



Novi  
treći  
put



Initiative for Responsible  
Mining Assurance

OPEN SOCIETY  
FOUNDATIONS  
WESTERN BALKANS

# Western Critical Raw Materials Strategies and Their Impact on the Western Balkans

Implications, Constraints,  
and Lessons from  
Developing Economies

Authors

Filip Mitrović  
Mijat Kostić  
Dimitrije Milić  
Teodora Danilović  
Dragoslav Rašeta  
Miloš Glišanović  
Filip Isailović  
Petar Donić

info@novitreciput.net  
www.novitreciput.net

# Introduction

Over the past decade, critical raw materials (CRMs) have moved from a technical concern of mining and industrial policy into a central strategic issue for Western governments. Lithium, copper, nickel, cobalt, rare earth elements, and other strategically significant minerals are now widely recognised as foundational inputs for the green transition, digitalisation, and defence industries. As demand for these materials accelerates, Western actors, including the European Union, the United States, the United Kingdom, and key partner countries, have developed comprehensive strategies aimed at securing supply, reducing dependencies, and strengthening resilience across global value chains.

These strategies reflect a broader shift in economic governance. Raw materials are no longer treated as neutral commodities governed primarily by market forces, but as strategic assets closely linked to industrial competitiveness, geopolitical stability, and long-term economic security. In practice, this has translated into new regulatory frameworks, investment screening mechanisms, strategic partnerships, and policy instruments designed to shape how and where critical raw materials are extracted, processed, and recycled.

While these policy shifts are often framed in global or transatlantic terms, their implications are not evenly distributed. Regions situated at the intersection of Western industrial demand and global resource supply, particularly those outside the core decision-making centres, are increasingly affected by these strategies. The Western Balkans represent one such region. Geographically embedded within Europe, economically integrated with EU markets, and politically positioned within a broader process of European alignment, the Western Balkans are uniquely exposed to the evolving landscape of Western critical raw materials strategies.

This publication examines how Western CRM strategies influence the Western Balkans, and how these dynamics compare with experiences in selected developing economies. Rather than assessing the technical feasibility of mining projects or advocating for specific industrial pathways, the study focuses on policy impact: how strategic frameworks designed in Brussels, Washington, London, and other centres shape incentives, constraints, and governance choices in the Western Balkans and comparable regions.

## New Third Way - 2026

The emergence of dedicated critical raw materials strategies across Western economies marks a clear departure from earlier approaches that prioritised liberalised trade and global sourcing. Recent policies emphasise diversification of supply, reduction of reliance on single suppliers, strengthening of domestic and near-shore capacities, and the integration of environmental, social, and governance (ESG) considerations into resource development.

In the European context, CRM policy is increasingly intertwined with climate policy, industrial competitiveness, and strategic autonomy. The United States has similarly elevated critical minerals to a national security concern, linking supply chains to defence readiness and industrial resilience. The United Kingdom and other Western partners have followed comparable paths, adopting frameworks that combine industrial strategy, international partnerships, and sustainability standards.

Although these strategies differ in scope and institutional design, they share several core features: an explicit recognition of supply vulnerability, an effort to reshape global value chains, and a growing reliance on policy coordination rather than market signals alone. Importantly, these approaches also externalise certain expectations like regulatory alignment, ESG compliance, and governance standards, to countries positioned along the supply chain. For regions such as the Western Balkans, this evolving policy environment creates both opportunities and pressures. On the one hand, proximity to EU markets and existing industrial legacies position the region as a potential partner in diversified supply chains. On the other hand, heightened regulatory expectations, social sensitivity around extractive projects, and uneven institutional capacity complicate integration into these strategies.



## **The Western Balkans as a policy interface**

The Western Balkans occupy a distinct position in the global critical raw materials landscape. Unlike many resource-rich developing regions, they are not distant suppliers to global markets but are closely embedded in European economic, political, and regulatory systems. At the same time, they remain outside the formal decision-making structures that define Western CRM strategies.

This intermediate position creates a policy interface rather than a clear alignment. National governments face competing pressures: attracting investment while managing public concern over environmental and social impacts, aligning with Western regulatory frameworks while maintaining domestic policy autonomy, and responding to external strategic interests without a comprehensive regional approach to critical raw materials governance.

Recent public debates around mining projects in the region underscore these tensions. They also highlight a broader issue addressed in this study: Western critical raw materials strategies increasingly shape local policy space, even where domestic frameworks remain underdeveloped or contested. Understanding this interaction, between external strategic agendas and local political, economic, and social contexts is central to assessing the region's future trajectory.

## **Learning from developing economy experiences**

To situate the Western Balkans within a broader global context, this publication also draws on examples from developing economies that have experienced similar pressures. In many parts of Africa, Latin America, and Asia, Western CRM strategies intersect with longstanding challenges related to governance capacity, environmental protection, value-chain positioning, and social legitimacy. These cases offer useful comparative insights. They demonstrate how strategic interest from Western actors can accelerate institutional reform in some contexts, while in others reinforcing extractive dependency or intensifying social conflict. They also illustrate the importance of policy sequencing, transparency, and stakeholder engagement in managing the impacts of global critical raw materials strategies.

## Purpose and scope of the study

The primary objective of this publication is to assess the impact of Western critical raw materials strategies on the Western Balkans, with comparative insights from developing economies. It seeks to answer three core questions:

- First, how do Western CRM strategies translate into concrete policy pressures, incentives, and constraints for Western Balkan countries?
- Second, what governance challenges and policy gaps emerge at the intersection of external strategic agendas and domestic institutional capacity?
- Third, what lessons from developing economy experiences are most relevant for understanding risks, trade-offs, and potential policy responses in the Western Balkans?

To address these questions, the study combines comparative desk research, policy analysis, and expert input. It does not aim to provide a comprehensive inventory of mineral resources or project-level assessments. Instead, it focuses on the strategic and governance dimensions of critical raw materials policy, emphasising how external strategies shape domestic policy choices and public debate.

This publication forms part of a broader research initiative implemented by New Third Way in cooperation with the Initiative for Responsible Mining Assurance (IRMA). The project was conceived as a focused analytical effort to bridge the gap between high-level Western policy frameworks and the realities faced by countries on the periphery of strategic decision-making.

By concentrating on Albania, North Macedonia, and Serbia, the project adopts a pilot approach that allows for comparative analysis within the Western Balkans while remaining grounded in specific national contexts. The inclusion of developing economy case studies further situates the region within global debates on critical raw materials governance.

# EU strategic context and the role of the Western Balkans

## Introduction

The global clean energy transition has triggered an unprecedented surge in demand for critical raw materials (CRMs) such as lithium, cobalt, nickel, graphite and rare earth elements. These materials are indispensable for the deployment of batteries, renewable energy technologies, electric vehicles, digital infrastructure and defence applications. At the same time, supply chains for many of these materials are highly concentrated, with a limited number of supplier countries dominating extraction, processing or refining. This concentration exposes the European Union (EU) to significant strategic dependencies and supply-chain risks, which have been further amplified by geopolitical tensions, trade restrictions and the weaponisation of energy and raw materials.

In response, the EU has progressively developed a more strategic and integrated approach to industrial competitiveness, climate neutrality and supply security. The European Green Deal, the Green Deal Industrial Plan, the Net-Zero Industry Act and, most recently, the Critical Raw Materials Act (CRMA) – Regulation (EU) 2024/1252 form the core pillars of this evolving framework. Together, they aim to ensure that the EU can scale up clean technologies, maintain a strong industrial base and secure a sustainable and resilient access to critical inputs, while remaining aligned with climate neutrality targets.<sup>1</sup>

Within this wider context, the Western Balkans (WB) region occupies a strategically important position. It is geographically embedded in the European continent, deeply integrated with EU value chains through trade and investment, and politically anchored in the EU accession process. At the same time, it is characterised by significant untapped potential in mining, processing and energy, and by structural challenges in regulatory quality, environmental governance and investment climate.

The present analytical brief is conceived against this backdrop. It examines how the EU Critical Raw Materials Act and related EU industrial and competitiveness policies interact with, and potentially reshape, the economic and regulatory landscape of the Western Balkans. The focus is on identifying opportunities for alignment, addressing existing gaps, and outlining pathways for deeper integration of the region into EU-centred critical raw materials and green industrial value chains.

## **Strategic rationale - CRM as an economic and geopolitical priority**

The CRMA establishes, for the first time, a comprehensive legal framework to ensure a secure, resilient and sustainable supply of critical raw materials for the EU. It defines 34 critical raw materials and 17 strategic raw materials, and sets binding benchmarks for 2030 on extraction, processing and recycling within the Union. Specifically, the Regulation mandates that by 2030 the EU must be capable of mining at least 10% of its annual consumption of strategic raw materials within the EU.

The EU is also required to process at least 40% of its annual consumption within the EU, and cover at least 25% of its annual consumption from recycling. Finally, the CRMA mandates that no more than 65% of the annual consumption of each strategic raw material should come from a single third country.<sup>2</sup>

These benchmarks reflect a dual imperative: reducing excessive dependence on a small number of external suppliers, and accelerating the development of sustainable, circular and innovative value chains inside and around the EU. They are closely linked to the Green Deal Industrial Plan, which seeks to enhance the competitiveness of Europe's net-zero industry and scale up the manufacturing of key clean technologies such as batteries, solar photovoltaic modules, heat pumps, electrolysers and grid technologies.

## New Third Way - 2026

Recent disruptions of energy and raw material supply, the impact of Russia's aggression against Ukraine, and increasing tensions in global markets for rare earths and other strategic inputs have underscored the vulnerability of existing supply chains. The EU's response, including the CRMA, Net-Zero Industry Act and revised trade and partnership instruments, is therefore not only an environmental and industrial policy, but also a geopolitical strategy to safeguard Europe's strategic autonomy and long-term competitiveness.<sup>3</sup>

Recent disruptions of energy and raw material supply, the impact of Russia's aggression against Ukraine, and increasing tensions in global markets for rare earths and other strategic inputs have underscored the vulnerability of existing supply chains. The EU's response, including the CRMA, Net-Zero Industry Act and revised trade and partnership instruments is therefore not only an environmental and industrial policy, but also a geopolitical strategy to safeguard Europe's strategic autonomy and long-term competitiveness.<sup>3</sup>

Within this context, the Western Balkans are increasingly viewed not only as future Member States, but also as potential partners in building resilient regional value chains for critical raw materials, green industries and the broader low-carbon transition.

## Emerging strategic framework

Critical Raw Materials (CRM) are emerging as a new strategic network for the European Union because they underpin the entire industrial and technological base required for the green and digital transitions, while simultaneously exposing structural dependencies on external suppliers—most notably China. The EU increasingly treats CRM not just as commodities, but as a geopolitical infrastructure: a network that connects mining, refining, manufacturing, recycling, and innovation across multiple jurisdictions.



## The Western Balkans in the EU's green and industrial transition

The six Western Balkan economies have experienced modest but resilient growth in recent years, despite global shocks. According to the OECD Western Balkans Competitiveness Outlook 2024, the region recorded strong post-pandemic recovery in 2021 (7.9% growth), followed by more moderate growth of 3.4% in 2022 and 2.6% in 2023, with living standards still significantly below EU and OECD levels.<sup>4</sup>

The World Bank projects regional growth to stabilise around 3.2–3.5% in 2025–2026, conditional on reforms and improved external conditions.<sup>5</sup>

At the same time, the region is undergoing a gradual, though uneven, transformation towards greener and more competitive economies. The Green Agenda for the Western Balkans and the EU–Western Balkans Economic and Investment Plan (EIP) provide a structured framework for this transition. The EIP aims to support long-term recovery, foster green and digital transformation, and bring the Western Balkans closer to the EU single market, including through investment in sustainable infrastructure, energy connectivity and industrial modernisation.<sup>6</sup>

More recently, the European Commission has launched targeted calls for investment in green transition and critical raw materials in the Western Balkans, signalling a growing recognition of the region's potential contribution to European supply security and low-carbon industrial development.<sup>7</sup>

However, the region still faces significant structural constraints. These constraints include relatively low levels of innovation and productivity. There is also a persistent gap in climate and environmental governance when compared with EU standards. Furthermore, the region exhibits limited capacity in advanced refining, processing, and recycling of materials. Administrative and regulatory barriers to investment, particularly in heavy industry and mining, persist. Finally, local communities exhibit high sensitivity to the environmental and social impacts of extractive projects. These factors shape both the risks and opportunities associated with the integration of the Western Balkans into the CRMA-related value chains.

## Overview of Key EU Policies and Strategic Frameworks

The European Union has progressively shaped an integrated policy architecture aimed at ensuring energy security, industrial resilience, climate neutrality and strategic autonomy in critical supply chains. This architecture is not a single legislative or financial instrument, but a layered framework composed of regulatory pillars, competitiveness programmes, strategic investment platforms and geopolitical partnership tools. For the Western Balkans, understanding how these instruments function, and where alignment is feasible or necessary, is the foundation for integration into EU industrial ecosystems.

**The Critical Raw Materials Act (CRMA – Regulation (EU) 2024/1252)** represents the most direct policy mechanism for addressing strategic dependencies in raw material supply chains. It establishes criteria for “Strategic Projects” eligible for accelerated permitting, introduces binding benchmarks for recycling, processing, and mining capacity within the EU by 2030, and strengthens risk-preparedness mechanisms and monitoring for supply disruptions. The key features of the CRMA include several mechanisms. The 2030 Benchmarks aim for 10% EU extraction, 40% EU processing, 25% recycling, and a maximum 65% import reliance per single third country. Strategic Projects are prioritized for permitting and accelerated approval, with a maximum timeline of 24 months for extraction and 12 months for processing.

The Strategic Raw Materials List comprises 34 CRMs and 17 SRMs relevant for the digital, defense, renewables, and battery industries. Supply Risk Surveillance covers stockpiling coordination, resilience stress tests, and early-warning mechanisms. ESG Harmonisation establishes social and environmental performance requirements for approved projects. Finally, International Partnerships promote circular economy cooperation, global offtake diversification, and CRM diplomacy. The Act frames raw materials as a strategic autonomy imperative, moving beyond a sole industrial competitiveness concern, which represents a policy shift with direct implications for neighboring regions like the Western Balkans that possess labor availability, energy capacity, and extractive potential.

**European Green Deal Industrial Plan (GDIP)** complements the CRMA by supporting the scale-up of clean manufacturing and green value chains within the EU and its associated markets. The plan focuses on four main pillars. The first is a predictable regulatory environment, achieved by aligning climate and industry legislation, streamlining permitting, and clarifying state-aid rules. The second pillar is access to finance, provided via the Innovation Fund, InvestEU, EIB/EBRD thematic financing, and the pending framework for the Sovereignty Fund. The third pillar, skills and workforce development, involves expanding vocational training in areas such as hydrogen systems, metallurgy, battery technology, and electrification. T

he fourth pillar covers open, resilient trade and partnerships, focusing on CBAM compliance, strategic agreements with non-EU partners, and diversification of inputs. For the Western Balkans, the GDIP signals the direction of industrial convergence, indicating that economies that align their regulatory frameworks and invest in low-carbon industry, skills, and recycling are far more likely to integrate into EU-centric supply chains.

Where the CRMA governs the inputs, the **Net-Zero Industry Act (NZIA)** governs the outputs, specifically, technologies that drive decarbonization. Its objective is to ensure that domestic production meets at least 40% of the EU's deployment needs for net-zero technologies by 2030. Relevant technology fields covered by the NZIA include heat pumps, battery cell/manufacturing lines, electrolyzers for hydrogen, solar and wind equipment, power grid and flexibility systems, and carbon capture and storage solutions.

The NZIA introduces Net-Zero Strategic Projects, mirroring the CRMA's accelerated permitting approach. This framework creates a parallel pathway for investment in the Western Balkans, allowing the region to host processing and manufacturing facilities that support EU deployment targets, provided it aligns environmentally and financially.

**EU–Western Balkans Economic and Investment Plan (EIP)** is the central platform for regional convergence. It mobilizes over €30 billion in combined EU grants and leveraged investment and targets six flagship areas. These areas are: Green energy transition, Transport and mobility connectivity, Digital infrastructure and competitiveness, Private sector development and innovation, Youth, education and workforce, and Regional integration and EU market alignment. Critically, the EIP prioritizes several segments with high relevance to CRMA and industry goals. Renewable energy and interconnections are prioritized for powering electrolysis, recycling, refining, and mining. Rail and port modernisation is prioritized for export-import logistics related to components and raw materials. Industrial zones and R&D ecosystems are prioritized as a platform for recycling, magnet, and battery supply chains. Finally, SME and technology funding is prioritized for innovation nodes in circular materials processing. This emphasis signifies that CRMA alignment is not only a mining issue but also an innovation, governance, infrastructure, and energy issue.

OECD Western Balkans Competitiveness Outlook identifies three macro-structural conditions relevant for CRMA integration. The assessment finds that Innovation capacity is growing but under-funded and uneven, though stronger in North Macedonia and Serbia. Green industrial readiness is categorized as early-stage development, with major gaps in eco-compliance and the circular economy. Regulatory performance shows significant divergence in EIA standards, permitting, and investor transparency. These findings highlight the duality of the situation: the region has recognized potential, but lacks systemic alignment. The CRMA and NZIA provide the strategic direction, while the EIP provides the enabling vehicle.

All instruments analysed share one converging strategic message: Raw materials, industrial capacity and green competitiveness are no longer parallel policy tracks, they are merged into a single European strategic agenda. This new architecture does not treat the Western Balkans as a peripheral supplier, but as a potential integrated segment of the EU industrial base. The question is not whether integration is desirable, but how quickly alignment, capacity and environmental governance can reach operational scale.

## Positioning the Western Balkans in the EU CRM Value Chain

The Western Balkan economies are endowed with a variety of mineral resources relevant to the EU's critical raw materials agenda, including lithium, copper, nickel, bauxite, and rare earths. For example, a joint overview by the Western Balkans 6 Chamber Investment Forum noted that the region "has deposits of various ... bauxite, copper, lithium, nickel and hafnium".<sup>89</sup> Despite this resource base, the current state of value capture and extraction remains limited, with downstream fabrication being minimal and many raw materials exported in unprocessed form. A recent analysis highlights that in many cases, ores from the region are sent abroad for processing, which significantly reduces local value-added.<sup>10</sup> Key observations on the current landscape are that extraction activities exist but are often under-developed in terms of modern environmental, social, and governance (ESG) standards and processing linkages. Up-stream activities (mining) constitute the dominant stage, while mid-stream (refining, processing) and down-stream (manufacture of components, recycling) remain weak or absent. Consequently, the region currently plays a primarily supplier of upstream materials role, rather than that of an integrated partner across the value chain.

One of the core ambitions of the CRMA is the target that by 2030, the EU should process at least 40% of its annual consumption of each strategic raw material within the Union. For the Western Balkans, alignment with this benchmark requires moving from simple extraction toward higher-value processing and refining capacity. However, multiple diagnostics confirm that the region lacks significant capacities in crucial areas: these include refining and converting ores into finished or intermediate products, recycling and secondary processing of critical raw materials, and the localization of technology and investment in downstream manufacturing, such as EV components, magnets, and batteries. For instance, an SWP study on the EU-Serbia raw-materials partnership emphasizes that despite Serbia holding large lithium deposits, the processing and manufacturing chain is not yet locally executed, meaning most value is captured elsewhere. Thus, the challenge for the region is not just access to raw materials, but moving up the value chain.<sup>11</sup> Thus, the challenge for the region is not just access to raw materials, but moving up the value chain.

The CRMA emphasises recycling as a key pillar: by 2030, at least 25 % of annual consumption of each strategic raw material should come from recycling.<sup>12</sup> In the Western Balkans, the circular economy and secondary raw materials sectors are at an early stage. There is limited infrastructure for the collection, sorting, and re-processing of end-of-life products, such as batteries and electronics, into critical raw materials. An opportunity exists for the region to specialize in recycling hubs, given its lower labor cost base and proximity to EU markets, but this is contingent upon the alignment of investment, infrastructure, and governance.

Beyond extraction and processing, one of the most strategic areas is downstream manufacturing for applications such as magnet production, electric vehicle batteries, rare earth permanent magnets, and low-carbon technologies. The region can position itself as a manufacturing and assembly node for EU supply chains, due to its geographical proximity and potential cost advantages. Examples and indicators of this potential include the fact that Rio Tinto's proposed lithium project in Serbia's Jadar Valley is viewed by the EU as a potential contributor to European battery value chains.<sup>13</sup> Additionally, the EU-Serbia Strategic Partnership (Memorandum of Understanding signed July 2024) explicitly includes electric vehicles, raw materials, and battery value chains.<sup>14</sup>

Nevertheless, the actual scale of downstream component manufacturing remains modest. Without stronger processing and manufacturing capacities, the region risks remaining a supplier of raw feedstock rather than a partner in higher-value segments.

