



Innovate
UK



DIANA
INNOVATOR



THE
EARTHSHOT
PRIZE
NOMINEE

Sovereign Resilience in the CRM Supply Chain

Pure Alchemi

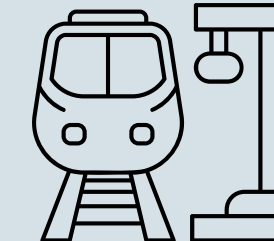
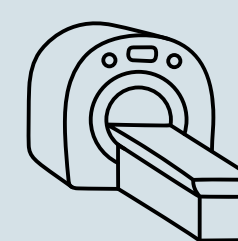
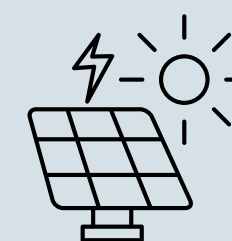
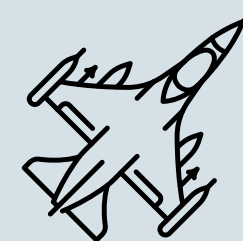


Critical Raw Materials Power Modern Life

Securing CRMs isn't optional —it's existential.

\$2.5 trillion

CRM makeup of global
exports (10% of total trade)

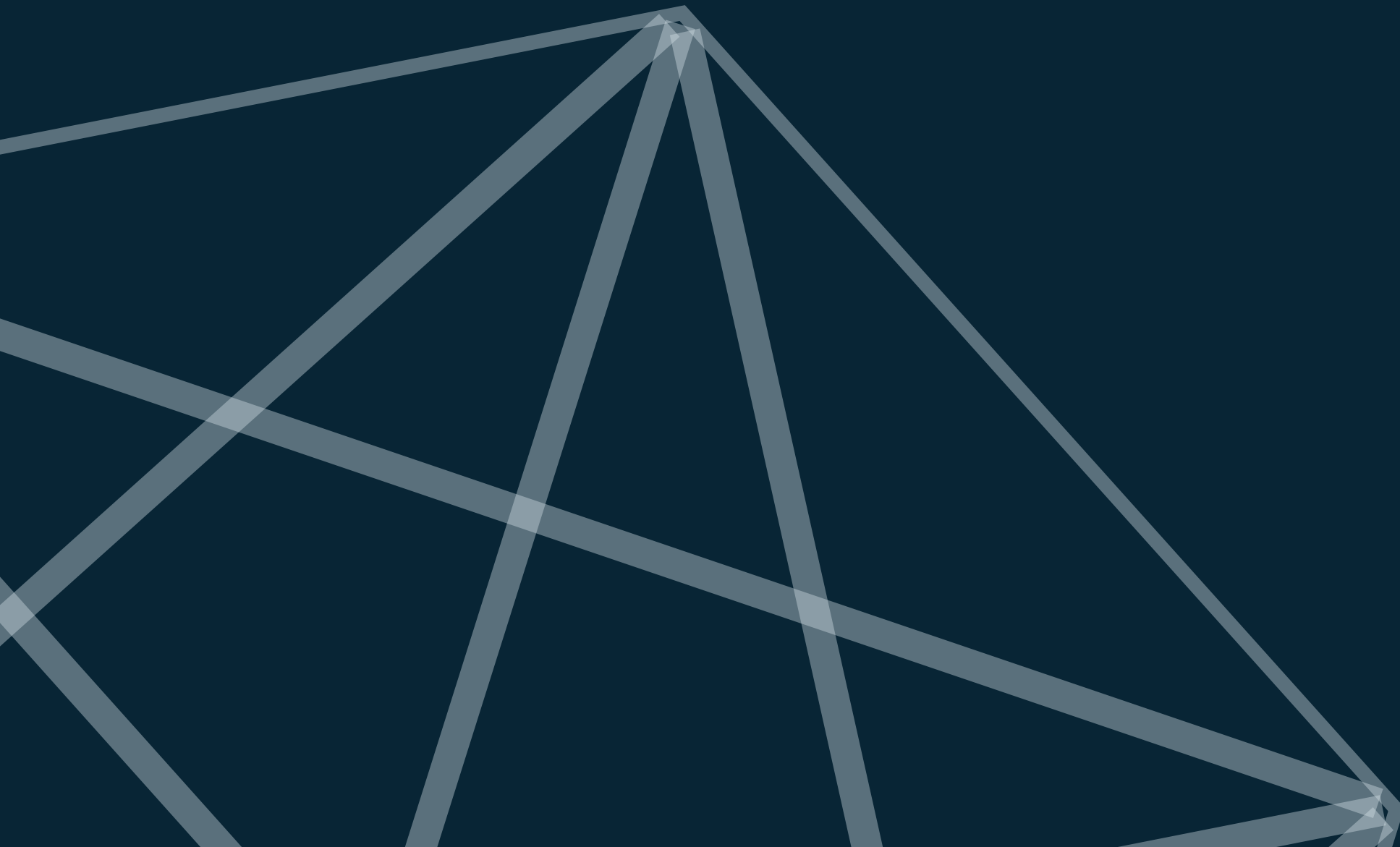




Pure Alchemi

Ladder of Severity:

Escalation of Exposure



Compromised

