

Exploring the Creation of a Joint Atlantic Critical Minerals Partnership

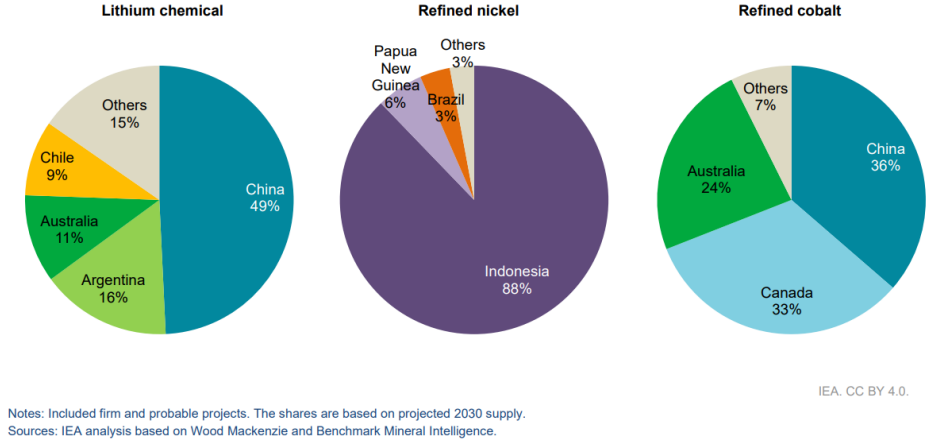
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Critical minerals, such as lithium, cobalt, nickel, and rare earth elements, are indispensable to the modern economy, particularly in the sectors of renewable energy, high-tech manufacturing, and defense. Global demand for these minerals is projected to surge, with demand for critical minerals in clean energy technologies set to increase rapidly in all scenarios. This growth is driven by the transition to electric vehicles, digital infrastructure, and clean energy technologies. The geopolitical stakes surrounding their supply chains have consequently intensified. In the Announced Pledges Scenario (APS), demand is expected to more than double by 2030. In the Net Zero Emissions by 2050 (NZE) Scenario, demand for critical minerals is projected to increase by three and a half times by 2030, exceeding 30 million tonnes (IEA, 2023).

Nations are increasingly competing to secure and diversify their sources of these minerals, while existing supply chains remain vulnerable to disruption due to over-reliance on a small number of key suppliers. The repeated disruptions of supply chains throughout the 2010s and early 2020s have prompted political and economic leaders, particularly in the United States, Europe, and Japan to seek ways to mitigate the risks associated with such dependence. The IEA Critical Minerals Policy Tracker identified nearly 200 policies and regulations across the globe, with over 100 of these enacted in the past few years. The embargo on rare earth elements imposed by China on Japan in 2010—supposedly in response to a territorial dispute over the Senkaku/Diaoyu Islands—along with the introduction of tariffs and export restrictions during the U.S.-China trade war and the ongoing war in Ukraine, illustrate a broader global trend towards geoeconomic fragmentation and the increased use of coercive economic statecraft.

In this context, the Wider Atlantic, which spans nations in Africa, Europe, and the Americas presents an untapped opportunity for greater collaboration in critical mineral supply chains. Currently, many of the countries of this space depend heavily on extra-Atlantic partners, such as China, which dominates the processing and refining stages of critical minerals. According to the International Energy Agency, recent efforts to diversify supply sources have seen limited progress, and in some cases, supply concentration has even intensified. As of 2022, the market share held by the top three producers remains unchanged or has increased, particularly for critical minerals like nickel and cobalt. While the pipeline for new mining projects shows some potential for diversification, refining capacity remains highly concentrated (see figure 1), with a notable geographic clustering. Most new projects are located in incumbent regions, with China accounting for half of planned lithium chemical plants and Indonesia representing nearly 90% of planned nickel refining facilities (IEA, 2023).

Figure 1: Geographical distribution of planned refining projects for key minerals, 2023-2030 (IEA)



Resource-rich countries are increasingly aiming to move up the value chain, while consuming nations seek to diversify their sources of refined metals. However, the global supply chain remains far from achieving true diversification, particularly in the midstream stages. For example, China currently dominates rare earth refining, controlling 85–90% of global capacity. It also refines 68% of the world’s cobalt, 65% of its nickel, and 60% of its lithium—minerals essential for electric vehicle battery production (Goldman Sachs Research, 2023).

