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Aligning Carbon Accountability: Lessons for Resource Economies **ESG Convergence Pathways Between Canada and Kazakhstan**

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How to use this brief: Regulators and government officials should focus on Sections 3, 4, and 6. Industry and compliance officers should focus on Sections 4 and 6. Researchers and bilateral cooperation bodies should focus on Sections 5 and 7.

KEY DATA AT A GLANCE

- ▶ Canada's CSSB issued CSDS 1 and CSDS 2 in December 2024 (aligned to IFRS S1/S2), but the CSA paused mandatory climate-disclosure rulemaking in April 2025, leaving adoption voluntary.
- ▶ Kazakhstan enacted a 2060 carbon-neutrality law in February 2023; its NDC 3.0 (2025) commits to a 17% unconditional and up to 25% conditional emissions reduction versus 1990 levels.
- ▶ Kazakhstan has operated Central Asia's only emissions trading system since 2013; Canada runs a federal carbon pricing benchmark alongside provincial systems.
- ▶ In both jurisdictions, the governance gap identified in this brief is institutional capacity for credible, comparable, and enforceable disclosure -- not a lack of climate targets.



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1. Executive Summary

Canada and Kazakhstan are both resource-dependent economies pursuing carbon accountability, yet their ESG disclosure systems are diverging in maturity rather than converging. **The comparative insight of this brief is that the principal gap is institutional, not technical:** Canada has a credible disclosure architecture (CSDS 1 and CSDS 2, aligned to the ISSB baseline) but has paused mandatory adoption, while Kazakhstan has ambitious climate targets but lacks an equivalent disclosure standard and the assurance capacity to enforce one. The core recommendation is to pursue a staged ESG convergence pathway -- anchored on a shared ISSB-aligned baseline, sector-specific taxonomies for extractive industries, and a bilateral mechanism for mutual recognition of climate disclosures -- so that each jurisdiction's strength compensates for the other's structural weakness. [1, 2, 5]

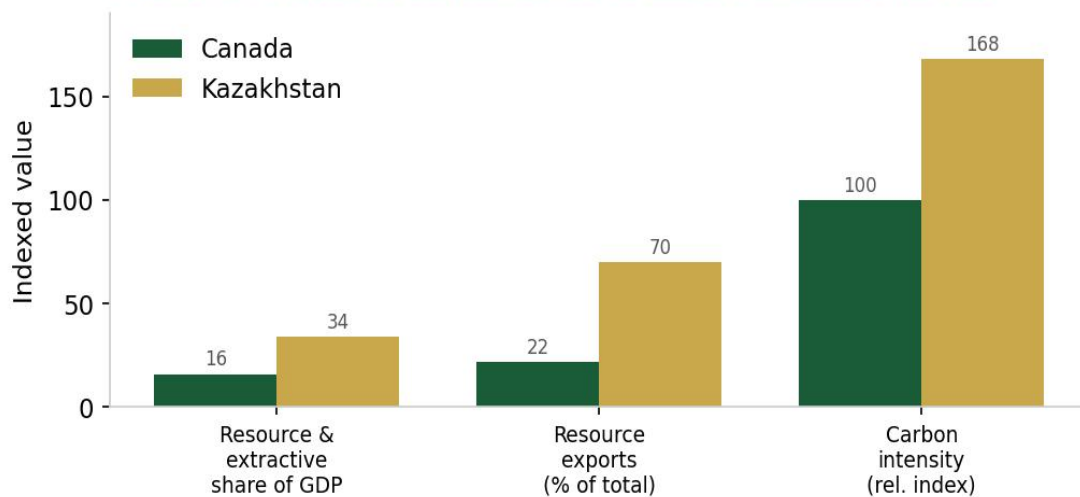
Core Finding: In resource economies, carbon accountability fails less from a shortage of targets than from a shortage of credible, comparable, and enforceable disclosure. Convergence on a common reporting baseline is the highest-leverage, lowest-cost reform available to both Ottawa and Astana.

