WOMEN'S MINING COALITION (WMC):

ADVOCATING FOR THE U.S. MINING INDUSTRY

WHAT IS THE WMC?

- Established in 1993 to unite constituents nationwide for effective communication with Congress with one simple strategy – **united we stand!**
- Assess legislation's impact on mining, advocating as a unified voice for **our jobs, our economy, and the future of our nation.**
- We deploy an educated and compassionate voice when communicating with legislators and bureaucrats on the importance of the U.S. mineral exploration and mining industry.
- WMC brings the message to D.C. that U.S. jobs depend on mining and that today's regulations and modern technology ensure state-of-the-art environmental protection at our country's mines.

CONNECT WITH US TODAY!

www.wmc-usa.org

2024 WMC Washington D.C. Fly-In

The Women's Mining Coalition organizes grassroots outreach efforts in our home states as well as in Washington, D.C., including an annual trip to our Nation's Capitol to meet with members of Congress and their staff, in both the Senate and the House of Representatives.

During the annual Fly-In events, Women's Mining Coalition participants meet more than 125 delegates distributing important information about issues facing the mining industry.

What have we ACHIEVED?

- Successfully promoted helpful legislation and defeated harmful bills to the U.S. mineral exploration and mining industry.
- Amplified awareness and advocacy for our members' projects, ensuring their voices are heard and their initiatives supported.
- Influenced positive outcomes for the industry at national and state levels.

Contact Us For More Infomation
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Reception

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Orientation

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Thank you for your support!

Federal Legislative and Regulatory Hardrock Mining and Federal Lands Issues

WMC's Hardrock Mining Fundamentals:

- **Minerals are essential** to our economy, national defense, technology, manufacturing, infrastructure, and conventional and renewable energy.
- **The energy transition is creating skyrocketing demand for the minerals** needed to manufacture EVs and EV batteries, construct wind, solar, and other renewable energy infrastructure, and to double our transmission grid.
- **The U.S. has abundant mineral resources** that could help satisfy this demand by increasing domestic production from new and existing mines.
- Stringent laws and regulations make **U.S. mines the cleanest and safest mines in the world.**
- **Developing mineral resources requires secure access to mineral resources** on public lands, but some of the Administration's policies seek to limit access and restrict mining.
- **Increased domestic mining will strengthen U.S. supply chains and reduce the Nation's reliance** on minerals from China and other countries.
- **Fixing the broken permitting process is critical** to enable timely development of all aspects of the energy transition.

WMC is Focusing on these Bills:

- **Senate bills:**
  - **The Mining Regulatory Clarity Act (S. 1281) aka "The Rosemont Fix"**
    - Restores and clarifies rights under the U.S. Mining Law that the 9th Circuit Court of Appeals' ruling in the Rosemont litigation misinterpreted
    - Does not make any changes to the U.S. Mining Law
  - **The Mining Schools Act of 2023 (S. 912)**
    - Creates new funding for US mining schools to recruit students and pursue research
  - **The Good Samaritan Remediation of Abandoned Hardrock Mines Act (S. 2781)**
    - Creates a pilot liability relief program for Good Samaritans who want to cleanup an abandoned hardrock mine
- **House bills:**
  - **The Mining Regulatory Clarity Act (H.R. 2925)** – companion bill to S. 1281
  - **The Mining Schools Act of 2023 (H.R. 2685)** – companion bill to S. 912
  - **The Good Samaritan Remediation of Abandoned Hardrock Mines Act (H.R. 7779)** – companion bill to S. 2781

The Administration Cannot Use these Proposed Rules to Change Federal Laws – Only Congress Can Change Laws:

- **The Bureau of Land Management's (BLMs) Proposed Conservation and Landscape Health Rule**
  - Violates the multiple use mandate in the Federal Land Policy & Management Act (FLPMA)
- **The BLM's Greater Sage-grouse Draft Resource Management Plan**
  - Violates the multiple use mandate in FLPMA
- **The Security and Exchange Commission's (SEC's) Natural Asset Class Rule and BLM's Natural Capital Accounting**
  - Violate the multiple use mandate in FLPMA
- **The Council on Environmental Quality's (CEQ's) Proposed NEPA Rule**
  - Improperly changes NEPA to require specific environmental outcomes
- **The Internal Revenue Service's (IRS') Draft Guidance exclusion of mining costs from the Inflation Reduction Act's Advanced Manufacturing 10% Tax Credit**
  - Inconsistent with Congress' clear intent in the IRA to qualify mining costs for this tax credit
- **The Interagency Working Group's (IWG's) Report**
  - Improper backdoor attempt to limit mining by recommending changes to the U.S. Mining Law

