

Global Commodity Forecast: Emerging Countries Critical to Tomorrow's Demand

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Geordie Mark

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GLOBAL COMMODITY FORECAST

2023

- Gold: US\$1,900 per ounce
- Copper: US\$3.75 per pound
- Nickel: \$10.00 per pound
- Uranium: \$63 per pound

OVERVIEW

But there's more to the picture than a number

So let's look at the pathway to the future



A NEXUS TO THE FUTURE

Exciting Times: positioning for tomorrow

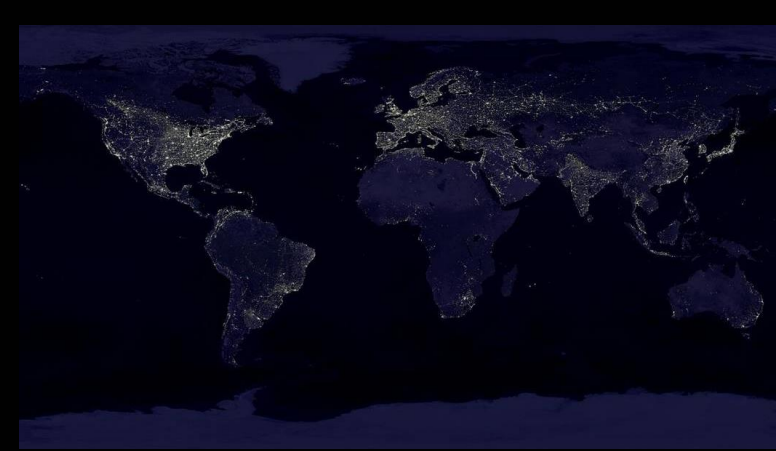
- Exited(ing) COVID Cloud
- Near Zenith Central Bank Rates
- Energy Diversification and Surety
- Technology Transcendence
- Automotive Fuel Cycle Electrification



MACRO OUTLOOK



METALS DEMAND: AN EVOLVING MOSAIC



MACRO OUTLOOK

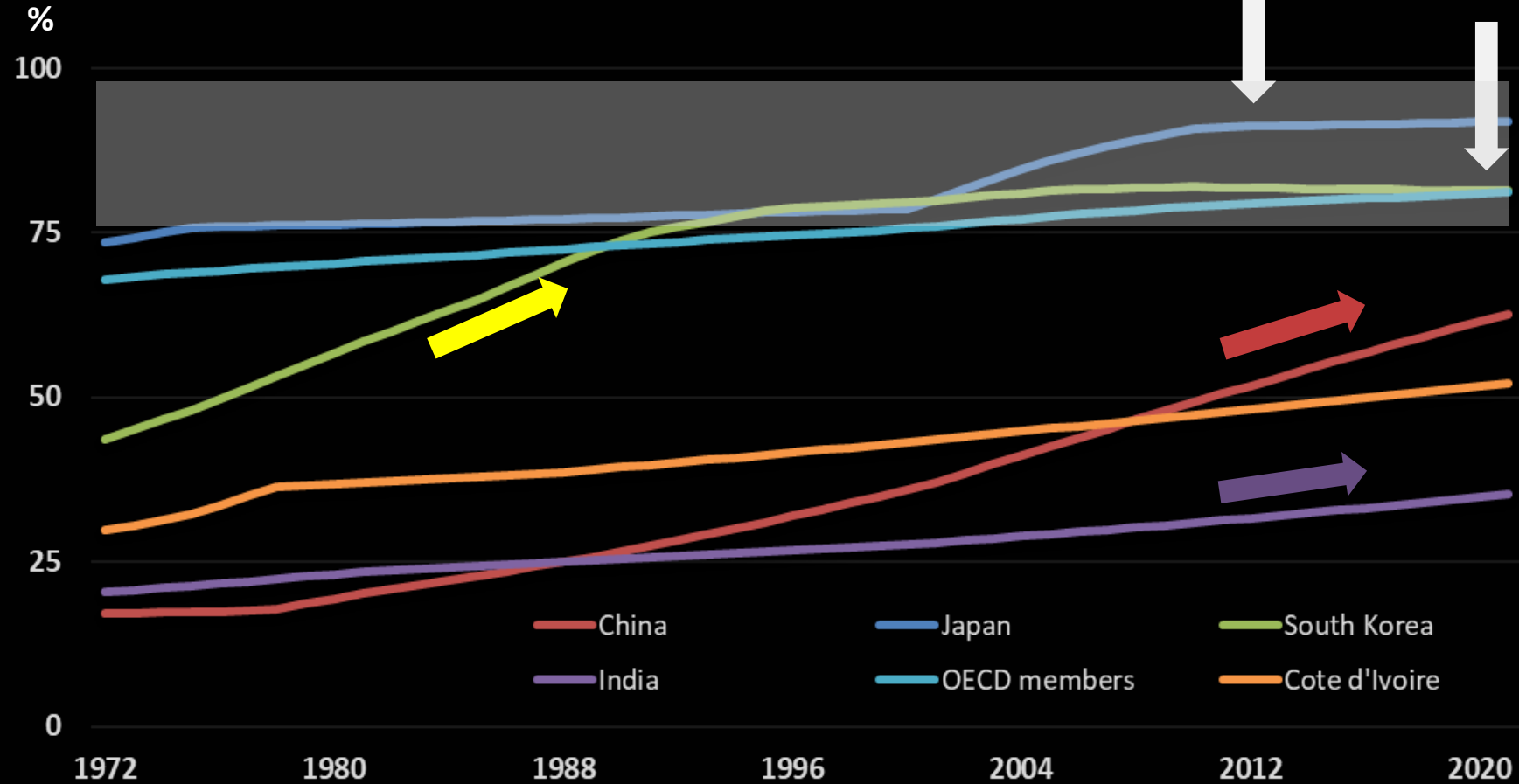
- Predicated on Global Demand Mix
- Evolve and Transend Current Socioeconomic and Urban Patterns of Consumption and Output