2. The Problem: Carbon Governance Gaps in Resource Economies

Resource-dependent states face a structural tension that disclosure-led economies do not. A large share of national output, exports, and fiscal revenue is generated by activities -- oil, gas, coal, metals, and heavy industry -- that are simultaneously the principal sources of carbon emissions. **This creates a built-in conflict between near-term economic interest and long-term carbon accountability obligations.** Where the same ministries that promote extraction also oversee environmental compliance, the incentive to enforce rigorous carbon disclosure is structurally weak. [7, 8, 9]

Both Canada and Kazakhstan exhibit this pattern, though at different scales. The comparison is therefore not between a 'leader' and a 'laggard,' but between two resource economies managing the same dilemma with different institutional toolkits. Figure 1 illustrates the shared profile: a meaningful extractive share of GDP combined with carbon intensity above the OECD median. [7, 8]

Figure 1. Resource dependence & carbon intensity profile



Illustrative indicative values compiled by EEEF from IEA, World Bank and national statistics; for comparative orientation only.

Figure 1. Comparative resource dependence and carbon intensity. Source: EEEF compilation based on IEA Kazakhstan Energy Profile and World Bank Kazakhstan Country Climate and Development Report (CCDR). [7, 8]

Without comparable, assured, and enforceable disclosure, capital cannot price transition risk, regulators cannot verify progress, and credible decarbonisation pathways cannot attract the private investment they require. [2, 9]

3. Policy Context

3.1 Canada: Federal ESG Disclosure and Industrial Transition

Canada has built a disclosure architecture that closely tracks the global baseline. The Canadian Sustainability Standards Board (CSSB) issued CSDS 1 and CSDS 2 in December 2024, aligned with IFRS S1 and S2 and effective for reporting periods beginning on or after 1 January 2025, with additional transition relief. **Critically, these standards remain voluntary.** In April 2025 the Canadian Securities Administrators paused work on a mandatory climate-disclosure rule, leaving adoption investor-driven rather than legally compelled. Sector pressure persists nonetheless -- for example, OSFI Guideline B-15 pushes Scope 3 expectations into the financial sector -- and federal carbon pricing continues to operate alongside provincial systems. [1, 2, 3, 4, 11]

3.2 Kazakhstan: Green Economy Commitments and Regulatory Gaps

Kazakhstan has enshrined a 2060 carbon-neutrality target in law (Presidential Decree No. 121, 2 February 2023) and, in its NDC 3.0 submitted in late 2025, committed to a 17% unconditional emissions reduction (up to 25% conditional) against 1990 levels. It operates Central Asia's first emissions trading system and is tightening carbon budgets and MRV provisions under its evolving environmental framework. **The gap is institutional capacity, not ambition.** Kazakhstan has no national ESG disclosure standard equivalent to CSDS; reporting obligations are fragmented across the Environmental Code and ETS rules, and assurance and verification capacity is thin. [5, 6, 7]



A key institutional actor to mirror Canada's CSSB-OSFI-CSA architecture is the **Astana International Financial Centre (AIFC)**, which has both the mandate and market-facing position to shape ESG disclosure norms, investor governance standards, and climate-risk expectations for listed and regulated entities in Kazakhstan -- even in advance of a fully binding national ESG disclosure rule. [5, 6]

