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Korea's Critical Minerals Agreements: From MOUs, To Three Strategic Pillars

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I. Introduction

Korea's push for critical minerals security is anchored in a broader economic security agenda that treats upstream inputs as strategic dependencies for high-tech industries (notably semiconductors and secondary batteries). In 2023, the government introduced a national strategy to secure a reliable supply of critical minerals with an explicit target of reducing Korea's heavy reliance on imports from a small set of supplier countries—from around 80% to 50% by 2030. This strategy operationalizes "critical minerals" through a two-tier classification: 33 critical minerals selected for economic security management, and 10 strategic critical minerals designated for intensive management to stabilize supply chains for key industries.[1]

The strategy combines market intelligence and buffer capacity. It includes plans to develop a global minerals supply map and an early-warning system for supply risks, while strengthening public stockpiling—raising the coverage target to 100 days (from 54 days) for critical minerals. In parallel, Korea has sought to expand international cooperation and diversify supply sources through plurilateral platforms and bilateral arrangements, positioning diplomacy (including MOUs) as a complement to domestic preparedness.

Korea has yet to establish a dedicated, legally binding instrument for critical minerals supply chain stabilization comparable to the U.S.–Japan Critical Minerals Agreement. While it maintains cooperation through existing FTAs

[1] As per the Ministry of Trade, Industry and Energy's "Public Notice on Securing National Resource Security" issued on April 29, 2025, the list of critical minerals designated by Korea has expanded from 33 (in 2023) to 38. Notably, the Notice broadens the scope by (1) extending rare earth element coverage to include yttrium (Y) and scandium (Sc)—totaling seven specified REEs—and (2) defining platinum group metals to cover not only platinum (Pt) and palladium (Pd) but also ruthenium (Ru), rhodium (Rh), and iridium (Ir)—totaling five PGMs.

(e.g., with Australia, Colombia, Indonesia) and various non-binding MOUs with major producers since 2021, these mechanisms are primarily declaratory or facilitative, lacking enforceable rules on investment protection and export restrictions essential for robust supply chain security.

Building on these foundations, Korea's external cooperation toolkit needs to evolve gradually from an "MOU-centered" approach toward enforceable critical minerals (or minerals) agreements. In particular, supply chain stabilization requires an agreement architecture that links core obligations to meaningful implementation and, where appropriate, dispute settlement, so as to mitigate supply chain uncertainties originating from partner countries. This brief therefore proposes three priority pillars for Korea's next-stage minerals arrangements: (i) disciplines on export restrictive measures (potentially anchored in the goods chapter), (ii) investment and investor protection provisions (through an investment chapter or equivalent safeguards), and (iii) facilitation of workforce mobility—especially the timely movement of technical personnel essential for supply chain cooperation and project implementation.

II. From cooperation to commitments: a "mini-deal" built on three priority pillars

Drawing on in-depth interviews conducted between April and July 2025 with Korean firms and local/sectoral experts in resource-rich jurisdictions, the main constraints on Korea's critical minerals supply chain build-out cluster into three areas: sudden export restrictions that destabilize procurement, political and institutional uncertainty that raises investment risk due to complex regulatory procedures and policy unpredictability, and limits on deploying skilled technical personnel that delay construction and commissioning. These findings indicate that non-commercial risks cannot be managed by firms alone and that agreements must move beyond declaratory cooperation toward enforceable, predictable mechanisms.

Accordingly, this brief proposes a minimum core package of three priority pillars for Korea's critical minerals agreements: (1) supply chain stabilization (export-restriction disciplines, transparency, and rapid disruption consultations), (2) investment stability (predictable permitting, safeguards against retroactive measures, institutionalized contact points, and dispute prevention), and (3) technical workforce mobility (technical workforce mobility or quota-based arrangements for core personnel, qualification recognition, and time-bound on-site activities for training and technology transfer).

