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# From dominance to dependence: what the UK must learn to build trusted critical minerals partnerships

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## Key points

- Critical minerals underpin national competitiveness and security. Their role in clean energy and digital infrastructure is well known, but dependence also runs across aerospace and defence, automotive, chemicals, electronics and med-tech.
- Without reliable access to these minerals, the UK's industrial strategy and the resilience of critical systems are at risk
- Recent UK strategies acknowledge the need to diversify critical mineral value chains responsibly, including through the Critical Minerals Strategy and Refresh, the creation of CMIC, and the Critical Imports & Supply Chains Strategy.
- Market and institutional factors, rather than geology alone, drive current concentration. Resources are more widely distributed than production suggests, meaning diversification is both necessary and technically feasible.
- However, diversification is only viable where extraction is socially and politically legitimate. New partnerships will succeed only if they are built on social agreements that address local concerns, environmental impacts and distributive tensions.
- Yet conflict and resistance, both growing worldwide in relation to mineral extraction, can disrupt or even prevent such agreements. These dynamics remain largely overlooked in UK policy frameworks, despite being fundamental to the success of new partnerships.
- On average, the UK already sources from countries where around 21% of mining-related conflicts are highly polarised, a level similar to Germany and France and only slightly below China.
- If the UK is to expand its sourcing base, diversification will require deep contextual understanding and cooperative, trust-based engagement with communities and institutions in producer countries.

- UK and other high-income-country firms are deeply entangled in mining conflicts worldwide. Avoidance of high-conflict contexts is neither feasible nor responsible; meaningful, democratic engagement is essential.

## Introduction

For much of the twentieth century, the United States and Britain jointly controlled access to many of the world's richest mineral reserves.[1] That era is over. Today, BRICS[2] countries, above all China, shape supply: China produces roughly 60% of rare earths elements and processes nearly 90% of them, refines more than half of global lithium, about 65–70% of cobalt and around 35% of nickel, while BRICS as a group hold roughly 72% of rare earths elements reserves. Beyond BRICS, the DRC accounts for about 70% of cobalt and Indonesia for more than 45% of nickel.[3] By contrast, the UK is overwhelmingly import-reliant for critical minerals, approaching or at 100% for many materials.[4]

This is not a footnote to trade; it is a strategic exposure that touches the UK's ability to decarbonise, defend and compete. Critical minerals sit at the heart of national competitiveness and security. Their role in clean energy and digital infrastructure is well known, but dependence runs across aerospace and defence systems, automotive, chemicals, electronics and med-tech. Without assured access, the UK's industrial strategy and the resilience of critical systems are at risk. Policy has moved quickly, the Critical Minerals Strategy[5] and Refresh,[6] the creation of CMIC,[7] the government's response to the Task & Finish Group on Industry Resilience,[8] and the Critical Imports & Supply Chains Strategy,[9] coalescing around an ACE approach: **a**ccelerate domestic strengths, **c**ollaborate internationally, and **e**nhance market transparency and responsibility. Yet, all these policies recognise a hard truth: self-sufficiency is neither feasible nor desirable. Meeting the scale, diversity and quality of demand requires ***diversified, transparent and responsible global value chains***.

The starting point is nonetheless concerning. The latest UK criticality assessment[10] shows supply of the most critical minerals is strikingly concentrated: roughly 71% of UK ferro-niobium imports come from Brazil and about 74% of rare earths from China, which also dominates mid-stream trade in gallium/indium, germanium and tungsten. South Africa is pivotal for platinum-group metals, while close allies such as the United States and Germany still account for large single-country shares elsewhere. These are not abstract inputs:

- Niobium underpins high-strength steels; rare earths elements power magnets in EVs, wind and precision weapons
- Gallium, indium and germanium sit at the core of semiconductors and optics
- Tungsten enables cutting tools and armour-piercing alloys
- Platinum-group metals are essential for catalytic converters, fuel cells and electrolysers
- Cobalt supports high-energy batteries and superalloy

[1] Wilkins M. The United States and the Global Struggle for Minerals. By Alfred E. Eckes Jr., Austin, University of Texas Press, 1979. Pp. xi + 353. $18.95. *Business History Review*. 1980;54(2):241-242. doi:10.2307/3114496 and Johnstone, P., & Marín, A. (2025). *Beyond the twin transition: Military drivers of critical minerals' expansion* (Working paper; under review at *The Extractive Industries and Society*).

