EURO-EURASIA ENVIRONMENTAL SCIENCE & EDUCATION FOUNDATION
Registration No: 17247709 · Registered Non-Profit Entity: England & Wales
London, United Kingdom
research@EEESEF.org · www.EEESEF.org

EEESEF - INSTITUTIONAL BRIEFING SERIES

Carbon Governance at Scale: A Canada–Kazakhstan Institutional Review

Frameworks for ESG Compliance, Industrial Ecology, and Cross-Border Environmental Standards

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Authorship: Gelu Negreanu, Founder & Chairman — EEESEF
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Foreword / Prefatory Note

This Institutional Briefing (IB) expands on the companion EEESEF Policy Brief **EEESEF-PB-2026-002, "Aligning Carbon Accountability: Lessons for Resource Economies" (2026)**, translating that brief's headline argument into a deeper analytical treatment. Where the Policy Brief is written for ministers and senior decision-makers who need the argument in a few minutes, this IB is intended for institutional, regulatory, and research audiences seeking fuller evidentiary grounding — the comparative method, the jurisdictional detail, and the named institutional actors through which convergence would actually be delivered. The two documents are designed to be read together: the Policy Brief for circulation, this IB for implementation.

How to use this briefing: Ministers and senior officials should focus on the Executive Summary and Section 8. Regulators and standard-setting bodies should focus on Sections 4, 5, 6, and 8.2. Researchers and analysts should focus on Sections 2, 6, and 7. Bilateral cooperation bodies and development finance institutions should focus on Sections 7 and 8.4.

KEY DATA AT A GLANCE

- **CBAM exposure:** Kazakhstan's aluminium sector and Canada's aluminium and steel sectors face the EU Carbon Border Adjustment Mechanism in its definitive phase from January 2026 -- the first time carbon-border pricing directly penalises unverified, high-carbon extractive exports. [7,8]
- **ETS coverage:** Kazakhstan has operated Central Asia's only emissions trading system since 2013, covering approximately 200 large industrial facilities. Canada's federal Output-Based Pricing System covers industrial emitters above 50,000 tCO2e/year alongside provincial systems. [4,6,23]
- **Disclosure gap:** Canada's CSDS 1 & 2 (December 2024, aligned to IFRS S1/S2) remain voluntary after the CSA paused mandatory rulemaking in April 2025. Kazakhstan has no equivalent national ESG disclosure standard; reporting is fragmented across the Environmental Code and ETS rules. [1,2,3,5]
- **Institutional asymmetry:** Canada has three named disclosure institutions (CSSB, OSFI, CSA) operating a coordinated architecture. Kazakhstan's equivalent anchor is the Astana International Financial Centre (AIFC) Green Finance Centre -- a single institution with both the mandate and market-facing position to lead national ESG reform. [11,12,14]

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1. Executive Summary

Canada and Kazakhstan are two of the world's most resource-dependent economies, and both are now navigating the same structural problem: how to make carbon accountability credible in an economy whose fiscal base depends on extraction. **This briefing finds that the decisive variable is institutional capacity, not climate ambition.** **[1,2,3,11]**

Kazakhstan, by contrast, has legislated a 2060 carbon-neutrality target and operates Central Asia's only emissions trading system, yet lacks an equivalent national disclosure standard and the assurance capacity to enforce one. **The Astana International Financial Centre (AIFC), through its Green Finance Centre and the ESG roadmap for the financial sector, is the institution best positioned to close that gap.** **[5,6,13,14]**

This IB sets out four priority convergence pathways -- a shared ISSB-aligned baseline, extractive-sector taxonomies, assurance and MRV capacity transfer, and mutual recognition of disclosures -- each mapped to the named institutions (CSSB, OSFI, AIFC, the Ministry of Ecology and Natural Resources) that would lead delivery. **The central conclusion is that convergence is feasible, mutually beneficial, and best pursued now, while both regulatory systems remain in formation.** [7,8]

> **Headline finding:** Carbon accountability in resource economies is constrained less by the absence of targets than by the absence of credible, comparable, and enforceable disclosure. Canada holds a mature standard awaiting a mandate; Kazakhstan holds ambition awaiting an institutional spine. Each can supply what the other lacks.

2. Introduction and Scope

2.1 Purpose of This Briefing

This IB serves as the analytical companion to the Policy Brief. Its purpose is to give institutional actors — ministries, regulatory agencies, development banks, stock exchanges, and ESG standard-setting bodies — the depth of evidence required to act, not merely to be persuaded. It does three things the Policy Brief deliberately does not: it documents the comparative method, it provides jurisdiction-level institutional detail for both countries, and it names the specific bodies and instruments through which each recommendation would be implemented.