Tomorrow's Demand Picture

- **Urbanization**
- **Paradigm Changes: Consumption**



URBANIZATION



Infrastructure

Economic Maturate

Haywood, World Bank, IMF

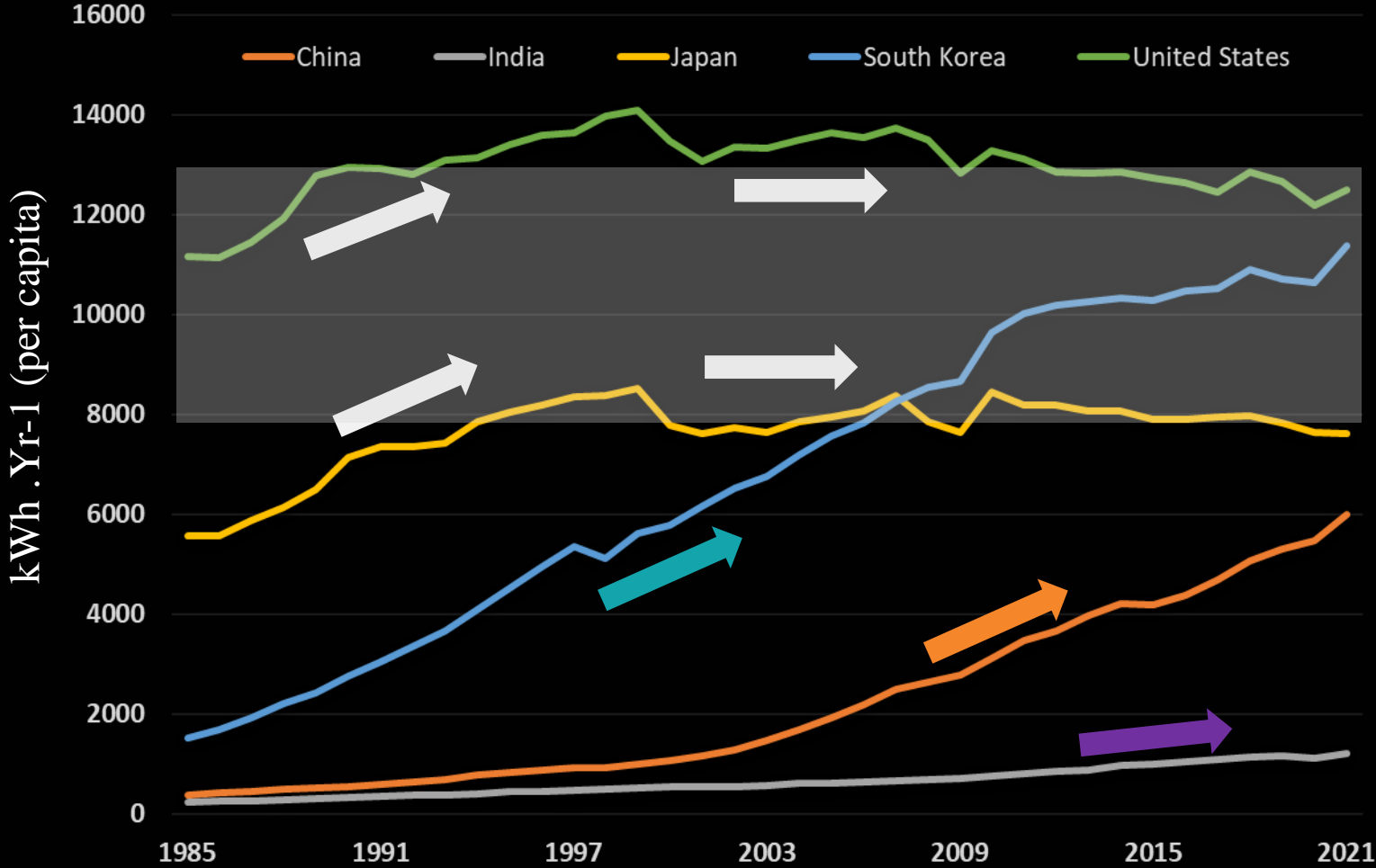


ELECTRICITY DEMAND

Economy
Growth
and
Evolution

MACRO OUTLOOK

Iron
Coal
Copper
Other



Haywood, IAEA, World Bank, IMF



METALS DEMAND: ENERGY SOURCE ROTATION

EV and Renewables

Mature Economies

