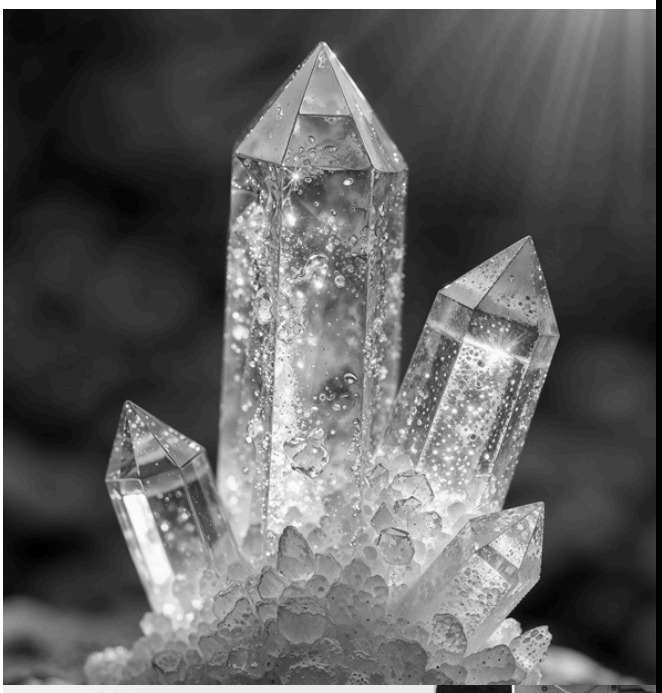





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Strengthening Critical Raw Materials Governance and Value Chains in the Western Balkans: Regional Policy Recommendations

Authors

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

info@novitreciput.net
www.novitreciput.net

Introduction

The transition towards climate neutrality, digitalization and strategic industrial resilience has fundamentally reshaped the role of critical raw materials (CRMs) within European economic and industrial policy. As demand for minerals such as lithium, copper, nickel, cobalt, graphite and rare earth elements continues to grow, securing sustainable and diversified supply chains has become a strategic priority for the European Union. This objective was formalized through the adoption of the European Critical Raw Materials Act (CRMA), which seeks to reduce dependence on external suppliers while promoting responsible extraction, processing, recycling and innovation throughout the European value chain. In this context, the Western Balkans occupy an increasingly important geopolitical and economic position. The region possesses considerable geological potential, proximity to European manufacturing centres and an emerging industrial base that could contribute significantly to Europe's long-term supply security.

However, discussions held during the expert roundtables in Belgrade, Tirana and Skopje demonstrate that the successful development of the CRM sector depends on considerably more than geological resources alone. Across all three countries, experts consistently argued that the principal challenges are institutional rather than geological. While Serbia, Albania and North Macedonia differ in terms of mineral endowments, regulatory maturity and industrial capacity, participants identified a remarkably similar set of structural constraints that continue to limit the sustainable development of the sector. The following issues were repeatedly identified as obstacles that affect both public acceptance and investor confidence:

- Weak institutional coordination
- Fragmented governance
- Inconsistent implementation of environmental legislation,
- Limited technical capacity within public institutions
- Declining public trust



The discussions also revealed that debates surrounding critical raw materials have become increasingly polarized throughout the region. Mining projects are frequently presented as a binary choice between economic development and environmental protection, leaving little room for evidence-based dialogue regarding the conditions under which responsible mineral development could contribute to broader sustainable development objectives. Experts from all three roundtables stressed that this polarization is reinforced by:

1) limited public access to reliable scientific information,
2) insufficient transparency in decision-making processes,
3) legacy of historical environmental degradation associated with mining activities.

Consequently, the concept of a "Transparent Governance, Community Rights and Public-Interest Decision-Making" emerged as a recurring theme across the discussions, highlighting that public confidence must be regarded not as a communication challenge but as a governance challenge requiring greater transparency, accountability and meaningful stakeholder participation. Beyond governance concerns, the three panels demonstrated a broad consensus that the Western Balkans should avoid positioning itself solely as a supplier of unprocessed mineral resources. Participants repeatedly argued that the greatest economic benefits will only be realised if mineral extraction is integrated with downstream processing, advanced manufacturing, recycling and technological innovation. The region's future competitiveness will therefore depend not only on expanding primary extraction but also on developing comprehensive value chains capable of generating higher levels of domestic value added. Experts emphasized that this approach is fully consistent with broader European industrial policy, which increasingly promotes strategic autonomy through integrated supply chains, circular economy principles and sustainable industrial ecosystems. In this regard, secondary raw materials, including electronic waste, industrial residues and historical mine tailings, were identified as an underutilised resource that could complement primary extraction while reducing environmental pressures and strengthening resource efficiency.

Institutional, not geological constraints

Critical Raw Materials are reshaping the EU's geopolitical resilience, but the Western Balkans' ability to integrate into these supply chains depends on resolving institutional weaknesses, low public trust, and systemic polarization rather than relying solely on geological reserves.



Another recurring finding across the three national discussions was the importance of institutional and human capacity as a prerequisite for successful CRM governance. Experts consistently observed that legislative reforms introduced over the past decade have often outpaced the ability of public institutions to implement them effectively. Environmental inspectorates frequently operate with limited personnel and technical resources, permitting authorities face increasingly complex technical assessments, and geological surveys require further modernization to meet contemporary standards. At the same time, universities throughout the region are experiencing declining enrollment in geology, mining engineering, metallurgy and related disciplines, creating a growing shortage of professionals capable of supporting future sectoral development. Participants therefore emphasized that investments in education, research and institutional strengthening should be regarded not as complementary measures but as fundamental components of any long-term CRM strategy.

Although each country highlighted certain national priorities, such as lithium development and battery manufacturing in Serbia, chromium processing and mineral governance reforms in Albania, or regulatory modernization and regional cooperation in North Macedonia, the overall discussions demonstrated substantial convergence regarding future policy directions. Rather than proposing fundamentally different national models, experts consistently advocated stronger governance, greater transparency, improved environmental protection, more effective public engagement, expanded industrial processing, increased recycling, enhanced research capacity and closer regional cooperation. This convergence suggests that many of the challenges facing the three countries are systemic in nature and therefore require policy responses that extend beyond individual national contexts.

This policy proposal builds upon those common findings by translating the principal conclusions of the Belgrade, Tirana and Skopje roundtables into a coherent set of regional policy recommendations. Rather than addressing mining policy in isolation, the proposal adopts a broader perspective that integrates governance reform, industrial development, environmental sustainability, circular economy principles, research, education and regional cooperation into a single policy framework. The recommendations are designed to support Serbia, Albania and North Macedonia in strengthening their participation in European Critical Raw Materials value chains while ensuring that economic competitiveness is accompanied by robust environmental safeguards, stronger public institutions and meaningful social benefits for local communities.

Ultimately, the report argues that the future success of the CRM sector in the Western Balkans will be determined not simply by the availability of mineral resources, but by the capacity of governments, industry, academia and civil society to build institutions that are transparent, technically competent and trusted by the public. By moving beyond a narrow focus on extraction and adopting a comprehensive approach to governance and industrial development, the three countries have an opportunity to transform their geological potential into a driver of sustainable economic growth, regional cooperation and closer integration with the European Union's strategic industrial agenda.

Moving forward, unlocking the Western Balkans' potential as a reliable strategic partner for the EU’s critical raw material supply requires moving beyond geology and addressing core governance bottlenecks. Unless public trust is restored through transparent decision-making, rigorous environmental enforcement, and inclusive, evidence-based dialogue, the region's vast mineral wealth will remain mired in societal polarization rather than serving as a driver for sustainable economic integration.