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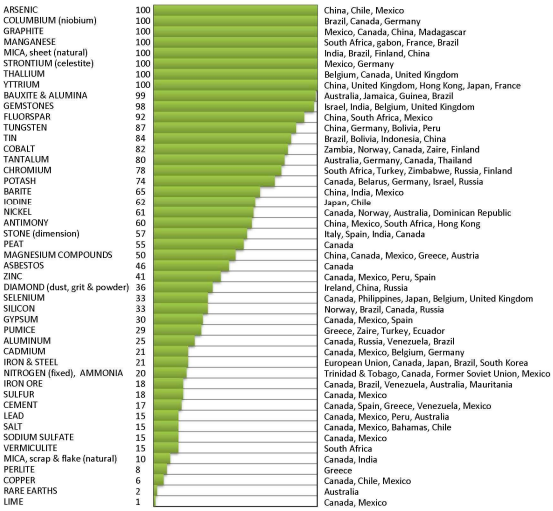
THE U.S. NEEDS A CRITICAL AND STRATEGIC MINERALS AGENCY TO IMPROVE MINERALS SECURITY AND REDUCE RELIANCE ON FOREIGN MINERALS

Congress stopped funding the U.S. Bureau of Mines (USBM) in 1995. The resulting demise of federal minerals and mining expertise has contributed to the Nation's steadily increasing and dangerous reliance on imported minerals from China and other adversaries

The Nation's Mineral Import Reliance Has Skyrocketed Since Congress Stopped Funding the U.S. Bureau of Mines

1995 U.S. NET IMPORT RELIANCE FOR SELECTED NONFUEL MINERAL MATERIALS



Additional commodities for which there is some import dependency include:

Bismuth	Mexico, Belgium, China, Peru	Platinum	South Africa, United Kingdom, Belgium, Germany
Gallium	France, Germany, Russia, United Kingdom, Hungary	Rhenium	Chile, Germany, United Kingdom, Russia, Kazakstan
Ilmenite	South Africa, Australia, Canada	Rutile	Australia, Sierra Leone, South Africa
Indium	Canada, France, Italy, Belgium, Russia	Silver	Mexico, Canada, Peru, Chile
Iron & steel slag	Canada, Japan	Thorium	Australia
Kyanite	South Africa, France	Titanium (sponge)	Russia, Japan, China
Mercury	Canada, Russia, Germany	Vanadium	Russia, South Africa, Canada, Mexico
		Zirconium	Australia, South Africa

Data from U.S. Geological Survey, 1996, Mineral commodity summaries 1995: https://minerals.usgs.gov/minerals/pubs/mcs/1996/nir.gif

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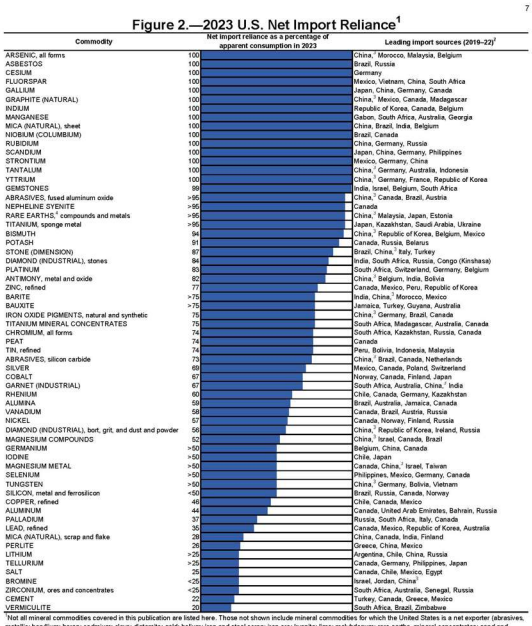
Figure 2.—2023 U.S. Net Import Reliance[1]



