United States Energy Association BRIEFING ON U.S. AND NORTH AMERICAN LITHIUM



Mining Association

State of Domestic Mining

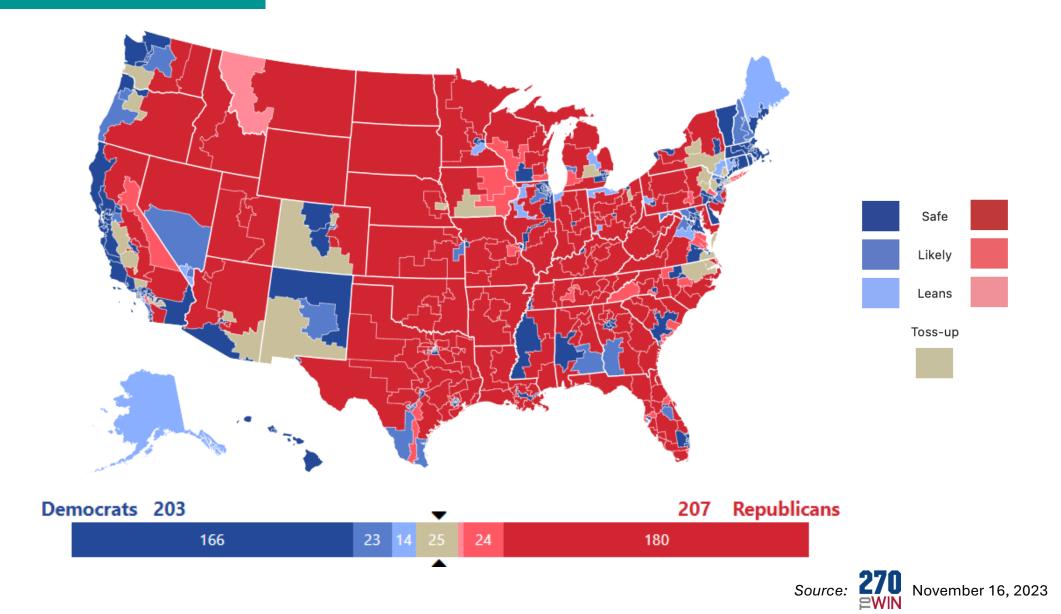
- Anticipated demand
- Record low investment as percentage of GDP
- Public perception
- Approach: Transparency, predictability, and trust
- Reality: Permitting delays and increasing import reliance