In regards to these findings, the CRM policy in the Western Balkans should be guided by a clear strategic hierarchy that places environmental responsibility, public interest and long-term regional value creation at its core. Governments should first seek to recover strategic materials from existing waste streams and environmental liabilities, including legacy mine tailings, industrial residues, electronic waste and other secondary sources, wherever recovery is technically, economically and environmentally viable. Where new primary extraction is considered, the existence of geological potential or strategic demand should not in itself constitute sufficient justification for development; projects should proceed only where rigorous environmental, social, economic and governance assessments demonstrate a clear public-interest case and show that potential impacts can be maintained within acceptable limits. In both secondary recovery and justified primary extraction, policy should seek to retain a greater share of economic and social value within the Western Balkans through local processing, skilled employment, technological development, public revenues and stronger regional value chains. The objective should therefore be not simply to position the region as a supplier of critical raw materials to European markets, but to develop a model that combines circular resource recovery and environmental restoration with responsible mineral governance and durable local and regional value creation.

The policy recommendations developed in this report translate this strategic approach into four mutually reinforcing areas of action. First, governments should prioritize the recovery of critical raw materials from secondary sources while linking resource recovery to circular economy objectives and the remediation of existing environmental liabilities. Second, where primary extraction is considered, stronger governance frameworks should ensure transparent and public-interest-based decision-making, meaningful community participation, independent scrutiny and effective environmental and social safeguards. Third, CRM development should support integrated regional value chains that expand processing, manufacturing, recycling and technological capabilities while maximizing local and public value through employment, skills development, local procurement, public revenues and durable community benefits. Finally, these objectives require stronger public institutions, modern geologic and environmental data systems, effective regulatory and monitoring capacity, investment in education and research, and deeper regional cooperation capable of building the scientific and human capital necessary for responsible CRM development.



Policy Recommendation 1: Prioritize CRM Reclaiming, Circularity and Environmental Remediation

The development of CRM policy in the Western Balkans should begin with a systematic assessment of the region's existing secondary resource base before considering the expansion of primary extraction. Discussions surrounding critical raw materials frequently focus on geological deposits and the potential development of new mines. As revealed in expert panels, substantial quantities of potentially recoverable materials are already present in legacy mine tailings, industrial residues, electronic waste, end-of-life batteries and other waste streams across the region. These resources should be treated as a strategic component of national and regional CRM policies rather than merely as a supplement to primary mineral extraction. Governments should therefore adopt a "reclaiming first" approach that systematically identifies opportunities to recover critical and strategic materials from existing waste streams wherever this is technically, economically and environmentally viable.

This approach is particularly relevant for the Western Balkans because reclaiming secondary resources has the potential to address several challenges simultaneously. The region has inherited significant environmental liabilities from historical mining and industrial activity, including abandoned or inadequately managed mine sites, tailings facilities and industrial waste deposits. In many cases, these sites continue to generate environmental risks while containing materials that could potentially be recovered using modern processing technologies. Reprocessing suitable legacy waste could therefore combine environmental remediation with resource recovery, transforming certain historical environmental liabilities into opportunities for sustainable economic activity. Such projects could contribute to the restoration of contaminated sites while generating strategic materials, employment, technological expertise and new investment in affected regions.

Governments should consequently develop comprehensive national inventories of secondary raw materials, covering legacy mine tailings, mining and metallurgical residues, industrial waste, electronic waste, batteries and other potentially recoverable material streams. These inventories should combine geological and environmental information with assessments of material composition, potential recoverability, environmental risks and economic feasibility. Geological surveys, environmental authorities, research institutions and universities should cooperate in developing these databases, while information concerning publicly significant waste and tailings sites should be made accessible through transparent digital platforms. Where appropriate, national inventories should also be designed according to compatible methodological standards in order to facilitate the development of a broader Western Balkan database of secondary CRM resources.

Legacy mine tailings deserve particular attention within this process. Rather than viewing historical tailings exclusively as waste requiring long-term management, governments should systematically assess whether modern recovery technologies can extract economically useful materials while simultaneously improving environmental conditions. However, the existence of recoverable minerals should not automatically justify reprocessing. Projects involving legacy sites should be evaluated against clear environmental criteria and should demonstrate that intervention will result in an overall improvement in environmental conditions, including the reduction of long-term risks associated with water contamination, dust, structural stability and unmanaged waste. Resource recovery should therefore be integrated with remediation objectives rather than creating a new cycle of environmental liabilities.

A similar strategic approach should be applied to electronic waste, end-of-life batteries and industrial waste streams. As consumption of electronics, batteries and other mineral-intensive technologies increases, urban mining and advanced recycling will become increasingly important sources of critical materials. Governments should strengthen collection and sorting systems, improve traceability of waste streams and support investment in modern recycling and material-recovery infrastructure. Regulatory frameworks should facilitate the safe movement of recyclable materials toward appropriately equipped recovery facilities while maintaining high environmental and occupational standards. Cooperation among Serbia, Albania and North Macedonia could be particularly valuable in this area, since individual national markets may not always generate sufficient volumes to support economically viable specialized recycling facilities. Regional collection networks and shared processing capacity could therefore create economies of scale while reducing dependence on the export of valuable waste streams.

Innovation and research should constitute another important pillar of the reclaiming strategy. Recovery from complex waste streams and historical tailings frequently requires advanced technologies capable of separating materials that were previously uneconomic or technically difficult to extract. Governments should therefore support cooperation between universities, geological institutes, technology centres and private companies in areas such as tailings characterization, hydrometallurgy, advanced separation technologies, battery recycling, urban mining and environmentally responsible waste recovery. Pilot projects could be used to evaluate both the technical feasibility and environmental implications of different recovery methods before their wider deployment. Participation in European research and innovation programmes should further support technology transfer and connect Western Balkan institutions with the rapidly developing European circular raw-materials economy.

Importantly, prioritizing reclaiming does not imply that all secondary resources can substitute for primary mineral production or that every legacy site should be commercially exploited. The technical feasibility, environmental consequences and economic viability of recovery will vary considerably between materials and locations. Rather, the purpose of a reclaiming-first approach is to ensure that opportunities for recovering materials already circulating within the economy or contained in historical waste are systematically evaluated before additional environmental pressures associated with new extraction are accepted. Secondary resources should therefore be prioritized wherever they provide a viable alternative or partial substitute for new primary extraction.

This principle also requires a clear distinction between secondary-resource recovery and decisions concerning new mines. Geological potential, growing European demand or the classification of a mineral as strategically important should not, by themselves, constitute sufficient justification for primary extraction. Where new extraction is proposed, governments should require a clear case for public interest demonstrating that the expected economic and strategic benefits justify the associated environmental and social costs. Such assessment should consider impacts on water resources, biodiversity, protected areas and local livelihoods, cumulative environmental pressures, tailings and waste-management risks, requirements for mine closure and rehabilitation, and the actual capacity of public institutions to monitor operations and enforce environmental standards throughout the project lifecycle. Where significant impacts cannot be adequately prevented, mitigated or remedied, governments should retain the ability to determine that extraction should not proceed.