Rotation

Emerging Economies

Transcendence

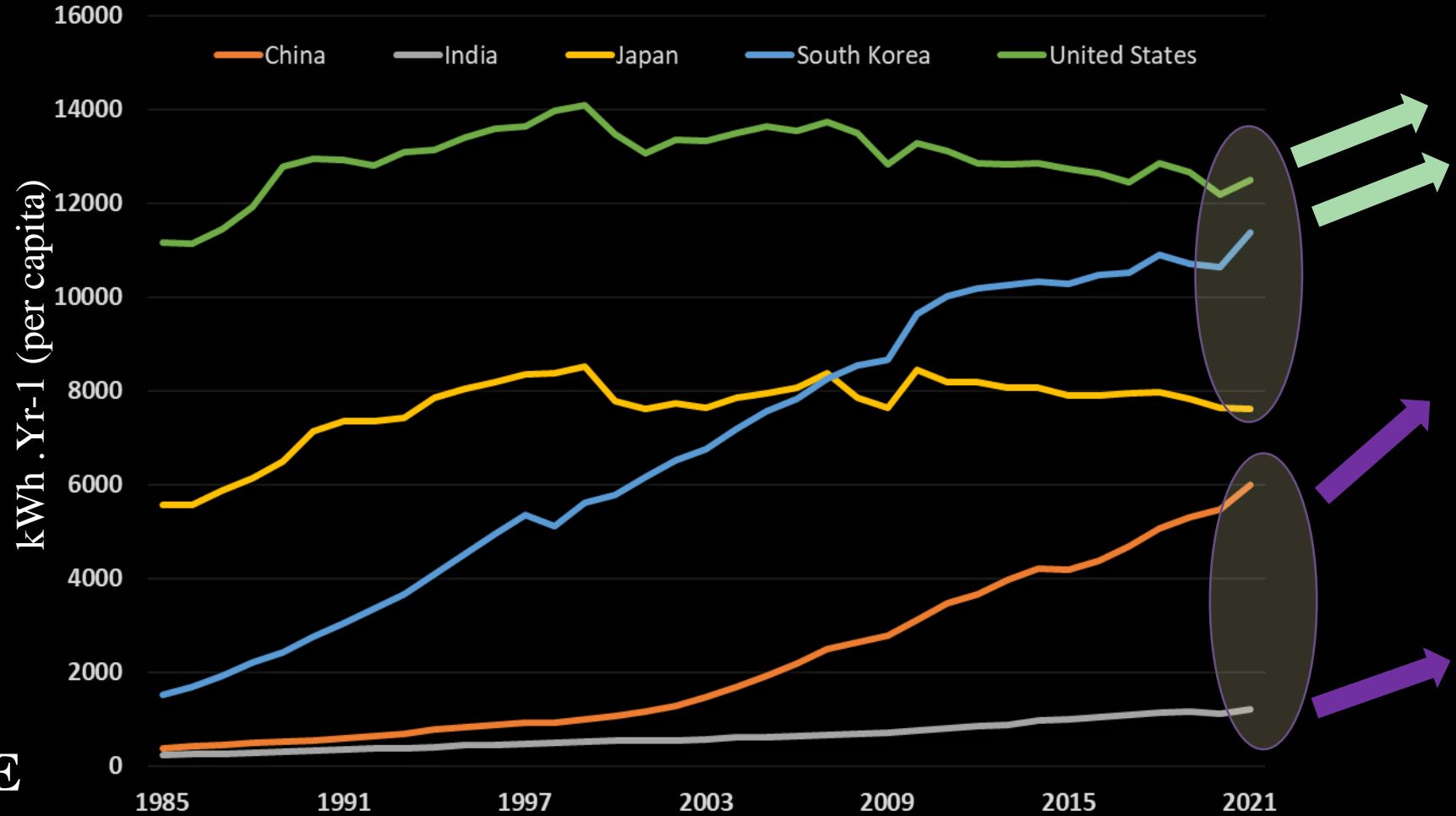
MACRO OUTLOOK

Nickel

Copper

Lithium

REE



Haywood, World Bank, IMF



METALS DEMAND: LOWER EMISSIONS FUTURE

Rotation in Supply and Use

- A New Energy and Emissions Outlook

Now

Coal

Nuclear (Fission)

Renewables

Nat. Gas

Future

Renewables


Nuclear (Fission)

Nat. Gas

Coal

Nuclear (Fusion?)

