The Role of the European Union's Raw Materials Diplomacy in the Green Transition

Gábor Papp

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Gábor Papp is a Research Fellow at the Hungarian Institute of International Affairs. He acquired his BA degree in International Relations at Eötvös Loránd University, then obtained his MA degree in the same field with a European Studies specialization at Pázmány Péter Catholic University. In 2018, he graduated from a summer university in China right before studying abroad in France as an Erasmus student. In 2021, he participated in a research internship at the Institute for Foreign Affairs and Trade. Gábor joined the Hungarian Institute of International Affairs team in 2023, and his research fields are the following: European Union and European Union affairs, France, and energy policy. Since 2023, he is also a PhD student at the Doctoral School of Management and Business Administration at the John von Neumann University in Budapest, Hungary. Previously, he worked to help Hungarian startups enter the international market. The author was a visiting fellow at EUROPEUM Institute for European Policy in Prague.

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Introduction

In 2019, the green agenda became the flagship of the European Commission's politics in the face of the European Green Deal. Five years later, the reelected Ursula von der Leyen would like to keep this agenda as the number one priority for the next political cycle, expressing this goal also in her political guidelines.[1] Meanwhile, major geopolitical events during the last couple of years have led to an unprecedented interest in the security of energy and raw materials supplies. These topics started to gain significant attention during the Covid-19 pandemic, then surged further in the following energy crises and finally peaked after the outbreak of the Russia-Ukraine war.

Even though the question of energy and supply security has global implications and is being discussed globally, Europe was particularly affected by these aforementioned events. This is because of, on the one hand, its historical and deep dependence on Russian fossil fuels and, on the other hand, the lack of many raw materials in its own soil. Within a month after the breakout of the war, the heads of state or government of the EU member states came up with the Versailles Declaration in their informal meeting in March 2022.[2] In this document, the green agenda and the security of energy supply have already been linked together. It stated that over the past few years, the European Union has set the target of climate neutrality by 2050, however, working on this goal has been challenged by how the current situation affects the security of energy supply.

The declaration envisages being more active in creating a more secure and sovereign Europe with reducing energy dependency as one of the key dimensions. As part of reducing other strategic dependencies as well, it also highlights the need for securing the supply of critical raw materials (CRMs) through strategic partnerships. These strategic partnerships form the heart of raw materials diplomacy. The strategy for reducing energy dependency had crystallized in the REPowerEU Plan

[1] Leyen, Ursula von der (2024): EUROPE'S CHOICE - POLITICAL GUIDELINES FOR THE NEXT EUROPEAN COMMISSION 2024-2029, 2024.07.18. Available at: https://commission.europa.eu/document/download/e6cd4328-673c-4e7a-8683-f63ffb2cf648_en?filename=Political%2520Guidelines%25202024-2029_EN.pdf

[2] EUROPEAN COUNCIL (2022): The Versailles declaration, 2022.10 - 11.03. Available at: https://www.consilium.europa.eu/media/54773/20220311-versailles-declaration-en.pdf

which aims to "*rapidly reducing our dependence on Russian fossil fuels by fast forwarding the clean transition…*".[3]

To be able to conduct fast forwarding clean transition, however, there is a need for scaling up the buildout of the relevant renewable infrastructures like solar panels and/or wind turbines. Here lies the main challenge: there is an absence within the EU regarding many of those critical raw materials which are indispensable in the production process of this equipment needed for generating renewable energy. Therefore, the EU has two options in front of it: import partially or entirely this different equipment for the renewable infrastructure buildouts or import the raw materials first, then produce the necessary infrastructures 'in house 'and then install them. The second option is the case where raw materials diplomacy comes into play.

Critical Raw Materials within the European Union

The discussion about raw materials is not a new phenomenon in European dialogue. It can be traced back to the communication of the Commission of the European Communities from 1975, directly influenced by the oil crisis of 1973-74. Some of the arguments of this document have not lost their relevance since then, such as the question of insufficiency of supply diversification, the risk of temporary bottlenecks and a need for strategic stockpiling.[4] Actually, the European Coal and Steel Community itself was based on the industries of two raw materials, which are being defined until the present day. This represents best that the subject was a definitive part of the history of the EU from the beginning.

