Stock Exchange)" (last visited 13 October 2019), online: *Sustainable Stock Exchanges Initiative* <sseinitiative.org/fact-sheet/tmx/>.

42. An interesting model in this respect is the European Commission's proposal which seeks to enhance the ESG transparency of benchmarks and introduce common standards for low-carbon and positive-carbon benchmarks. See EC, *Proposal for a Regulation of the European Parliament and of the Council Amending Regulation (EU) 2016/1011 on Low Carbon Benchmarks and Positive Carbon Impact Benchmarks*, [2018] 355/2018 at 2, online (pdf): *EUR-Lex* <ec.europa.eu/transparency/regdoc/rep/1/2018/EN/COM-2018-355-F1-EN-MAIN-PART-1.PDF>.

43. See Waitzer & Sarro, *supra* note 13 at 194.

44. For instance, a 2018 survey by the Pew Research Center conveyed that sixty-six per cent

their plan members, especially when they formulate their organizations' investment policies and strategies, which could have important implications for their members' retirement security. In particular, funds can take a proactive approach by conducting targeted surveys and workshops which specifically try to initiate a dialogue with plan members on funds' climate change-related policies and activities. These measures can not only help pension funds educate their plan members on their climate actions, but also receive feedback on their progress and future priorities from stakeholders whom they are ultimately bound to serve.

II. Strategy and Risk Management

A. A Primer on Climate Risk Management

As mentioned previously, financial risks posed by climate change can be considered under two broad categories: physical risks and transition risks. Physical risks refer to damage to assets or disruption of supply chains caused by climate-related events, such as floods and storms, or long-term climate trends, such as rising sea levels.[45] Transition risks are financial risks that arise in the process of transitioning to a lower-carbon economy and lead to a revaluation of a range of assets.[46] Legal and policy changes, technological innovations, and changes in the marketplace are common examples of transition risks. For example, the adoption of carbon-pricing regulations can make fossil fuel

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of Canadian respondents saw climate change as a major threat to their country. See World Economic Forum, "Climate change is the world's biggest threat, according to a new global survey" (22 February 2019), online: *World Economic Forum* <www.weforum.org/agenda/2019/02/climate-change-seen-as-top-threat-in-global-survey>. The World Economic Forum's Global Risks Report indicate that leaders are concerned about the impact and likelihood of environmental threats. See World Economic Forum, "The Global Risks Report 2019" (2019), online (pdf): *World Economic Forum* <www3.weforum.org/docs/WEF_Global_Risks_Report_2019.pdf>. An online poll found that forty-two per cent of Canadians now describe climate change as an emergency. See Cormac Mac Sweeney, "42% of Canadians see climate change as a national emergency: poll", *CityNews* (12 August 2019), online: <toronto.citynews.ca/2019/08/12/canada-climate-change-national-emergency-poll/>. In a 2019 survey, ninety-three per cent of Europeans saw climate change as a serious problem. See European Commission, "Citizen Support for Climate Action", online: *European Commission* <ec.europa.eu/clima/citizens/support_en>.

45. See TCFD, *supra* note 15 at 6; Mark Carney, "Breaking the Tragedy of the Horizon – Climate Change and Financial Stability" (Speech delivered at Lloyd's of London, 29 September

of a range of assets.[46] Legal and policy changes, technological innovations, and changes in the marketplace are common examples of transition risks. For example, the adoption of carbon-pricing regulations can make fossil fuel production more expensive and drive down the valuation of fossil fuel companies. Similarly, the failure of organizations to disclose the impact of climate change on their business models or adopt necessary climate mitigation or adaptation practices can increase the risk of litigation by their stakeholders. [47]

The TCFD recommends that organizations describe the climate change-related risks and opportunities they face in the short and long run and its impact on their business, strategy, and financial models. Importantly, the TCFD asks organizations to test the resiliency of their business models under various plausible future scenarios, including a 2°C or lower scenario consistent with the commitments made under the Paris Agreement.[48] Further, the TCFD recommends disclosing the processes used for assessing and managing climate change-related risks and opportunities and how they are integrated into the organization's overall risk management. Finally, organizations should disclose the metrics they use for strategy and risk management purposes and tracking Scopes 1 and 2 (and 3 if relevant) greenhouse gas (GHG) emissions.[49] Climate change-related targets and the organization's performance against them should be disclosed as well.[50]

All five pension funds studied here recognize the physical and transition risks associated with climate change.[51] There is also growing support for the TCFD's initiative on climate disclosure and a visible attempt to align with its

2015) at 4, online (pdf): *Bank for International Settlements* <https://www.bis.org/review/r151009a.pdf>.

46. See TCFD, *supra* note 15 at 5–6; Carney, *supra* note 45 at 4.

47. A notable example in this respect is the lawsuits brought against oil companies for their contribution to the temperature increase and rising sea levels, or their lack of transparency on climate risks. The New York Attorney General, for instance, has filed a suit against ExxonMobil alleging a discrepancy between the company's internal assumptions on climate change and those disclosed externally. See *New York (City of) v BP PLC*, 325 F Supp 3d 466 (SDNY 2018) at 468–70; John Schwartz, "New York Sues Exxon Mobil, Saying It Deceived Shareholders on Climate Change", *The New York Times* (24 October 2018), online: <www.nytimes.com/2018/10/24/climate/exxon-lawsuit-climate-change.html>.

48. See TCFD, *supra* note 15 at 14.

49. Scope 1 refers to all GHG emissions. Scope 2 refers to indirect GHG emissions from consumption of purchased electricity, heat, and steam. Scope 3 refers to all indirect GHG emissions that are not captured by Scope 2, such as employee travel and waste disposal. See *ibid* at 63.

50. See *ibid* at 14.

51. See Ontario Teachers' Pension Plan, "Responsible Investing – Climate Change" (last visited 19 October 2020), online: *Ontario Teachers' Pension Plan* <www.ottp.com/investments/

recommendations. In particular, the CDPQ, BCIMC, and OTPP have provided a preliminary outline of their approach to the TCFD recommendations and how they are applying them in their respective organizations.[52] All the funds are currently working toward developing strategies and risk management tools specific to climate risks. The CPPIB, for instance, has established a Climate Change Steering Committee and a Climate Change Program Management Office, tasking them with developing an enterprise-wide climate change initiative.[53] These groups are currently working on creating "a climate change toolkit, a dynamic global energy outlook and a carbon footprinting tool".[54] The OTPP also has a cross-departmental climate change working group that supports "the assessment, management and reporting of material climate-related issues".[55]

B. Integrating Climate Considerations into Investment Decisions

Although there is some variance among the pension funds' climate strategies, they seem to converge on three principles: (1) integrating climate risks into investment strategies, (2) engaging with investee companies on climate change, and (3) seeking investment opportunities in clean energy.[56] Since engagement will be discussed at great length in the next section, the analysis in this section focuses on the first and third principles, namely climate change integration and clean investments. An illustrative example of the first principle is the

responsible-investing/climate-change>; Canadian Pension Plan Investment Board, "Approach to Climate Change", *supra* note 33; Caisse du Dépôt et Placement du Québec, "Climate Change" (last visited 13 October 2019), online: *Caisse du Dépôt et Placement du Québec* <www.cdpq.com/en/investments/stewardship-investing/climate-change>; PSPIB, "2019 RI Report ", *supra* note 33 at 5; BCIMC, "Climate Action Plan", *supra* note 35 at 3.

52. Caisse du Dépôt et Placement du Québec, "2018 Stewardship Investing" (2018) at 39, online (pdf): *Caisse du Dépôt et Placement du Québec* <www.cdpq.com/sites/default/files/medias/pdf/en/ra/id2018_rapport_investissement_durable_en.pdf> [CDPQ, "2018 Stewardship Investing Report"]; OTPP, "2018 Climate Change Report", *supra* note 37; BCIMC, "Climate Action Plan", *supra* note 35 at 11.

53. See Canadian Pension Plan Investment Board, "Report on Sustainable Investing: Investing Responsibility for CPP Contributors and Beneficiaries" (2019) at 14–15, online (pdf): *CPP Investment Board* <https://cdn1.cppinvestments.com/wp-content/uploads/2020/09/CPP-Investments-2019-sustainable-investing-report-v5-en-1.pdf> [CPPIB, "2019 Sustainable Investing Report"].