Incremental EV Uptake: Units and Infrastructure



*Supply and Source
Diversification Essential*

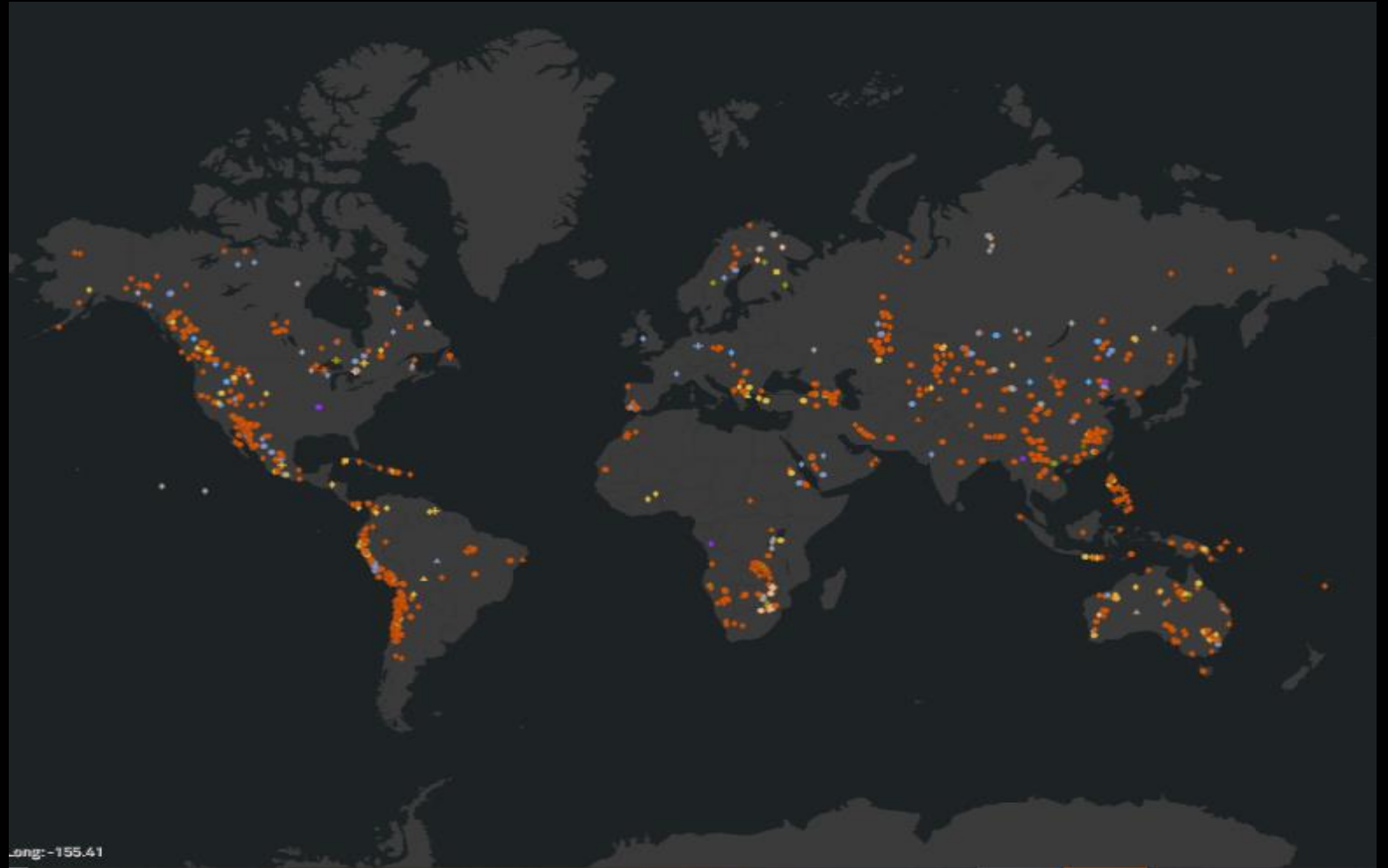
METALS DEMAND: LOWER EMISSIONS FUTURE

Enabling the Future: Paradigm Shift

- Critical Metals (e.g., Ni, **Cu**, Li, REE) Essential
- Promise of Tomorrow just Doesn't Happen
- Need Tangible, Long-term Growth in Supply



METALS DEMAND: INVENTORY VS DISCOVERY



Haywood, SNL Financial



METALS DEMAND: SUPPLY VS DEMAND

Enabling the Future

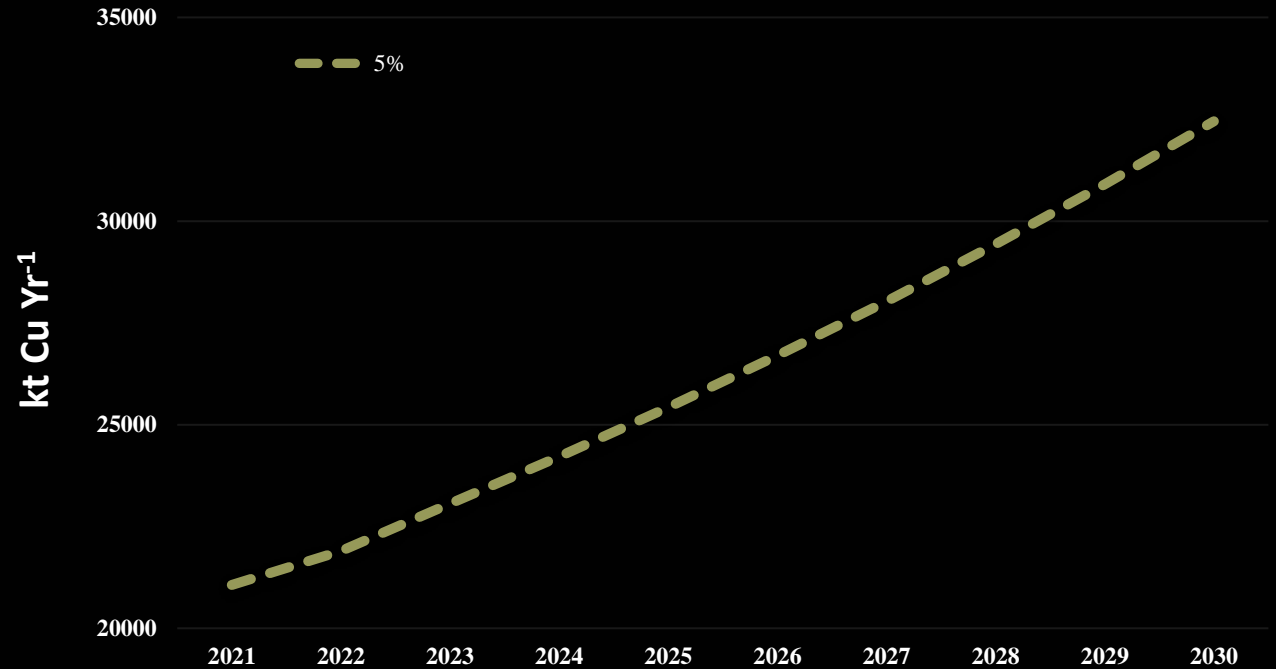
- Copper Deposits are Everywhere
- Risks: Economics, Permitting, ESG, Timing



Supply...

Exploitable Copper Deposits are rare!