## Strategic risks and constraints to capture value

While opportunities are significant, the region faces several structural constraints. Regulatory fragmentation and slow permitting processes hamper investor confidence. Fragmented geological data, limited processing infrastructure, and outdated exploration frameworks reduce attractiveness.<sup>17</sup> Financing and risk remain constraints, as upstream mining and processing are capital-intensive with long payback periods, requiring stable investment frameworks and de-risking mechanisms.



## Regulatory and Market Gaps Between the EU and the Western Balkans

The EU has consolidated its policy framework for industrial competitiveness, raw materials, and the circular economy, yet regulatory systems in the Western Balkans remain fragmented and uneven. This chapter maps the distance between regional frameworks and current EU requirements, highlighting the alignment challenges that determine whether the region can become a reliable CRMA-compatible partner. The analysis is structured across five critical dimensions: Permitting and licensing systems for extraction and processing, Environmental and ESG compliance frameworks, Circular economy and recycling legislation, Investment rules, transparency and market governance, and Trade, state-aid alignment and integration with the EU Single Market. Each dimension represents a determinant of whether CRMA-relevant investments can achieve scale. The gaps described are solvable, but only through predictable governance, policy coherence, and deliberate regulatory transformation.

The CRMA establishes accelerated permitting timelines that Western Balkan economies currently do not meet. These deadlines are 24 months for extraction projects, 12 months for processing/refining projects, and 9 months for recycling projects (expedited category). Permitting often involves a lack of “single-window coordination” and multiple ministries and redundant approvals.

As a result, fragmented authority—where mining, energy, and environment are all separate—means investors face unclear responsibility and duplicative procedures. The lack of digital permitting systems means documentation is paper-based, slow, and prone to delays. Furthermore, limited capacity in environmental and geological evaluation leads to inconsistent project assessment and prolonged review cycles. Crucially, the absence of statutory deadlines means investors have no predictability, leading to high perceived risk. This lack of certainty increases risk premiums and reduces investor confidence, which is particularly problematic in refining and mining, where payback periods are long and capital requirements are high.

## New Third Way - 2026

Strategic Projects under the CRMA require strong environmental, social, and governance (ESG) assurances, but ESG maturity varies widely across the Western Balkans. Observed gaps include the fact that while Environmental Impact Assessments (EIA) are legally required everywhere, implementation is inconsistent, and monitoring is often under-resourced. Local community consultation is uneven, reactive rather than proactive, and rarely includes early-stage transparency mechanisms. Inspection capacity is limited, with some countries having fewer than one-fifth the field inspectors per project compared to EU Member States. Frameworks for biodiversity protection, water-use, and tailings management lag behind modern EU standards. Finally, circularity is referenced in policy documents but is not systematically enforced. ESG non-alignment presents the single largest barrier to social licence, as demonstrated by resistance to high-profile mining investments across the region. Without credible ESG performance and transparent communication, downstream alignment with EU value chains will remain constrained.

The EU Battery Regulation and CRMA presume a circular market in which end-of-life products re-enter the supply cycle, but the Western Balkans are not yet structured to support this. Missing components include national battery-recycling frameworks, which are partial or absent. Hazardous waste logistics and traceability are characterized by low capacity and fragmentation. Regulation for second-life EV batteries is early-phase and unharmonized. Finally, collection networks and extended producer responsibility (EPR) schemes are emerging but are not yet scalable. This situation presents a dual challenge and opportunity. The region can potentially become a recycling hub due to geographic and labor advantages, but this requires policy alignment to precede investment, as second-life and recycling operations will not scale without legal certainty.

Foreign investors in refining, raw materials, or battery-value-chain facilities place significant weight on predictability, transparency, and political risk. In the Western Balkans, state-aid frameworks are partially aligned with EU rules but are not fully synchronized. Investment incentives vary per country, lacking regional consistency. Strategic-project criteria are often discretionary rather than rule-based. Crucially, long-term Power Purchase Agreements (PPAs) for renewable energy, which are vital for green metallurgy, are not uniformly regulated. In effect, the region has workforce potential and resources, but lacks a bankable regulatory environment. A "CRMA-compatible investment regime" would require harmonisation across energy, mining, competition, and environmental policies.

CRMA implementation rests not only on policy but also on market interoperability. The Western Balkans remain outside the EU Single Market, meaning that battery components, intermediate products, and raw-material exports cross regulatory borders. To integrate with CRMA ecosystems, the region will require: alignment with EU technical standards for ESG reporting, material purity, and waste handling; harmonisation of border processes to facilitate the flow of cathode-grade material, concentrate, and ore; and the creation of cross-border processing corridors, such as mining in one country, refining in another, and recycling in a third. Furthermore, participation in the Single Market for electricity is required to enable renewable-powered refining and smelting. A fragmented regulatory space cannot support an integrated regional value chain, meaning market harmonisation is strategic, not ancillary.

The Western Balkans possess geographic alignment and raw-material potential aligned with EU industrial ambitions, but their current regulatory trajectory is insufficient for CRMA-level integration. The gaps are clear: Permitting is slow and unpredictable; ESG alignment is incomplete and socially contested; Circular-economy legislation is structurally underdeveloped; State-aid and investment frameworks lack Single-Market coherence; and Regional fragmentation undermines supply-chain scalability. Closing these gaps is achievable, and the next chapter explores where partnerships, technology transfer and investment mechanisms can operationalise that transition.

## **CBAM as a Regulatory Pressure Mechanism on Western Balkan Competitiveness**

The Carbon Border Adjustment Mechanism (CBAM) reinforces and amplifies the structural gaps identified in the Western Balkans by directly translating regulatory misalignment into tangible economic costs. Industries in the region, particularly metals, cement, and energy-intensive processing, remain reliant on carbon-heavy production models and fragmented environmental governance, which makes their exports increasingly exposed to carbon pricing at the EU border. In practical terms, this reduces price competitiveness and introduces additional administrative burdens, especially in the absence of robust emissions monitoring, reporting, and verification systems. When combined with already slow and unpredictable permitting, weak ESG enforcement, and limited integration of renewable energy into industrial processes, CBAM effectively acts as a market filter: only those producers able to align with EU standards can remain competitive within European value chains. As such, CBAM does not merely penalize carbon intensity, it accelerates the need for regulatory convergence, investment in cleaner production, and integration into a more coherent, CRMA-compatible industrial framework.

## Industrial Partnerships, Technology Transfer & Investment Corridors

For the Western Balkans to move beyond raw-material extraction and into the processing–manufacturing–recycling triangle that underpins the Critical Raw Materials Act (CRMA), the region will require industrial partnerships and structured investment pathways, rather than isolated projects. This chapter identifies mechanisms and enabling conditions required for the region to integrate into EU industrial supply chains at scale. This transformation is defined by three strategic vectors: EU-aligned industrial partnerships & supply-chain integration, Technology transfer and skills development, and Investment corridors and financing architecture. These vectors are interconnected: partnerships require technology, technology requires skills, and skills require investment.

Industrial partnerships are the most direct vehicle for integrating the region into CRMA-linked value chains. The Western Balkans are geographically optimal as a near-shoring zone for battery components, refining, and raw materials because the EU is structurally incentivised to diversify supply away from single-country dependence. Potential partnership models include Joint mining + refining ventures, which transition from extraction to intermediate products (e.g., Li, Ni, Co, Cu), providing strategic value for the EU by diversifying supply and reducing dependency on single-source imports, with use cases like nickel sulphate processing or lithium → hydroxide conversion. These ventures offer an estimated 3–5× higher value captured domestically compared to raw export.

Battery midstream facilities (cathode/anode materials) convert concentrates into active cathode/anode materials, supporting the CRMA target of 40% EU processing capacity by 2030, with examples like NMC/LFP precursor plants and anode graphite processing, offering 5–8× value vs exporting ore/concentrate. Cell manufacturing or module assembly represents the final manufacturing stage for BESS/EV applications, shortening the supply chain and increasing strategic sovereignty, with use cases including stationary storage packs, EV modules, and bus batteries, offering 10–20× value vs raw material export.

## New Third Way - 2026

Recycling & re-processing hubs focus on secondary feedstock recovery, contributing to the 25% recycling benchmark under CRMA, through WEEE & battery recycling clusters and Li-Ni-Co-Mn recovery, offering Long-term compounding value (closed-loop). Finally, R&D collaboration + pilot lines focus on material qualification, innovation, and demonstration, strengthening the EU scientific ecosystem through digital metallurgy, REE separation research, and hydromet pilots, offering Strategic capability — non-linear value gain. Strategic focus should favor midstream and downstream activities, because extraction alone simply exports value.

Technology transfer encompasses more than equipment; it includes know-how, process control, automation capability, operational discipline, and best-practice ESG. Without technology transfer, infrastructure remains static, but with it, value multiplies. Priority areas for technology transfer include solvent extraction & hydrometallurgical refining, electrolytic recovery of copper, cobalt, and nickel, production of cathode & anode active-material, permanent-magnet fabrication, lithium carbonate → hydroxide conversion, battery-grade graphite processing, second-life battery repurposing (BESS), and high-purity recycling of REEs, Li, Co, Ni, and Mn. Technology transfer must be contractual, not accidental, and embedded in joint ventures, licensing frameworks, and public–private programmes that incorporate long-term workforce development and retention.

A competitive CRMA region requires a workforce with capabilities that do not yet exist at adequate scale, necessitating the construction of a skills pipeline that connects education → industry → innovation. Recommended skill pillars include Mining ESG & geometallurgy for responsible extraction and permitting compliance, Hydrometallurgy & pyrometallurgy for refining at battery-grade purity, Battery chemistry & cell engineering for midstream integration, Automation, AI and process control for high-efficiency refining/manufacturing, and Waste valorisation & recycling science for circular feedstock integration. Without domestic skills, value chain participation will remain limited, as skills are not a side-topic—they are the currency of industrial sovereignty.

No CRMA deployment is feasible without capital, as refining, mining, and battery value chains require high CAPEX, policy-stability guarantees, and long investment cycles. To access investment at the European scale, the Western Balkans must align structurally with EU-compatible financing routes. Potential financing vectors include EU Instruments such as InvestEU (for risk-sharing for industrial projects), the Innovation Fund (for green metallurgy + recycling + BESS), Horizon Europe (for technology demonstration), the Western Balkans Guarantee Facility, and EIB & EBRD climate-aligned lending.

## New Third Way - 2026

Private Financial Channels include strategic investors in battery supply chains, Offtake-secured project finance, OEM and Tier-1 supply agreements, and Equity funds specializing in critical minerals & advanced materials. This Blended Finance Architecture requires public guarantees to leverage private capital toward industrial scale. Crucially, this necessitates a bankable policy environment that guarantees predictable permitting, land access, ESG compliance, energy availability, and grid capacity.

Processing and refining are energy-intensive, and hydrometallurgy, pyrometallurgy, and electrorefining demand low-cost, low-carbon electricity. Therefore, CRMA development in the region must be aligned with renewable-energy expansion. Key requirements include: high-availability renewable baseload; grid reinforcement for industrial zones; functional Power Purchase Agreement (PPA) frameworks; co-location of BESS/solar/wind with refining hubs; and carbon-intensity reporting for EU-market access. If critical raw-material processing is powered by fossil energy, it risks CBAM-era competitiveness thresholds and supply-chain exclusion, meaning clean energy is not a supporting policy — it is a gating condition.

No single Western Balkan country can deliver full CRMA integration alone; the future is cross-border industrial corridors, not isolated national strategies. Possible corridor archetypes include a Mining → Refining → Battery Assembly corridor (e.g., Serbia → North Macedonia → EU OEMs) to form a Lithium-to-cell pipeline, a Recycling Hub with Export of Recovered CRM corridor (e.g., Montenegro/BiH → EU refiners) for looping secondary feedstock, a Green Metallurgy Corridor (e.g., Albania → Kosovo → Serbia) will facilitate Nickel/Copper feedstock upgrade. Finally, a Research + Demo Innovation Axis (e.g., Serbia + MK + EU labs) will host early-stage processing pilot lines. A corridor approach increases scale, reduces cost, and makes the region investable.

## Structural Challenges and Bottlenecks

Despite geographic proximity to EU markets, resource availability, and growing political alignment mechanisms, the Western Balkans currently cannot deliver CRMA-compatible value-chain integration at scale. This chapter identifies the structural constraints that must be resolved to enable mining → processing → manufacturing → recycling integration. These constraints fall into five systemic categories: Regulatory and administrative bottlenecks, Permitting, environmental risks and social licence fragility, Infrastructure, energy and logistics constraints, Financing, investment risk perception and market maturity, and Workforce capacity, innovation ecosystems and skills deficits. Each constraint represents a barrier to investment, and together, they explain why the region remains upstream rather than industrially integrated.

The first bottleneck is structural: regulations are inconsistent across jurisdictions, administrative processes are slow, and approvals are non-harmonised. Unlike the CRMA, which imposes known deadlines, Western Balkan systems lack procedural discipline. Observed friction points include: no unified permitting timeline, leading to project uncertainty; multiple ministry approvals, resulting in procedural duplication; weak geological data transparency, making project valuation harder; and limited coordination between mining, energy, and environment directorates. Furthermore, delayed legislative updates lead to misalignment with the EU acquis. The outcome is that even viable projects face multi-year approval horizons, which raises capital costs and delays investment. Therefore, policy clarity and speed are competitiveness enablers, not just bureaucratic formalities.

Social acceptance is emerging as the single most decisive success factor. Protests around mining projects highlight that public legitimacy is required beyond mere legal approval. Key vulnerabilities include: uneven EIA enforcement; trust deficit between investors and communities; water-management and tailings frameworks not aligned with EU depth; low transparency at early project stages; and weak mechanisms for cross-border pollution governance. In the CRMA context, a project without ESG credibility is not a strategic asset, and public trust is a regulatory design outcome, not merely a communication exercise.

## New Third Way - 2026

Advanced materials processing, pyrometallurgy, and hydrometallurgy depend heavily on infrastructure quality. The region shows several limitations: grid capacity gaps lead to unstable supply for industrial loads; transmission bottlenecks cause high technical losses; under-modernisation of rail, port, and logistics results in slower CRM flows; and limited industrial-zone readiness means power, water, and land are not co-located. Without these upgrades, battery-grade refining cannot scale, because industrial investment follows infrastructure, not the reverse. Power capacity is central: refining powered by fossil grids risks supply-chain exclusion and CBAM penalties, meaning grid expansion, BESS integration, and renewable PPAs are non-negotiable prerequisites, not add-ons.

CRMA-compatible facilities require €200–800M CAPEX per site, which is far beyond typical Western Balkan investment volumes. Compounding this, perceived risk remains high due to regulatory unpredictability, cross-border policy inconsistency, weak long-term PPA and offtake frameworks, underdeveloped capital markets, and minimal recycling-linked financial instruments. Investors require guarantees, risk-sharing structures, and stable legislative frameworks. Without financial de-risking, upstream extraction will remain dominant while downstream integration remains aspirational. The bottlenecks are solvable, but only through systemic reform. Regulatory fragmentation leads to investment hesitation. Weak ESG legitimacy causes social resistance to mining. Grid & logistics constraints mean refining is not viable at scale. High capital risk limits downstream value retention. Finally, Regional non-alignment results in lost economies of scale.

## Skills, Innovation, and Technological Readiness Gaps

Industrialisation is human-capital-limited, as current labor pools cannot yet sustain CRMA-grade midstream and downstream operations. Gaps are highly visible across several knowledge fields. Hydrometallurgy & refining and Battery materials & cathode/anode science both show high gap severity due to nascent competence bases and limited industrial or academic depth. Recycling chemistry & CRM recovery also shows high gap severity due to early-stage development. Automation & process control and ESG compliance and monitoring science show medium gap severity, indicating capacity exists but needs scaling and training. No industrial policy succeeds without skills policy.



## Future of WB-EU Cooperation in CRM

The Western Balkans stand at a decisive moment, not only for regional development but also for Europe's strategic resilience. Climate neutrality, supply-chain security, industrial competitiveness, and technological sovereignty have converged into a single agenda, centered on the Critical Raw Materials Act (CRMA) and the associated EU policy architecture. Within that agenda, the region has a rare opening to move from raw-material extraction to integrated industrial participation, if action accelerates and alignment is deliberate.

The analysis presented in this report demonstrates several key conclusions. Resource potential exists, but value capture remains overwhelmingly upstream. Industrial participation is possible, but it is contingent on downstream and midstream investment. Regulatory alignment is not optional, but is foundational for technology deployment and investor confidence. Social licence determines viability—ESG must be core, not peripheral. Skills and technology transfer are rate-limiters, determining whether manufacturing and processing occur locally or abroad. Finally, Regional integration is the multiplier, which turns six fragmented markets into a strategically relevant European platform.

If the Western Balkans implement CRMA-aligned permitting reform, scale environmental governance, build regional industrial corridors, deploy workforce upskilling, and mobilise blended finance for refining and recycling, the region can transform from an ore-exporter to a strategic industrial contributor—a partner embedded in Europe's renewable, digital, battery, and magnet future. The strategic calculus is clear: Resources create potential. Policy creates certainty. Infrastructure creates capacity. Skills and technology create value. Integration creates scale. The window for alignment is open, but competitive. Other regions are moving fast, and industrial restructuring does not wait. The opportunity will belong to those who operationalise it first. For the Western Balkans, the path from extraction to industrialisation is no longer conceptual; it is actionable, financeable, and strategically aligned with European interests. The next step is implementation.

## Section References

1. [https://commission.europa.eu/topics/competitiveness/green-deal-industrial-plan\\_en](https://commission.europa.eu/topics/competitiveness/green-deal-industrial-plan_en)
2. <https://eur-lex.europa.eu/EN/legal-content/summary/a-secure-and-sustainable-supply-of-critical-raw-materials.html>
3. [https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/critical-raw-materials-act\\_en](https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/critical-raw-materials-act_en)
4. Western Balkans Competitiveness Outlook 2024: Regional Profile (EN)
5. <https://www.reuters.com/markets/europe/world-bank-expects-six-westernbalkan-economies-grow-32-collectively-2025-2025-04-28/>
6. <https://eurlex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX%3A52020DC0641&>
7. <https://balkangreenenergynews.com/european-commission-launches-call-for-investment-in-green-transition-critical-raw-materials-in-western-balkans/>
8. <https://www.rcc.int/files/user/docs/a876235797a6670c89f05015368ea12f.pdf>
9. <https://www.wb6cif.eu/2024/04/26/8488/>
10. <https://www.eliamep.gr/en/raw-materials-for-a-resilient-europe-the-eus-strategic-partnership-with-the-western-balkans/>
11. <https://www.swp-berlin.org/en/publication/the-eus-raw-materials-diplomacy-serbia-as-a-test-case>
12. <https://www.wb6cif.eu/wp-content/uploads/2024/04/EC-WB6-CIF-Agenda-CRM-25.4.2024.pdf>
13. <https://europeanwesternbalkans.com/2024/06/18/lithium-mining-project-returns-to-focus-in-serbia-european-commission-reiterates-it-wants-a-strategic-partnership-on-raw-materials/>
14. [https://enlargement.ec.europa.eu/news/eu-and-serbia-sign-strategic-partnership-sustainable-raw-materials-battery-value-chains-and-electric-2024-07-19\\_en](https://enlargement.ec.europa.eu/news/eu-and-serbia-sign-strategic-partnership-sustainable-raw-materials-battery-value-chains-and-electric-2024-07-19_en)
15. <https://www.swp-berlin.org/en/publication/the-eus-raw-materials-diplomacy-serbia-as-a-test-case>
16. <https://westernbalkans-infohub.eu/documents/driving-the-green-transition-the-role-of-critical-raw-materials-in-the-western-balkans/>
17. <https://www.eliamep.gr/en/raw-materials-for-a-resilient-europe-the-eus-strategic-partnership-with-the-western-balkans/>

# Other Western Countries and their strategies

## Introduction

The growing strategic importance of Critical Raw Materials (CRM) has moved beyond EU policy frameworks and increasingly reflects a broader geopolitical competition among advanced economies. Countries such as the United States, the United Kingdom, Japan, and Norway are actively developing external CRM strategies aimed at securing stable, diversified, and politically reliable supply chains. These strategies combine investment, diplomacy, technology transfer, and regulatory alignment to reduce dependence on dominant suppliers and to anchor critical value chains within allied or partner regions. In this context, the Western Balkans are emerging as a relevant, though still underdeveloped, node within a wider transatlantic and Indo-Pacific resource network.

