Montanuniversität
Leoben

Europe's Approach to Resource Constraints for Sustainable Mobility Technologies

ECO–MOBILITY 2026

12 November 2026


DER SPIEGEL
13/27.3.06
nland: 3,40 €
SPIEGEL-SERIE
Der neue Kalte Krieg
KAMPF UM DIE ROHSTOFFE
www.spiegel.de

Minerals – Backbone of the economy

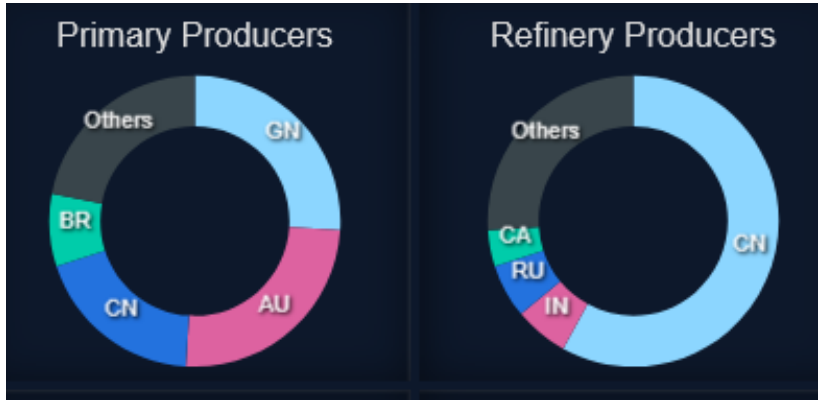
Major developments in global mining production based on World Mining Data 2026