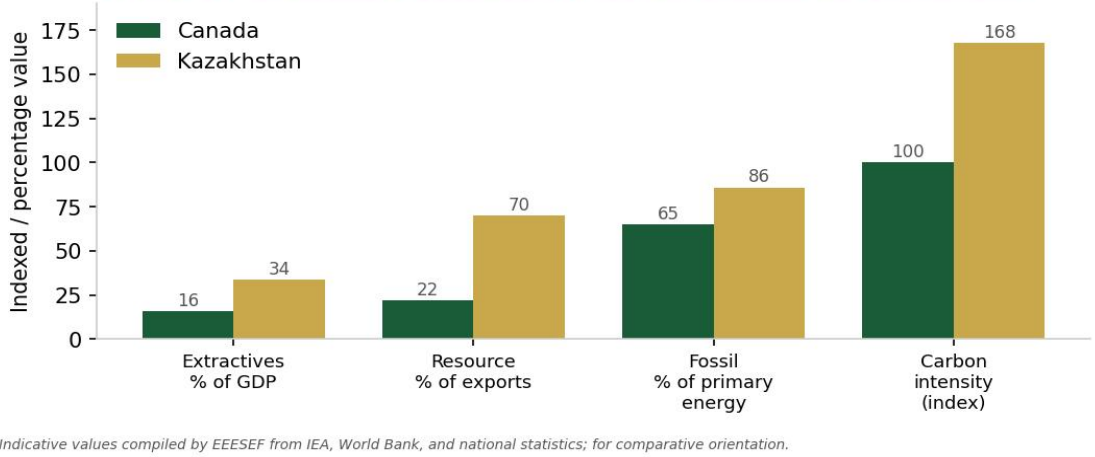
2.2 Research Methodology and Framework

The comparison proceeds along three analytical axes held constant across both jurisdictions: (i) ESG reporting and disclosure regimes; (ii) industrial ecology and lifecycle governance; and (iii) circular-economy policy instruments. For each axis the briefing assesses the formal framework (law and standard), the institutional capacity to deliver it (assurance, MRV, enforcement), and the observed practice (what regulated entities actually disclose and do). **Sources are restricted to public, verifiable instruments — statutes, regulator publications, standard-setter documents, and multilateral analyses** **[1,2,5,9]**

2.3 Why Canada and Kazakhstan

The pairing is analytically productive precisely because the two states share a structural logic while diverging in institutional maturity. Both derive a substantial share of GDP, exports, and fiscal revenue from extractives; both face the same external pressure from carbon-border mechanisms and international capital. **But Canada has a generation's head start on disclosure architecture, while Kazakhstan has the agility of a system still being designed.** **[7,8,17]**

Figure 1. Structural resource exposure: Canada vs Kazakhstan



Indicative values compiled by EEESEF from IEA, World Bank, and national statistics; for comparative orientation.

Figure 1. Structural resource exposure: Canada and Kazakhstan share a resource-economy profile at different scales.

3. Global Context: Carbon Accountability in the 2020s

3.1 The International ESG Regulatory Landscape

The international ESG regulatory landscape has consolidated rapidly since 2017. The Task Force on Climate-related Financial Disclosures (TCFD) established the foundational architecture; the ISSB's IFRS S1 and S2 (June 2023) then created a single global baseline for sustainability and climate-related disclosure that jurisdictions are now transposing into national law at pace. [2,9,21] The EU's Corporate Sustainability Reporting Directive (CSRD) extended mandatory reporting to approximately 50,000 entities; the SEC has introduced climate-disclosure rules; and over 20 jurisdictions have signalled ISSB adoption or alignment. [22] For resource economies, the significance is that disclosure has stopped being a reputational extra and become a market-access condition. Capital providers, lenders, and trading partners increasingly price the absence of credible, ISSB-aligned disclosure as a transition risk rather than a compliance gap, meaning that non-disclosing extractive firms face a rising cost of capital regardless of whether domestic law requires reporting. [2,9]

Figure 2. Convergence of the global ESG disclosure baseline, 2015–2026

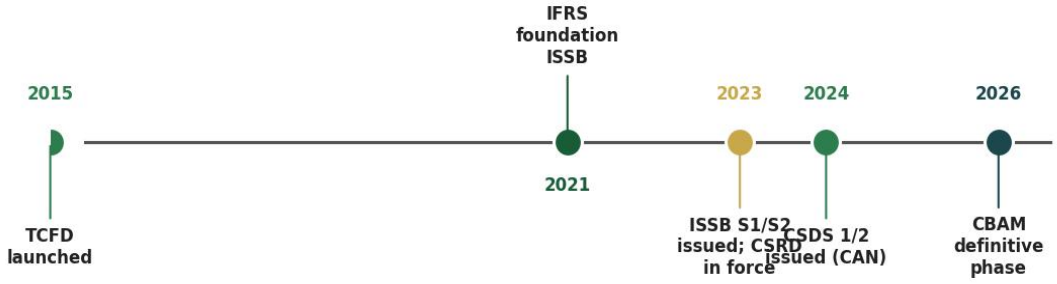


Figure 2. The global ESG disclosure baseline has consolidated within a single decade.

3.2 Resource Economies Under Carbon Transition Pressure

The EU Carbon Border Adjustment Mechanism entered its definitive phase on 1 January 2026, imposing an embedded-carbon levy on imports of cement, iron and steel, aluminium, fertilisers, electricity, and hydrogen. [7,8] For Canada and Kazakhstan, the practical exposure differs by sector but the structural pressure is the same: firms unable to demonstrate verified, low-carbon production face a competitive disadvantage in EU markets and, increasingly, in other markets that track CBAM-equivalent instruments. [17,25] Kazakhstan is principally exposed through aluminium; Canada through aluminium and steel, though Quebec's low-carbon electricity grid confers a relative advantage in some energy-intensive products. Both states must therefore treat credible carbon disclosure not only as a domestic governance question but as a trade and market-access imperative. [7,8,17]

