Sustainable Finance and Climate Change: An Introduction to the Special Issue

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Ce numéro spécial, élaboré en collaboration avec le Global Risk Institute (GRI), examine comment le financement durable et climatique peut soutenir la transition vers une économie à faibles émissions de carbone au Canada, notamment en ce qui concerne la préparation du secteur public, la divulgation d'informations, l'intégration du secteur financier et les voies sectorielles. Les conclusions soulignent des améliorations pratiques : des données climatiques plus cohérentes et transparentes, un suivi plus rigoureux des programmes publics et une utilisation plus large d'outils prospectifs (par exemple, plans de transition, analyse de scénarios). Les données du marché suggèrent que les entreprises « vertes » canadiennes ont tendance à obtenir de meilleurs résultats et à afficher une volatilité moindre pendant les périodes de risque climatique accru. Des analyses comparatives mettent en évidence les différences entre les juridictions et les possibilités d'aligner la politique du secteur financier sur les objectifs nationaux. Les recherches sectorielles sur le transport maritime proposent une approche par étapes, comprenant l'efficacité à court terme, les carburants de transition à mesure que les infrastructures se développent et les technologies zéro carbone à plus long terme. Dans l'ensemble, les priorités comprennent la normalisation des données utiles à la prise de décision, l'expansion des outils prospectifs, l'amélioration de la cohérence entre les politiques et les finances, et l'examen de mesures incitatives visant à mobiliser les capitaux publics et privés en faveur de résultats de transition mesurables.

Mots clés : Canada, financement climatique, politique, durabilité, finance durable

This special issue, developed with the Global Risk Institute (GRI), examines how sustainable and climate finance can support Canada's low-carbon transition across public sector readiness, disclosure, financial sector integration, and sector pathways. Findings point to practical improvements: more consistent, transparent climate data; stronger monitoring of public programs; and broader use of forward-looking tools (e.g., transition plans, scenario analysis). Market evidence suggests Canadian "green" firms tend to outperform and exhibit lower volatility during periods of heightened climate-policy risk. Comparative analyses highlight jurisdictional differences and opportunities to align financial sector policy with national objectives. Sector research on maritime transport proposes a phased approach—including near-term efficiency, transitional fuels as infrastructure scales, and longer-horizon zero-carbon technologies. Overall, priorities include standardizing decision-useful data, expanding forward-looking tools, improving policy–finance coherence, and considering incentives to mobilize public and private capital toward measurable transition outcomes.

Keywords: Canada, climate finance, policy, sustainability, sustainable finance

Framing Sustainable and Climate Finance: Definitions, Scale, and Implications

Recognizing that sustainable and climate finance are central to the evolving landscape of financial risk management, the Global Risk Institute (GRI) has partnered with leading academics in the space to publish this special issue of *Canadian Public Policy/Analyse de politiques* titled "Sustainable Finance and Climate Change." To frame the research presented in this issue, it is essential to first examine the concept of sustainable finance, its definitions, dimensions, and implications for policy and practice.[1]

Definitions in the literature converge on finance that supports long–term value while integrating environmental and social considerations. Migliorelli (2021) characterizes this practice as "finance for sustainability," emphasizing outcomes. Schoenmaker and Schramade (2018) broaden the lens to the financial system itself—arguing that it should be economically viable, environmentally regenerative, and socially inclusive, with active integration of sustainability into decisions. Fatemi and Fooladi (2013) similarly propose internalizing environmental and social costs and benefits. Synthesizing these strands, Weber (2015) defines sustainable finance as finance that takes an active role in achieving sustainability by integrating environmental and social factors into financial decision–making. Related work links sustainable finance to the Sustainable Development Goals (SDG), examining how finance can advance—or impede—SDG progress (Weber 2019; Ziolo, Bak, and Cheba 2021).

