



About the Author

Jonathan Lyons holds a BSc in Business Management from the Farmingdale State University of New York and MPA in European Studies with a technical focus on Climate and Energy from the RWTH Aachen University. For his master's thesis, Jonathan focused on a roadmap for policy makers to scale up the deployment of ocean energy technologies. He is a Research Fellow at EUROPEUM focusing on critical raw materials, end-of-life management of EV batteries and just transition for Central Europe.

Sofia Pahor-Chochoy is a research assistant for the Green Europe team at EUROPEUM's Brussels office. She is a Master student in Political Science and International Relations, specialised in conflict, peace, and security.

About EUROPEUM

EUROPEUM Institute for European Policy is a non-profit, non-partisan, and independent think-tank focusing on European integration and cohesion. EUROPEUM contributes to democracy, security, stability, freedom, and solidarity across Europe as well as to active engagement of the Czech Republic in the European Union. EUROPEUM undertakes original research, organizes public events and educational activities, and formulates new ideas and recommendations to improve European and Czech policy making.

Content

| | |
|---|----|
| Executive summary | 3 |
| Lithium at the global level..... | 7 |
| Lithium mining..... | 7 |
| Lithium in Czechia and the Cinovec project..... | 10 |
| ESG standards in lithium mining..... | 14 |
| Recommendations | 17 |
| Conclusion..... | 21 |
| Annex 1..... | 22 |

1. Executive summary

The EU's proactive stance, introduced in the Critical Raw Material Strategy and later Critical Raw Materials Act (CRMA), drives the EU's approach to secure the supply of European/domestic critical raw materials for EV battery production. To do so, the Critical Raw Materials Act, passed on 18 March 2024, mandates EU countries to extract, process and recycle a particular share of consumption domestically by 2030. The Cinovec project highlights the important role that Czechia can play in the European value chain of critical raw materials for the development of EV batteries. Lithium, which is going to be mined and processed in Cinovec, is a key critical raw material needed to produce lithium-ion batteries and the Cinovec project hosts Europe's largest hard-rock lithium resource.

The Cinovec project has a large economic potential as it enhances the ability to secure domestic and regional supply of lithium, which is otherwise very geographically concentrated outside of Europe. Europe relies on a handful of countries, particularly China, for the import of lithium for the production of EV batteries.

The project, owned by the Australian company European Metals Holdings (EMH) and ČEZ Group, plans to start mining in 2026. However, mining operations are polluting and do not always have a track record of bringing benefits to local communities. The ČEZ Group, which is 70% owned by the Czech government, should increase the pressure on the project to deliver on the environmental, social and governance (ESG) aspects, including water, soil and air pollution. Particularly, the fact that the Czech government holds a stake in the Cinovec project via ČEZ Group should help ensure that the project will deliver benefits for the local community.

The outlined recommendations of this paper aim to bolster sustainability and align mining practices of the Czech Republic with global environmental practices, by underlining the importance of enhancing transparency with local communities, environmental protection, integration of renewable energy sources (RES) in mining and localising the processing for economic and environmental prosperity.

2. EV battery materials and the EU

Critical raw materials (CRM) refer to minerals and metals that are expensive and difficult to extract, their production is geographically concentrated in few countries, ores quality is declining, and they face volatile prices.¹

Particularly due to the supply risks associated with their geographically concentrated production and refining and their importance to the EU economy, the EU has been developing lists of CRMs since 2011 and regularly reviewing and updating them.² To date, 5 lists have been developed: the 2011 list with 14 CRM, the 2014 list that grew to 20 CRM, the 2017 list with 27 CRM, the 2020 list which contains 30 CRM and the current 2023 list which contains 34 CRM.³ For comparison, the latest 2022 list from the US contains 50 CRM, such as copper, cobalt, lithium, manganese, or nickel.⁴

Transitioning to clean energy systems requires more minerals. Critical raw materials are therefore crucial to Europe's economy. For that reason, the Critical Raw Materials Act (CRM Act) was proposed by the European Commission in March 2023 in the form of a legislative package as demand for CRMs is expected to increase exponentially in the coming years⁵. The European Parliament and the

¹ Gielen, Dolf. IRENA. "Critical materials for the energy transition." 2023.

² European Commission "Critical raw materials - European Commission". 2023.

³ European Commission "Critical raw materials - European Commission". 2023.

⁴ U.S. Geological Survey. "U.S. Geological Survey Releases 2022 List of Critical Minerals." 2022.

⁵ Council of the European Union. "Council and Parliament strike provisional deal to reinforce the supply of critical raw materials. 2023.



Council came to an agreement on the CRM Act in November 2023 and it was finally passed in March 2024⁶. According to the European Commission's Raw Materials Initiative and strategic foresight studies, demand for CRMs could increase by up to 10 times by 2050 compared to 2010. The CRM Act enhances the EU's ability to monitor and address risks of supply chain disruptions, while also promoting circularity and sustainability⁷.