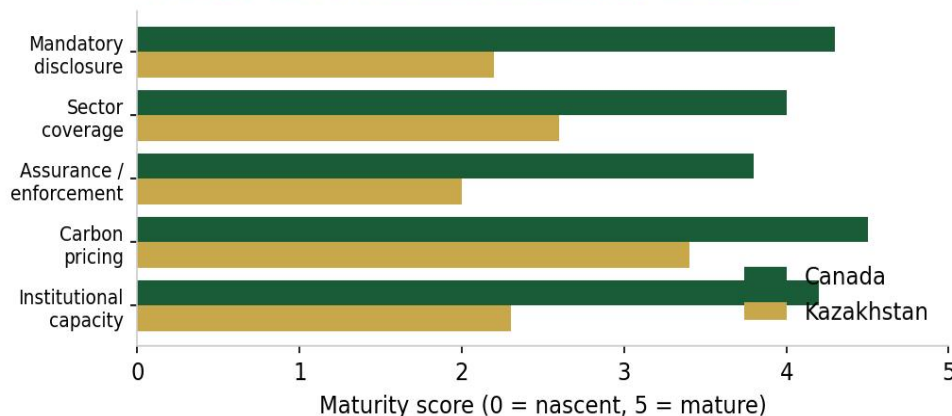
4. Comparative Framework

4.1 ESG Reporting Standards: Where the Systems Diverge

The two systems diverge most sharply on standardisation and enforceability. Canada has the standard but not the mandate; Kazakhstan has neither a unified standard nor the assurance infrastructure to enforce one. The table below sets out the principal points of divergence. [1, 2, 5, 6]

Dimension	Canada	Kazakhstan
Primary disclosure standard	CSDS 1 & CSDS 2 (CSSB), aligned to IFRS S1/S2; effective for periods from 1 Jan 2025 [1]	No equivalent national ESG disclosure standard; reporting fragmented across Environmental Code & ETS rules [5]
Legal status	Voluntary; CSA mandatory climate rule paused (Apr 2025) [3]	Largely voluntary / sector-specific; ESG culture still emerging
Carbon pricing	Federal benchmark + provincial systems; output-based pricing for industry [4]	Emissions Trading System (ETS) since 2013; tighter carbon budgets under NDC 3.0 [6]
2050 / 2060 ambition	Net-zero by 2050 (legislated, CNZEAA) [4]	Net-zero by 2060; NDC 3.0: 17% unconditional, up to 25% conditional vs 1990 [6]
Assurance / MRV	Maturing; OSFI B-15 drives financial-sector Scope 3 [11]	MRV under development; enforcement and verification capacity limited [7]
Circular-economy coverage	Sectoral, province-led; EPR for several waste streams	Early-stage; Environmental Code reforms; weak used-oil traceability [5]

Figure 2. ESG governance maturity by dimension



EEESEF qualitative scoring against ISSB/CSDS criteria; interpretive, not an audit assessment.

Figure 2. Qualitative ESG governance maturity by dimension (EEESEF interpretive scoring based on CSSB, CSA, OSFI, and Kazakhstan Ministry of Ecology sources).



4.2 Industrial Ecology in Practice

Industrial ecology -- managing the full lifecycle impact of extraction, including emissions, waste, water, and land use -- is where abstract targets meet operational reality. Canada applies lifecycle thinking unevenly but with growing rigour through provincial extended-producer-responsibility schemes and output-based industrial pricing.

Kazakhstan's lifecycle controls remain weaker at the enforcement layer: used mineral oils, mining tailings, and associated gas are frequently mismanaged where traceability systems are absent, transferring environmental cost to the public. [4, 5, 11]

Operational Area	Canada	Kazakhstan
Waste & by-product management	Extended producer responsibility schemes and industrial pricing signals support structured waste accountability across several waste streams.	Management frameworks exist but waste traceability and downstream enforcement remain inconsistent, especially for used mineral oils and mining tailings. [5]
Extractive-sector verification	Climate-risk and disclosure supervision are increasingly linked via OSFI B-15 and sectoral reporting requirements. [11]	Verification capacity is thinner, particularly for tailings, associated gas flaring, and used-oil lifecycle controls.
Lifecycle policy integration	Industrial transition tools increasingly connect reporting, pricing, and sectoral compliance in a coordinated framework. [4]	Lifecycle controls exist in law and policy but remain less integrated institutionally and operationally; enforcement relies on the Environmental Code. [5]

4.3 Circular Economy Adoption

Circular-economy integration is emerging in both jurisdictions but is policy-driven rather than market-led. In Canada, EPR mandates and procurement rules create pull-through demand for secondary materials. In Kazakhstan, Environmental Code reforms point in the right direction, but weak feedstock traceability -- spent-oil regeneration being a representative example -- keeps recovery rates low. **The shared barrier is the same one identified in Section 2: without reliable measurement and disclosure, circular markets cannot be priced or financed.** [5, 8, 10]