[2] The BRICS countries are a group of 11 nations: Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran, Indonesia, Saudi Arabia, and the United Arab Emirates

[3] World Energy Outlook 2024: https://www.iea.org/reports/world-energy-outlook-2024

[4] Foreign Affairs Committee Report, A rock and a hard place: building critical mineral resilience: https://publications.parliament.uk/pa/cm5804/cmselect/cmfaff/371/report.html

[5] UK Critical Minerals Strategy https://www.gov.uk/government/publications/uk-critical-mineral-strategy

[6] Critical minerals refresh: delivering resilience in a changing global environment https://www.gov.uk/government/publications/critical-minerals-refresh/critical-minerals-refresh-delivering-resilience-in-a-changing-global-environment

[7] UK's first Critical Minerals Intelligence Centre to help build a more resilient economy https://www.gov.uk/government/publications/critical-minerals-task-and-finish-group-government-response/uk-government-response-to-the-task-and-finish-groups-recommendations-on-industry-resilience-for-critical-minerals

[8] UK government response to the Task and Finish Group's recommendations on industry resilience for critical minerals https://www.gov.uk/government/publications/critical-minerals-task-and-finish-group-government-response/uk-government-response-to-the-task-and-finish-groups-recommendations-on-industry-resilience-for-critical-minerals

[9] UK critical imports and supply chains strategy https://www.gov.uk/government/publications/uk-critical-imports-and-supply-chains-strategy

[10] UK 2024 criticality assessment: https://nora.nerc.ac.uk/id/eprint/539735/

- Magnesium is critical for light-weighting.

Even where suppliers are "friendly", UK exposure remains concentrated in a small number of countries and mid-stream chokepoints across the minerals underpinning the six UK industrial priorities: aerospace/defence, automotive, chemicals, electronics, energy and med-tech.[11]

## Diversification is necessary and possible

Recent evidence[12] shows that apparent concentration and scarcity reflect market and institutional factors as much as, if not more than, geology. Resources are more widely distributed than production suggests.

Cobalt illustrates this point: while current mining is concentrated in the DRC and most sulphate conversion in China, cobalt-bearing resources also exist in countries such as Australia, Canada, Morocco and Madagascar, where production is starting to expand. Rare earth elements show a similar picture: deposits are globally dispersed, in Brazil, Vietnam, the United States, India and Greenland, among others. The true bottlenecks lie in separation and magnet-making, which can be developed with patient capital, technical skills and credible environmental standards. Even nickel, whose laterite-to-battery chemical conversion is centred in Indonesia, offers diversification routes through sulphide projects in Canada and Australia, and through new midstream facilities being developed among trusted partners such as Finland, South Korea and Japan.

There is therefore a clear role for policy. The UK's opportunity lies in co-developing diversified value chains with partners in Africa, Latin America and the Indo-Pacific, combining sustainable sourcing partnerships with investment in processing capacity, skills and standards. Yet this strategy must also confront a growing challenge: the legitimacy of mining is increasingly contested across multiple producing territories.

## The importance of reputation

Diversification is not just technical or logistical; it is relational. Building new critical minerals value chains depends on sustained, trust-based engagement in producer countries where mining often imposes local costs without commensurate benefits (for example, competition for land and water, biodiversity loss, tailings risks, displacement and disputes over Indigenous rights). A major challenge for expansion today is that these pressures are fuelling significant socio-environmental conflicts and resistance to extraction[13]. As we identified in our recent paper, the first to systematically investigate the global landscape of civil resistance to mineral extraction, where there are mineral reserves, there are conflicts, independent of a country's income level or institutions.[14]

Understanding conflict and resistance, and ways to address it, thus, is central to UK policy aimed at diversifying critical minerals value chains. These dynamics are not only evidence of social and environmental harm and ongoing injustices; they are practical bottlenecks. Across regions, contention, particularly when highly polarised, raises operational risk, erodes social licence and drives delays, redesigns, suspensions and cancellations via stoppages, legal challenges and reputational damage, while increasing mineral prices and deterring or re-routing FDI.[15] For a country sourcing more than 90% of its critical minerals from abroad, this is not peripheral:

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[11] UK government response to the Task and Finish Group's recommendations on industry resilience for critical minerals https://www.gov.uk/government/publications/critical-minerals-task-and-finish-group-government-response/uk-government-response-to-the-task-and-finish-groups-recommendations-on-industry-resilience-for-critical-minerals

[12] De la Torre de Palacios, L., & Espí Rodríguez, J. A. (2024). Mineral raw materials, from their natural stock to their geopolitical behaviour. Mineral Economics, 37(3), 547–571. https://doi.org/10.1007/s13563-023-00415-w.