[1]Not all mineral commodities covered in this publication are listed here. Those not shown include mineral commodities for which the United States is a net exporter (abrasives, metallic; beryllium; boron; cadmium; clays; diatomite; gold; helium; iron and steel scrap; iron ore; kyanite; lime; molybdenum; rare earths, mineral concentrates; sand and gravel, industrial; soda ash; titanium dioxide pigment; wollastonite; zeolites; and zinc, ores and concentrates) or less than 20% net import reliant (feldspar; gypsum; iron and steel; iron and steel slag; nitrogen (fixed)—ammonia; phosphate rock; pumice; sand and gravel, construction; stone, crushed; sulfur; and talc and pyrophyllite). For some mineral commodities (hafnium; mercury; quartz, high-purity and industrial cultured crystal; thallium; and thorium), not enough information is available to calculate the exact percentage of import reliance.

[2]Listed in descending order of import share.

[3]Includes Hong Kong.

[4]Includes lanthanides cerium, dysprosium, erbium, europium, gadolinium, holmium, lanthanum, lutetium, neodymium, praseodymium, samarium, terbium, thulium, and ytterbium.

This Growing Dependency on Mineral Imports is Not Due to a Lack of Minerals – The US Has Many of the Minerals Essential to our Economy, National Security, and Achieving our Energy Goals

There is a serious gap in the federal government's mineral and mining expertise because important USBM mineral processing, metallurgy, and environmental remediation research was terminated

A new federal agency should focus on researching advanced mineral extraction and processing technologies and mine reclamation techniques to:

- Identify extractive metallurgical methods to enhance and improve metal recovery and minimize environmental impacts from mine waste management facilities;
- Characterize old mine sites where mineral reprocessing could recover critical minerals and clean up contamination from legacy, pre-regulation mines; and
- Develop waste minimization and recycling technologies to recover and recycle mineral processing byproducts from scrap, residues, and effluents.

Existing statutes include mandates for a federal minerals agency that need to be fulfilled:

- 30 U.S.C § 3: the USBM shall conduct scientific and technologic investigations concerning mining and mineral preparation, treatment, and utilization to…increase safety, efficiency, economic development, and conserve resources; and

- 30 U.S.C. § 21(3): "mining, mineral, and metallurgical research" are in the national interest

Recently appropriated funds that outsource metallurgical and environmental research to academia and the private sector could be enhanced by technical input, guidance, and coordination from a centralized federal critical and strategic minerals agency.

THIS INTERAGENCY WORKING GROUP (IWG) REPORT SAYS:

- The U.S. has lost its position as the global leader in mining, both in terms of total production and the development of cutting-edge mining technology….The infrastructure necessary to restart the domestic mining industry has atrophied with the increased offshoring of mining. ***A USBM is needed "to revitalize domestic mining."***

- **The USBM was the primary Federal agency** conducting scientific research and disseminating information on the extraction, processing, use, and conservation of mineral resources.

- **The USBM conducted scientific and technologic investigations concerning mining**, and the preparation, treatment, and utilization of mineral substances with a view to improving health conditions, increasing safety, efficiency, and economic development, and conserving resources through the prevention of waste in the mining, quarrying, metallurgical, and other mineral industries;

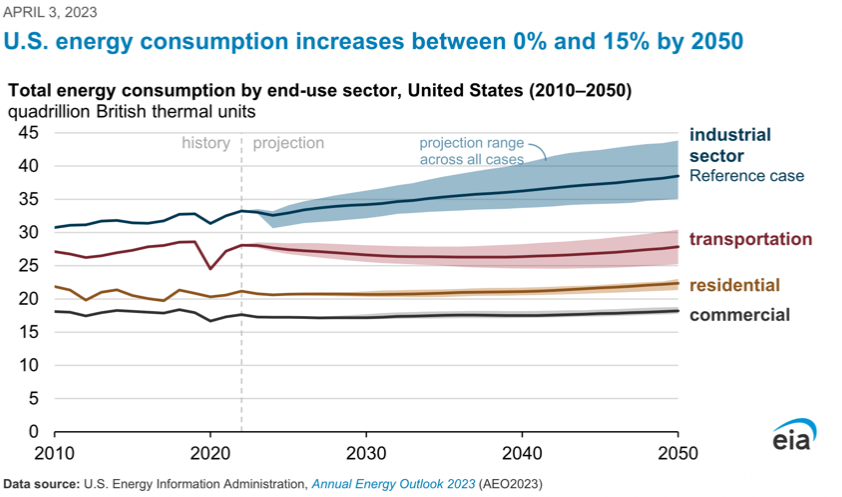
- **In order to…rebuild the U.S. mining sector**, the Federal government needs to promote a stream of consistent and widely available geologic data, technology, and support infrastructure, as well as dedicate funding for mining science, metallurgy, and mining education.

