AMERICA'S
BROKEN SUPPLY CHAIN

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Material resources – metals and minerals mined from the earth – have always been essential to human development and social progress. History has been defined by access to key materials with severe consequences for nations that lacked them. Today, when the average smartphone and laptop contain more than half of the elements in the Periodic Table, reliable access to metals and minerals has never been more critical.

Arizona Defense & Industry Coalition

The Arizona Defense and Industry Coalition (AZDIC) is a coalition of regional organizations inspired by Senator McCain, comprising the defense and mining industries, military, veterans and more, to act as a united voice and advocate for regional and national security efforts.

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Executive Summary

Material resources – metals and minerals mined from the earth – have always been essential to human development and social progress. History has been defined by access to key materials such as iron, bronze, copper, coal, oil, and natural gas with severe consequences for nations that lacked them. Today, when the average smartphone and laptop contain more than half of the elements in the Periodic Table, reliable access to metals and minerals has never been more critical.

The US is making significant strides to bring manufacturing production onshore, improve critical infrastructure, and curb inflation with investments in domestic energy production. New initiatives such as the US CHIPS & Science Act, Infrastructure Investment and Jobs Act, and Inflation Reduction Act are noble first steps to propel us in the right direction, however, current US infrastructure and policy surrounding critical mineral extraction and processing hinders the nation's ability to quickly and efficiently execute this well-intentioned legislation.

At the heart of the challenge is a lack of a robust domestic supply chain. The US is heavily reliant on 50 minerals critical to its economy, clean energy, and national defense.[1] The country is dependent on other nations for nearly 90% of rare earth elements (REEs), including 50-70% of lithium and cobalt, and 45-46% of its copper needs.[2] China and Russia, in particular, are significant suppliers of the REEs required for computers, mobile communications, electric vehicles (EVs), storage batteries for the national energy grid, fighter jets, smart munitions, and all major weapons platforms.

From a supply standpoint, the US is capable of onshoring these mining processes but is restricted by today's limited policies and practices for permitting of new supply as well as primary processing like smelting and refining.

Expansive and broad federal and state authorities govern how mining is conducted on federal public lands, while competing world powers like China and Russia have minimal to no standards and regulations. Consequently, it is challenging for US based companies to be cost competitive, placing a barrier on our nation for increasing domestic final refined production of key minerals. In order to reform the domestic supply chain and bring mineral extraction and processing home, new approaches and technology must be enacted, taking into account proper labor, environmental, and social practices needed to responsibly mine and process on US soil.

President Biden has publicly declared the US will have a 100% clean energy economy and net-zero emissions by 2050.[3] Still, we cannot achieve this without the ability to bring on domestically produced copper supply, which in turn will drive the supply for increased recycling crucial to energy transition technologies. For the US to keep up with demand, mines need to think differently about their operations and assets. They must also seek opportunities for critical minerals to be recovered, not only from new supply, but also from the development of new technologies that can recover minerals from waste streams and historic mines that contain lower grade or complex ore.

This white paper examines the critical mineral supply chain landscape, its impact on defense infrastructure, environmental goals, and how the US can improve domestic mineral production

[1] US Department of the Interior. Mineral Commodity Summaries 2017. U.S. Geological Survey, Reston, Virginia: 2017.
[2] International Energy Agency. *The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions.* March 2022.
[3] The White House. FACT SHEET: President Biden Signs Executive Order Catalyzing America's Clean Energy Economy Through Federal Sustainability. December 8, 2021.

processes through increased collaboration and reform championed by the US government, defense, mining, and clean energy companies.

What Makes a Mineral "Critical"?

As of 2022, the Department of the Interior has designated 50 minerals as critical to the US economy and national defense,[4] required for everything from computers and mobile communications to electric vehicles (EVs), storage batteries for the national energy grid, fighter jets, smart munitions, and all major weapons platforms.

The US military is one of the largest users of Critical Minerals.