For external actors, engagement in the Western Balkans is not limited to resource extraction but increasingly encompasses the full value chain—from geological exploration and mining to refining, recycling, and integration into downstream industries such as batteries and clean technologies. The region offers a combination of geological potential, proximity to EU markets, and relatively lower operational costs, but also presents structural challenges related to governance, ESG compliance, and regulatory fragmentation. As a result, different international actors approach the region with varying models: some emphasize strategic investment and industrial integration, while others prioritize risk mitigation, standards alignment, or supply diversification through partnerships.

This section examines how these external CRM strategies are being operationalized in the Western Balkans and assesses their implications for regional development, competitiveness, and geopolitical positioning. By comparing approaches across key actors, the analysis aims to identify convergences and divergences in strategic priorities, as well as the extent to which these initiatives contribute to building a coherent, sustainable, and EU-compatible raw materials ecosystem in the region.

## United Kingdom - CRM Strategy and Policies

The United Kingdom recognizes the instrumental role critical minerals play in modern-day life. Therefore, the United Kingdom's approach to critical minerals governance is built around the idea that long-term resilience requires diversification, intelligence-led monitoring, and responsible international partnerships. According to the UK's projections, the need for critical minerals is expected to continue growing, with copper demands anticipated to double by 2035, and lithium demands expected to increase by 1,100%. As the green transition takes the global stage, these figures are expected to rise further, given that their energy sources and transport systems become increasingly reliant on low-carbon technology.

The UK holds vast and diverse domestic potential for critical minerals. In England, regions such as County Durham and Teesside, as well as Devon and Cornwall, host significant mineral resources and related manufacturing capabilities. Scotland integrates critical mineral strategies within its net-zero and circular economy objectives, supporting both extraction and recycling initiatives. Wales retains strong industrial knowledge in nickel and titanium processing. In contrast, Northern Ireland leverages academic expertise at Queen's University Belfast to advance magnet recycling technologies applicable to wind turbines and electric vehicles. The domestic strengthening of mining, recycling, and refining capacity reduces dependency on imports and enhances the UK's competitiveness in high-value mineral technologies.

To ensure the feasibility of these resources, Vision 2035, the UK critical minerals strategy, envisions several financing mechanisms, including the National Wealth Fund, UK Export Finance, and the newly introduced British Industrial Competitiveness Scheme.<sup>1</sup> This scheme will support eligible energy-intensive businesses with up to £50 million for critical mineral projects, as announced in the 2025 Spending Review. Regulatory and planning frameworks are also being refined to accelerate permitting for innovative projects. Workforce development is a priority, with Skills England and the Department for Work and Pensions supporting training initiatives in mining, processing, and recycling, ensuring that the country cultivates the skills necessary for sustainable industrial growth.

## New Third Way - 2026

The government is collaborating with industry to develop a national platform mapping mineral demand, ensuring that domestic production aligns with economic and strategic priorities. The defence sector is considered critical, with measures under discussion to stockpile essential minerals, protecting national security and ensuring continuity in strategic industrial capabilities.

The UK emphasizes innovation to advance extraction, processing, and recycling technologies while fostering secondary supply chains. Research and development (R&D) programs are substantial in this aspect, through their collaboration with universities, research centers, and industry partners, advancing groundbreaking processes within the mineral lifecycle. Notable institutions include the Camborne School of Mines, specializing in mineral and mining engineering, the University of Birmingham with expertise in magnet manufacturing, and Queen's University Belfast, leading in the recycling of permanent magnets.

Funding initiatives such as the Automotive Transformation Fund and DRIVE35 support late-stage R&D in battery technology, lithium processing, and other strategic areas. Projects supported include Cornish Lithium's hard rock exploration and Green Lithium's refinery investments. Circular economy initiatives are central, with research focusing on the recovery and recycling of end-of-life materials, including batteries, electric vehicle motors, and wind turbine magnets.

## The Critical Minerals Intelligence Centre (CMIC)<sup>2</sup>

CMIC established in 2022 under the British Geological Survey, delivers impartial data and analysis on supply chains, market dynamics, and geopolitical risks. The centre conducts regular assessments of mineral criticality, evaluates economic vulnerability, and supports policy decisions. A skills blueprint is under development to address workforce gaps, particularly in extraction and processing, ensuring that industry and government can sustain innovation and operational excellence.



# Global Partnerships and Market Development

Acknowledging the UK's dependence on imports of critical minerals, Vision 2035 emphasizes the need for global partnerships to diversify sources and strengthen supply chain resilience.

The UK, as a founding member of the Minerals Security Partnership and part of the G7, G20, International Energy Agency, and NATO, paves the way for coordinating investment, information sharing, and ESG standard-setting at an international scale, ensuring policy alignment in areas such as global supply chain transparency, circularity, and resilience. These frameworks extend UK influence and expertise to promote stable and responsible mineral markets worldwide.<sup>3</sup>

Strategic bilateral relationships with Australia and Canada leverage shared governance standards, economic alignment, and technological capabilities. The UK collaborates with Australia through the Critical Minerals Joint Working Group, coordinating investment, knowledge transfer, and market development. Canadian cooperation emphasizes supply chain resilience, ESG performance, and research collaboration, with the UK leading Global Expert Missions to share expertise on responsible mineral management.

Engagement with resource-rich developing countries, particularly in Africa and the Global South, is founded on sustainable development, ethical governance, and local value creation. The UK directs Overseas Development Assistance and partners with the Green and Inclusive Growth Centre of Expertise to support local management of mineral resources, investment mobilization, and capacity building. Development finance institutions, such as British International Investment, fund infrastructure that facilitates responsible mining and export capabilities. ESG compliance, transparency, and ethical sourcing are central, aligning mineral development with sustainable economic growth in partner nations.

## New Third Way - 2026

One of the key pillars of the Vision 2035 is responsible market development, transparent finance, and ESG leadership. London is promoted as a global center for responsible mineral finance, leveraging the London Stock Exchange and London Metal Exchange to support sustainable trading, price transparency, and ESG-compliant investment. Initiatives such as the LME's low-carbon nickel trading contract and responsible sourcing standards for cobalt and tin illustrate practical applications. The strategy also integrates green finance principles, leveraging public finance institutions to de-risk investment while promoting adherence to international ESG standards.

The UK actively champions improved governance and transparency in international mineral markets. Participation in initiatives such as the Extractive Industries Transparency Initiative and International Council on Mining and Metals enables the UK to promote beneficial ownership disclosure, open contracting, and anti-corruption practices. These efforts are directly relevant to regions like the Western Balkans, where governance gaps have historically impeded responsible mineral development. The strategy encourages bilateral projects that transfer UK expertise in recycling, midstream processing, and responsible extraction technologies, ensuring sustainable local value creation and environmental compliance.

## Opportunities in the Western Balkans

The United Kingdom has positioned responsible sourcing practices as a central component of its international critical minerals partnerships, which creates a clear foundation for cooperation with the Western Balkans. The UK places strong emphasis on environmental, social, and governance compliance, transparent procurement, and due diligence frameworks that ensure materials entering British supply chains are produced under credible sustainability standards. Since several Western Balkan countries are seeking to modernize their minerals governance frameworks in order to attract high-quality investors and comply with European regulatory requirements, alignment with British approaches to traceability, disclosure, and risk assessment presents a valuable opportunity. UK institutions and affiliated private operators have developed experience with reporting mechanisms, monitoring technologies, and auditing methodologies that could help strengthen regulatory enforcement in the region and improve trust among local communities affected by mining activities.

In Serbia, the Bor mining district remains one of the most established copper-producing areas in Europe and includes associated minerals that are essential for clean energy technologies. Cooperation here could focus on improving environmental rehabilitation, creating transparent regulatory frameworks, and investing in midstream processing and recycling systems that move Serbia from a raw material exporter to a supplier of refined and semi-refined products. The lithium-rich Jadar region near Loznica also represents a major opportunity for joint engagement on battery materials. Future project development in that area will require strong community participation, traceability of operations, and circular solutions for battery value chains. These are areas in which UK institutions and companies specializing in responsible investment, governance standards, and recycling technologies could provide practical support.

In Albania, the Bulqizë chromium mining region is a significant European source of a mineral that remains critical for both steel and emerging technologies. British collaboration could introduce transparent tendering models, partnerships with local processing firms, and support for diversification toward new mineral outputs present in the region. Kosovo's Gllavica mine and surrounding ore deposits provide additional opportunities in nickel and copper, which are essential to electric vehicles and grid expansion. A British-supported initiative here could prioritize environmental remediation, stronger oversight of concessions, and investment in refining capabilities that increase the local economic value of extraction.

## The United States and Evolving Legislation

The pursuit of resilient critical mineral supply chains has become a paramount concern for the United States, driving a multifaceted strategic approach supported by evolving regulatory frameworks and international instruments. This comprehensive strategy is underpinned by various governmental acts and executive actions designed to mitigate supply chain vulnerabilities, particularly those stemming from reliance on adversarial nations.

The legislative foundation for the US critical minerals policy rests significantly on the Energy Act of 2020, which formally defined "critical mineral" in statute and mandated the creation and regular updating of the Critical Minerals List (CML).<sup>4</sup> The definition specifies a critical mineral as any mineral, element, substance, or material designated as critical by the U.S. Geological Survey (USGS) because it is essential to the economic and national security of the United States, has a vulnerable supply chain, and serves an essential function in manufacturing a product. Critically, this definition excludes fuel minerals, water, and common varieties of sand, gravel, stone, pumice, cinders, and clay.

The USGS Critical Minerals List (CML) serves as a key informational pillar of this framework. Pursuant to the Energy Act of 2020, the USGS must update the CML at least every three years. The 2022 CML included 50 critical minerals, determined using a methodology that focused on net import reliance, production concentration outside the United States, and the willingness of producing countries to supply the US. Reflecting changing geopolitical and technological landscapes, the USGS published a Final 2025 List of Critical Minerals containing 60 minerals.

This expanded list included new additions like copper, lead, potash, rhenium, silicon, and silver, based on a new quantitative methodology that assessed the potential effects of trade disruption scenarios on U.S. GDP. Furthermore, minerals like arsenic, boron, metallurgical coal, phosphate, tellurium, and uranium were added in 2025 based on input from federal agencies such as the Department of Defense (DOD), Department of Energy (DOE), and Department of Agriculture, underscoring the interagency nature of critical minerals policy. The USGS prioritizes critical minerals on the CML in its assessment of potential domestic resources and other research.

## New Third Way - 2026

Another crucial legislative tool is the Defense Production Act (DPA)<sup>5</sup>, which the US government can leverage to expand and rapidly deploy funding to increase domestic critical mineral production and processing. Executive Order 14241, "Immediate Measures to Increase American Mineral Production" (March 25, 2025)<sup>6</sup>, specifically delegates authority to the Secretary of Defense and the Chief Executive Officer of the US International Development Finance Corporation (DFC) to utilize DPA funding toward this end. The DPA mechanism provides a means for the Department of Defense's Manufacturing Capability Expansion and Investment Prioritization office to provide financial support and mitigate risks for critical minerals exploration projects, such as for nickel in Minnesota and cobalt in Idaho. Expanding R&D funding for mining and processing efficiency through the DPA or DOE labs is also considered a high-impact strategic action.

The Inflation Reduction Act (IRA) of 2022<sup>7</sup> represents the single largest investment in climate and energy in American history, and catalyzes crucial investments in the domestic clean energy supply chain. Its significance lies primarily in providing massive financial backing and expanded authority to accelerate the reshoring and re-shoring of critical mineral processing, manufacturing, and recycling within the US. Specifically, the IRA appropriated approximately 11.7 billion in total for the Department of Energy's (DOE) Loan Programs Office (LPO) to support issuing new loans, which increased LPO's existing loan authority by about 100 billion. Crucially, the IRA funded expanded activities under the Title 17 Clean Energy Financing Program, allowing LPO to finance projects involving critical minerals processing, manufacturing, and recycling.

This is a direct measure to mitigate supply chain vulnerabilities, such as those caused by foreign adversaries restricting exports. Furthermore, the IRA contributed to key conditional commitments, totaling nearly \$13.5 billion as of August 2023, spanning the electric vehicle and stationary storage supply chain, which marks an important step toward securing the domestic critical materials production needed for the clean energy transition. Through these funding mechanisms, the IRA supports the overarching US strategy of diversifying supply chains, improving manufacturing efficiency, and investing in circular economy approaches for critical minerals and materials.

## Strategic Approach: Reshoring, Diversification, and Strategic Reserves

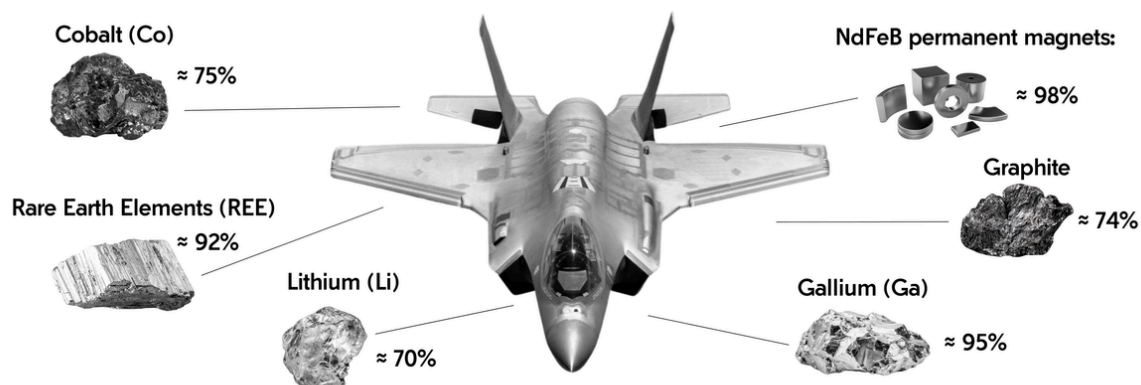
The U.S. strategic approach is centrally focused on securing supply chains against vulnerabilities created by a lack of diversity and capacity, particularly the dominance of certain countries, such as China, which can manipulate prices or restrict exports. The goal is to move from being a primary consumer and price-taker in a non-transparent market to being a supply maker in a transparent and resilient market.

Reshoring and Domestic Renaissance are key objectives, aiming to revitalize US critical mineral extraction, processing, and downstream manufacturing. The path to achieving this requires addressing significant domestic barriers, including complex permitting processes that currently lead to an average of nearly 29 years to build a greenfield mine in the United States. Actions proposed to foster this renaissance include accelerating federal financing via loans, equity, and grants; streamlining permitting and regulatory reviews to reduce costs and lead times by aligning data standards across federal, state, and local authorities; expanding primary exploration on federal lands by augmenting precompetitive geoscience data (like through the Earth Mapping Resources Initiative/Earth MRI) and using AI tools; and building the future mining workforce through tailored development and training programs that incorporate AI tools and best practices. Reshoring efforts also include accelerating the secondary processing of critical mineral byproducts associated with existing domestic production, such as gallium from aluminum refining or bismuth from copper/lead smelting, by providing catalytic grants and guaranteed offtake agreements.

### Dependence on China

Diversification from China is essential because the United States is 100% dependent on foreign suppliers for 12 critical minerals and over 50% import-reliant for another 29. China's dominance has allowed it to implement export restrictions on key elements like gallium, germanium, antimony, tungsten, indium, bismuth, tellurium, and molybdenum. The US strategy emphasizes strengthening international cooperation to secure reliable, sustainable supplies from diverse partners, including established producers like Canada and Australia, as well as countries in South America and Africa. Legislative proposals in the 119th Congress also specifically address combating US reliance on critical minerals and Rare Earth Elements (REEs) from China and other covered countries. The successful implementation of a critical minerals action plan is projected to reduce imports from China and accelerate both domestic production and imports from allied nations.

## New Third Way - 2026



*F-35 Multirole Fighter Jet CRM Case Study  
Dependency on Chinese Processing (IEA)*

The graphic highlights the deep interconnection between advanced military capabilities and global critical mineral supply chains, using the F-35 fighter jet as a case study. It shows that a significant portion of the materials essential for modern defense technologies, such as cobalt, lithium, rare earth elements, and graphite, are heavily processed in China. In several cases, China's share exceeds 90%, particularly in rare earth elements (≈92%), gallium (≈95%), and NdFeB permanent magnets (≈98%), which are crucial for high-performance electronics, sensors, and propulsion systems. This concentration underscores a structural dependency embedded within even the most advanced American defense platform.

From a technological standpoint, these materials are not easily substitutable. Rare earth elements and NdFeB magnets are essential for radar systems, electric motors, and precision-guided weaponry. Gallium is critical for semiconductors used in advanced avionics, while lithium and cobalt play key roles in energy storage systems. The dominance of a single country in processing these inputs introduces a systemic vulnerability: even if raw materials are mined elsewhere, the refining and processing bottleneck remains geographically concentrated. This creates a chokepoint that could be leveraged in times of geopolitical tension.

Strategically, the visualization illustrates why critical raw materials have become a central issue in national security and industrial policy debates across the United States and Europe. The reliance on Chinese processing capacity raises concerns about supply chain resilience, especially in scenarios involving trade restrictions or conflict escalation. As a result, Western governments are increasingly pursuing diversification strategies, including domestic processing capabilities, partnerships with allied countries, and stockpiling initiatives.

## New Third Way - 2026

The Creation of Strategic Reserves is a vital risk mitigation tool. Federal policy supports enhanced stockpiling as an opportunity to reduce supply chain risks. The National Defense Stockpile (NDS) is designed to meet military, industrial, and essential civilian needs during a national emergency. However, the current NDS reserve levels are low, estimated to meet only about 38% of military needs and less than 10% of essential civilian needs in a conflict scenario. The strategy proposes significant future investments to expand the NDS, bringing reserves up to necessary levels to promote domestic supply security and stabilize the market during disruptions. The Department of Defense (DOD) is directed to lead collaboration with the private sector to determine appropriate reserve levels based on near-term demand and criticality for defense and civilian applications.

A highly effective positive governance case illustrating principles of environmental integrity and securing a social licence to operate is the Sibanye Stillwater Good Neighbour Agreement (GNA) in Montana, US. The Good Neighbor Agreement was signed in 2000 by Stillwater (now Sibanye-Stillwater's Montana, US PGM operations) and three local organizations: the Northern Plains Resource Council, the Stillwater Protective Association, and the Cottonwood Resource Council.<sup>8</sup> This agreement is highly significant because it is a legally binding contract that sets a framework for protecting the natural environment while simultaneously encouraging responsible economic development. It obligates Sibanye-Stillwater to a standard of conduct and commitment that is higher than what is required by federal and state regulatory processes.

The genesis of the GNA arose in the mid-1990s when the Stillwater mine was planning a new tailings facility downstream from the operation, and the East Boulder Mine was seeking operating permits. The exploratory work related to these projects prompted residents to seek litigation. Recognizing that litigation would be arduous and costly, the residents initiated negotiations with the mine to address their concerns, which ultimately laid the foundation for a constructive relationship and resulted in the GNA.

The GNA mandates transparent and productive interaction with all affected stakeholders and acts as the vehicle for dispute resolution and positive stakeholder engagement. Over the years, the GNA has evolved, becoming a "living collaborative document" that the parties are willing to adapt as required.

## Structure and Participatory Governance

The operation of the GNA involves a formal structure that ensures ongoing oversight and dialogue:

1. **Good Neighbor Oversight Committees:** Each of Sibanye-Stillwater's mine sites in the US hosts a Good Neighbor Oversight Committee that meets formally and with minutes three times per year.
2. **Working Groups:** In addition to the main committees, groups such as the Technology Committee and other specialized working groups meet as needed. For example, a working group focused specifically on water quality communicates at least weekly to address ongoing projects.
3. **Stakeholder Empowerment through Expertise:** A cornerstone of the GNA's success is its commitment to transparency and empowering the citizen organizations. The agreement funds mining and water experts who advise the local groups. This financial support enables the citizens' organizations to understand Sibanye-Stillwater's US operations in sufficient detail to accurately assess environmental and social impacts, as well as the supporting science and technology.

This high level of understanding allows the citizen groups to provide feedback on permitting and mine planning in advance of formal public comment periods. This proactive engagement allows permitting strategies to be adjusted to address neighbors' concerns where necessary, which, in turn, reduces permitting delays and largely eliminates negativity during formal public comment periods.