5. Convergence Opportunities

Four specific mechanisms could be adapted cross-jurisdictionally. Each pairs a Canadian institutional strength with a Kazakhstani structural need. Together they form a realistic and sequenced convergence agenda. [1, 2, 5, 6, 10, 12]

Mechanism	Canadian Asset	Kazakhstani Need	Proposed Format
Shared ISSB-aligned baseline	CSDS 1 & CSDS 2 aligned to IFRS S1/S2 -- a proven, internationally interoperable architecture already in place. [1, 2]	A nationally legible disclosure standard that connects domestic reporting to international capital markets without building from scratch.	Technical adoption roadmap modelled on CSDS/IFRS S1-S2, co-developed through Ministry of Ecology and AIFC. [5]
Sector taxonomies for extractives	Deeper experience translating broad disclosure standards into sector-relevant practice across oil, gas, metals, and heavy industry. [2]	Clear classifications for transition activities in its dominant extractive sectors so disclosures are legible to international investors. [7]	Joint working template for extractive-sector taxonomies, usable by regulators, issuers, and investors in both markets.
Assurance and MRV capacity transfer	Canada's maturing assurance ecosystem and OSFI-style supervisory practice offer a tested template for MRV build-out. [11]	Stronger verifier training, accreditation, and supervisory discipline to make disclosure credible and enforceable at scale. [6]	Bilateral training programme and supervisory exchange between CSSB/OSFI and Kazakhstan Ministry of Ecology / AIFC.
Mutual recognition of disclosures	An internationally recognised, ISSB-aligned benchmark that reduces the cost of dual-jurisdiction compliance. [1, 2]	Lower reporting friction for firms active in both markets and a stronger investment-grade signal for green and transition finance. [10]	Pilot bilateral recognition mechanism advanced through OECD, UNFCCC Article 6, or SCO economic dialogue channels. [12]

Figure 3. Staged ESG convergence pathway

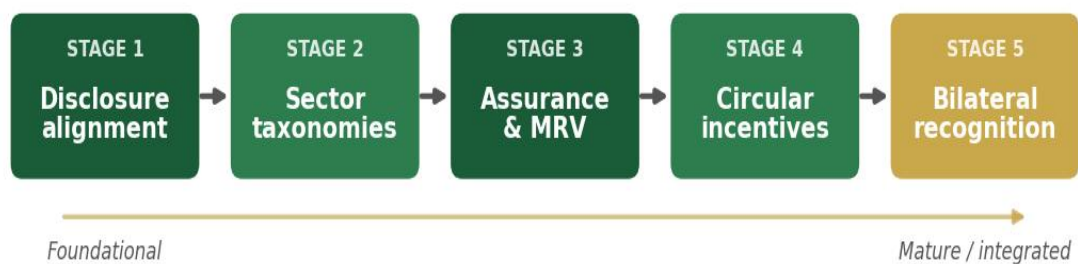


Figure 3. Staged ESG convergence pathway from disclosure alignment to bilateral recognition (EEESEF, 2026).



6. Policy Recommendations

The four convergence mechanisms identified in Section 5 translate into six concrete recommendations, sequenced across a three-phase implementation horizon.