- Aluminum, a lightweight metal which aids in overall fuel efficiency while providing enough strength to carry heavy loads, goes into 80% of all aircraft, including F-16s.[5]
- Beryllium, known for its strength and lightness, is used in fighter jets to help with speed and maneuverability. At the same time, its thermal conductivity makes it beneficial for use in helicopters' optical systems.
- Titanium is used in military aircraft, like helicopters and fighter jets, as well as in armoring vehicles and building naval vessels.
- Rare Earths are used across military weapons platforms such as tomahawk cruise missiles, smart bomb guidance systems, and jet engines.

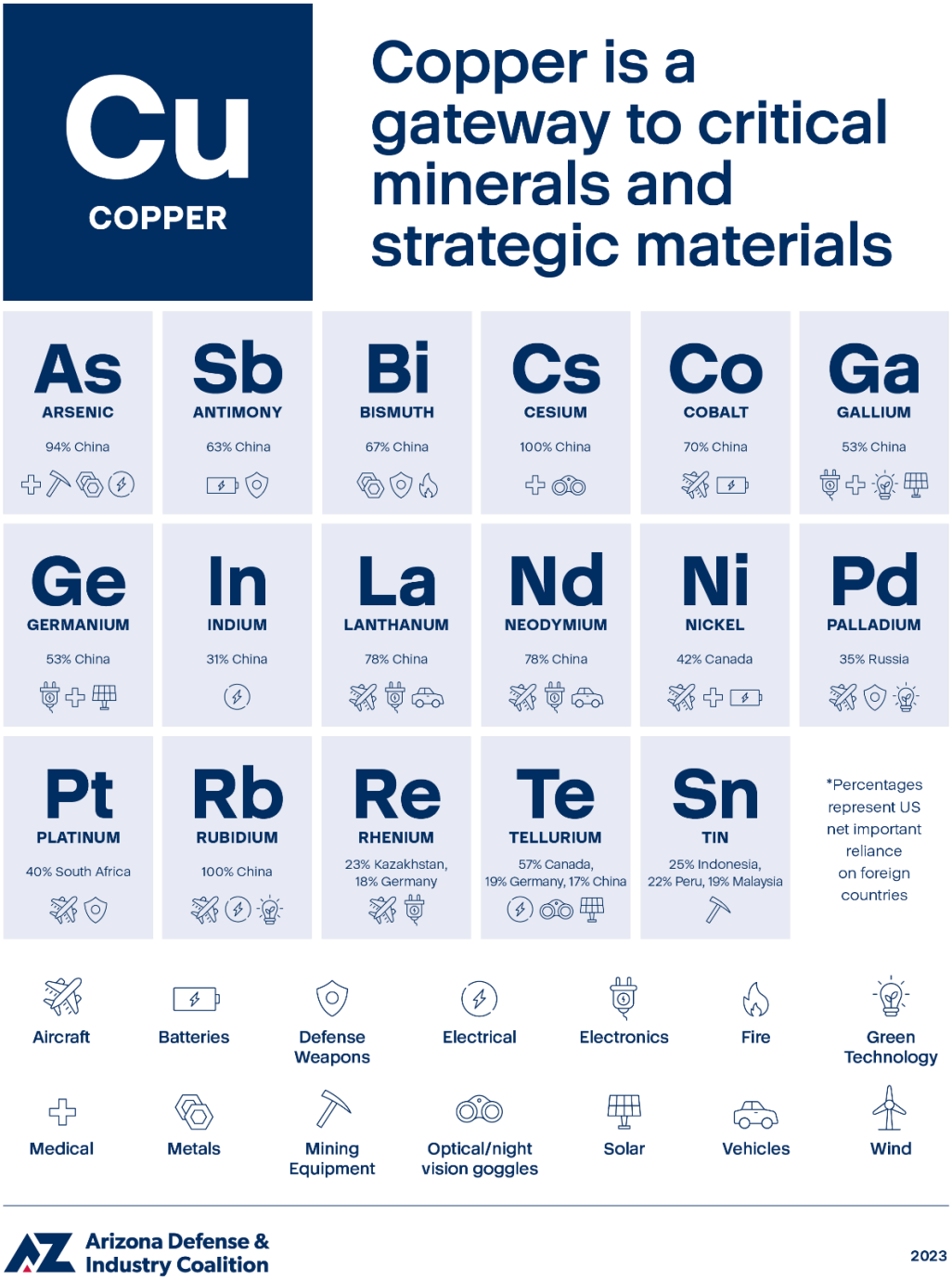
The Energy Act of 2020 defines a critical mineral as 'any mineral, element, substance, or material designated as critical by the Secretary.[6] As new, mineral heavy technologies like US batteries emerge as a significant product in the transition to a more sustainable clean energy future, critical resources are also playing an ever-growing role in the clean energy sector.