China's growing role in industries associated with these minerals is thus cited as a key factor in several countries' decisions to reconfigure their supply chains. According to estimates, 65% of battery components, 71% of battery cells, and 57% of electric vehicles worldwide are manufactured in China (Goldman Sachs Research, 2023). The emergence of China as a leading player in the value chains related to renewable energy and green technologies is also a determining factor in numerous initiatives aimed at "de-risking" and diversifying supply chains. The significant growth in Chinese demand has also raised concerns about the introduction of new export quotas and restrictions. In 2018, China became a net importer of seven rare earths, which poses a risk of market tightening (Nakano, 2021). This dependency poses strategic vulnerabilities, particularly in terms of supply security, trade imbalances, and geopolitical leverage.

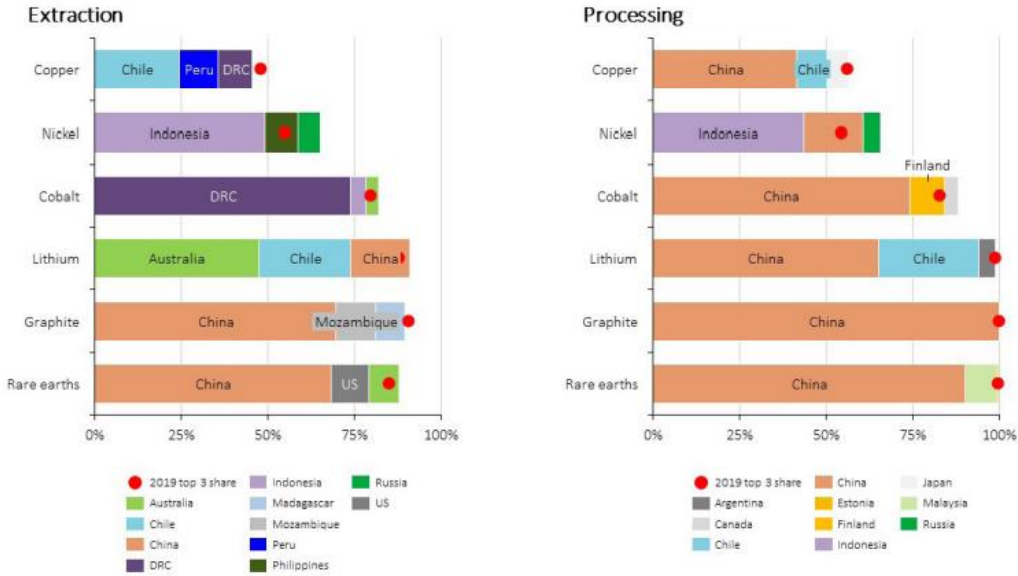
This policy brief seeks to explore the creation of a joint Atlantic Critical Minerals Partnership (ACMP), a multilateral framework that would bring together Atlantic Basin countries to develop a cooperative strategy for securing access to critical minerals. By encouraging collaboration in mining, supply chain management, and investment, the ACMP would reduce Atlantic countries' dependency on extra-regional suppliers, encourage local value creation, and ensure a more stable and resilient supply chain. The ACMP would distinguish itself from other critical mineral cooperation frameworks, such as the Minerals Security Partnership (MSP), by focusing specifically on the needs of Atlantic Basin countries. While the MSP adopts a global approach, the ACMP would prioritize regional cooperation, strengthening supply chains within the Atlantic and reducing reliance on external partners. It would emphasize adding local value by investing in infrastructure, refining, and processing industries that directly benefit the region. By pooling resources for development and advancing research into substitution and recycling

processes, the ACMP could help promote self-sufficiency. Crucially, it would focus on sustainable development, ensuring the equitable distribution of benefits from mineral extraction and upholding ESG standards throughout the region. The ACMP could either integrate into existing frameworks like the Partnership for Atlantic Cooperation or operate as a standalone initiative.

I. Geopolitics of Critical Mineral Supply Chains

Following significant disruptions in supply chains—driven first by the Covid-19 pandemic, followed by the war in Ukraine and recent events such as China’s July 2023 export curbs on gallium and germanium (Kharpal, 2023)—policymakers are placing an increasingly high priority on securing critical mineral supplies. The rising trends of export restrictions and resource nationalism have amplified concerns about the stability of these supply chains. Currently, the global supply of critical minerals is concentrated among a limited number of providers (see figure 2), particularly in processing and refining, which presents two primary risks.

