



United States Energy Association

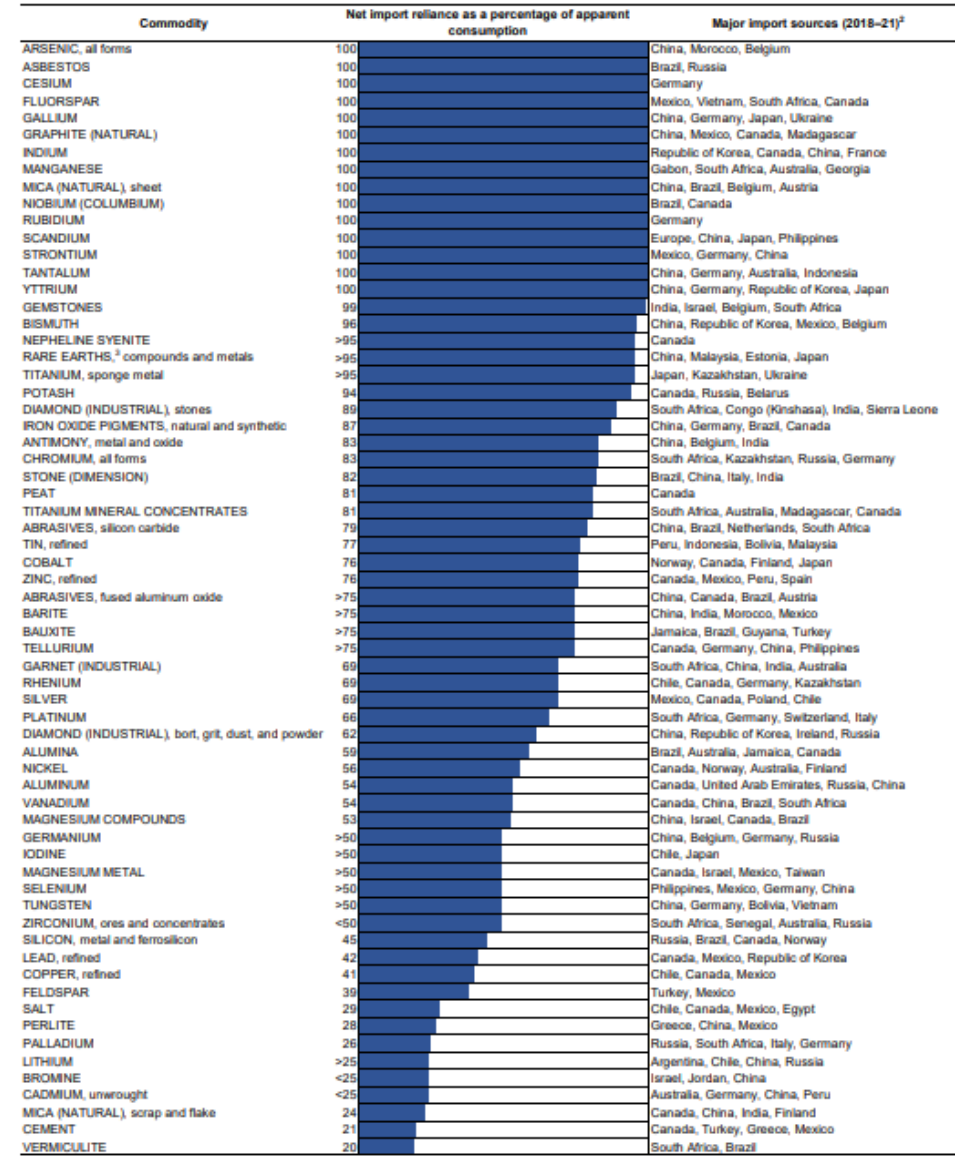
BRIEFING ON U.S. AND NORTH AMERICAN LITHIUM