- **The USBM sought improvements for almost every aspect of the materials production cycle**…including minerals extraction, materials performance, waste management, resource conservation, worker health and safety, and mitigating environmental impacts.

For more information please contact: sme@smenet.org or wearewmc@wmc-usa.org

The U. S. Must Plan for Increasing Electricity Demand

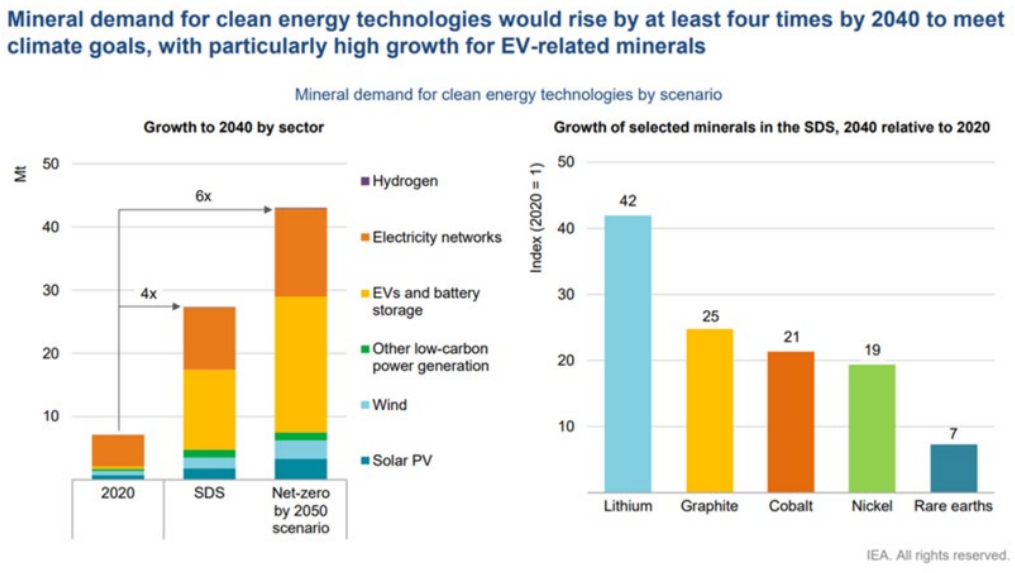
The U.S. has a diverse portfolio of natural resources which should allow us to be energy independent. Americans have long enjoyed reliable, affordable electricity from coal, nuclear, natural gas and hydro. The Women's Mining Coalition (WMC) also recognizes the value in the investment our country has made in solar and wind, giving us additional energy options as demand rises. As the U.S. increases industrial development, coupled with policy, and economic pressures to modernize our electrical grid, we are faced with an increasing electricity demand.



Domestic Mineral Supply Chains Must be Strengthened

Mineral supply chains are strained from increased demand to support "green" initiatives. Yet domestic mining policies are hindering any new production of critical minerals and resources. In the fall of 2023, China restricted exports of gallium, germanium, and graphite, most commonly used in semiconductors, communications, and defense applications.

The United States must reform the mine permitting process to allow domestic mining and processing of the critical minerals needed for all energy sources including critical batteries and solar panels. In the meantime, emerging technologies for extracting rare earth elements from coal and coal ash could ease some of the mineral supply chain shortfall.