The CRM Act aims to:

- Increase and diversify the EU's CRM supply
- Significantly improve the refining, processing and recycling of CRMs in Europe, by 2030:
 - At least 25% of the EU's annual consumption must come from recycled materials
 - At least 10% of domestic extraction
 - At least 40% of domestic processing capacity
- Strengthen circularity and sustainability
- Support research and innovation on resource efficiency and the development of substitutes
- Diversify the EU's imports to reduce current dependencies
- Ensure the highest level of diversification of supply chains for European businesses
- Improve the EU's capacity to monitor and mitigate risks of disruptions to the supply of CRMs

Source: European Commission⁸

⁶ Council of the European Union. "Council and Parliament strike provisional deal to reinforce the supply of critical raw materials." 2023.

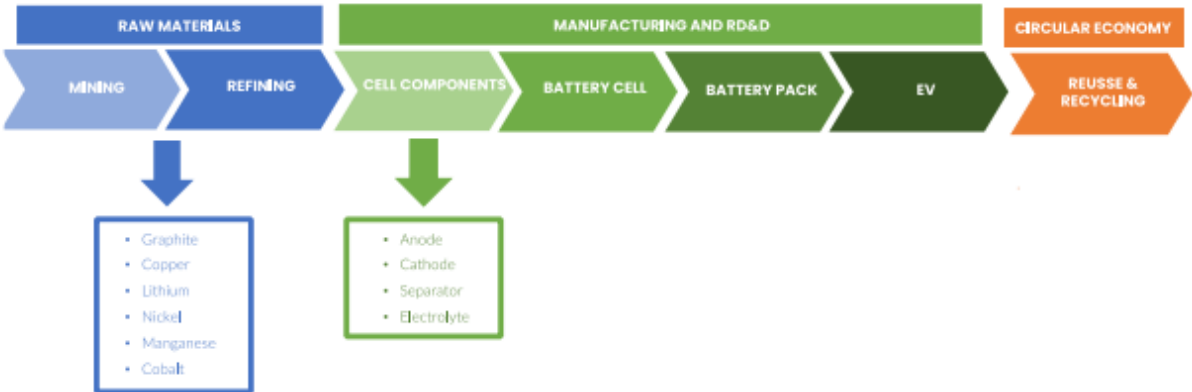
⁷ Council of the European Union. "Council and Parliament strike provisional deal to reinforce the supply of critical raw materials." 2023.

⁸ European Commission. "Commission proposes new European Critical Raw Materials Act." 2023.

The EU has set an ambitious target to reduce emissions by at least 55% by 2030 (compared to 1990 levels) to be on track to reach the goal of being climate neutral by 2050. These targets require, among other technologies, more electric vehicles (EVs) which require CRMs lithium, nickel, copper, graphite, and manganese for battery production⁹ accounting for 50% to 60% of the demand for CRMs¹⁰.

The increasing demand for EVs has led to a significant rise in exploration of potential deposits of CRMs in Europe. In the EU alone, the European Commission's Joint Research Center expects lithium consumption to increase 9 to 12 times by 2030, and up to almost 21 times by 2050¹¹, driven almost entirely by the uptake of e-mobility. Europe could end up being a global leader in sustainable battery production and use, in the context of circular economy¹².

Figure 1: EV battery supply chain



Source: EUROPEUM 2023¹³

⁹ Lyons, Jonathan. Europeum, "The Future is Electric: Role of Visegrad Countries in the EV Battery Supply Chain." 2023.
¹⁰EURACTIV. "EU Energy Transition: What Role for Critical Raw Materials?"
¹¹Intereconomics "The EU's Quest for Strategic Raw Materials: What Role for Mining and Recycling?" 2023.
¹²Drabik, Eleanor. CEPS "Circular Impacts: Overview of the Circular Economy Impacts on the EU Economy." 2018.
¹³Lyons, Jonathan. Europeum . "Policy Paper: The Future is Electric: Role of Visegrad Countries in the EV Battery Supply Chain." 2023.

3. Lithium at the global level

Lithium is considered one of the most critical materials due to its role in the production of lithium-ion batteries. It is on the lists of critical materials of the EU, US, Canada, UK, Japan, Australia and other countries.¹⁴ Lithium is the key cathode mineral in all lithium-ion batteries. The next two chapters provide an overview of lithium mining, processing and refining globally and then focus on Czechia, as Czechia hosts the largest hard-rock lithium resource in Europe.¹⁵ Chapter 5 then dives into the environmental, social and governance (ESG) aspects of mining and their importance in minimising the environmental footprint from mining while maximising social benefits for local communities. The last chapter then concludes with a set of recommendations for policy makers.

3.1 Lithium mining

Lithium is mined from two primary sources: spodumene minerals, which contain lithium sulfate (Australia, China, Canada but also Czechia) or from salt-lake brines, which contain lithium chloride (Bolivia, Argentina, Chile, China and the US) (Figure 2). Lithium can also be extracted from other sources including different types of lithium minerals (such as lithium borate in Serbia), clays (Nevada, US) and geothermal resources, but these are less economical¹⁶. Lithium can be also sourced from battery recycling as lithium sulfate, lithium chloride or a combination of both¹⁷.

¹⁴European Commission. "Critical Raw Materials." Single Market for Raw Materials, 2023. and Geological Survey. "U.S. Geological Survey Releases 2022 List of Critical Minerals." 2022. and Natural Resources Canada. "Canadian Minerals and Metals Plan: Critical Minerals List 2021." 2021.