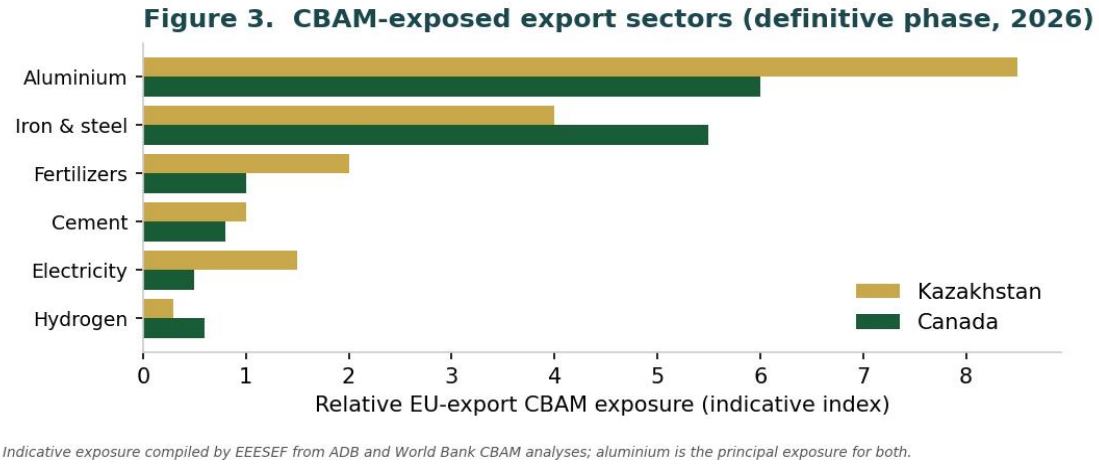


Figure 3. CBAM-exposed export sectors in the definitive phase -- aluminium is the principal exposure for both states.

3.3 Industrial Ecology as a Governance Tool

Industrial ecology — the systematic management of material and energy flows across a product's lifecycle — has migrated from academic theory into national policy instruments. Extended-producer-responsibility (EPR) schemes, industrial-symbiosis zoning, and lifecycle-based procurement are now governance tools, not just concepts. **For institutions, industrial ecology matters because it converts diffuse environmental harm into measurable, assignable, and therefore regulable flows [10]**

4. Canada: Institutional Deep Dive

4.1 Federal Carbon Governance Architecture

Canada's federal carbon governance architecture operates across three interlocking layers: carbon pricing, industrial regulation, and sustainability disclosure. On carbon pricing, the Greenhouse Gas Pollution Pricing Act (GGPPA) establishes a federal benchmark backstop, with the Output-Based Pricing System (OBPS) applying output-based carbon costs to large industrial emitters above 50,000 tCO_2 e per year; provinces that meet the federal stringency threshold may operate their own equivalent systems. On industrial regulation, Environment and Climate Change Canada administers the national greenhouse gas inventory and sectoral emissions frameworks, while a proposed federal oil and gas emissions cap remains under development. On disclosure, the Canadian Sustainability Standards Board (CSSB) issued CSDS 1 and CSDS 2 in December 2024, aligned to IFRS S1/S2 and effective for reporting periods from 1 January 2025 — but adoption remains voluntary after the Canadian Securities Administrators paused mandatory climate-disclosure rulemaking in April 2025. OSFI Guideline B-15 partially fills this gap by pushing Scope 3 climate-risk expectations into the federally regulated financial sector, creating de facto disclosure pressure on large industrial borrowers even in the absence of a mandatory issuer rule. [4,11,24]

Figure 4. Canada's multi-level carbon governance architecture

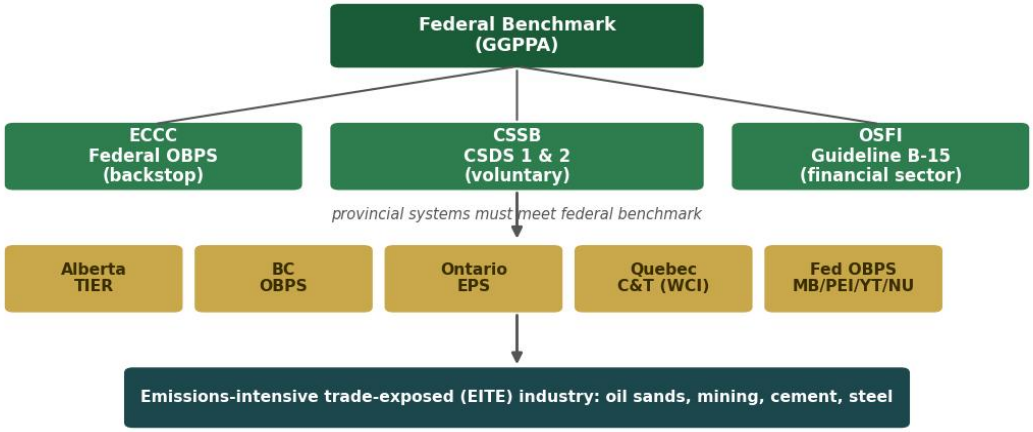


Figure 4. Canada's multi-level carbon governance architecture, from federal benchmark to EITE industry.

