

# THE 2025 CRITICAL MINERALS ALPHA

Turning Supply Chain Vulnerability into Portfolio Velocity:  
ETFs, Tokenized Assets, and the USGS Watchlist.

# THE 2023 CRITICAL MINERALS ACT VIA

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ETFs, Tokenized Assets, and the USGS Watchlist.

1 H																	2 He								
3 Li	4 Be															5 B	6 C	7 N	8 O	9 F	10 Ne				
11 Na	12 Mg															13 Al	14 Si	15 P	16 S	17 Cl	18 Ar				
19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr								
37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe								
55 Cs	56 Ba	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn									
57 Fr	58 Ra	86 La	87 Ce	88 Pr	89 Nd	90 Pm	91 Sm	92 Eu	93 Gd	94 Tb	95 Dy	96 Ho	97 Er	98 Tm	99 Yb										
		90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr										

BASED ON THE U.S. GEOLOGICAL SURVEY 2025 LIST OF CRITICAL MINERALS RELEASED NOVEMBER 6, 2025.



# THE BUY SIGNAL: DECODING THE USGS 2025 LIST

## TOTAL CRITICAL MINERAL OPPORTUNITIES



### THE DEFINITION

Commodities essential to economic/national security with vulnerable supply chains.

### THE NEW METHODOLOGY

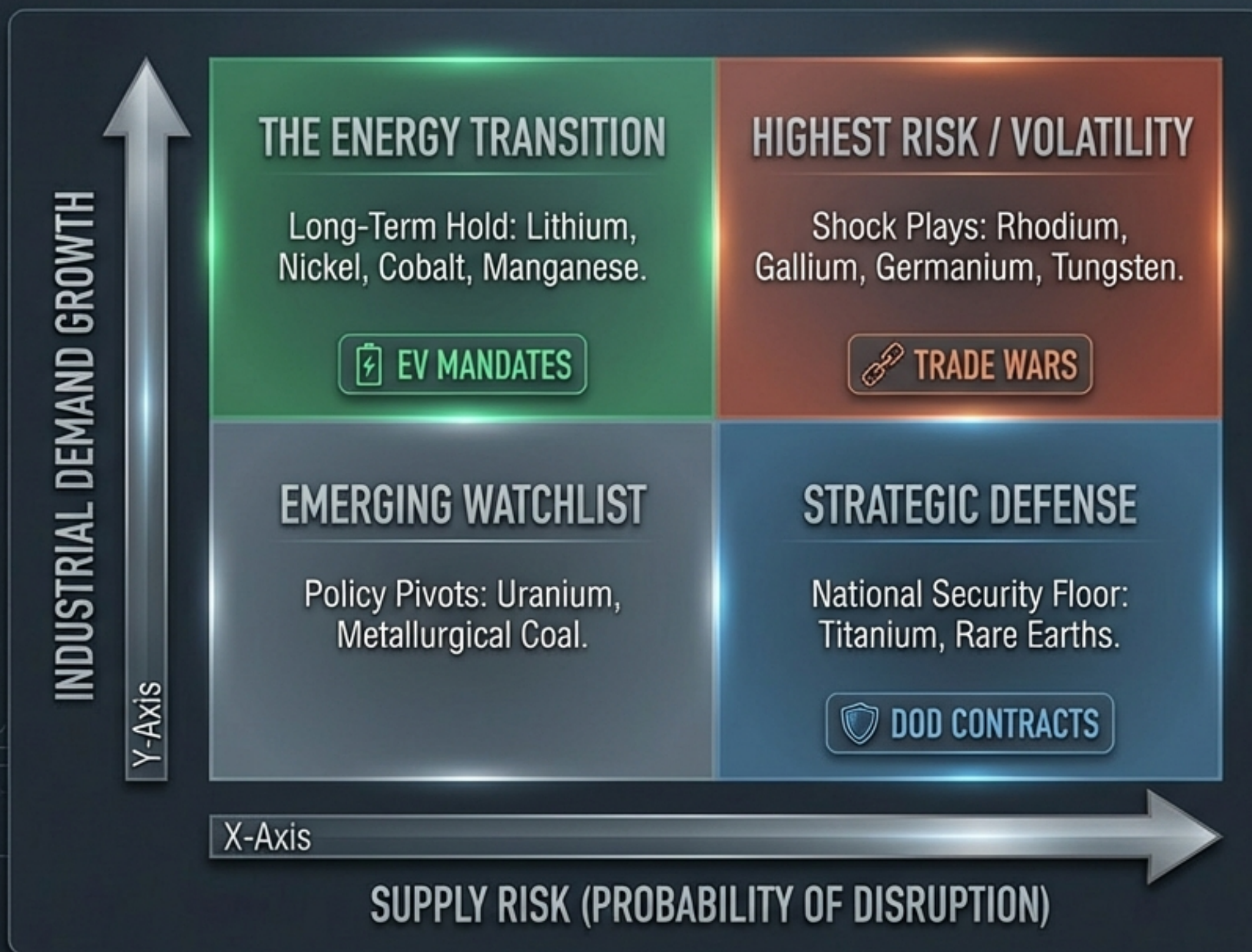
Shift from geological scarcity to an "Economic Risk Model." Analyzed 400 industries and 1,200 trade disruption scenarios.

