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Sebastian Contin Trillo-Figueroa

► **To cite this version:**

Sebastian Contin Trillo-Figueroa. Geopolitics over Climate: EU Approves Critical Raw Materials Act amid China Dependency Concerns. China-US Focus, 2024. hal-04571626

HAL Id: hal-04571626

<https://hal.science/hal-04571626>

Submitted on 8 May 2024

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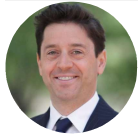
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May 07, 2024

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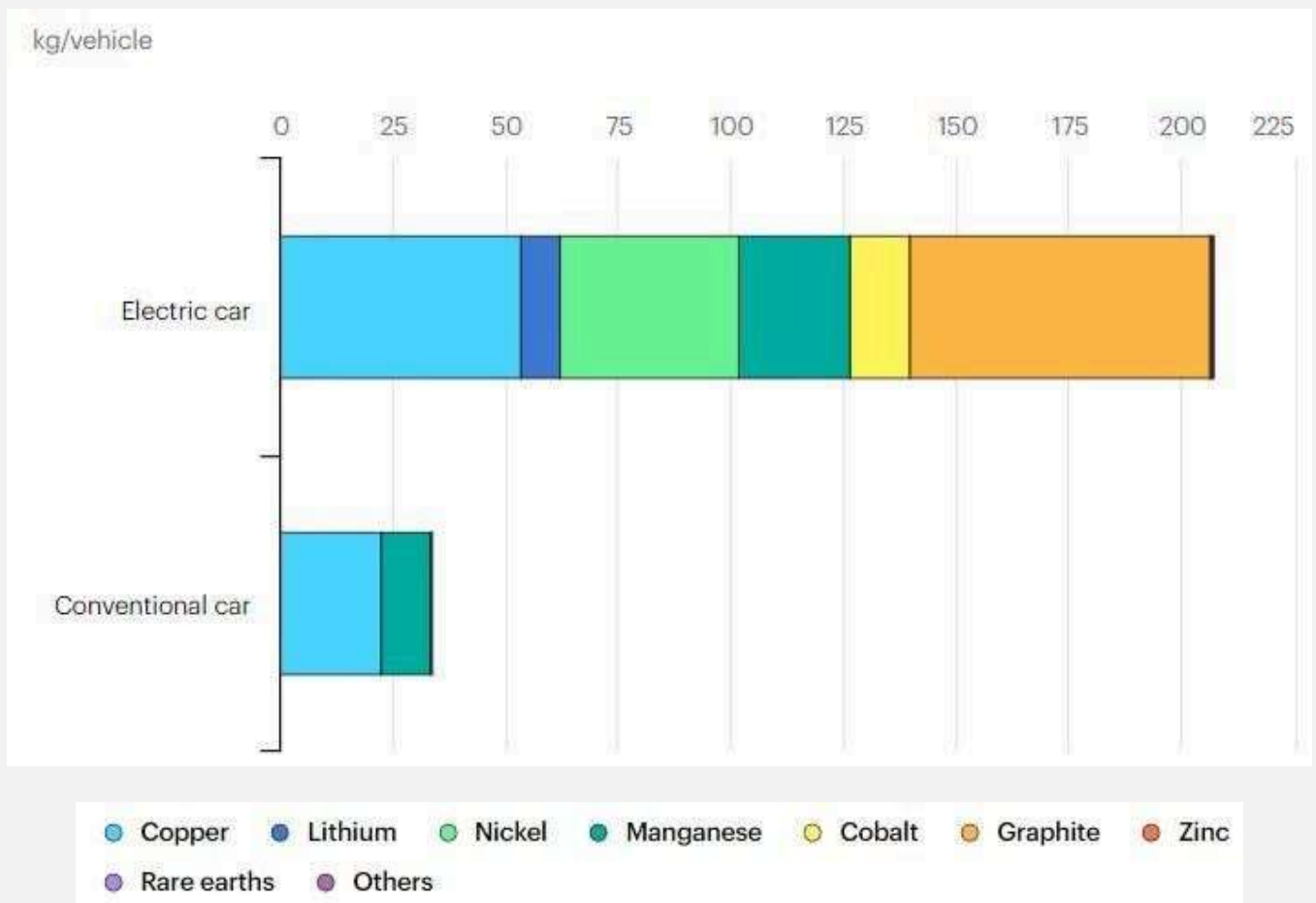
Geopolitics Analyst in EU-Asia Relations and AsiaGlobal Fellow, The University of Hong Kong

The European Union's approval of the Critical Raw Materials Act (CRMA) places geopolitics over the green agenda, with a keen eye on China.