54. Canada Pension Plan Investment Board, "Report on Sustainable Investing: Investing Responsibility for CPP Contributors and Beneficiaries" (2018) at 14, online (pdf): *CPP Investmenr Board* <https://www.cppinvestments.com/wp-content/uploads/2019/10/CPPIB_SI_2018_ENG-1.pdf>.

55. OTPP, "2018 Climate Change Report", *supra* note 37 at 2.

56. See CPPIB, "Approach to Climate Change", *supra* note 33; OTPP, "2018 RI Report",

BCIMC's Climate Action Plan, which provides that "the most effective way to manage climate investment impacts is to integrate climate considerations into every investment decision".[57] The fund seeks to achieve this goal through a range of activities such as encouraging credit rating agencies to incorporate climate analysis into their ratings as well as factoring climate considerations into active equity mandates and private equity investments.[58] The BCIMC is also planning to test a carbon pricing model and conduct a climate materiality assessment for its asset classes in the future.[59]

However, although integrating climate considerations into the investment process is an important climate strategy, it can only work if pension funds have obtained the necessary climate-related information from their investee companies. Nevertheless, this prerequisite is yet to materialize as corporate disclosure on climate change remains largely inadequate and fragmented. Disclosure requirements for public issuers are governed by provincial securities laws and regulations which revolve around the concept of materiality.[60] An issuer must disclose all material information in the prospectus that it files with the relevant securities regulators as well as all subsequent continuous disclosure instruments, such as the Annual Information Form (AIF) and Management's Discussion & Analysis (MD&A).[61] Securities legislation considers the information to be material when it "would reasonably be expected to have a significant effect on the market price or value of the securities" or when it "would be considered important by a reasonable investor in determining whether to purchase or continue to hold securities of the issuer".[62] Similarly, the Environmental Reporting Guidance that has been issued by the Canadian Securities Administrators (CSA) provides that "[i]nformation relating to environmental matters is likely material if a reasonable investor's decision

supra note 28 at 28; CDPQ, "2018 Stewardship Investing Report", *supra* note 51 at 9; BCIMC, "Climate Action Plan", *supra* note 35 at 3; PSPIB, "2019 RI Report", *supra* note 33 at 27.

57. BCIMC, "Climate Action Plan", *supra* note 35 at 6.

58. See *ibid*.

59. See *ibid*.

60. The disclosure requirements have been largely harmonized across Canada through national instruments and policies. See Canadian Securities Administrators (CSA), "Access Rules and Policies" (last visited 13 October 2019), online: *Canadian Securities Administrators* <www.securities-administrators.ca/industry_resources.aspx?id=47>.

61. For disclosure obligations of securities issuers, refer to information under "Prospectus Offerings" and "Continuous Disclosure" headings on the Ontario Securities Commission website. See Ontario Securities Commission, online: *Ontario Securities Commission* <www.osc.gov.on.ca/en/home.htm>.

62. Material fact and material change are defined in securities legislation. See e.g. *Securities Act*, RSA 2000, c S-4, s 1(ff); *Securities Act*, RSBC 1996, c 418, s 1(1); *Securities Act*, RSO 1990, c S.5, s 1(1) [*Securities Act* (Ont)]; *Securities Act*, RSQ c V-1.1, s 5.3.

whether or not to buy, sell or hold securities of the issuer would likely be influenced or changed if the information was omitted or misstated."[63] In terms of continuous disclosure, a reporting issuer needs to disclose material information in a timely manner. As such, any "material change" in business, operations, or capital of the reporting issuer must be disclosed "as soon as practicable".[64]

Given that these definitions and concepts, such as "significant impact" or "reasonable expectation", do not provide a bright line test, materiality remains a highly contextual concept with its meaning varying across industries, issuers, and time horizons.[65] The CSA counsels issuers to err on the side of caution and to disclose the information "if there is any doubt about whether particular information is material".[66] Despite this call for caution and the fact that omitting material information from disclosure documents attracts civil liability, reporting on climate change-related information remains largely inadequate in Canada. A 2017 study by the Chartered Professional Accountants of Canada (CPA) of seventy-five TSX-listed companies, representing seventy-eight per cent of the S&P/TSX Composite Index, found significant gaps in issuers' securities filings. The study revealed that most climate-related disclosures lacked sufficient context to allow users to understand the implications of climate change for companies' business models and financial results.[67] Less than a third of companies made specific disclosure of board and senior management oversight of climate-related issues, and only a quarter disclosed a proactive strategy on transitioning to a low-carbon economy. Few companies provided meaningful analysis of the impact of climate change on their businesses and financial results. The study also shows that climate-related disclosures are based on inconsistent methodologies and vary significantly in nature and scope across different sectors.[68]

Similar gaps emerged in a subsequent study by the CSA on disclosure practices of seventy-eight reporting issuers from the S&P/TSX Composite

63. *CSA Staff Notice 51-333 – Environmental Reporting Guidance*, OSC CSA Staff Notice, (27 October 2010) at 4, online (pdf): <www.osc.gov.on.ca/documents/en/Securities-Category5/csa_20101027_51-333_environmental-reporting.pdf>.

64. See e.g. *Securities Act* (Ont), *supra* note 61, s 75(2).

65. *National Policy 51-201 Disclosure Standards*, OSC NP 51-201, (2002) 25 OSCB 4492, s 4.2(1), online: <www.osc.gov.on.ca/en/SecuritiesLaw_pol_20020712_51-201.jsp>.

66. *Ibid*, s 4.2(2).

67. See CPA Canada, "State of Play: Study of Climate-Related Disclosures by Canadian Public Companies" (2017) at 2–3, online: *Chartered Professional Accountants of Canada* <www.cpacanada.ca/en/business-and-accounting-resources/financial-and-non-financial-reporting/sustainability-environmental-and-social-reporting/publications/climate-related-disclosure-study>.

68. See *ibid*.

Index.[69] The CSA Staff Notice 51-354 Report on Climate Change-related Disclosure (April 2018) found that forty-four per cent of issuers either do not provide any climate-related disclosure or only provide boiler-plate disclosure.[70] The CSA's report observed that the "most prevalent reason" given by issuers for non-disclosure was that the climate-related information "is not material to them at this time".[71] However, this view, as acknowledged by the CSA, clearly contradicts the view by users of information, such as institutional investors that consider climate risk an important financial and not merely a "sustainability or environmental issue".[72]

After recognizing the issues around materiality, the CSA published Staff Notice 51-358 Reporting of Climate Change-related Risks on August 1, 2019, in an effort to promote climate-related disclosure.[73] Although the notice provides guidance to reporting issuers, the guidance is at a high level and does not provide specific steps for companies to take. For instance, the CSA encourages "issuers to undertake an analysis before concluding they have no material exposure to climate change-related risks" without expanding on the type of analysis required.[74] Nonetheless, the effects of this staff notice will be uncovered through the upcoming rounds of disclosure reporting.

The lack of climate-related disclosure by companies poses significant challenges for pension funds, which ultimately rely on investee companies for information so that they can assess and manage the impact of climate change on their portfolios. In its October 2018 interim report, the Canadian Expert Panel on Sustainable Finance acknowledged this problem, noting that during the consultations, "[a]sset owners saw better disclosures by their underlying portfolio companies not only as a key source of decision information but also as an essential input" to their reporting and risk management efforts.[75] Although the CSA's staff notice is helpful in drawing attention to serious shortcomings

69. See *CSA Staff Notice 51-354 - Report on Climate Change-related Disclosure Project*, OSC CSA Staff Notice, (5 April 2018), online:<www.osc.gov.on.ca/documents/en/Securities-Category5/csa_20180405_climate-change-related-disclosure-project.pdf>.

70. See *ibid* at 13.

71. *Ibid* at 16.

72. *Ibid* at 15–16.

73. *CSA Staff Notice, 51-358—Reporting of Climate Change-related Risks*, OSC CSA Staff Notice, (1 August 2019), online (pdf): <www.osc.gov.on.ca/documents/en/Securities-Category5/csa_20190801_51-358_reporting-of-climate-change-related-risks.pdf>.

74. *Ibid* at 8.