Many factor impinge on development



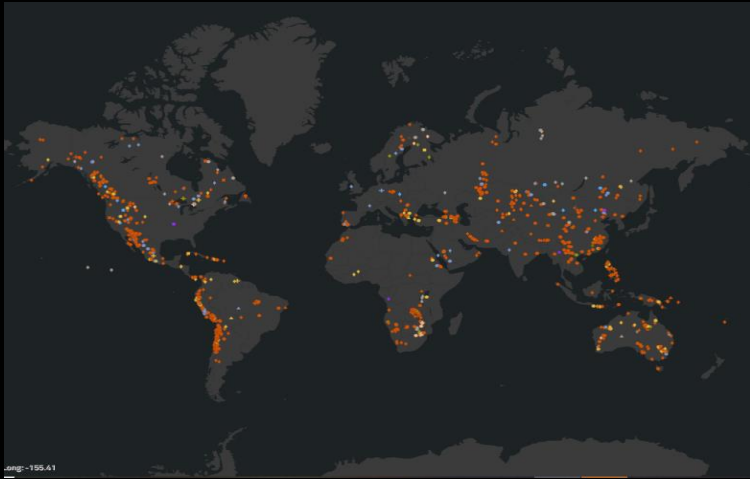
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METALS DEMAND: SUPPLY VS DEMAND

Enabling the Future

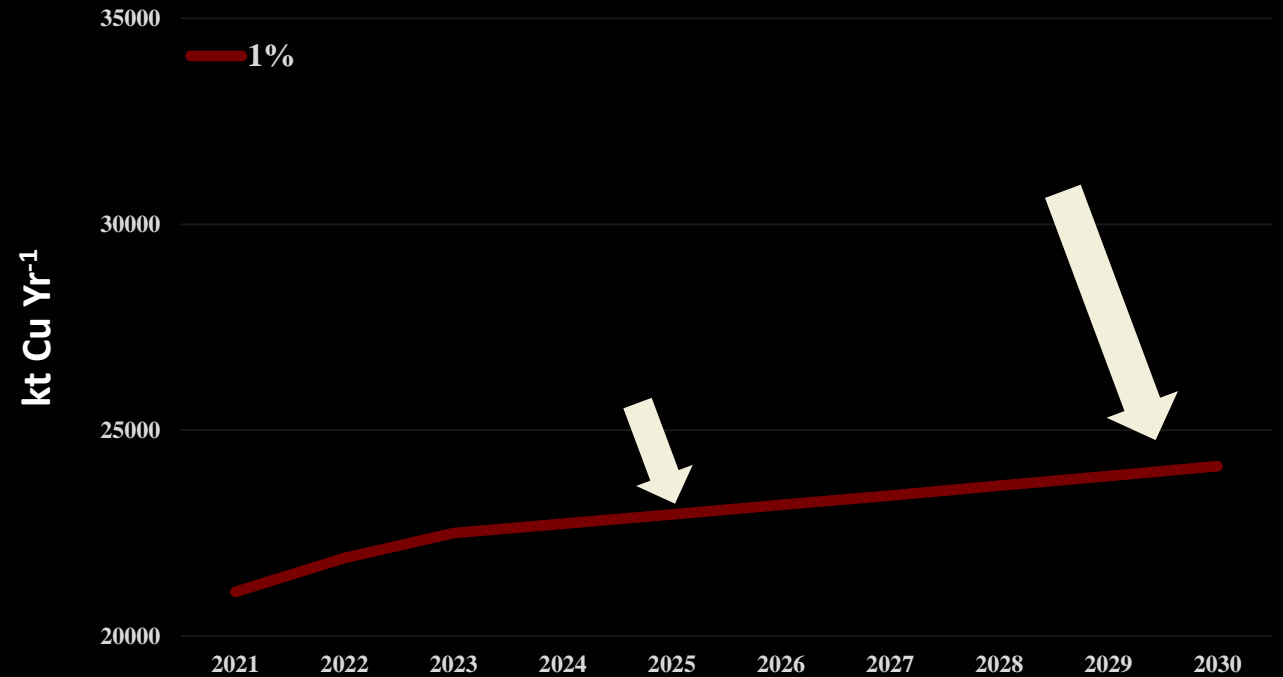
- Stilted Supply
- Needs Catalyzing



Copper Supply

A more likely scenario

(~1% CAGR)



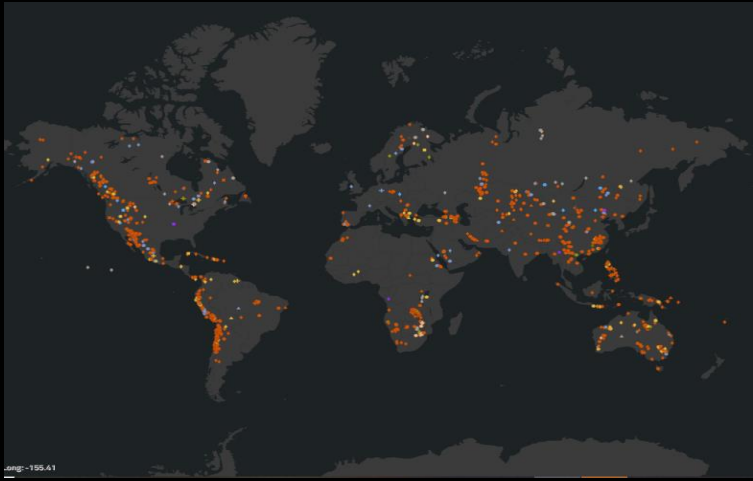
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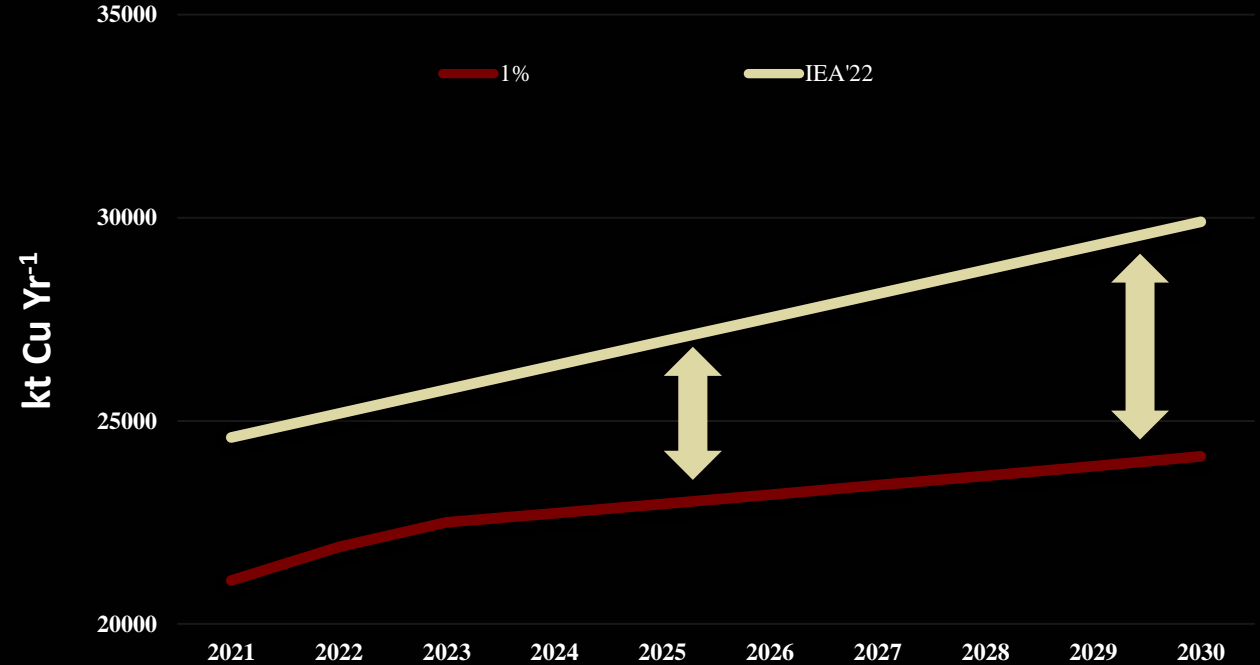
METALS DEMAND: SUPPLY VS DEMAND