The swift conclusion, sparked by the 2022 European Commission President's Union address, marks a significant milestone. EU policymakers have recognized that traditional timelines for negotiations and decision-making are no longer viable, particularly in matters pertaining to [strategic autonomy](#), the EU's capacity to act independently.

Critical raw materials (CRMs) are essential for modern life, enabling the production of electronics like laptops and smartphones, as well as batteries and automotive components. Rare earths are crucial for semiconductors and green energy, while cobalt fuels battery production, magnesium enhances fuel efficiency, and borate finds use in various industries. CRMs form the backbone of the green, digital, defense, and space sectors.

Minerals used in electric cars compared to conventional cars



Source: International Energy Agency (IEA)

The CRMA serves, therefore, a dual purpose in response to the forthcoming 'technological upheaval': Firstly, it lies at the core of the EU's [Green Deal Industrial Plan](#) (the "Net Zero Plan"), a pivotal initiative dedicated to steering Europe towards climate neutrality by 2050. Secondly, the EU [champions](#) the CRMA to bolster its geopolitical standing, fostering strategic autonomy by advancing self-sufficiency in accessing CRMs, an area where Europe has traditionally leaned on imports.

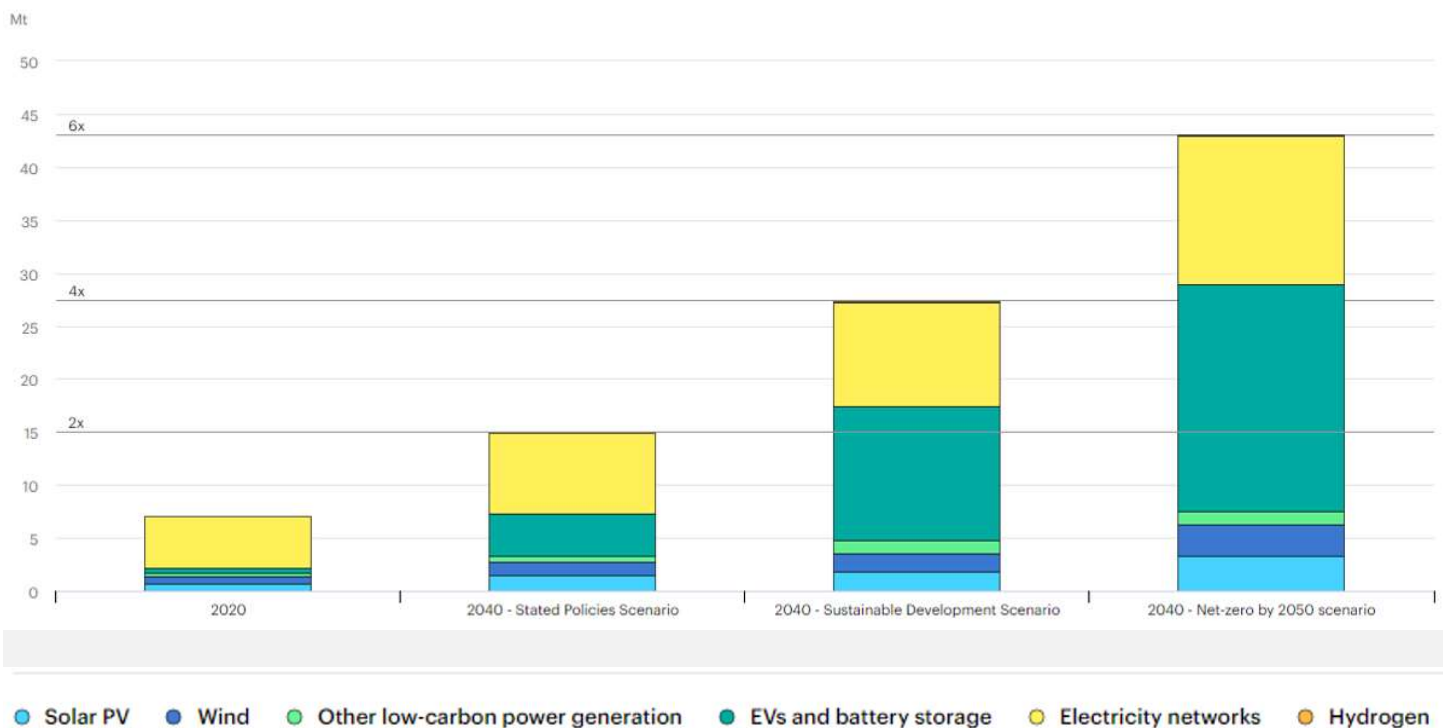
Observing China in the Rearview Mirror

Today, geopolitics and CRMs are intertwined, as the latter have also become economic weapons and conflict triggers. Governments are reshaping the notion of public goods, affecting CRMs supply chains, no longer fully entrusted to the private sector.

Accordingly, the CRMA aims to ensure availability, decrease reliance on certain third-country supply chains—especially China—and foster diversification. Data highlights critical dependencies: 100% of EU rare earths are refined in China, 63% of cobalt originates from the Democratic Republic of Congo, 97% of magnesium comes from China, and 98% of borate from Türkiye.

The IEA [predicts](#) lithium demand to surge over 40 times by 2040, with graphite, cobalt, and nickel projected to increase 20-25 times. Through the CRMA, Europe aspires to reach its annual CRMs consumption via three tiers by 2030, coinciding with the anticipated tripling of its demand: 10% sourced from domestic extraction, 25% from recycling, and 40% from local processing. In response to these requirements, Dr. Santiago Cuesta-Lopez, Executive Director at [ISMC Cluster](#) and a prominent advisor to the European Commission on CRMs, recommends Europe "establish a comprehensive stockpiling plan, safeguarding societal well-being, industrial resilience, and defense capabilities to protect our sovereignty."