### THE INVESTOR TAKEAWAY

This is a calculation of Foreign Trade Disruption Risk. The government has identified where the economy breaks if supply stops. That breakage point is where profit exists.



# THE INVESTMENT MATRIX: VOLATILITY VS. STRUCTURAL GROWTH



## HIGHEST RISK / VOLATILITY

Shock Plays: Rhodium, Gallium, Germanium, Tungsten.

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# BASKET 1: THE 'SUPPLY SHOCK' TRADES (HIGH VOLATILITY)

USGS Risk Designation: HIGHEST.



## GALLIUM & GERMANIUM

**Usage:** Semiconductors, Fiber Optics, Night Vision.

**Thesis:** Tech manufacturing bottlenecks.



## RHODIUM

**Usage:** Catalytic Converters.

**Thesis:** Auto industry dependency.



## TUNGSTEN

**Usage:** Jet Engines, Ammunition.

**Thesis:** Defense necessity.



## NIOBIUM

**Usage:** High-strength Steel.

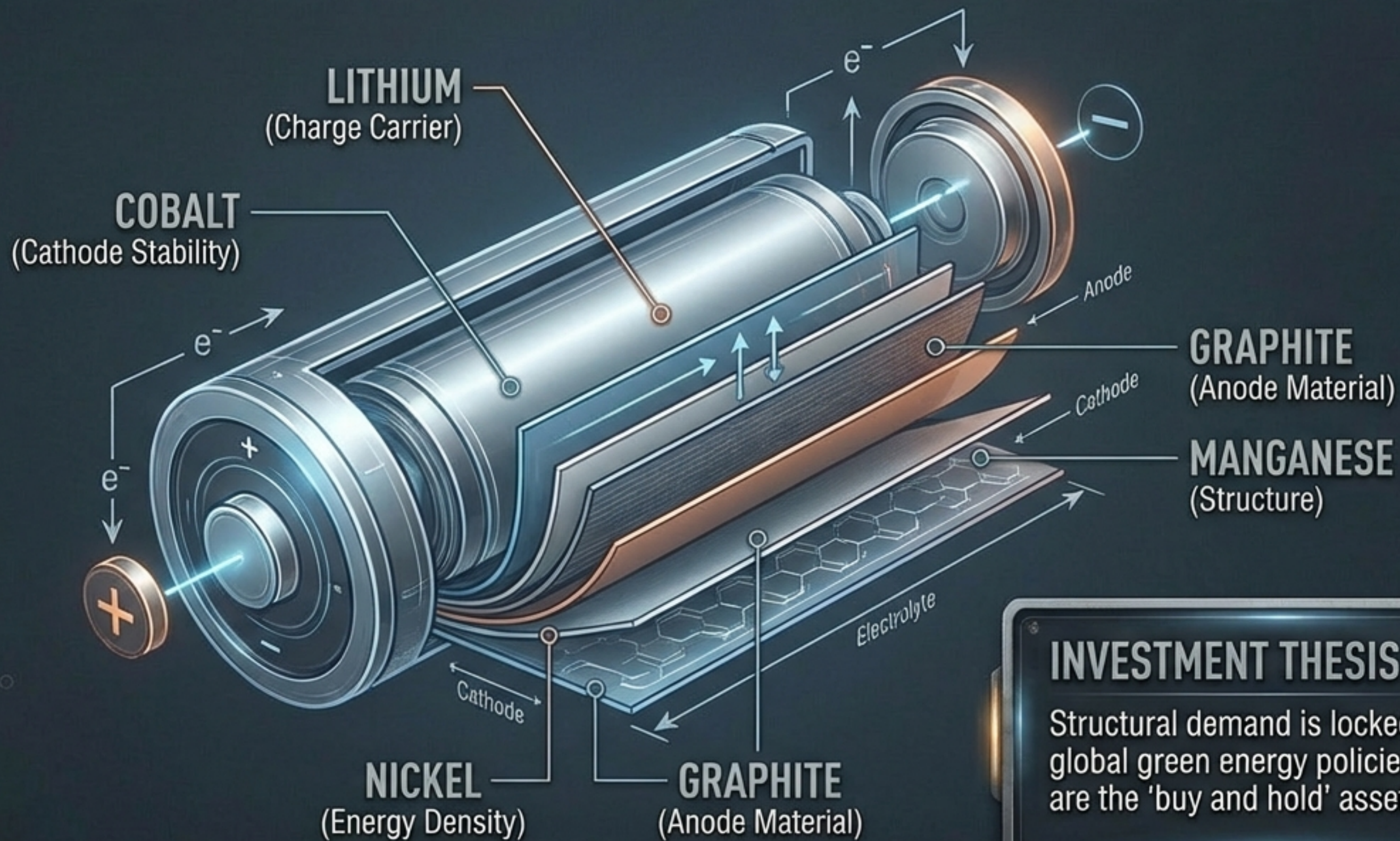
**Thesis:** Infrastructure requirement.