Enabling the Future

- Coupled Urbanization
- EV uptake



Copper Demand (IEA'22: 1.5% CAGR)



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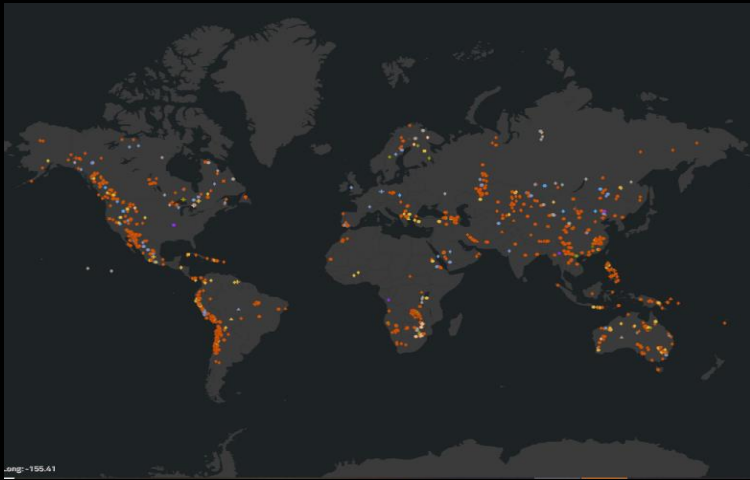


