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## The Race for Raw Materials

Contributions to the Debate on the EU's Raw Materials Policy Following the Publication of the Fourth Critical Raw Materials List and the 2020 Action Plan

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As a result of the energy transition and digitalisation, the demand for raw materials is increasing drastically. At the same time, the raw materials markets are particularly tense due to the war in Ukraine and supply shortages are possible. Against this backdrop, the European Commission's fourth list of critical raw materials and its action plan to promote resilient raw material supply chains, both published in September 2020, are of great political importance. So-called critical raw materials play an important role in the economy of the European Union (EU) but are also subject to a high supply risk. This journal review examines questions about the extent to which the objectives of the EU's policy on critical raw materials are compatible with its other aims. It also discusses how intergovernmental cooperation in the extractive sector is practiced and the role of EU member states in the process. Ultimately, it also explores the geopolitical importance of critical raw materials for European projects for the future, a topic that has become all the more pertinent in view of the current debate on achieving energy independence from Russia.

Wind turbines and solar panels, batteries for electric cars, technologies for digitalisation, drones for defence — all require so-called critical raw materials. The criticality of these materials' supply chains has been an issue even before the interruptions sparked by the Covid-19 pandemic; indeed, in 2011, the European Commission published its first list of critical raw materials, of which there were 14 at the time. Most recently, in 2020, the EU published its fourth Critical Raw Materials List, comprising 30 materials. Among the best known are cobalt, rare earths, the platinum-group metals and lithium. Such raw materials are

considered critical by the EU if they are of particular importance to its economy and are subject to a high supply risk. Factors that compound such risk include, for example, strong concentration of production in one or few countries as well as inconducive governance conditions in supplier countries.

The 2020 List was published together with an Action Plan that outlined ten measures aimed at promoting the resilience of raw material supply chains. Both emerged from the New Industrial Strategy for Europe published in March 2020, which follows the maxim of increasing the EU's strategic autonomy. The European Green Deal,



which strives to bring the EU to climate neutrality by 2050, and digitalisation also play an important role in the Action Plan, as their successful implementation hinges on the consistent acquisition of metals, minerals and other natural materials. However, dependence on these mineral raw materials could shift the EU's reliance on imports of natural resources away from fossil fuels. To prevent this development and safeguard Europe's industrial competitiveness, the EU aims to diversify supply chains, reuse and recycle raw materials and reduce consumption. Accordingly, the Action Plan is roughly divided into four thematic packages: Industrial Policy, Circular Economy and Product Design, Sourcing from the EU, and Diversified Sourcing from Third Countries.

This journal review is dedicated to discussions about the EU's current policy on critical raw materials. Three lines of debate that are relevant to foreign policy are presented. The first concerns the compatibility of EU commodity policy objectives with its goals for sustainability and strategic autonomy. The second deals with geopolitical implications and the debate on possible partners. The third addresses the role of EU member states, including the role of Germany as one of the strongest economies in the EU. The selection includes analyses published by think tanks and in academic journals, as well as opinion pieces that appeared after the fourth EU List and Action Plan were released in September 2020.

## The Compatibility of EU Objectives

Securing access to raw materials is essential if Europe seeks to achieve its goals of climate neutrality and strategic autonomy. This is also reflected in literature that does not specifically address the EU policy on critical raw materials. Indeed, in a policy brief published by the European Council on Foreign Relations, **Mark Leonard**, **Jean Pisani-Ferry**, **Jeremy Shapiro**, **Simone Tagliapietra** and **Guntram Wolff** point

to the importance of securing raw material supplies for the implementation of the European Green Deal. Furthermore, **Mari-  
anne Schneider-Petsinger**, in a Chatham House study, identifies securing the supply of raw materials as an essential task in strengthening the EU's strategic autonomy. However, authors of the following contributions critically note that these goals may not necessarily align with those of the EU raw materials policy.