[13] See: Temper, L., Walter, M., Rodriguez, I. *et al.* A perspective on radical transformations to sustainability: resistances, movements and alternatives. *Sustain Sci* **13**, 747–764 (2018). https://doi.org/10.1007/s11625-018-0543-8 and Conde, M., Le Billon, P., Why do some communities resist mining projects while others do not? *The Extractive Industries and Society*, Volume 4, Issue 3, (2017) Pages 681-697,https://doi.org/10.1016/j.exis.2017.04.009.

[14] Anabel Marin and Gabriel Palazzo 2025 *Environ. Res. Lett.* **20** 054030 **DOI** 10.1088/1748-9326/adc74f https://iopscience.iop.org/article/10.1088/1748-9326/adc74f

[15] See: World Energy Outlook 2024: https://www.iea.org/reports/world-energy-outlook-2024
Franks, D.M., Davis, R., Bebbington, A.J., Ali, S.H., Kemp, D. & Scurrah, M. (2014) 'Conflict translates environmental and social risk into business costs', Proceedings of the National Academy of Sciences 111(21): 7576–7581. https://doi.org/10.1073/pnas.1405135111
Tetreault, D. (2015). Social Environmental Mining Conflicts in Mexico. *Latin American Perspectives*, *42*(5), 48-66. https://doi.org/10.1177/0022429415585112 (Original work published 2015)
Akchurin, Maria. (2020). Mining and Defensive Mobilization. Sociology of Development. 6. 1-29. https://doi.org/10.1525/sod.2020.6.1.1

how UK firms, financiers and public agencies engage with conflicts and resistance will shape both reputation and access.

Initiatives such as the Minerals Security Partnership signal intent, but reputational gains will come from practice: understanding conflict-sensitive regions where extraction is taking place or where it will increase, diagnosing drivers and identifying pathways to transform disputes into negotiated agreements (Marin and Palazzo, 2025; further work forthcoming). That means early conflict assessment, as well as mapping opportunities for negotiation and cooperation.

Current UK policy tools leave blind spots. Conflict/resistance dynamics are largely invisible in existing frameworks, which lean on country-level proxies[16] (governance, environmental scores)[17] not directly related to mining activities, or on extreme-abuse flags (for example, forced child labour). Evaluating trade and partnership strategies without site-level conflict/cooperation data risks mispricing exposure, overlooking fragile hotspots and missing places where collaboration is emerging and could scale.

## What our new data shows about the UK's current exposure: preliminary insights

To bring this into policy view, we compile a new event-level dataset that maps conflict and cooperation related to mining by location and actor nationality[18], using information derived from the GDELT Project. We define a conflict event as any public act of resistance to mineral extraction by social actors (for example, communities, movements, companies or governments), while a cooperative event refers to constructive actions or intentions, such as consultations, dialogues, diplomatic contacts and formal agreements among companies, communities and/or state actors. Both can occur in verbal form (for example, statements, declarations, diplomatic gestures) or material form (for example, protests, veto decisions, violence, aid provision, agreements). Based on this distinction, conflict events related to mining are classified as low-, medium- or high-polarisation.

This data allows us to understand the extent to which the countries the UK is sourcing (or might source) its minerals from are conflict-prone, and to investigate how actors from the UK are directly involved in those conflicts over extraction (the UK's outward conflict footprint). This analysis allows us to explore where risks sit in the origins of the import mix, and how UK-linked actors are contested abroad, their reputation, an oft-missing dimension in supply-chain planning that will shape and limit diversification opportunities.

A first pass over our conflict/cooperation dataset flags two concerns. First, on exposure to conflict and resistance in its import mix, the UK is not performing better than key peers. Second, the UK's outward conflict footprint, cases abroad involving UK-linked actors, is large relative to its domestic baseline, with reputational implications.

## UK import exposure: mid-range risk with red flags

We estimate the UK's exposure by weighting each supplier country's conflict severity by its share of UK imports. On this import-weighted polarisation metric, the UK performs no better than peers such as China, Germany or France. On average, the UK sources from countries where about 21% of mining-related conflicts are highly polarised, i.e., more likely to involve violent protest, assaults, coercion, serious human-rights abuses or veto decisions, implying a meaningful risk of disruption. This is close to Germany (21%) and France (20%), and only slightly below China (24%). Two suppliers stand out for different reasons: South Africa, which accounts for 22%

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Walter, M. & Wagner, L. (2021) 'Mining struggles in Argentina: The keys of a successful story of mobilisation', The Extractive Industries and Society 8(4): 100940. https://doi.org/10.1016/j.exis.2021.100940