Both reclaiming and any justified primary extraction should ultimately contribute to broader local and regional value creation. Resource recovery should not reproduce a model in which materials are extracted or recovered in the Western Balkans only to be exported in minimally processed form while most economic value is generated elsewhere. Governments should connect reclaiming strategies with investment in processing, recycling technologies, domestic suppliers, research, skilled employment and advanced manufacturing. Public value should also be assessed more broadly through public revenues, local procurement, skills development, community benefit-sharing, useful long-term infrastructure and secured financing for environmental rehabilitation and closure. This would help ensure that economic benefits are retained within the societies that bear the environmental and social consequences of resource development.

Regional cooperation could substantially strengthen the effectiveness of this approach. Serbia, Albania and North Macedonia face many similar challenges related to historical mining sites, waste management, limited recycling capacity and access to specialized technologies. Joint research programmes, compatible inventories of secondary resources, shared technical standards, regional recycling infrastructure and coordinated participation in European funding programmes could allow the three countries to achieve economies of scale that would be difficult to develop independently. A coordinated Western Balkan approach to secondary raw materials could also strengthen the region's position within European CRM value chains by presenting it not simply as a source of new mineral extraction but as a partner in the development of a more circular and resource-efficient European economy.

Prioritizing reclaiming and circularity would therefore establish a different strategic starting point for CRM policy in the Western Balkans. Rather than beginning with the question of how additional mineral resources can be extracted, governments should first determine how existing materials can be recovered more efficiently, how historical environmental liabilities can be remediated and how greater economic value can be generated from resources already present within regional economies. Primary extraction would remain a possible component of CRM policy, but only where it passes rigorous environmental, social, economic and governance assessments and demonstrates a clear public-interest justification. Such an approach would allow the Western Balkans to contribute to European raw-material security while simultaneously advancing environmental restoration, circularity, technological development and durable local economic value.

Policy Recommendation 2: Establish an Integrated Socially Responsible Governance Framework for Critical Raw Materials Development

The discussions held in Belgrade, Tirana and Skopje demonstrated a strong consensus that the future development of the CRM sector in the Western Balkans will ultimately depend less on the availability of mineral resources than on the quality of governance surrounding their development. Although participants represented different sectors, including government institutions, academia, industry, civil society organizations and international partners, they consistently argued that governance failures remain the single greatest obstacle to responsible CRM development. Weak institutional coordination, fragmented decision-making, inconsistent implementation of environmental legislation, insufficient transparency and declining public confidence have collectively created an environment in which even technically sound projects face considerable public resistance and regulatory uncertainty. Consequently, improving governance should not be viewed as a complementary objective alongside industrial development, but rather as the foundation upon which every other aspect of CRM policy must be built.

One of the clearest messages emerging from the three roundtables was that public opposition to mining cannot simply be attributed to environmental concerns or misinformation. Rather, it reflects a broader deficit of institutional trust that has accumulated over many years. Experts repeatedly noted that local communities often lack confidence in the ability of public authorities to effectively monitor environmental performance, enforce legal obligations or ensure that economic benefits are distributed fairly. Historical experiences with poorly regulated mining activities, environmental degradation and opaque administrative procedures continue to shape public perceptions, making communities skeptical of new investments regardless of the specific technologies or environmental safeguards proposed. As several participants observed, public trust cannot be rebuilt through communication campaigns alone. Instead, it requires institutional reforms that demonstrate transparency, accountability and consistency throughout the entire lifecycle of CRM projects.

For this reason, governments should adopt a comprehensive socially responsible governance framework that integrates regulatory reform, stakeholder participation and institutional accountability into a single policy architecture. It should broadly cover the issues of Transparent Governance, Community Rights and Public-Interest Decision-Making. Rather than treating public consultations, environmental assessments and permitting procedures as separate administrative requirements, these elements should become interconnected components of a transparent governance system designed to increase confidence among citizens, investors and public institutions alike. Such a framework should be incorporated into national CRM strategies and aligned with the principles of the European Critical Raw Materials Act, the Aarhus Convention and broader European environmental governance standards.

The roundtable discussions further highlighted the need to transform public participation from a procedural obligation into a continuous process of stakeholder engagement. Across the region, consultations frequently occur only after key investment decisions have already been taken, creating perceptions that public participation serves primarily to satisfy legal requirements rather than to influence project design. Governments should therefore require stakeholder engagement to begin during the earliest phases of project planning, including exploration and prefeasibility studies, when alternative project designs and mitigation measures remain under active consideration.

Establishing permanent Community Advisory Committees for strategically significant CRM projects would provide local authorities, civil society organizations, academic experts and community representatives with structured opportunities to review project developments, raise concerns and participate in ongoing dialogue with both investors and regulatory agencies. In parallel, governments should encourage the use of Community Benefit Agreements that clearly define commitments related to local employment, infrastructure development, environmental restoration, education and community investment. Such agreements would help ensure that local populations perceive tangible benefits alongside potential environmental risks, thereby strengthening the long-term social licence required for project implementation.

In broader sense, community participation should provide meaningful influence not only over how a project is implemented, but also over whether it should proceed where potential environmental and social impacts cannot be adequately prevented, mitigated or remedied. Consultation should therefore begin at the earliest stages of project development, before key decisions have been taken and while alternative options, including the possibility of not proceeding with the project, remain open. Affected communities should have timely access to relevant environmental and technical information, sufficient opportunities to raise concerns, and access to independent expertise where necessary to assess complex project documentation. Public participation should consequently be understood as an integral component of decision-making rather than as a procedural mechanism for securing acceptance of a predetermined project.

Community Advisory Committees can provide an important institutional mechanism for dialogue between affected communities, civil society organizations, public authorities and project developers, but meaningful participation also requires communities to possess the capacity to independently assess the information presented to them. Governments should therefore ensure timely and accessible disclosure of relevant environmental, technical and economic documentation throughout the project lifecycle, including Environmental Impact Assessments, baseline environmental data, water and biodiversity studies, tailings management and emergency-response plans, monitoring results, closure and rehabilitation plans, and information concerning projected economic and fiscal benefits. Wherever possible, environmental monitoring data should be made publicly available in accessible formats, allowing communities and civil society organizations to track project performance and compare actual impacts with commitments made during the permitting process.

Affected communities and civil society organizations should also have reasonable access to independent scientific, technical and legal expertise capable of scrutinizing complex project documentation and challenging assumptions where necessary. This could include mechanisms enabling independent experts, universities, research institutions or accredited laboratories to review EIAs, conduct or verify water and soil testing, assess tailings risks, examine closure and remediation plans, and evaluate claims concerning employment, public revenues and other anticipated economic benefits. Such independent capacity is particularly important where significant information and expertise asymmetries exist between project developers and local communities. Strengthening the ability of communities and CSOs to independently evaluate evidence would make stakeholder participation more substantive, improve accountability and help ensure that public decisions concerning CRM projects are based on transparent and contestable evidence rather than information provided primarily by project proponents.

Another component of this framework should be the establishment of stronger institutional coordination mechanisms. Across all three countries, experts emphasized that responsibilities related to mining, environmental protection, spatial planning, industrial development, transport and energy are frequently dispersed across multiple ministries and public agencies, creating fragmented decision-making processes and overlapping competences. This institutional fragmentation often results in inconsistent regulatory decisions, longer permitting procedures and uncertainty for both investors and affected communities. Governments should therefore establish permanent national CRM coordination bodies bringing together all relevant ministries and regulatory authorities under a common strategic framework. These bodies should be responsible for coordinating policy development, ensuring consistency between sectoral strategies, monitoring implementation and facilitating communication between different levels of government. Such coordination would not only improve administrative efficiency but would also reduce conflicting policy signals that currently undermine both public confidence and investment predictability.