METALS DEMAND: SUPPLY VS DEMAND

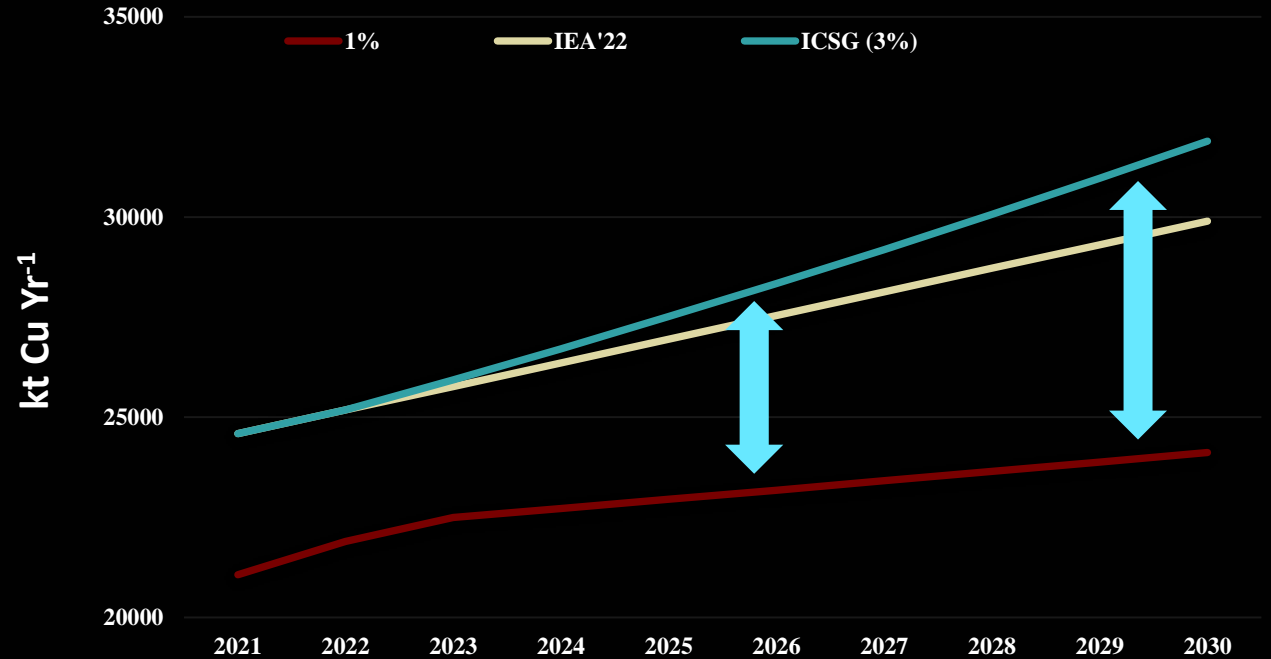
Enabling the Future

Unlocking Supply

Unlocks Demand



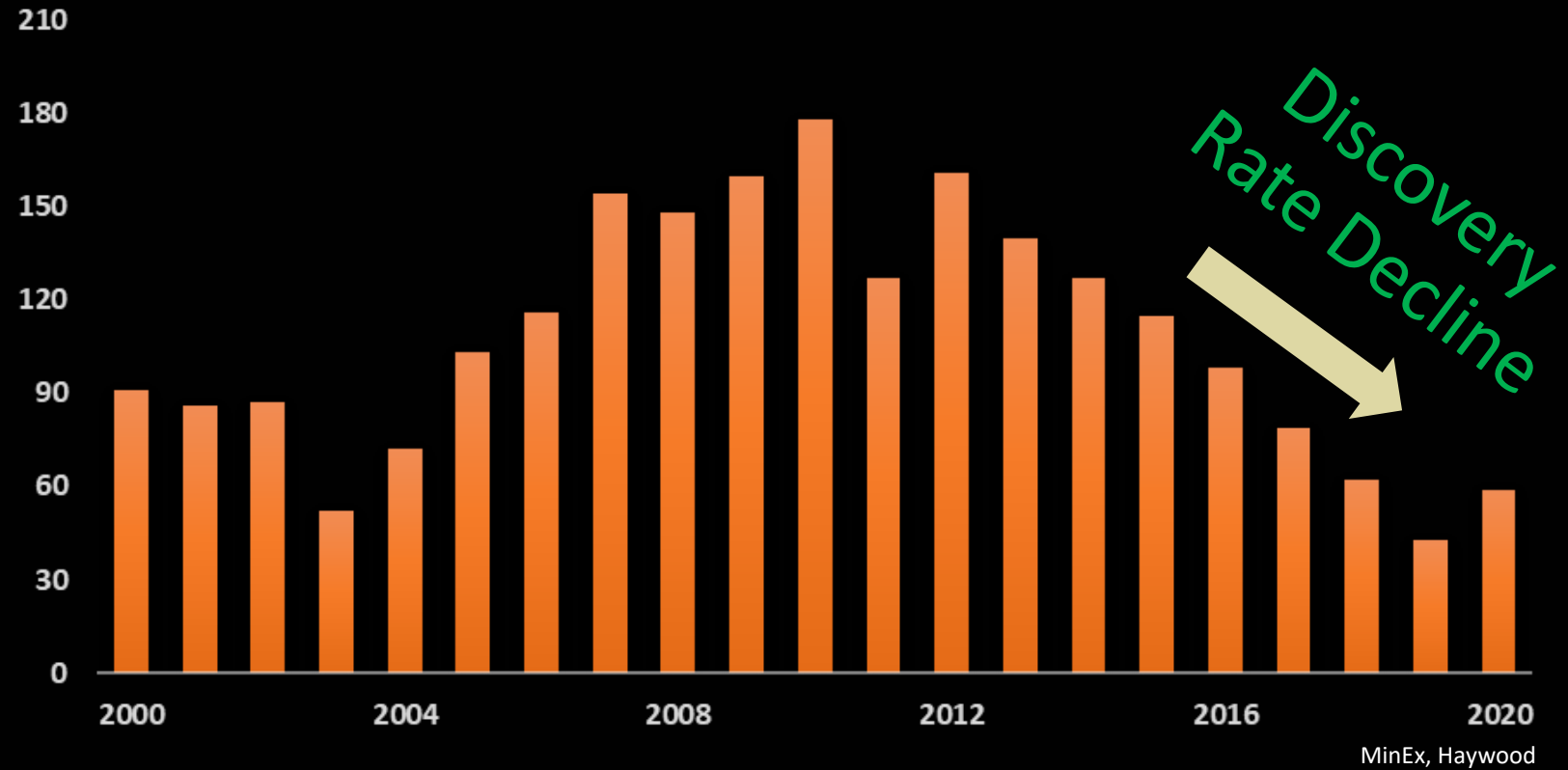
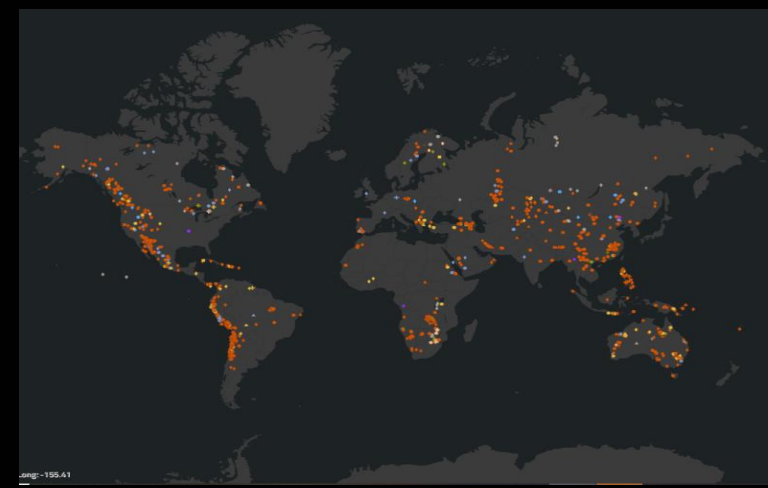
Copper Demand (ICSG, 3% CAGR)