4.2 Provincial Variation and Jurisdictional Tensions

Canada's constitutional structure divides environmental and natural-resource jurisdiction between federal and provincial governments, and no two provinces operate identical carbon or ESG-reporting regimes. [3,4] Alberta runs its own Technology Innovation and Emissions Reduction (TIER) system; British Columbia operates a broad carbon tax alongside output-based requirements; Ontario and Quebec have separate industrial compliance structures. This produces genuine ESG-reporting inconsistencies: the same firm operating across provinces faces different baselines, stringency factors, and compliance instruments, complicating comparability for investors and regulators alike. The tension is constitutional as much as technical, and any federal mandatory disclosure reform -- including the paused CSA climate-disclosure rule -- must accommodate provincial variation in both the standard-setting and enforcement layers. [3,4]

4.3 Industry-Level ESG Compliance: Oil Sands, Mining, and Forestry

Sectoral practice is uneven. The oil sands face the proposed federal emissions cap and intense investor scrutiny, and have the most developed (if contested) disclosure practice. Hard-rock mining applies lifecycle and tailings-management standards with growing rigour, while forestry's carbon accounting remains methodologically difficult. **[1,11]**

4.4 Circular Economy Policy Maturity in Canada

Circular-economy policy is province-led and comparatively mature. EPR frameworks cover packaging, electronics, and several other waste streams; industrial-symbiosis initiatives are emerging in several provinces; and federal procurement is beginning to embed circular criteria. **The maturity is real but fragmented — strong instruments, weak national coordination** **[10]**

5. Kazakhstan: Institutional Deep Dive

5.1 Environmental Governance Structure

Kazakhstan's environmental governance is centred on the Ministry of Ecology and Natural Resources, which administers the Environmental Code (2021), the national ETS, and the MRV framework for large industrial emitters. [5,6] The ETS, in operation since 2013, is Central Asia's first carbon market and covers approximately 200 large industrial facilities; carbon budgets are being tightened under NDC 3.0 commitments. [6,23] **The legal framework for environmental reporting exists but is fragmented across the Environmental Code and ETS rules, and assurance and verification capacity remains thin.** ESG disclosure obligations for listed companies are separately governed through the Astana International Exchange (AIX) listing rules and the AIFC's voluntary ESG guidance, creating two parallel reporting tracks that lack formal interoperability. [12,14]

5.2 The 2060 Carbon Neutrality Pledge: Ambition vs. Capacity

[5,6]The gap between this ambition and current institutional capacity is the central finding of this section: MRV systems, accredited verifiers, and a national disclosure standard are all under-developed relative to the targets they must support. Figure 5 visualises this gap across six governance dimensions.

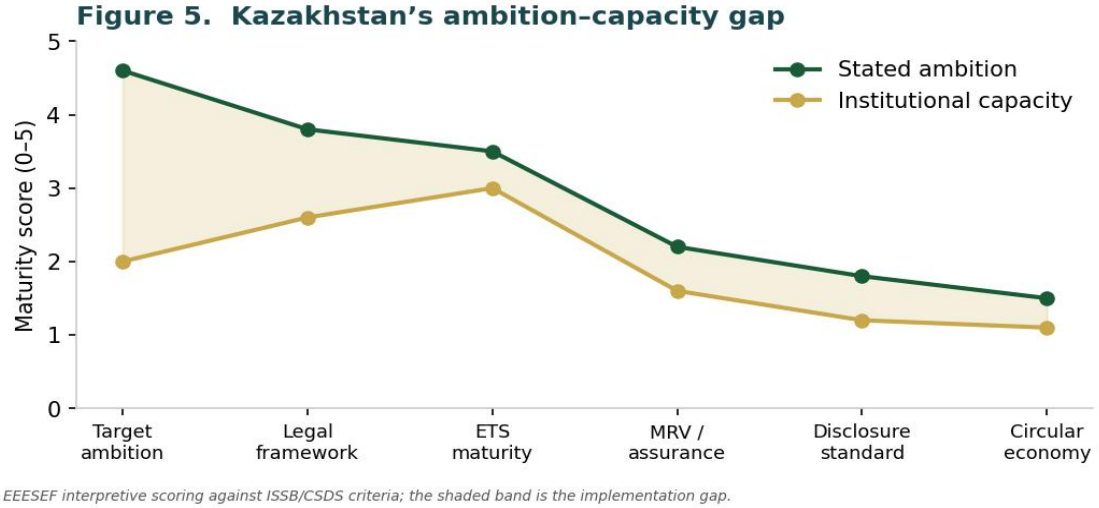


Figure 5. Kazakhstan's ambition-capacity gap; the shaded band is the implementation deficit.

5.3 ESG Reporting in the Extractive Sector

ESG reporting in Kazakhstan's extractive sector is characterised by a two-tier structure. Large, internationally listed companies -- including KazMunayGas, Kazatomprom, and Eurasian Resources Group -- produce sustainability reports broadly aligned with GRI or TCFD frameworks, driven by foreign investor expectations and cross-listing requirements. [14,15,16] Smaller and domestically listed operators typically disclose far less, and verification of reported data is limited by the thin accredited verifier base. **The pattern is therefore leadership by a handful of large, internationally exposed firms, with a long tail of non-disclosure behind them.** Closing this gap requires both a national disclosure standard and a functioning assurance infrastructure -- neither of which yet exists at scale. [15,16]

5.4 Circular Economy Emergence

Circular-economy practice is early-stage. Policy instruments are under development, green-loan and green-bond subsidies exist through the AIFC and the Damu fund, and pilot initiatives are emerging. **The principal barrier is feedstock traceability — used mineral oils, tailings, and associated gas are frequently mismanaged where tracking systems are absent [12,14]**

6. Comparative Analysis

6.1 ESG Reporting Regimes: A Structural Comparison

The structural comparison below confirms the principal finding of this briefing: Canada has built a credible, ISSB-aligned disclosure architecture but left adoption voluntary, while Kazakhstan has neither a unified national standard nor the assurance infrastructure to enforce one. [1,2,5,6] The practical consequence is that firms operating in both jurisdictions face incoherent reporting expectations, and international investors cannot make like-for-like comparisons across the two markets. The table below maps the divergence across six governance dimensions.