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

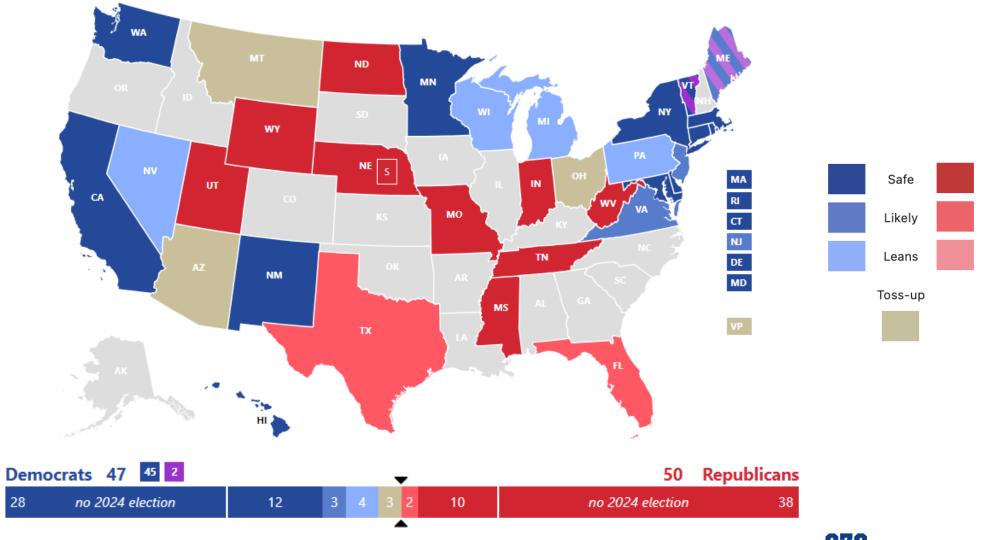
Commodity	Ne	t import reliance as a percentage of apparent consumption	Major import sources (2018–21) ²
ARSENIC, all forms	100	consemption	China, Morocco, Belgium
ASBESTOS	100		Brazil, Russia
CESIUM	100		Germany
FLUORSPAR	100		Mexico, Vietnam, South Africa, Canada
GALLIUM	100		China, Germany, Japan, Ukraine
GRAPHITE (NATURAL)	100		China, Mexico, Canada, Madagascar
INDIUM	100		Republic of Korea, Canada, China, France
MANGANESE	100		Gabon, South Africa, Australia, Georgia
MICA (NATURAL), sheet NIOBIUM (COLUMBIUM)	100		China, Brazil, Belgium, Austria Brazil, Canada
RUBIDIUM	100		Germany
SCANDIUM	100		Europe, China, Japan, Philippines
STRONTIUM	100		Mexico, Germany, China
TANTALLIM	100		China, Germany, Australia, Indonesia
YTTRIUM	100		China, Germany, Republic of Korea, Japan
GEMSTONES	99		India, Israel, Belgium, South Africa
BISMUTH	96		China, Republic of Korea, Mexico, Belgium
NEPHELINE SYENITE	>95		Canada
RARE EARTHS, ³ compounds and metals	>95		China, Malaysia, Estonia, Japan
TITANIUM, sponge metal	>95		Japan, Kazakhstan, Ukraine
POTASH	94		Canada, Russia, Belarus
DIAMOND (INDUSTRIAL), stones	89		South Africa, Congo (Kinshasa), India, Sierra Leone
IRON OXIDE PIGMENTS, natural and synthetic	87		China, Germany, Brazil, Canada
ANTIMONY, metal and oxide	83		China, Belgium, India
CHROMIUM, all forms	83		South Africa, Kazakhstan, Russia, Germany
STONE (DIMENSION)	82		Brazil, China, Italy, India
PEAT	81		Canada
TITANIUM MINERAL CONCENTRATES	81		South Africa, Australia, Madagascar, Canada
ABRASIVES, silicon carbide TIN, refined	79		China, Brazil, Netherlands, South Africa Peru, Indonesia, Bolivia, Malaysia
COBALT	76		Norway, Canada, Finland, Japan
ZINC, refined	76		Canada, Mexico, Peru, Spain
ABRASIVES, fused aluminum oxide	>75		China, Canada, Brazil, Austria
BARITE	>75		China, India, Morocco, Mexico
BAUXITE	>75		Jamaica, Brazil, Guyana, Turkey
TELLURIUM	>75		Canada, Germany, China, Philippines
GARNET (INDUSTRIAL)	69		South Africa, China, India, Australia
RHENIUM	69		Chile, Canada, Germany, Kazakhstan
SILVER	69		Mexico, Canada, Poland, Chile
PLATINUM	66		South Africa, Germany, Switzerland, Italy
DIAMOND (INDUSTRIAL), bort, grit, dust, and powder	62		China, Republic of Korea, Ireland, Russia
ALUMINA	59		Brazil, Australia, Jamaica, Canada
NICKEL	56		Canada, Norway, Australia, Finland
ALUMINUM	54 54		Canada, United Arab Emirates, Russia, China
	54		Canada, China, Brazil, South Africa
MAGNESIUM COMPOUNDS GERMANIUM	>50		China, Israel, Canada, Brazil China, Belgium, Germany, Russia
DDINE	>50		Chile, Japan
MAGNESIUM METAL	>50		Canada, Israel, Mexico, Taiwan
SELENIUM	>50		Philippines, Mexico, Germany, China
TUNGSTEN	>50		China, Germany, Bolivia, Vietnam
ZIRCONIUM, ores and concentrates	<50		South Africa, Senegal, Australia, Russia
SILICON, metal and ferrosilicon	45		Russia, Brazil, Canada, Norway
LEAD, refined	42		Canada, Mexico, Republic of Korea
COPPER, refined	41		Chile, Canada, Mexico
FELDSPAR	39		Turkey, Mexico
SALT	29		Chile, Canada, Mexico, Egypt
PERLITE	28		Greece, China, Mexico
PALLADIUM	26		Russia, South Africa, Italy, Germany
LITHIUM	>25		Argentina, Chile, China, Russia
BROMINE	<25		Israel, Jordan, China
CADMIUM, unwrought	<25		Australia, Germany, China, Peru
MICA (NATURAL), scrap and flake	24		Canada, China, India, Finland
CEMENT	21		Canada, Turkey, Greece, Mexico
VERMICULITE	20		South Africa, Brazil



House Election 2024



Senate Election 2024

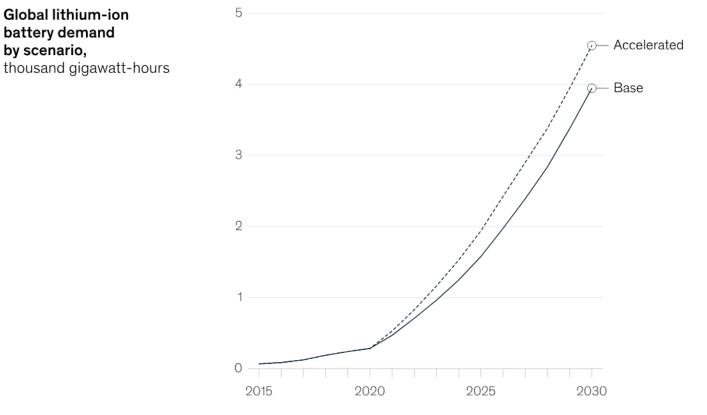


Source: **270** November 9, 2023

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

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



Source: McKinsey battery demand model

New limits on withdrawals

NMA National Mining Association

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



ICYMI: Manchin's Bipartisan Mining Schools Act of 2023 Passes Out of Energy and Natural Resources Committee

tember 25, 202



Administration Funding Tools



STATES O



DEPARTMENT OF ENERGY

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

BUILDING A BETTER AMERICA

BUILD.GOV

A GUIDEBOOK TO THE BIPARTISAN INFRASTRUCTURE LAW FOR STATE, LOCAL, TRIBAL, AND TERRITORIAL GOVERNMENTS, AND OTHER PARTNERS



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

MCNBC

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

Bloomberg

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

Mining Journal

US DOE provides US\$2.8B for critical minerals

*** StarTribune**

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

SMALL CAPS

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

Idaho Mountain Express

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

MINING.COM

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



Questions?

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