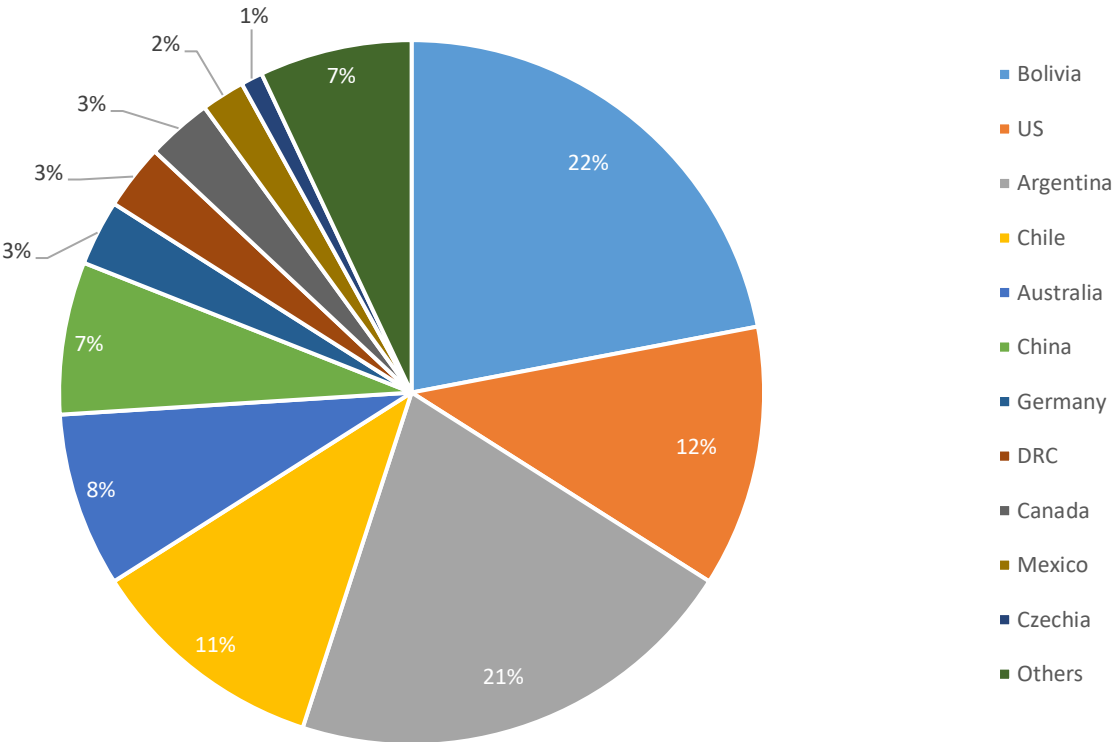
¹⁵European Commission. "Critical Raw Materials." Single Market for Raw Materials, 2023. and Geological Survey. "U.S. Geological Survey Releases 2022 List of Critical Minerals." 2022. and Natural Resources Canada. "Canadian Minerals and Metals Plan: Critical Minerals List 2021." 2021.

¹⁶ Gielen, Dolf. IRENA. "Lithium: Demand, Supply, and Criticality." 2022.

¹⁷Mangrove Lithium. "Battery Recyclers." 2024.

There are 98 million metric tonnes of global resources located across the world, but only less than 30% of it is considered economically viable, so-called reserves (EUROPEUM calculation based on USGS, 2023¹⁸). In 2022, 130 thousand metric tonnes were mined globally, with three countries – Australia (47%), Chile (30%) and China (15%) – responsible for over 90% of mining¹⁹. It means that the world is currently mining 0,5% of lithium reserves.

Figure 2: Global distribution of lithium resources



Source: United States Geological Survey, 2023²⁰

¹⁸United States Geological Survey. "Lithium." 2023

¹⁹ United States Geological Survey. "Mineral Resources of the San Juan Primitive Area, Colorado." 2023

²⁰ United States Geological Survey. "Lithium." 2023.

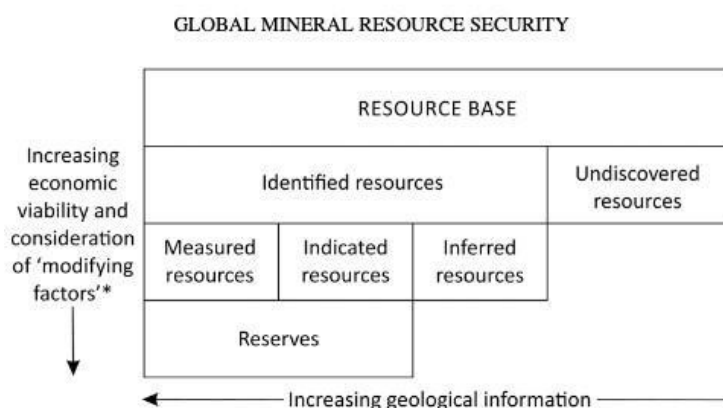


Box 1: Difference between mineral resources and reserves

Resources (sometimes also referred to as identified resources) are natural concentrations of a mineral in or on the Earth's crust in form, grade/quality and quantity that would justify its economic extraction. Resources are further categorised into measured, indicated and inferred based on the level of geological knowledge and confidence in their existence.