The GNA specifically focuses on key areas of environmental and social impact. First one is the Dispute Resolution and Litigation Avoidance. A significant achievement reported in 2022 was that in the 22 years of the GNA's existence, there has been no arbitration and no environmental litigation. Also, there is a water quality standards. The GNA Councils and Sibanye-Stillwater collaborate on water management activities through an Adaptive Management Plan (AMP). The AMP defines and tracks water quality metrics, often setting requirements that are generally more protective than existing state and federal regulatory standards. Crucially, the AMP allows for mitigation activities to be triggered even when water contaminant levels are well below state and federal regulatory trigger limits, providing a proactive method for addressing potentially impacted areas.

## New Third Way - 2026

There are also Tailings Storage Facilities (TSFs). The review of long-term TSF design and siting alternatives remains a focus of the GNA. For example, the design and permitting of new TSFs (Lewis Gulch TSF and Hertzler Stage 4/5) and the construction of Stage 6 of the East Boulder tailings facility continued in collaboration with stakeholders. Emergency planning exercises related to TSFs are conducted annually in partnership with local emergency response authorities, the GNA Councils, regulatory agencies, and local communities. The GNA facilitates a smoother process given the local community's interest in the full life-cycle of the TSFs, including design, construction, operation, and long-term closure.

The GNA includes guidelines for restricting traffic and improving traffic flow. Actions include consolidating commercial loads to reduce traffic to the Stillwater mine, erecting signage to encourage reduced travel speeds, and providing buses to encourage employee travel via organized transportation.

The governance structure of the Good Neighbor Agreement (GNA) is built to ensure continuous, informed engagement between Sibanye-Stillwater and local stakeholders. Through regularly convened oversight committees and specialized working groups, the model enables structured dialogue on operational and environmental issues. A key feature is the funding of independent technical experts who support citizen organizations, allowing them to engage with a high level of understanding. This transforms participation from reactive consultation into proactive collaboration, enabling stakeholders to provide input during early planning and permitting stages, which helps address concerns in advance and reduces friction in formal processes.

This approach is particularly visible in environmental and operational management. The Adaptive Management Plan (AMP) applies precautionary water quality standards that often exceed regulatory requirements, allowing early mitigation before risks escalate. Similarly, stakeholders are involved throughout the full lifecycle of Tailings Storage Facilities, including design, construction, and emergency planning. The GNA also addresses local impacts such as traffic, introducing measures to reduce congestion and improve safety. Over more than two decades, this structured and transparent model has resulted in the absence of arbitration or environmental litigation, demonstrating its effectiveness in aligning industrial operations with community expectations.

## **Instruments: Energy Transition Partnership, Minerals Security Partnership (MSP)**

Several instruments are central to implementing the US strategy, particularly concerning international engagement and supply chain security. The Mineral Security Partnership (MSP) is a major international initiative specifically created to address global vulnerabilities in critical mineral supply chains, primarily through diversification of supply and accelerated project development among allied nations.<sup>9</sup> Formed in June 2022, the MSP acts as a multilateral mechanism designed to foster collective action and cooperation between industry and government entities to secure the supply of critical minerals.

The membership of the MSP comprises numerous allied countries and organizations, including the governments of the United States, Australia, Canada, Estonia, Finland, France, Germany, India, Italy, Japan, Norway, the Republic of Korea, Sweden, and the United Kingdom, alongside the European Union (represented by the European Commission). This extensive network is instrumental in coordinating efforts to mitigate geopolitical risks associated with critical mineral reliance on a small number of foreign suppliers, which have historically engaged in market manipulation and export restrictions.

The functional scope of the MSP spans the entire critical mineral value chain, encompassing extraction, processing, and recycling. As a tangible measure of its operation, by September 2024, the MSP had formally supported 32 projects across these categories. These projects include 19 upstreaming mineral and mining extraction projects, 15 midstream processing projects, and three recycling and recovery projects. This transaction-driven focus is intended to encourage investment throughout the value chain by reputable mining companies.

To facilitate broader engagement and financing, the MSP has expanded its coordination through specialized networks, including the MSP Finance Network, which brings together the development finance institutions and export credit agencies of its member countries. Furthermore, the establishment of the MSPforum actively works to strengthen the MSP's relationship with key stakeholder countries, such as the Democratic Republic of Congo, Zambia, the Philippines, and Ecuador, thereby widening the partnership's global reach and influence.

## New Third Way - 2026

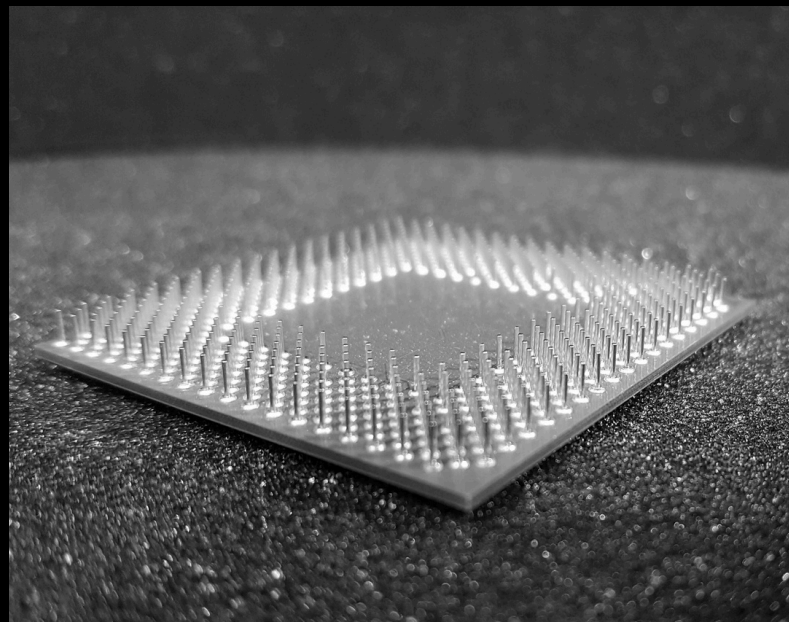
Within the US strategic framework, the MSP is integral to advancing the objective of expanding access to critical mineral reserves and processing capacity abroad, supplementing domestic revitalization efforts. US government policy aims to leverage the MSP to identify, prioritize, and support strategic critical minerals projects in allied countries that are positioned to serve the US market.

One proposed mechanism for increasing the effectiveness and centralized management of the initiative is through the oversight of a nominated "critical minerals czar," with the US government potentially serving as a secretariat. The objective is to put into operation existing arrangements like the MSP as a transaction-driven public-private partnership body to more closely align the policy, funding, technical assistance, and diplomatic tools of the United States and its allies with the resources and expertise of private sector firms, enhancing the flow of quality projects.

The ETP functions as a dynamic partnership of government and philanthropic partners, utilizing a pooled fund structure designed to leverage the shared climate objectives of multiple stakeholders to produce tangible and impactful results. Core government funders include the French Development Agency (AFD), the German Federal Ministry for Economic Affairs and Climate Action, the UK Department for Energy Security and Net Zero, Environment and Climate Change Canada, and the Australian Department of Climate Change, Energy, the Environment and Water. The core partner countries are Indonesia, the Philippines, and Vietnam.

## Pax Silica: A New Framework for Critical Minerals Security

Pax Silica is an emerging strategic framework, taking shape in the early 2020s, through which the United States and its allies coordinate efforts to secure supply chains for critical minerals used in semiconductors, batteries, and clean energy. While not a formal agreement, it reflects growing alignment in industrial and security policy, driven by initiatives like the CHIPS and Science Act. Its main goal is to reduce dependence on China by strengthening domestic production and cooperation with allied countries, positioning critical minerals as a key pillar of economic resilience and national security.



## New Third Way - 2026

The work of the ETP is structured around four strategic outcome areas supported by an underpinning objective of knowledge and awareness building:

1. **Policy Alignment with Climate Commitments:** This involves assisting governments in developing and implementing clear, consistent regulatory frameworks that support sustainable energy practices, aiming to pave the way for tripling renewable energy capacity and doubling energy efficiency measures.
2. **De-risking Investments:** ETP works to bridge the gap between renewable energy and energy efficiency investments and financial institutions, making projects more attractive for investors to unlock large-scale funding for these initiatives and for fossil fuel phase-down.
3. **Sustainable and Resilient Infrastructure:** The partnership supports the development of robust energy infrastructure by focusing on incorporating smart grids and innovative technologies. This includes improving national smart grid systems, reducing constraints on existing renewable energy, and enhancing cross-border power trade and interconnections to ensure long-term energy security. Regional initiatives, such as the ASEAN Power Grid Advancement Program (APG-AP), which is co-funded by the European Union, address cross-border power trade with increased renewable energy penetrations.
4. **Just Transition:** ETP actively promotes an equitable and inclusive energy transition by ensuring that social, economic, and environmental considerations guide the shift toward a green economy. Support is provided through dialogue, inclusive planning, capacity building, and access to finance.

The Trump administration officially exited the partnerships with South Africa, Indonesia, and Vietnam in March 2025, halting U.S. financial pledges and canceling planned grant projects, citing a re-prioritization of national interests. The withdrawal impacts over \$3 billion in U.S. commitments to Vietnam and Indonesia, along with commitments to South Africa, affecting efforts to accelerate coal retirement. Planned projects funded by the U.S. have been cancelled, though other partners like Germany and Japan have moved to fill the leadership vacuum, particularly in Indonesia. Given the U.S. withdrawal and somewhat laggard progress, it is reasonable to doubt that the once promising model will be able to achieve its ambitions, at least with the Republican administration in power.

## **Increasing Importance of CRM in U.S. Policymaking and Its Significance for the Western Balkans**

The United States views critical mineral supply as a matter of strategic industrial and national security interest. This shift creates a unique opening for the Western Balkans to align local mineral potential with U.S. investment incentives and demand for secure supply. Countries in the region that host deposits of nickel, copper, cobalt, lithium, or rare-earth-bearing ores may benefit from U.S. interest in diversifying supply chains.

Through public-private partnerships and DPA-enabled financing, Western Balkan partners could receive technical assistance and investment to build refining plants, magnet manufacturing, or battery-materials processing facilities relevant for American national security . These investments would raise the value added in the region and reduce dependency on raw-export models. Such cooperation could also help Balkan nations upgrade their industrial base, retain more economic value domestically, and accelerate a shift toward higher-tech manufacturing sectors.

In this context, deeper integration into U.S.-aligned value chains under the emerging Pax Silica framework would position the Western Balkans not just as resource providers, but as strategic nodes in a broader security architecture. By linking regional extraction and processing capacities with American defence, semiconductor, and clean energy industries, these countries could become part of trusted supply networks designed to reduce systemic vulnerabilities to geopolitical rivals. This alignment would also increase the strategic relevance of the region in U.S. foreign policy, as secure access to critical materials becomes inseparable from national security planning. Over time, participation in such value chains could anchor long-term partnerships, ensuring that the Western Balkans are embedded within a resilient, West-oriented industrial and technological ecosystem.

## Japan: Evolution of Supply Chain Strategies

Japan's approach to critical minerals is fundamentally driven by its need to overcome limited domestic mineral resources and safeguard its economic security against global supply chain vulnerabilities, particularly challenging China's dominance in production. This comprehensive strategy relies heavily on institutional support, ambitious policy goals centered on diversification and technological superiority, and robust international partnerships.

The institutional framework supporting Japan's critical minerals policy is anchored by the Japan Organization for Metals and Energy Security (JOGMEC)<sup>10</sup>, operating under the direction of the Ministry of Economy, Trade, and Industry (METI). JOGMEC was established on February 29, 2004, through the integration of the functions of the former Japan National Oil Corporation and the former Metal Mining Agency of Japan. Its overarching mission is to promote a wide range of projects aimed at securing a stable supply of mineral and energy resources for Japan, alongside achieving carbon neutrality.

JOGMEC's functions cover the entire mineral supply chain, including conducting geological surveys, providing financial support (often referred to as "risk money"), developing technology, providing resource information, and engaging in resource diplomacy and international cooperation. Financial tools deployed by JOGMEC include exploration loans, equity investments, and liability guarantees. For high-risk minerals essential for batteries (rare-earth elements, cobalt, lithium, nickel, and platinum group metals), JOGMEC can provide equity capital up to a maximum of 75% for exploration, development, and production projects.

METI, on the other hand, plays a key role in policy implementation and resource allocation.<sup>11</sup> Following the enactment of the Economic Security Promotion Act (ESPA) in May 2022, METI designated specific core metal minerals, including the five major electric vehicle (EV) battery minerals, rare earths, gallium, germanium, and uranium, as critical minerals. METI allocated 105.8 billion yen in government subsidies to JOGMEC specifically for the Critical Minerals Government-subsidized Project to strengthen supply chains. METI is also responsible for maintaining the rare metal stockpile system, although, since 2021, it has chosen not to disclose detailed information regarding target days and actual stockpiles, citing economic security concerns.

## New Third Way - 2026

Japan's primary policy goal is ensuring the long-term stability and resilience of its supply chains for critical minerals, which are crucial for economic resilience and national security. To achieve this stability, policy focuses on strategic investment, innovation, and recycling. Investment strategies prioritize reducing dependence on specific producing countries by actively funding overseas exploration and development. JOGMEC works to reduce resource-investment risk by increasing its investment ratio in exploration, development, and production projects for critical minerals. This financial assistance supports Japanese companies through all stages of the supply chain, from initial exploration and feasibility studies to mine development and refining. The intent is to secure potential resources by organizing new exploration projects focused on rare-earth elements, nickel, and cobalt, all contributing to carbon neutrality and economic security. However, despite efforts since the mid-2000s, Japan's self-sufficiency rate for basic metal resources (copper, lead, zinc, tin) has remained below 50% in the 2020s, highlighting the ongoing challenge in securing material autonomy.

Innovation is a cornerstone of Japan's strategy, particularly given its historical advantage in downstream processing. Japan has made significant advances in smelter technology, holding the second-highest copper-smelting capacity globally. JOGMEC promotes the development of lower-cost and more efficient production technology to strengthen the supply chain for crucial minerals that rely heavily on specific producing countries. Current technological projects include a collaboration with the Queensland State Government of Australia to conduct a cobalt recovery project from copper tailings, and research into rare earth separation using emulsion flow technology.

Japan has been a global leader in "urban mining" for nearly two decades, recycling CRM from urban waste. This process is strategically important as it reduces import dependency and is recognized as being less environmentally damaging than conventional mining due to lower carbon emissions from smelting recycled materials. Japan's urban mining of metals such as indium, tin, and tantalum is estimated to account for 10% or more of the world's metal reserves. Current recycling efforts are focused on EV battery materials. JOGMEC supports the development of efficient and economical technology for recovering high-purity lithium from used lithium-ion batteries. Furthermore, the Japanese government plans to propose an amendment to the Resource Effective Utilization Promotion Act (3R Act)<sup>12</sup> in 2025 to legislate the mandatory recovery and reuse of rare metals. However, the effectiveness of recycling policies has been challenged by the current lack of domestic recycling facilities and technology.

## Key Japanese Partnerships - Case Studies

Japan utilizes resource diplomacy and multilateral frameworks, such as the U.S.-led Minerals Security Partnership (MSP), to strengthen ties and secure interests with resource-rich and like-minded countries.

- **Australia:** Australia is a priority country for resource diplomacy regarding CRM. Collaboration includes technology development, such as the cobalt recovery project from copper tailings involving the Queensland State Government.<sup>13</sup> Financial support has been extended through JOGMEC, including equity support for the Lynas Rare Earths Project (to diversify rare earth element supply) and support for a joint venture between Japanese firms and Australian mining company Ardea Resources for nickel and cobalt exploration at the Gungahrie Hub mine.
- **Indonesia:** Indonesia is a top global producer of nickel, accounting for an estimated 59% of global production in 2024, making it a priority country for Japanese resource diplomacy. However, Japan has faced instability risk from Indonesia's resource nationalism (e.g., nickel export restrictions in 2017). Japan's current trade agreements with Indonesia do not prevent the restriction or banning of metal mineral exports, posing a challenge to stability.
- **Democratic Republic of Congo (DRC):** The DRC is the world's leading cobalt producer. JOGMEC signed an MOU with Gecemines, the DRC's state-owned mining company, in February 2024 to support the development of the Lobito Corridor (copper cathode, cobalt hydroxide). The DRC is a priority country for cobalt resource diplomacy.
- **South Africa:** South Africa is a key producer of manganese. JOGMEC has provided equity support for various projects, including the Samancor chromium production and the Waterberg exploration for Platinum Group Metals (PGM), Nickel, and Copper.
- **Zambia and Namibia:** Japan has ongoing resource diplomacy with Zambia, including a bilateral investment treaty (BIT) agreed upon in December 2024. JOGMEC is involved in joint venture exploration projects in Zambia (Pangeni for Cobalt, Copper) and Namibia (Lofdal for Rare Earth, Damara Belt for Copper). Japan also engages in extensive human resource development across 16 countries in Southern Africa, centered around the Botswana Geologic Remote Sensing Centre, training thousands in remote sensing technology for geological analysis.

## Models for Recycling Infrastructure, Battery Materials, and Sustainable Processing

Japan can serve as a strategically valuable partner for the Western Balkans in accelerating the development of a modern critical raw materials sector that aligns with global sustainability standards. Japan can support efforts to develop recycling infrastructure, battery materials capacity, and sustainable processing in ways that reduce dependence on primary extraction while promoting higher value retention and environmental protection. Japan's public metallurgy and resource agency explicitly supports technology development and metal recycling for minerals central to the energy transition, which makes cooperation on regional recycling hubs technically credible and financeable.

For the Western Balkans, recycling projects could be anchored in locations that already have industrial handling capacity and logistics links, such as the Bor region in eastern Serbia, where copper processing infrastructure exists and where recovered copper and associated metals could be processed to produce recycled feedstocks for regional smelters and fabricators. Japan's administrative cooperation on critical raw materials with the European Commission provides a formal channel for technical exchange on recycling standards and circularity frameworks that could be applied to Western Balkan facilities. Lithium and battery-relevant minerals in the region, most notably the Jadar area in western Serbia, represent opportunities for Japan to help develop midstream processing and precursor production inside the Balkans rather than exporting raw concentrates. Such midstream projects would increase local value added and could be supported by long-term purchase agreements or co-investment models that Japan has used elsewhere. Copper and polymetallic operations that exist in North Macedonia at Bucim and nickel and copper prospects around Gllavica in Kosovo could also be integrated into regional recycling and refining networks that feed battery and electronic supply chains.

Japan's capacity to finance, to transfer metallurgical know-how and to condition support on high governance and environmental standards would make these site-specific initiatives more likely to meet European market requirements and investor expectations

## Norwegian CRM Strategy

Norway's national approach to mineral resource management is codified within the framework of the Norwegian Mineral Strategy (2023)<sup>14</sup>, which sets the overarching ambition for Norway to develop the world's most sustainable mineral industry. This comprehensive strategy addresses challenges related to accessing raw materials and is designed to facilitate increased profitability and sustainability in the land-based extraction of critical metals and minerals. The Government aims to accelerate projects involving strategic and critical metals and minerals by introducing a "fast track system" and prioritizing those with the least environmental impact.

The strategy is structured around five principal areas of focus:

1. Accelerating the realization of Norwegian mineral projects.
2. Ensuring the Norwegian mineral industry contributes to the circular economy.
3. Enhancing the sustainability of the Norwegian mineral industry.
4. Ensuring Norwegian mineral projects have good access to private capital.
5. Establishing Norway as a stable supplier of raw materials for green value chains.

Regarding environmental integrity, the goal is to reduce negative consequences to a minimum through sustainable, responsible operations. The framework requires that considerations of climate footprint, waste management, and environmental impact be sufficiently addressed. Priority is given to projects that reduce land use, ensure maximum resource utilization, and minimize greenhouse gas emissions.

Norway also aims for all new major projects to utilize zero-emission machinery and vehicles by 2030. From a governance perspective, transparency is key, particularly concerning ownership and contracts, which are seen as crucial for securing raw material supply and combating corruption. Transparent processes are supported by designating the Directorate of Mining (DMF) as the "national competent authority" or "one stop shop" for coordinating permits and application processing for critical and strategic mineral projects, aiming to streamline procedures.

## New Third Way - 2026

Securing a social licence to operate is integral to the Norwegian approach, as social sustainability is considered essential for local willingness to accept and facilitate mining activities. Maintaining a good relationship with local authorities, landowners, local communities, Sami interests, and rights holders is crucial. The strategy prioritizes social sustainability, especially concerning the interests of the indigenous Sami community. Measures include facilitating early and regular dialogue between project promoters and affected parties, especially Sami rights holders, noting that mineral activities in traditional Sami areas require compliance with human rights and consultation obligations under the Sami Act. The government also committed to considering how the Minerals Act might provide for an indigenous compensation scheme for extraction in traditional Sami areas. To enhance participation and predictability, the Government plans to establish a "mineral compass" tool to provide stakeholders with better information about potential conflicts of interest, such as those related to nature or cultural heritage.