Özkaynak, B., Rodríguez-Labajos, B., Arsel, M., Avcı, D., Carbonell, M.H., et al. (2012) Mining conflicts around the world: Common grounds from an environmental justice perspective (EJOLT Report No. 7). Environmental Justice Organisations, Liabilities and Trade.
http://www.ejolt.org/wordpress/wp-content/uploads/2012/11/Mining-Report-low.pdf

Alfar, A.J.K., Elheddad, M. & Doytch, N. (2024) 'Impact of political conflict on foreign direct investments in the mining sector: Evidence from the event study and spatial estimation', Journal of Environmental Management 350: 119590.
https://doi.org/10.1016/j.jenvman.2023.119590

Arellano-Yanguas, J. (2011) 'Aggravating the Resource Curse: Decentralisation, Mining and Conflict in Peru', The Journal of Development Studies 47(4): 617–638.

[16] UK 2024 criticality assessment https://nora.nerc.ac.uk/id/eprint/539735/

[17] Resilience for the Future: The UK's Critical Minerals Strategy https://www.gov.uk/government/publications/uk-critical-mineral-strategy

[18] Anabel Marin and Gabriel Palazzo 2025 *Environ. Res. Lett.* **20** 054030 **DOI** 10.1088/1748-9326/adc74f
https://iopscience.iop.org/article/10.1088/1748-9326/adc74f

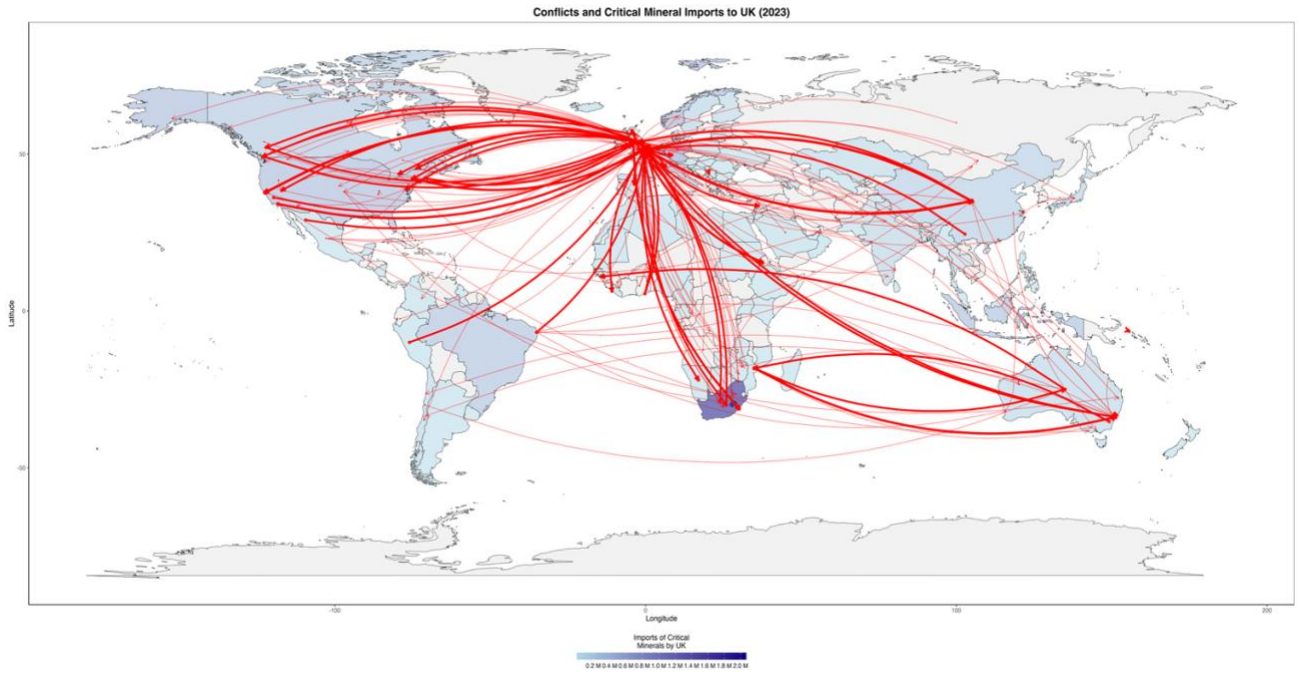
of UK critical mineral imports and recorded 1,848 conflict events (2015–2022), with 23% highly polarised; and Indonesia, where the share of highly polarised conflicts reaches 40%, making it one of the most polarised countries in our sample.