Reserves are the part of measured and indicated resources that can be economically mined. They represent only a fraction of resources²¹.

Figure 3: Resources and reserves



Source: *The Geological Society of London*²²

Both resources and reserves are estimates and change over time. Particularly when demand for materials increases, such as lithium for batteries, so do the prices. This, in turn, triggers innovation and political interventions. This results in discoveries of new resources or in mining resources that were previously considered uneconomic, which become reserves.

²¹ Menard H. William, United States Geological Survey. "Mineral Resources of the San Juan Primitive Area, Colorado." 2023

²² Lyell Collection. "Geological and Geochemical Aspects of Lithium Mineralization." 2015.

3.2 Lithium in Czechia and the Cinovec project

There is currently no operational lithium mine or lithium processing plant in Czechia. However, lithium deposits were found in Cinovec in the region of Usti nad Labem. Cinovec is in Krusne Hory, a mountain range located on the northwestern border of Germany and Czechia (Figure 4) and approximately 100 km northwest of Czechia’s capital city of Prague. The region has a rich mineral and metals mining history dating back to the 14th century and has seen extensive mining of tin and tungsten until 1990. Cinovec mine is considered the largest hard-rock (spodumene) lithium resource in Europe and 5th largest non-brine resource in the world²³. The additional potential of lithium in brines is being currently explored by the Czech Geological Survey. The Brine-RIS project²⁴ is a cross-European project that started in 2022 and focuses on the existence of lithium and other critical materials resources in mineralised waters, which may also serve as a geothermal energy source.

Figure 4: Location of Cinovec on the map of Europe



The 1st estimates of potential lithium deposits in Cinovec were done in the 1970s and 1980s by the Czechoslovak government which carried out underground

²³ European Metals. "Cinovec Resource and Geology - European Metals." 2024
²⁴ Akella, Surya. "Geomet to Buy Land for Lithium Plant in Czech Republic." 2023.

exploration and drilling in the area²⁵. In 2010, the Czech geological company Geomet started the exploration. In 2014, Geomet was acquired by the Australian-based company European Metals Holdings (EMH) which purchased a 100% interest in the exploration rights to the Cinovec project area, acquired historical mining data and started drilling, testing, scoping and designing a mine²⁶. Lithium concentrate was shipped to Australia to produce lithium carbonate and in late 2016 EMH announced they successfully manufactured >99.5% pure lithium carbonate²⁷.

Between 2015 and 2018, Geomet was also part of the cross-European FAME project (Flexible and Mobile Economic Processing Technologies) funded through the European Union Research and Innovation Programme Horizon 2020²⁸. The project with 17 partners across 7 European countries focused on increasing the competitiveness of the EU mining industry, attracting private sector investment and creating various socio-economic impacts.

In early 2017, EMH started the mining permit process by ensuring to place Cinovec mine on the Czech State Resource Register. By May 2017, respective Czech authorities granted 3 permits to EMH: a preliminary mining permit, a de-watering permit and an additional exploration license. The preliminary mining permit was granted by the Ministry of Environment until April 2025. This meant EMH had to apply for a final mining permit by then²⁹. It also meant that the regulatory oversight was transferred from the Ministry of Environment to the Czech Mining Bureau, which was then responsible for granting the final mining plan³⁰. As the mine was previously partially flooded, EMH applied for the de-watering permit.

²⁵ European Metals, "Cinovec Lithium-Tin Project", Prague, Czech Republic

²⁶ "Innovative Targeting & Processing of Tin, Tungsten and Tantalum ores." 2021.

²⁷ "Innovative Targeting & Processing of Tin, Tungsten and Tantalum ores.", 2021.

²⁸ European Commission. "Flexible and Mobile Economy Processing Technologies." 2015.

²⁹ VM. "European Metals Holdings Ltd Awarded 3 Permits from Czech Ministry of Environment.", 2017.

³⁰ VM. "European Metals Holdings Ltd Awarded 3 Permits from Czech Ministry of Environment.", 2017.

This permit allowed EMH to begin de-watering the mine to allow detailed geological and other studies of the deposit. An additional exploration license was granted to allow expansion of the exploration of the south part of the deposit.

Following the completion of the pre-feasibility study in 2017, EMH and the Czech government concluded a Memorandum of Understanding (MoU) to develop the Cinovec project³¹. By April 2020, EMH and CEZ reached the final agreement where CEZ, through its subsidiary SDAS, became a 51% shareholder of the Geomet (Cinovec project) for EUR 29 million³² and EMH a 49% shareholder. To increase its international profile, and attract expertise, private investment, and future off-takers, EMH has entered into various partnerships.

Since 2021, EMH has partnered with EIT InnoEnergy, the European Battery Alliance (EBA) facilitator, to accelerate the construction and commercialization of Cinovec, through access to finance, and grants, but also to help with offtake negotiations. In the same year, following the recommendations from the World Economic Forum's global standard for ESG reporting, EMH took several initiatives, including the establishment of the ESG Committee at the Board level and the use of the Socialsuite ESG technology platform to enable reporting and monitoring. This included the submission of the environmental impact assessment (EIA) to the Ministry of Environment and the finalization of the life cycle analysis (LCA) that confirmed the potential for low overall environmental impacts.