## ALSO LISTED HIGH RISK

Magnesium Metal,  
Potash.



# BASKET 2: THE ENERGY TRANSITION (LONG-TERM HOLDS)



## INVESTMENT THESIS:

Structural demand is locked in by global green energy policies. These are the 'buy and hold' assets.



# BASKET 3: THE DEFENSE SHIELD & TECH STACK

Assets backed by the Department of War.

## THE RETAINED ASSETS

Arsenic & Tellurium: Retained despite lower commercial risk due to specific military applications.

Titanium: Airplanes, Spacecraft, Armor.

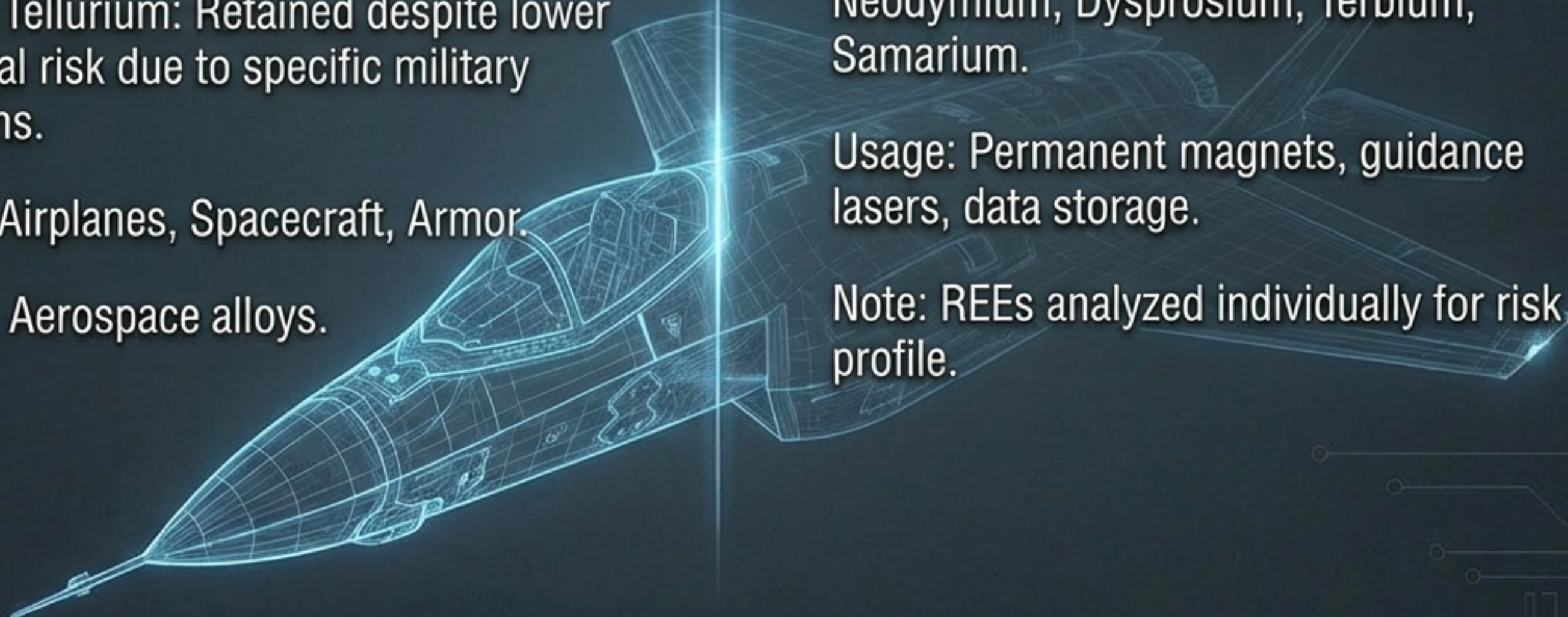
Beryllium: Aerospace alloys.