Total mineral demand for clean energy technologies by scenario, 2020 compared to 2040



Source: IEA

Moreover, in order to reduce dependencies on single suppliers, the Act puts forward a diversification target where no more than 65% of each CRMs should come from a single third country. Dr. Madalina Ivanica, Deputy Head of Unit at the European Commission's [DG Grow](#) and instrumental contributor to the CRMA's success, announces that "to support this, the EU has thus far signed 12 Strategic partnerships concerning CRMs value chains with third countries."

Geopolitically, the EU has synchronized its stance with the U.S., and the development of the 'United West, Empowered by India' alliance is also discernible with the deliberate exclusion of China, evident in three maneuvers that also highlight the complexity of any prospective global CRMs governance initiative:

- Since June 2022, the Minerals Security Partnership aspires to ensure a stable CRMs supply for member economies: the U.S., EU (along with certain member states), Japan, India, U.K., South Korea, Canada, and Australia.
- In March 2023, the U.S. and EU [agreed](#) to favor European CRMs, aiming to reduce reliance on China and avoid harmful competition in the context of the Chips Act & the Inflation Reduction Act (IRA) approvals.
- Pressure intensified from the European Parliament. A January 17, 2024 [resolution](#), identified China's "military-civil fusion strategy" as "the core problem." The Chinese near-monopoly in crucial commodities like rare earths aluminum, silicon, gallium, lithium, copper, nickel, and cobalt, reinforced by their mining ventures worldwide, could jeopardize Europe's defense, industrial, and economic security.

Dual Dynamics at the Intersection of EU Geopolitics and Sustainability

In this context, two unresolved contradictions become evident. Firstly, as the EU works to outlaw crucial foreign goods necessary for the Green Deal, such as Chinese [EVs](#), wind turbines, train-makers, and medical equipment, and imposes an—unworkable—ban on solar panels from Xinjiang over "[forced labor](#)" concerns, it faces a dilemma: prioritize geopolitics or climate goals?