1. Supply chain stabilization

Export restrictions have become a structural supply-chain risk for critical minerals. OECD inventory data compiled in the chapter indicate that the number of export restriction

measures newly introduced in a given year for industrial raw materials increased from 193 in 2009 to 507 in 2023, with a peak of 579 in 2013—suggesting a sustained tightening trend rather than a temporary shock. Beyond the aggregate rise, the policy mix has also "hardened." The number of export tax measures rose sharply from 40 (2009) to 278 (2023), while export prohibitions surged from 12 (2016) to 116 (2023). By contrast, licensing requirements—previously a dominant tool through 2016—declined in 2023, suggesting a shift from permit-based management toward more direct fiscal and quantitative restrictions.

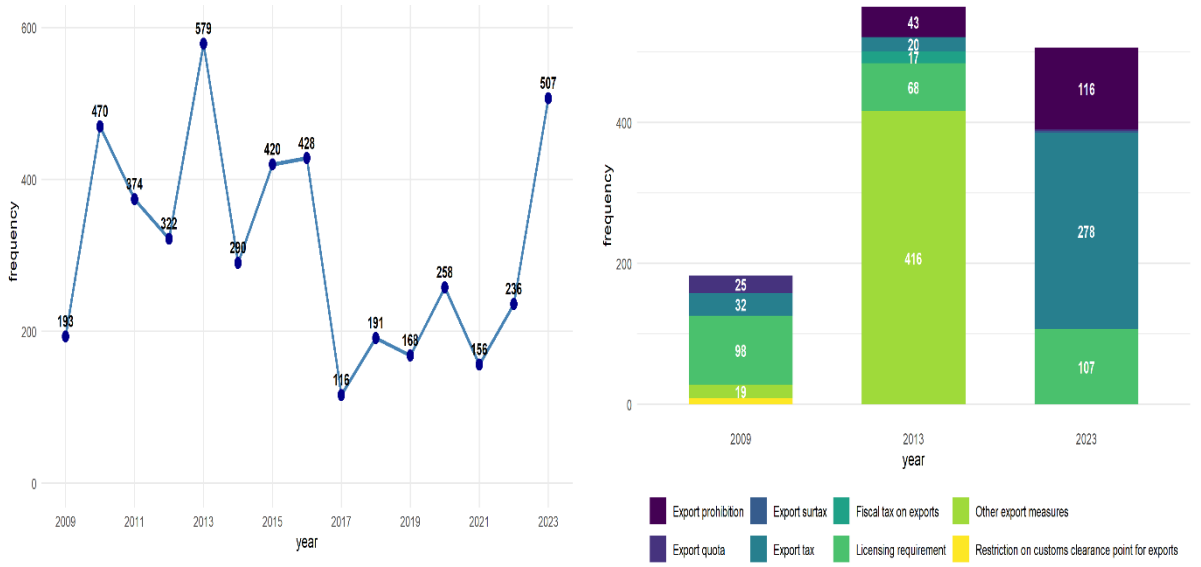
Against this backdrop, Korea's enforceable minerals mini-deals should prioritize a bundled package of disciplines that reduces both the likelihood of sudden restrictions and the uncertainty surrounding their operation. Building on the chapter's proposed clause set, Pillar 1 should include: (i) a prohibition on export bans/quotas for covered minerals (anchored in GATT Article XI logic), (ii) a consultation obligation on restrictive measures, (iii) transparency and procedural disciplines when export licensing is introduced, (iv) a rapid, time-bound consultation channel when disruptions occur, and (v) a dispute-settlement linkage to make these obligations executable rather than best-efforts.

Design details matter. The chapter emphasizes that export bans/quotas are typically treated as quantitative restrictions under GATT Article XI:1, while "export licensing" can function as a procedural requirement or as a de facto quantitative restriction depending on its operation; therefore, licensing should be coupled with non-discrimination, publication, and due-process-type procedural obligations. Where quantitative restrictions are implemented, the agreement should clarify how exceptions are handled (e.g., referencing GATT XI:2 and XX where relevant) and ensure that parties cannot rely on opaque or discriminatory administration.

Finally, Pillar 1 should institutionalize a rapid channel for crisis coordination. The Korea–Singapore Supply Chain Partnership Arrangement provides an operational benchmark: although non-binding, it allows parties to convene within five days in the event of supply-chain crises, enabling joint response and information exchange. Embedding a similar time-bound consultation clause in a minerals mini-deal would improve early warning, reduce contract uncertainty, and raise the political cost of unilateral export shocks.