Despite growth, sustainable finance remains a relatively small share of overall market activity, but the investment challenge is meaningful. Stabilizing greenhouse gas concentrations has been estimated at around 1 percent of global GDP annually, whereas inaction risks damages exceeding 5 to 20 percent of global GDP per year (Stern 2007). In Canada, the cumulative physical costs of climate change are estimated at C$2.773 trillion under a 2°C warming path by the end of the century and approximately C$5.520 trillion under 5°C, with about C$201 billion in investments needed to abate industrial sector emissions in line with national goals (Cleary and Willcott 2022; Martin and Riordan 2021). Amid periodic skepticism toward ESG—particularly in the United States—long–horizon investors continue to prioritize climate–related risk (United Nations 2025). Accordingly, the central question is not whether to pursue sustainable finance, but how to scale it practically and credibly so that markets can support orderly transition outcomes.

This special issue addresses essential academic and practical questions around sustainable finance and climate finance in Canada, such as the following:

- *How are Canadian municipalities and provinces prepared for climate change?* Karami and Walker (2025) develop a composite index from publicly disclosed financial and qualitative indicators to assess climate-disaster preparedness across ten provinces and six municipalities. They find persistent gaps in damage reporting and a lack of standardized data that impede benchmarking and decision-making. The authors recommend enhanced reporting to support policy-planning and capital allocation.
- *How can we monitor and assess public climate programs?* Talbot and Boiral (2025) analyze 164 performance-monitoring sheets and 30 interviews to examine why departments struggle to measure the GHG impacts of public programs. They identify four constraints—combined program effects, GHG-measurement uncertainty, measurability limits, and administrative complexity—and propose methodological upgrades and multi-stakeholder collaboration to improve credible, context-specific assessment.
- *What is the impact of climate change media news on the financial performance of Canadian company shares?* Fahmy (2025) constructs a monthly Canadian Climate Transition Policy Risk (CDN-CTPR) index from textual analysis of six major newspapers (April 1988–December 2024) and links it to green and brown firms in the S&P/TSX Composite. He finds that when policy risk rises, green firms tend to outperform brown peers and exhibit lower contemporaneous volatility, indicating comparatively greater resilience to uncertainty about climate policy.
- *How can forward-looking tools improve corporate climate-related disclosure?* Bechtold et al. (2025) synthesize 28 global disclosure frameworks to build a forward-looking assessment lens and apply it to disclosures from six early-mover Canadian financial institutions participating in a regulator-led pilot. Results show strong alignment on ambition; moderate alignment on specificity, resilience, and decision-usefulness; and weaker alignment on resource allocation and comparability—with notable heterogeneity—offering a practical benchmark.
- *How do Canadian development finance Institutions compare with regard to sustainable finance relative to their international counterparts?* Imam and Weber (2025) compare Canadian development finance institutions (DFIs) with multilateral development banks (MDBs) using a content analysis of various reports (i.e., annual, sustainability, and ESG) from 2021 to 2023. They find DFIs emphasize social inclusion, gender equity, and Indigenous economic devel-

opment, while MDBs focus more on climate risk, biodiversity, and green finance.

- *How does the private equity industry contribute to the sustainable development goals (SDG)?* Moving from public financial institutions to private equity, Mirza et al. (2025) analyze 2020 ESG reports from 33 leading private equity firms—including Brookfield—to assess SDG coverage, modes of integration, and sector/region trends. They identify nine SDG integration approaches and note Brookfield's strong emphasis on SDG 13 (Climate Action) while observing that many disclosures reference SDGs without clear pre-investment intentionality.
- *How does Canada compare to other jurisdictions with regard to climate-related financial sector policy?* Given the uncertainty of sustainable finance in the financial industry, Segal (2025) proposes a method to evaluate cohesion between general decarbonization commitments and financial sector policy across Canada, the UK, Australia, and the EU, with particular attention to climate transition plans. The analysis finds Canada has implemented fewer and less co-ordinated measures than peers.
- *As one example of a sector-specific action, how can we decarbonize Canada's maritime transport, and how can we finance the low-carbon transition?* Bouramdane (2025) applies a Multi-Criteria Decision-Making (MCDM) Analytic Hierarchy Process (AHP) to compare maritime decarbonization strategies across economic, environmental, technological, and regulatory factors, identifying environmental impact as the most decisive criterion. The analysis prioritizes near-term energy efficiency improvements, views LNG and biofuels as transitional options, and positions green hydrogen, green ammonia, synthetic fuels, and deeper electrification as longer-term pathways within a phased road map (2025–2035: efficiency improvements/transitional options; 2035–2050: next-generation fuels; 2050 and beyond: fuller electrification).