## Policy incoherence

In an International Peace Information Service (IPIS) briefing, **Hadassah Arian**, **Guillaume de Brier** and **Lotte Hoex** identify a contradiction within the desired energy transition which the EU is unable to resolve with its policy on critical raw materials. They argue that the energy transition will merely shift dependence from fossil fuels towards mineral resources. In addition, they note that the increased demand for raw materials needed for renewable energy technologies — so-called green technologies — creates a contradiction: while true that this type of energy production does not emit CO<sub>2</sub>, the production of the raw materials needed for wind turbines or solar panels, for example, does. In addition to these ecological costs, the risks of infringing upon locals' social and human rights in the process of extraction must also be taken into account, according to the authors. They see this as insufficiently addressed in the EU Commission's raw materials plans and the European Green Deal. In this sense, they argue, one should not only measure the CO<sub>2</sub> footprint of final products, but must also consider sustainability along the entire green technology supply chain.

In his contribution to *Mineral Economics*, **Patrice Christmann** looks at EU commodity policy since the early 2000s. He argues that the EU has long prioritised development cooperation and free trade while underestimating China's dominance as a supplier of raw materials; thus the EU has also overlooked its own vulnerability. After the 2007 G8 summit in Germany, however, EU policy

has made significant gains, he notes, especially in the field of research and development. Still, the EU's dependence on third countries for the supply of critical raw materials increased instead of decreasing.

From the point of view of environmental sustainability, this is a problem in that the extraction and processing of these raw materials outside of the EU is CO<sub>2</sub> intensive. Christmann sees energy-intensive production methods as the main culprit as they often employ high-emission energy sources such as coal. In 2019, for example, China – currently the main supplier of critical raw materials – used coal for 58 per cent of its energy mix. With this reality in mind, the EU would hardly be able to control its actual CO<sub>2</sub> footprint, contradicting its intent to achieve greater sustainability, the author argues. For Christmann, the extraction and processing of domestic resources that adheres to high social and ecological standards is therefore just as indispensable as the further development of the circular economy.

The EU Action Plan provides for important steps that facilitate coherent EU-wide action, such as the European Raw Materials Alliance (ERMA), which was founded in the autumn of 2020. Still, despite all efforts, the EU's scope for exerting influence is limited; future developments will depend heavily on China's actions. Christmann thus points out that the goal of strategic autonomy in itself is difficult to achieve with the current policies.

## Partners or Competitors?

The EU is not the only competitor in the race to secure raw materials. The United States (US), Canada or Japan are also pursuing the same goal. The US, for example, published a list of 35 critical raw materials in 2018. In many mining regions in Africa and Latin America, discussions are currently focused on strengthening regional cooperation – within the framework of the African Continental Free Trade Area (AfCFTA), for example – and on building up a manufac-

turing industry that generates added value locally. In these regions, more environmentally friendly, low-carbon production methods are also gaining attention. This is especially true in the context of the so-called “Build Back Better” strategies for reconstruction after the Covid-19 pandemic.

Simply due to geological availability, the EU will remain dependent on the importation of critical raw materials. While some warn of new dependencies and the associated geopolitical tensions, others note that these dynamics will depend on the partners selected and the nature of the cooperation.

## The “right” choice of partners

**Daniel Fiott** and **Vassilis Theodosopoulos** of the European Union Institute for Security Studies argue in their brief that geopolitical factors require diversification of imports of critical raw materials and should therefore be taken into account when choosing new trading partners. They established three criteria that should inform this choice: the degree of state fragility, the risk of economic coercion and a country's vulnerability to climate change.

1. State fragility describes the likelihood that a state will no longer be able to fulfil its core tasks, such as ensuring security, providing basic social services and guaranteeing rule-of-law. States that might instrumentalise trade for foreign policy purposes should not be exchanged for politically and economically fragile states. Trade relations with fragile states are unstable and entail risks.

2. Economic coercion, as seen in the implementation of sanctions against or export restrictions to EU states, for example, is a growing problem. **Fiott and Theodosopoulos** consider the combination of authoritarian / non-democratic regimes with strong national economies (e.g. China, Russia and Saudi Arabia) to be particularly risky trade partners.