## THE RARE EARTH ELEMENTS (REEs)

Neodymium, Dysprosium, Terbium, Samarium.

Usage: Permanent magnets, guidance lasers, data storage.

Note: REEs analyzed individually for risk profile.





# THE POLICY PIVOTS: ENERGY SECURITY AS A CRITICAL ASSET



- Subject of EO 14154.
- Essential for base-load electricity generation.
- Re-added after exclusion in 2022.



- Subject of EO 14261.
- Critical for domestic steel production.
- DOE support for inclusion.

## INVESTMENT THESIS:

These additions signal a "Whole of Government" support structure. Expect subsidies and protectionism.



# EXECUTION STRATEGY A: THE ETF APPROACH

Broad Exposure for Structural Trends (Best for Basket 2)



## MINING ETFs

- Baskets of extraction companies (Lithium, Uranium).
- Pros: Dividends, operational leverage.
- Cons: Equity risk.



## SINGLE-COMMODITY ETFs

- Physically backed or futures-based (Copper, Silver, Platinum).
- Pros: Direct price exposure.
- Cons: Storage fees/Contango.

### PRO TIP:

For major industrial metals like Copper and Aluminum, ETFs offer the deepest liquidity.

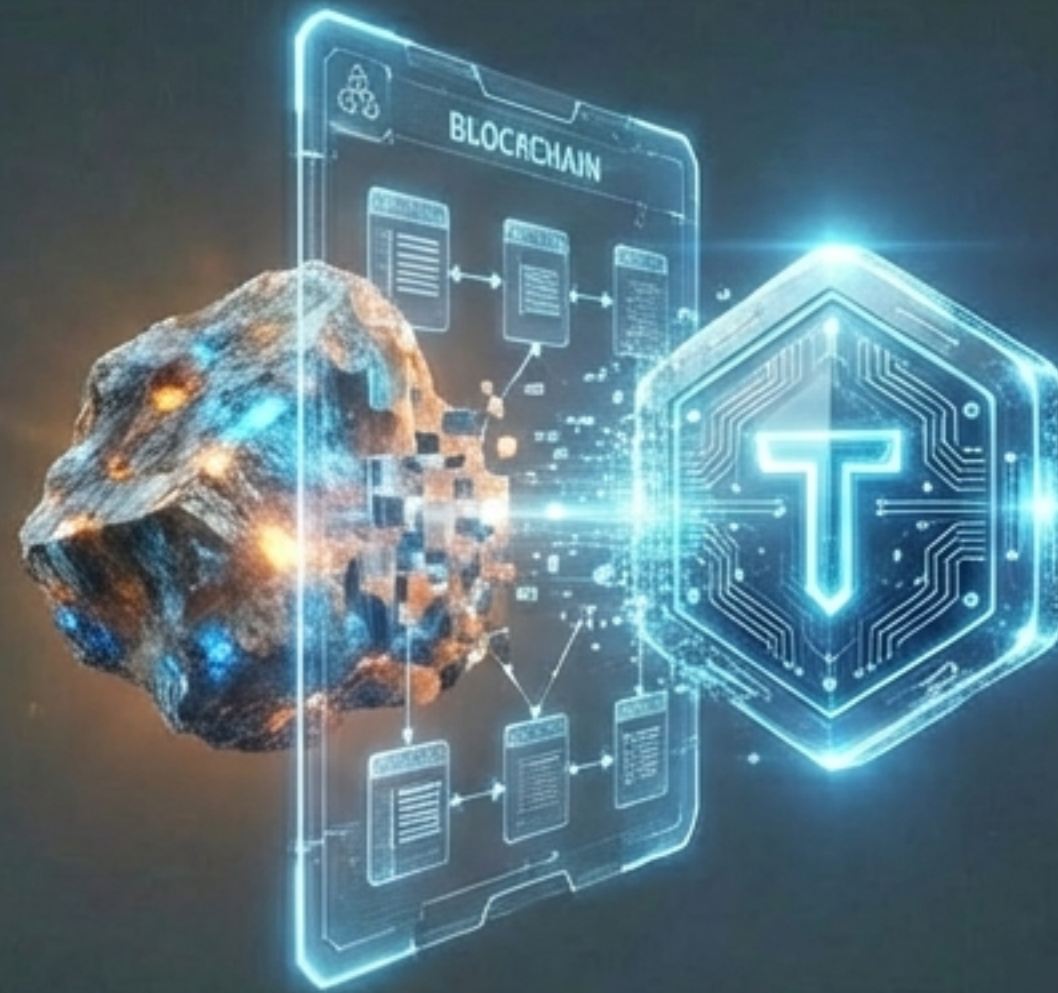


# EXECUTION STRATEGY B: TOKENIZED ASSETS & RWAs

Precision Trading for 'High Risk' Supply Chains (Best for Basket 1)

## ⚙️ THE PROBLEM

- You cannot buy 'Spot Gallium' on the NYSE.
- Minor metals lack liquid futures markets.



## 🛡️ THE SOLUTION

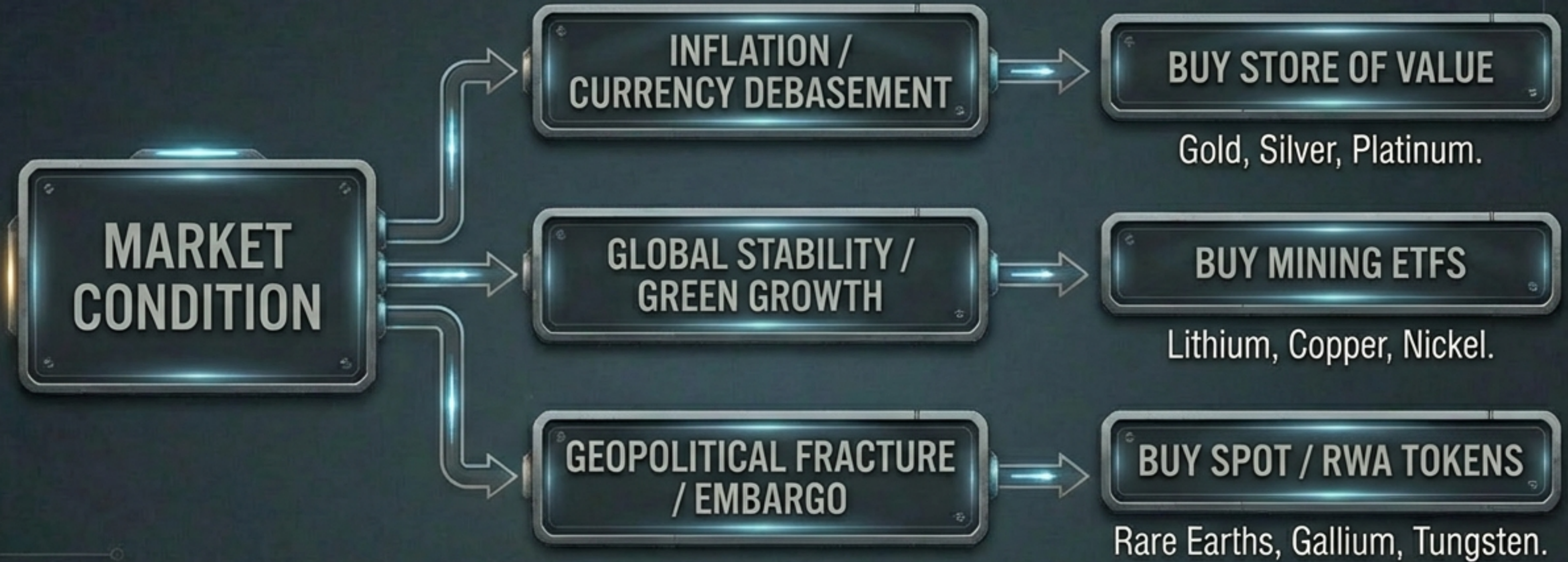
- Real World Assets (RWA) - Blockchain tokens backed 1:1 by physical reserves.
- Tokenized Stocks - Mirrored assets of foreign mining firms (China/Australia) inaccessible via US brokerages.