Constrained

Dependent

Vulnerable

At Risk

Secure

Resilient

Independent

Redundant

Sovereign

Current Ecosystem

**Reduced
Infrastructure**

**Chinese
Domination**

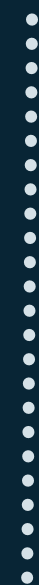
**Ample Raw
Materials**

**Net Zero
Goals**

Solution



Legislative



Technology

Solution : Legislative

Level the Playing Field



Regulatory



Finance



Judiciary

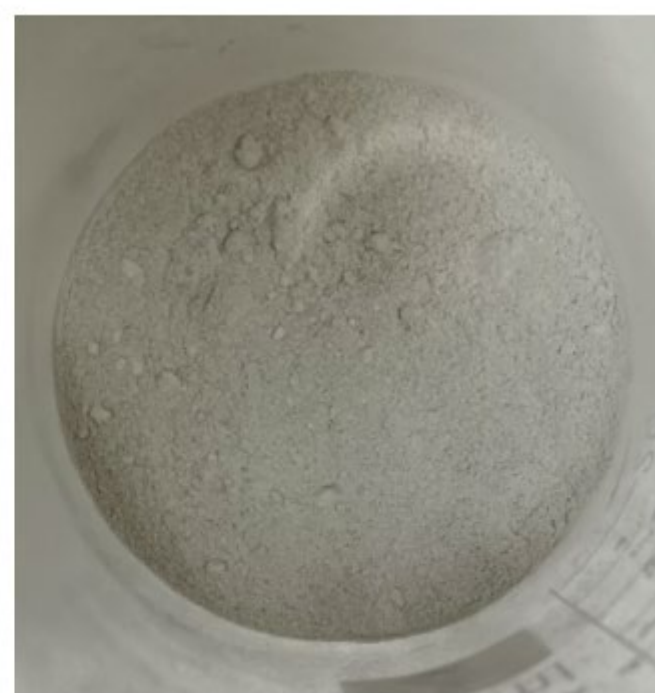
Solution : Technology

Reclaim CRMs from

Waste



Coal Fly Ash – feed material



Residue after chlorination



Case Study: REEmine

Inputs:

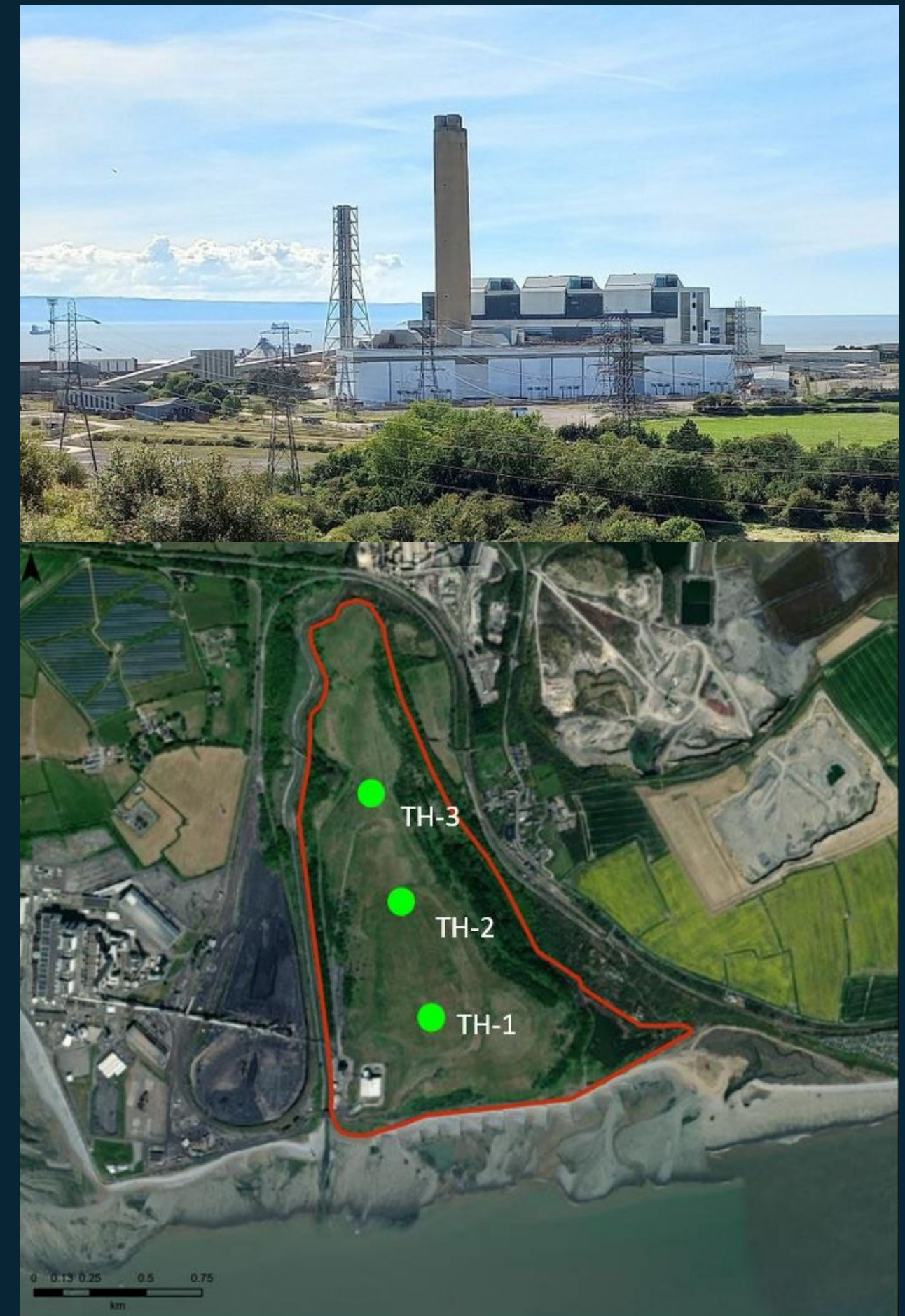
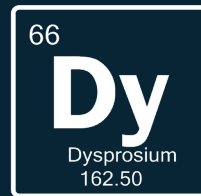
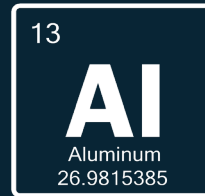
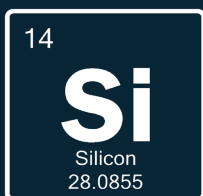
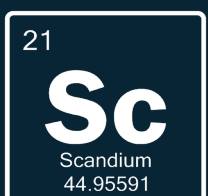
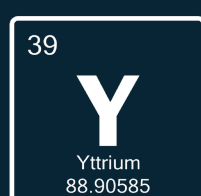
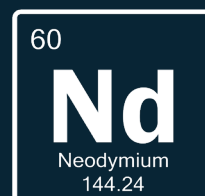
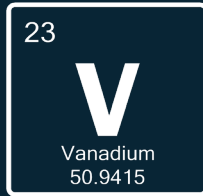
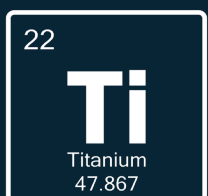
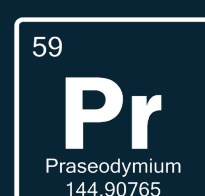
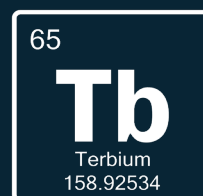
- Coal fly ash
- Bauxite residue

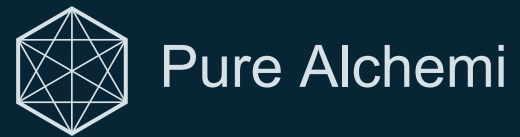
Outputs:

- Critical raw materials (e.g., graphite, REE, Al, Si, Ti)

18 million tonnes coal fly ash

Process <3 million tonnes/year





Contact Us



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