Additionally, the Geological Survey of Norway (NGU) plays a significant role in this process. NGU's primary role is to assess and document Norway's mineral resource potential through systematic geological, geophysical, and geochemical mapping.<sup>15</sup> NGU's mission under the 2023 mineral strategy is specifically to make data accessible and facilitate exploration, prioritizing mapping areas with critical mineral potential. NGU provides the foundational knowledge and data required for commercial targeting and risk reduction. Furthermore, NGU is commissioned to implement the United Nations Framework Classification (UNFC) standard in its national resource databases, which will provide a robust, strategic knowledge base covering geological, social, and economic conditions for known deposits.

In parallel, Enova operates as a critical public policy instrument focused on translating sustainability ambitions into operational reality, primarily through financial mechanisms related to energy and climate.<sup>16</sup> Enova is structured to support the energy and climate objectives of the Mineral Strategy by offering funding for initiatives that contribute directly to reducing greenhouse gas emissions and promoting energy efficiency within the industrial and critical minerals sectors. This role is essential for supporting the government's ambitious targets, such as the aim for all new major mineral projects to utilize zero-emission machinery and vehicles by 2030. Enova, alongside other agencies like the Norwegian Research Council and Innovation Norway, provides a broad set of public funding instruments, including grants, loans, and guarantees, which are vital for companies needing financial support to foster research, innovation, and the transition to a green economy.

## New Third Way - 2026

Innovation Norway in particular offers financial backing, including grants, loans, and guarantees, specifically aimed at innovation and development projects to foster growth and competitiveness within Norwegian businesses.<sup>17</sup> Innovation Norway also plays a role in fostering Nordic cooperation on raw materials access.

A key lesson derived from the Norwegian strategy is the strong integration of mining policy within a circular economy framework. The ambition is for the mineral industry to minimize the need for disposal sites by contributing to a more circular economy and maximizing resource utilization. This framework includes several specific requirements and initiatives:

- New mineral projects are mandated to present a circular business plan designed to reduce the volume of disposed material and increase overall resource utilization.
- The project promoter must document the need for extracting virgin resources by demonstrating that demand cannot be met solely by the recovery of previously extracted materials.
- There is increased focus on mapping and characterizing existing tailing dams and landfills (secondary resources) in Norway, as these sites may contain recoverable metals using modern technology.
- The Government aims to minimize extractive waste, requiring that disposal be avoided if commercial exploitation of the material as side streams is technically and economically feasible.

## Norway's Strategic Role in Clean REE Supply

Norway could play a key role in securing rare earth element (REE) supply for the West by combining geological potential with strict environmental standards. While REE production is often highly polluting, Norway's demanding legislation ensures cleaner and more sustainable extraction, making it politically viable for Europe and its allies. Though unlikely to match China in scale, Norway could become a crucial "clean supply" alternative within Western efforts to diversify and secure critical mineral value chains.



## Norwegian Significance for the Western Balkans

Norway offers a highly relevant reference point for the Western Balkans in the pursuit of a critical minerals strategy that prioritizes environmental integrity, circularity and public legitimacy. The Norwegian approach frames mineral development as part of a broader circular economy transition, where materials are kept at their highest utility for as long as possible and where extraction is viewed as a complement rather than an alternative to recycling. This policy orientation recognizes that mining can only serve long-term national and regional interests if it minimizes ecological degradation and maximizes value creation within the domestic industry. Western Balkan governments facing strong public concern over the environmental consequences of new projects could benefit from adopting Norway's comprehensive planning methods, which require early-stage integration of resource extraction with waste reduction, reuse systems, and downstream industrial development.

Norway's governance model places significant emphasis on transparent and inclusive decision-making, particularly in sectors that involve natural resource exploitation. The country's experience demonstrates that mining projects gain legitimacy when local communities, civil society groups, and regional authorities participate in consultations that influence operational standards and long-term land use outcomes. The Western Balkans often experiences social resistance to mining ventures due to historical pollution, economic displacement, and distrust of both state and foreign investors. Norwegian practices provide a framework for strengthening procedural fairness, developing structured public engagement, and ensuring that affected populations benefit materially from resource utilization.

Norway's long record of managing natural resource revenues in a way that prioritizes long-term public welfare rather than short-term fiscal gains also offers valuable lessons. The Norwegian model has helped transform finite resource wealth into sustainable economic benefits through reinvestment in innovation, infrastructure and social programs. Western Balkan countries can draw from this approach by structuring critical mineral revenues so that they support industrial modernization and regional development rather than reinforcing dependence on raw material exports. This type of economic governance improves resilience and supports broader European integration goals.

## Section References

1. <https://www.gov.uk/government/publications/uk-critical-minerals-strategy>
2. <https://www.bgs.ac.uk/mineralsuk/news/uk-critical-minerals-intelligence-centre-cmic/>
3. <https://www.chathamhouse.org/2025/11/uks-new-critical-minerals-strategy-ambitious-step-forward-now-it-needs-champion>
4. <https://www.congress.gov/crs-product/R47982>
5. <https://www.war.gov/News/Releases/Release/Article/2989973/defense-production-act-title-iii-presidential-determination-for-critical-material/>
6. <https://public-inspection.federalregister.gov/2025-05212.pdf?1742820318>
7. <https://www.energy.gov/lpo/inflation-reduction-act-2022>
8. <https://reports.sibanyestillwater.com/2022/download/ssw-FS22-good-neighbor-agreement.pdf>
9. <https://www.state.gov/minerals-security-partnership>
10. <https://www.jogmec.go.jp/english/about/about001.html>
11. <https://www.meti.go.jp/press/2023/04/20230417004/20230417004-5.pdf>
12. <https://www.env.go.jp/content/900452886.pdf>
13. <https://www.iea.org/policies/18081-australia-japan-critical-minerals-partnership>
14. [https://www.regjeringen.no/contentassets/1614eb7b10cd4a7cb58fa6245159a547/norges-mineralstrategi\\_engelsk\\_uu.pdf](https://www.regjeringen.no/contentassets/1614eb7b10cd4a7cb58fa6245159a547/norges-mineralstrategi_engelsk_uu.pdf)
15. <https://www.ngu.no/en>
16. <https://www.regjeringen.no/en/dep/kld/organisation/selskaper/enova/id2599611/>
17. <https://en.innovasjon Norge.no/>
18. <https://novamakedonija.com.mk/makedonija/manu-prezentirashe-predlog-strategija-za-geoloshki-istrazhuvanja-vo-ministerstvoto-za-energetika/>

# Implementation Realities: Lessons from CRM Projects in Developing Economies and Community Engagement Dynamics

## Introduction

The previous sections have outlined how the European Union and other advanced economies are structuring their critical raw materials (CRM) strategies through regulatory alignment, industrial policy, and international partnerships. However, beyond frameworks and strategies, the ultimate test of these approaches lies in their real-world implementation, particularly in developing and resource-rich regions where projects interact directly with local communities, governance systems, and environmental constraints. This final section therefore shifts the focus from policy design to practical outcomes, examining how CRM-related projects have succeeded or failed in comparable contexts.

A central insight emerging from both EU-oriented and broader Western strategies is that technical feasibility and financial viability alone are insufficient to ensure project success. Instead, outcomes are increasingly determined by the ability to secure and maintain a “social licence to operate,” which depends on trust, transparency, and credible environmental governance. In many developing economies, where institutional capacity is uneven and public skepticism toward extractive industries is high, the relationship between investors, governments, and local communities becomes a decisive factor. Projects that fail to address these dimensions often face delays, protests, or outright cancellation, regardless of their strategic importance.

At the same time, there are notable examples where this relationship has been successfully managed, offering replicable models for the Western Balkans. These cases typically involve early-stage community engagement, continuous dialogue, and the institutionalization of stakeholder participation through formal mechanisms. Rather than treating local populations as passive recipients of economic benefits, successful projects integrate them as active participants in monitoring, decision-making, and benefit-sharing. This approach not only reduces conflict but also improves regulatory predictability and long-term project stability.

## New Third Way - 2026

Conversely, unsuccessful cases often reveal a consistent pattern of governance failures: opaque permitting processes, weak enforcement of environmental standards, inadequate communication, and the perception that economic benefits are unevenly distributed. In such contexts, even projects aligned with global decarbonization goals can be perceived as externally imposed or extractive, reinforcing resistance rather than cooperation. These dynamics are particularly relevant for the Western Balkans, where similar structural challenges, identified in previous chapters, create comparable risk profiles.

Importantly, the experience of countries such as the United States, the United Kingdom, and other OECD economies demonstrates that these challenges are not confined to developing regions, but can be addressed through institutional innovation. Mechanisms such as binding community agreements, independent monitoring bodies, and transparent ESG reporting frameworks have proven effective in bridging the gap between industrial development and social acceptance. These instruments offer practical lessons on how to operationalize high-level strategic goals in a way that is both economically viable and socially sustainable.

Building on these observations, the following analysis examines selected case studies from developing and resource-rich economies, focusing on both successful and unsuccessful project outcomes. The objective is to extract concrete lessons for the Western Balkans, particularly in the areas of governance design, community engagement, and ESG implementation. In doing so, this section complements the earlier policy-focused analysis by grounding it in empirical experience, highlighting that the future integration of the region into global CRM value chains will depend as much on institutional credibility and local legitimacy as on resource potential and strategic alignment.

# Positive Examples and Main Achievements

## Case Study 1: Greenbushes Lithium Mine (Australia)

The Greenbushes Lithium Mine, located approximately 250 km south of Perth in Western Australia, has been in continuous operation in various forms since 1888, originally producing tin and tantalum before transitioning to commercial lithium production in the 1980s.<sup>1</sup> Today, Greenbushes is widely regarded as the world's largest and highest-grade hard-rock lithium deposit, with ore grades averaging between 2.0% and 3.5% Li<sub>2</sub>O, far above the global industry standard of 1.0–1.2%.<sup>2</sup> The mine is owned by Talison Lithium Pty Ltd, which is a joint venture by Tianqi Lithium Energy Australia (TLEA) and Albemarle Corporation.<sup>3</sup>

By 2023–2024, Greenbushes was supplying an estimated 1.4–1.5 million tonnes of spodumene concentrate annually, representing approximately 35–40% of global hard-rock supply.<sup>4</sup> This volume feeds lithium hydroxide refineries in Kwinana (Tianqi), Kemerton (Albemarle), and multiple major processing hubs in China and South Korea.<sup>5</sup> Such scale means that even minor operational disruptions at Greenbushes can influence global lithium prices, as observed during production expansions in 2018 and operational bottlenecks in 2022, which corresponded to significant market volatility.<sup>6,7</sup>

The mine's strategic importance has intensified in the context of the EU Battery Regulation (adopted 2023, phased 2024–2028)<sup>8</sup> and the US Inflation Reduction Act (2022)<sup>9</sup>, both of which require traceable, low-carbon, ethically sourced minerals. At the same time, global original equipment manufacturers (OEMs) increasingly favor suppliers able to demonstrate transparent ESG performance from the mine site onward. Greenbushes, anticipating these trends, has positioned itself as a global ESG leader through voluntary participation in advanced sustainability assurance systems, making it a model for emerging producers across Africa, Asia, and Latin America.

## New Third Way - 2026

Greenbushes benefits from Western Australia's mature mining governance framework, which has evolved significantly since the Mining Act of 1978 and has since incorporated increasingly stringent environmental, safety, and cultural-heritage safeguards.<sup>10</sup> EPA environmental assessments for Greenbushes expansions were conducted in 2010, 2019, and 2022, each requiring detailed hydrological modelling, biodiversity surveys, and public consultation.<sup>11</sup>

The Department of Mines, Industry Regulation and Safety (DMIRS) maintains strict oversight, including five-yearly revisions of mandatory Mine Closure Plans.<sup>12</sup> The Department of Water and Environmental Regulation (DWER) regulates groundwater extraction, with the mine licensed to abstract approximately **3.5–4.0 gigalitres per year**, subject to continuous monitoring and annual reporting.<sup>13</sup>

Cultural-heritage obligations have tightened especially after the national reforms following the Juukan Gorge incident in 2020, reinforcing consultation requirements with the Traditional Owners of the region.<sup>14</sup> This incident refers to the destruction of two ancient Aboriginal rock shelters, which showed evidence of continuous human occupation for 46,000 years, by mining giant Rio Tinto on May 24, 2020. The destruction, carried out for an iron ore mine expansion, was technically legal under existing Western Australian law but caused immense grief to the land's Traditional Owners and sparked international outrage.<sup>15</sup> In the aftermath, the original Aboriginal Heritage Act 1972 was reinstated with several critical amendments in November 2023, directly addressing loopholes exposed by the Juukan Gorge tragedy.<sup>16</sup>

A critical amendment requires a landowner or consent holder (like a mining company) to notify the Minister for Aboriginal Affairs if they become aware of new information about an Aboriginal site after a Section 18 consent has been granted. The Minister must then reconsider the consent in light of this new information, which can lead to the consent being amended or revoked. This prevents a situation where valuable sites are destroyed despite new evidence of their significance.<sup>17</sup>

## ESG Assurance: The IRMA Audit Commitment

In 2022, Greenbushes became the first mine in Australia to publicly commit to an audit under the Initiative for Responsible Mining Assurance (IRMA).<sup>18</sup> The IRMA Standard, first released in 2018, represents the most comprehensive global mining assurance system, with over 400 detailed indicators covering social dialogue, Indigenous rights, biodiversity, water, tailings, labor standards, and closure planning.<sup>19</sup>

The IRMA audit process typically spans 18–24 months, involving stakeholder interviews, document reviews, site inspections, and independent scoring. IRMA is preferred by major automotive manufacturers, including BMW, Mercedes-Benz, and Ford, because it aligns closely with OECD Due Diligence Guidance (2016)<sup>20</sup>, IFC Performance Standards (2012)<sup>21</sup>, and EU due-diligence frameworks emerging from 2023–2024.<sup>22</sup> For Greenbushes, the IRMA commitment serves multiple strategic functions. It supports market access to regions with tightening sourcing rules, it mitigates long-term regulatory risks, it enhances credibility among investors and it strengthens relationships with local communities through structured transparency. In an industry where less than 5% of global mines have attempted IRMA alignment, Greenbushes distinguishes itself as an early adopter of high-assurance sustainability governance.<sup>23</sup>

Water management at Greenbushes is built on hydrogeological modelling developed since the 1990s, updated repeatedly to reflect deeper expansions undertaken in 2012, 2019, and 2023. The mine operates a dense groundwater monitoring network of more than 70 bores, generating continuous data on aquifer behaviour. Independent hydrological reviews commissioned during the 2019 expansion confirmed that groundwater drawdown impacts were within the modeled risk envelope, averaging 1–3 metres in proximal zones.<sup>24,25</sup> Water recycling systems now allow the mine to reuse a significant portion of its process water, estimated at 40–50%, reducing pressure on regional freshwater sources. Stormwater and runoff controls prevent sedimentation in local tributaries of the Blackwood River, a system subject to periodic EPA audits. Annual water-quality reporting provides transparency to both regulators and local communities.<sup>26</sup>

## New Third Way - 2026

Greenbushes sits in a region characterized by Jarrah–Marri forests, with biodiversity surveys historically conducted in **2009, 2015, and 2021**. These surveys identify species-at-risk, map habitat corridors, and provide baselines for rehabilitation strategies. Offset programs associated with the 2019 and 2023 expansions include conservation of large tracts of equivalent or superior ecological value, ensuring no net loss where avoidance is not possible. Long-term ecological monitoring plots track vegetation recovery, fauna return, and soil health over multi-year cycles.<sup>27 28</sup>

Tailings storage facilities at Greenbushes are designed under Western Australia’s post-2017 regulatory standards, which strengthened requirements following several international failures. Geotechnical assessments indicate compliance with best-practice containment principles.<sup>29 30</sup> Independent site inspections occur annually, while full dam-safety reviews, based on ANCOLD (Australian National Committee on Large Dams) guidelines, are required every 5 years.<sup>31</sup>

Talison has evaluated dry-stack tailings options since 2020, with feasibility studies ongoing due to the operational complexities of large-scale lithium processing. Progressive rehabilitation of completed TSF cells reduces long-term exposure and aligns with the mine’s closure commitments.<sup>32 33</sup> Responding to emerging carbon-intensity disclosure requirements, Greenbushes has conducted multiple energy audits (notably in 2020 and 2023) to evaluate electrification pathways and renewable integration. Diesel consumption remains a significant emissions source, but the mine is studying electrified haulage, hybrid plant equipment, and potential solar-battery installations.<sup>34</sup> Modelling undertaken in 2023 suggested that transitioning 30–40% of the mining fleet to electric or hybrid systems could reduce emissions by 20–30 kilotonnes of CO<sub>2</sub>e annually, depending on the grid mix and battery performance. As lifecycle carbon footprints become mandatory for EV batteries entering the EU after 2027, these efforts will directly shape Greenbushes’ future market competitiveness.<sup>35</sup>

## New Third Way - 2026

The Stakeholder Reference Committee has been active in its current form since 2025, meeting quarterly with representatives from Bridgetown-Greenbushes, environmental organizations, small businesses, and local residents. Public reporting of committee discussions, environmental results, and operational updates has contributed to low levels of dispute escalation and strong community trust.<sup>36 37 38</sup>

Greenbushes employs several hundred workers, estimates for 2023–2024 range from 700 to 900 personnel, including contractors, with more than half coming from the surrounding Southwest region.<sup>3940</sup> Local procurement represents a significant portion of operational expenditure, with millions of dollars annually directed to small and medium enterprises in regional Western Australia. Training, apprenticeships, and partnerships with local schools and TAFEs support workforce development, while infrastructure investments contribute to local economic diversification.<sup>41 42</sup>

Cultural-heritage work is carried out in collaboration with Traditional Owners primarily represented by the Karri Karrak Aboriginal Corporation and the Wagyl Kaip & Southern Noongar Aboriginal Corporation, to manage cultural heritage and provide economic opportunities.<sup>43</sup> Surveys identify archaeological and cultural-significance sites, shaping operational planning and avoidance strategies. Indigenous procurement initiatives have grown steadily: by 2023, Indigenous-owned businesses were participating in multiple service contracts across land management, civil works, and cultural training.<sup>44</sup>

Over more than four decades of lithium-related activity, Greenbushes has seen remarkably low levels of protest, operational disruption, or unresolved grievances. Unlike many Latin American or African lithium operations that face recurring conflict cycles, the mine benefits from consistent community participation, stable economic contributions, and the predictability of its regulatory environment. This stability is measurable: between 2015 and 2023, the mine recorded no major community-related shutdowns.

## **Strategic Takeaways: Greenbushes Lithium Mine**

The Greenbushes case demonstrates that high-volume lithium extraction can achieve strong environmental and social outcomes when supported by a mature regulatory framework, transparent engagement processes, and voluntary adoption of advanced ESG standards. By combining structured governance, long-term planning, extensive monitoring, and proactive community relations, Greenbushes has become one of the most credible upstream suppliers for markets requiring rigorous sustainability assurance.

The mine's alignment with IRMA, OECD guidelines, and evolving EU/US regulations provides it with commercial resilience in a sector where ESG compliance is increasingly linked to supply-chain access and long-term revenue stability.

## **Case Study 2: Ranger Uranium Mine (Australia)**

The Ranger Uranium Mine, located in the Northern Territory of Australia within the borders of what is now Kakadu National Park, represents one of the most ambitious and scientifically intensive mine-closure projects undertaken globally.<sup>45</sup> Operated by Energy Resources of Australia (ERA), a company majority-owned by Rio Tinto, the mine produced uranium from 1980 until January 2021, when commercial mining ceased under a long-standing statutory requirement that extraction end by that date.<sup>46</sup> ERA is now legally obligated to complete rehabilitation by January 2026, after which the land is expected to be returned to the Traditional Owners, the Mirarr people, and incorporated back into Kakadu.<sup>47</sup>

Ranger's importance stems from its location on Aboriginal land, its proximity to a UNESCO World Heritage site, and the legal requirement that rehabilitated land must be capable of supporting the same ecological functions as the adjacent Kakadu environment. This makes Ranger a global test case for whether large-scale mining in sensitive cultural and ecological landscapes can achieve scientifically credible closure. Government documentation emphasizes this significance, noting that Ranger's closure must "bestow a rehabilitated environment comparable to the surrounding national park".<sup>48</sup>

## New Third Way - 2026

Ranger's closure is governed by one of the most stringent regulatory frameworks in the global mining sector. The mine operates under the Atomic Energy Act 1953<sup>49</sup>, the Environment Protection (Alligator Rivers Region) Act 1978<sup>50</sup>, and a series of Supervising Scientist protocols created specifically for the Alligator Rivers Region.<sup>51</sup>

The independent Supervising Scientist Branch (SSB), part of the federal Department of Climate Change, Energy, the Environment and Water, is responsible for monitoring, auditing, and reporting on the environmental performance of both ERA and the rehabilitation program. This institution was established after environmental concerns emerged during the development of Ranger in the 1970s and remains unique in its mandate: it conducts independent field research, operates laboratories, and publishes annual assessments on rehabilitation progress.<sup>52</sup>

In addition to federal oversight, the Mirarr Traditional Owners, represented by the Gundjeihmi Aboriginal Corporation (GAC), exercise a central role in decisions regarding land use, cultural heritage, and final landform design.<sup>53</sup> ERA's operations and closure activities are subject to Indigenous Land Use Agreements dating back to 1978, updated through subsequent negotiations documented by GAC.<sup>54</sup> This governance architecture reflects a hybrid model: a scientifically rigorous federal monitoring regime paired with direct Indigenous co-decision authority, an arrangement that has become a reference point for global Indigenous participation frameworks.