Nevertheless, in the EU, the recent history of raw materials, especially the critical ones, started in 2008. That year, the Commission published its raw materials initiative in which it proposed the launch of the raw materials diplomacy to secure access to those materials and emphasized the need

[3] EUROPEAN COMMISSION (2022): REPowerEU Plan, 2022.05.18. p.1. Available at: https://eur-lex.europa.eu/resource.html?uri=cellar:fc930f14-d7ae-11ec-a95f-01aa75ed71a1.0001.02/DOC_1&format=PDF

[4] COMMISSION OF THE EUROPEAN COMMUNITIES (1975): THE COMMUNITY'S SUPPLIES OF RAW MATERIALS, EUR-Lex, 1975.02.05. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:51975DC0050

for a list of them to help create an integrated European strategy in the field.[5] The first list arrived in 2011, and since then, a renewed one comes out every 3 years. The latest list (the fifth one) was published in 2023. This periodical renewal of the list is a distinctive feature since the methodology on behalf of an element being determined as critical depends on a set of economic, geopolitical and geological factors. These factors need to be screened from time to time and their changes could lead to the adding or removing of certain elements to/from the list.

According to the latest list, there are 34 elements which are considered critical raw materials. Being critical means that the given material has a high economic importance for the EU and its supply is associated with high risk[6] mostly because its exports are highly geographically concentrated. For example, in the case of solar photovoltaics, 11 CRMs are needed for the technology from which the EU imports 10 mainly from extra-EU states. The most notable examples are rare earth elements (REEs), with China providing 85% to 100% of the EU's supply or boron, provided to the EU in 99% by Türkiye. From the EU import perspective, the concentration of origin also tends to be high among others in the case of aluminium (bauxite), gallium or phosphorus, of which Guinea, China and Kazakhstan provided alone 63%, 71% and 65%, respectively, to the EU.[7]

Raw materials diplomacy and its potential consequences

Even though the need for raw materials diplomacy had already been expressed in 2008 and works on it have started accordingly, its realization has accelerated significantly since 2021 in parallel with the increasing attention paid to supply chains and their security. Since then, 14 agreements have been signed between the EU and third countries regarding strategic cooperation related to CRMs.[8]

[5] COMMISSION OF THE EUROPEAN COMMUNITIES (2008): The raw materials initiative - meeting our critical needs for growth and job in Europe, 2008.11.04. Available at: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0699:FIN:en:PDF

[6] Grohol, M. - Veeh, C. (2023): Study on the Critical Raw Materials for the EU 2023, Final report, 2023. p.44. Available at: https://op.europa.eu/en/publication-detail/-/publication/57318397-fdd4-11ed-a05c-01aa75ed71a1

[7] *Ibid.,* p.9

[8] EUROPEAN PARLIAMENTARY RESEARCH SERVICE (2024): Strategic partnerships signed by the EU (Canda, Greenland, Norway, Serbia, Ukraine, Kazakhstan, Uzbekistan, Democratic Republic of the Congo, Rwanda, Zambia, Namibia, Australia, Chile, Argentina), EPRS, 2024. Available at: https://epthinktank.eu/2024/11/20/implementing-the-eus-critical-raw-materials-act/strategic-partnerships-signed-by-the-eu/

By analyzing and comparing the memorandums of understanding (MoU) and evaluating them in a broader geopolitical context, some fundamental principles can be observed. These principles raise questions and further possible directions at the same time regarding the future of the EU's raw materials diplomacy.

First of the common denominators is that even though these documents talk about critical raw materials, supply chains and other related issues, they hardly ever mention directly which CRMs they are actually about. For example, in the case of the latest MoU signed between the EU and Serbia in July 2024, lithium is not even once mentioned directly in the document, although the Jadar Valley lithium deposit was at the center of attention. Other documents also tend to be silent about their respective CRMs, although there could be a section in them providing a general overview of the region and mentioning raw materials as well.

There may be two logical reasons behind this. On the one hand, these strategic partnerships to which the MoUs serve as the cornerstones, by nature, have to look forward to a long-term perspective. Meanwhile, the EU's CRMs list is in constant periodic renewal. An agreement in the early stages based on very detailed information, therefore, could hypothetically lead to serious trouble if the list changed and certain element(s) would drop out while the parties have been working on it for years. This situation could result in legal and political tensions, let alone economic ones.