Transparency should constitute the second pillar of the proposed governance framework. Throughout the discussions, participants repeatedly stressed that many public controversies surrounding CRM projects emerge because access to information is limited, fragmented or delayed. Governments should therefore move beyond minimum legal disclosure requirements by adopting proactive transparency policies that make information readily available throughout every stage of project development. This should include the publication of exploration licences, concession agreements, Environmental Impact Assessments (EIAs), permitting decisions, monitoring reports and compliance documentation through centralized digital platforms that are accessible to both experts and the general public. Environmental information should not only be disclosed but also presented in formats that are understandable to non-specialists, thereby enabling citizens to engage more meaningfully in decision-making processes.
Responsible CRM policy should explicitly recognize that not all proposed extraction projects will necessarily be environmentally, socially or economically acceptable, even where commercially viable deposits of strategically important minerals exist. Project approval should therefore depend on a comprehensive assessment of whether anticipated benefits justify the environmental and social costs and whether identified risks can realistically be prevented, mitigated, monitored and remedied over the entire project lifecycle.

Particular attention should be given to potential impacts on water availability and quality, biodiversity, protected and ecologically sensitive areas, agricultural land and local livelihoods, as well as to cumulative impacts arising from multiple industrial or mining activities within the same area. Assessments should also consider the long-term risks associated with tailings facilities and waste management, requirements for mine closure and site rehabilitation, and whether adequate financial guarantees are in place to prevent remediation costs from ultimately being transferred to the public. Equally important is the capacity of public institutions to ensure that environmental and social commitments are actually implemented.

Regulatory approval should not rely solely on the standards proposed on paper but should take into account whether responsible authorities possess sufficient personnel, technical expertise, monitoring equipment and enforcement powers to oversee compliance throughout exploration, construction, operation, closure and post-closure periods. Where potentially serious impacts cannot be adequately addressed, where long-term environmental liabilities remain disproportionate to expected public benefits, or where effective regulatory oversight cannot be credibly guaranteed, authorities should retain the ability to determine that a project should not proceed. Establishing such environmental and social red lines would reinforce the principle that CRM development is conditional on demonstrated public interest rather than being an automatic consequence of geological potential or strategic demand.

The credibility of environmental governance also depends upon the quality and independence of scientific expertise. Experts in all three panels emphasized that Environmental Impact Assessments often become the focal point of public controversy, yet confidence in these assessments remains limited due to concerns regarding their quality, independence and accessibility. To address these concerns, governments should establish independent scientific review mechanisms for strategically important CRM projects, drawing upon expertise from universities, geological surveys, research institutes and international organizations where appropriate. Independent peer review would strengthen confidence in scientific findings while reducing perceptions that environmental assessments are influenced by either political or commercial interests. At the same time, greater investment should be directed towards geological mapping, baseline environmental surveys and long-term environmental monitoring systems capable of generating high-quality scientific data before extraction begins. Reliable baseline information is essential not only for environmental protection but also for resolving future disputes regarding environmental impacts.

The discussions also underscored the importance of strengthening regulatory enforcement rather than focusing exclusively on legislative reform. Participants observed that environmental legislation in the Western Balkans has gradually become more aligned with European standards, yet implementation frequently remains constrained by limited staffing, inadequate technical resources and insufficient inspection capacity. Accordingly, governments should prioritize investments in environmental inspectorates, permitting authorities and regulatory agencies responsible for monitoring CRM activities. This includes increasing the number of specialized inspectors, improving laboratory and monitoring equipment, expanding digital monitoring capabilities and providing continuous professional training in emerging mining technologies, waste management, tailings safety and environmental risk assessment. Effective enforcement is critical for demonstrating that regulatory requirements are applied consistently and impartially, thereby reinforcing both investor confidence and public trust.

Finally, governance reform should also recognize the increasingly regional nature of CRM development. Although mining projects are implemented at the national level, many environmental challenges, supply chains, investment flows and regulatory expectations are shared across the Western Balkans. The three roundtables demonstrated considerable convergence regarding governance priorities, suggesting significant opportunities for regional cooperation in developing common standards for stakeholder engagement, environmental monitoring, inspection methodologies and information exchange. Establishing regular dialogue among regulatory authorities, geological surveys and environmental agencies would facilitate the exchange of best practices while supporting greater alignment with evolving European regulatory frameworks. Such cooperation would strengthen institutional learning and reduce duplication of effort, particularly in countries where technical resources remain limited.

Taken together, these reforms would establish a governance model that extends beyond regulatory compliance towards genuine public accountability. Rather than viewing environmental protection, public participation and industrial development as competing priorities, governments should recognize them as mutually reinforcing components of responsible CRM governance. A transparent and participatory governance framework would not only reduce social conflict and increase investor certainty but also strengthen the legitimacy of public institutions responsible for managing one of the region's most strategically important economic sectors. Ultimately, the long-term competitiveness of Serbia, Albania and North Macedonia within European Critical Raw Materials value chains will depend not only on their geological resources but also on their ability to demonstrate that those resources can be developed through governance systems that are transparent, scientifically credible, environmentally responsible and trusted by society.

Policy Recommendation 3: Build an Integrated Regional Critical Raw Materials Value Chain

While governance emerged as the most significant institutional challenge across the three expert roundtables, discussions in Belgrade, Tirana and Skopje demonstrated an equally strong consensus that the Western Balkans should fundamentally rethink its economic approach to critical raw materials. Experts repeatedly argued that the region should avoid becoming merely a supplier of unprocessed mineral resources to European and global markets. Instead, governments should pursue an integrated industrial strategy that maximizes domestic value creation through mineral processing, advanced manufacturing, recycling and technological innovation. Such an approach would not only generate greater economic returns but also strengthen the region's strategic relevance within European critical raw materials supply chains and contribute to the broader objectives of the European Critical Raw Materials Act.

Throughout all three discussions, participants emphasized that the economic benefits associated with critical raw materials increase significantly at each successive stage of the value chain. As they noted, greater value is generated through mineral refining, chemical processing, component manufacturing and the production of technologies such as batteries, renewable energy equipment and electric mobility systems. Experts therefore cautioned against viewing mining as an isolated sector. Instead, they argued that CRM policy should be integrated into broader industrial, innovation and trade strategies that encourage downstream investment and technological upgrading. Without such integration, the region risks reproducing a traditional model of resource extraction in which raw materials are exported while higher-value industrial activities and associated employment remain concentrated elsewhere. However, they also emphasized that primary extraction should be explicitly conditional on its demonstrated necessity, public value, and environmental and social acceptability.

This challenge is particularly relevant for the Western Balkans because no single country possesses sufficient market size, industrial capacity or investment potential to independently establish complete critical raw materials value chains. However, when viewed collectively, Serbia, Albania and North Macedonia possess complementary mineral resources, industrial capabilities, transport corridors and human capital that could support a far more competitive regional ecosystem. Instead, governments should increasingly place secondary raw materials, including electronic waste, industrial residues, historical mine tailings and end-of-life batteries, at the forefront of resource supply, treating primary mining as a secondary option while reducing environmental impacts.

The discussions repeatedly highlighted that regional cooperation should not be understood solely as political cooperation but also as economic integration capable of creating economies of scale that individual national markets cannot achieve independently. Governments should therefore move beyond nationally fragmented industrial policies and develop a coordinated regional approach that positions the Western Balkans as an integrated partner within European strategic supply chains.