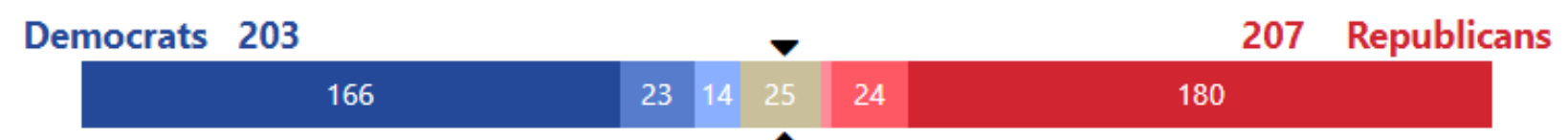
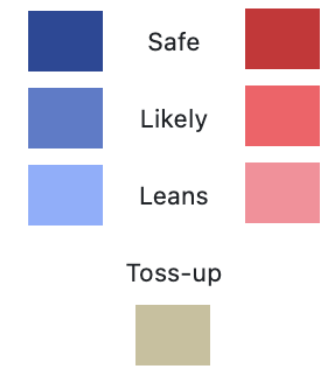
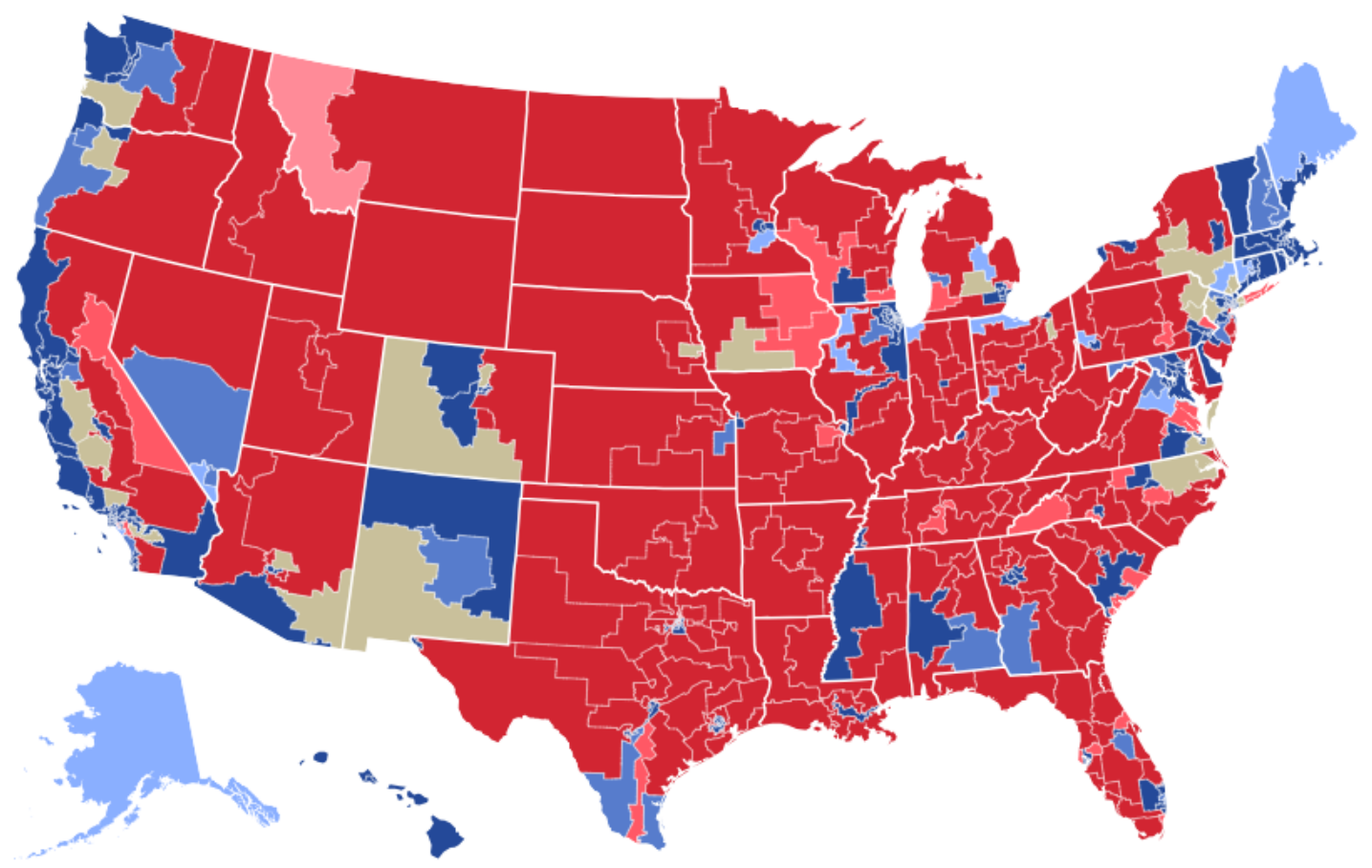
State of Domestic Mining