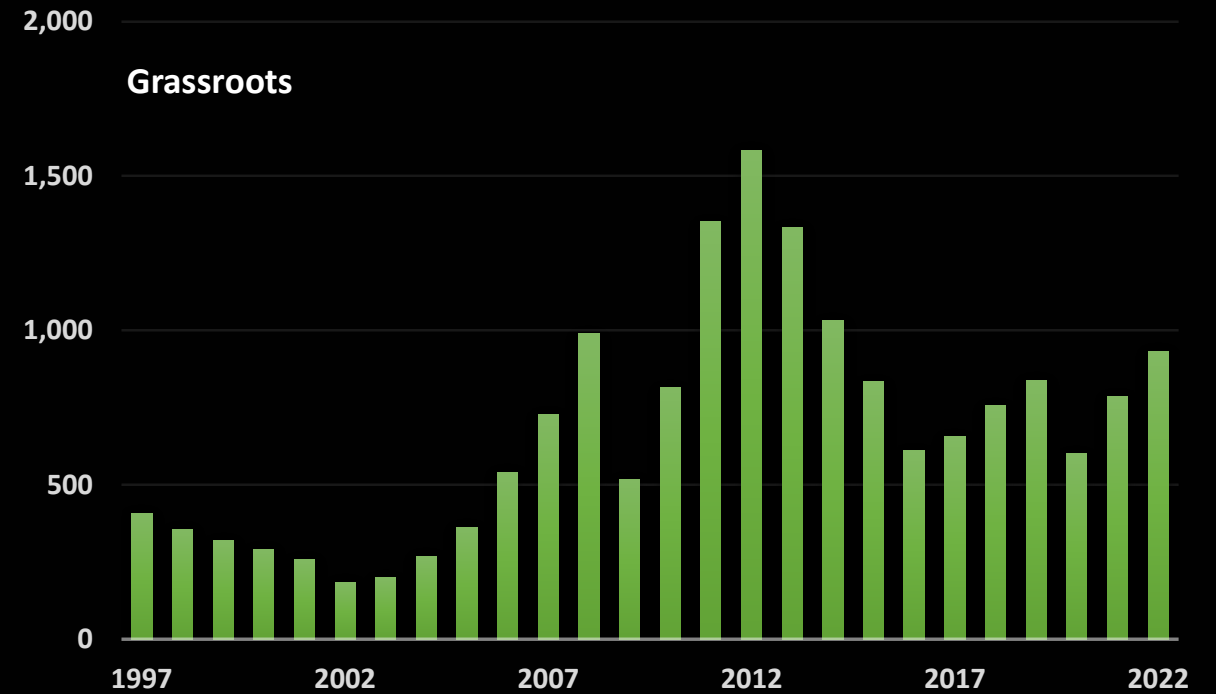
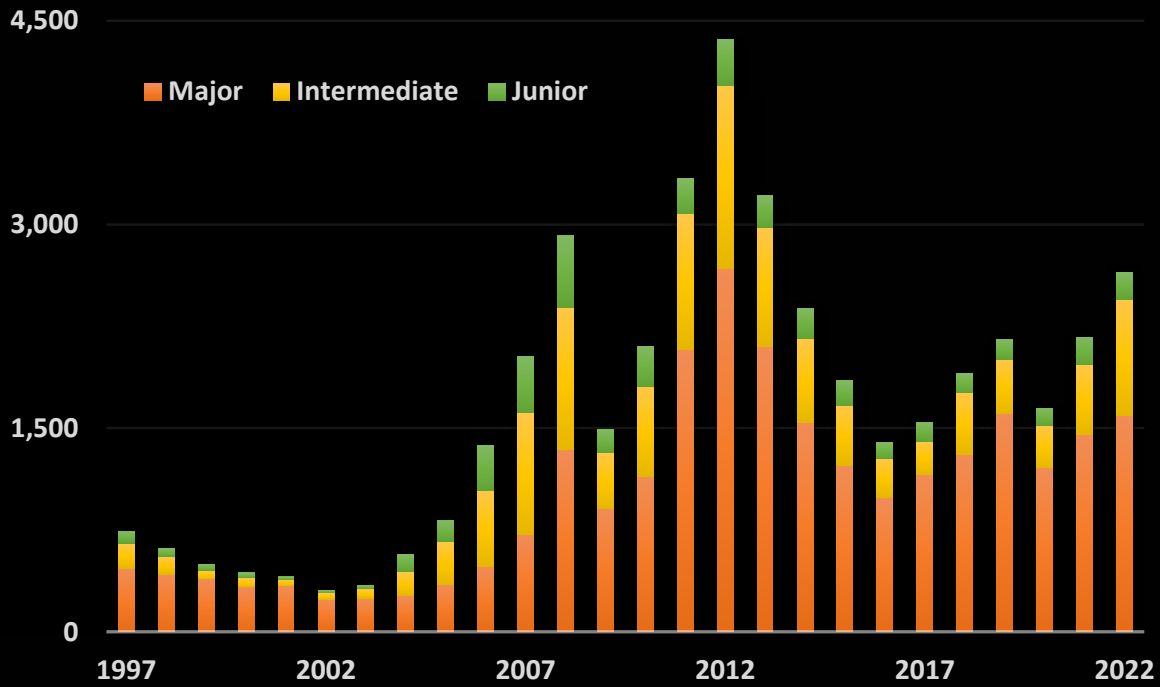
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METALS DEMAND: WE NEED DISCOVERY



METALS DEMAND: WE NEED DISCOVERY



SNL Financial, Haywood



METALS DEMAND: OPPORTUNITY

- Go Where the Rocks Are
- Opportunity for Emerging Countries
- Framework, Stability and Time

Long-live Cycle (Discovery - Production)

*Mature
Dislocated*

3-10+ Yr

*Transend and
Disintermediate*

<2-3 Yr

(Emerging: Cote d'Ivoire)