The first component of such a strategy should involve strengthening downstream processing and industrial transformation. Experts consistently argued that public policy should encourage investments that move production beyond the extraction of concentrates toward higher-value processing activities wherever economically and technically feasible. Depending on the mineral resource base of each country, this could include mineral refining, precursor materials, specialty chemicals, advanced alloys or battery components. While the exact industrial configuration will differ across Serbia, Albania and North Macedonia, the underlying objective should remain consistent: increasing domestic value addition before export. Governments should therefore align investment incentives, industrial policies and infrastructure development with this objective, encouraging projects that generate technological spillovers, skilled employment and stronger integration with domestic suppliers rather than focusing exclusively on expanding extraction capacity.

Particular attention should also be given to strengthening local supplier ecosystems. Several participants noted that large-scale mining investments frequently rely on imported equipment, services and technical expertise, limiting broader economic spillovers within host countries. Governments should therefore develop targeted programmes supporting small and medium-sized enterprises (SMEs) seeking to participate in CRM-related supply chains. These initiatives could include supplier development programmes, technical assistance, certification support, preferential access to innovation funding and partnerships between multinational investors and domestic companies. Expanding local procurement would not only strengthen economic resilience but would also increase the distribution of benefits throughout local economies, thereby contributing to broader public acceptance of CRM projects.

The discussions also highlighted the growing importance of circular economy principles within future CRM policy. Participants across all three countries emphasized that sustainable supply cannot rely exclusively on primary extraction. Instead, governments should increasingly recognize secondary raw materials, including electronic waste, industrial residues, historical mine tailings and end-of-life batteries, as strategic resources capable of, not just complementing primary mining, but also being prioritized if they provide a viable alternative or partial substitute for new extraction.

This perspective reflects broader European policy developments, where recycling and resource efficiency have become essential pillars of supply security rather than merely environmental objectives. The roundtables demonstrated considerable agreement that the Western Balkans currently underutilizes these opportunities despite possessing substantial volumes of recoverable materials.

Governments should therefore adopt comprehensive circular economy strategies specifically designed for critical raw materials. Such strategies should prioritize the expansion of electronic waste collection systems, battery recycling infrastructure and facilities capable of recovering valuable minerals from industrial waste streams and abandoned mining sites. Historical tailings, many of which currently represent environmental liabilities, could increasingly become economic assets through the application of modern recovery technologies. National inventories of secondary raw materials should be developed to improve understanding of available resources and guide future investment decisions. At the same time, waste management legislation should be modernized to facilitate material recovery while maintaining high environmental standards. Integrating secondary resources into national CRM strategies would simultaneously strengthen resource security, reduce environmental pressures associated with primary extraction and support the development of new industrial activities.

Another recurring theme throughout the discussions concerned the role of innovation in increasing the competitiveness of the regional CRM sector. Experts emphasized that long-term competitiveness will depend not only on access to mineral deposits but also on the ability to develop new technologies, improve resource efficiency and participate in higher-value segments of international supply chains. Governments should therefore strengthen innovation ecosystems connecting universities, research institutes, technology centres and private industry. Public funding should support pilot projects focusing on advanced mineral processing, recycling technologies, digital mine management, environmental monitoring and urban mining. Innovation policies should also encourage collaboration between domestic research institutions and European initiatives such as Horizon Europe, EIT RawMaterials and other strategic research partnerships. Such cooperation would accelerate technology transfer while improving the international competitiveness of regional industries.

Digitalization should form an integral component of this industrial transformation. Experts noted that digital technologies increasingly influence every stage of modern CRM value chains, from geological exploration and environmental monitoring to supply chain transparency and recycling. Governments should therefore encourage the adoption of digital traceability systems capable of documenting the origin, processing and environmental performance of critical raw materials throughout their lifecycle. Such systems are becoming increasingly important within European industrial policy, particularly in relation to battery passports, sustainability reporting and responsible sourcing requirements. Developing digital infrastructure at an early stage would improve the compatibility of Western Balkan industries with evolving European market requirements while strengthening investor confidence and regulatory oversight.

The roundtables further demonstrated that stronger regional cooperation could significantly enhance the effectiveness of these industrial policies. Rather than competing to attract similar investments independently, Serbia, Albania and North Macedonia should explore opportunities for coordinated specialization based on their respective comparative advantages. Regional cooperation could include shared geological databases, harmonized technical standards, coordinated investment promotion, common approaches to recycling infrastructure and joint participation in European industrial initiatives. Existing regional cooperation mechanisms could provide useful platforms for advancing these objectives while reducing duplication of effort and strengthening the region's collective visibility among international investors. Such cooperation would also contribute to the development of more resilient regional supply chains capable of supporting European strategic autonomy in critical raw materials.

The development of integrated CRM value chains should be guided by a broad understanding of local and public value creation. Increasing domestic processing, manufacturing and technological capacity is essential, but the benefits generated by CRM development should not be measured solely in terms of investment volumes, exports or direct employment. Governments should also consider the extent to which resource development generates sustainable public revenues, strengthens local businesses, develops transferable skills and creates economic and social benefits that remain within affected communities and national economies over the long term. This is particularly important in ensuring that the Western Balkans do not bear a disproportionate share of the environmental and social costs associated with CRM development while higher-value economic activities and financial returns are concentrated elsewhere.

Fiscal arrangements should therefore ensure that CRM projects make an appropriate and transparent contribution to public revenues through taxes, royalties and other applicable payments. Governments should strengthen mechanisms for monitoring these revenues and, where appropriate, publicly disclose payments and their allocation in order to increase accountability and demonstrate the relationship between resource development and broader public benefit. Fiscal incentives designed to attract investment should be carefully assessed against their long-term public value, particularly where projects involve the exploitation of finite natural resources or create significant environmental liabilities. The objective should be to establish a predictable investment environment while ensuring that a reasonable share of the economic value generated by CRM activities contributes to public finances and long-term development priorities.

Local procurement and supplier development should constitute another important component of this approach. Large CRM projects can generate wider economic benefits when they source goods and services from domestic and regional companies rather than relying predominantly on imported equipment, contractors and expertise. Governments should encourage investors to develop transparent local procurement strategies and support SMEs in meeting the technical, environmental and certification standards required to participate in CRM supply chains. Such measures could strengthen domestic industrial capabilities, create indirect employment and allow knowledge and economic benefits to spread beyond individual extraction or processing sites. Greater emphasis should also be placed on skills development and knowledge transfer. Investments in extraction, processing, recycling and advanced manufacturing should contribute to building capabilities that remain valuable after individual projects have ended. Cooperation between companies, universities, vocational institutions and research centres could support apprenticeships, technical training, scholarships, professional exchanges and technology-transfer programmes. Particular attention should be given to developing transferable expertise in areas such as environmental monitoring, mineral processing, recycling technologies, engineering, digitalization and mine rehabilitation. This would help ensure that CRM investment contributes to the development of a broader regional knowledge base rather than creating isolated industrial activities dependent on imported expertise.

At the community level, benefit-sharing mechanisms should ensure that populations directly affected by CRM activities experience tangible and durable improvements alongside broader national economic gains. These may include targeted community investment, local employment and procurement commitments, support for education and training, environmental restoration and infrastructure development. Where infrastructure such as roads, water systems, energy networks or digital connectivity is developed in connection with a project, planning should seek to ensure that it provides lasting public utility rather than serving exclusively the operational requirements of the investor. Community benefit arrangements should be transparent, developed through meaningful consultation and designed to complement rather than substitute for companies' fiscal, environmental and regulatory obligations.