- Lithium is a common material used in batteries and was primarily used in consumer electronics. Only recently have electric vehicles and battery storage become the largest users of lithium.
- Tellurium is vital for large-scale solar power facilities, forward deployed microgrids and portable solar power sources for special operations teams.
- Graphite is one of the primary components for anodes in lithium-ion batteries, which go into electric vehicles. By 2040, it is expected that demand for graphite will grow 6 to 30 times higher than today.[7]
- Gallium is used in wind power turbines, EV motors, and other information technology (IT)/telecommunication applications.
- Cobalt, which is used in the electrodes of rechargeable batteries, is also set to drastically increase, with the demand rising by 60-70% over the next two decades.[8] Today, the US relies on China for 70% of its cobalt.
- Indium is primarily used in liquid crystal displays (LCDs) as well as electrical equipment including semiconductors which are also a national priority with the passage of the CHIPS Act of 2022.

[4] US Department of the Interior. Mineral Commodity Summaries 2017. U.S. Geological Survey, Reston, Virginia: 2017.
[5] Lockheed Martin F-16 Fighting Falcon." *Jane's All The World's Aircraft*, updated 21 January 2008. Retrieved 30 May 2008.
[6] Consolidated Appropriations Act, 2021, H.R.133, 116th Congress. (2020).
[7] International Energy Agency. *The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions.* March 2022.
[8] USGS. Critical Mineral Commodities in Renewable Energy. 4 June 2019.

Copper is a Gateway to Critical Minerals

While not officially labeled as "critical," Copper holds the key to many essential minerals with some deposits having anywhere between 5 to 12 co-products on the Critical Mineral List. According to an S&P Global Report, copper scarcity may emerge as a destabilizing threat to national security, with shortfalls straining the supply chain to previously unseen levels.[9]



[9] S&P Global. *The Future of Copper: Will the looming supply gap short-circuit the energy transition?* July 2022.

In addition to being the second most widely used resource by the Department of Defense (DoD), copper is one of the most important elements for the country's move towards clean energy. Electric and low emission vehicles are a major driver for the increased demand of copper. The 2021 Infrastructure Investment and Jobs Act included funding for 250,000 electric vehicle charging stations, $2.5 billion for low emission vehicles, and $2.5 billion for electric school buses totaling 19 billion pounds of copper demand across those three areas. Driven in part by the electric vehicle revolution, copper demand is expected to grow from 25 million metric tons (MMt) today to 50 MMt by 2035 and eventually 53 MMt by 2050.[10] This rising demand for copper is expected to have global consequences and will affect the US' timing of reaching Net-Zero Emissions by 2050.

Dangerous Dependencies

US law identifies four nations as "countries of concern," given their adversarial stance: North Korea, Iran, China, and Russia. Two of the four are significant suppliers of Critical Minerals to the US, raising ongoing risks to our national security.