Figure 1. Trends and Composition of Export Restrictions on Critical Raw Materials

(Unit: cases)



Note: Figures refer to new measures introduced annually; wood and forestry products are excluded.

Source: OECD, "Export Restrictions on Critical Raw Materials," OECD.Stat (accessed Aug 30, 2025)

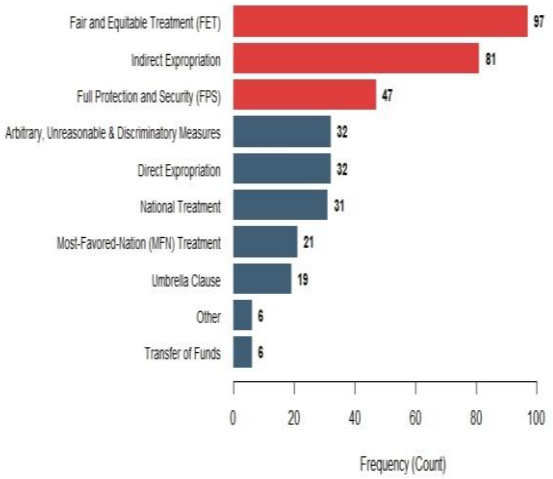
2. Investment stability

Mining and minerals-processing projects are long-cycle, license-dependent, and capital intensive—making investment stability a decisive determinant of project bankability (i.e., the ability to secure financing and proceed to construction and operation on schedule). Evidence from the UNCTAD Investment Dispute Settlement Navigator indicates that minerals-related disputes have become a structural feature of the sector rather than an episodic shock.

A compilation of minerals-related cases identifies 179 disputes in total, with dispute incidence accelerating after 2010 (annual average 2.9 cases in 2000–2010 vs. 10.5 cases since 2010).[2] Outcomes remain uncertain and protracted: pending cases account for 52 (29.1%), alongside decisions favoring states (44), investors (34), and settlements (26). This pattern underscores that investors can face extended periods of uncertainty—precisely the risk profile that undermines debt financing, disrupts construction timetables, and complicates long-term offtake planning.

[2] This brief uses UNCTAD's Investment Dispute Settlement Navigator, which provides international investment dispute cases by industry. From this database, a total of 179 minerals-related dispute cases were compiled by aggregating cases classified under the following industries: in the primary sector, "Mining of metal ores" (97 cases), "Other mining and quarrying" (23 cases), and "Mining support service activities" (10 cases); and in the secondary (manufacturing) sector, "Manufacture of other non-metallic mineral products" (22 cases), "Manufacture of basic metals" (26 cases), and "Manufacture of fabricated metal products, except machinery and equipment" (1 case).

Figure 2. Frequency of Claims in Mineral-Related Investment Disputes



Source: UNCTAD. Investment Dispute Settlement Navigator. UNCTAD Investment Policy Hub. (Updated as of 31/07/2025) (accessed Aug 30, 2025)

Substantively, the dispute record points to the types of protections that matter most for bankability**.** Fair and Equitable Treatment (FET) is the most frequently invoked ground **(**97 cases**)** and the most frequently upheld among tribunal findings **(**27 cases**),** highlighting that "stable and predictable business conditions" and the protection of legitimate expectations sit at the core of minerals-related investment risk. Indirect expropriation (81 cases) and direct expropriation (32 cases) also rank among the most prominent claims, indicating that abrupt cancellations, non-renewals, or value-eroding administrative measures can trigger high-stakes disputes.

For Korea, the policy implication is straightforward: while existing instruments often emphasize cooperation agendas, future critical-minerals mini-deals should incorporate an enforceable investment/bankability module—either tailored to clearly defined covered projects (upstream and downstream) or structured as a minimum set of protections tied to critical minerals supply-chain investments. Priority elements include: (i) core treatment standards (including FET, with clear interpretive guardrails), (ii) clearer expropriation disciplines with compensation standards, (iii) due process and non-arbitrariness in permitting and licensing (notice, reasoned decisions, and opportunities for consultation), (iv) operational continuity safeguards centered on transparency and prior consultation—potentially coupled with reasonable transition periods—before measures that materially impair ongoing projects, and (v) a credible implementation pathway (at minimum, state–state enforceability and structured dispute-prevention steps; investor–state mechanisms may be considered depending on political feasibility).