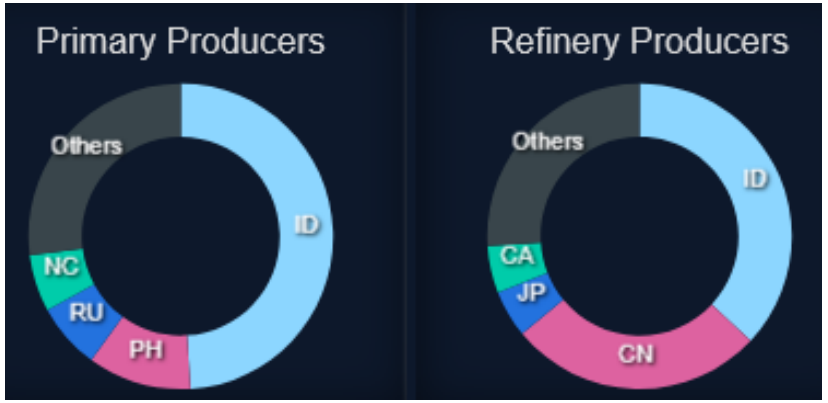
World Mining Data 2026

China is even more dominant in processing

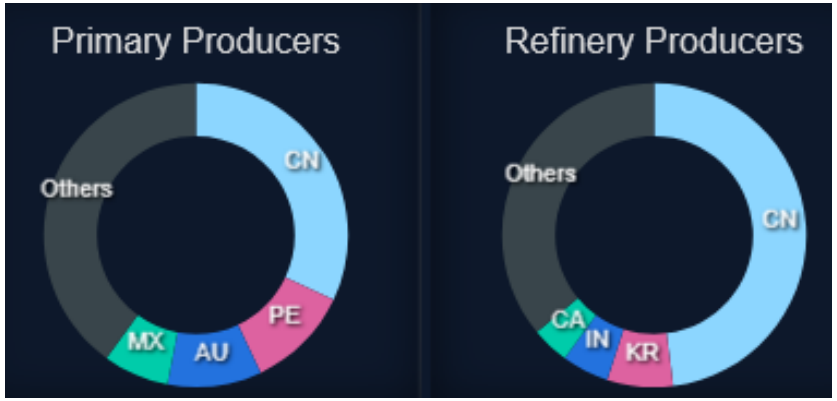
From Aluminium…



…via Nickel…

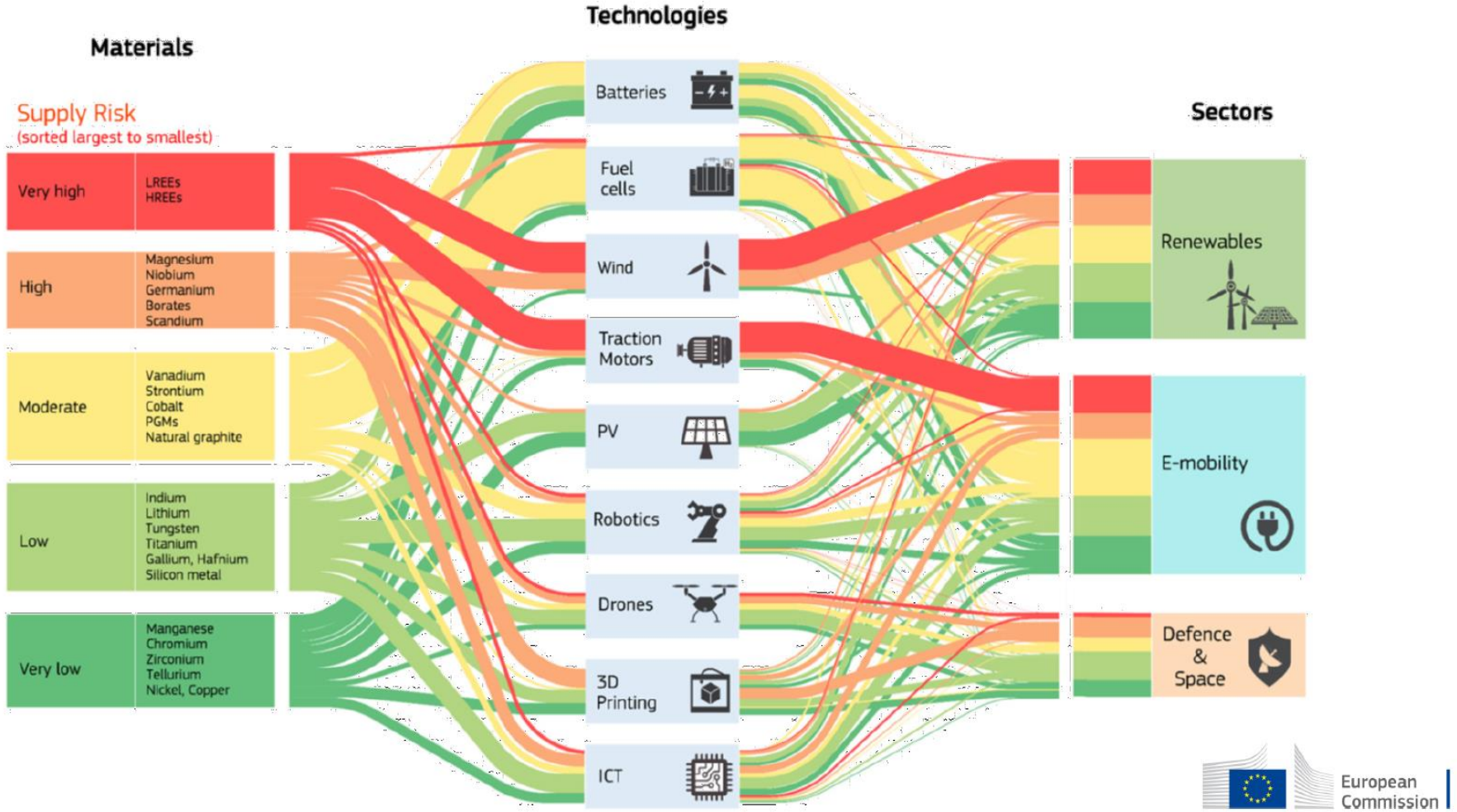


…to Zinc



RMIS 2026

For 20+ years, the EU has been well aware of these risks, e.g.…