3. A country's vulnerability to climate change is a problem insofar as its industrial production and thus its export supply could be affected by natural disasters.

Considering all three factors, the authors point to the need to engage in a delicate balancing act. Through trade, the EU can raise standards and improve norms in vulnerable and/or fragile states and increase their stability — and it should. At the same time, however, the authors argue that it must keep an eye on the security of its own supply. Therefore, greater attention should be paid to existing, secure trade relations — in this regard, the authors point to Argentina, Australia, Canada, Japan, the United Kingdom (UK) and the US.

**Pau Ruiz Guix**, a research associate working at the European Council on Foreign Relations until January 2022, picked up this thread in his commentary, arguing that transatlantic cooperation must be enhanced. In his comparative analysis of US and European plans to secure access to raw materials, Ruiz Guix identifies numerous similarities that offer the potential for cooperation; a cooperation that would minimise the risk of becoming victims of economic coercion and strengthen the resilience of supply chains. However, the EU and US's planned policy measures do not currently show any signs of close cooperation.

Still, for Ruiz Guix, EU and US strengths could be merged in three primary areas: first, in establishing a joint research and development plan for areas such as recycling, sustainability standards and geological mapping; second, in aligning trade diversification strategies and international investment priorities; and third, in jointly developing strategic reserves of critical raw materials, thus enabling the partners to assist one another when supply chains are disrupted.

### **Cooperation with mining countries in Africa and Latin America**

From a social justice perspective, **Jewellord Nem Singh** analyses the strategies of the US and EU in securing their supply of critical raw materials. In a Wilson Center publication, he criticises how the discussion about the energy transition largely ignores the issue of growing inequality and uneven

development. For him, the extraction of natural resources has played an important role in Latin American development strategies so far, and this will probably continue to be the case — also from the point of view of local decision-makers. The governments of resource-rich countries would certainly be interested in shaping (sustainable) global industrial and mining policies.

As examples, **Singh** cites Chile and Brazil, which have worked intensively on such issues over the past decade. According to him, importing countries should be open to ideas. Both interests and responsibilities must be given equal attention on the supply and demand side. Among other things, for him, this would mean developing joint measures that reduce vulnerabilities and risks for the mining countries and that promote the circular economy and the reduction of consumption in the importing countries.

What Does the European Green Deal Mean for Africa? ask **Zainab Usman**, **Olu-mide Abimbola** and **Imeh Ituen** in their report for the Carnegie Endowment for International Peace. According to the authors, for Africa, the most prominent consequence of the EU's plans for a climate-friendly future is its increased demand for critical raw materials. They argue that this is demonstrated, for example, in the EU Critical Raw Materials List that highlights some materials that can be found in African countries. South Africa, for example, is the main supplier of platinum, Guinea of bauxite.

The authors see this as an opportunity. However, they also warn that Africa could once again take on the role of a supplier of raw materials without developing locally. Moreover, mining could have negative social consequences and be accompanied by harmful environmental impacts that contribute to the fragility of certain states.

In the interest of mutually beneficial partnerships, the authors argue that the EU must take the positions of African partners more seriously when coming to a decision. At the same time, African states must prepare themselves individually and collectively for partnership, as opposed to entering into

a relationship marked by dependency. The authors note that updating laws and regulations to meet local content requirements could help to promote knowledge transfer, technological development and the linkage of the extractive sector with other areas of the economy. They argue that closer cooperation with local private sectors would also offer opportunities.

**Antonio M. A. Pedro**, Director of the United Nations Economic Commission for Africa (UNECA), speaks from a similar perspective in an interview with One Earth about the challenges in the extractive sector and the difficulties facing sustainable development. Here, he discusses the compatibility of the EU's goals as an importer of raw materials with those of African countries as exporters. While the EU is trying to secure access to critical raw materials in order to implement its climate policies, the plans of the African Union (AU) run counter to this. Indeed, Pedro notes that the AU's *Africa Mining Vision* envisions more local mineral processing, refining and manufacturing as well as value-added and resource-led industrialisation. He warns that this could lead to restrictions on the export of raw materials, which are in turn essential for the successful implementation of the EU strategy. How Africa positions itself with regard to this strategy and the role that African representatives will play in negotiations needs to be clarified.