Dimension	Canada	Kazakhstan
Primary standard	CSDS 1 & CSDS 2 (CSSB), aligned to IFRS S1/S2	No national standard; AIFC voluntary ESG guidance for AIX issuers
Legal status	Voluntary; CSA mandatory rule paused (Apr 2025)	Voluntary; financial-sector ESG roadmap under ASPR/AIFC
Carbon pricing	Federal benchmark + OBPS; provincial systems	ETS since 2013; tightening budgets under NDC 3.0
Assurance / MRV	Maturing; OSFI B-15 drives financial Scope 3	Under development; limited accredited verifier base
Lead institutions	CSSB, OSFI, ECCC, CSA	Min. of Ecology, AIFC Green Finance Centre, ASPR
Enforcement	Securities-law backed where adopted	Limited; largely disclosure-by-listing

Figure 6. ESG governance maturity profile

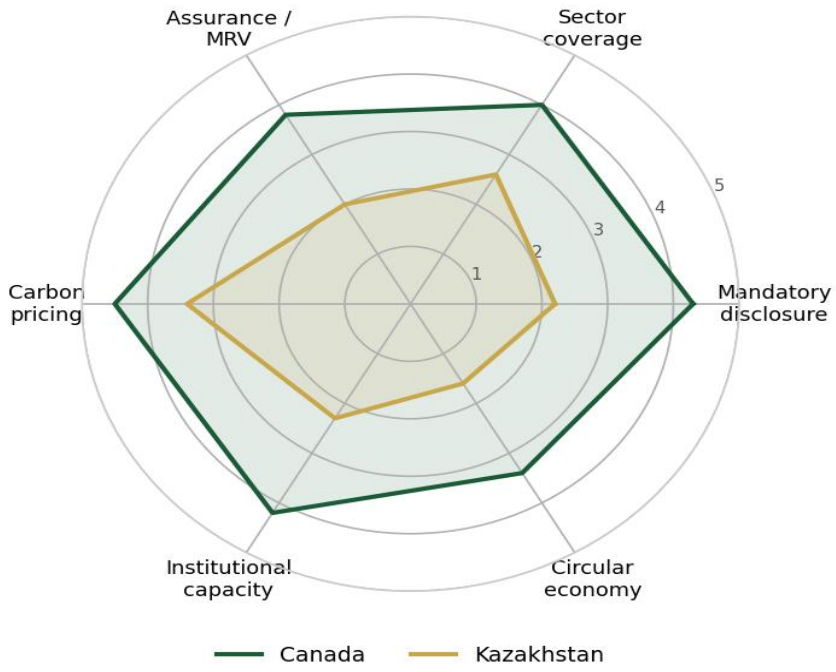


Figure 6. ESG governance maturity profile across six dimensions (EEESEF interpretive scoring).

6.2 Industrial Ecology Governance Models

Canada institutionalises lifecycle thinking through provincial EPR, output-based pricing, and emerging industrial-symbiosis zoning. Kazakhstan's lifecycle controls exist in the Environmental Code but are weaker at the enforcement and traceability layer. **The difference is not the presence of law but the presence of working measurement [5,10]**

Operational area	Canada	Kazakhstan
Waste & by-products	EPR schemes across multiple streams; pricing signals	Frameworks exist; traceability and enforcement inconsistent
Extractive verification	Climate-risk supervision via OSFI B-15 + sectoral rules	Thinner capacity for tailings, flaring, used-oil controls
Lifecycle integration	Reporting, pricing, sectoral compliance increasingly linked	Controls in law but less integrated institutionally

6.3 Circular Economy Policy Instruments

The circular economy policy instrument comparison reveals an asymmetry that is partly misleading: Kazakhstan adopted a formal green taxonomy in 2021 through the AIFC -- earlier than most OECD members -- yet practical implementation lags significantly behind Canada's more mature EPR and procurement frameworks. [10,12] Canada's strength is operational pull-through: EPR mandates create real market demand for secondary materials, and output-based pricing signals make lifecycle cost reduction economically rational for industry. Kazakhstan's strength is architectural agility: having designed its green taxonomy and green finance infrastructure relatively recently, it can incorporate current international best practice without the legacy constraints that slow reform in older regulatory systems.