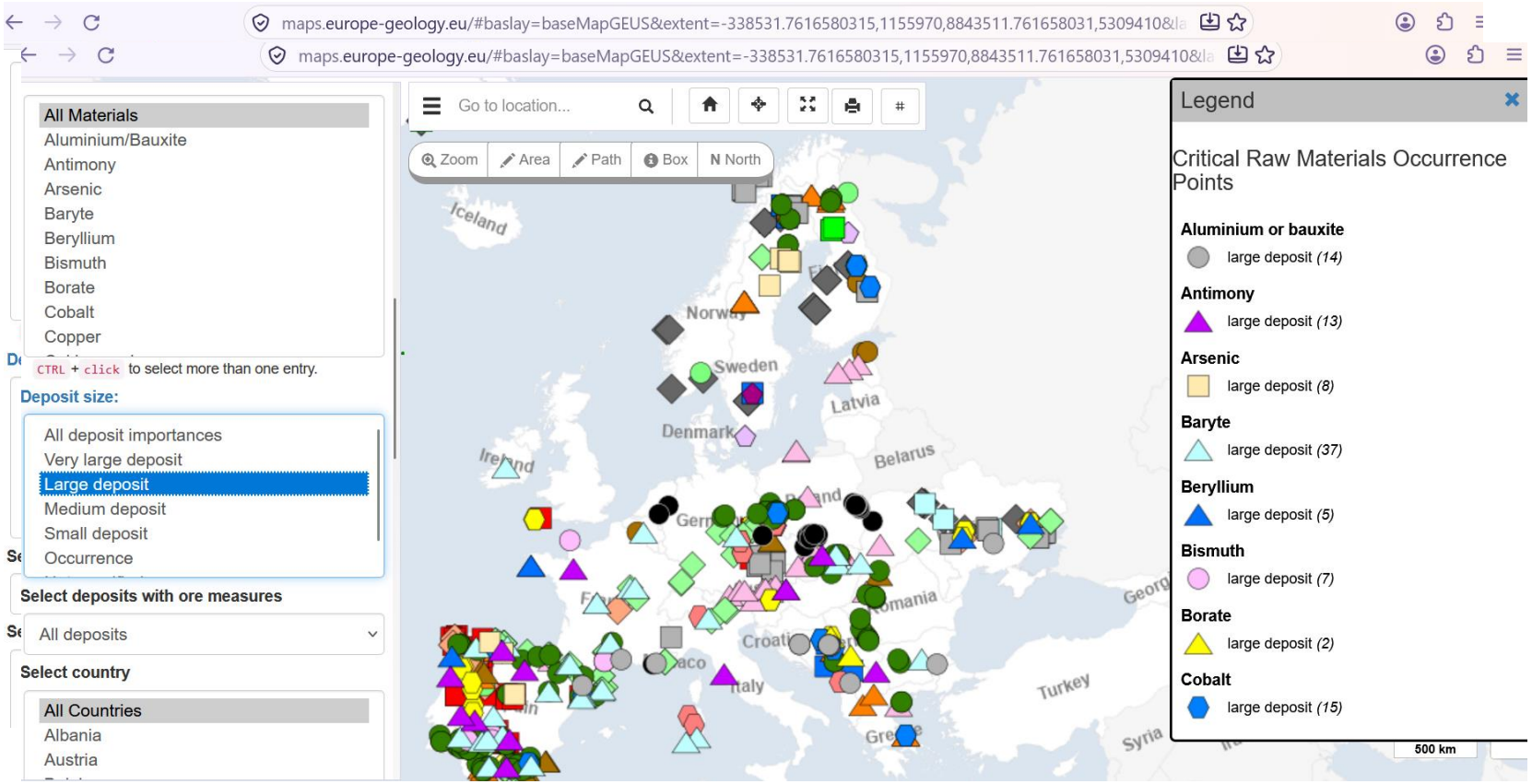
European Commission 2021

Critical Raw Materials Act



CIRAN 2024

Geological Potential



EGDI 2026

„Europe is underexplored“, i.e. below 500m

↓

Exploration programmes

↓

But we will not be able to fullfill all our needs and for all materials, i.e. in the short term