Finally, local value creation must incorporate the full lifecycle costs of CRM development. Governments should require credible closure and rehabilitation plans from the outset of projects and ensure that sufficient financial guarantees are secured before significant environmental liabilities arise. Dedicated financial assurance mechanisms should provide resources for mine closure, site rehabilitation, long-term environmental monitoring and, where necessary, remediation even if an operator becomes insolvent or leaves the market. Closure planning should also consider the economic transition of affected communities, including the future use of infrastructure and land and the transferability of skills developed during project operation. Integrating these considerations into CRM value-chain policy would help ensure that short-term economic benefits are not achieved at the expense of long-term public liabilities and that a greater proportion of the value generated from the region's resources remains within the Western Balkans.

At the same time, governments should ensure that industrial development remains closely linked to environmental sustainability. Participants consistently argued that competitiveness and environmental protection should not be viewed as opposing objectives. Instead, resource efficiency, cleaner production technologies, responsible waste management and circular economy practices increasingly represent competitive advantages within European markets. Industrial policy should therefore encourage investments that meet high environmental standards while supporting climate objectives and efficient resource utilization. Aligning industrial incentives with sustainability objectives would reinforce the credibility of national CRM strategies and facilitate closer integration into European green industrial value chains.

Ultimately, the discussions held across the three countries point towards a common conclusion: the future success of the Western Balkans in the critical raw materials sector will depend not simply on extracting more minerals, but on creating significantly more value from the resources already available. By integrating extraction with downstream processing, advanced manufacturing, recycling, innovation and regional cooperation, governments can transform the CRM sector from a traditional extractive industry into a driver of industrial modernization, technological development and sustainable economic growth. Such an approach would not only strengthen the competitiveness of Serbia, Albania and North Macedonia within European supply chains but would also ensure that the economic benefits generated by critical raw materials are retained to a much greater extent within the region itself, contributing to long-term prosperity, resilience and strategic integration with the European Union.

Policy Recommendation 4: Strengthen Institutional Capacity, Research and Human Capital

The expert discussions held in Belgrade, Tirana and Skopje consistently demonstrated that the long-term success of the CRM sector will depend not only on improved governance or industrial development, but also on the ability of governments to build the institutional, scientific and human capacities required to manage an increasingly complex and technologically advanced industry. Across all three roundtables, participants repeatedly emphasized that while legislative reforms have progressed considerably over the past decade, institutional capabilities have not developed at the same pace.

Public administrations frequently struggle to evaluate increasingly sophisticated mining and processing projects, environmental inspectorates often lack the personnel and technical resources necessary for effective oversight, and geological institutions require further modernization to provide reliable data for policymakers and investors alike. At the same time, universities across the region are producing fewer graduates in disciplines directly relevant to the CRM sector, creating growing shortages of geologists, mining engineers, metallurgists, environmental scientists, chemists and technical specialists. These structural weaknesses threaten not only the effective implementation of environmental and mining legislation but also the region's ability to participate in increasingly knowledge-intensive European value chains.

The discussions revealed broad agreement that future competitiveness in the CRM sector will depend as much on knowledge and innovation as on geological endowment. Modern mining projects require expertise in digital technologies, advanced environmental monitoring, geospatial analysis, mineral processing, waste recovery, circular economy solutions and sustainable resource management. Likewise, European industrial policy is increasingly rewarding countries capable of providing not only raw materials but also scientific expertise, research capacity and technological innovation. Participants therefore argued that investments in education, research and institutional strengthening should be regarded as strategic economic investments rather than expenditures supporting the mining sector alone. A modern CRM ecosystem requires highly capable public institutions, internationally competitive research organizations and a workforce capable of adapting to rapidly evolving industrial and environmental standards.

Strengthening public institutions should therefore constitute the first priority of this policy recommendation. Throughout the three panels, experts observed that ministries responsible for mining, environmental protection, economy and spatial planning often operate under significant resource constraints. Regulatory agencies responsible for issuing permits and monitoring compliance increasingly face technically complex projects involving advanced extraction technologies, large-scale waste management facilities and stringent environmental requirements. However, staffing levels, technical equipment and opportunities for professional development frequently remain insufficient to meet these new responsibilities.

Governments should therefore adopt long-term capacity-building programmes aimed at strengthening the technical competence of institutions involved in CRM governance. This should include expanding recruitment of specialized personnel, introducing continuous professional training programmes, investing in digital permitting systems and improving cooperation among ministries, inspectorates and geological surveys. Building stronger public institutions will not only improve regulatory effectiveness but also enhance investor confidence by creating more predictable, transparent and technically credible administrative procedures.

Environmental inspectorates deserve particular attention within this broader process of institutional reform. Participants repeatedly emphasized that environmental legislation can only achieve its intended objectives if enforcement institutions possess the capacity to monitor compliance effectively and respond promptly to environmental risks. Many inspectorates throughout the region continue to operate with limited staffing, outdated monitoring equipment and insufficient laboratory capacity, making continuous oversight of complex industrial facilities increasingly difficult. Governments should therefore prioritize investments in modern environmental monitoring technologies, laboratory infrastructure and digital inspection systems capable of supporting evidence-based regulatory decisions. Inspectorates should also receive specialized training in emerging issues such as tailings management, groundwater monitoring, mine closure planning, biodiversity protection, greenhouse gas emissions and the recovery of secondary raw materials. Strengthening regulatory enforcement in this manner would contribute significantly to rebuilding public confidence while ensuring that environmental standards are implemented consistently throughout the lifecycle of CRM projects.

Another recurring theme across all three discussions was the urgent need to modernize geological knowledge and data management systems. Experts consistently stressed that reliable geological information forms the foundation of sound policymaking, responsible investment and efficient resource management. In several cases, participants noted that existing geological surveys remain incomplete, outdated or fragmented, limiting governments' ability to assess resource potential, prioritize exploration activities or attract responsible investors. Governments should therefore invest in the modernization of national geological surveys through advanced geospatial technologies, digital resource databases and systematic geological mapping programmes. These efforts should extend beyond primary mineral deposits to include comprehensive assessments of secondary raw materials, including mine tailings, industrial waste, electronic waste and other recoverable resources. Establishing interoperable digital geological databases would improve coordination among public institutions while facilitating cooperation with neighbouring countries and European geological initiatives. Enhanced geological information would also support more informed land-use planning, environmental assessments and investment decisions.

As mentioned before, institutional capacity should also reflect the broader strategic hierarchy of CRM policy, including the prioritization of secondary resources and rigorous public-interest assessment of proposed primary extraction. Geological surveys, environmental authorities and other relevant institutions should develop the technical capacity to identify and assess recoverable secondary resources and determine where their recovery could simultaneously generate economic value and contribute to environmental remediation. At the same time, regulatory authorities should possess sufficient interdisciplinary expertise to independently evaluate whether proposed primary extraction projects demonstrate a credible public-interest case. This requires the capacity to assess not only technical feasibility but also impacts on water, biodiversity and local livelihoods, cumulative environmental pressures, long-term environmental liabilities, expected public revenues and local economic benefits, and the adequacy of proposed mitigation, closure and rehabilitation measures.

The discussions also revealed growing concern regarding the availability of qualified professionals capable of supporting future sectoral development. Universities throughout the Western Balkans have experienced declining enrolment in geology, mining engineering and related technical disciplines, while many experienced professionals have migrated abroad in search of more competitive employment opportunities. Participants warned that without sustained investment in education, the region risks developing significant mineral resources without possessing the domestic expertise required to manage them effectively.