On the other hand, vague explications may serve as a kind of "no need to rush" approach. These agreements are not legally binding and serve only as a baseline, with further clarifications arriving later, for example, by the so-called roadmaps, so there is no need to be too restrictive. Moreover, being too restrictive from the beginning may be used generally by those opposing these projects, like in the case of Serbia and the public opposition targeting the proposed lithium production. Meanwhile, a long-term and step-by-step approach may generally contribute to the safe landing of a given project.

Besides the aim of general diversification, two other approaches can be observed, which could stand as partial common denominators. These are "friendshoring" and "nearshoring". Both serve as a tool

for increasing the security of supply chains. While friendshoring is more aligned with a normative and value-based constructivist approach, nearshoring aims to shorten the supply chain in terms of time and distance, representing therefore a more tangible approach. Third countries that fall into one or even both categories are Australia, Canada, Greenland, Norway, Serbia, and Ukraine.

Besides its potential benefits, by conducting raw materials diplomacy, the EU could be faced with several economic and political tensions, both at the internal and external levels. At the external level, tensions seem to be more political in nature. This could manifest in intensified competition between the EU and other global players who are also interested in the given countries or the regions with which the EU signed these agreements.

The first such country is the US. The EU has strategic partnerships on CRMs with Argentina, Chile, and Canada. The first two countries are members of a so-called "lithium triangle" (with Bolivia) and accounted for around 30% of the world's lithium mining in 2022.[9] Given the ongoing lithium bonanza, the role of these countries seems to be gaining more and more importance, which may force the US to recalibrate its ambivalent relation with Latin America, especially taking into account the growing Chinese presence throughout the region. The EU also has agreements with Canada and Greenland, which are subjects of ongoing and heated international debate nowadays. Finally, both the US and the EU have their own master plan related to CRMs – for the US, it is the Inflation Reduction Act (IRA), and for the EU, it is the Critical Raw Materials Act (CRM Act). Both documents focus on strengthening supply chains, and since these are sometimes quite narrow in the case of many materials, even despite globalisation, the competition between the EU and the US seems to be natural.

Another country with which the tension could increase is China. The EU signed agreements with Australia and a set of African countries like the Democratic Republic of Congo (DRC), Namibia, Rwanda, and Zambia. The most important among these countries in terms of raw materials are the

[9] U.S. Geological Survey (2024), MINERAL COMMODITY SUMMARIES 2024, Available at: https://pubs.usgs.gov/periodicals/mcs2024/mcs2024.pdf

DRC and Australia due to their cobalt and lithium production, respectively. In the case of the DRC, 80% of the country's cobalt output is owned by Chinese companies.[10] Besides processing a huge quantity of Congolese cobalt, China is also heavily involved in the mining sector, owning the first and the third biggest mines in the DRC in terms of production capacity.[11] At the same time, China is a huge player in the Australian lithium market as well. Even though Australia is responsible for around half of the global lithium production, the country owns barely any lithium refining capacity, and therefore, it exports the ores predominantly to China for this purpose. Moreover, like in the case of DRC, China owns major lithium mines locally as well.[12]

Other factors may intensify further the race between China and the EU. Beyond the strategic positions regarding raw materials and refining, China owns a decisive share of the green infrastructure market as well, producing more than 50% of the global supply of wind turbines and around 70% of solar panels,[13] which the EU heavily relies on. Finally, China is very active in taking actions related to raw materials, for example, by imposing export restrictions on gallium and germanium, causing near price-doubling of gallium in the EU. Lastly, China imposed export control also on graphite, targeting the US at the end of last year.[14] Similar actions cannot be ruled out in the future, especially if rivalry regarding raw materials intensifies further between the EU and China.

The final region where political tensions could significantly increase because of the CRMs is Central Asia. The region is said to have huge potential regarding almost all the CRMs. However, nobody knows exactly the real extent of this potential due to the lack of geographical mapping and other