As part of its deal with the Ministry of Industry and Trade, EMH agreed to process lithium in Czechia. After a pilot program in Perth to process lithium into a battery-grade product, in October 2022, EMH began the planning of the chemical processing plant in Czechia, for which it purchased land in 2023. A close vicinity of the processing plant would allow it to lower its carbon footprint, decrease

³¹ European Metals Holding Ltd. "Memorandum of Understanding Signed With Czech Government." 2017.

³² "European Metals Holdings Ltd - Annual Results.", 2021.

transport costs and have a higher ESG impact³³. In January 2023, Cinovec project was declared strategic by the Czech government and the EU which gave it priority to the grant funding from the Just Transition Fund (JTF) of the European Union³⁴. Under the Just Transition Programme, Czechia identified three regions that would receive support to address various challenges linked to the energy transition, including the Ustecky region where Cinovec project is located³⁵. The Cinovec project has been allocated EUR 49 million, the maximum possible JTF non-repayable grant, which is now subject to passing the application process³⁶. This grant can play an important role in accelerating the development of the Cinovec project and the funding is likely to be used to develop the road network between Cinovec and Dukla, where processing of the lithium is set to take place.³⁷

In July 2023, the European Bank for Reconstruction and Development (EBRD) invested EUR 6 million through equity to speed up the development of the Cinovec project and became the minority shareholder³⁸ and as such increased the credibility of the project.

Based on the latest data (2022 updated pre-feasibility study³⁹), the Cinovec project will be a fully vertically integrated battery metals project which foresees to start its mining operation in 2026. It plans to operate for 25 years and produce annually almost 30,000 tonnes of battery-grade lithium hydroxide. For the context, the EU industry will need 400,000 tonnes by 2030 and the Cinovec mine can contribute to almost 8% of EU future demand⁴⁰. The mine will also produce tin, potash and

³³ "Land Secured for Cinovec Lithium Plant." 2023.

³⁴ Webb, Mariaan. Mining Weekly, "Cinovec Lithium Project Declared Strategic." 2023.

³⁵ Lyons, Jonathan. "Overcoming Barriers to Unlock Potential for a Just Transition in Czechia." 2023.

³⁶ Zichová, Kateřina, EURACTIV, "Criticized projects apply for subsidies for coal regions." 2024

³⁷ Webb, Mariaan. Mining Weekly "Cinovec Lithium Project Declared Strategic." 2023.

³⁸ Mirbabaeva, Nigina "EBRD Invests in European Metals Holdings Ltd.", 2023.

³⁹ European Metals. "Cinovec Project Overview - European Metals."

⁴⁰ Potts, Emily. Innovation News Network, "A Perspective on Europe's Rising Lithium Demand.", 2023.

tungsten, which it can sell on the global markets. More importantly, the Czech government’s decision to take a stake through the CEZ Group, can and should put the Czech government under scrutiny regarding how the project benefits the country and how the government sees the project within a broader context of batteries.

4. ESG standards in lithium mining

To enhance the sustainability of lithium mining extraction, we must understand first what sustainability is. In that sense, mining could be considered sustainable when it is conducted in a manner that balances economic, environmental, and social considerations (ESG), often referred to as the *triple bottom line*, and sustainable mining practices are those that promote this balance⁴¹.

Figure 5: ESG criteria⁴²

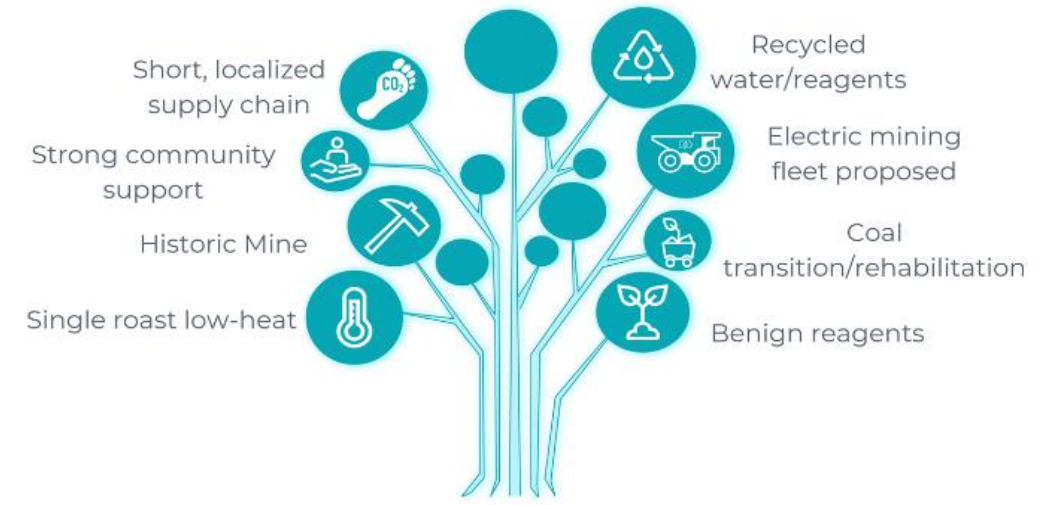


When it comes to extraction, the ESG agenda for the mining industry covers issues such as climate change (GHG emissions reduction, carbon footprint), rational use of water, decrease in soil and air pollution, energy efficiency, mine waste management, creation of local value and the creation of a circular economy (CE).