Governments should therefore work closely with universities, vocational institutions and industry to modernize educational programmes and align curricula with the evolving needs of the CRM sector. Beyond traditional mining disciplines, programmes should increasingly incorporate environmental engineering, mineral processing, materials science, recycling technologies, battery technologies, digital mine management, geographic information systems, artificial intelligence and data analytics. Such interdisciplinary education would better reflect the increasingly integrated nature of modern resource management while preparing graduates for employment across a much broader range of industrial activities.

Vocational education should receive similar attention. While public discussions often focus on highly specialized scientific expertise, experts from all three panels emphasized the growing shortage of skilled technicians, laboratory personnel, environmental monitoring specialists, equipment operators and maintenance professionals. Governments should therefore strengthen vocational education and training systems through closer cooperation with industry, practical apprenticeship programmes and continuous skills development initiatives. Partnerships between educational institutions and private companies should be encouraged to ensure that training programmes remain aligned with technological developments and labour market demand. Supporting lifelong learning opportunities would further enable existing workers to adapt to new technologies associated with digitalization, automation and the circular economy.

Research and innovation emerged as another area where stronger regional cooperation could generate substantial benefits. Participants consistently argued that no single country within the Western Balkans possesses sufficient scientific capacity to independently address all research challenges associated with the CRM sector. However, when combined, the universities, geological institutes and research centres across Serbia, Albania and North Macedonia represent a considerable knowledge base that could be mobilized more effectively through regional cooperation. Governments should therefore promote collaborative research programmes addressing topics such as sustainable mining technologies, mineral processing, environmental monitoring, waste recovery, circular economy solutions and climate-resilient resource management. Joint participation in European research initiatives, including Horizon Europe, EIT RawMaterials and other collaborative funding programmes, would provide valuable opportunities to strengthen scientific networks, attract research funding and accelerate technology transfer into the region.

Building on this regional perspective, the establishment of a Western Balkans Centre for Critical Raw Materials Excellence could provide an institutional platform for coordinating research, education and policy development across the region. Such a centre could serve as a hub for interdisciplinary research, professional training, policy analysis and technical assistance while facilitating cooperation between governments, universities, industry and international partners. It could also coordinate regional data collection, develop common methodological standards for environmental monitoring and organize regular knowledge exchange among regulators, researchers and practitioners. Rather than duplicating existing national institutions, the centre would complement them by providing shared expertise and promoting greater regional integration within European research and innovation networks.

Knowledge sharing should also become an integral component of regional CRM governance. The three roundtables demonstrated that many of the challenges confronting Serbia, Albania and North Macedonia are remarkably similar, despite differences in mineral resources and regulatory systems. Governments should therefore institutionalize regular exchanges of experience among regulatory authorities, geological surveys, environmental agencies, universities and industry representatives. Annual regional CRM forums, technical working groups and joint training programmes could facilitate the dissemination of best practices while supporting greater harmonization of regulatory approaches and environmental standards. Such cooperation would strengthen institutional learning, reduce duplication of effort and improve the region's collective capacity to respond to rapidly evolving European policy developments.

Finally, strengthening institutional capacity should be understood as an ongoing process rather than a one-time reform initiative. The CRM sector is evolving rapidly as technological innovation, climate policy, digitalization and changing geopolitical dynamics continue to reshape global supply chains. Public institutions must therefore develop the flexibility and technical capability necessary to adapt to these changes over time. Continuous investment in professional development, research infrastructure and institutional modernization should become permanent components of national CRM strategies rather than temporary project-based activities. Equally important, governments should recognize that investments in education, research and public administration generate benefits extending well beyond the mining sector itself. Strong scientific institutions, skilled workforces and capable public administrations contribute to broader industrial competitiveness, technological innovation and sustainable economic development across multiple sectors of the economy.

Ultimately, the discussions in Belgrade, Tirana and Skopje point to a common conclusion: the future competitiveness of the Western Balkans within European Critical Raw Materials value chains will depend not only on the resources beneath the ground, but also on the knowledge, institutions and people above it. By strengthening institutional capacity, investing in education and research, modernizing geological knowledge and promoting regional scientific cooperation, governments can create the foundations for a CRM sector that is technologically advanced, environmentally responsible and capable of generating long-term economic value. Such investments will ensure that the region is not merely a source of critical raw materials but also a producer of expertise, innovation and highly skilled human capital capable of supporting Europe's green and digital transition for decades to come.

To underpin this ambitious agenda, governments across the Western Balkans must recognize that high-level legislative reforms will remain largely theoretical without a parallel, long-term commitment to rebuilding institutional and scientific capacity. Bridging the persistent gap between policy adoption and real-world enforcement requires a comprehensive modernization of public administration. Ministries and regulatory bodies overseeing mining, environmental protection, and spatial planning must be provided with the technical tools, modern analytical equipment, and competitive working conditions needed to effectively review complex projects and enforce stringent standards. Strengthening environmental inspectorates and equipping geological surveys with cutting-edge data management systems are critical first steps toward creating a transparent, predictable, and highly competent regulatory framework capable of regaining public trust.

Simultaneously, securing long-term competitiveness in an increasingly knowledge-intensive sector requires treating education and research as core strategic economic investments. The growing deficit of qualified geologists, mining engineers, environmental scientists, and metallurgists across the region threatens to stifle future industrial development and limit regional participation to basic extraction. Governments and academic institutions must urgently collaborate to modernize university curricula, incentivize STEM education, and establish joint research centers focused on circular economy solutions, advanced recycling, and low-impact processing technologies. By pairing a highly skilled technical workforce with modernized public oversight institutions, the Western Balkans can move beyond mere resource supplier status and establish itself as an innovative, trusted partner within the broader European critical raw materials ecosystem.

Implementation Considerations

The three policy recommendations presented in this report are intended to function as complementary components of a broader regional strategy rather than as independent policy initiatives. While each recommendation addresses a distinct dimension of CRM governance, their successful implementation depends upon coordinated action across multiple policy domains, institutions and levels of government. Governance reforms cannot succeed without stronger institutional capacity; industrial development cannot generate sustainable benefits without transparent governance and public confidence; and investments in education and research will only translate into economic growth if they are connected to broader industrial and innovation strategies. Consequently, implementation should follow an integrated, phased approach that recognizes the interdependence of governance, industrial development and human capital.

At the national level, governments should begin by embedding CRM priorities within broader economic, industrial, environmental and energy policies rather than treating mining as a standalone sector. National CRM strategies should therefore be closely aligned with industrial development plans, circular economy strategies, climate and energy policies, spatial planning frameworks and national research and innovation agendas. Such policy coherence would reduce institutional fragmentation, improve coordination between ministries and create a more predictable regulatory environment for both investors and local communities. At the same time, governments should ensure that policy development remains sufficiently flexible to accommodate the distinct geological characteristics, industrial structures and administrative capacities of each country while maintaining common strategic objectives across the region.

Given the cross-sectoral nature of CRM development, implementation should be coordinated through permanent interministerial mechanisms bringing together institutions responsible for mining, environmental protection, economy, finance, transport, education, science, labour and regional development. Throughout the three expert discussions, participants repeatedly highlighted that fragmented institutional responsibilities frequently delay decision-making and weaken policy implementation. Establishing national coordination bodies with clearly defined mandates would improve policy coherence while facilitating communication between public institutions, regulatory authorities and external stakeholders. These mechanisms should also include regular consultation with geological surveys, research institutions, industry representatives, local governments and civil society organizations to ensure that implementation remains responsive to emerging challenges and incorporates a broad range of technical expertise.