3. Workforce mobility

Workforce mobility is no longer a peripheral issue in critical minerals cooperation; it is a decisive factor for supply chain resilience. Delays in equipment installation, commissioning, and early-stage operations frequently arise when firms cannot deploy core technical personnel—such as engineers, safety specialists, and commissioning experts—precisely when needed.

This challenge is driven by a dual bottleneck: severe global labor shortages and administrative barriers. As seen in the U.S. rare earth sec-

tor, decades of offshoring have depleted domestic expertise, creating critical gaps that domestic training cannot immediately fill. [3] While relying on overseas talent is often inevitable, administrative hurdles—such as complex visa and residence procedures highlighted by the OECD (Mining for Talent, 2025)—create significant delays.[4] Without dedicated support mechanisms, like Finland's "International House Joensuu," securing essential foreign talent remains formidable.

However, unchecked mobility carries its own risks. Unconditional inflows of foreign labor can trigger friction with local communities and jeopardize the "social license" to operate. Recent cases in major resource-rich jurisdictions illustrate that failing to align with local labor regulations or neglecting local hiring can lead to severe regulatory scrutiny and community backlash. Thus, workforce mobility is not merely a visa issue but a sensitive governance challenge requiring a balance between facilitating entry and respecting local labor markets.

Current frameworks, such as the IPEF Supply Chain Agreement and Korea's existing FTAs, provide a foundation but lack the specificity needed for minerals value chains. To address this, Korea's future critical minerals agreements should adopt enforceable "mobility-plus" modules. These modules should be structured as practical risk-management instruments rather than diplomatic add-ons.

Specifically, such agreements should include: (i) clear definitions of covered activities (e.g., extraction, refining, commissioning), (ii) facilitated entry procedures explicitly designed to accelerate technology transfer and project commissioning, ensuring that the timely deployment of experts leads to faster local workforce upskilling, and (iii) robust governance safeguards, including labor rights protections and grievance mechanisms. By structuring mobility in this balanced way, Korea can ensure that its critical minerals partnerships are both operationally effective and socially sustainable.

III. Policy implications

Korea should build on the early gains from MOUs by shifting its critical minerals diplomacy toward improving the usability and predictability of existing arrangements. Rather than treating MOUs and FTAs as separate tracks, a stepwise upgrading strategy can provide a pragmatic pathway: begin with politically feasible cooperation instruments, then progressively embed the "three priority pillars"—export-discipline tools, safeguards for investment and operational stability, and technical workforce mobility—into more struc-

3 Metal Powder Industries Federation "Labor Shortage Impacts Rare Earth Revival" https://www.mpif.org/News/FocusPM/TabId/979/ArtMID/3883/ArticleID/1189/Labor-Shortage-Impacts-Rare-Earth-Revival.aspx

4 OECD (2025), Mining for talent: Addressing regional workforce challenges in a changing resources industry, OECD Local Economic and Employment Development (LEED) Papers, OECD Publishing, Paris, p. 49.

tured mini-deals and, where appropriate, dedicated minerals chapters in or alongside FTAs. This sequencing preserves flexibility at the outset while creating a credible route toward more binding and durable commitments in areas where supply-chain risks are most acute.

To strengthen the longevity of partnerships, Korea should frame cooperation not simply around securing inputs but around mutual benefit and capability-building. In practice, this means aligning cooperation with partner countries' industrial priorities—such as processing, refining, and related services—while linking technical workforce mobility to local training and skills upgrading. Coupled with tailored ESG engagement and technology collaboration, such an approach can enhance project legitimacy and help reduce the likelihood of community tensions or policy reversals that may disrupt operations.

Ultimately, the success of Korea's critical minerals diplomacy depends on evolving from broad declarations to practical risk-management instruments. Future agreements must prioritize operational precision specifically through enforceable supply safeguards, bankable investment protections, and mutually beneficial workforce mobility rather than volume. By embedding these targeted modules into a stepwise cooperation architecture, Korea can secure a supply chain that is not only resilient against disruptions but also politically durable and socially responsible.KIEP