75. Expert Panel, *Interim Report*, *supra* note 8 at 31.

in companies' disclosure practices on climate change, it falls short of providing any guidance or reforms to address these shortcomings. The regulatory vacuum stands in sharp contrast to reforms in other jurisdictions, which have mandated corporate disclosure on climate change.[76]

C. Investments in Renewable Energy

Another common theme among the pension funds' climate strategies is increasing investment in renewable energy and clean technology. The "responsible" or "stewardship" reports of all five funds indicate that they are actively pursuing clean investments, a trend which has been reinforced by the cost competitiveness of renewables. The BCIMC, for example, reports that as of March 2017, it has invested roughly CAD 1.8 billion in "climate-related opportunities across all asset classes".[77] As of March 31, 2019, PSPIB has more than CAD 5 billion of direct investments in more than 130 renewable energy assets with an aggregated net power capacity of 3.5 gigawatts. Both the CPPIB and OTPP are also actively exploring attractive risk-adjusted returns in the transition to a lower-carbon economy and mention in their reports recent significant transactions in renewables, clean technology, and energy efficiency.[78]

Nevertheless, the search for climate-friendly investments has not yet translated to a parallel transition from carbon-intensive energy sources and the Canadian pension sector remains heavily invested in fossil fuels. The CPPIB's Approach to Climate Change is particularly illustrative in this respect. It maintains that "[a]t this time, fossil fuels remain an important sector of the global economy", and the CPPIB explores "opportunities in the renewable energy sector in a thoughtful, prudent manner".[79] The fund, therefore, continues investing, particularly through its private equity arm, in oil and gas assets across Canada and the United States.[80]

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76. An important example is Article 173 of France's *Energy Transition Law* (2015), which requires public companies and institutional investors to disclose climate-related physical and transition risks. See Emilie Mazzacurati, "Art. 173: France's Groundbreaking Climate Risk Reporting Law" (16 January 2017), online: *Four Twenty-Seven* <427mt.com/2017/01/16/impact-french-law-article-173/>.

77. BCIMC, "Climate Action Plan", *supra* note 35 at 7.

78. See CPPIB, "2019 Sustainable Investing Report", *supra* note 53 at 26–27; OTPP, "2018 RI Report", *supra* note 28 at 27.

79. CPPIB, "Approach to Climate Change", *supra* note 33.

80. See Hamish Stewart, "The Canada Pension Plan's Love Affair With Big Oil", Opinion, *Canada's National Observer* (8 August 2016), online: <www.nationalobserver.com/2016/08/01/news/canada-pension-plan-shell-companies-and-busiest-man-canada>.

Similarly, the OTPP maintains that while the climate change risks to its portfolio are real, it believes that "engagement with companies is a more effective tool for managing climate change than divestment".[81] Thus, the OTPP continues to hold outsized investments in the fossil fuel sector and was estimated in 2015 to have the highest carbon exposure in the Canadian pension sector.[82] In the same year, the OTPP paid CAD 3.3 billion to acquire Cenovus Energy Inc.'s oil and gas royalty business in Western Canada.[83] The transaction occurred when oil prices were falling and major international conglomerates, such as Royal Dutch Shell, were exiting the oil sands business in Canada.[84] Marc Lee and Justin Ritchie estimate that the OTPP lost over CAD 1.768 billion on its fossil fuel sector stocks as a result of oil prices slumping in the second half of 2014.[85] Similarly, significant exposure to the fossil fuel sector can also be observed at the BCIMC, which held over CAD 3.2 billion in equity in publicly traded fossil fuel companies as of March 2016.[86] Observing the fund's substantial exposure to Alberta oil sands, Yunker, Dempsey & Rowe estimate that the fund has invested over CAD 782 million in Enbridge (Canada's largest pipeline company), as well as CAD 526 million in Suncor (an oil sands producer) and CAD 457 million in the TransCanada Corporation (which operates the Keystone XL pipeline).[87]

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81. Ontario Teachers' Pension Plan, "2019 Climate Change Report" (2019) at 6, online (pdf): *Ontario Teachers' Pension Plan* <www.otpp.com/documents/10179/1021270/2019+Climate+Change+Report/f3eae93f-7531-440e-92ea-91275ec52980> [OTPP, "2019 Climate Change Report"].

82. See Marc Lee & Justin Ritchie, "Pension Funds and Fossil Fuels: The Economic Case for Divestment" (17 November 2015) at 39, online (pdf): *Canadian Centre for Policy Alternatives* <www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office%2C%20BC%20Office/2015/11/Pension_Funds_and_Fossil_Fuels.pdf>.

83. See Ontario Teachers' Pension Plan, "Ontario Teachers' to Acquire Cenovus Oil and Gas Royalty Business" (30 June 2015), online: *Ontario Teachers' Pension Plan* <www.otpp.com/news/article/-/article/739022>.

84. See Adria Vasil, "Ontario Teachers' Pension Plan Faced with Growing Pressure to Divest from Fossil Fuels", *Now Toronto* (11 March 2017), online: <nowtoronto.com/lifestyle/ecoholic/ontario-teachers%27-pension-fund-divestment-fossil-fuels/>.

85. See Lee & Ritchie, *supra* note 82 at 39.

86. See Zoë Yunker, Jessica Dempsey & James Rowe, "Canada's Fossil-Fuelled Pensions: The Case of the British Columbia Investment Management Corporation" (June 2018) at 14, online (pdf): *Canadian Centre for Policy Alternatives* <www.policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2018/06/CCPA-BC%20BCI%20FINAL.pdf>.

87. See *ibid*.

The funds' exposure to carbon-intensive sectors can be partly explained by the importance of resource extraction to the Canadian economy, combined with the uncertainty surrounding the timing of climate-related physical and transition risks. It must be, however, noted that the pension sector cannot just embrace an orderly transition to the lower-carbon economy by making modest investments in clean energy while at the same time continuing business as usual in carbon-intensive sectors. The Paris Agreement's 2°C to 1.5°C temperature goal significantly limits the additional amount of GHG emissions that can be released between now and the end of the century, which is known as the carbon budget. According to the latest report by the Intergovernmental Panel on Climate Change (IPCC), if the atmosphere absorbs more than 420 gigatons (Gt) of CO_2, then the chances of limiting temperature rise to 1.5°C would fall below sixty-six per cent.[88] If emissions continue at the current pace, this carbon budget will be exhausted in just under nine years. The 2°C carbon budget is 1170 Gt, which will be exhausted in just twenty-six years—well before the middle of the twenty-first century.[89]

The remaining limited carbon budget means that a large proportion of proven fossil fuel reserves must stay underground. A recent study by Oil Change International, for instance, finds that there is a likely (sixty-six per cent) chance of keeping the temperature increase below 2°C if sixty-eight per cent of global fossil fuel reserves remain unburned. The same study finds that there is a medium chance (fifty per cent) of keeping the temperature increase below 1.5°C if eighty-five per cent of global fossil fuel reserves remain unburned.[90] Looking at Canada's fair share of the global carbon budget, it is estimated that a sixty-six per cent chance of staying below 2°C and a fifty per cent chance of staying below 1.5°C respectively require seventy per cent and eighty-six

88. See IPCC, "Summary for Policymakers", *supra* note 3 at 12. The IPCC special report shows that the worst effects of climate change can only be avoided if global warming is limited to 1.5°C. To achieve this target, CO_2 emissions must be cut forty-five per cent by 2030, which would require "rapid and far-reaching transitions" in energy, land, transport, and infrastructure. See *ibid* at 13.

89. See Mercator Research Institute on Global Commons and Climate Change, "Remaining Carbon Budget: That's How Fast the Carbon Clock Is Ticking" (last visited 13 October 2019), online: *Mercator Research Institute on Global Commons and Climate Change* <www.mcc-berlin.net/en/research/co2-budget.html>.

90. See Greg Muttitt et al, "The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production" (September 2016) at 6, online (pdf): *Oil Change International* <priceofoil.org/content/uploads/2016/09/OCI_the_skys_limit_2016_FINAL_2.pdf>.

per cent of Canada's known fossil fuel reserves to stay underground.[91] Thus, to the extent that the fossil fuel reserves are in excess of the remaining carbon budget, their extraction and production will be inconsistent with the commitments under the Paris Agreement and can pose important physical and transition risks to corresponding equity investments. As long-term investors with a fiduciary duty to invest in the best interest of their beneficiaries, the pension funds need to diligently consider the carbon risks of their investments. This duty can be reasonably inferred from the statutory requirement of prudent investing, which requires pension funds to invest in a prudent manner and monitor and mitigate the material risks to their investments.[92]

D. Climate Metrics and Targets

As recommended by the TCFD, an important way to achieve alignment with the Paris Agreement is by using clear metrics and targets to assess and manage climate risks and opportunities. In the Canadian context, the most commonly used climate metric is the carbon footprint, a term broadly used to describe the GHG emissions associated with investment portfolios.[93] The CDPQ's climate strategy stands out as an interesting model in this respect. In addition to integrating climate change into their investment process and engaging with companies on climate change, the CDPQ is committed to reducing its carbon footprint by twenty-five per cent by 2025 and increasing its low-carbon investments by fifty per cent by 2020.[94]

The CDPQ is also the first fund that has measured and disclosed the carbon intensity of its entire portfolio, including equities, fixed income, infrastructure, and real estate.[95] As of December 2017, the carbon intensity of the CDPQ's portfolio was seventy-nine metric tonnes of CO_2 equivalent (tCO_2e) per million dollars invested. The fund has pledged to reduce this figure to fifty-nine tCO_2e by 2025 and publicly discloses its annual progress in meeting

91. See Marc Lee, "Extracted Carbon: Re-examining Canada's Contribution to Climate Change through Fossil Fuel Exports" (25 January 2017) at 18–19, online (pdf): *Canadian Centre for Policy Alternatives* <www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office%2C%20BC%20Office/2017/01/ccpa_extracted_carbon_web.pdf>.