Current EU production of selected RMs vs. 10% target

Material	Main use	Global supply 2020	Production EU 2021	Demand EU 2024-2030 (average per year)	CRMA 10% goal	Global reserves (2022)
Li	E-mobility	57 160 t	348 t	50 000 – 57 000 t	6 000 t	22.43 Mt
Co	E-mobility	92 662 t	1 084 t	52 000 – 58 000 t	6 000 t	8.4 Mt
Graphite	E-mobility	1.02 Mt	282 t (27 000 t)*	44 000 – 63 000 t	6 000 t	407 Mt
Nd	Renewables E-mobility	27 095 t	0	7 400 – 8 900 t	700 – 1000 t	127 Mt REE oxides
Cu	Renewables E-mobility	20.5 Mt	802 691 t	3.70-3.83 Mt	400 000 t	886 Mt
Te	Renewables	891 t	44 t	84 – 124 t	10 t	32 270 t

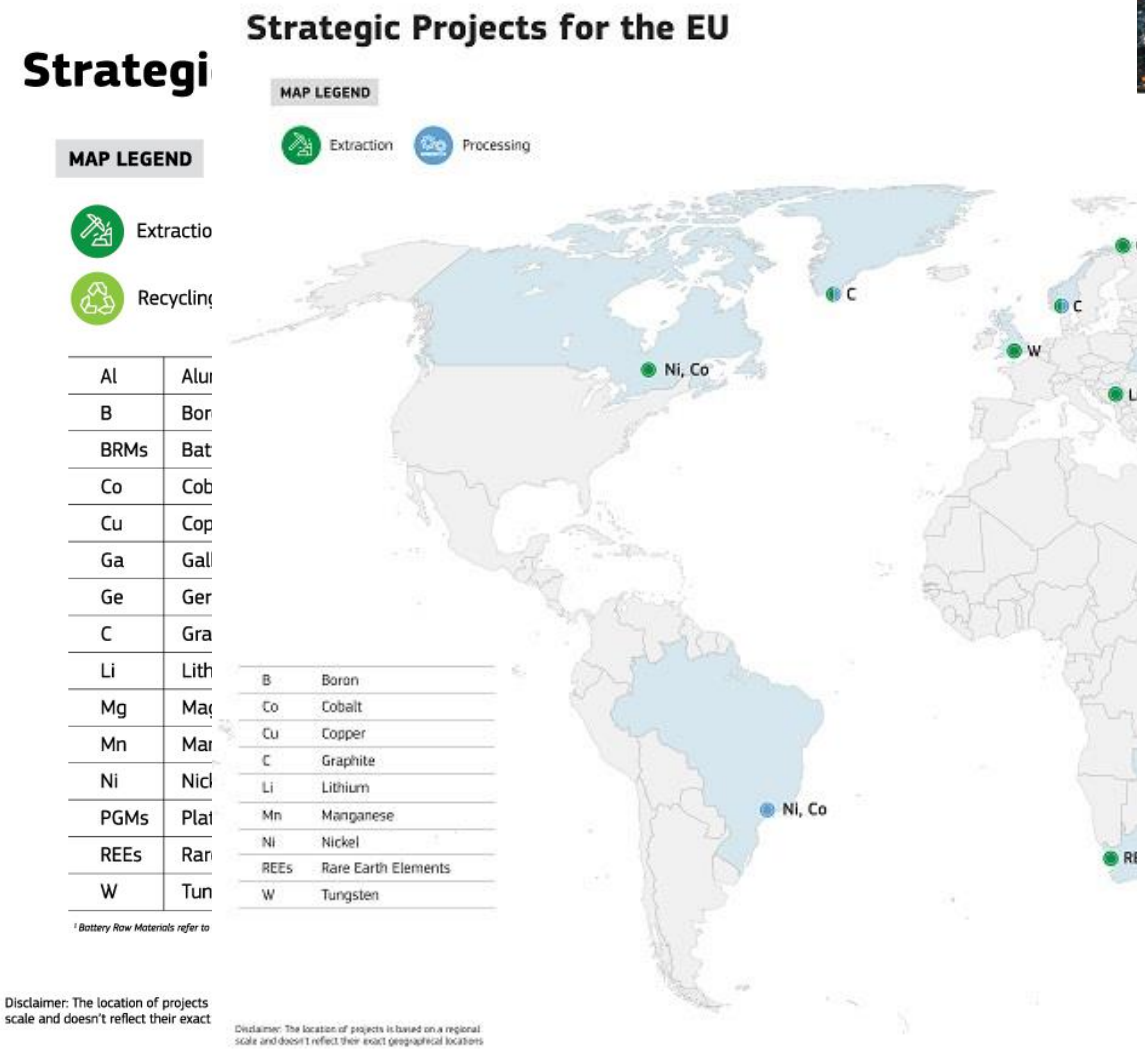
*includes Norway and Ukraine