The papers in this special issue collectively emphasize Canada's multi-faceted climate transition challenges and opportunities**,** particularly in terms of governance, financial systems, public accountability, and sector-specific pathways**.** They lead to several conclusions:

1. *Public-sector data gaps impede effective adaptation and accountability*: Inconsistent disaster data and non-standard reporting constrain risk assessment and policy-planning (Karami and Walker 2025). Four barriers undermine credible public GHG impact measurement—program overlaps, technical uncertainties, administrative burden, and measurement difficulty—reducing disclosure usefulness (Talbot and Boiral 2025). Standardized, transparent, decision-useful public data are needed to align policy, planning, and investment.
2. *Capital markets price climate policy risk*: As measured by the CDN-CTPR index introduced by Fahmy (2025), we see that green firms in Canada show financial resilience to climate policy risk. The CDN-CTPR index shows that when climate policy risk rises in Canadian news, green firms outperform brown firms in returns and show lower volatility, indicating higher adaptability. This finding suggests that green Canadian firms are financially more resilient to climate-related policy risks. For investors and lenders, this finding supports tilting toward credible transition leaders.
3. *We can build on strong ambition with decision-useful disclosure*: Canadian institutions show high ambition but uneven alignment on resource allocation, scenarios, and comparability (Bechtold et al. 2025). There is an opportunity to move beyond compliance to strategy in risk management and reporting—linking targets to capital expenditures, deepening scenario analysis, and enhancing comparability to support capital planning.
4. *Raising the bar on ESG integration and accountability across DFIs and PE would lend to enhanced credibility*: Canadian DFIs excel on social priorities yet trail MDBs on climate-risk integration, Scope 3 disclosure, and biodiversity finance; PE firms reference SDGs but often lack intentional alignment (Imam and Weber 2025; Mirza et al. 2025). There is an opportunity to enhance credibility by strengthening climate and biodiversity finance, expanding Scope 3, and embedding just-transition and grievance mechanisms.
5. *Aligning climate-finance policy supports competitiveness*: Compared with the EU, UK, and Australia, Canada has implemented fewer, less coordinated measures (Segal 2025). Harmonizing disclosure and supervisory expectations to scale requirements for transition plans boosts clarity for markets and supports investment.
6. *Phased, criteria-based sector pathways are an opportunity*: Important sectors, such as the maritime sector, require phased and criteria-based strategies to decarbonize. The MCDM-AHP framework used by Bouramdane (2025) found energy efficiency, LNG, and biofuels as the most viable near-term options, while green hydrogen and synthetic fuels as the most promising long-term strategies. Hence, phased and flexible decarbonization road maps would be supportive, integrating financial support, infrastructure

investment, and policy incentives to decarbonize Canadian industrial sectors.

Overall, the papers in this special issue suggest gaps between policy frameworks and implementation across climate governance, finance, and sector strategies. They point to opportunities to improve data quality and comparability, enhance the decision-usefulness of disclosures, strengthen co-ordination, and better align climate policy with financial sector rules. Accordingly, policy and practice can prioritize standardizing decision-useful public and corporate data, expanding forward-looking tools (e.g., scenario analysis and transition plans), improving policy–finance coherence, and considering incentives to help mobilize public and private capital toward credible, measurable transition outcomes.

Note

1 For recent discussion in this journal of climate change policy in Canada, see Scott et al. 2025 and Winter 2024.

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