There are many weaknesses in the critical mineral supply chain, but US import reliance on China presents the most immense risks. Currently, the US imports over half of its minerals, with China supplying 80% of those imports.[11] China controls approximately 55% of the global rare earth mining capabilities and 85% of rare earth findings as of 2020.[12] Additionally, China's primary processing capability is five times greater than the combined global capacity for producing rare earth minerals, giving China a competitive advantage and global dominance in copper, critical minerals, and rare earth production.[13]

Similarly, Russia is a leading supplier of minerals and rare earths, mining 2,700 tons of rare earths a year and holding 10.4% of the world's reserves.[14] They are also among the top three global producers of aluminum, diamond, gold, platinum group metals, and nickel, as well as producing other minerals such as cobalt and lithium. Russia currently controls 20% of the world's Class 1 nickel,[15] which is critical for EV batteries. This is problematic since Rystad Energy recently predicted the supply of battery-grade nickel will fall short of demand by 2024. In 2021, Tesla CEO Elon Musk echoed this point by calling nickel the biggest concern for EV batteries.[16]

Obstacles to US Critical Mineral Access

While the US has the mineral supply and primarily processing capacity necessary to compete with China and Russia, there are still considerable obstacles to accessing and expanding these capabilities. For example, there are currently zero rare earths processing plants in America and only two operating copper smelters. This means that once the minerals are out of the ground, they are sold overseas, where the midstream processing that is separation, purification, and metal-making takes place (see figure below).

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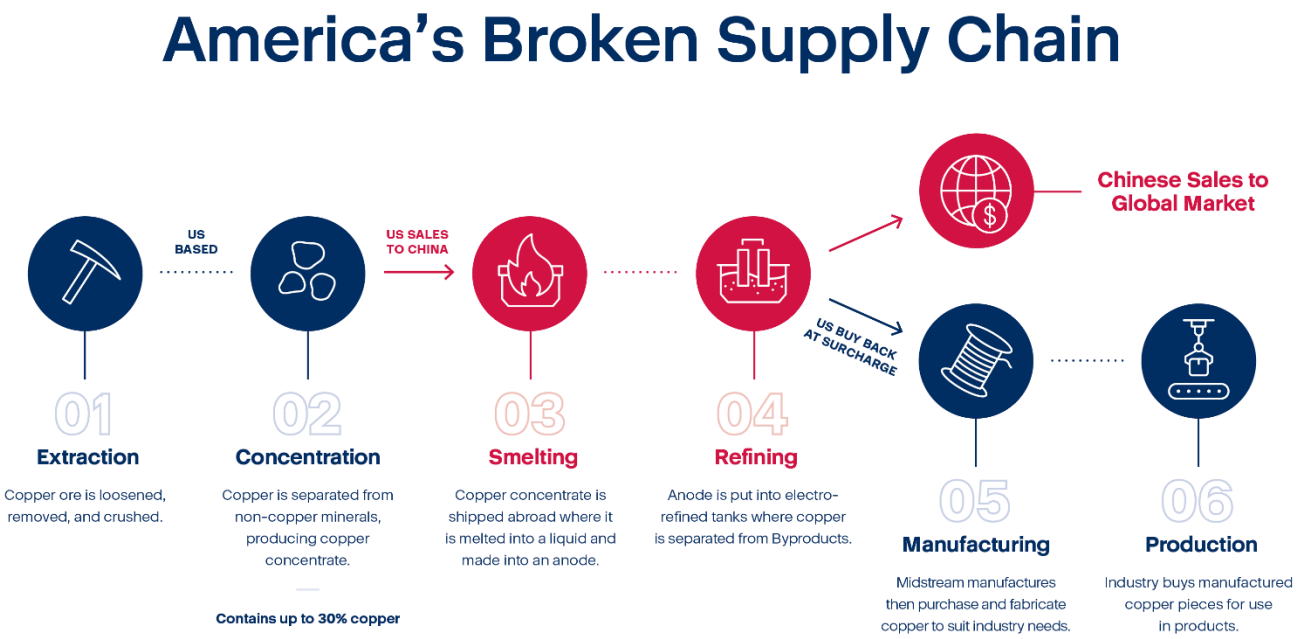
[10] S&P Global. *The Future of Copper: Will the looming supply gap short-circuit the energy transition?* July 2022.
[11] Department of Energy, Office of Fossil Energy and Carbon Management. *U.S. Department of Energy to Invest $28.35M in Advanced Processing of Rare Earth Elements and Critical Minerals for Industrial and Manufacturing Applications.* January 21, 2021.
[12] The White House. *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100 Day Reviews under Executive Order 14017.* June 2021.
[13] Dasilva, Jeremy. Securing the Critical Mineral Supply Chain is Vital to the Future of the US Military (American Security Project). October 20, 2021.
[14] LePan, Nicholas. *Rare Earth Elements: Where in the World Are They?* Visual Capitalist, 23 November 2021.
[15] Finley, Allysia. *Russia Can Hold Nickel Hostage.* Wall Street Journal. 14 March 2022.
[16] Yue Li, Yvonne. "Musk Says Nickel Is 'Biggest Concern' For Electric-Car Batteries." *Bloomberg*. February 25, 2021.