## ⚡ ADVANTAGE:

24/7 liquidity and instant repricing during geopolitical shocks.



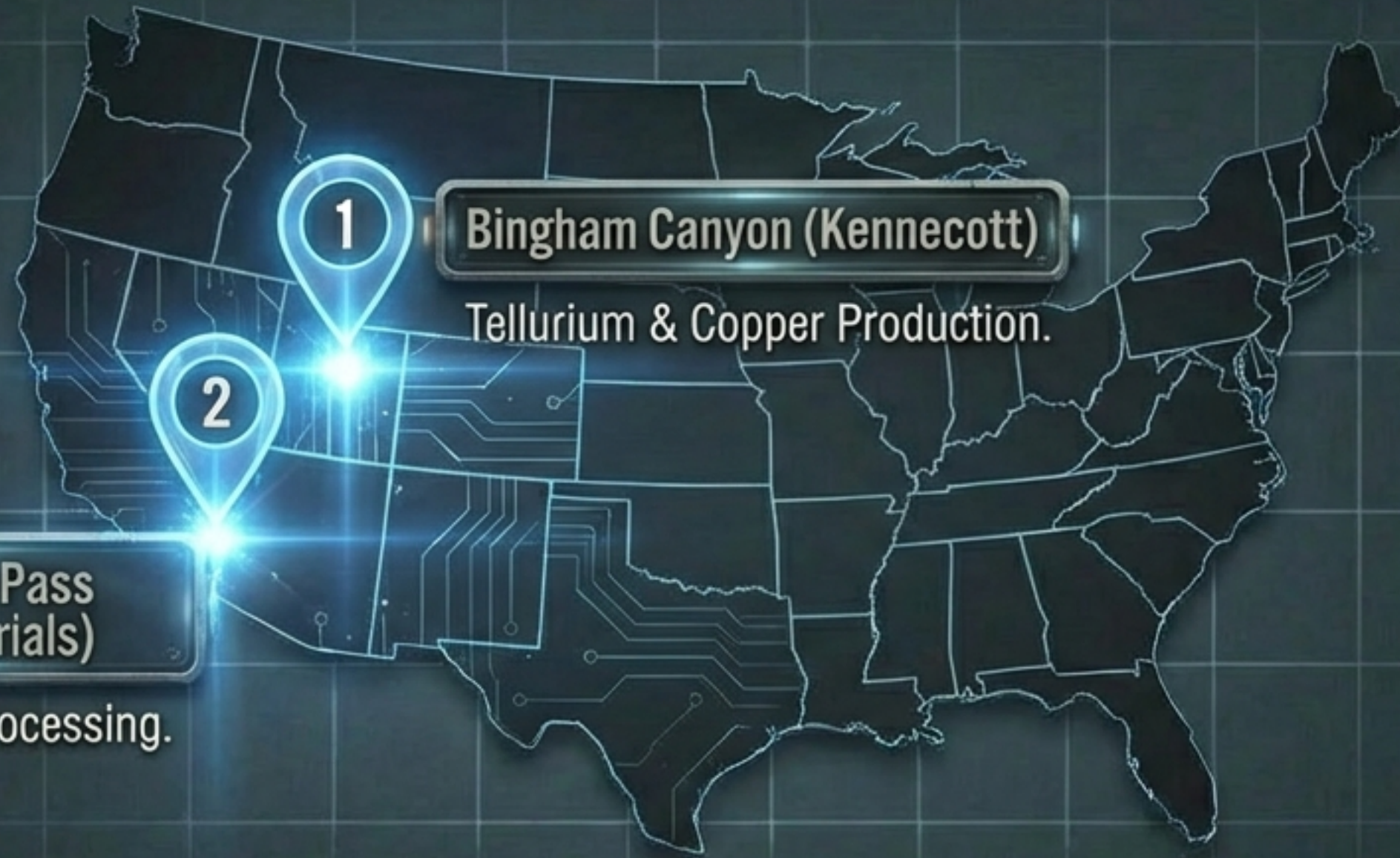
# THE "CYCLE" PLAYBOOK: MAXIMIZING ALPHA



Match the vehicle to the macro-environment.