92. See e.g. *Pension Benefits Act* (Ont), *supra* note 23, s 22. See also Sarra, *supra* note 13 at 48–49.

93. For background on carbon foot-printing and associated terms, see Valéry Lucas-Leclin et al, "Carbon Intensity ≠ Carbon Risk Exposure" (November 2015), online (pdf): <2degrees-investing.org/wp-content/uploads/2017/04/Carbon-intensity-vs.-carbon-risk-exposure-November-2015.pdf>.

94. See CDPQ, "2018 Stewardship Investing Report", *supra* note 52 at 9.

95. See *ibid* at 12–13.

this target.[96] Other pension funds seem to have followed suit. The CPPIB and OTPP have developed a carbon footprint for their public equity portfolios, which respectively stand at 107 tCO_2e per million dollars and 283 tCO_2e per million dollars.[97] Although the BCIMC and the PSPIB currently lack a way to measure their carbon footprint, they have both reported working toward developing this tool.[98]

Finally, scenario analysis assessing the financial resilience under various plausible global warming scenarios seems to be slowly gaining momentum. A noteworthy example is the BCIMC's scenario analysis, which relies upon the Climate Change Risk Assessment Package developed by Mercer.[99] The fund has started assessing its long-term returns, over a fifteen-year horizon, under both the 2°C and 4°C warming scenarios.[100] Both the CPPIB and OTPP also report their staffs are working on assessing how their portfolios will perform under different climate scenarios, ranging from a low-carbon to a high-carbon world.[101] In a similar development, the CDPQ has joined a United Nations Environment Programme Finance Initiative (UNEP FI) task force to collaborate on developing the appropriate methodology for conducting a scenario analysis of its total portfolio.[102]

From the relatively scarce detail in the funds' disclosure documents, climate change scenario analysis is at the early stages of development in the Canadian financial sector. It is a different and notably more challenging exercise than mainstream financial risk management, which typically focuses on short-term horizons and seeks to extrapolate future outcomes from historical data.[103]

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96. See *ibid* at 13.

97. See CPPIB, "2019 Sustainable Investing Report", *supra* note 53 at 61; OTPP, "2018 Climate Change Report", *supra* note 37 at 22.

98. See BCIMC, "Climate Action Plan", *supra* note 35 at 5; PSPIB, "2019 RI Report", *supra* note 33 at 20.

99. See BCIMC, "Climate Action Plan", *supra* note 35 at 15.

100. The BCIMC's assessment suggests that the funds' annual average returns (over a 15-year horizon) will decline by 0.14 per cent under a 2°C scenario and 0.16 per cent under a 4°C warming scenario. See *ibid*.

101. See CPPIB, "2019 Sustainable Investing Report", *supra* note 53 at 15; OTPP, "2018 RI Report", *supra* note 28 at 27.

102. See CDPQ, "2018 Stewardship Investing Report", *supra* note 52 at 40.

103. See e.g. Generation Foundation & 2° Investing Initiative, "All Swans Are Black in The Dark: How the Short-Term Focus of Financial Analysis Does Not Shed Light on Long-Term Risks" (February 2017) at 41, 45, online (pdf): *Generation Foundation & 2° Investing Initiative* <degreesilz.cluster023.hosting.ovh.net/wp-content/uploads/2017/04/All-swans-are-black-in-the-dark-how-the-short-term-focus-of-financial-analysis-does-not-shed-light-on-long-term-risks-2017-.pdf>; Expert Panel, *Final Report*, *supra* note 40 at 14–15.

Climate-related risks can unfold over a considerably long time frame, and historical data may not be necessarily helpful in forecasting the magnitude and scale of losses that arise from global warming and the associated extreme weather events. Despite these challenges, scenario analysis can still be an important tool to help boards and senior management develop a robust long-term climate strategy. In the Canadian context, better corporate disclosure on climate change, as well as greater policy certainty on transitioning to a lower-carbon economy, can certainly contribute to more effective applications of scenario analysis. As will be discussed later, the existing environment of policy uncertainty inevitably affects the financial system's outlook on climate change and the aptitude for translating climate risks into future financial outcomes.

III. Engagement and Advocacy

Canadian pension funds do not screen or exclude any investments based solely on ESG factors.[104] As long as a company's business is lawful, it is deemed to be an eligible investment opportunity, even though it presents significant ESG risks to the portfolio.[105] This approach is grounded in the belief that if a pension fund divests from a company because of its poor ESG profile, others will step in and acquire its holdings. In this scenario, the funds not only lose lucrative returns but also lose their voice, since shareholders can no longer exercise a positive influence over a company's affairs.[106] Divestment is also seen as inconsistent with the pension funds' "investment only" mandate and fiduciary duty, which require them to earn maximum financial returns for their beneficiaries.[107]

Alternatively, pension funds use engagement to reconcile their investment decisions with their responsible investment goals. Corporate engagement

104. See e.g. CPPIB, "RI Policy", *supra* note 28 at 2; BCIMC, "RI Approach", *supra* note 28 at 3; CDPQ, "RI Policy", *supra* note 28 at 5; PSPIB, "RI Policy", *supra* note 28 at 5.

105. Although the CDPQ mentions "exclusion" in its RI Policy, it goes on to explain that exclusion is used only "in unusual circumstances, particularly when products of a company are prohibited by legislation applicable to Canada or through international agreements". See CDPQ, "RI Policy", *supra* note 28 at 5. Thus, it seems that ESG factors on their own, and in the absence of illegality, would not justify divestment.

106. See OTPP, "2018 RI Report", *supra* note 28 at 12. See also Benjamin J Richardson, "Divesting from Climate Change: The Road to Influence" (2017) 39:4 Law & Pol'y, 325 at 335.

107. For instance, BCIMC notes that its mandate does not permit it to "select or exclude investments based solely on environmental, social, governance, or value-based considerations". See BCIMC, "RI Approach", *supra* note 28 at 3.

encourages active ownership and monitoring of portfolio companies rather than passive ownership and trading of shares.[108] Engagement is a central theme in socially responsible investment (SRI) theories, such as fiduciary capitalism and universal ownership, which highlight the asset owners' unique role in addressing social and environmental risks. These theories posit that the fiduciary duty of asset owners, coupled with their diverse portfolios and long-term perspectives, position them well to act on ESG issues that could otherwise escape the short-term horizon of other investors.[109]

The global financial crisis (GFC) of 2008 further drew attention to engagement as institutional investors failed to monitor and curb the excessive risk-taking that dominated the financial sector in the pre-crisis era.[110] Pension funds were particularly hit hard by the GFC, losing USD 3.5 trillion of assets in 2008.[111] The Canadian pension sector lost twenty per cent of its assets with losses being particularly heavy among the funds active in risky market domains, such as structured finance.[112] The crisis then marked a policy shift

108. See OECD, *G20/OECD Principles of Corporate Governance* (Paris: OECD Publishing, 2015) at 29; Mark Fenwick & Erik PM Vermeulen, "Institutional Investor Engagement: How to Create a 'Stewardship Culture'" (2018) Lex Research Topics in Corporate Law & Economics Working Paper No 2018-1 at 11, online: *SSRN* <ssrn.com/abstract=3098235>.