- Anticipated demand
- Record low investment as percentage of GDP
- Public perception
- Approach: Transparency, predictability, and trust
- Reality: Permitting delays and increasing import reliance

Figure 2.—2022 U.S. Net Import Reliance¹



House Election 2024

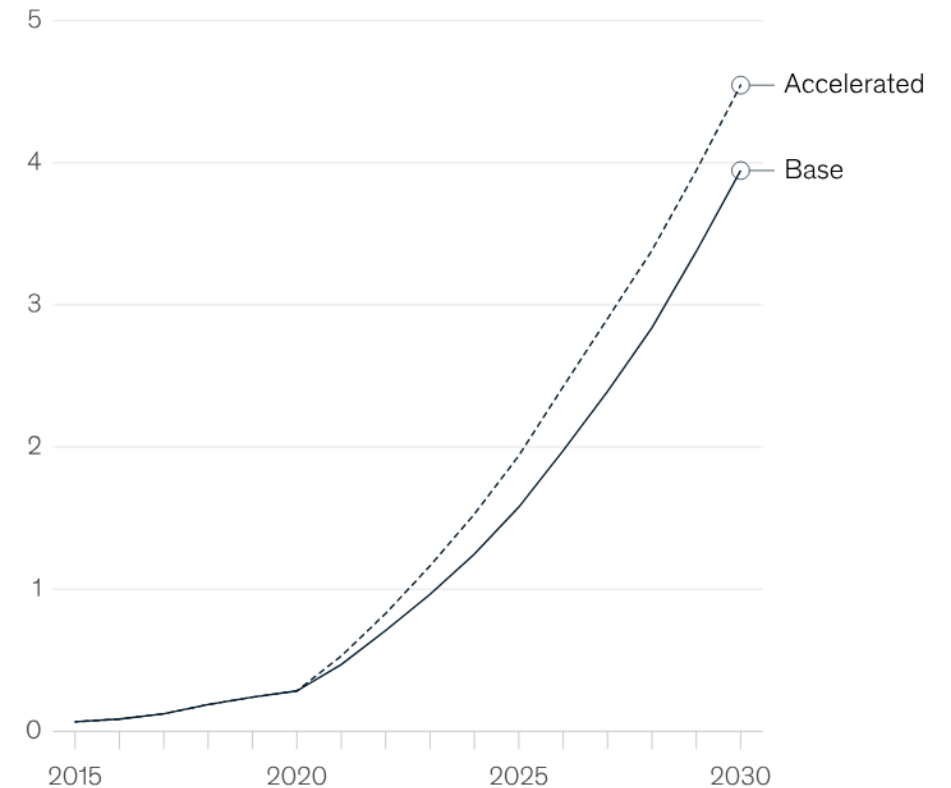


Permitting Reform

- **Setting lead federal agencies**
- **2-Year Environmental Impact Statement, Scope limit, Pages limit**
- **Rosemont fix**
- **Apply Energy Act of 2020 permit streamlining to all minerals**
- **Time limits on environmental and judicial review**
- **Codifying project sponsor preparation of environmental reviews**
- **Apply 5-acre rule to Forest Service land**
- **New limits on withdrawals**

Global lithium demand could reach 4,500 gigawatt-hours by 2030.

Global lithium-ion battery demand by scenario, thousand gigawatt-hours



Source: McKinsey battery demand model

Mining Workforce

MINING.COM

Colorado School of Mines
warns of 'grey tsunami' of
mining industry retirements

THE WALL STREET JOURNAL.