## The Role of EU Member States

The 2020 EU Critical Raw Materials List identifies in-demand materials for the EU overall, but does not differentiate between them based on their industrial importance or individual member states' needs. At the same time, the measures listed in the Action Plan would exert widely varying effects on the countries at hand. In this context, plans for the domestic extraction of critical raw materials and the expansion of infrastructure such as refineries are of particular note. In this sense, many advocate that the EU member states act in a

coordinated manner when implementing the measures of the Action Plan and existing national raw materials strategies.

## Domestic raw material sources and processing

In an article published in *Resources*, **Ewa Lewicka**, **Katarzyna Guzik** and **Krzysztof Galos** stress the importance of raw material production from local deposits in meeting the future needs of EU industry. While they note that 11 of the EU's 30 critical raw materials can be found within EU territory, including lithium, natural graphite and rare earths, they also point out that these deposits alone are insufficient in meeting the EU's needs. For the authors, in order to reduce dependence on third countries, the use of secondary raw materials and recycling is promising, not only in terms of security of supply, but also for environmental and social reasons. In this respect, they argue that domestic supply should not only be understood as mining within the EU and in European third countries, but also as the recycling of already extracted materials. Following this path, the entire value chain could be expanded in Europe. If primary and secondary raw materials are extracted locally, further processing must also take place locally. Otherwise, another form of dependency would simply arise and most of the value creation would take place outside the EU, the authors argue.

This call for domestic mining is echoed by **Frank Umbach** in a blog post. For him, even if recycling and supply chain diversification contribute to the strategic autonomy of the EU, domestic mining and processing in Europe – not only in the EU – is indispensable. He sees the “Bjerkreim Exploration Project” in Norway as a promising example of this; indeed, it has discovered large deposits of vanadium, titanium and phosphate – all of which appear on the 2020 EU Critical Raw Materials List. He notes that the EU is now providing unprecedented financial support to projects that aim to develop mines and the expansion of raw material supply chains in Europe. Up

until now, such endeavours had often been unprofitable.

Moreover, while **Umbach** points out that mining in Europe can be more environmentally friendly than in other regions of the world, he also observes that conflicts of interest are already emerging that could slow down the development of European mining capacities. Examples of this include, conflicts between ensuring security of supply on the one hand and protecting the local environments and communities on the other, especially as locals would suffer from possible negative consequences of raw material extraction. Umbach points to several protests in Spain and Serbia in 2021 as examples in which local communities voiced opposition to planned lithium mining operations. In this sense, the author notes that it is important to clarify priorities and to manage the balancing act between local conservation and global climate protection. If the EU cannot guarantee a supply of critical raw materials, the energy transition and its larger aims will be jeopardised.

### **Germany as a major importer of raw materials**

Of all the countries in the world, Germany is one of the largest consumers of several industrial metals, including copper and nickel. As a result, Germany has great interest in securing access to raw materials. In a contribution to SIRIUS, **Jakob Kullik** and **Marc Schmid** discuss how the German government's plans to secure raw materials are to be understood in the context of joint action in the EU. They compare the German raw materials strategy of 2010 with that of 2020, both of which were developed under the auspices of the then-Ministry for Economic Affairs and Energy (BMW<sub>i</sub>, now BMWK). The authors ascribe little success to the 2010 strategy, saying that Germany's dependence on raw materials for (critical) metals is still very high; they also see little change in the 2020 strategy. Especially in view of EU plans, it remains unclear how a national German strategy relates to a common European approach.