109. See Robert Monks & Allen Sykes, *Capitalism Without Owners Will Fail: A Policymaker's Guide to Reform*, (New York: The Centre for the Study of Financial Innovation, 2002) at 31–32; Steven Lydenberg, "Universal Investors and Socially Responsible Investors: A Tale of Emerging Affinities" (2007) 15 Corporate Governance: An Intl Rev 467 at 475; James Hawley & Andrew Williams, "The Emergence of Universal Owners: Some Implications of Institutional Equity Ownership" (2000) 43:4 Challenge 43 at 45; Raj Thamotheram & Helen Wildsmith, "Putting the Universal Owner Hypothesis into Action: Why Large Retirement Funds Should Want to Collectively Increase Overall Market Returns and What They Can Do About It" (last visited 14 October 2019) at 5–6, 10–11, online (pdf): *ICPM* <www.icpmnetwork.com/wp-content/uploads/2016/04/Putting_the_Universal_Owner_Hypothesis_into_Action_Raj_Thamotheram_and_Helen_Wildsmith.pdf>.

110. See Financial Services Authority, "The Turner Review – A Regulatory Response to the Global Banking Crisis" (March 2009) at 46, online (pdf): *Financial Services Authority* <http://www.actuaries.org/CTTEES_TFRISKCRISIS/Documents/turner_review.pdf>. See also "The Kay Review of UK Equity Markets and Long-Term Decision Making Final Report" (July 2012) at para 5.28, online (pdf): *Government of the United Kingdom* <www.gov.uk/government/news/kay-review-publishes-report-on-uk-financial-sector>.

111. See Brian Keeley & Patrick Love, *From Crisis to Recovery: The Causes, Course and Consequences of the Great Recession* (Paris: OECD Publishing, 2010) at 71.

112. See *ibid* at 71–72. The CDPQ, for instance, suffered significant losses on its investments in the third-party asset-backed commercial paper which froze in August 2007. See John Chant, "The ABCP Crisis in Canada: The Implications for the Regulation of Financial Markets" (2008) at 37, online (pdf): *Expert Panel on Securities Regulation* <expertpanel.ca/documents/

to promote engagement, leading to widespread adoption of stewardship codes and best practices. Investee companies demanded institutional investors engage in a "purposeful dialogue" with them on matters of corporate governance, risk management, strategy, and compensation.[113] Initiatives such as the European Institutional Investors Group on Climate Change (IIGCC) and the global Climate Action 100+ have been set up for investor collaboration to ensure that investees take action on climate change.[114] In Canada, the Stewardship Principles call on institutional investors to focus on generating "long-term sustainable value", monitoring and engaging with investee companies on issues that could affect the company's value, including material ESG factors.[115] To further Canada's efforts on climate change, the Stewardship Principles can further call on Canadian institutional investors to emulate the IIGCC model by creating a national Canadian-led investor initiative driving dialogue with investees on the specific climate-related issues in Canada.

Engagement has become the dominant method among Canadian pension funds to address climate risk. Engagement is achieved either directly through dialogue with a company's board and management, or indirectly through proxy voting and shareholder resolutions. The CPPIB, for example, engages

/research-studies/The%20ABCP%20Crisis%20in%20Canada%20-%20Chant.English.pdf>; World Bank, *supra* note 18 at 23.

113. Financial Reporting Council, "The UK Stewardship Code" (2012) at 9, online (pdf): *Financial Reporting Council* <www.frc.org.uk/getattachment/d67933f9-ca38-4233-b603-3d24b2f62c5f/UK-Stewardship-Code-(September-2012).pdf>. See also European Commission, "Green Paper: Long-Term Financing of the European Economy" (25 March 2013) at 10, online (pdf): *European Commission* <eur-lex.europa.eu/resource.html?uri=cellar:9df9914f-6c89-48da-9c53-d9d6be7099fb.0009.03/DOC_1&format=PDF>; Terry McNulty & Donald Nordberg, "Ownership, Activism and Engagement: Institutional Investors as Active Owners" (2016) 24:3 Corporate Governance: An Intl Rev 346 at 350.

114. Ontario Teachers' Pension Plan, "2017 Responsible Investing Report" (2017), online (pdf): *Ontario Teachers' Pension Plan* <www.otpp.com/documents/10179/786418/-/b61561d3-c285-4f2e-bebc-0aa252bf4ff6/2017%20Responsible%20Investing%20Report.pdf>; The Institutional Investors Group on Climate Change (last visited 19 December 2019), online: *IIGCC* <www.iigcc.org/>; Climate Action 100+, "Global Investors Driving Business Transition" (last visited 19 December 2019), online: *Climate Action 100+* <www.climateaction100.org/>.

115. Canadian Coalition for Good Governance, "Stewardship Principles" (2017) at 2, online: *Canadian Coalition for Good Governance* <ccgg.ca/policies/>.

with portfolio companies that have high GHG emissions to discuss strategies that could help them reduce their emissions.[116] In 2018–2019, the CPPIB supported over thirty shareholder proposals on climate change in its investee companies.[117] In addition, the fund encourages companies to adopt best practices on climate disclosure, such as the TCFD recommendations or the Climate Change Information Request (formerly the Carbon Disclosure Project).[118]

Engagement is similarly an important principle of the OTPP's approach to climate change. The OTPP does not divest from high emitters, such as fossil fuel companies, but engages with them to understand how they address their climate risks and encourages them to proactively position themselves for the transition to a low-carbon economy.[119] The fund supports shareholders' resolutions for better disclosure and action on climate change if its analysis suggests room for improvement. In 2017–2018, the fund voted for thirty-six environmental shareholder proposals and participated in the Climate Action 100+ initiative to engage with the world's highest GHG corporate emitters.[120] Similar practices can be found among the CDPQ, PSPIB, and BCIMC. These funds also rely on engaging with portfolio companies, exercising voting rights, and participating in industry initiatives to improve climate disclosure and action.[121]

A. Revisiting Engagement's Potential in Addressing Climate Risks

Although engagement is a necessary strategy to address climate risk, its potential to effect change should be viewed with caution.[122] This is particularly the case regarding engagement with companies in carbon-intensive sectors, such as fossil fuels, where the core business of the company involves CO_2 emissions. In Canada, for example, the oil and gas sector is the largest GHG contributor, accounting for twenty-six per cent of the country's total emissions.[123] So, while

116. See CPPIB, "Approach to Climate Change", *supra* note 33.

117. See CPPIB, "2019 Annual Report", *supra* note 35 at 73.

118. See *ibid* at 28, 40.

119. See OTPP, "2019 Climate Change Report", *supra* note 81 at 6; OTPP, "2018 RI Report", *supra* note 28 at 16.

120. See OTPP, "2018 RI Report", *supra* note 28 at 16, 18.

121. See BCIMC, "Climate Action Plan", *supra* note 35 at 8–9; PSPIB, "2019 RI Report", *supra* note 33 at 20; CDPQ, "2018 Stewardship Investing Report", *supra* note 52 at 15.

122. See Richardson, *supra* note 106 at 337–38.

123. See Government of Canada, "Greenhouse Gas Emissions" (6 June 2018), online: *Government of Canada* <www.canada.ca/en/environment-climate-change/services/environmental-indicators/greenhouse-gas-emissions.html>.

engagement can help catalyze better climate risk disclosure by these companies, it cannot change the carbon-intensive nature of their business.

On a fundamental level, there is a tension between engagement and the pension funds' investment strategies, which are heavily influenced by the Modern Portfolio Theory (MPT). The MPT suggests that optimal investment returns come from a properly diversified portfolio of securities. According to MPT, diversification reduces risk through distribution and does not sacrifice expected returns.[124] The dominance of the MPT in financial markets has led many institutional investors to follow extreme diversification, such as holding securities in numerous listed companies, which replicates major market indices. The CPPIB, for instance, holds shares in over 2,700 public companies listed in forty-five jurisdictions.[125] Due to the sheer size and diversity of the portfolio, proactive engagement for a sustainable transition is only feasible in a fraction of cases.[126]

Finally, engagement is only used in the context of equity portfolios, leaving out debt investments that comprise a significant portion of pension funds' investments. For instance, in 2017–2018 the CPPIB and CDPQ held over CAD 75 billion and CAD 94 billion in fixed-income securities, respectively comprising nineteen per cent and thirty per cent of their portfolios.[127] However, neither of these pension funds nor other funds studied in this paper seem to engage with their corporate borrowers on climate change or ESG issues.

The exclusive focus on shareholder engagement seems to reflect the traditional shareholder primary model, which assigns corporate governance to shareholders.[128] Under this view, shareholders have a direct stake in the firm and can influence the firm's governance through appointment or removal of directors. Creditors, on the other hand, are believed to have significantly less stake since their claims to principal and interest are protected by insolvency law.