Across four decades, the Ranger uranium mine recorded more than 200 environmental and safety incidents, mostly minor, but several major events stand out as a mixed yet instructive record of how high-risk operations respond to environmental hazards.

In 2005, the mine was prosecuted for allowing uranium-contaminated water to enter the drinking system. Although workers were exposed to water far above legal limits, subsequent assessments found health risks to be low due to short exposure times.<sup>55</sup> In 2006 and 2007, heavy rains associated with Cyclone Monica disrupted water-management systems and caused a retention pond overflow that violated the mine's authorization conditions.<sup>56</sup>

## New Third Way - 2026

In 2010, concerns were raised that a tailings dam may have released radioactive water into Kakadu wetlands, home to Indigenous communities, prompting national scrutiny, although definitive ecological damage was not established.<sup>57</sup> In 2013, four discarded yellowcake transport drums were discovered outside Darwin and retrieved amid concerns of potential contamination. Later that year, a leach tank ruptured and spilled about one million litres of slurry. Although production was halted and workers evacuated, the spill was fully contained within bunds.<sup>58</sup>

Taken together, these incidents show a dual story. Although accidents did occur, including several serious ones, Rio Tinto generally demonstrated strong crisis-management capabilities, containing major spills, acting quickly, and implementing corrective measures that helped prevent long-term harm. At the same time, the broader environmental-protection framework in the Northern Territory ensured that the company did not go unpunished: regulators pursued breaches, imposed compliance requirements, and maintained oversight robust enough to force the operator to meet regulatory standards rather than allowing incidents to be ignored or normalized. Ranger therefore illustrates that while operational failures are possible in any high-risk mining environment, an effective combination of corporate crisis response and a strong governmental regulatory system can limit damage and uphold accountability.

The Ranger rehabilitation program relies on decades of environmental monitoring conducted by SSB and independent academic partners dating back to the late 1970s, long before closure planning began. This produced one of the world's most comprehensive environmental baselines for mine-affected tropical ecosystems. Key research outputs include sediment analysis, water-quality modelling, ecosystem function studies, and long-term radiological assessments, many of which are publicly available in SSB's open science collection.<sup>59 60</sup>

The closure model includes reconstruction of landforms using 34 million cubic metres of waste material (projected in ERA's 2022 closure update), re-establishment of native vegetation through massive seedbank programs, and hydrological designs intended to restore natural flow paths disrupted by mining operations. The requirement that post-closure land must meet or exceed Kakadu standards sets a high bar, as Kakadu contains some of Australia's most biodiverse wetlands.<sup>61 62 63</sup>

Water management is the most technically complex component of the closure program. Ranger includes tailings repositories, process-water dams, and runoff systems built during decades of uranium production. SSB conducts real-time monitoring of creeks, groundwater, turbidity, radionuclides, and metals, with results published transparently in its annual environmental monitoring reports.<sup>64</sup>

<sup>65</sup>

Hydrological modelling is designed to ensure that contaminants do not migrate into Magela Creek, part of a major wetland system that supports Traditional Owner livelihoods and culturally important species. Academic collaborations with ANU and CSIRO have contributed to predictive geochemical modelling used to guide remediation strategies.<sup>66 67 68</sup>

Ranger's tailings, containing residual radionuclides, metals, and process chemicals, are being transferred and encapsulated within the mined-out pits (Pit 3 and Pit 1) under engineered designs that include multi-layer covers, compaction, radon barriers, and long-term erosion-resistant capping.<sup>69</sup> ERA's Tailings Management Plan (publicly released in several updates since 2018) details performance criteria aligned with international radiation-safety standards.<sup>70</sup> The tailings-encapsulation approach is intended to provide stability over centuries, reflecting the cultural and environmental sensitivity of the region. SSB audits the geotechnical design annually, making this one of the most scrutinized tailings-closure programs in the world.<sup>71</sup>

## Indigenous Partnership and Cultural Heritage Governance

Ranger sits on the lands of the Mirarr people, whose custodianship is documented in the Kakadu World Heritage nomination (1981) and subsequent UNESCO reports. The mine's existence has long been controversial within Indigenous communities. However, the closure program marks a transition from extractive conflict toward collaborative planning. This aligns the closure project with evolving global norms around Free, Prior and Informed Consent (FPIC), making Ranger a leading example of Indigenous co-governance in mine closure.



## New Third Way - 2026

Rehabilitation at Ranger is financed through a legally mandated closure fund that ERA was required to maintain throughout operations. By **2023**, ERA's closure liability was formally estimated at **AUD 2.2–2.6 billion**, one of the largest closure budgets in the mining sector globally.<sup>72</sup> Due to cost escalation, Rio Tinto has repeatedly stepped in with additional capital to ensure the project remains fully funded, as reported in their 2022 and 2023 company announcements.<sup>73</sup> Financial provisioning is overseen by the Australian Government under a framework designed to prevent taxpayers from assuming closure liabilities, another feature that distinguishes Ranger from global norms.<sup>74</sup>

Ranger's closure has already yielded significant insights for global policy. SSB's environmental reports indicate that, despite historical issues, the overall trajectory of water quality in key creeks has remained stable or improved since rehabilitation works intensified in 2019–2021. Vegetation trials show promising regrowth for more than 100 native species, many propagated using seeds collected from adjacent Kakadu ecosystems.<sup>75</sup> Academic and research institutions, such as Charles Darwin University and Northern Australia Environmental Resources Hub, have also provided a recommendations for faunal rehabilitation .<sup>76</sup>

Socially, the closure has shifted the relationship between ERA, Rio Tinto, and the Mirarr from one of conflict to structured cooperation, though tensions persist. Policy-wise, Ranger has become a global case study in how long-term institutional oversight can ensure accountability for legacy mines, particularly those located in culturally and ecologically sensitive areas.

Ranger offers a rare example of long-horizon, science-led mine rehabilitation backed by Indigenous governance rights and a legally enforceable funding mechanism. Few jurisdictions internationally possess institutions equivalent to the SSB, yet elements of this model (transparent monitoring, public reporting, Indigenous co-governance, and legally ring-fenced closure financing) can be adapted in countries seeking to strengthen closure governance.

## Case Study 3: Grande Côte Mineral Sands (Senegal)

The Grande Côte Mineral Sands Operation (GCO), located approximately 100 km north of Dakar along Senegal's Atlantic coast, is one of the largest greenfield mineral-sands projects developed in Africa in the past two decades.<sup>77</sup> Operated by TiZir, a partnership between Eramet (France) and the Government of Senegal, the project entered production in 2014 after more than a decade of exploration, feasibility work, environmental studies, and community negotiations. GCO produces high-value heavy minerals, primarily ilmenite, rutile, zircon, and leucoxene, which feed global markets for titanium dioxide pigments, aerospace alloys, welding rods, ceramics, and advanced industrial applications.<sup>78</sup>

The mine is strategically significant for several reasons. First, it represents one of the most technologically advanced dredge-based mineral-sands operations in Africa, demonstrating that large-scale extraction can be undertaken responsibly in a lower-income jurisdiction. Second, mineral sands form a foundational component of titanium supply chains, which are increasingly important for renewable energy infrastructure, aerospace, defence manufacturing, and the broader green-industrial transition. Third, Senegal's ability to host a project of this scale with comparatively strong ESG performance positions it as a credible actor in global critical-minerals diversification strategies, particularly as Europe and the United States seek stable partners outside China-dominated segments of the titanium and zircon markets.<sup>79</sup>

GCO operates under Senegal's Mining Code, first enacted in 2003 and updated significantly in 2016.<sup>80</sup> These regulatory reforms introduced stronger environmental safeguards, clearer permitting requirements, and more structured frameworks for community consultation and land acquisition. The 2016 code emphasized benefit-sharing through community development agreements, local-content provisions, and strengthened state oversight, important shifts given Senegal's historical challenges in artisanal mining governance.<sup>81</sup>

## New Third Way - 2026

The Ministry of Mines and Geology oversees permitting, while the **Ministry of Environment and Sustainable Development** is responsible for environmental impact assessment, monitoring, and compliance.<sup>82</sup> Public Environmental and Social Impact Assessment (ESIA) processes were undertaken for GCO, with documentation reviewed by Senegal's environmental authority, the DEEC, before approvals were issued in the early 2010s. Senegal's ESIA archive includes both operational and mid-cycle environmental audit reports, including those related to GCO, accessible through the ministry's public documentation portal.<sup>83</sup>

What distinguishes Senegal's governance approach is the degree of partnership with international development actors. The World Bank, UNDP, and EU institutions supported capacity building throughout the 2010s to improve mining oversight, environmental monitoring, and land-tenure systems.<sup>84 85 86</sup> GCO therefore operates in a hybrid environment: a national regulatory system strengthened by significant donor-supported institutional development.

Senegal's integration into the Extractive Industries Transparency Initiative (EITI) has significantly strengthened governance and accountability in its mining sector. Since joining in 2013 and achieving full compliance in 2018, the country has institutionalized rigorous disclosure requirements covering revenues, contracts, social expenditures, and beneficial ownership. This transparency framework has increased public oversight, raised expectations around responsible resource governance, and ensured that both government agencies and companies adhere to higher reporting and compliance standards. As a result, EITI has helped align Senegal's extractive sector with international best practices while reinforcing the state's ability to monitor and manage natural-resource revenues.<sup>87</sup>

Moreover, GCO became the first mining company in Senegal to obtain ISO 14001 certification for its environmental management system in 2021, a status reaffirmed through its annual follow-up audit.<sup>88</sup> Holding both ISO 14001 and its earlier certification positions GCO as the country's only mine meeting this dual international standard. This certificate demonstrates a verified commitment to reducing environmental impacts, supported by concrete measures such as fuel-use reduction and the development of a large solar power plant. It also shows how internationally aligned standards can drive stronger environmental performance in emerging mining jurisdictions.

## Environmental and Community Management

GCO employs a wet dredge and floating concentrator system, which moves progressively along a 100-km coastal strip. This mining method generates continuous voids behind the dredge pond, which are immediately refilled with sand tailings as the operation advances. Because the mine follows a linear path, land is mined, backfilled, reshaped, and rehabilitated in a relatively short cycle. This “dredge-rehabilitation loop” is a core environmental advantage and has been highlighted in TiZir’s annual sustainability disclosures.<sup>89 90</sup>

By 2022, GCO had rehabilitated more than 1,000 hectares of previously mined land, with revegetation programs using native species and long-term soil fertility monitoring. Satellite imagery analyses performed by independent researchers and cited in environmental-performance reports show clear evidence of vegetation recovery in early-mined zones. Rehabilitation incorporates dune reconstruction, restoration of natural relief, re-establishment of drainage patterns, and long-term erosion-control strategies suitable for Senegal’s windy coastal climate.<sup>91</sup>

Because mining occurs near shallow aquifers and along active dune systems, GCO’s water management strategy includes groundwater modelling, monitoring wells, and controls to prevent saline intrusion. Annual environmental statements submitted to Senegal’s DEEC detail groundwater chemistry, hydrological changes, and monitoring results, which have generally confirmed that mining-induced impacts remain localized and within predicted thresholds.<sup>92 93</sup>

GCO manages water use through a conservation-focused approach that avoids drawing from the shallow aquifer relied on by local communities, instead sourcing from a deeper groundwater table more than 400 meters below the surface. The operation also recycles water from non-mineral sand used for backfilling, returning part of the recovered water to the mine’s pond and replenishing the upper aquifer for community use. These practices are supported by a robust monitoring system in which deep groundwater levels are tracked continuously via piezometers and shallow aquifer levels are checked daily, with data shared regularly with local authorities who conduct monthly site visits.<sup>94</sup>

## New Third Way - 2026

The most socially sensitive component of GCO's development was the resettlement of several village communities within the mining corridor. GCO's Resettlement Action Plan was built on detailed studies from 2007 and 2011 and overseen by a Resettlement Commission chaired by the regional prefect and community representatives. Local residents played a central role in selecting relocation sites, designing village layouts, and determining housing and infrastructure needs, resulting in upgraded homes with running water, electricity, and solar lighting, as well as new communal facilities such as schools, mosques, water towers, and waste-management systems.

In addition to compensation paid at World Bank rates, five times the national standard, communities received replacement farmland of their choosing, financed and equipped by the company, along with grazing areas for livestock. The program aimed to fully restore livelihoods to at least pre-resettlement levels, with villages handed over to public authorities once completed. Between 2017 and 2019, approximately 920 people from two villages were successfully resettled.<sup>95</sup>

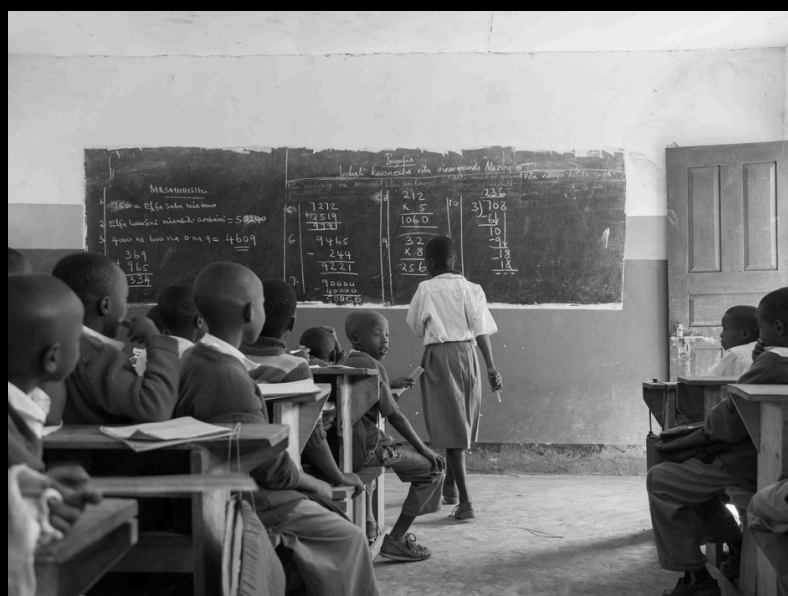
Resettlement initiatives have included the creation of new ecovillages with essential infrastructure such as schools, clinics, wells, solar power, and grazing areas, as well as the construction of the new village of Foth for 85 families, where replacement farmland equipped with irrigation systems, seeds, fertilizers, and agronomic training helped families quickly resume agricultural activities. Additional relocations in 2023 continued this approach, with support tailored to whether families preferred temporary or permanent resettlement.<sup>96</sup> Overall, these operations, conducted by the company's CSR team in collaboration with local authorities, have ensured access to upgraded housing, solar energy, running water, community facilities, and fully restored agricultural livelihoods for affected populations.

TiZir implemented agricultural-support programs for displaced and neighbouring communities. These initiatives included provision of seeds, fertiliser, training for improved cultivation techniques, and access to irrigated plots. In general, Eramet delivers substantial economic and social benefits to Senegal, contributing 122 million EUR to the national budget in 2020 through salaries, taxes, subcontracting, local procurement, and CSR programs, with the Diogo region among the main beneficiaries. Beyond direct and indirect job creation, the company invests heavily in training local youth, improving infrastructure, and expanding access to water, health, education, and agricultural support in close coordination with local authorities and communities. Its development model emphasizes shared decision-making, leading to projects such as market-garden support and new access trails for farmers in the Niayes region.<sup>97</sup>

GCO has a formalized Community Engagement Plan and invests annually in education, health campaigns, scholarships, vocational training, and women's cooperatives. These investments are documented in TiZir's annual sustainability reports, which specify contributions to local municipalities in the Matam, Tivaouane, and Mboro communes. Local-content procurement has expanded yearly, with dozens of Senegalese SMEs integrating into the mine's supply chain.<sup>98</sup> GCO's socio-economic contribution to Senegal is reflected in both its employment footprint and its targeted community investments. The company provides approximately 1,300 direct jobs, 94% of which are held by Senegalese workers, with a strong emphasis on hiring locally, 34.1% of new recruits in 2021 came from the immediate project area. GCO also supports skills development through internships and student training programs<sup>99</sup>

## Investment in the Community

Beyond employment, the company invested EUR 367,000 in community initiatives, leading to the rehabilitation of schools that improved learning conditions for 8,500 students, the development of 170 hectares of agricultural land, and support to nine municipalities through medicine purchases and waste-collection services. Its partnerships in entrepreneurship and microfinance helped create or sustain 370 jobs in local economic interest groups, while water-access projects, including the construction or rehabilitation of water points, benefited roughly 12,000 people across the region.



## **Strategic Takeaways: Grande Côte Mineral Sands (Senegal)**

GCO demonstrates that high-volume mineral-sands extraction can be conducted responsibly in a lower-governance context when supported by structured resettlement, strong community partnerships, transparent reporting, and sustained institutional development. While Senegal's regulatory system remains less advanced than those of Australia or Canada, the GCO case shows that governance innovations can significantly reduce environmental and social risks. For emerging mineral sands and critical minerals producers seeking to supply European or North American markets, the GCO experience provides a valuable lesson: even in a developing-country context, ESG alignment is achievable when environmental management, community negotiation, and transparency are embedded from the earliest stages of project development.

## **Lessons for Western Balkans:**

The Western Balkans are emerging as a potential supplier of critical raw materials to the European Union, with notable deposits of lithium in Serbia, nickel in North Macedonia, bauxite in Montenegro and Bosnia and Herzegovina, and copper across several territories. Yet the region faces persistent trust deficits between communities and mining companies, legacy pollution from the socialist industrial period, fragmented regulatory capacity, and political volatility. As the EU moves towards stricter sustainability requirements for imported critical minerals, Western Balkan states will struggle to access high-value supply chains without upgrading their ESG frameworks. The international case studies offer a set of actionable lessons highly relevant to this context. Greenbushes demonstrates how third-party verification and transparent reporting reduce social tension and meet the expectations of European buyers. Ranger shows the value of long-term scientific oversight and culturally grounded co-governance, important in a region where land rights, heritage protection, and environmental memory are politically sensitive. GCO illustrates how even a lower-capacity state can implement structured resettlement, grievance mechanisms, and progressive rehabilitation, suggesting that responsible mining is achievable in the Western Balkans despite institutional challenges. These models provide a realistic roadmap for aligning the region with EU standards and avoiding the social conflicts that have stalled previous projects.

## New Third Way - 2026

The principles evident in the case studies can be adapted to Western Balkan conditions through several practical pathways. Establishing independent monitoring bodies or scientific oversight mechanisms, similar to Australia's Supervising Scientist Branch, would significantly increase trust in environmental data, especially in areas such as Bor, Trepča, or the Jadar basin. Governments could also require external ESG assurance frameworks such as IRMA or OECD-aligned audits as part of concession agreements or environmental approvals. This approach is particularly valuable where regulatory capacity is limited, as external auditing creates predictable standards for both companies and communities. Structured community engagement is equally essential.

Western Balkan states could institutionalize Community Liaison Committees that meet regularly, publish minutes, and involve local governments, experts, and civil society. For projects involving land displacement or contested land titles, Senegal's experience with integrated resettlement planning shows the value of transparent compensation, livelihood programs, and grievance mechanisms. Progressive rehabilitation, rather than end-of-life remediation, should be mandated for all new mining projects, supported by secured closure funds that cannot be diluted by bankruptcy or ownership changes. Lastly, transparency frameworks similar to Senegal's EITI integration should be expanded across the region to publicly disclose royalties, community payments, environmental performance, and monitoring results, strengthening public trust and EU alignment.