Making matters more difficult, many critical minerals and REE's are only concentrated enough to be recovered through the smelting and refining process. As a result, when copper concentrate is sold to China for smelting and refining, those valuable minerals and REE's are essentially given away.

Once the minerals are fully processed, the US must buy the resources back at a major surcharge. After decades of holding prices low to drive all other smelters out of business, China has raised the cost to smelt and refine copper concentrate by over 30% from 2021 to 2022.[17]



When it comes to copper and REE processing, China dominates global access. The aforementioned supply chain issues are not unique to the US – they affect all other competing nations as well.

In addition to processing, the numbers tell us recycling also has an important role to play in securing our critical mineral supply chain. The US mined 43,000 tons of rare earth ores in 2021, according to the USGS, but exported 45,000 tons primarily to China (including ores from external sources) for processing and re-exported back to the US market.[18] A recent peer-reviewed study found that recycling off select consumer goods and reclamation (e.g. copper tailing reclamation) from the byproducts of other mining and phosphate processing could yield from 2 to 11 times the volume of REE that could be extracted through processing the raw materials.[19]

The Impact of a Starving Supply Chain

[17] Liu, Siyi and Dominique Patton, *UPDATE 2-China copper smelters keep Q1 2023 treatment charges same as prior quarter – sources,* Reuters. December 28, 2022.
[18] U.S. Geological Survey, Mineral Commodity Summaries, January 2022.
[19] Gabrielle Gaustad, Eric Williams, Alexandra Leader. *Rare earth metals from secondary sources: Review of potential supply from waste and byproducts*, Resources, Conservation and Recycling, Volume 167, 2021.

The abovementioned mineral processes are detrimental to US critical mineral production. The US must address this issue head on to foster a more secure and resilient supply chain essential for our national and economic security, environmental future, and technological leadership.

National security experts, including the DoD, have consistently argued that the nation's underlying commercial industrial production is vital to our security. Reports from both Republican and Democratic administrations have raised concerns that the defense industry's reliance on limited suppliers makes US national security vulnerable to adversarial countries. Innovations essential to military preparedness—like highly specialized lithium-ion batteries—require a domestic ecosystem of innovation, skills, and processing facilities that the United States currently lacks.[20]

Our economic security—steady employment and smooth operations of critical industries—also requires secure and resilient supply chains. For over a decade, the DoD has consistently found that essential civilian industries would endure the most harm from a disruption of strategic and critical minerals supply. The Department of Energy notes that China refines 60 percent of the world's lithium and 80 percent of the world's cobalt, two core inputs to high-capacity batteries which presents a critical vulnerability to the future of the US auto industry.[21]

The fate of our environment and clean energy goals also relies heavily on US access to critical minerals such as lithium, nickel, cobalt, manganese, copper, and aluminum used for key clean energy components like photovoltaics, wind power, batteries, and electric transmissions. Additionally, the absence of China's environmental and labor standards in their mining and processing practices should not be overlooked.