Melcher 2024

Strategic Projects



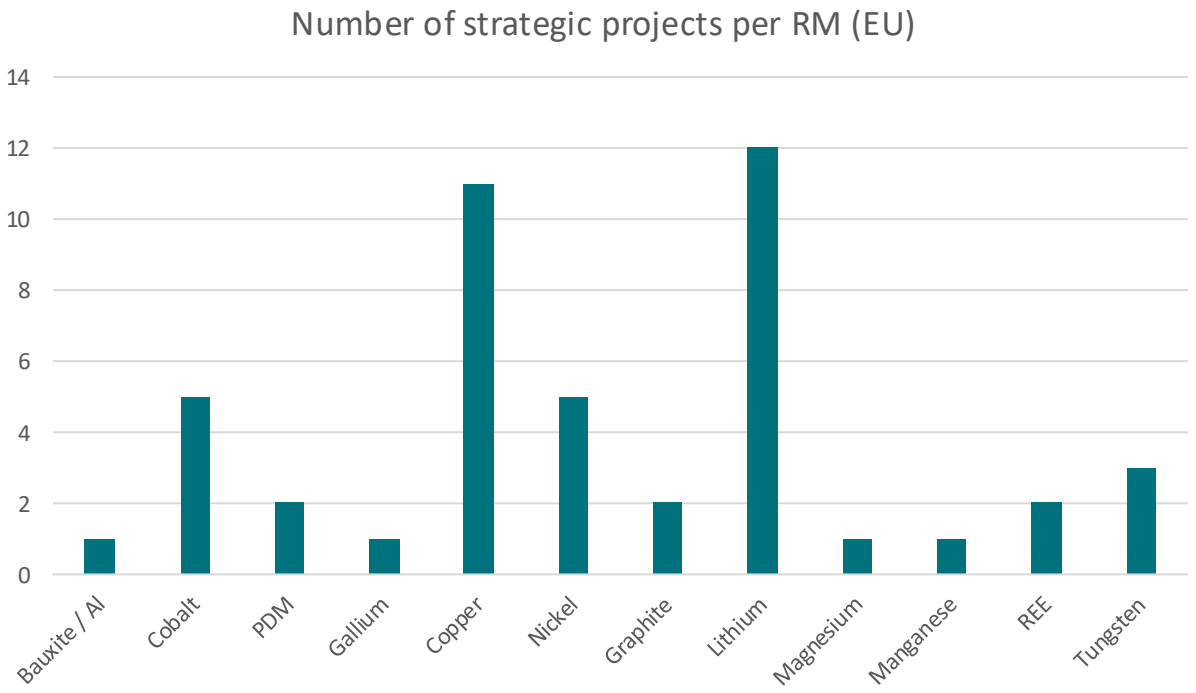
Under the Critical Raw Materials Act (CRMA), adopted in May 2024, the Commission has selected 46 new Strategic Projects to strengthen the EU's secure, diversified and sustainable supply of critical raw materials. This second list follows the first list of 47 Strategic Projects in the EU, adopted in March 2025, and complements the 13 Strategic Projects in third countries and Overseas Countries and Territories adopted in June 2025. Securing reliable access to critical raw materials is essential for Europe's strategic sectors, including clean technologies, digital technologies, defence and aerospace.