'War for Talent' at Mines Could Drive Up
Cost of Energy Transition



Workforce Shortages

221K Mining workforce retirements by 2029

14 U.S. mining engineering schools

Mining Engineering

970 Mining engineers enrolled

500 Mining engineers needed per year
through 2031

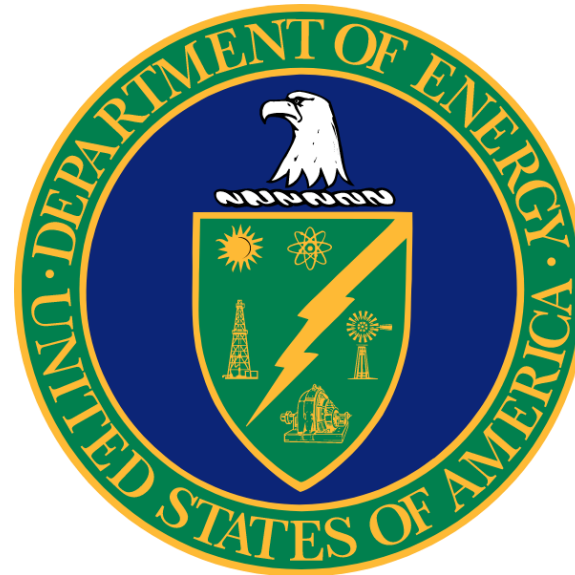
39% Drop in mining and mineral engineering
degrees awarded in the U.S. (since
2016)

Administration Funding Tools

DEPARTMENT OF COMMERCE LOAN GUARANTEES



DEPARTMENT OF ENERGY LENDING AND FINANCING



WHITE HOUSE DEFENSE PRODUCTION ACT FOR MINERALS



CHIPS AND SCIENCE ACT INCENTIVES

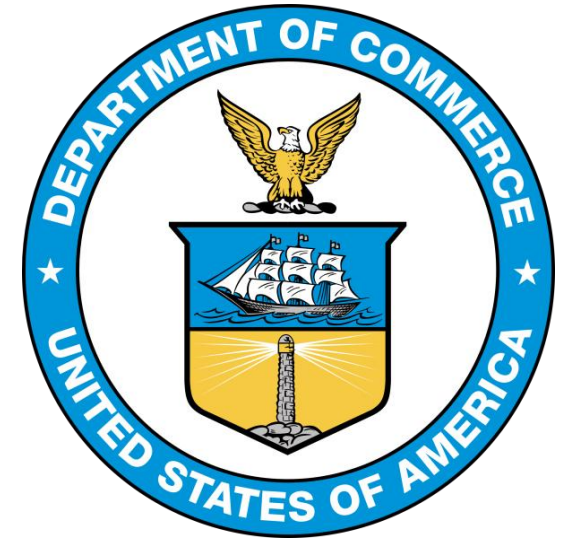
LOANS FOR COMMERCIAL FABRICATION FACILITIES

DRIVEN BY CONCERNS OVER SEMICONDUCTOR RELIANCE ON CHINA

- Semiconductor materials and manufacturing equipment facilities (capital investment equals or exceeds \$300 million).
- Separate opportunity for materials and manufacturing equipment facilities under \$300 million investment.

CHIPS AUTHORIZES LOAN AND LOAN GUARANTEES FOR:

- Construction
- Expansion
- Facility modernization
- Other activities



INFRASTRUCTURE INVESTMENT AND JOBS ACT INCENTIVES

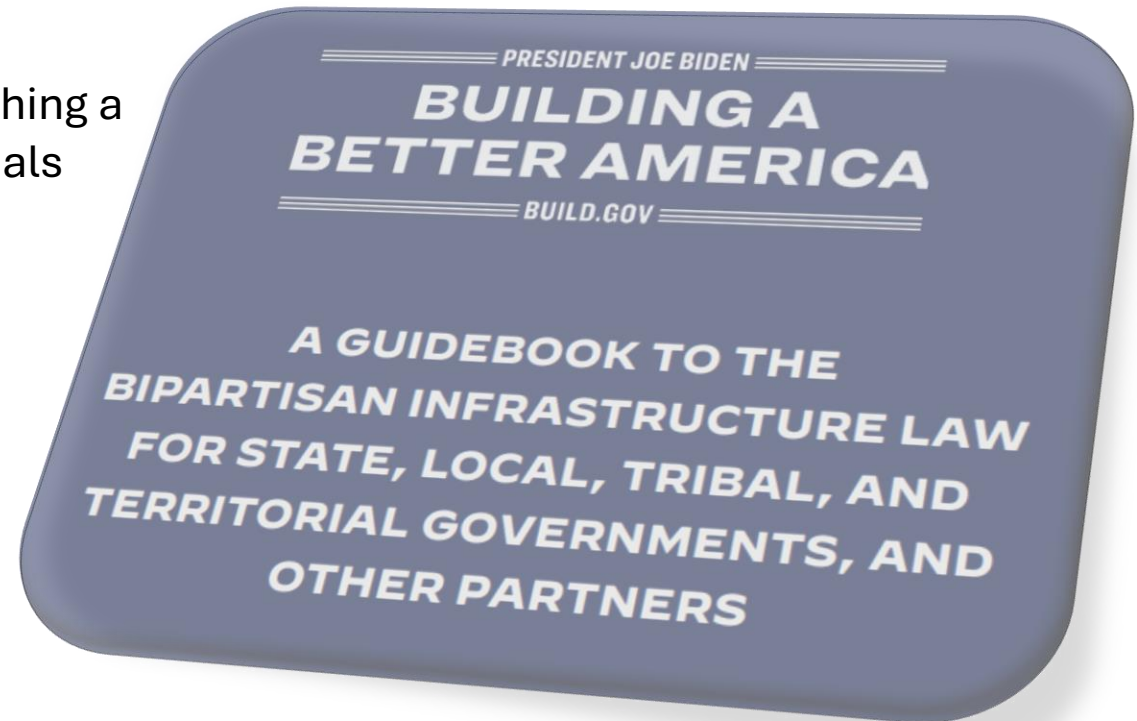
\$100 MILLION for Department of Energy grants for domestic critical minerals production, processing, refining, recycling, and secondary recovery

\$3 billion for battery material processing grants at DOE

\$750 million for re-equipping, expanding, or establishing a facility for manufacture of advanced energy or materials

OTHER OPPORTUNITIES INCLUDE:

- Critical minerals recycling, alternative sources and research grants
- Grant/loans for clean energy demonstration on current or former mine land



BIDEN DEFENSE PRODUCTION ACT DETERMINATION

BUILDS OFF E.O. 14017, AMERICA'S SUPPLY CHAINS

DRIVEN BY CONCERNS OVER METALS FOR ENERGY STORAGE

- “Securing materials needed for the large capacity batteries is essential to our national security”
- “Create, maintain, protect, expand, or restore sustainable and responsible domestic production capabilities of such strategic and critical materials”

DPA AUTHORIZES CONTRACTS, GRANTS, PURCHASE COMMITMENTS FOR:

- Feasibility studies
- Co-product/byproduct production
- Modernization of processes to increase productivity
- Other activities



INFLATION REDUCTION ACT INCENTIVES

\$500 million for Defense Production Act for production and processing of strategic and critical minerals for batteries

\$40 billion in new commitment authority for Department of Energy Loan Program Office for critical minerals

\$25 billion for Department of Energy Advanced Technology Vehicles Manufacturing Loan program for mineral production for electric vehicle components

45X new 10 percent production tax credit for cost of production of critical minerals listed in the bill through 2032 with direct pay for the first five years

48C manufacturing tax credit applicability to processing, refining or recycling critical materials

30D new domestic sourcing for electric vehicle tax credits



INDUSTRY RESPONSE



Albemarle to get \$90 million grant from Pentagon for raising domestic lithium output



Lithium company loneer scores \$700 million conditional loan from Energy Department for Nevada plant



US Weighing Record \$1 Billion Loan for Massive Lithium Mine in Nevada



US DOE provides US\$2.8B for critical minerals



Another \$20M in federal funds for northern Minnesota Talon nickel mine



Piedmont's Tennessee lithium hydroxide project collars US Government backing with \$224m grant



Jervois enters \$15M agreement with U.S. military to accelerate cobalt exploration, extraction in central Idaho



Perpetua wins up to \$15.5m to advance antimony trisulfide supply chain at Stibnite

Questions?

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