Finally, our domestic innovation capacity is contingent on a robust and diversified domestic industrial base. When manufacturing heads offshore, innovation follows. The Department of Commerce notes that large-scale public investment in semiconductor fabrication has allowed Korean and Taiwanese firms to outpace US based firms. The Department warns, "ultimately, volume drives both innovation and operational learning; in the absence of the commercial volume, the United States will not be able to keep up […] with the technology, in terms of quality, cost, or workforce."[22]

Arizona's Place in Securing the Supply Chain

Arizona has built one of the country's most dynamic defense industrial bases. The aerospace and defense industry is one of the largest economic drivers for the state, generating $21.5 billion in total gross state product and $2.5 billion in total exports in 2020 and provides jobs for more than 57,000 Arizonans.[23] The state has over 1,200 defense contractors in numerous fields including electronic systems, smart automation, precision machining and advanced materials that range from small businesses to multibillion dollar companies.

[20] The White House. *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews under Executive Order 14017*. June 2021.
[21] The White House. *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100 Day Reviews under Executive Order 14017*. June 2021.
[22] The White House. *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth: 100-Day Reviews under Executive Order 14017*. June 2021.
[23] Arizona Commerce Authority. Aerospace and Defense.

Additionally, Arizona ranks as the 5th best jurisdiction for mining investment globally, the second year that Arizona has been ranked in the Top 5.[24] There are ten major copper mines in the state, with the largest producing 632 million pounds of copper per year. This helps make Arizona the largest US copper producer with over 71% of newly-mined domestic copper.[25] The state ranks 5th in domestic silver production,[26] most of which is mined as a byproduct of copper, and is also a major producer of crude perlite, molybdenum, silver, and zeolites. In 2020, there were 401 active, full-time mines or development projects in the state. Companies are already seeing the potential benefits of investing in Arizona, with three recently beginning the process of opening mines in the state.

As one of the nation's youngest and fastest-growing states, Arizona has developed a reputation as a hub for next-level technologies and high-tech advancements. These sectors include electric and zero-emission vehicle manufacturing, next-generation battery technology, solar and other clean energy production, biodegradable materials, freshwater science, agritech, and more. The state houses five EV manufacturers, including Nikola, Lucid, ElectraMeccanica, Atlis Motors, and Zero Electric Vehicles. Additionally, Arizona houses large-scale battery producers like KORE Power – the leading US based developer of batter cell technology for the clean energy industry. Arizona is also leading the way in recycling innovation with companies like Li-Cycle whose proprietary technology boasts an industry-leading recovery rate of up to 95% resource mass recovery through a zero-waste, environmentally-friendly process.[27]

Making More Out of What We Have…

At the leadership of Senator Kyrsten Sinema, the Arizona Defense & Industry Coalition (AZDIC) has partnered with RioTinto and KORE Power on an extensive workgroup dedicated to identifying supply chain shortfalls and how Arizona can utilize its robust expertise in mining, green tech, and the environment to help solve the problem. The Nature Conservancy also provided perspectives on climate change and environmental considerations related to expanding domestic critical mineral supply chains.

As a result, AZDIC recommends the following steps to progress our critical mineral independence.

Improving Recycling Technology

Recycling can significantly alter the number of supply requirements to meet demand. It is estimated that by 2040, recycled quantities of copper, lithium, nickel, and cobalt from batteries could reduce supply requirements by approximately 10%.[28] To ensure the US can meet these estimates, policies must incentivize companies to create recycling programs and fund efficient and safe recycling technologies and equipment. Mining companies must also focus on their recycling practices by using sustainable materials and sources, repurposing tails, and reusing resources whenever possible.

Arizona presents a significant opportunity for lithium-ion battery recycling due to the emerging electric vehicle (EV) supply chain in the region, as well as its close proximity to large markets that are expected to produce an increasing supply of end-of-life batteries available for recycling from EVs, energy storage projects, and consumer electronics.