# THE DOMESTIC FACTOR: THE 'MADE IN USA' PREMIUM



**1 Bingham Canyon (Kennebecott)**

Tellurium & Copper Production.

**2 Mountain Pass  
(MP Materials)**

Rare Earth Mining & Processing.

THESIS: THE USGS PENALIZES "SINGLE POINTS OF FAILURE" IN FOREIGN SUPPLY. DOMESTIC PRODUCERS ARE THE HEDGE. EXPECT FAST-TRACKED PERMITS AND GRANTS.



# VISUALIZING THE SUPPLY CHAIN RISK



The 2025 methodology simulates 1,200 disruption scenarios. When news breaks in these red zones, the corresponding asset reprices instantly.



# THE INVESTOR'S CHECKLIST



1 AUDIT: Cross-reference portfolio exposure against the 'High Risk' list.



2 SELECT: Setup accounts for ETF trading (Broad) and RWA/Token trading (Precision).



3 MONITOR: The USGS List is updated biannually. Watch Federal Register for 'Single Point of Failure' alerts.

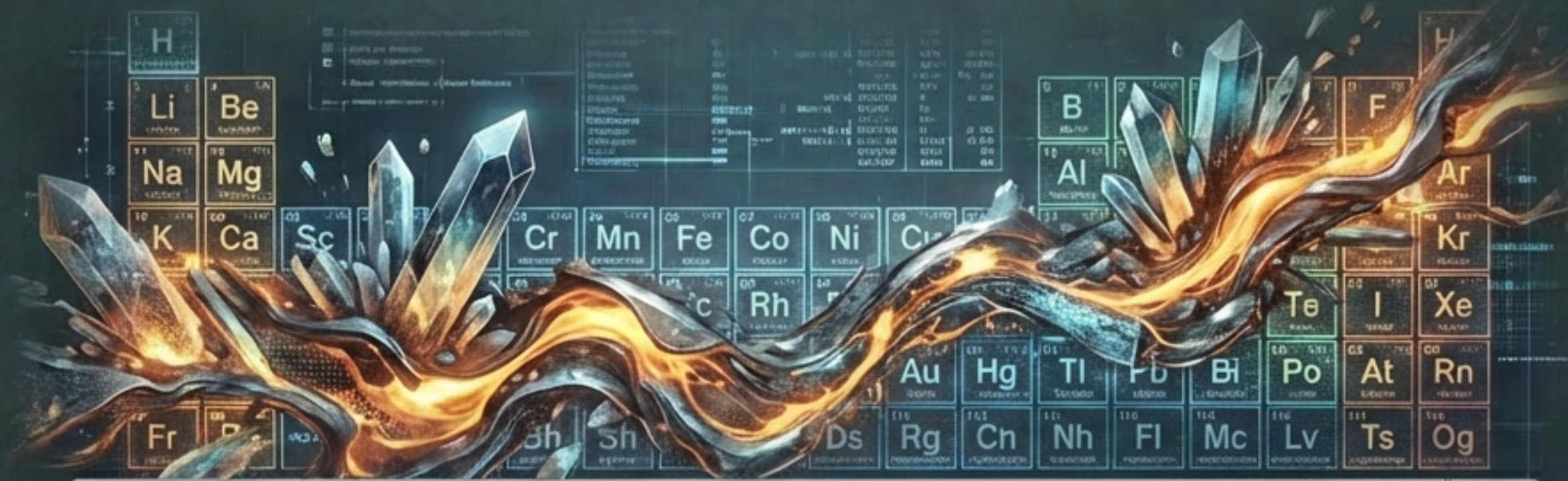


4 DIVERSIFY: Do not bet on one mineral. Allocate across Defense, Energy, and Tech sectors.



# CRITICALITY IS THE ULTIMATE VALUE PROPOSITION

The 2025 List isn't just science; it's the blueprint for the next industrial revolution.



'Critical minerals are essential to the economy... the absence of which would have significant consequences.' — Energy Act of 2020.

DIVERSIFY ACROSS THE PERIODIC TABLE OF PROFIT



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