⁴¹ R. Rajaram, S. Dutta & K. Parameswaran. Sustainable Mining Practices: A Global Perspective”, 2005.

⁴² “Daato, ESG Criterias List.” 2024

Figure 6: Positive ESG profile⁴³



According to EMH and ČEZ Group, the CINOVEC project will create quality jobs. The estimated number would be 1000 jobs for miners during the anticipated 25-year lithium extraction period. In a presentation made by CEZ Group oriented to the population in Dubi, it was stated that the project will offer a wide range of prospective job positions. Approx. 1500 to 2000 jobs were already created during construction and even more will be needed during the full production period. The estimated number of employees in the mining plant will be approx. 1300 and the estimated number of employees in the processing plant will approach 500⁴⁴. It will also attract more business, as well as research and development to the region, key for future growth, which will eventually increase tax revenues for municipalities. Finally, according to EMH, no disruption will be made to the local landscape⁴⁵.

However, according to the locals, there are substantial risks of negative impact in the area. Local communities are asking for the procedures, processes and

⁴³ European Metals. "Positive ESG Profile - European Metals."
⁴⁴ CEZ Group, "Mining and Processing Lithium in Tin." 2023.
⁴⁵ CEZ Group "Mining and Processing Lithium in Tin." 2023.

technologies (mining, transport and processing) to be as environmentally and human friendly as possible.

The local communities are therefore requiring for the mine to be designed only to the minimum extent consistent with the most up-to-date knowledge and the most environmentally friendly approaches⁴⁶. It would be useful to minimise the mine site only to the mine entrance portal and the necessary buildings for traffic and safety, while the rest of the buildings and equipment can be placed underground in order to eliminate paved areas and further deforestation around the area⁴⁷. In that sense, eliminating paved areas around a mine site aligns with the principles of sustainable development and environmental standards by minimising the ecological footprint of mining activities. It promotes the conservation of natural resources and biodiversity.

Another demand concerns air pollution and locals ask for assurances from mining companies that there will be no increase in air pollution, as well as producing more independent expert studies addressing health risks of air pollution (incl. inhalation of particles of mined minerals). For the impact on air, CEZ do not anticipate a significant impact on air for mining or transport of rock where dust control measures will be in place. Filters and a gas cleaning system will be installed at the processing plant⁴⁸.

Moreover, locals believe the potential risk of water loss in the landscape and, thus, reject the method of extraction, which imposes large demands on water resources, which are already limited in the area⁴⁹. They ask for guarantees from the mining companies that there will be no loss or reduction of water resources in the area of CINOVEC, as well as the use of a circular water management, as

⁴⁶CINVALD "Position Paper 2023-09 Public Pdf." 2023.

⁴⁷CINVALD "Position Paper 2023-09 Public Pdf." 2023.

⁴⁸ CEZ Group, "Mining and Processing Lithium in Tin." 2023.

⁴⁹ CINVALD "Position Paper 2023-09 Public Pdf." 2023

potential loss of water will not only affect the population, but also the nature and landscape of the Ore Mountains⁵⁰.

While the CINOVEC project may have taken steps to address ESG considerations, ongoing monitoring and evaluation are necessary to assess its overall impact and alignment with sustainability principles. Stakeholder engagement, independent assessments, and transparent reporting can contribute to improving the project's performance in terms of ESG standards. That being the case, support transparency is needed. This may include establishing frameworks and guidelines that align with internationally recognized standards such as the Global Reporting Initiative (GRI), to implement verification processes to ensure the accuracy and reliability of reported information and maximising accessibility and reach. Being transparent requires fighting and protecting against corruption risks. Active reporting on corruption risks throughout the supply chain is essential, as well as tracking financial flows. This involves, for instance, conducting focused financial audits and examining payments to governments disclosed in the Extractive Industries Transparency Initiative (EITI) reports. It is also recommended to increase cooperation between the public and private sectors as well as with local civil society representatives⁵¹.

Accordingly, for the Czech Republic to use more sustainable practices leaning towards ESG standards, a list of recommendations, based on Best Mining Practices could include the following list.

5. Recommendations

- Due to the growing demand for EVs and supply risks associated with CRM that are necessary for the production of EV batteries, the EU has been

⁵⁰ CINVALD "Position Paper 2023-09 Public Pdf." 2023.

⁵¹ Basel Institute on Governance. "Transparency and Accountability in mineral supply chains", 2021.

driving a pan-European approach to secure domestic critical raw materials for EV battery production. To do so, the European Commission put forward the Critical Raw Materials strategy, carried out informative foresight studies, and introduced the CRM Act which mandates EU countries to extract, process and recycle a particular share of consumption domestically. This means that **Czech policymakers need to continue monitoring and influencing the decision-making processes at the EU level for the benefit of the whole lithium value chain in Czechia.** One example is to build on significant financial support from the European Union's Just Transition Funding to support the development of the Cinovec project which would be used to build the road network between lithium's extraction and processing plants.

