

UNLOCKING THE UK'S CRITICAL MINERALS POTENTIAL: Identifying and overcoming non-technical barriers to critical mineral extraction

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OVERVIEW

This research shows that while the UK has significant geological potential, development of a domestic critical minerals sector is being constrained less by the technology for extraction and more by non-technical barriers including planning, regulation, mineral rights, infrastructure, skills and community engagement.

These barriers manifest in different ways across the project lifecycle, increasing uncertainty and slowing investment.

PURPOSE

- » The project examined the non-technical factors affecting the development of domestic critical mineral supply chains in the UK.
- » Using case studies of tin, lithium and nickel projects in Cornwall and Aberdeenshire, the research explored how regulatory, institutional and social challenges influence project viability and sector growth.
- » Evidence was gathered from companies, regulators, local authorities, communities and other stakeholders.

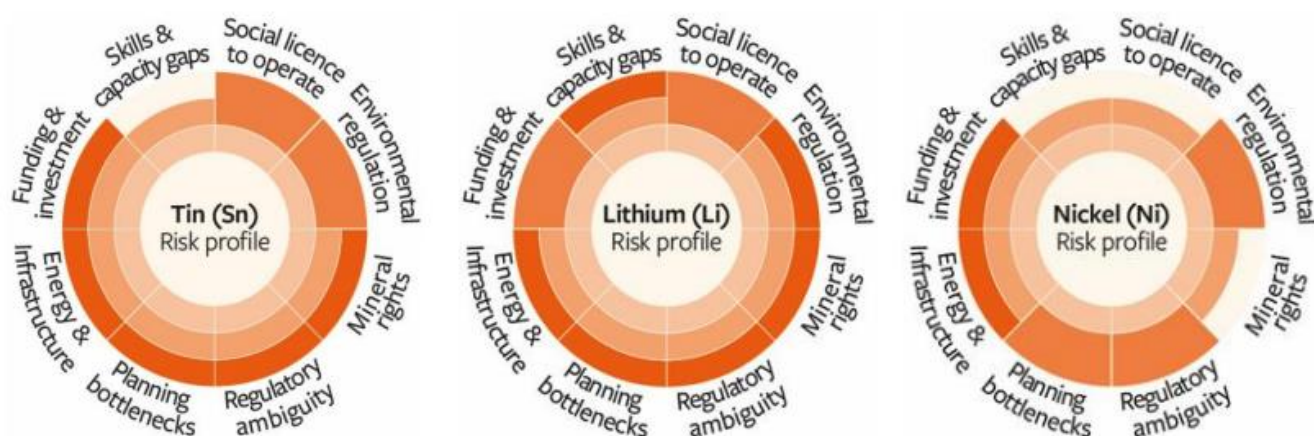
Critical minerals such as lithium, cobalt, nickel and tin are essential for the UK's Net Zero transition, used in advanced manufacturing and electrification / low carbon technology.

FINDINGS

The research identified a set of interconnected barriers that restrict sector development. These include complex and opaque mineral rights arrangements which vary across the UK, lengthy planning and permitting processes, shortages of specialist skills in regulators as well as in the private sector, infrastructure for moving and processing materials, and challenges in securing and maintaining community trust and support.

These factors are not independent; they compound one another, increasing costs, delays and investor risk.





Risk profiles of Tin, Lithium (geothermal) and Nickel

The project produced an interactive graphic which enables people to explore the challenges of UK extraction of different critical minerals through the different stages of the mineral extraction project. Access the tool [here](#).

DISCUSSION/IMPLICATIONS

- » Research suggests addressing barriers below would enhance supply-chain resilience, support clean technology sectors and contribute to Net Zero ambitions.
- » Developing a resilient domestic critical minerals sector requires coordinated action across government, industry and local stakeholders, but such a framework also needs to accommodate place-specific requirements that reflect different heritage and experience, as well as the varying requirements across devolved administrations.

Recommended actions include

- » Improving transparency around mineral rights and simplifying the processes of gaining permissions for exploration activities.
- » Strengthening planning and regulatory capacity in terms of guidelines and knowledge in mineral planning authorities.
- » Investing in processing and transport infrastructure within a clear planning framework and building stronger community relationships that acknowledge previous experiences and ensure local benefit.