Risk and Insurance Studies Centre

HAIVE 10 (Sep 2025-Jan 2026)

Team

02.

Climate Risk Management by Long-Term Institutional Investors: Canadian Pension Plans Climate Risk Dashboard

How do we manage climate risk in the context of fiduciary duty?

Climate change threatens pension fund returns and long-term solvency.



For Canada's Maple 8 pension plans, which collectively manage over $2 trillion in assets, nearly matching Canada's GDP, climate risk is economically significant. This challenge has emerged through four interrelated channels: physical risks from extreme weather, transition risks from policy and market shifts, investment risks affecting asset performance, and legal liability risks arising from legal and fiduciary exposure.

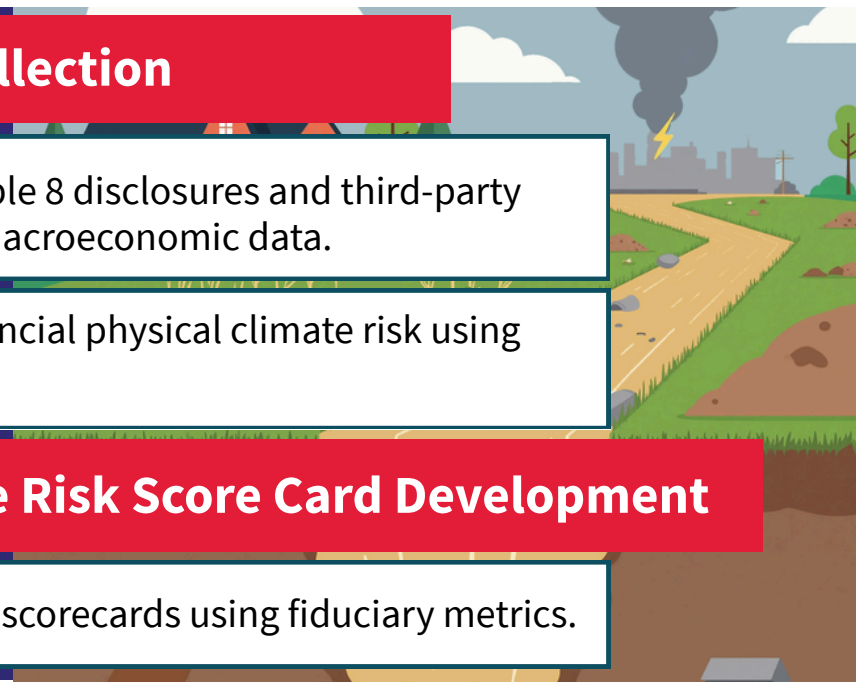
Methodology

Step 1: Data Collection

- Compiled Maple 8 disclosures and third-party climate and macroeconomic data.
- Mapped provincial physical climate risk using ArcGIS Pro.

Step 2: Climate Risk Score Card Development

- Created 4 risk scorecards using fiduciary metrics.



A collaborative project with:

UNIVERSITY OF TORONTO

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Physical Risk

Arise from the direct impacts of climate change on the real economy.



- **Metric 1** — Real Asset Physical Risk Exposure (Max: 5.0 pts)
- **Metric 2** — Transparency & Geographic Disclosure Quality (Max 2.0 pts)
- **Metric 3** — Physical Risk Mitigation and Resilience Evidence (Max: 3 pts)

Legal Liability Risk

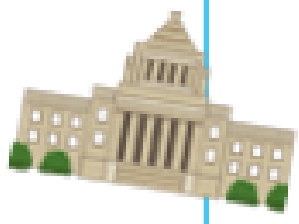


Refers to the potential for legal claims, lawsuits, or compensation demands arising from climate change impacts or failures to address them.

- **Metric 1** — Board Policy+Expertise on Climate Legal Liability (Max: 1.5 pts)
- **Metric 2** — Disclosure & Scenario Analysis of Litigation Risk (Max: 2 pts)
- **Metric 3** — Financial-Materiality Language + External Fiduciary Opinion (Max: 2.5 pts)
- **Metric 4** — Exposure to High-Litigation Holding (Max: 2.5 pts)
- **Metric 5** — Active Ownership + Selective Divestment (Max: 1.5 pts)

Transition Risk

Arise from shifts toward a low-carbon economy, including policy changes, technological disruptions, and market realignments.



- **Metric 1** — Rigidity of Net-Zero 2050 Commitment (Max: 3 pts)
- **Metric 2** — Green Asset Allocation (Max: 2.5 pts)
- **Metric 3** — Evidence of Scenario Planning for Policy/Tech Reversals (Max: 1.5 pts)
- **Metric 4** — Diversification into Traditional Sectors (Max: 1.75 pts)
- **Metric 5** — Recent Adjustments for Strategic Flexibility (Max: 0.75 pts)
- **Metric 6** — Transparency in Fiduciary-Aligned Reporting (Max: 0.5 pts)

Investment Risk

How well funds actually integrate climate considerations into their portfolio decisions, tools, and expected returns.



- **Metric 1** — Governance & Strategic Integration (Weight: 50%)
- **Metric 2** — Fiduciary Responsibilities & Fairness (Weight: 45%)
- **Metric 3** — Community climate resilience: Weight: 5%



Findings

Maple 8 Pension Funds Climate Risk Scorecard Rank:

#1 AIMCO: Alberta Investment Management Corporation
#2 CPPIB: Canada Pension Plan Investment Board
#3 BCIMC: British Columbia Investment Management Corporation
#4 HOOP: Healthcare of Ontario Pension Plan
#5 OTPP: Ontario Teachers' Pension Plan
#6 CDPQ: Caisse de dépôt et placement du Québec
#7 PSP: Public Sector Pension Investment Board
#8 OMERS: Ontario Municipal Employees Retirement System

Recommendations

We recommend that funds commission and disclose external fiduciary opinions when adopting or withdrawing from climate commitments to strengthen litigation readiness, demonstrate professional judgment, and ensure decisions are clearly tied to beneficiaries' financial interests.

Limitations

Public disclosure gaps and limited catastrophe data (three hazard types) constrained analysis. Future research should seek direct fund cooperation and expanded hazard datasets.

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