6.1 Near-term (0-12 months)

RECOMMENDATION 1 -- Anchor on a Common ISSB-Aligned Baseline

Environment and Climate Change Canada, the Canadian Sustainability Standards Board, and the Canadian Securities Administrators should publish a clear pathway for moving CSDS from voluntary uptake to mandatory adoption for large issuers. Simultaneously, Kazakhstan's Ministry of Ecology and Natural Resources, working with the Astana International Financial Centre, should begin drafting a national disclosure standard modelled on CSDS and IFRS S1/S2. A shared baseline is the single highest-leverage convergence step available to both governments. [1, 2, 5]

RECOMMENDATION 2 -- Publish a Joint Scoping Note for Extractive-Sector Taxonomy Design

Environment and Climate Change Canada, Natural Resources Canada, and Kazakhstan's Ministry of Ecology and Natural Resources should convene a joint technical group to define common terminology for transition activities, lifecycle emissions categories, and circular-economy metrics relevant to oil, gas, coal, metals, tailings, and used oils. This scoping note should be completed within 12 months and published for stakeholder consultation. [2, 7]

6.2 Medium-term (1-3 years)

RECOMMENDATION 3 -- Close the Assurance and MRV Gap

OSFI, Environment and Climate Change Canada, and provincial regulators should support structured knowledge exchanges with Kazakhstan's Ministry of Ecology, ETS administrators, and the Astana International Financial Centre to strengthen verifier training, assurance protocols, and MRV practice in the extractive sector. Reciprocal recognition of verifier accreditation should be explored as a near-term deliverable. [6, 11]

RECOMMENDATION 4 -- Embed Industrial-Ecology Metrics into Sector Guidance

Canadian securities and environmental regulators, together with Kazakhstan's environmental authorities, should issue sector-specific guidance covering tailings, associated gas, used-oil traceability, and other lifecycle indicators. Industrial ecology should become part of standard disclosure and compliance expectations in both jurisdictions rather than a separate policy track. [4, 5, 11]

6.3 Long-term (3-5 years)

RECOMMENDATION 5 -- Establish a Bilateral Recognition Mechanism

Global Affairs Canada, Environment and Climate Change Canada, and Kazakhstan's Ministry of Ecology and Ministry of Foreign Affairs should develop a pilot arrangement for recognising ISSB-aligned climate disclosures, advanced through existing channels including OECD due-diligence frameworks, UNFCCC Article 6 cooperative approaches, or SCO regional economic dialogue. This mechanism should reduce duplicate reporting burdens and signal a converging investment-grade standard to international capital markets. [10, 12]

RECOMMENDATION 6 -- Link Convergence to Green and Transition Finance

Once standards, taxonomies, and assurance systems are sufficiently aligned, both governments should use bilateral and multilateral platforms -- including EBRD and ADB green finance instruments -- to position convergent disclosure as a tool for mobilising private investment in resource-sector decarbonisation and circular-economy infrastructure. [8, 10, 12]



7. Conclusion

This brief shows that the Canada-Kazakhstan comparison is valuable not because the two systems are identical, but because each exposes a different face of the same governance problem. Canada demonstrates that a well-designed standard without a mandate can still leave disclosure fragmented and market-dependent; Kazakhstan demonstrates that ambitious statutory targets without institutional depth struggle to become investable or enforceable. Together, they reveal that the missing layer in resource-economy carbon governance is neither ambition nor architecture -- it is the credible, verifiable connection between the two.

The convergence agenda outlined in Sections 5 and 6 is not aspirational. Each of the six recommendations is anchored to named institutions, existing international frameworks, and sequenced timelines that reflect actual policy cycles. **The 2026 SCO Summit and parallel UNFCCC Article 6 negotiations represent the earliest practical windows** for regulators, ministries, and bilateral cooperation bodies to move from comparative analysis to formal alignment commitments. Institutions wishing to advance this agenda -- including the Astana International Financial Centre, OSFI, the CSSB, and relevant OECD working groups -- should treat this brief as an opening framework and engage directly with EEESEF on next steps. [1, 2, 5, 6, 12]

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EEESEF acknowledges that resource extraction and environmental governance in Canada occur on the traditional territories of Indigenous Peoples, and that legislation including the United Nations Declaration on the Rights of Indigenous Peoples Act (S.C. 2021, c. 23) may intersect with policy frameworks discussed herein.

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Sign-Off and Closing Block

APPROVAL FOR PUBLICATION

This policy brief has been reviewed and approved for publication by the Euro-Eurasia Environmental Science & Education Foundation (EEESEF).

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