*Outward footprint: high "excess abroad"*

Comparing conflicts involving each country's actors abroad versus at home, UK-linked actors appear in 1,783 overseas cases, on a par with China (1,838), despite the UK's modest domestic mining base but extensive corporate/financial reach. The UK's "excess abroad" ratio (overseas actor+location ÷ domestic conflict events) is 2.20, higher than Germany (1.74) and China (1.55) and second only to France (2.63). In terms of intensity, 23% of UK actor cases are highly polarised—slightly above the UK's supplier-mix average (~21%), well below France (48%) and above Germany (17%).

Figure 1 shows the network of conflictual links between UK actors and the rest of the world, alongside each country's share of UK critical mineral imports. As the map indicates, these conflicts are widespread, present across regions but especially prevalent in lower-income countries in the South. This reflects two problems in the expansion of UK trade. On the one hand, a large outward-conflict footprint in poorer regions can erode a "trusted partner" reputation, raise financing costs, slow permitting and weaken the UK's ability to co-develop sustainable value chains. On the other, if this is not addressed, the new wave of mineral expansion risks reproducing older extractive relationships.

Figure 1: Conflictive links between actors from the UK and the rest of the world in mining conflicts.




*Source: authors' elaboration based on Marin and Palazzo (2025).*

## Implications for UK strategy

An obvious, but ultimately naïve, policy response is to pivot towards lower-polarisation suppliers (such as the USA, Canada, Sweden or Australia) and avoid higher-polarisation partners (such as Indonesia, Peru or Turkey). Yet this would only be feasible for a handful of critical minerals where expansion is possible in these locations (for example, rare earth elements in the USA or cobalt in Canada), and only if supply exceeds their existing commitments, an increasingly unlikely scenario as competition for access intensifies.

Moreover, contestation is a dynamic rather than static phenomenon. As investment extends into new territories or deepens in historically mining-intensive ones, conflict risks tend to rise. Evidence from Argentina and Chile illustrates this: both countries, despite contrasting mining histories, have experienced surging contention as

extraction expands.[19] Thus, while geology is not a fully binding constraint and diversification remains possible, there will be no "conflict-free" basket of resources to choose from.

## Conclusion

To meet rising demand amid growing competition, the UK will therefore need to help build new value chains, often in places where extraction already faces resistance (e.g. cobalt in Madagascar) or where tensions may increase as activity expands (rare-earth elements in Brazil and the United States; lithium in Zimbabwe). The UK and its partners must develop a deeper understanding of local contexts and adopt a cooperative approach that engages communities and institutions to forge long-term, trusted partnerships. With the right practices, conflict flashpoints can evolve into spaces of negotiation and collaboration that deliver more sustainable and legitimate outcomes for both local actors and investors.[20]

Achieving this shift requires better intelligence. Strengthening the UK's capacity to analyse the drivers of both conflict and cooperation in mining should inform project screening, offtake design and partnership terms. For a country that must import most of its critical minerals, building diversified, transparent and trusted value chains will depend as much on how it partners as on who it partners with. Our ongoing research aims to help fill this gap.

Without such engagement, the UK and Europe risk ceding ground by default, avoiding complex contexts while competitors establish durable positions.[21] Continued avoidance also will deepen the injustices of the green transition. Conflicts around mining do not emerge solely from "local problems" or weak domestic institutions, as is often assumed. These are relational dynamics, involving both domestic and international actors. One fact is clear: it takes two to tango. UK and other high-income-country firms are deeply entangled in mining conflicts worldwide. Avoidance is not a solution; meaningful, democratic engagement is.

[19] Marín, A. and Cunial, S. (2025) Mining Legitimacy: Governing the Politics of Resource-Based Green Industrial Policy, IDS Working Paper 623, Brighton: Institute of Development Studies, DOI: 10.19088/IDS.2025.046

[20] See: González LI, Snyder R. Modes of Extraction in Latin America's Lithium Triangle: Explaining Negotiated, Unnegotiated, and Aborted Mining Projects. *Latin American Politics and Society*. 2023;65(1):47-73. doi:10.1017/lap.2022.32 and Deberdt, R., Smith, N. M., Malone, A., & Bullock, R. (2025). From opposition to conditional acceptance: Corporate environmental and socio-economic engagement in critical minerals mining in Michigan. *Resources Policy, 110*, 105760. https://doi.org/10.1016/j.resourpol.2025.105760

[21] Too clean to compete: Why strict standards keep Europeans out of African minerals (2025) https://ecfr.eu/publication/too-clean-to-compete-why-strict-standards-keep-europeans-out-of-african-minerals/



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