[24] Aliakbari, Elmira and Jairo Yunis. *Fraser Institute Annual Survey of Mining Companies 2021*.Fraser Institute, 2022.
[25] Goshert, Max, et al. *Critical Materials in Arizona.* Arizona State University Enterprise Policy Analysis Group, 1 July 2022.
[26] Goshert, Max, et al. *Critical Materials in Arizona.* Arizona State University Enterprise Policy Analysis Group, 1 July 2022.
[27] Arizona Commerce Authority. *Li-Cycle Opens Lithium-Ion Battery Recycling Facility in Gilbert*. May 17, 2022.
[28] International Energy Agency. *The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions.* March 2022.

For instance, KORE Power is building a Gigafactory in the US which will make it the only US based lithium-ion cell manufacturer that is also a fully vertically integrated energy storage producer, with US owned intellectual property. Buckeye, Arizona will be the home of its two million square foot manufacturing facility, dubbed the KOREPlex. The facility will support 12 gigawatt hours (GWh) of battery cell production to ensure a reliable and independent US supply chain for lithium-ion battery cells that are critical to the future of electric vehicles, power grids and more. The facility will have the capacity to produce enough power for 3.2 million homes each year.[33]

Additionally, Li-Cycle's built a first-of-its-kind facility utilizing proprietary technology that processes full EV battery packs without dismantling them manually, making recycling of those battery packs safer, sustainable, and more labor efficient. This facility, dubbed Arizona Spoke, is strategically located close to the Company's existing battery and manufacturing scrap supply network in the Southwestern US, which optimizes logistics and other efficiencies for recycling services. Li-Cycle's Spoke process is a combination of shredding, gravity separation of plastics, physical separation of foil, and the filtration of anode and cathode materials. The intermediatory product 'black mass' consists of a number of highly valuable critical metals, including lithium, cobalt and nickel, which Li-Cycle will convert into battery-grade materials at its first Hub facility currently under construction.[29]

Bringing New Supply to Market Responsibly

While great strides are being taken to improve our domestic recycling capabilities, even high rates of recycling alone will not create enough supply to meet US domestic and global demand. Constant and new supply must be brought to market through brownfield expansions of existing mines and new thinking and new technologies to recover critical minerals from historically low-grade ore bodies and waste streams.

The US is one of the most regulated countries in the world, with expansive and necessary environmental regulations for the protection of human health, the environment, and nature. Statutes such as the National Environmental Policy Act set up a comprehensive framework for meaningful consultation and two-way dialogue that provide mines with information and guidance on how to avoid, minimize, and mitigate negative consequences to new development.

Arizona mining companies are leading the way in innovative and environmentally conscious approaches to critical mineral production, including robust and resilient tailing storage, advanced water preservation and reclamation, and copper and critical mineral recovery from waste.

For example, South 32 reclaimed 2 million tons of historic tailings - residues produced from mining. Now stored in a safe and stable state-of-the-art dry stack storage facility at the Hermosa Project in Patagonia, Arizona, these tailings are dried and covered with an impenetrable fabric that limits chemical runoff into neighboring communities.[30] The adopted approach went beyond the Arizona Department of Environmental Quality requirements and involved over a million work hours with a total cost of over $30 million dollars. Going even further in their environmental commitments, South 32 has a companywide goal to achieve net zero operational greenhouse gas (GHG) emissions by 2050.

[29] Li-Cycle, 2023

[30] South 32. Hermosa Project Overview: Putting Arizona in the Driver's Seat of the Clean Energy Race. May 18, 2022.

Additionally, companies like RioTinto are investing in the research and development of new technologies to improve the production of critical materials for global use. For example, the Company is developing high production filtered tailings which will result in a drastic reduction in water use. RioTinto is producing critical minerals like tellurium with their US-based copper smelter and refinery in Utah. They are also pursuing massive clean energy initiatives by using battery electric vehicles for their US-based underground copper operations, charting a path to achieve net zero by 2050.

Equally exciting, RioTinto is expanding on a new technology called Nuton to squeeze additional value from aging mine sites, with complex or lower grade copper ore bodies as well as waste. Nuton allows for the delivery of new copper supply with no new disturbance, more efficient water usage, lower carbon emissions, and the ability to restore and reclaim mine sites by reprocessing mine waste. Rio Tinto has invested in Arizona Sonoran in Casa Grande and partnered with Excelsior Mining at in Cochise County, Arizona to test enable the commercial deployment of Nuton.