Successful implementation will also require sustained financial commitment. Many of the reforms proposed in this report, including modernization of geological surveys, strengthening environmental inspectorates, expansion of recycling infrastructure, development of research facilities and investment in education, cannot be achieved solely through existing public budgets. Governments should therefore actively leverage available European and international financing instruments that support sustainable industrial development, environmental protection and innovation. Instruments such as the EU Instrument for Pre-accession Assistance (IPA III), Horizon Europe, EIT RawMaterials, the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and other international financial institutions provide significant opportunities to support institutional reforms, infrastructure development, research collaboration and industrial modernization. Coordinating national priorities with these funding mechanisms would accelerate implementation while strengthening alignment with broader European strategic objectives.

The private sector should likewise play an active role in implementation rather than serving solely as a regulated entity. Throughout the roundtables, experts emphasized that responsible companies increasingly recognize that transparent governance, environmental stewardship and community engagement contribute to long-term business stability and investment security. Governments should therefore encourage partnerships between public institutions and industry in areas such as vocational education, applied research, technology transfer, environmental monitoring and supplier development. Public-private cooperation can help bridge knowledge gaps, accelerate innovation and ensure that educational programmes reflect evolving labour market demands. However, such cooperation must remain governed by transparent rules and clear accountability mechanisms to preserve public confidence and avoid perceptions of regulatory capture.

Universities and research institutions represent another critical implementation partner. As highlighted throughout the expert discussions, strengthening the CRM sector requires more than regulatory reform; it requires the development of a robust knowledge ecosystem capable of supporting technological innovation, environmental protection and evidence-based policymaking. Governments should therefore engage higher education institutions not only in workforce development but also in policy evaluation, environmental assessment, geological research and technological innovation. Expanding collaboration between academia and industry would improve the practical relevance of research while providing students with opportunities to develop the technical skills required by an evolving CRM sector. Regional academic cooperation should be equally encouraged, enabling universities and research centres across Serbia, Albania and North Macedonia to jointly address common scientific and technological challenges.

Regional cooperation should constitute one of the defining principles guiding implementation. Although mining projects remain national responsibilities, many of the issues identified during the three panels, including supply chain integration, environmental standards, workforce shortages, research capacity and investment promotion, extend beyond national borders. Governments should therefore strengthen cooperation through existing regional frameworks while exploring new mechanisms specifically focused on Critical Raw Materials. Joint geological research, harmonization of technical standards, regional training programmes, coordinated investment promotion and shared research infrastructure would allow the three countries to benefit from economies of scale while presenting the Western Balkans as a more attractive destination for responsible investment. Such cooperation would also facilitate greater integration into European industrial value chains by demonstrating regional policy coherence and institutional maturity.

Monitoring and evaluation should be incorporated into implementation from the outset. Participants across all three panels emphasized that policy effectiveness should be assessed not only through the number of mining projects approved or investment volumes attracted but also through broader governance, environmental and socioeconomic outcomes. Governments should therefore establish measurable indicators covering institutional performance, permitting efficiency, environmental compliance, public participation, recycling rates, research outputs, workforce development and local economic benefits. Regular public reporting against these indicators would strengthen transparency while allowing policymakers to adjust implementation strategies as circumstances evolve. Independent evaluations involving academic institutions and external experts could further enhance accountability and support continuous policy learning.

Finally, governments should recognize that implementation represents a long-term process rather than a single legislative or administrative reform. The global CRM landscape is evolving rapidly in response to technological innovation, geopolitical developments, climate policies and changing patterns of industrial demand. Consequently, national strategies must remain adaptive and capable of responding to new technological opportunities, emerging environmental challenges and evolving European regulatory frameworks. Continuous institutional learning, regular policy review and sustained investment in research and human capital will therefore be essential for maintaining competitiveness over the coming decades.

Conclusion

The expert roundtables conducted in Belgrade, Tirana and Skopje revealed a remarkable degree of convergence regarding both the opportunities and the challenges associated with Critical Raw Materials in the Western Balkans. Although Serbia, Albania and North Macedonia differ in their geological potential, industrial structures and regulatory experience, experts consistently identified governance, institutional capacity, public trust, industrial integration, environmental sustainability and human capital as critical determinants of future success. These findings demonstrate that the region's principal challenges extend beyond questions of mineral availability or extraction capacity and instead require an integrated approach connecting resource management with environmental protection, industrial policy, technological development and accountable public institutions.

The four policy recommendations presented in this report translate this approach into a clear strategic hierarchy. Western Balkan governments should first seek opportunities to recover critical raw materials from secondary sources, including legacy mine tailings, industrial residues, electronic waste and other existing waste streams, particularly where recovery can simultaneously contribute to environmental remediation and economic development. Where new primary extraction is considered, geological potential or strategic demand should not in itself constitute sufficient justification for development. Projects should proceed only where rigorous environmental, social, economic and governance assessments demonstrate a clear public-interest case, where potential impacts can be maintained within acceptable limits and where institutions possess sufficient capacity to monitor and enforce commitments throughout the project lifecycle. This approach recognizes that responsible CRM policy must retain the possibility that some proposed projects should not proceed where environmental and social risks cannot be adequately addressed or where expected public benefits do not justify their long-term costs.

At the same time, both secondary resource recovery and justified primary extraction should contribute to durable local and regional value creation. The Western Balkans should avoid a development model in which environmental and social costs remain concentrated within the region while raw materials and higher-value economic activities are transferred elsewhere. CRM policy should instead encourage downstream processing, recycling, advanced manufacturing, technological innovation and stronger domestic supplier ecosystems, while ensuring that resource development contributes to public revenues, local procurement, skills and knowledge transfer, community benefits and infrastructure with value beyond the lifetime of individual projects. Stronger regional integration can help Serbia, Albania and North Macedonia achieve the economies of scale, specialization and technological capabilities that individual national markets may struggle to develop independently.

Achieving these objectives will ultimately depend on the quality and independence of the institutions responsible for implementing them. Governments require stronger capacity to assess secondary resources, independently determine whether proposed primary projects satisfy public-interest requirements, monitor environmental performance and enforce closure and rehabilitation obligations. Communities and civil society organizations must likewise have meaningful opportunities to participate in decision-making and sufficient access to information and independent expertise to scrutinize environmental assessments, water studies, tailings plans and economic claims. Modernized geological surveys, stronger environmental inspectorates, investment in education and research, regional knowledge exchange and the proposed Western Balkans Centre for Critical Raw Materials Excellence can collectively provide the institutional, scientific and human foundations required for this more demanding model of resource governance.

The future role of the Western Balkans within European Critical Raw Materials value chains should therefore not be measured primarily by the volume of minerals extracted. A more meaningful measure of success will be the region's ability to recover value from resources already present in waste streams and environmental liabilities, make credible and transparent decisions about where new extraction is genuinely justified, protect communities and ecosystems, and retain a greater share of the resulting economic and technological benefits. By combining circular resource recovery and environmental restoration with responsible mineral governance, higher-value regional industries and stronger public institutions, Serbia, Albania and North Macedonia can position themselves not simply as suppliers of strategic materials, but as partners in a more circular, resilient and sustainable European raw-materials system.

New Third Way - 2026

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

Our website:
www.novitreciput.net

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