[10] FROM COBALT TO CARS: HOW CHINA EXPLOITS CHILD AND FORCED LABOR IN DR CONGO, HEARING before the CONGRESSIONAL-EXECUTIVE COMMISSION ON CHINA, 2023.11.14. Available at: https://www.govinfo.gov/content/pkg/CHRG-118jhrg54083/pdf/CHRG-118jhrg54083.pdf
[11] Pistilli M., (2024): 5 Largest Cobalt Mines in the World (update 2024), 2024.04.11. Available at: https://www.nasdaq.com/articles/5-largest-cobalt-mines-in-the-world-updated-2024
[12] Alyabyev et al.,(2023): Australia's potential in the lithium market, 2023.06.09. Available at: https://www.mckinsey.com/industries/metals-and-mining/our-insights/australias-potential-in-the-lithium-market
[13] Carrara S. et al. (2023): Supply chain analysis and material demand forecast in strategic technologies and sectors in the EU – A foresight study, JRC SCIENCE FOR POLICY REPORT, p.46,62. Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC132889
[14] Guillaume R. (2024): Implementing the EU's Critical Raw Materials Act, 2024.11.19. Available at: https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2024)766253

factors. China and the US are already active in the region in the area of CRMs,[15] while the EU seems to be arriving at this competition by signing a memorandum of understanding on CRMs with Kazakhstan in 2022 and with Uzbekistan in 2024.

Reviewing the EU's strategy regarding CRMs, another feature can be observed which may pose an economic threat in the future. It is evident that lithium plays a central role in the EU's strategy. Among the 14 countries the EU has signed an agreement with since 2021, eight agreements are related to lithium in a certain way. Considering the fact that lithium is the element gaining the biggest attention recently because of its dual role in energy storage and electro-mobility, this approach is understandable. However, technology is in constant evolution, and nobody talks about what would happen if the lithium bubble bursts. Redirecting a whole strategy seems quite time-consuming, especially at the European level, not to mention the economic and political consequences.

The EU's raw materials diplomacy has many important implications at the internal EU level also. First of all, even if the EU manages to import more CRMs in the future, there is a major limiting characteristic that the EU has to deal with – the lack of refining capacity. Without refining, the EU cannot make the intermediate products which are essential to produce the necessary infrastructures in order to achieve more autonomy in and with the green transition. The EU is aware of this situation, and the CRM Act determines a benchmark that the EU should reach regarding refining capacities. The real problem behind this question is that refining is extremely energy-consuming. During the energy crisis, around 50% of the existing production capacity of aluminium, silicon and zinc in the EU had to be switched off because of higher energy prices, and these facilities have not recovered since then.[16]

The question of energy is inevitably related to the EU's competitiveness, another central issue deeply covered and highlighted by the Letta and Draghi reports in 2024. If overall production costs across

[15] Sultonnazarov A. - Gusseinov E. (2024): Central Asia's Critical Raw Materials: The Next Frontier in Global Power Rivalry? 2024.04.03. Available at: https://cabar.asia/en/central-asia-s-critical-raw-materials-the-next-frontier-in-global-power-rivalry

[16] Eurometaux. RAW MATERIALS 2030: A RALLYING CALL FOR EUROPEAN RESILIENCE, A lasting recipe for Europe's Critical Raw Materials Act success over the next six years, 2024 Available at: https://eurometaux.eu/content/files/landing-pages/rm2030/2030%20resilience%20manifesto.pdf

the value chains remain higher in the EU compared to our competitors, the question is obvious – how can we reconcile competitiveness and economic sovereignty? Who will pay for the green premium, and will there be enough political will at the European level to continue the green agenda?

Conclusion

The topic of critical raw materials is extremely important, especially amidst the twin energy and digital transition and energy security. However, at the same time, it is extremely complex as well. Not only because of its geographical scale, of which only a fragment had been presented in this paper, but also at the internal European level, it is deeply related to many of the EU's policies. Without claiming completeness, these are economic and industrial policies, environmental policies, research and development policies, and cultural policies. All in all, it is not an accident that Ursula von der Leyen appointed the development of the Clean Industrial Deal as a major task for the first 100 days of the mandate.

Recommendations

- There is a need to avoid over-centralization of the scope of critical raw materials diplomacy regarding CRMs. Lithium is without doubt a very important element and the EU is far from focusing only on this. However, its massive role in the strategy could eventually turn out to be its own downfall.

- Growing tension related to CRMs is highly expectable. In this regard, the EU has to investigate whether there is a need for a new approach regarding conflict resolution related to CRM issues. Especially because future debates will most likely involve the US and China, two countries with which the EU has a very complex and sophisticated relationship.

- Resource efficiency and recycling have to be the highest priority. In a region where the lack of CRMs is a structural factor, the most independent way to secure these materials is to use them less and keep them inside as much as possible once they have arrived in the EU. In this regard, research and development must be excessively integrated into the framework of the EU's critical raw materials diplomacy

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