Secondly, although the EU critiques others' protectionism, it also strengthens its own green subsidies and makes the state aid framework more flexible—disrupting the single market— thus enhancing sustainability funding access. However, Ivanica underlines that "there are additional nuances to consider: the EU hasn't provided subsidies or tax incentives like America. Actions were taken to tackle crises that impacted massively like COVID, Ukraine war, high energy prices, and industry challenges, while maintaining an open market observing WTO rules."

Indeed, since March 2022, the EU's Temporary Crisis and Transition Framework has enabled "to support the economy" amid "Russia's invasion of Ukraine." Another plan allows member states to match aid offered by third countries to European companies, subject to safeguards. The initial milestone: €902M (\$986M) in German state aid for [Northvolt](#), a Swedish electric battery producer. This might mark the start of actions resembling those of China, with a deeply subsidized green supply chain, and the U.S., which has expanded effortless assistance to overseas firms through the IRA.

The imperative to mitigate risks is emphasized by the weaponization of the EU's reliance on Chinese CRMs. China's recent restrictions on exports include gallium, germanium, graphite, and key rare-earth technologies. This significantly impacts European EV manufacturers, who heavily rely on Chinese batteries—comprising 76% of global production capacity—, potentially impeding the green transition. Recall, the EU plans to ban new combustion engine cars by 2035. Japan's [reduced](#) reliance on Chinese

rare earth imports underscores the importance of strengthening the EU's domestic CRMs supply chain.

Addressing Dependency, Innovation, and Geopolitical Realities

Europe's current resource allocation for CRMs extraction and production falls short of meeting demand, exacerbated by the limited number of companies operating in the small EU market. Relying on subsidies amidst fierce global competition offers only temporary alleviation. Meanwhile, the persistent threat of social unrest stemming from local environmental disruptions upon project commencement (the so-called 'NIMBY') remains unaddressed.

Europe must embark, therefore, on a journey of reindustrialization, prioritizing innovation and competitiveness to effectively tackle long-term challenges. Cuesta advocates for EU regions to forge interregional alliances: "raw materials are endogenous resources, thus it is essential to ensure such reindustrialization through the development of regional industrial innovation ecosystems and specialized valleys." He also highlights the importance of resilience in ensuring stable raw material supply and integrating high-value product chains amid geopolitical uncertainties.

Furthermore, this endeavor requires geopolitical introspection to grasp the root causes of the significant lag in advancing the energy transition from a dual perspective: First, Europe must acknowledge its dependency on China for realizing the green agenda. Second, swift identification and implementation of solutions, beyond tariff threats, are imperative for urgent action.

China's vertically integrated, committed, and strategically foresighted CRMs industrial model sets a compelling template for emulation. Particularly, as it assists in leveraging strategically their position for geopolitical influence. China's lead in mining and processing, estimated to be 15 years ahead, positions as an essential negotiating partner.

However, within discussions of China's industrial prowess, a divergence emerges between regulatory and environmentalist concerns on one side and industry and realpolitik considerations on the other: Dr. Madalina Ivanica highlights that "Chinese mining companies cause global environmental damage and provide no value addition in extraction countries, leaving them to manage the environmental damages alone." Conversely, Cuesta adds that "it's contradictory to jeopardize our EU industry with regulations that competing countries don't impose. This leads to unfair economic competition and uncontrolled environmental damage, impacting global planetary health."

This underscores the necessity for Europe to find a middle ground with China, balancing de-risking measures and negotiation tactics, outlining specific CRMs and timelines for both. Minimizing trade disruptions while preventing potential retaliation is crucial, ensuring a seamless transition with guaranteed Chinese supply to the EU while establishing partnerships with new supplier countries.

Overall, geopolitics now commands the stage, overshadowing climate action. Reducing dependencies assumes paramount importance: mastery of CRMs production and supply chain could secure unparalleled technological and clean energy leadership in the forthcoming decades. Setting a climate policy example should not take a backseat. Leaders must transparently communicate these realities to citizens; there is no alternative path forward.