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124. See Harry Markowitz, "Portfolio Selection" (1952) 7:1 J Finance 77 at 89; Jaap Winter, "Shareholder Engagement and Stewardship: The Realities and Illusions of Institutional Share Ownership" (2011) at 3, online: *SSRN* <ssrn.com/abstract=1867564>.

125. See Canadian Pension Plan Investment Board, "Proxy Voting: Engaging Public Companies to Drive Long-Term Value" (8 March 2017), online: *The Canada Pension Plan Investment Board* <www.cppib.com/en/public-media/headlines/2017/proxy-voting-engaging-public-companies-drive-long-term-value/>.

126. See Benjamin Richardson & Maziar Peihani, "Universal Investors and Socially Responsible Finance: A Critique of a Premature Theory" (2015) 30:3 BFLR 405 at 436.

127. See CPPIB, "2019 Annual Report", *supra* note 35 at 17; Caisse du Dépôt et Placement du Québec,, "2018 Annual Report" (2019) at 15, online (pdf): <www.cdpq.com/sites/default/files/medias/pdf/en/ra/ra2018_rapport_annuel_en.pdf>.

128. See Andrei Shleifer & Robert Vishny, "A Survey of Corporate Governance" (1997) 52:2 J Finance 737 at 752–53. See also Steven Schwarcz, "Rethinking Corporate Governance for a Bondholder Financed, Systemically Risky World," (2017) 58:4 Wm & Mary L Rev 1345 at 1352–353.

Creditors, therefore, are seen as passive bystanders until the firm is in a "bad state" and defaults on its debt.[129] This classic view of corporate governance, however, sits at odds with the rising significance of bond markets as a primary source of corporate finance as well as the strong influence that bondholders can wield over their borrowers. In their study of a large sample of US non-financial firms, Nini et al found that violations of bond covenants[130] are followed by a decline in acquisitions and capital expenditures, a sharp reduction in dividend payouts, and an increase in senior management turnover.[131] Creditors can, therefore, influence the policies and behaviours of debtor companies, which in turn calls into question the rationale for restricting governance to shareholders.

A shareholder-centric model of governance also does not seem to enjoy strong support in the Canadian legal jurisprudence. In 2019, the Parliament of Canada amended the federal corporations act to enumerate a list of other stakeholders that directors and officers may consider when acting in the best interests of the corporation.[132] The addition of section 122(1.1)(b) to the *Canada Business Corporation Act* expressly states that directors may consider environmental factors when acting in the best interests of the corporation.[133] However, the legislature provides little guidance for directors on when and how they should consider environmental factors. Furthermore, consideration of environmental factors does not mean that directors necessarily must act on them. Nonetheless, Parliament's amendment codifies previous case law. In *Peoples Department Stores Inc (Trustee of) v Wise*, the Supreme Court of Canada held that the "best interests of the corporation" does not simply mean the "best interest of the shareholders", and the directors can take into account the interests of a broad range of stakeholders, including "employees, suppliers, creditors, consumers, governments and the environment".[134] The Court affirmed this reasoning in *BCE Inc v 1976 Debentureholders*, holding that the

129. See Shleifer & Vishny, *supra* note 128 at 762.

130. Bond covenants are contractual provisions which seek to reduce agency costs and shield creditors against actions that could lower the borrower firm's value. Common examples of covenants include merger restrictions, asset sale restrictions, cross-default provisions, and secured debt restrictions. For further discussion, Marcel Kahan & David Yermack, "Investment Opportunities and the Design of Debt Securities" (1998) 14:1 JL Econ & Org 136 at 138; Serdar Çelik et al, "Corporate Bonds, Bondholders and Corporate Governance" (2015) OECD Corporate Governance Working Papers No 16 at 43–45, online: *OECD iLibrary* <dx.doi.org/10.1787/5js69lj4hvnw-en>.

131. See Greg Nini et al, "Creditor Control Rights, Corporate Governance, and Firm Value" (2012) 25:6 Rev Financial Studies 1713 at 1715–716.

132. See *Budget Implementation Act, 2019, No 1*, SC 2019, c 29, s 141.

133. RSC 1985, c C-44, s 122(1.1)(b).

134. 2004 SCC 68 at para 42.

corporate directors need to treat all stakeholders, and not just shareholders, "in a fair manner, commensurate with the corporation's duties as a responsible corporate citizen".[135]

Accordingly, there seems to be no strong legal or empirical reason to restrict corporate engagement on ESG issues to equity investments. As lenders of capital, Canadian pension funds could and should engage with the corporate borrowers to drive better disclosure and management of ESG issues. As on equity investments, climate change can have an important impact on a bond's valuations and returns, as well as the borrower's creditworthiness.[136] This is particularly the case with respect to long-term bonds, which will most likely be affected by the physical and transition risks of climate change in future decades.

IV. Remaining Challenges and the Path Forward

Canadian institutional investors do not enjoy an international reputation for climate leadership. The Asset Owners Disclosure Project (AODP) assigned a "D" score to the Canadian asset owners (pension funds and insurers) in 2017.[137] In contrast, asset owners in Europe—particularly Scandinavian countries, France and the Netherlands—as well as Australia and New Zealand received the highest score for their progressive approach to climate change.[138] The Swedish pension fund, Fjärde AP-Fonden (AP4), which stands out for its leadership on climate change, is worthwhile to note here. The fund adopted a low-carbon investment strategy as early as 2012 and is a co-founder of the Portfolio Decarbonization Coalition (PDC), which to date has mobilized more than USD 800 billion

135. 2008 SCC 69 at para 82.

136. See Principles for Responsible Investment, "About the PRI" (last visited 14 October 2019), online: *United Nations' Principles for Responsible Investmen*t <www.unpri.org/pri>. In fact, the Principles for Responsible Investment (PRI) call for appropriate ESG disclosure in all investee entities, including both equity and debt investments. See PRI, "ESG Engagement for Fixed Income Investors: Managing Risks, Enhancing Returns" (2018), online: *United Nations' Principles for Responsible Investment* <www.unpri.org/download?ac=4449>. Kris Douma, Director of Investment Practice & Engagements, PRI, observes that "ESG issues can and do impact fixed income investment returns. ESG risks need to be managed and addressed via integrated research and engagement programmes" (*ibid* at 6).

137. See Asset Owners Disclosure Project, "Global Climate Index 2017—Rating the World's Investors on Climate Related Financial Risk" (2017) at 24, online (pdf): *Asset Owners Disclosure Project* <aodproject.net/wp-content/uploads/2017/04/AODP-GLOBAL-INDEX-REPORT-2017_FINAL_VIEW.pdf> [AODP, "Global Climate Index 2017"].

138. See *ibid* at 24 (Table 06).

in capital for low-carbon investments.[139] AP4 measures and discloses the carbon footprint of its portfolio every year and divests from high emitters, such as coal companies. The fund uses low-carbon indices to measure performance and as of 2018, twenty-two per cent of its global equity is invested in low-carbon strategies.[140]

Nevertheless, as acknowledged in this paper, Canadian pension funds have begun to recognize that climate change is not just an ethical or environmental issue, but a material investment risk that can jeopardize the retirement security of their plan members. The latest international rankings recognize the recent efforts of Canadian funds to improve their climate governance and risk management practices. In fact, the 2018 AODP Global Climate Index goes on to mention the OTPP and CDPQ for showing the "most significant progress relative to the 2017 ranking".[141]

Despite this positive development, the Canadian pension sector has to demonstrate significantly higher commitment and ambition to the climate change agenda before it can be recognized as an international leader. Climate risks have yet to be rigorously identified and assessed, and despite the supportive rhetoric, the majority of funds have not yet aligned their portfolios with a 2°C warming scenario. Based on a resource-driven economy, the Canadian pension sector remains highly exposed to high-emitting sectors, and for most funds there is no actionable plan to transition away from carbon-intensive sectors yet.[142] Although low-carbon investments are gathering momentum, they are still a fraction of the pension sector's balance sheets and the vast majority of funds, with the notable exception of the CDPQ, have not established concrete low-carbon asset allocation targets.[143] These challenges are not just confined to the pension sector, but they also mirror broader systemic problems in

139. See AP4, "Annual Report" (2012) at 9–11, 28, online (pdf): *AP4* <https://www.ap4.se/globalassets/dokument/rapportarkiv/2010-2014/2012/annual-report-2012.pdf>; Portfolio Decarbonization Coalition, "CDPQ, Sarasin and SURA Join Portfolio Decarbonization Coalition: Members Now Oversee More Than US$800 Billion in Decarbonization Strategies" (12 December 2017), online: *PDC* <unepfi.org/pdc/cdpq-sarasin-and-sura-join-portfolio-decarbonization-coalition-members-now-oversee-more-than-us800-billion-in-decarbonization-strategies/>.