Instrument	Canada	Kazakhstan
EPR schemes	Established, province-led	Early-stage / partial
Green taxonomy	Sectoral; federal guidance emerging	Adopted 2021 (AIFC-stewarded)
Green bonds / loans	Active market	Subsidised via AIFC & Damu fund
Procurement rules	Circular criteria emerging	Limited
Innovation funding	Federal & provincial programmes	Donor- and IFI-supported pilots

6.4 Institutional Capacity and Governance Gaps

Canada's institutional gap is one of coordination and mandate: the standards exist, the supervisory bodies exist (CSSB, OSFI, CSA), but voluntary adoption and provincial fragmentation prevent the system from operating as a coherent whole. [1,5,14] Kazakhstan's institutional gap is one of depth and infrastructure: the ambition is legislated, a capable financial-centre institution (the AIFC) exists, but the verifier base, MRV systems, and national disclosure standard needed to make the targets investable are still under construction. [5,14] **Neither gap is primarily about money; both are about institutional design and political sequencing.** The convergence agenda in Section 7 is structured precisely to address both gaps simultaneously -- Canada's coordination deficit and Kazakhstan's infrastructure deficit -- through mechanisms that generate mutual benefit. [1,5,14]

7. Convergence Analysis

7.1 Structural Similarities That Enable Learning

Cross-jurisdictional policy transfer is feasible here because the underlying logic is shared: both states must reconcile extractive-led growth with carbon accountability, both face the same external disciplines (CBAM, ISSB-aligned capital), and both are mid-reform rather than locked into legacy systems. **This shared resource-economy logic makes learning concrete, not aspirational [7,8,17]**

7.2 Four Priority Convergence Pathways

The core contribution of this briefing is four specific, actionable pathways, each with named lead institutions, summarised in Figure 7.

Figure 7. Four priority convergence pathways and lead institutional actors

Figure 7. Four priority convergence pathways and their lead institutional actors.

- **Shared ISSB-aligned baseline.** Kazakhstan adopts a national disclosure standard modelled on CSDS / IFRS S1–S2, co-developed through the Ministry of Ecology and the AIFC, importing a proven architecture rather than building from scratch. Lead actors: CSSB (template), AIFC Green Finance Centre (adoption). **[1,2,14]**

- **Extractive-sector taxonomies.** A joint working template classifies transition activities in oil, gas, metals, and heavy industry so disclosures are comparable across both markets and legible to the same investors. Lead actors: sector regulators and issuers in both jurisdictions. **[2,7]**

- **Assurance and MRV capacity transfer.** Canada's assurance ecosystem and OSFI-style supervision provide a template for Kazakhstan's MRV build-out through reciprocal verifier training and supervisory exchange. Lead actors: OSFI / CSSB and the Ministry of Ecology / AIFC. **[6,11]**

- **Mutual recognition of disclosures.** A pilot bilateral mechanism recognises each jurisdiction's ISSB-aligned reports, reducing dual-compliance cost and signalling investment-grade comparability. Lead channels: OECD, UNFCCC Article 6, and SCO economic dialogue. **[10,12]**

7.3 Risks and Barriers to Convergence

Three barriers are material and should be acknowledged plainly by any institution pursuing the convergence agenda. **First, political-economy resistance from incumbent extractive interests** can slow mandatory disclosure reform in both states. In Canada, the April 2025 pause on the CSA mandatory climate-disclosure rule reflects precisely this dynamic: voluntary adoption protects incumbent flexibility at the cost of comparability. In Kazakhstan, the ETS and Environmental Code reforms have both faced implementation delays attributable in part to lobbying from large industrial emitters with close state relationships. [8,10] **Second, sovereignty sensitivities** make any 'imported' standard politically delicate, particularly where the architecture visibly originates with a trading partner or Western-led standard-setter. Kazakhstan's adoption of an ISSB-modelled standard must therefore be framed as a sovereign policy choice that happens to achieve international interoperability, not as external conditionality. The AIFC provides the ideal institutional vehicle for this framing precisely because it is a Kazakhstani institution. [5,12] **Third, technical mismatches** -- differing baselines, taxonomies, and verification regimes -- raise the practical cost of alignment.

The extractive-sector taxonomy work proposed in Recommendation 2 of the companion Policy Brief is designed specifically to reduce this friction, but it requires sustained technical engagement from regulators in both jurisdictions over a multi-year horizon. [2,7]

8. Policy and Institutional Recommendations

8.1 For Federal / Central Governments

RECOMMENDATION 1 — Anchor on a Common ISSB-Aligned Baseline

Canada (Department of Finance / CSA) should set a clear timeline to move CSDS from voluntary to mandatory for large issuers. Kazakhstan (Ministry of Ecology with the AIFC) should adopt a national disclosure standard modelled on CSDS / IFRS S1–S2. Suggested vehicle: a securities-law amendment in Canada and an AIFC regulation extended to national listed entities in Kazakhstan. Timeline: 12–24 months.

RECOMMENDATION 2 — Close the Assurance and MRV Gap

Both governments should fund independent assurance and MRV capacity, prioritising the extractive sector. In Kazakhstan this means accrediting a national verifier base; in Canada, extending OSFI-style supervision beyond the financial sector.

8.2 For Regulatory and Standard-Setting Bodies

RECOMMENDATION 3 — Issue Extractive-Sector Disclosure Guidance

Securities regulators, stock-exchange authorities (TSX, AIX), and environmental agencies should jointly issue extractive-sector disclosure guidance and circular-economy metrics — including used-oil and tailings traceability — so lifecycle impacts are reported consistently and can be financed.

8.3 For Extractive Industry Actors

Early movers in both jurisdictions convert a compliance cost into a market-access advantage -- but only if their disclosure is credible, comparable, and independently assured. [7,15] The following recommendations are directed at large extractive operators in oil, gas, metals, and mining across Canada and Kazakhstan.