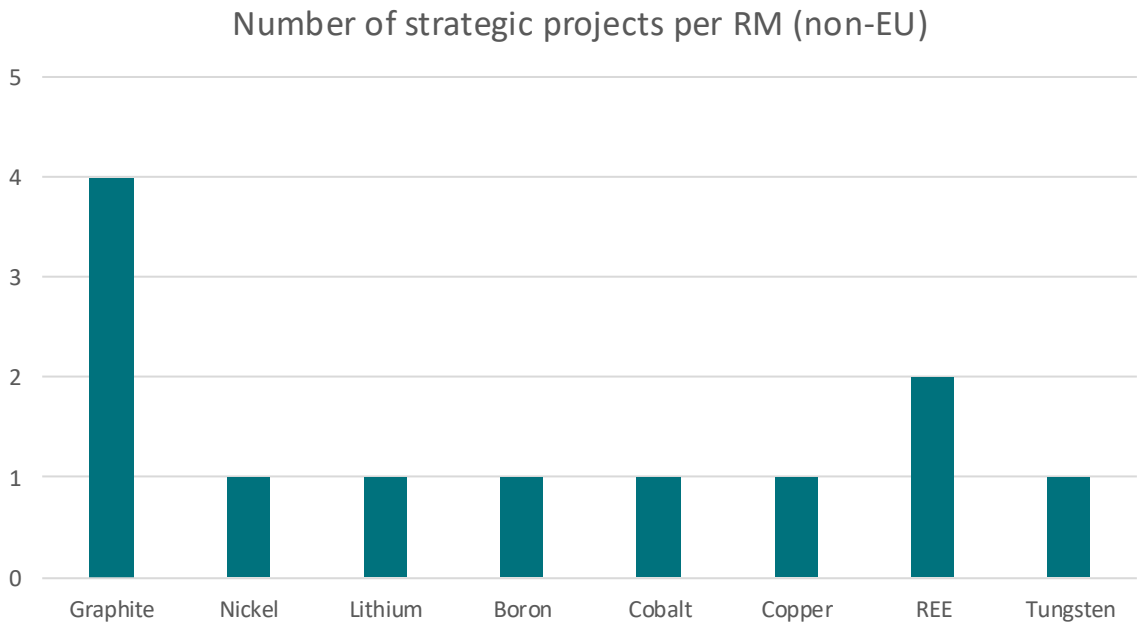


NAME	MAIN COUNTRY	PROJECT TYPE	PROMOTER	STRATEGIC RAW MATERIAL
CUPIDON	Belgium	Recycling	Comet Traitements	Copper
OREON (Optimal REcycling Of Nickel)	Belgium	Processing	Umicore	Copper, cobalt, nickel (battery grade), platinum group metals
Tankhouse Expansion Pirdop	Bulgaria	Processing	Aurubis Bulgaria AD	Copper
Silmet 2.0	Estonia	Processing	NPM Silmet OÜ	Rare earth elements
CoNiKo - Cobalt and Nickel refining in Kokkola	Finland	Processing	Umicore	Cobalt, nickel (battery grade)
Hautalampi Cobalt-Nickel-Copper Mine Project	Finland	Extraction	FinnCobalt Oy	Copper, cobalt, nickel (battery grade)
Project Arctial	Finland	Processing	Arctial Group Oy	Bauxite/alumina/ aluminium
Sokli	Finland	Extraction	Sokli Oy	Rare earth elements
Suhanko project	Finland	Extraction	Suhanko Arctic Platinum	Copper, nickel (battery grade), platinum group

