

Critical Raw Materials, Supply Chains, and Defence

Briefing Note

Purpose & Context

- CRMs are strategically vital for defence and wider industry.
- Session framed upcoming series on supply, demand, and circular economy, focusing on batteries, magnets, and related technologies.

Key Presentations

- **Globsec (Petr):**
 - EU/US dependency on China for mining/refining.
 - Urgent need for diversified supply, faster project approvals, investment in cleaner processing, and sodium-ion alternatives.
 - Stronger public/private funding and NATO/defence integration required.
- **BGS (Evi):**
 - UK CRM demand rising sharply (EVs, wind turbines).
 - Limited end-of-life recovery and lifespan extension.
 - Domestic refining/recycling capacity underdeveloped.
 - Significant data gaps; need for circular economy innovation.

Key Discussion Points

- **China:** Cost vs. sustainability—security justifies higher prices.
- **Technologies:** Sodium-ion promising; China also investing heavily.
- **Supply:** Domestic insufficient; international partnerships critical.
- **Defence Demand:** Small share vs. wider industry; unclear data.
- **Readiness:** Progress exists, but not fast enough to meet future demand.

Next Steps

- Engage in upcoming sessions on technology/supply chain gaps.
- Explore consortium formation for funding bids.
- Track UK strategy developments, mining potential, and recycling progress.

Executive Summary

The session on *Critical Raw Materials, Supply Chains, and Defence* highlighted the growing importance of CRMs to both defence and wider industrial strategies. The discussion set the stage for a series on supply, demand, and circular economy approaches, with a particular emphasis on batteries, magnets, and related technologies.

Insights from Presentations

Petr (Globsec) shared findings from a recent report, underscoring the West's dependence on China for mining and refining. He urged urgent action to diversify supply, accelerate mining approvals, expand existing operations, and invest in both environmentally responsible processing and alternative battery technologies such as sodium-ion. He also stressed the need for stronger investment and integration of CRM issues into NATO and defence frameworks.

Evi (BGS) presented UK-focused research into CRM flows and circular economy modelling, particularly for EVs and wind turbines. She highlighted surging demand, limited recovery of end-of-life materials, the importance of modelling stocks and flows, the potential for significant future domestic supply and the importance of product lifespan extension in reducing demand. She also flagged data gaps, the need for domestic refining and recycling capacity, and the challenges of integrating circular economy solutions.

Key Themes from Discussion

Participants debated the trade-off between cheaper Chinese supply and more sustainable Western alternatives, with consensus that higher costs may be justified for security. Alternative technologies such as sodium-ion batteries were recognised as promising, though China is investing heavily in the same space. Domestic supply alone will be insufficient in the near future (up to 2040), making international partnerships essential. Defence demand is comparatively small, requiring a cross-sector approach. While progress is being made in the UK and Europe, it is not yet at the scale or speed required to meet future demand.

Next Steps

The group agreed to maintain momentum through future sessions, which will focus on specific technologies and supply chain gaps. Participants were encouraged to contribute questions, consider forming consortia for funding opportunities, and closely monitor developments in UK and international CRM strategies.