RECOMMENDATION 4 -- For Extractive Industry Actors: Adopt ISSB-Aligned Disclosure Voluntarily and Build Assurance Now

Large extractive operators -- including oil sands producers, hard-rock miners, and forestry companies in Canada, and KazMunayGas, Kazatomprom, and comparable entities in Kazakhstan -- should voluntarily adopt CSDS/IFRS S1/S2-aligned disclosure for their next reporting cycle without waiting for mandatory rules. [1,2,15] This means: (i) commissioning independent third-party assurance of Scope 1, 2, and material Scope 3 emissions data; (ii) aligning tailings, associated-gas, and used-oil reporting with sector-specific lifecycle metrics; and (iii) engaging proactively with the bilateral extractive-sector taxonomy working group proposed in the companion Policy Brief. [7,11] Firms that build disclosure credibility ahead of the mandate will face lower compliance costs when rules become mandatory and will be better positioned to access green and transition finance instruments from EBRD, ADB, and the AIFC Green Finance Centre. [12,14]

8.4 For Multilateral and Bilateral Cooperation

The bilateral convergence agenda will not advance through goodwill alone; it requires a formal institutional home and a sequenced delivery plan. [10,12] The most practical near-term vehicle is a joint technical working group co-convened by Global Affairs Canada and Kazakhstan's Ministry of Foreign Affairs, with Environment and Climate Change Canada and the Ministry of Ecology and Natural Resources as lead technical agencies.

This group should be mandated to deliver the extractive-sector taxonomy scoping note within 12 months and to prepare a draft bilateral disclosure recognition framework within 36 months. [20]

RECOMMENDATION 5 -- For Multilateral and Bilateral Cooperation: Formalise the Convergence Agenda Through Named Mechanisms and Timelines

Global Affairs Canada and Kazakhstan's Ministry of Foreign Affairs should formalise the ESG convergence agenda through three parallel channels. [10,12,20] First, the OECD Due Diligence Guidance for Responsible Business Conduct provides an existing multilateral framework for extractive-sector disclosure alignment that both states can adopt without creating new bilateral instruments. Second, UNFCCC Article 6 cooperative approaches offer a legal pathway for mutual recognition of MRV systems and emissions accounting, which directly supports the disclosure convergence goal. [20] Third, the Shanghai Cooperation Organisation (SCO) economic and environmental working groups -- of which both Canada (as dialogue partner) and Kazakhstan (as full member) are engaged -- present a regional platform for advancing common ESG standards across resource-economy jurisdictions. The 2026 SCO Summit is the earliest practical window to table a formal bilateral ESG convergence initiative. Institutions wishing to advance this agenda should engage directly with EEESEF as the analytical convenor of this framework. [10,12]

9. Conclusion

The central argument of this briefing, and of the companion Policy Brief, is that carbon accountability in resource economies stands or falls on institutional capacity for credible disclosure — not on the ambition of headline targets. Canada and Kazakhstan illustrate the two halves of the problem and, between them, much of the solution. Canada has a mature, ISSB-aligned standard awaiting a mandate and a coordination problem to solve; Kazakhstan has legislated ambition, a capable financial-centre institution, and an assurance gap to fill.

The framework presented here has limits worth stating plainly. The maturity scores are interpretive, not audited; the CBAM exposure figures are indicative; and the political economy of mandatory disclosure is harder than any diagram can capture. **But the direction of travel is clear, and the window is open now [7,8]**

The institutional call to action is therefore specific: adopt a shared baseline, build the assurance to enforce it, and recognise each other’s disclosures across the border. For the policy-facing summary of this argument, intended for broader circulation, readers are referred to the companion Policy Brief **EEESEF-PB-2026-002, “Aligning Carbon Accountability: Lessons for Resource Economies” (2026).**

Annexes

Annex A — Full ESG Reporting Comparison (Canada vs. Kazakhstan)

Criterion	Canada	Kazakhstan
Standard issued	CSDS 1 & 2 (Dec 2024)	None national; AIFC guidance
Baseline alignment	IFRS S1 / S2	IFRS-referenced (voluntary)
Mandatory?	No (paused Apr 2025)	No
Sector scope	Economy-wide (when adopted)	AIX-listed; large emitters
Assurance	Maturing; OSFI B-15	Limited verifier base
Carbon market	OBPS + provincial	ETS since 2013
Enforcement	Securities-law backed	Disclosure-by-listing
Lead bodies	CSSB, OSFI, CSA, ECCC	Min. Ecology, AIFC GFC, ASPR

Annex B — Regulatory Timeline: Key Carbon Policy Milestones

Year	Canada	Kazakhstan
2013	—	ETS launched
2021	GGPPA benchmark updated	Environmental Code; green taxonomy
2023	—	2060 neutrality strategy
2024	CSDS 1 & 2 issued; BC OBPS mandatory	ESG financial-sector roadmap
2025	Fuel charge removed; CSA pause; NDC	NDC 3.0 submitted
2026	— (CBAM definitive phase affects exports)	— (CBAM aluminium exposure)

Annex C — Glossary of Key Terms

ESG: Environmental, Social, and Governance — the framework for non-financial corporate disclosure and risk.

Industrial ecology: The systematic management of material and energy flows across a product or system lifecycle.

Circular economy: An economic model designed to keep materials in use through reuse, recovery, and regeneration.

ISSB: International Sustainability Standards Board — issuer of the IFRS S1/S2 global disclosure baseline.

CSDS: Canadian Sustainability Disclosure Standards (CSDS 1 & 2), aligned to IFRS S1/S2.

ETS: Emissions Trading System — a market mechanism that caps and prices greenhouse-gas emissions.