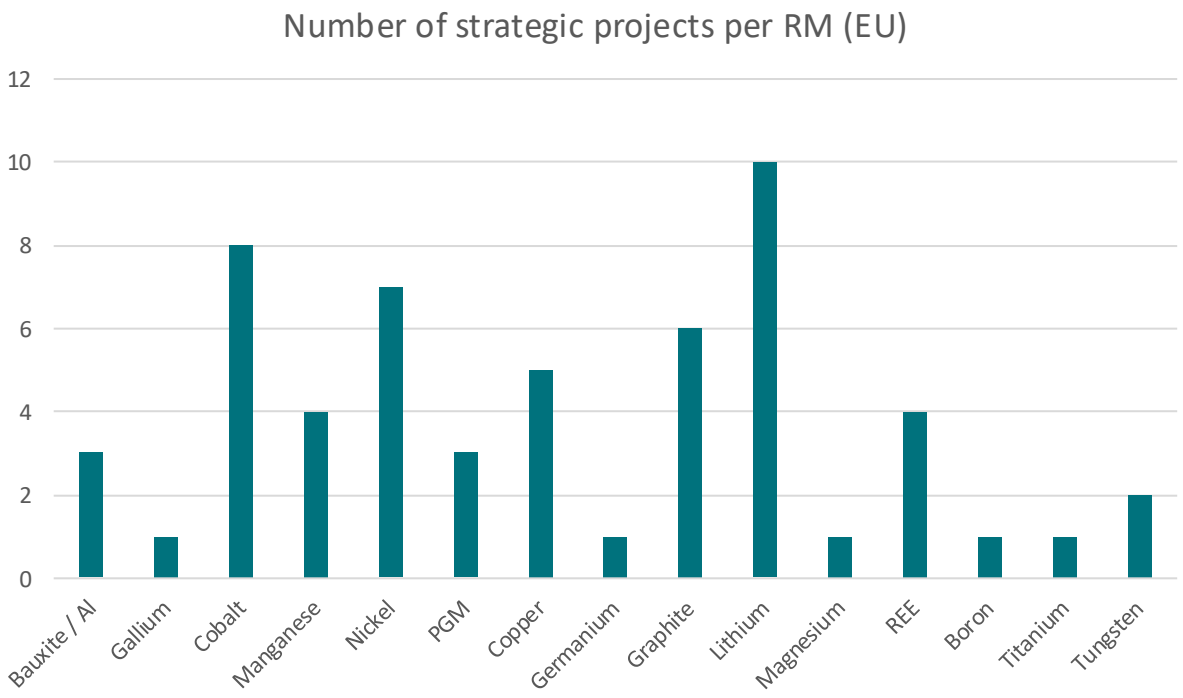
EC 2025, 2026

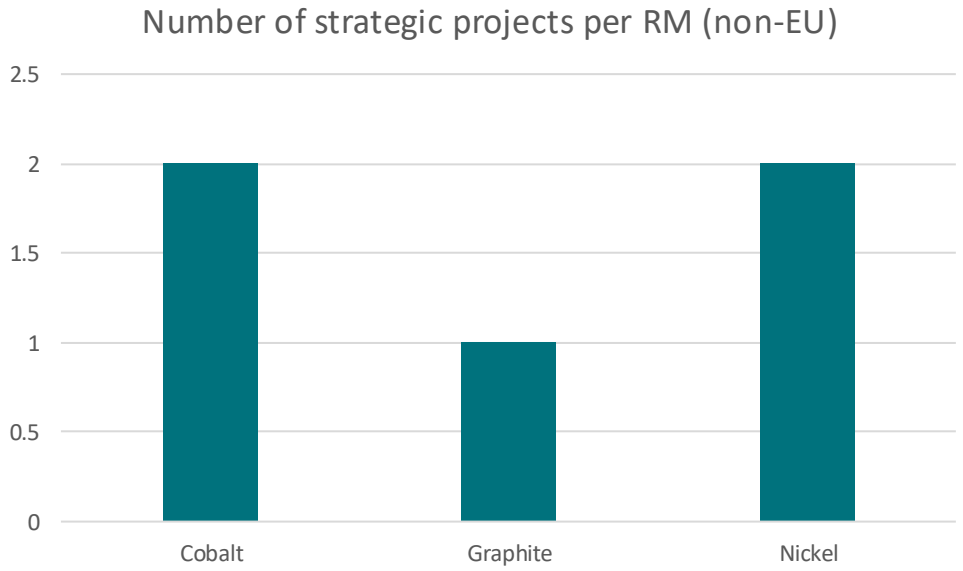
Strategic Projects – Extraction, RMs





Strategic Projects – Processing, RMs





We need to get better with Implementation

- Long development and permitting timelines
- High capital intensity
- Social acceptance
- Environmental impacts
- Variable ore grades and complex metallurgy incl. recycling
- Uncertain long-term prices
- Competition with projects in lower-cost jurisdictions
- Electricity costs





Conclusions

- The CRMA is an important coordination framework, not a substitute for competitive projects
- Europe must build robust value-chain segments, not pursue total self-sufficiency (which we can’t achieve anyways for all CRMs)
- Processing is as strategically important as mining
- Recycling will become increasingly important, but it cannot replace primary supply during the transition phase

michael.tost@unileoben.ac.at

Thanks for your attention!