With the dual climate and biodiversity crises we are facing, we must be smart about the solutions we pursue so that they address both interrelated crises. Looking more broadly across the supply chain, seeking opportunities to reduce, reuse and recycle minerals will help lessen the pressure to expand new mining activities. With forward planning and science-based solutions, we can protect people and nature while maintaining the pace of clean energy efforts needed to avoid the worst impacts of climate change.

Advancing Domestic Workforce & Processing

China dominates the global market for processing and refining cobalt, lithium, rare earths, copper and a host of other critical minerals, which has been crucial to their rapid economic expansion in the last 30 years. Without stringent regulations like the Clean Air Act, labor laws, or health and safety regulations, primary processing of metals, REE, and critical minerals can be a dangerous and harmful business.

Thankfully, Arizona higher education is playing an active role in researching and identifying new and cleaner methods of extraction and processing for critical minerals - all while developing a well-trained workforce to meet supply demands from defense and the clean energy transition.

A prime example is the work the University of Arizona and Arizona State University are currently undertaking in mining and geological engineering. These universities are actively collaborating with industry leaders to solve supply disruption problems with a focus on sustainability and environmental sensitivity.

For example, the University of Arizona's San Xavier Experimental Mine: a multi-level university-operated mine with both narrow stopes and new, modern drifts, and a long history of research, education, and training that provides the facilities necessary to converge academia, industry, and government experts to address the technical and educational challenges to support national production of critical minerals and substantially strengthen the US supply chain. The mine currently serves as a testbed for research including testing of mine specific products including underground drones, advancing underground rescue technologies and tools, and development of underground communications systems. One significant focus is the development of advanced processing and extractive metallurgy, including pilot-scale testing, to better serve industry needs.

Conclusion

The issues outlined in this document are complex but essential to address if the US is to chart a path forward to strengthen our domestic supply chain and limit US reliance on foreign adversaries while ensuring environmental sustainability. It is rare for groups with opinions as diverse as those found in the mining sector, defense contractors, clean energy companies, and environmental NGOs to come together to solve difficult problems, but we are united in our belief that our country will not be able to move forward in addressing the supply chain crisis without creating strategic partnerships and alliances such as the one we have created through AZDIC.

It is clear the US is challenged not only in raw material production, but also in the domestic processing of final refined metals and critical minerals. Minerals like copper and its critical mineral byproducts are central to creating countless US defense technologies including computers, military aircrafts, smart munitions, and all major weapons platforms; without them, homeland defense and security innovation would be greatly hindered. Moreover, these materials are fundamental to the developing green technologies such as electric and low emission vehicles.

While the US is heavily import-dependent on key minerals, actions can be taken to increase domestic production responsibly to meet the demand needs of the US clean energy transition. To do so, change must start *locally.*

Southwestern states such as Arizona and Utah are keeping America competitive and are uniquely positioned to spearhead this initiative. Arizona and Utah are home to the only two remaining operating copper smelters in the US and house some of the nation's most notable military installations, National Guard operations, and mines.

The fate of the country's national security and green technology goals relies upon a domestic solution to this ongoing issue, and Arizona's massive defense and mining industry is well equipped to lead these efforts. The Arizona Defense and Mining Coalition is working with local political figures and SMBs to improve US mining infrastructure.

This initiative goes beyond just Arizona–it's imperative that a strong national network of defense, industry, mining, and green energy organizations be established and work toward finding domestic solutions to continuous supply chain challenges. Critical collaborations such as these will bring about impactful and lasting change to the US defense landscape.

The goal of this document is to serve as a blueprint for other states to emulate as they look at their own mining requirements, impacts, and opportunities. We hope that states will be able to follow Arizona's lead on how we can work together to secure the supply chain for the sake of national security, the environment, society, and the economy.