Kullik and Schmid even express doubts as to whether a German strategy is necessary at all. They praise Germany for recognising the broad spectrum of challenges, ranging from security of supply through sustainability and environmental protection to the responsibility of companies in the supply chain to safeguard human rights. But there is no question that the bulk of the challenges can only be solved on a common European basis. For the authors, Germany runs the risk of asking too much of itself, setting ambitious goals and engaging in discussions parallel to the EU level, thus preventing the clear distribution of tasks that is needed. Kullik and Schmid go on to argue that, in doing so, Germany could actually hinder its and the EU's implementation of projects such as the European Green Deal.

### **Conclusion**

The above authors agree that a common EU policy on critical raw materials is needed to counter the EU and its members' high dependence on raw material imports. However, a lack of coherence between the EU's critical raw materials policy and its other goals exists, especially in the area of sustainability but also in the field of coordination and cooperation – both within the EU and with third countries.

The Action Plan's ten measures cover a wide range of important areas, which the authors welcome. The debate revolves in particular around how individual actions should be specifically designed, where further efforts are needed and to what extent the respective actions can be realised.

In sum, the articles show that additional efforts are needed at the EU level to achieve a common, coherent raw materials supply chain policy. Last but not least, the EU Parliament's adoption of a text on a European Strategy for Critical Raw Materials on 24 November 2021 indicates the desire for a comprehensive strategy. The text calls on the European Commission to continue and intensify the policy measures. The member

states are also called upon to act as important actors, especially in the area of local raw material extraction. The experts showcased in this journal review suggest that extracting and processing raw materials in Europe can only be successful if there are economic incentives to do so, in addition to the prioritisation of social and environmental standards.

There is also agreement among the authors that the expansion of the circular economy, for example, by way of recycling and sustainable product design, must be further promoted. In this context, the calls of some authors to more strongly consider sustainability criteria should be emphasised. However, the sustainability challenges posed by extraction, the supply chains and the possibility of reuse vary from material to material. In this respect, raw material-specific regulations, such as modernisation of the EU regulation on battery raw materials, are welcomed. Doing so would offer the possibility of meeting the specific challenges of individual raw materials – in this case lithium, cobalt, nickel and lead.

It is worth noting that the above authors focused significantly less on the importance of critical raw materials for digitalisation and defence when compared to the energy transition. One reason for this could be that the shift to more sustainable energy sources increases the need for raw materials. Their extraction is energy-intensive and often goes hand in hand with human rights violations and environmental degradation. This creates a dilemma in that more sustainability in one area leads to negative impacts for the environment and societies in another area. This point has drawn increasing public attention and such a trade-off is less apparent in the fields of digitalisation and defence, creating a blind spot. In this context, interruptions or shortages in the supply of raw materials could, for example, also slow down the implementation of Europe's digitalisation goals.

The impact that commodity dependence can have is illustrated by the consequences of Russia's war of aggression against Ukraine.

The reluctance of Western states to impose sanctions on Russian oil and gas and the concern that these energy supplies could be cut off highlight the foreign and security policy vulnerabilities that result from dependence. The switch from fossil fuels to renewable energy sources is an important step to reducing dependence on oil and gas. At the same time, it is important not to lose sight of the fact that this in turn increases the demand for metals and can therefore also create new dependencies.

The presented contributions point out that security of supply can only be achieved through international cooperation. Close cooperation is needed between the EU and other strong economies pursuing strategies to secure raw materials. Such would turn the "race for raw materials" into a team sport. As mentioned in the beginning of this journal review, the US, Japan and Canada are all viable partners.

Special attention should be paid to the authors' takes on EU relations with resource-rich states in Africa and Latin America. They suggest that the EU and the German Federal Government seriously engage in a partnership between equals in the raw materials sector.

There are opportunities for this, for example, in the negotiations on the desired EU-Namibia raw materials partnership or in the implementation of the modernised Association Agreement with Chile, which has yet to be signed. In this way, the EU and Germany could pursue the implementation of the European Green Deal more coherently and act in all three social, ecological and economic dimensions in a sustainable and, more importantly, globally just manner. If the EU focuses only on its own interests, it will be unattractive as a partner for the resource-rich states of the Global South. In this way, if resource-rich third countries end up preferring other partners, this could pose an obstacle to the realisation of the EU's plans.



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