The cumulative lesson from the three case studies is clear: responsible mining is not a function of perfect governance, but of coherent structures that enforce transparency, foster community participation, ensure environmental accountability, and mandate long-term planning. As Europe seeks to diversify its critical-mineral supply chains and reduce dependence on geopolitically contested regions, the Western Balkans have a unique opportunity to position themselves as a stable, sustainable, EU-aligned supplier. Achieving this requires adopting the principles demonstrated in the three case studies: independent oversight, external ESG assurance, participatory engagement, progressive rehabilitation, and fiscal transparency. If these mechanisms are implemented coherently, the region can both attract high-quality investment and build a mining sector capable of supporting the broader industrial transformation of Europe's clean-energy economy.

## Section References

1. <https://www.igo.com.au/site/operations/lithium-holdco-joint-venture>
2. <https://www.csiro.au/en/news/All/Articles/2025/March/Spodumene-Australias-lithium-mineral-hero>
3. <https://www.igo.com.au/site/operations/lithium-holdco-joint-venture>
4. <https://www.listcorp.com/asx/igo/igo-limited/news/lithium-business-update-2986422.html>
5. <https://stockhead.com.au/resources/monsters-of-rock-igo-watching-midstream-trend-as-it-focuses-in-on-lithium-refinery-ramp-up/>
6. [https://www.epa.wa.gov.au/sites/default/files/EPA\\_Report/EPA%20Report%20-%20Greenbushes%20Lithium%20Mine%20Expansion.pdf](https://www.epa.wa.gov.au/sites/default/files/EPA_Report/EPA%20Report%20-%20Greenbushes%20Lithium%20Mine%20Expansion.pdf)
7. <https://source.benchmarkminerals.com/article/lithium-prices-hit-record-high-as-market-pricing-takes-hold-2022-in-review>
8. [https://environment.ec.europa.eu/topics/waste-and-recycling/batteries\\_en](https://environment.ec.europa.eu/topics/waste-and-recycling/batteries_en)
9. <https://www.irs.gov/inflation-reduction-act-of-2022>
10. [https://www.legislation.wa.gov.au/legislation/statutes.nsf/main\\_mrtitle\\_604\\_homepage.html](https://www.legislation.wa.gov.au/legislation/statutes.nsf/main_mrtitle_604_homepage.html)
11. <https://www.epa.wa.gov.au/media-statements/epa-assess-proposed-greenbushes-lithium-expansion>
12. [https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/DMP-EPA-Guidelines-Mine-Closure-Plans-080515.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/DMP-EPA-Guidelines-Mine-Closure-Plans-080515.pdf)
13. <https://www.wa.gov.au/organisation/department-of-water-and-environmental-regulation>
14. <https://antar.org.au/issues/cultural-heritage/the-destruction-of-juukan-gorge/>
15. <https://antar.org.au/issues/cultural-heritage/the-destruction-of-juukan-gorge/>
16. <https://www.wa.gov.au/government/media-statements/Cook-Labor-Government/Laws-overtuned%3A-Aboriginal-cultural-heritage-legislation-replaced--20230808>

## New Third Way - 2026

17. <https://www.wa.gov.au/organisation/department-of-planning-lands-and-heritage/aboriginal-heritage-act-1972>
18. <https://www.mining-technology.com/features/greenbushes-the-first-australian-mine-to-adopt-irma/>
19. <https://responsiblemining.net/about/about-us/>
20. [https://www.oecd.org/content/dam/oecd/en/publications/reports/2016/04/oecd-due-diligence-guidance-for-responsible-supply-chains-of-minerals-from-conflict-affected-and-high-risk-areas\\_g1g65996/9789264252479-en.pdf](https://www.oecd.org/content/dam/oecd/en/publications/reports/2016/04/oecd-due-diligence-guidance-for-responsible-supply-chains-of-minerals-from-conflict-affected-and-high-risk-areas_g1g65996/9789264252479-en.pdf)
21. <https://www.ifc.org/en/insights-reports/2012/ifc-performance-standards>
22. [https://commission.europa.eu/business-economy-euro/doing-business-eu/sustainability-due-diligence-responsible-business/corporate-sustainability-due-diligence\\_en](https://commission.europa.eu/business-economy-euro/doing-business-eu/sustainability-due-diligence-responsible-business/corporate-sustainability-due-diligence_en)
23. <https://responsiblemining.net/wp-content/uploads/2025/10/IRMA-Overview-2-pager.pdf>
24. [https://www.epa.wa.gov.au/sites/default/files/Referral\\_Documentation/Appendix%20W%20-%20ContaminationAssessment\\_Historical%20Mining%20Areas.pdf](https://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/Appendix%20W%20-%20ContaminationAssessment_Historical%20Mining%20Areas.pdf)
25. [https://www.epa.wa.gov.au/sites/default/files/Referral\\_Documentation/Supporting%20Report.pdf](https://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/Supporting%20Report.pdf)
26. [https://www.epa.wa.gov.au/sites/default/files/Referral\\_Documentation/Appendix%20W%20-%20ContaminationAssessment\\_Historical%20Mining%20Areas.pdf](https://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/Appendix%20W%20-%20ContaminationAssessment_Historical%20Mining%20Areas.pdf)
27. <https://static1.squarespace.com/static/5c0754e24611a07f1ab91992/t/673698504a41fd7b18386445/1731631191810/Site+Rehabilitation+and+Environmental+Monitoring+Plan+V1.4+20240801.pdf>
28. <https://www.talisonlithium.com/environment>
29. <https://minedocs.com/22/Greenbushes-PFS-06302021.pdf>
30. [https://www.der.wa.gov.au/images/documents/our-work/licences-and-works-approvals/Decisions\\_/L4247/L4247%2020240801%20AR.pdf](https://www.der.wa.gov.au/images/documents/our-work/licences-and-works-approvals/Decisions_/L4247/L4247%2020240801%20AR.pdf)

## New Third Way - 2026

31.<https://ancold.org.au/>

32.<https://www.talisonlithium.com/capacity-expansion-projects>

33.<https://minedocs.com/22/Greenbushes-PFS-06302021.pdf>

34.<https://www.igo.com.au/site/pdf/11e7bec0-11ed-4c02-8641-88fffe762092/IGO-Sustainability-Report-2023-Interactive.pdf>

35.<https://www.igo.com.au/site/pdf/11e7bec0-11ed-4c02-8641-88fffe762092/IGO-Sustainability-Report-2023-Interactive.pdf>

36.<https://www.facebook.com/abcsouthwest/posts/pfbid0wf4YqZd wneJtupGjK47aVN3wWhEb7ARRrvPB1wXtkDKcwKxj496GoL3sjVQ2 APkRI>

37.<https://www.talisonlithium.com/community>

38.<https://www.talisonlithium.com/capacity-expansion-projects>

39.<https://www.manmonthly.com.au/greenbushes-lithium-mine-drives-global-green-energy-future/>

40.<https://www.talisonlithium.com/news/hnwgyf7nls6m4nkgfz5bkr gsslwd5h>

41.<https://www.talisonlithium.com/about>

42.<https://www.talisonlithium.com/community>

43.[https://www.epa.wa.gov.au/sites/default/files/Referral\\_Documentation/TE23041\\_EP%20Act%20Referral%20Supporting%20Doc\\_6.0 \\_28042025.pdf](https://www.epa.wa.gov.au/sites/default/files/Referral_Documentation/TE23041_EP%20Act%20Referral%20Supporting%20Doc_6.0 _28042025.pdf)

44.[https://www.epa.wa.gov.au/sites/default/files/PER\\_documentation2/Appendix%20H%20-%20Aboriginal%20Heritage%20Report.pdf](https://www.epa.wa.gov.au/sites/default/files/PER_documentation2/Appendix%20H%20-%20Aboriginal%20Heritage%20Report.pdf)

45.<https://www.dcceew.gov.au/science-research/supervising-scientist/ranger-mine>

46.<https://www.dfat.gov.au/publications/international-relations/asno-annual-report-2020-21/asno/section-2-1.html>

47.<https://ministers.pmc.gov.au/former-ministers/burney/2022/securing-ranger-mine-clean-and-return-traditional-owners>

## New Third Way - 2026

- 48.<https://www.dcceew.gov.au/science-research/supervising-scientist/ranger-mine>
- 49.<https://www.legislation.gov.au/C1953A00031/latest/versions>
- 50.<https://www.legislation.gov.au/C2004A01827/latest/text>
- 51.<https://www.dfat.gov.au/publications/international-relations/asno-annual-report-2020-21/asno/section-2-1.html>
- 52.<https://www.dcceew.gov.au/science-research/supervising-scientist/publications>
- 53.<https://www.mirarr.net/>
- 54.<https://www.nntt.gov.au/ILUAS/Pages/default.aspx>
- 55.<https://www.industriall-union.org/archive/icem/rio-tinto-faces-court-case-over-contaminated-water>
- 56.<https://www.world-nuclear-news.org/Articles/Heavy-rain-stops-operations-at-Ranger>
- 57.<https://www.abc.net.au/news/2010-02-09/uranium-mine-leak-5400-times-normal-level/325276>
- 58.<https://www.abc.net.au/news/2013-12-07/spill-at-nt-uranium-mine-near-kakadu/5142148>
- 60.<https://www.dcceew.gov.au/science-research/supervising-scientist/publications/ranger-mine-water-quality-objectives-magela-creek-gulungul-creeksupervising-scientists-assessment-ranger-mine-closure-plan>
- 61.<https://www.dcceew.gov.au/science-research/supervising-scientist/ranger-mine/closure-rehabilitation>
- 62.<https://www.dcceew.gov.au/sites/default/files/documents/ssr189-part2-ranger-rehab.pdf>
- 63.<https://www.energyres.com.au/uploads/2024-RMCP-Executive-Summary.pdf>
- 64.<https://www.agriculture.gov.au/sites/default/files/documents/ir653.pdf>
- 65.[https://papers.acg.uwa.edu.au/p/2215\\_45\\_lles/](https://papers.acg.uwa.edu.au/p/2215_45_lles/)
- 66.[https://ntepa.nt.gov.au/\\_resources/documents/eia/ranger-3-deeps-underground-mine/draft-eis/appendices/appendix09a\\_solute\\_egress\\_modelling\\_for\\_mine\\_closure2.pdf](https://ntepa.nt.gov.au/_resources/documents/eia/ranger-3-deeps-underground-mine/draft-eis/appendices/appendix09a_solute_egress_modelling_for_mine_closure2.pdf)

## New Third Way - 2026

67.<https://www.csiro.au/en/work-with-us/industries/mining-resources/Social-and-environmental-performance/Ranger-Mine-wastewater>

68.<https://digitalcollections.anu.edu.au/items/bc556299-d765-4db7-894a-2b52b74152d8>

[https://ntepa.nt.gov.au/\\_resources/documents/eia/ranger-3-deeps-underground-mine/draft-eis/appendices/appendix09a\\_solute\\_egress\\_modelling\\_for\\_mine\\_closure2.pdf](https://ntepa.nt.gov.au/_resources/documents/eia/ranger-3-deeps-underground-mine/draft-eis/appendices/appendix09a_solute_egress_modelling_for_mine_closure2.pdf)

69.[https://ntepa.nt.gov.au/\\_resources/documents/eia/ranger-3-deeps-underground-mine/draft-eis/appendices/appendix09a\\_solute\\_egress\\_modelling\\_for\\_mine\\_closure2.pdf](https://ntepa.nt.gov.au/_resources/documents/eia/ranger-3-deeps-underground-mine/draft-eis/appendices/appendix09a_solute_egress_modelling_for_mine_closure2.pdf)

70.<https://www.energyres.com.au/uploads/2025-RMCP-Executive-Summary.pdf>

71.<https://minedocs.com/19/Ranger-Mine-Closure-Plan-Sept-2022.pdf>

72.[https://www.energyres.com.au/uploads/ERA-Annual-Report-2023\\_FINAL.pdf](https://www.energyres.com.au/uploads/ERA-Annual-Report-2023_FINAL.pdf)

73.<https://www.riotinto.com/en/news/releases>

74.<https://www.aph.gov.au/DocumentStore.ashx?id=987efbab-3d84-4e85-a1da-69c8ae07c5f7&subId=510416>

75.<https://www.dcceew.gov.au/environment/biodiversity/threatened/publications/factsheet-kakadu-national-park-threatened-species-projects>

76.<https://nesplandscapes.edu.au/wp-content/uploads/2019/07/Recommended-faunal-standards-for-the-rehab-of-Ranger-Uranium-Mine.pdf>

77.<https://gco.eramet.com/en/eramet-grande-cote/our-value-chain/mineral-sands-production/>

78.<https://www.eramet.com/en/news/tizir-gco-from-construction-to-mineral-sands-mining/>

79.<https://pubs.usgs.gov/periodicals/mcs2023/mcs2023.pdf>

80.<https://www.a-mla.org/en/country/Senegal>

81.<https://uggcafrica.com/regulation-mining-sector-senegal-sustainable-development/>

## New Third Way - 2026

82. <https://www.eia.nl/en/project-database/ea-and-mining-governance-in-senegal/>
83. <https://www.eia.nl/en/wp-content/uploads/2024/12/2020-01-22-Senegal-Legislation-at-project-level.pdf>
84. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/506801519754769554>
85. <https://erc.undp.org/evaluation/documents/download/22479>
86. [https://www.eeas.europa.eu/senegal/european-union-and-senegal\\_en](https://www.eeas.europa.eu/senegal/european-union-and-senegal_en)
87. <https://eiti.org/countries/senegal>
88. <https://www.eramet.com/en/news/gco-senegals-first-iso-50-001-certified-mine/>
89. <https://www.eramet.com/en/activities/mineral-sands/>
90. <https://gco.eramet.com/en/eramet-grande-cote/our-value-chain/mineral-sands-production/>
91. <https://www.eramet.com/en/news/from-nature-to-mine-from-mine-to-nature-gco-gives-back-a-first-revegetated-mining-site/>
92. <https://gco.eramet.com/en/eramet-grande-cote/our-commitments/environmental-management/>
93. <https://www.eramet.com/en/act-for-positive-mining/reporting-esg/>
94. <https://www.eramet.com/en/activities/mineral-sands/>
95. <https://gco.eramet.com/en/eramet-grande-cote/our-commitments/our-commitment-to-transparency/>
96. <https://gco.eramet.com/en/eramet-grande-cote/our-commitments/village-resettlement/>
97. <https://gco.eramet.com/en/eramet-grande-cote/our-commitments/responsible-management/>
98. <https://www.eramet.com/en/act-for-positive-mining/community-relations/>
99. <https://gco.eramet.com/wp-content/uploads/sites/2/2022/07/2022-06-30-Eramet-PR-2021-Contributing-indicators-Senegal.pdf>

# Negative Examples and Main Achievements

## Case Study 1: Weda Bay Nickel (Indonesia)

The Weda Bay Nickel project, integrated into the Indonesia Weda Bay Industrial Park (IWIP) on Halmahera Island, has become one of the world's largest nickel–stainless steel–battery precursor hubs.<sup>1</sup> While its industrial capacity expanded rapidly after 2018, supported by Chinese stainless-steel and EV-supply-chain giants, its ESG profile has deteriorated, drawing numerous complaints to the IFC's Compliance Advisor Ombudsman (CAO) and significant scrutiny from civil society organizations.<sup>2</sup> International media outlets have also reported on environmental and human harm, mentioning that mining project is causing significant harm to local communities and Indigenous Peoples, including the Hongana Manyawa tribe.

Reports from groups like Climate Rights International detail a range of abuses, from land rights violations to severe environmental pollution.<sup>3,4,5</sup> Several testimonies allege that land acquisition was accompanied by coercion, unequal bargaining positions, or promises that were not fulfilled, creating a situation where formal "consent" lacked the voluntary, informed character required by international standards.<sup>6</sup>

Environmental impacts are another core concern. The industrial park's rapid expansion, thousands of hectares of smelters, coal plants, and waste infrastructure built in just a few years, has intensified pressure on the coastal ecosystems of Weda Bay. Independent research highlights risks from industrial runoff, inadequate wastewater controls, and the cumulative effects of on-shore nickel processing near sensitive marine zones. Monitoring gaps and inconsistent public reporting contribute to uncertainty about long-term ecosystem impacts.<sup>7,8</sup>

Governance shortcomings undermine the project's risk profile. Grievance mechanisms documented in CAO files were judged to lack accessibility and independence, with affected communities reporting poor information flows and difficulty receiving remedy. Oversight institutions struggle to keep pace with the speed of industrial build-out, leading to **regulatory lag, which is a common pattern in Indonesia's fast-growing nickel sector.**<sup>9</sup> Strategically, Weda Bay illustrates how **high-volume critical-mineral industrial parks can generate severe long-term risk** if land governance and environmental management are subordinated to rapid investment. It shows how cumulative social and ecological impacts can jeopardize both reputational value and long-term market access, particularly as EU and U.S. buyers intensify due-diligence demands.

Beyond immediate ESG concerns, the Weda Bay case also highlights emerging market risks linked to tightening global regulatory standards and supply-chain due diligence. As major end-markets-particularly in the EU and the United States-introduce stricter requirements on traceability, carbon intensity, and human rights compliance, projects with unresolved governance and environmental issues face increasing barriers to integration into high-value battery and clean technology supply chains. This creates a structural vulnerability: while Weda Bay has achieved scale and cost competitiveness, its long-term positioning within premium markets may be constrained by compliance risks and reputational exposure. In this sense, the project illustrates a broader trade-off between rapid industrial expansion and sustainable market access, underscoring that future competitiveness in critical raw materials will depend not only on output, but on the credibility and verifiability of ESG performance.

## Similar ESG Risks in the World

Similar patterns can be observed in other large-scale mining projects in developing regions, where rapid expansion has outpaced governance capacity. In cases such as cobalt mining in the Democratic Republic of Congo or lithium extraction in parts of South America, projects have faced criticism over environmental degradation, weak community consultation, and opaque regulatory oversight. These examples reinforce a common lesson: where ESG standards, transparency, and local engagement are insufficient, even strategically important mineral projects risk delays, reputational damage, and reduced access to premium international markets.



## Case Study 2: Morowali Industrial Park (Indonesia)

The Indonesia Morowali Industrial Park (IMIP), owned by Chinese investor Tsingshan Holding Group and located on the eastern coast of Central Sulawesi, is the largest nickel-processing cluster in the world and a cornerstone of Indonesia's battery-metal ambitions.<sup>10</sup> Its enormous growth, from a handful of smelters in 2013 to dozens of industrial facilities employing more than 40,000 workers, has outpaced the capacity of environmental and labor regulators. This imbalance has produced a recurring cycle of compliance violations, unsafe working conditions, and fatal industrial accidents. Investigative reporting by local and international journalists has documented hazardous waste handling, particulate emissions, and inadequate monitoring of coal-plant emissions that power the industrial hub. Workers and residents have repeatedly raised concerns about air quality, noise pollution, and groundwater contamination, with limited response transparency.<sup>11 12</sup>

Labor conditions represent a critical point of failure. It was reported that workers face long hours, inadequate facilities, poor food quality, and, particularly for women, restricted access to menstrual leave, compulsory night shifts, heightened vulnerability to harassment, and even cases of pregnant workers being assigned night work. These failures reveal a system that prioritizes nickel production over worker welfare, with companies often blaming employees for recurring accidents.<sup>13</sup>

In early 2024, Indonesia's Ministry of Environment announced a rare enforcement action against the IMIP, revealing widespread alleged environmental breaches at the country's largest nickel-processing hub. The ministry reported failures in wastewater management, air-pollution control, and the use of unlicensed tailings areas, and disclosed that industrial activity had expanded onto 1,800 hectares of land outside the zone approved in IMIP's 2020 AMDAL environmental permit. IMIP officials acknowledged that the industrial park spans roughly 2,000 hectares but said that rapid investment growth, over USD 30 billion since inception, had driven expansion beyond the original boundaries, prompting the company to apply in 2023 for formal AMDAL extension, which remains pending.<sup>14</sup>

## **New Third Way - 2026**

IMIP's record of serious safety failures has been marked by a series of deadly incidents over recent years. In 2022, a worker repairing a road in the mining area was run over and killed by a truck, raising early concerns about traffic management and on-site safety oversight. The situation worsened in December 2023, when a furnace explosion at PT Indonesia Tsingshan Steel, one of IMIP's core industrial tenants, killed 21 workers, including eight Chinese nationals, during repair operations inside the nickel-processing zone. The most recent tragedy occurred in March 2025, when torrential rains triggered the collapse of a nickel waste-disposal site, engulfing dump-truck operators in sludge-like ferronickel byproducts; one 23-year-old worker was recovered dead and two others went missing, prompting police to investigate potential company negligence.<sup>15 16</sup>

Taken together, these events reveal recurring systemic lapses in worker protection, waste-management practices, and overall safety governance across IMIP, making the industrial park a cautionary example of how rapid, investment-driven expansion, fueled by global demand for battery metals, can erode ESG performance and create significant reputational and regulatory risks. The situation reflects broader patterns seen in countries like Indonesia, Zambia, and Guinea, where Chinese-owned or Chinese-funded mining and smelting companies frequently operate with limited regard for local labor, environmental, and safety regulations, enabled by uneven enforcement and strong political incentives to attract foreign capital.