140. See AP4, "Sustainability and Corporate Governance Report 2017" (2018) at 9, online (pdf): *AP4* <www.ap4.se/globalassets/dokument/rapportarkiv/2017/har-2017/sustainability-and-corporate-governance-report-2017.pdf>.

141. Asset Owners Disclosure Project, "Pensions in a Changing Climate" (November 2018) at 11, online: *Asset Owners Disclosure Project* <aodproject.net/changing-climate/>.

142. See the text accompanying note 95.

143. In this respect, the Expert Panel notes that corporate green revenue stands at only three per cent in Canada and that clean energy investments trail behind most other G7 countries. See Expert Panel, *Interim Report*, *supra* note 8 at 6.

Canada's climate policy. Under the Paris Agreement, Canada pledged to reduce its annual emissions to thirty per cent below 2005 levels by 2030, initially estimated at 513 Mt CO_2e.[144] To achieve this goal, a joint federal-provincial initiative, the Pan-Canadian Framework, proposed a set of policies, including: (1) creating a carbon pricing framework, (2) improving vehicle efficiency and electrification, (3) improving energy efficiency, and (4) reducing methane and hydrofluorocarbon emissions.[145] Canada also developed a Mid-Century Strategy that envisions a pathway to reduce emissions by eighty per cent from 2005 levels by 2050.[146] However, despite the visible commitment to fighting climate change, Canada continues to fall short of its emissions targets.[147]

Canada's inadequate progress on implementing the Paris Agreement can be seen from the National Inventory Reports, which are prepared and submitted annually to the United Nations, and include estimates of Canada's GHG emissions.[148] According to the 2018 inventory, Canada's emissions in 2030 are predicted to be about 592 Mt, which leaves Canada 79 Mt short of its 2030 target.[149] This gap between Canada's emissions and its pledged target has been steadily increasing and will likely further increase in light of Ontario's recent

144. See Government of Canada, "Contribution", *supra* note 5 at 4.

145. See Environment and Climate Change Canada, "Pan-Canadian Framework on Clean Growth and Climate Change: Canada's Plan to Address Climate Change and Grow the Economy" (2016) at 2-3, online: *Government of Canada* <publications.gc.ca/site/eng/9.828774/publication.html>.

146. See Government of Canada, "Canada's Mid-Century Long-Term Low-Greenhouse Gas Development Strategy" (2016) at 3, online: *Government of Canada* <publications.gc.ca/site/eng/9.825953/publication.html>.

147. A recent collaborative study by the federal and provincial Auditor General offices shows the absence of implementation plans to achieve emission targets as well as lack of coordination among the federal and provincial governments. See Office of the Auditor General of Canada, *Perspectives on Climate Change Action in Canada—A Collaborative Report from Auditors General* (March 2018), online: *Office of the Auditor General* <www.oag-bvg.gc.ca/internet/English/parl_otp_201803_e_42883.html> [OAG Canada]. The Climate Action Tracker, a scientific network which tracks the progress on limiting global warming in line with the Paris Agreement, considers Canada's climate policies "insufficient" falling in the range of 2°C–3°C warming. See Climate Action Tracker, "Canada: Country Summary" (19 September 2019), online: *Climate Action Tracker* <climateactiontracker.org/countries/canada/>.

148. See Environment and Climate Change Canada, "Canada's official greenhouse gas inventory" (29 April 2019), online: *Government of Canada* <www.canada.ca/en/environment-climate-change/services/climate-change/greenhouse-gas-emissions.html>.

149. See Environment and Climate Change Canada, "Greenhouse Gas and Air Pollutant Emissions Projections" (2018) at vi, online (pdf): *Government of Canada* <publications.gc.ca/collections/collection_2018/eccc/En1-78-2018-eng.pdf>. Please note that while the 2030 target was initially estimated at 517 Mt, it was subsequently recalculated to 513 Mt. See *ibid* at 11.

measures, including the repeal of its cap-and-trade program.[150] Independent studies of Canada's climate policies also indicate that they will likely deliver far less than what was hoped for by the government. A recent joint study by the Energy Innovation and the Pembina Institute, for instance, shows that even if the Pan-Canadian Framework is fully implemented, Canada's emissions will exceed the 2030 target by 160 Mt,[151] which is twice the 79 Mt shortfall projected by the government. More importantly, Canada's climate policies are marred by inconsistencies; the country provides the highest subsidies (per unit of GDP) for oil and gas productions across the entire G7, and continues to approve, and even nationalize, major hydrocarbon projects that will substantially increase the existing level of GHG emissions.[152]

150. See Barry Saxifrage, "Canada's Climate Gap Widens Yet Again", *Canada's National Observer* (30 January 2019), online: <www.nationalobserver.com/2019/01/30/analysis/canadas-climate-gap-widens-yet-again>; Maura Forrest, "Canada Further from Paris Targets Than Last Year, New Projections Show", *National Post* (20 December 2018), online: <nationalpost.com/news/politics/canada-further-from-paris-targets-than-last-year-new-projections-show>. Ontario, which accounts for almost one quarter of Canada's total emissions, recently repealed its cap-and-trade program as well as the province's electric vehicle rebate, which were funded through the cap-and-trade proceeds. See "Ontario Government Officially Kills Cap-and-Trade Climate Plan", *CBC News* (31 October 2018), online: <www.cbc.ca/news/canada/toronto/ontario-officially-ends-cap-and-trade-1.4885872>; Daniel Tencer, "Ontario's Electric Car Rebate Program Cancelled So Doug Ford Can Lower Gas Prices", *Huffington Post* (12 July 2018), online: <www.huffingtonpost.ca/2018/07/12/ontario-electric-car-rebate-cancelled_a_23480717/>.

151. See Jeffrey Rissman et al, "Enhancing Canada's Climate Commitments: Building on the Pan-Canadian Framework" (March 2018) at 1–3, online (pdf): *Energy Innovation* <energyinnovation.org/wp-content/uploads/2018/03/Canada-Energy-Policy-Simulator-Research-Note-FINAL.pdf>.

152. See Shelagh Whitley et al, "G7 Fossil Fuel Subsidy Scorecard: Tracking the Phase-Out of Fiscal Support and Public Finance for Oil, Gas and Coal" (June 2018) at 7, online (pdf): *Overseas Development Institute* <www.odi.org/sites/odi.org.uk/files/resource-documents/12222.pdf>. On May 29, 2018, the federal government purchased the Trans Mountain Pipeline from Kinder Morgan for CAD 4.5 billion after the company walked away from the project. The cost of the pipeline's construction has been estimated at CAD 7.4 billion and despite the incentives provided by the government no private-sector buyer has yet been found for the project. See Canada Energy Regulator, "Trans Mountain Share and Unit Purchase Agreement" (28 August 2019), online: *Canada Energy Regulator* <www.cer-rec.gc.ca/pplctnflng/mjrpp/trnsmntnxpnsn/prchssnpsht-eng.html>; Steven Chase, Kelly Cryderman & Jeff Lewis, "Trudeau Government to Buy Kinder Morgan's Trans Mountain for CDN$4.5-billion", *The Globe and Mail* (29 May 2018), online: <www.theglobeandmail.com/politics/article-trudeau-government-to-buy-kinder-morgans-trans-mountain-pipeline/>; Jeff Lewis & Kelly Cryderman, "Ottawa has 'Limited Options' Among Field of Potential Trans Mountain

The lack of cohesion in Canada's climate policies, and the absence of concrete action plans and timelines, casts a shadow over Canada's commitment to its Paris targets and inevitably distorts the market incentives for climate change adaptation and mitigation.[153] This was exemplified during the 2019 election campaign when the newly elected minority Liberal government made a net zero emissions pledge by 2050 without detailing concrete steps to reach the goal.[154] Similarly, the perception that fossil fuels maintain their stronghold in the energy sector and that the government stands ready to bail out failing polluters contributes to moral hazard, thereby inducing market participants to pursue short-term returns at the expense of material long-term risks.[155] In other words, financial institutions, including pension funds, are unlikely to rigorously assess and price climate risks or activate substantial capital for sustainable projects if they do not receive a strong policy signal for a transition to a lower carbon economy.