Figure 2: Concentration of the extraction and processing of critical resources (IEA)



Source: IEA. Based on S&P Global, USGS, Mineral Commodity Summaries and Wood Mackenzie, 2024.

The first risk is price volatility, which complicates investment decisions in mining and extraction projects. A striking example is the extreme fluctuation in lithium prices, which surged twelvefold over two years before plummeting by over 80%, hindering the development of competitive mining projects (IEA, 2024). While the energy market is partially buffered by oil reserves and gas storage, no such safety nets exist for critical minerals, leaving the market vulnerable to severe fluctuations.

The second risk is the potential for geopolitical leverage, as a significant share of critical mineral extraction and processing takes place in countries with diverse strategic interests and alliances. China, for example, has reportedly employed supply chain control as a geopolitical tool, notably in its past dealings with Japan, Norway, and Lithuania. Concerns about the "weaponization" of critical minerals are underscored by past precedents, such as the alleged rare earth embargo China imposed on Japan in 2010 over the Senkaku/Diaoyu Islands dispute.

More recently, Russia threatened to halt exports of uranium, titanium and nickel to Europe, heightening fears around the reliability of these supply chains (DW, 2024).

Recognizing these risks, National Security Advisor Jake Sullivan recently warned that "clean energy supply chains could be weaponized in the same way that oil was in the 1970s or natural gas in Europe in 2022" (White House, 2023). Previously, former President Donald Trump signed Executive Order 13953, which aimed to mitigate U.S. dependency on foreign adversaries for critical minerals by bolstering domestic mining and processing. On the European side, similar legislative action such as the Critical Raw Materials Act (CRMA) underscores the importance of reducing reliance on supply chains dominated by a few countries, with an implicit focus on China. These objectives are also mirrored in the national strategies of Germany and France, which aim to safeguard their economies from potential disruptions or coercive measures linked to mineral supply restrictions.

To diversify supply sources, policies like the U.S. Inflation Reduction Act (IRA) and the EU's CRMA have introduced specific measures. The IRA limits imports from foreign entities of concern, while the CRMA caps reliance on any single country's supply at 65% of Europe's consumption. Rising concerns over the strategic use of critical minerals and the global push for carbon neutrality have also spurred collaborative international initiatives, including the Energy Resources Governance Initiative, the Minerals Security Partnership, and the Critical Raw Materials Club.

In light of these dynamics, many economies are exploring ways to "derisk" or "decouple" from countries with different political interests, with growing support for political alignment as a criterion for supply chain diversification. In an April 2022 speech, U.S. Treasury Secretary Janet Yellen called for a modernization of the multilateral trade approach, emphasizing the importance of "free but secure trade." She highlighted that no country should exploit its control over raw materials or technologies to destabilize global economies or exert geopolitical pressure. To support this, Yellen advocated for "friend-shoring," where supply chains are relocated to countries with shared values, thereby expanding market access while reducing risk (Atlantic Council, 2022). This strategy aligns with the Biden administration's reshoring and "nearshoring" efforts, as illustrated by the increase in U.S.-Mexico trade, making Mexico the United States' largest trading partner in 2023 (Bloomberg 2023).

Political alignment also underpins the EU's critical raw materials strategy. The EU's legislation commits to intensifying trade with "like-minded" countries, including by establishing a critical raw materials club focused on enhancing global supply chains. This geopolitical shift emphasizes the importance of secure and diversified supply chains to bolster strategic sectors, particularly in defense, and to support climate goals.

In this evolving context of geoeconomic fragmentation, reassessing and diversifying supply chains will be crucial to ensuring the security and resilience of key industrial sectors and this is where an initiative such as the ACMP could come handy not only for achieving these goals but also to serve regional integration.

II. Rationale for an Atlantic Critical Minerals Partnership

The primary objective of the Atlantic Critical Minerals Partnership (ACMP) would be to establish resilient, pan-Atlantic regional supply chains that harness the region's complementary strengths to enhance both supply security and local value creation. This initiative could be an

answer to the urgent need for reliable critical mineral supplies across the Atlantic Basin. With its rich resources essential for modern technologies—from renewable energy and electric vehicles to telecommunications—the Atlantic Basin is well-positioned to meet increasing global demand by capitalizing on its own mineral wealth.