### **Case Study 3: CBG Bauxite (Guinea)**

The Compagnie des Bauxites de Guinée (CBG), owned by the government of Guinea and U.S. company Halco Mining, Inc., operates one of the world's largest bauxite mines in the Boké and Sangaredi regions of Guinea. Although Guinea has become the world's leading bauxite exporter, the sector's rapid expansion has outpaced both environmental management and social mitigation systems. In 2019, more than 540 villagers filed a complaint to the IFC's CAO, alleging widespread land loss without adequate compensation, degradation of water sources, air pollution from hauling roads, and persistent failures in grievance redress.<sup>17 18</sup>

## New Third Way - 2026

The CAO's assessment documents reveal a longstanding pattern of **insufficient compensation procedures**, unclear land-tenure mapping, and limited community participation in decision-making. Many households reported losing farmland essential for their livelihoods, while receiving compensation formulas they viewed as unfair or opaque. Environmental impacts included severe dust pollution affecting crop yields and respiratory health, as well as water contamination risks exacerbated by heavy rainfall and unpaved mining roads.<sup>19</sup>

After the complaint was filed with the CAO, a structured dispute resolution and mediation process was initiated, leading to several key agreements between the communities and the CGB. The case remains ongoing, with the CAO monitoring implementation.<sup>20</sup>

Local tensions escalated periodically, leading to protests, roadblocks, and confrontations with security forces. These incidents underscored the **political fragility of Guinea's bauxite belt**, where weak governance, contested land rights, and the absence of independent monitoring systems fuel recurring conflict cycles.<sup>21 22 23</sup>

Strategically, the CBG case illustrates how weak social and environmental safeguards create structural risks that extend far beyond community grievances. Unclear land tenure, inadequate compensation, and weak grievance systems erode trust and generate recurring cycles of protest, roadblocks, and security-force interventions, directly threatening operational continuity. At the same time, persistent dust pollution, water-quality concerns, and inadequate environmental management expose companies to escalating regulatory scrutiny and international reputational damage, particularly given the involvement of IFC-backed entities. For investors and downstream buyers, the situation demonstrates how failures in early land mapping, transparent engagement, and independent monitoring can translate into production disruptions, heightened political volatility across Guinea's resource corridor, and long-term insecurity in a supply chain that now underpins global aluminium markets.

## **Case Study 4: Akyem Gold (Ghana)**

Akyem Gold Mine in Ghana is one of the country's largest open-pit gold operations. Originally owned by U.S.-based Newmont Corporation, the mine was acquired by the Chinese company Zijing Mining Group Company in 2024.<sup>24</sup> Since its inception, the project has been associated with complex social and environmental disputes, especially regarding land acquisition processes, compensation claims, and deforestation in the Ajenjua Bepo Forest Reserve.<sup>25</sup> These tensions escalated to international visibility when Newmont was awarded the 2009 Public Eye Critical Award, highlighting Akyem as one of the most controversial mining projects of its time.<sup>26</sup>

Community groups held protests throughout the 2000s and 2010s, some of which were met with violence. Media accounts document instances of injuries and fatalities during clashes involving security forces, reinforcing local distrust of both the company and state institutions.<sup>27</sup> In November 2005, two people were killed when security forces opened fire on farmers demanding compensation for their land, prompting a coalition of communities and NGOs to denounce what they described as a pattern of systematic violence by both industry and state actors against mining-affected populations.<sup>28</sup> Similar unrest resurfaced in 2018, when seven protesting farmers were injured after police used rubber bullets to disperse demonstrations, although Newmont maintained that all affected landholders had been fairly compensated.<sup>29</sup>

The new Chinese owner has publicly stated its commitment to "sustainable, green mining practices" and aims to extend the mine's life through further exploration and technical improvements. However, employees have expressed caution, wondering if a new company can maintain "high safety and environmental standards," which were perceived as rigorous despite the existing issues.<sup>30</sup>

Strategically, the Akyem case demonstrates how unresolved legacy disputes can embed long-term social, political, and reputational risks in a mining project, regardless of ownership changes. Even with compensation programs and formal grievance mechanisms, communities continue to judge the mine through the lens of past violence, contested land acquisition, and environmental degradation, issues that compensation alone cannot remedy without genuine participation, transparent decision-making, and credible ecological safeguards. For operators and investors, Akyem illustrates how initial missteps can harden distrust for decades, complicating future expansion plans and exposing companies to heightened scrutiny from civil society, regulators, and international observers. It highlights the strategic necessity of early, rights-based land engagement, culturally grounded dialogue, and independently verified environmental standards to ensure not only operational stability but also the social legitimacy required for long-term success.

### **Case Study 5: Tonkolili Iron Ore (Sierra Leone)**

The Tonkolili Iron Ore project, operated by African Minerals Limited (AML) until its collapse in 2015, was once Sierra Leone's flagship post-war investment. Its operations were suspended officially in 2019 and then revoked in 2020.<sup>31</sup> However, it is still remembered as one of West Africa's most serious governance failures in the mining sector. Human Rights Watch's *Whose Development?* report extensively documents forced relocations, inadequate compensation, repression of community protests, and widespread labor rights abuses during the project's early expansion phase.<sup>32</sup>

Villages across the concession reported being displaced with minimal consultation or inadequate housing provisions in its earliest phases in 2010 and 2011. By 2012–2013, social tensions escalated into open conflict.<sup>33</sup> Communities protesting inadequate compensation, polluted farmlands, and deteriorating water sources were met with heavy-handed responses, including violence and mass arrests by security forces.

## New Third Way - 2026

Workers described unsafe, unregulated conditions, unpaid wages, and a lack of protective equipment, while residents near haul roads reported severe dust pollution and damaged crops. These confrontations signaled a worsening breakdown of the project's social license, as both communities and labor groups grew increasingly alienated by AML's governance practices and the state's militarized approach to dissent.<sup>34</sup>

At the same time, AML's business model was becoming increasingly unstable. The company had financed its massive mine-rail-port corridor through aggressive borrowing and optimistic revenue forecasts, leaving it overexposed to global price swings. Operational challenges, including frequent disruptions from protests, land disputes, and labor actions, raised production costs and reduced investor confidence. Environmental safeguards remained weak, with runoff contaminating rivers and farmland, and no independent monitoring systems in place. These pressures compounded the company's financial vulnerabilities, eroding trust among lenders and straining relations with its key partner, Shandong Iron and Steel Group (SISG).<sup>35</sup>

The crisis peaked in 2014–2015, when global iron-ore prices collapsed. AML's fragile finances, built on high leverage and poor disclosure, were unable to absorb the shock. Cashflow evaporated, creditors withdrew, and emergency financing from SISG never materialized. Operational disruptions intensified as production slowed, workers went unpaid, and contractors halted services. In March 2015, AML entered administration, leaving thousands unemployed and communities without remedy for unresolved grievances over land, pollution, and forced relocation. The collapse marked one of the largest corporate failures in Sierra Leone's history.<sup>36 37</sup>

## After License Revocation

After operations were suspended in 2019 and the license revoked in 2020, successor companies inherited a deeply fractured social and environmental landscape marked by mistrust, unresolved land disputes, and degraded infrastructure. Strategically, Tonkolili stands as a stark warning: failures in land governance, labor rights, environmental management, and financial accountability can compound over time, transforming a flagship national project into a cautionary tale of lost social license, investor withdrawal, and long-term socio-economic damage for local populations.



## Why These Failures Matter for the Western Balkans

The Western Balkans face structural risks that resemble the early phases of several negative cases. The region has fragmented land rights, inconsistent land records systems, political influence over permitting, limited environmental monitoring capacity, and a legacy of public distrust rooted in industrial pollution from the socialist period. These conditions create vulnerability: without robust governance upgrades, accelerated investment in critical minerals could trigger similar patterns of conflict, regulatory breakdown, and social opposition.

Lithium in Serbia's Jadar region, nickel in North Macedonia, bauxite in Montenegro and Bosnia, and copper across the region all raise concerns about land acquisition, water impacts, biodiversity protection, and local livelihoods. Public resistance to mining, already visible in Serbia and Bosnia, shows that the region is at risk of entering the same confrontational path seen in Guinea and Ghana if mitigation frameworks are not strengthened. Furthermore, as the EU tightens due-diligence obligations under the Critical Raw Materials Act, Battery Regulation, and Corporate Sustainability Due Diligence Directive, Western Balkan countries will face immediate market-access consequences if governance failures mirror those of Indonesia or Sierra Leone. The region's aspiration to integrate into European supply chains cannot be realized if projects operate under opaque compensation practices, weak environmental oversight, or contested land processes.

The first and most important lesson is the need for transparent and participatory land-governance systems. Western Balkan governments must prioritize accurate land-tenure mapping, community representation, and full transparency in compensation formulas. FPIC-aligned engagement processes, even if not mandated by law, can prevent conflict and align projects with EU expectations. Second, independent oversight mechanisms (scientific, environmental, and social) are essential. Indonesia's negative examples show how dangerous it is when industrial expansion outstrips regulatory capacity. Western Balkan governments should establish or upgrade independent environmental agencies with real-time monitoring capability, transparent data-sharing, and enforcement powers insulated from political interference.

## New Third Way - 2026

Third, countries must design robust grievance mechanisms. These must be accessible, multilingual, time-bound, and publicly documented. The failures seen in Guinea and Sierra Leone show that grievance systems are not a secondary consideration, they are central to maintaining social stability and mitigating risk escalation. Fourth, worker safety and labor regulation require early investment. Both domestic and foreign contractors must adhere to international labor standards, including inspections, safety certifications, transparent accident reporting, and union access. The IMIP example shows how industrial megaprojects quickly become humanitarian risks when labor oversight is weak.

Fifth, pre-permit requirements must ensure strong financial and governance safeguards, not just technical plans. Companies should be obligated to secure ring-fenced rehabilitation funds, transparent compensation budgets, and verifiable long-term financing structures before extraction begins. The core lesson from Tonkolili is that weak financial governance and unsecured obligations allow a project to collapse on paper while communities and the state are left carrying the costs. Robust, enforceable financial guarantees are therefore essential to prevent a Tonkolili-style governance failure, where insolvency erases corporate accountability but not the liabilities owed to affected populations.

For the Western Balkans, the overarching lesson from these negative cases is that governance determines outcomes. Resource wealth does not guarantee stability or economic benefit. Where states build robust institutions, enforce transparency, and involve communities meaningfully, mining can support long-term development. Where they neglect these responsibilities, extractive industries become engines of conflict, corruption, and environmental harm. The region now stands at a crossroads. If it internalizes the lessons from Weda Bay, IMIP, CBG, Akyem, and Tonkolili, it can position itself as a reliable and sustainable supplier for European critical-material supply chains. But if it follows the negative trajectory of rushed development, weak enforcement, and poor community engagement, it risks repeating the most damaging patterns of the global extractives sector. For European policymakers, investors, and local governments, the message is clear: the Western Balkans can succeed only if it builds the institutional architecture that these five negative cases lacked: independent oversight, transparent land governance, rigorous environmental management, meaningful community participation, and long-term closure planning.

## Section References

1. <https://www.wedabaynickel.com/en/>
2. <https://www.cao-ombudsman.org/cases/indonesia-pt-weda-bay-nickel-01weda-bay>
3. <https://news.mongabay.com/2024/02/indonesian-nickel-project-harms-environment-and-human-rights-report-says/>
4. <https://cri.org/reports/ongoing-harms-limited-accountability/>
5. <https://www.japantimes.co.jp/environment/2025/05/28/nickel-stainless-steel-evs-indonesia-tribe/>
6. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2343957](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2343957)
7. <https://fwi.or.id/en/the-hazard-behind-mining-nickel-in-teluk-weda-bay/>
8. <https://cri.org/reports/ongoing-harms-limited-accountability/>
9. <https://www.cao-ombudsman.org/cases/indonesia-pt-weda-bay-nickel-01weda-bay>
10. <https://nickelindustries.com/section/indonesia-morowali-industrial-park-imip/>
11. <https://cri.org/indonesia-widespread-environmental-rights-violations-nickel-industry/>
12. <https://sembadabersama.org/press-release-workers-waiting-to-die-in-morowali-english-version/>
13. <https://sembadabersama.org/press-release-workers-waiting-to-die-in-morowali-english-version/>
14. <https://www.mining.com/web/indonesia-plans-to-punish-nickel-park-for-alleged-breaches/>
15. <https://jakartaglobe.id/news/sludge-collapse-kills-1-at-chinesefunded-nickel-plant-in-morowali>
16. <https://ipdefenseforum.com/2025/07/indonesia-to-punish-environmental-violations-at-chinese-controlled-nickel-processing-facility/>
17. <https://www.inclusivedevelopment.net/cases/guinea-alcoa-rio-tinto-bauxite-mine/>
18. <https://peoplesdispatch.org/2019/03/27/guineans-launch-complaint-against-international-finance-corporation-for-backing-land-grab-and-destruction-of-livelihood/>
19. [https://www.cao-ombudsman.org/sites/default/files/downloads/CAOAssessmentreport\\_CBG-01\\_Guinea\\_August2019ENGLISH\\_1.pdf](https://www.cao-ombudsman.org/sites/default/files/downloads/CAOAssessmentreport_CBG-01_Guinea_August2019ENGLISH_1.pdf)
20. <https://www.cao-ombudsman.org/case/guinea-cbg-01-sangaredi>

21. <https://shs.hal.science/halshs-03616755v1/document>
22. <https://www.sciencepublishinggroup.com/article/10.11648/j.ijmpem.20210603.13>
23. <https://peacenews.com/key-challenges-hindering-peace-in-guinea/>
24. <https://www.newmont.com/investors/news-release/news-details/2025/Newmont-Announces-Akyem-Mining-Lease-Ratification-Unlocking-100-Million-Payment/default.aspx>
25. [https://earthworks.org/blog/akyem\\_mine\\_ghana/](https://earthworks.org/blog/akyem_mine_ghana/)
26. <https://www.business-humanrights.org/es/%C3%BAltimas-noticias/pdf-public-eye-global-awards-newmont-corporation/>
27. <https://www.thenewdawnliberia.com/the-people-are-eating-their-bread-in-tears/>
28. <https://www.minesandcommunities.org/article.php?a=264>
29. <https://citinewsroom.com/2018/10/7-farmers-injured-in-newmont-protest-discharged/>
30. <https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Akyem-Mine-employees-cautiously-optimistic-about-sale-Majority-express-satisfaction-in-a-survey-1960130>
31. <https://www.mining-technology.com/projects/tonkolili-iron-ore-mine/>
32. <https://www.hrw.org/report/2014/02/19/whose-development/human-rights-abuses-sierra-leones-mining-boom>
33. <https://www.amnesty.org/en/documents/afr51/004/2012/en/>
34. [https://www.hrw.org/reports/sierraleone0214\\_ForUpload\\_0.pdf](https://www.hrw.org/reports/sierraleone0214_ForUpload_0.pdf)
35. <https://www.miningreview.com/top-stories/african-minerals-tonkolili-in-sierra-leone-on-care-and-maintenance/>
36. <https://www.reuters.com/article/markets/iron-ore-producer-african-minerals-to-go-into-administration-idUSL5N0W83NH/>
37. <https://www.theafricareport.com/3299/chinas-shandong-calls-in-african-minerals-debt/>

# Conclusions

This study has demonstrated that the global shift toward critical raw materials is not a temporary policy trend, but a structural transformation of how advanced economies organize production, security, and technological development. Across the European Union, the United States, and the United Kingdom, critical raw materials have been elevated to the level of strategic infrastructure, linking industrial policy, climate transition, and geopolitical resilience into a single framework. Within this emerging architecture, the Western Balkans occupy a position of growing relevance, not as a passive supplier, but as a potential component of a reconfigured European industrial system.

At present, however, the region remains positioned predominantly at the lowest end of the value chain. Despite possessing significant geological potential and proximity to EU markets, value creation is largely externalized, with extraction dominating over processing, recycling, and manufacturing. This structural imbalance represents the central development challenge identified in this report. Without a decisive shift toward midstream and downstream activities, where economic and strategic value is concentrated, the Western Balkans risk reinforcing a pattern of dependent integration that limits long-term growth and industrial upgrading.

The evidence further indicates that such a transition will not occur organically. Western experiences show that the development of critical raw materials value chains depends on deliberate state intervention, including risk-sharing mechanisms, long-term demand guarantees, and coordinated industrial policy. In their absence, high capital requirements, regulatory uncertainty, and market volatility act as persistent barriers to investment. For the Western Balkans, this implies that integration into European supply chains will require not only alignment with EU standards, but active participation in EU-backed financial, regulatory, and industrial frameworks.

At the same time, the constraints facing the region are not limited to capital or infrastructure, but extend deeply into governance and institutional capacity. Skills, data systems, regulatory coherence, and administrative efficiency emerge as decisive factors shaping industrial outcomes. The current gaps in hydrometallurgy, recycling capabilities, ESG enforcement, and permitting systems are not peripheral deficiencies, but structural limitations that define the region's ability to move up the value chain. Addressing them requires sustained investment and policy continuity, rather than isolated reforms.

## New Third Way - 2026

A particularly critical dimension is the role of environmental, social, and governance standards. The findings of this study confirm that ESG is no longer simply a compliance requirement, but a determinant of competitiveness and market access. In a context where social resistance to extractive projects remains high, and where Western partners increasingly condition cooperation on measurable ESG performance, the ability to secure and maintain social licence becomes a central component of industrial strategy. Projects that fail in this domain will not scale, regardless of their resource potential.

Comparative insights from developing economies reinforce both the opportunities and risks facing the Western Balkans. Positive examples demonstrate that countries which successfully moved beyond extraction, by investing in processing capacity, building institutional credibility, and leveraging strategic partnerships, were able to capture significantly higher levels of value and strengthen their position within global supply chains. Conversely, negative cases illustrate a recurring pattern of “extractive lock-in,” where weak governance, limited transparency, and insufficient local capacity resulted in environmental degradation, social conflict, and minimal domestic economic benefit. These experiences underline a central lesson: resource endowment alone does not determine outcomes, policy design, sequencing, and institutional strength do. For the Western Balkans, this suggests that partial or reactive reforms will not be sufficient. Instead, coordinated action across permitting, ESG standards, energy systems, financing frameworks, and regional cooperation is required to ensure that the region can respond at the scale and speed demanded by current global shifts in supply chains.

In conclusion, the Western Balkans stand at a strategic inflection point. The convergence of European industrial policy, global supply-chain restructuring, and the accelerating demand for critical raw materials creates a narrow but tangible window for transformation. The region can either remain an upstream supplier exposed to external decision-making and limited value capture, or evolve into an integrated participant in European value chains, capable of capturing higher levels of industrial, technological, and economic value. This outcome will depend on the speed, coherence, and credibility of reforms undertaken in the coming period. The opportunity is neither automatic nor guaranteed, but it is clearly defined, and increasingly time-bound.

# About the organization

New Third Way is a multidisciplinary organization founded in 2017 by a group of young professionals with the aim of changing the approach to political analysis in Serbia. From its very beginning, the organization has sought to provide the regional public with rigorous analyses of complex international phenomena and their impact on political and economic developments in the region. From the outset, the guiding objective of the organization has been to promote an approach to politics grounded in facts and responsibility, rather than in the growing influence of populism.

The mission of the organization is to contribute to social progress through evidence-based, academically grounded, and socially responsible public engagement.

In professional terms, the organization specializes in several core areas: international political analysis, public opinion research, media monitoring, political consulting, youth education, and public advocacy.

*This report is produced within the framework of the project “Strategic Minerals, Strategic Future: Policy Recommendations for Circular and Sustainable CRM Value Chains in Albania, North Macedonia and Serbia,” implemented by New Third Way and IRMA with the support of the Open Society Foundation – Western Balkans. The views and opinions expressed are those of the authors only and do not necessarily reflect those of the Open Society Foundation – Western Balkans.*

For more information:

**[info@novitreciput.net](mailto:info@novitreciput.net)**

Our website:

**[www.novitreciput.net](http://www.novitreciput.net)**

Design:

**Eterna Digital**

2026

---