- The ownership of the Cinovec project is divided between 51% ČEZ Group and 49% EMH. The Czech government owns a 70% stake in ČEZ Group. Government ownership in strategic projects such as the Cinovec project is a good strategy to guarantee that the project succeeds and expands in the long run, but it also needs to ensure that it delivers benefits to local communities. In light of this, **the transparent management and information on the progress of the project should be shared by the Czech policymakers regularly. Czech policymakers should also ensure the delivery of benefits to local communities.** This includes hiring local people at all levels of management and reinvesting profits back into local communities. It is imperative to prioritize investments that support the establishment of sustainable infrastructure, skill development, job creation, and community development, including research and innovation institutions, in the region where the Cinovec project is located.
- The Cinovec project highlights the important role that Czechia plays in the European value chain for the development of EV batteries. Lithium is a key

critical raw material needed to produce lithium-ion batteries and the Cinovec project hosts Europe's largest hard-rock lithium resource. Instead of exporting processed and refined lithium, it would make more economic sense for **Czech policymakers to attract more investment into other parts of the lithium (and battery) value chain, including building gigafactories and recycling plants.**

- As there is no global harmonisation of ESG standards for reporting and guidance for monitoring, it is therefore important to **monitor how Cinovec shareholders report their ESG compliance.** The policy framework should include the following:

- **Continuous monitoring and evaluation: Czech policymakers should establish a robust monitoring and evaluation framework to assess the ongoing impact of mining activities on the environment and community well-being.** This could be done by conducting regular audits and inspections to ensure compliance with regulatory requirements and identify areas for improvement, with findings made publicly available to promote transparency and accountability. By implementing these policy recommendations, Czechia can promote sustainable lithium mining practices that prioritize environmental protection, social responsibility, economic development, and the well-being of local communities.

- **Implement nationwide stringent environmental regulations and sustainable mining practices** to minimize ecological impact and ensure responsible resource utilization. Czech policymakers should provide incentives and support for the adoption of best practices in mining operations, such as the implementation of technologies for water, and energy efficiency and incorporating RES

to reduce emissions of pollutants, such as dust, particulate matter and waste management to minimize environmental footprint.

- **Enhance transparency with local communities:** No mining can be socially or environmentally sustainable unless the local communities are involved. The accent must be put on fostering open communication and engagement with local communities affected by mining activities. This includes creating mechanisms for transparent information sharing, and community involvement in decision-making processes throughout all stages of the mining project, as well as establishing mechanisms for dispute resolution to address community concerns in a timely and transparent manner.

6. Conclusion

As the demand for EVs and batteries increases so does the necessity for substantial growth in CRM sourcing, making it imperative for the EU to secure a stable, sustainable and diversified supply chain. The EU currently relies heavily on imports of CRM for battery production. The Cinovec lithium project in Czechia emerges as a potential solution that could contribute up to 8% to the EU's CRM supply. It presents opportunities for local economic development, but only if done properly. This includes communication with local communities on the potential impacts but also opportunities. Therefore, monitoring the project's alignment with ESG standards is critical to ensure the sustainability and ethical impact of mining lithium in Czechia.

7. Annex I

For this policy brief 4 experts were interviewed and asked the following question:

- How can Czechia develop a socially and environmentally sustainable mining industry?
- Do you see a role for civil society and industry to help develop a socially and environmentally sustainable mining industry?
- What are the best ways to comply with ESG standards?
- What are the areas for improvement in the policy and regulatory framework to make mining sustainable but also profitable for the country?
- How can Czechia develop value-added products and move towards processing and refining?
- Would you have any suggestions on how to improve the policy and regulatory framework related to mining?
- How is the process to authorize someone to mine in Czechia?

| Expert | Job title | Organisation |
|---------------|--|---|
| E1 | CEO | Czech Geological Survey |
| E2 | Head of Unit, Department of Raw Minerals Policy | Ministry of Industry and Trade (MPO) |
| E3 | Senior Advisor, Department of Raw Materials Policy | Ministry of Industry and Trade (MPO) |

8. Bibliography

Burton, Jason. U.S. Geological Survey. "U.S. Geological Survey Releases 2022 List of Critical Minerals." 2022. <https://www.usgs.gov/news/national-news-release/us-geological-survey-releases-2022-list-critical-minerals>.

Cinvald. "Position Paper." 2023. https://drive.google.com/file/d/17nz_Y-RP4RKdHz8owdZl8YttYKisAMfV/view.

Council of the European Union. "Council and Parliament strike provisional deal to reinforce the supply of critical raw materials." European Council Press Releases, 2023. <https://www.consilium.europa.eu/en/press/press-releases/2023/11/13/council-and-parliament-strike-provisional-deal-to-reinforce-the-supply-of-critical-raw-materials/>.

Coughlan, Keith. European Metals Holdings Limited. "Annual Financial Report." 2021. <https://www.europeanmet.com/wp-content/uploads/20210930-EMH-Annual-Financial-Report-AIM-1.pdf>.

David Reeves Investi. "Annual Financial Report." 2017. <https://www.investi.com.au/api/announcements/emh/b6a1ca91-c2e.pdf>.