Recent global disruptions have underscored the fragility of current mineral supply chains, particularly when they rely heavily on a limited number of suppliers. An Atlantic-centered approach allows the ACMP to address specific challenges, opportunities, and developmental goals unique to the region. Through collaboration, Atlantic Basin countries can develop resilient supply systems that reduce reliance on distant and sometimes unstable suppliers. By focusing on local needs, the ACMP would strengthen regional resilience and promote environmental sustainability, generating meaningful economic and social benefits for communities across the Atlantic region.

III. Differentiation from Other Initiatives

The proposed ACMP could differentiate itself from existing initiatives like the Minerals Security Partnership (MSP) by focusing exclusively on the needs of the Atlantic Basin. While the MSP takes a worldwide approach, the ACMP would be designed specifically for the Atlantic region, providing solutions that are tailored to the diverse yet interconnected characteristics of countries within North America, South America, Europe, and Africa.

This Atlantic-centered approach could create unique value by addressing the distinct priorities of the region, fostering regional integration, and promoting local sustainability. For instance, unlike the MSP's broad scope, the ACMP could directly address the needs of mineral-rich countries in South America and Africa that may lack the infrastructure to fully process these resources. By encouraging policies that would support these countries in developing refining and manufacturing capacities, the ACMP would align with local development goals and promote regional economic growth.

Additionally, the ACMP could offer a collaborative platform for member nations to work together on critical mineral policies, building trust and creating mutual benefits that would strengthen intra-regional trade, align regulatory standards, and foster greater economic integration. This emphasis on collective action could help position the Atlantic Basin as a leader in sustainable mineral practices.

In contrast to global initiatives that often focus on raw material extraction with limited local value added, the ACMP would prioritize keeping as much value within the region as possible, focusing on local job creation and sustainable practices. Such an approach could not only drive economic development within the region but also support social and environmental goals tailored to local needs. By addressing the challenges unique to the Atlantic Basin, the ACMP could advance sustainable and equitable mineral practices, complementing global efforts while meeting the specific needs of this critical region.

IV. Key Components of the ACMP

To achieve its goals, the ACMP could focus on four core areas: **policy coordination**, **infrastructure investment**, **research and development**, and **local value creation**. Together, these components would lay the foundation for a resilient and equitable critical minerals ecosystem within the Atlantic Basin.

Policy Coordination

Policy coordination would be essential to ensure a smooth and effective critical mineral supply chain across the Atlantic Basin. By aligning regulatory frameworks for extraction, trade, and environmental standards, ACMP could reduce bottlenecks and enable consistent operations among its members. Key elements of policy coordination might include:

- **Standardizing Regulatory Frameworks:** A common set of regulations for extraction, permitting, and trade could simplify processes across borders, encouraging collaboration and reducing uncertainty.
- **Facilitating Trade Agreements:** Tailored trade policies for critical minerals might promote resource exchanges within the Atlantic Basin, making it easier for countries with resource surpluses to supply those with greater demand.
- **Establishing Environmental Safeguards:** To minimize ecological impacts, ACMP members could adopt common environmental standards for mineral extraction and processing.

Joint Infrastructure Investment

Many Atlantic countries might face infrastructure challenges that hinder efficient mineral extraction, processing, and transport. By pooling resources, ACMP could make strategic investments in infrastructure that would enable better connectivity and processing capacity across the region. Priority areas for joint investment could include:

- **Mining and Processing Facilities:** Developing centralized mining and processing facilities in key locations might allow underdeveloped regions to engage in local value addition. By refining raw materials close to their source, countries could create more efficient and eco-friendly supply chains.
- **Enhanced Transport Networks:** Infrastructure such as ports, railways, and highways could facilitate the smooth movement of minerals across borders, connecting remote mining sites with processing hubs and final markets.
- **Sustainable Energy Infrastructure:** Mineral processing is highly energy-intensive. Investing in renewable energy sources—such as solar, wind, and hydro—might help power extraction and processing facilities, enhancing energy independence and minimizing carbon footprints.

Research & Development

To ensure long-term sustainability, ACMP would need to support research and development (R&D) that promotes innovative extraction methods, recycling, and alternative sourcing strategies. This focus on R&D could help Atlantic Basin countries reduce dependence on external sources and better address regional environmental concerns. Key areas for R&D might include:

- **Establishing Innovation Hubs:** ACMP could foster collaboration with universities and research institutions to create hubs dedicated to advancing sustainable mining and recycling technologies, suited specifically to the Atlantic Basin's geological and economic conditions.