OBPS: Output-Based Pricing System — Canada's federal industrial carbon-pricing backstop.

MRV: Measurement, Reporting, and Verification — the assurance backbone of credible disclosure.

CBAM: EU Carbon Border Adjustment Mechanism — an embedded-carbon levy on certain imports (definitive phase from 2026).

AIFC: Astana International Financial Centre — Kazakhstan's financial jurisdiction and green-finance hub.

Annex D — Key Institutions

Institution	Jurisdiction	Role
CSSB	Canada	Sets CSDS disclosure standards
OSFI	Canada	Financial-sector climate-risk supervision (B-15)
ECCC	Canada	Federal carbon pricing & national inventory
CSA	Canada	Securities regulation / disclosure rulemaking
Ministry of Ecology & Natural Resources	Kazakhstan	Environmental Code, ETS, MRV
AIFC Green Finance Centre	Kazakhstan	Green taxonomy, ESG guidance, green finance
ASPR	Kazakhstan	Strategic planning & reform; ESG roadmap

References

Citations are numbered to match the in-text anchor points (e.g. [3,5]). Sources are public, verifiable instruments and analyses.

[1] Canadian Sustainability Standards Board (CSSB). CSDS 1 & CSDS 2 — Canadian Sustainability Disclosure Standards. December 2024. https://www.frascanada.ca/en/sustainability

[2] IFRS Foundation / ISSB. IFRS S1 General Requirements and IFRS S2 Climate-related Disclosures. June 2023. https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/

[3] Canadian Securities Administrators (CSA). Statement on climate-related disclosure rulemaking (pause). 23 April 2025. https://www.securities-administrators.ca/

[4] Environment and Climate Change Canada. Output-Based Pricing System & federal benchmark (GGPPA). 2025. https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system.html

[5] Republic of Kazakhstan. Strategy for Achieving Carbon Neutrality by 2060 (Presidential Decree, 2023). https://adilet.zan.kz/eng/docs/U2300000121

[6] Republic of Kazakhstan. Nationally Determined Contribution (NDC 3.0). UNFCCC, 2025. https://unfccc.int/NDCREG

[7] European Commission. Carbon Border Adjustment Mechanism (CBAM) — definitive phase from 1 January 2026. https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en

[8] Asian Development Bank. The EU Carbon Border Adjustment Mechanism (ADB Brief 276). 2023. https://www.adb.org/publications/eu-carbon-border-adjustment-mechanism

[9] IPCC. Sixth Assessment Report (AR6), Synthesis Report. 2023. https://www.ipcc.ch/report/ar6/syr/

[10] OECD. Guidelines for Multinational Enterprises on Responsible Business Conduct. 2023. https://mneguidelines.oecd.org/

[11] OSFI. Guideline B-15: Climate Risk Management. 2024. https://www.osfi-bsif.gc.ca/

[12] AIFC Green Finance Centre. Green Taxonomy of Kazakhstan & sustainable-finance documents. 2021–. https://gfc.aifc.kz/en/aifc-documents-on-green-finance

[13] AIFC. Mandatory ESG reporting in the banking sector of Kazakhstan (announcement). 2023–24. https://aifc.kz/news/

[14] AIFC Green Finance Centre. Green Finance Market in Kazakhstan (report). 2023. https://aifc.kz/wp-content/uploads/2024/07/3.3-green-finance-market-of-kazakhstan.pdf

[15] QazaqGreen / SSE Initiative. ESG reporting among leading Kazakhstani issuers (KazMunayGas, Kazatomprom). 2023. https://qazaqgreen.com/en/

[16] Agency for Strategic Planning and Reforms (ASPR). National ESG Club / financial-sector ESG roadmap. 2023–. https://qazaqgreen.com/en/news/kazakhstan/

[17] World Bank. Measuring developing-country exposure to the EU CBAM. 2025. https://blogs.worldbank.org/en/trade/how-developing-countries-can-measure-exposure-eus-carbon-border-adjustment-mechanism

[18] World Bank. Kazakhstan Country Climate and Development Report (CCDR). https://www.worldbank.org/en/country/kazakhstan

[19] IEA. Kazakhstan Energy Profile / Energy Policy Review. https://www.iea.org/countries/kazakhstan

[20] UNFCCC. Paris Agreement, Article 6 cooperative approaches. https://unfccc.int/process-and-meetings/the-paris-agreement

[21] TCFD. Final Recommendations of the Task Force on Climate-related Financial Disclosures. 2017. https://www.fsb-tcfd.org/

[22] European Union. Corporate Sustainability Reporting Directive (CSRD), Directive (EU) 2022/2464. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022L2464

[23] International Carbon Action Partnership (ICAP). Canada & Kazakhstan ETS factsheets. 2025–26. https://icapcarbonaction.com/en/ets

[24] Government of Canada. Canadian Net-Zero Emissions Accountability Act (S.C. 2021, c. 22). https://laws-lois.justice.gc.ca/eng/acts/C-19.3/

[25] World Economic Forum. The impact of the EU's CBAM on business and the carbon-pricing landscape. 2025. https://www.weforum.org/stories/2025/12/eu-cbam-impact-business-carbon-pricing-landscape/

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Sign-Off and Closing Block

APPROVAL FOR PUBLICATION

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

Gelu Negreanu
Founder & Chairman
Euro-Eurasia Environmental Science & Education Foundation (EEESEF)

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