Drabik, Eleanor. CEPS (Centre for European Policy Studies). "Circular Impacts: Overview of the Circular Economy Impacts on the EU Economy." 2018. https://cdn.ceps.eu/wp-content/uploads/2018/07/RR%202018_05_Circular%20Impacts_batteries.pdf.

European Commission. "Commission proposes EU critical raw materials action plan to reduce dependency and diversify supplies." 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661.

European Commission. "Commission proposes new European Critical Raw Materials Act." 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661.

European Commission. "Commission proposes new rules to address the link between deforestation and products placed on the EU market." 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661.

European Commission. "Commission sets out new EU actions to enhance security of supply of critical raw materials." Press release, 2023. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661.

European Commission. "Critical Raw Materials." Single Market for Raw Materials, 2023. https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en.

European Metals Holdings Limited. "Cinovec Project Overview." 2024. <https://www.europeanmet.com/cinovec-project-overview/>.

European Metals Holdings Limited. "Cinovec Resource and Geology." <https://www.europeanmet.com/cinovec-resource-and-geology/>

Feldmann, Horst, and Recknagel, Constantin. "The EU's Quest for Strategic Raw Materials: What Role for Mining and Recycling?" Intereconomics: Review of European Economic Policy 2023. <https://www.intereconomics.eu/contents/year/2023/number/2/article/the-eu-s-quest-for-strategic-raw-materials-what-role-for-mining-and-recycling.html>

EURACTIV. "EU Energy Transition: What Role for Critical Raw Materials?" <https://events.euractiv.com/event/info/eu-energy-transition-what-role-for-critical-raw-materials>

Geothermal Lithium. "Different Types of Lithium Products." 2021. <https://www.geothermal-lithium.org/en/news/lithium-products-different-types-lithium>.

Gielen, Dolf. International Renewable Energy Agency (IRENA). "Lithium: Demand, Supply, and Criticality." 2022. https://www.irena.org/-/media/Irena/Files/Technical-papers/IRENA_Critical_Materials_Lithium_2022.pdf.

Gielen, Dolf. International Renewable Energy Agency. "Critical Minerals: The Energy Transition's." 2021. https://www.irena.org/-/media/Files/IRENA/Agency/Technical-Papers/IRENA_Critical_Materials_2021.pdf.

Innovation News Network. "A Perspective on Europe's Rising Lithium Demand." 2023. <https://www.innovationnewsnetwork.com/a-perspective-on-europes-rising-lithium-demand/34480/>.

ITARG3T. "Geomet." 2021. <https://www.itarg3t.eu/Members/Geomet.html>.

London Stock Exchange. "Land Secured for Cinovec Lithium Plant." 2023. <https://www.londonstockexchange.com/news-article/EMH/land-secured-for-cinovec-lithium-plant/15992096>.

LUSTY, P. A. J., Lyell Collection. "Geological and Geochemical Aspects of Lithium Mineralization." Geological Society of London, 2015. <https://www.lyellcollection.org/doi/epdf/10.1144/SP393.13>.

Lyons, Jonathan. Europeum Institute for European Policy. "Policy Paper: The Future is Electric: Role of Visegrad Countries in the EV Battery Supply Chain." 2023. <https://www.europeum.org/en/articles/detail/5520/policy-paper-the-future-is-electric-role-of-visegrad-countries-in-the-ev-battery-supply-chain>.

Lyons, Jonathan. Europeum. "Overcoming Barriers to Unlock Potential for a Just Transition in Czechia." 2023. <https://europeum.org/data/articles/overcoming-barriers-to-unlock-potential-for-a-just-transition-in-czechia.pdf>.

Lyons, Martina. International Renewable Energy Agency (IRENA). "Geopolitics of the Energy Transition: The Role of Critical Materials." 2023. https://mc-cd8320d4-36a1-40ac-83cc-3389-cdn-endpoint.azureedge.net/-/media/Files/IRENA/Agency/Publication/2023/Jul/IRENA_Geopolitics_energy_transition_critical_materials_2023.pdf

Mangrove Lithium. "Battery Recyclers." 2024. <https://www.mangrovelithium.com/our-customers/battery-recyclers/>.

McLendon, Shane. Basel Institute on Governance. "Transparency and accountability in mineral supply chains." 2021. https://baselgovernance.org/sites/default/files/2021-11/cte_2.pdf.

Menard H. William, United States Geological Survey. "Mineral Resources of the San Juan Primitive Area, Colorado." 2023. <https://pubs.usgs.gov/circ/1980/0831/report.pdf>

MiningSee. "European Metals Holdings Ltd Awarded 3 Permits by Czech Ministry of Environment." 2017. <https://www.miningsee.eu/european>

Natural Resources Canada. "Canadian Minerals and Metals Plan: Critical Minerals List 2021." 2021. https://natural-resources.canada.ca/sites/nrcan/files/mineralsmetals/pdf/Critical_Minerals_List_2021-EN.pdf.

United States Geological Survey. "Lithium." Mineral Commodity Summaries 2023. <https://pubs.usgs.gov/periodicals/mcs2023/mcs2023-lithium.pdf>