Local Value Creation

Creating value within the Atlantic Basin would be central to ACMP's mission. By promoting local refining and processing capacities, ACMP could help member countries capture greater economic benefit from their natural resources. Strategies for local value creation might include:

- **Building Processing Facilities:** Establishing mineral refining and processing plants within the Atlantic Basin could allow countries to retain more value from their resources rather than exporting raw materials for refinement abroad.
- **Developing Manufacturing Ecosystems:** By fostering industries that utilize refined minerals—such as battery manufacturing and electronics—Atlantic countries might stimulate local economies, create jobs, and reduce reliance on imports.

Moreover, a key factor in the success of the Atlantic Critical Minerals Partnership (ACMP) will be building a skilled workforce to support extraction, processing, and refining within the Atlantic Basin. By investing in workforce training, technology transfer, and educational partnerships, the ACMP could nurture local talent, fostering greater self-sufficiency in the region.

Education and training for local workforces are essential for meeting the demands of the critical minerals industry. The ACMP could implement various initiatives to strengthen capacity building. For instance, developing specialized programs in mineral extraction, processing, and environmental management could create a skilled labor force tailored to the unique needs of the partnership. Additionally, providing continuous education and certification opportunities would help workers stay updated on new technologies and best practices, ultimately enhancing safety and efficiency. By establishing accessible employment pathways for local communities, the ACMP could also help tackle chronic unemployment issues faced by some countries.

Exchanging technical knowledge and best practices among ACMP member countries will be equally vital for improving extraction and processing methods. The partnership could promote technology transfer through a range of strategies. By facilitating knowledge-sharing programs between nations, member states could access advanced techniques for extraction and refining. Collaborating with established industry leaders could further allow Atlantic Basin countries to harness cutting-edge technologies, improving both operational efficiency and environmental standards. Additionally, adopting proven technologies that have succeeded in similar contexts could speed up operational improvements, reducing the learning curve and fostering self-sufficiency.

The development of local expertise is another area where the ACMP has the potential to make a significant impact. By encouraging collaboration between universities, technical institutes, and research organizations throughout the Atlantic Basin, the ACMP could help cultivate a pool of experts in critical minerals. This initiative could support research centers focused on geology, mining engineering, and sustainable extraction, addressing the region's unique conditions and resources. Furthermore, offering scholarships and internships in mineral-related fields could nurture a new generation of skilled professionals who are well-versed in the complexities of the Atlantic Basin.

V. Conclusion

In summary, the ACMP could be a transformative initiative, giving Atlantic Basin nations a powerful framework to meet the surging demand for critical minerals. By connecting countries across Africa, Europe, and the Americas, the ACMP could help reduce dependency on external suppliers and strengthen local control over resources essential for technologies like electric vehicles, renewable energy, and advanced manufacturing.

One of the partnership's core strategies is investing in people. Training programs, education, and technology transfer would empower local communities with specialized skills needed in mineral extraction, processing, and refining. These initiatives could do more than just meet industry demand; they would address pressing unemployment issues in many regions, offering skilled, stable jobs while closing the technological gap between the Northern and Southern Atlantic. This investment in workforce development also ensures that the industry operates safely, efficiently, and sustainably—creating a cycle of local expertise that will only strengthen over time.

Equally important is the ACMP's focus on keeping value within the region. Instead of primarily exporting raw materials, the partnership would support local refining, processing, and manufacturing, capturing a greater share of the value chain domestically. By doing so, Atlantic Basin countries can retain economic benefits and create jobs that lift local communities. This approach directly contributes to economic resilience, while also supporting environmentally responsible practices that protect the region's ecosystems.

The ACMP's approach aligns well with broader strategic goals, from energy independence to economic stability, and offers a unique model for regional cooperation. Unlike global initiatives, which often take a broader, less tailored approach, the ACMP would prioritize the specific needs of Atlantic nations, promoting a stable, self-sufficient supply chain that aligns with local goals. This collaboration could make the Atlantic Basin a leader in sustainable mineral sourcing and processing, ensuring that as the world's demand for critical minerals grows, Atlantic countries have a secure, resilient, and equitable share in that future.

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