Introducing a strong carbon price so that it could serve as a pollution deterrent, phasing out fossil fuel subsidies, refusing fossil fuel expansion projects that significantly increase Canada's emissions, and aligning market benchmarks with 2°C and lower warming scenarios are among the reforms that can systemically promote sustainable investment practices in the Canadian financial system, including those ofasset owners.[156] Furthermore, consultations with pension funds on the necessary regulatory, legal, and governance conditions

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Buyers", *The Globe and Mail* (29 May 2018), online: <www.theglobeandmail.com/business/industry-news/energy-and-resources/article-ottawa-has-limited-options-among-field-of-potential-trans-mountain>.

153. See OAG Canada, *supra* note 147 at 5–6.

154. See Liberal Party of Canada, "Forward – A Real Plan for the Middle Class" (2019) at 29, online: *Liberal Party of Canada* <www2.liberal.ca/our-platform/>.

155. In this respect, Benjamin Richardson observes that while "the business case to mitigate climate change is surely compelling over the long term, in the *near term* it is not necessarily so". In other words, financial markets are sensitive to the timing of stranding the assets and business continues as usual if there is no prospect of for low-carbon transition in the short term. See Richardson, *supra* note 106 at 339.

156. In addition to the tensions among the federal and provincial government over the federal carbon pricing backstop, the current price set at CAD 20/tonne of CO_2e for 2019, is too low to achieve this purpose. See Céline Bak, "Leveraging Sustainable Finance Leadership in Canada: Opportunities to align financial policies to support clean growth and a sustainable Canadian economy" (January 2019) at 7, online (pdf): *International Institute for Sustainable Development* <www.iisd.org/system/files/publications/leveraging-sustainable-finance-canada.pdf>; Government of Canada, "Technical Paper: Federal Carbon Pricing Backstop" (2019) at 6, online: *Government of Canada* <www.canada.ca/en/services/environment/weather/climatechange/technical-paper-federal-carbon-pricing-backstop.html>.

for renewable energy investments can spark greater portfolio allocation toward renewables.[157] Through the consultations, pension funds will gain clarity on project approvals and projected timelines, eliminating the inherent level of risk and ambiguity in renewable investments. Another important area for reform is mandating reporting of climate-related financial information in line with the TCFD recommendations. The meaningful disclosure of climate risks is the prerequisite for their rigorous assessment and mitigation by pension funds that sit at the top of the investment chain. The priority should be obtaining disclosure through mainstream securities filings, such as the prospectus, AIF and MD&A, which are distributed widely and undergo proper governance and vetting channels.[158] If an issuer decides that climate change does not expose it to any material risks, it should disclose its decision and the logic behind it in its securities filings. The significant demand from investors for disclosure on climate change suggests that a reasonable investor deems such information to be important.[159] Consequently, a presumption needs to be established in favour of considering climate-related financial information as material information that needs to be disclosed in mandatory securities filings.

If these changes are implemented, stocks need to be revalued to fully account for climate risks. Sophisticated investors price stocks using a financial net present value analysis. The analysis requires investors to use past performance figures (such as growth rates and expense percentages) to make predictions. The predictions are adjusted according to forecasted risks, including climate-related risks. As governments and regulators accept and implement environmental reforms, climate-related risks will hold more weight. These risks will cause a dip in the stock price of companies having operations that negatively affect the environment. In other words, the stock prices of some companies will be overvalued.

157. See Expert Panel, *Final Report*, *supra* note 40 at 51.

158. See the text accompanying notes 60–62.

159. This demand can be clearly inferred from the overwhelming support that the TCFD recommendations have received from the investment community. Bloomberg reports that as of April 2018, "more than 275 companies, with a combined market capitalization of more than US$6.6 trillion" have supported the TCFD recommendations. Included in this figure are 160 financial institutions, responsible for assets of over USD 86.2 trillion. See Bloomberg Professional Services, "Deciphering the Task Force on Climate-related Financial Disclosures (TCFD)" (2 May 2018), online: *Bloomberg* <www.bloomberg.com/professional/blog/deciphering-task-force-climate-related-financial-disclosures-tcfd/>. See also Responsible Investment Association, "Canadian Investors are Concerned about Climate Change, and Want to be Informed about Responsible Investments" (2018), online: *Responsible Investment Association* <www.riacanada.ca/research/2018-ria-investor-opinion-survey/>.

There is also a need for greater clarity and guidance on pension funds' fiduciary duty regarding climate change. This paper argues that the existing fiduciary law requires pension funds to oversee and manage climate-related financial risks to which their portfolios are exposed. However, as the Canadian Expert Panel on Sustainable Finance observes, "the historical categorization of ESG matters as non-financial has created a legacy perception among some boards, investment committees, and advisors that weighing ESG considerations transgresses fiduciary duty".[160] Indeed, this outdated interpretation of fiduciary duty is not confined to boardrooms and extends to the pension sector's regulatory regime. The Financial Services Commission of Ontario's (FSCO) investment guidance provides that:

> An administrator should be cautious to ensure that its approach to incorporating ESG factors does not conflict with its fiduciary duties, as may be the case with the use of ethical screens. The best interests of plan beneficiaries has traditionally been defined by the courts in terms of the beneficiaries' financial interests, with the result that there is a potential conflict with investing with other goals in mind, such as ethical or moral considerations. If the administrator is considering such an approach, the administrator is encouraged to consult with its legal counsel on this issue.[161]

Such provisions could lead to misconceptions about the legality of considering long-term climate risks and undermine the asset owner's incentives to integrate climate considerations into investment decisions. Clearer legislation and guidance can create awareness that not only is taking climate change into consideration compatible with the fiduciary duty, but also that ignoring climate risks would breach that duty.

Conclusion

This article aimed to shed light on the policies and practices of the largest Canadian pension funds regarding climate change. The publicly disclosed material studied in this article suggests that climate change is gradually escalating from a mere environmental issue to a material investment risk warranting systemic attention. As devastating wildfires and storms bring climate change further into focus, pension funds come under increasing pressure to examine

160. Expert Panel, *Final Report*, *supra* note 40 at 15.

161. FSCO, "ESG Factors", *supra* note 24 at 3.

the financial impact of climate change on their investments. Indeed, important work has begun to retool the governance and risk management practices to capture and manage climate-related risks.

However, as the article's critical perspective suggests, the rigour and the pace of these actions fade in light of the magnitude and urgency of the challenges posed by climate change. Canadian pension funds must therefore adopt a more concrete pathway to align their portfolios with the goals of the Paris Agreement. This bolder approach requires a stronger commitment by boards to climate change adaptation and mitigation, as well as shifting to low-carbon indices for asset allocation and performance measurement. Engagement with investee companies and policymakers remains an important strategy to advance alignment with the Paris Agreement. However, the pension sector needs to go beyond engagement to transition away from high-emitting, resource-intensive sectors whose operations are simply at odds with the remaining carbon budget. This approach seems consistent with the duty of pensions administrators and managers to act in the best interest of beneficiaries and safeguard their retirement income from material long-term risks. Policymakers should remove the misconceptions regarding the scope of fiduciary duty as ESG issues, and particularly climate-related risks.

As the IPCC landmark report clearly indicates, the next decade is pivotal for acting on climate change; the emissions must be cut by forty-five per cent by 2030 if the worst impact of climate change is to be avoided.[162] As the author stressed throughout this paper, financial markets by themselves cannot fix climate change. Market actors respond to incentives, and it remains the responsibility of policymakers to adopt bold climate actions that could steer the markets toward sustainability.

So far, Canada has not established a coherent incentive structure to encourage better pricing and management of climate risks. On the contrary, the latest intervention by the federal government, the CAD 1.72 billion bailout package for cleaning up orphan and inactive wells, exacerbates moral hazard by allowing market actors to privatize financial gains while socializing losses to the Canadian public.[163]

162. See IPCC, "Summary for Policymakers", *supra* note 3 at 14, 17.

163. See Department of Finance Canada, "Canada's COVID-19 Economic Response Plan: New Support to Protect Canadian Jobs" (last visited 13 July 2020), online: *Government of Canada* <www.canada.ca/en/department-finance/news/2020/04/canadas-covid-19-economic-response-plan-new-support-to-protect-canadian-jobs.html#Orphan_and_inactive_oil>.