EPA Actions Threaten Grid Reliability

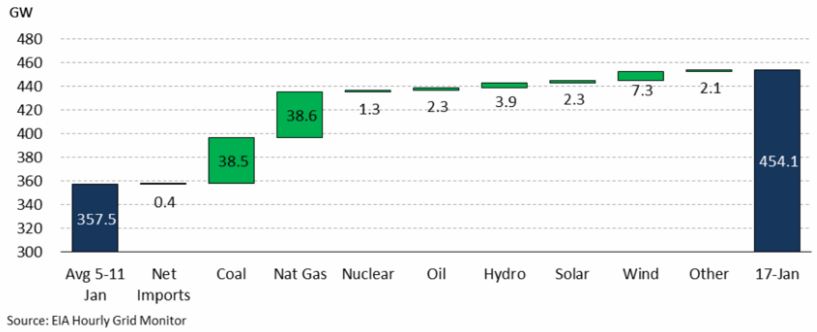
Grid reliability is the electric grid's ability to continue operating even in upset conditions. Having a dependable and reliable grid is critical for the wellbeing of our citizens and powering our domestic economy. ***"We are facing an absolute step change in the risk environment surrounding reliability and energy assurance. In recent years, we've witnessed a decline in reliability, and the future projection does not offer a clear path to securing reliable electricity supply that is essential for the health, safety, and prosperity of our communities."*** John Moura, Director of Reliability Assessment and Performance Analysis, North American Electric Reliability Corporation (NERC)

If the Environmental Protection Agency (EPA) were serious about addressing the grave risks to grid reliability posed by its anticipated "Climate Rule for Power Plants", it would prioritize flexibility for the coal fleet. Instead, the EPA remains committed to multiple air and water regulations that will only accelerate the closure of essential coal plants that we need to meet current and future demand.

GRID OPERATIONS DURING JANUARY 2024 STORM **FEBRUARY 2024**

fossil generation, predominantly facilitated by coal and gas, each contributing approximately 39 GW, as shown in **EXHIBIT 5.** Renewable sources accounted for the residual portion necessary to satisfy the increased demand.

EXHIBIT 5: REGIONAL TOTAL - AVG. OPERATIONS VS. DURING PEAK DEMAND DAY



Source: EIA Hourly Grid Monitor

Coal and gas plants save the day again during the January 2024 nationwide cold snap. This same pattern occurred during winter storm Elliott last year, where coal and gas plants ramped up to keep electricity to homes on Christmas Eve. Premature closure of coal plants puts families at risk. Coal plants are available 24/7/365 and typically can store 30-60 days of fuel on site to guard against fuel supply disruptions.

Balanced Energy Portfolio Needed to Ensure Reliable, Affordable Electricity

The United States must ensure energy security and grid reliability for its citizens. Baseload power is critical and refers to the minimum amount of electric power needed to be supplied to the electrical grid at any given time. Baseload power sources such as coal, nuclear, and natural gas ensure plants can generate dependable power to consistently meet demand 24/7/365. An intermittent energy source such as wind or solar is any source of energy that is not continuously available for conversion into electricity. Intermittent energy sources pose significant challenges for grid operators working to maintain grid stability. Fluctuations in supply strain the electrical grid, leading to potential blackouts, brownouts, and shortages. Solar and wind sources can and do contribute to the grid but are inconsistent sources of electrical generation.

Another critical consideration related to the nature of intermittent sources is that it can lead to market distortions and volatility in electricity prices. During periods of high intermittent energy output, electricity prices may plummet, impacting the profitability of traditional baseload generators and potentially undermining their financial viability. Periods of low intermittent energy output – i.e., summer heat often comes with less wind, and winter cold is usually accompanied by cloudy conditions that reduce both solar output and wind generation – the result is skyrocketing prices for the often-reduced amount of electricity available. These high prices mean homes and businesses often use less electricity in such times or face higher costs. The result is everyday products are more expensive as the grid becomes less reliable and creates human health issues in times of extreme heat and cold.

About WMC

WMC is a grassroots organization with over 200 members nationwide. Our members work in all sectors of the mining industry including hardrock and industrial minerals, coal, energy generation, manufacturing, transportation, and service industries. We hold annual Washington, D.C. Fly-Ins to meet with members of Congress and their staff, and federal land management and regulatory agencies to discuss issues of importance to both the hardrock and coal mining sectors. For more information about WMC, visit our website at www.wmc-usa.org.

P.O. Box 10101 • Reno, Nevada 89510-0101

WMC WOMEN'S MINING COALITION

Reliable, Sustainable Energy Starts with Mining in the U.S.

Sourcing minerals from environmentally sound, scientifically managed domestic mining operations is the best way to responsibly achieve our future energy goals. Timely and reliable access to the critical minerals needed for EVs and renewable energy are critical to the energy transition.

- **Mining requires long-term access to public lands for mineral exploration and development and mine operation and reclamation.** Large-scale mineral withdrawals and restrictive designations like Areas of Critical Environmental Concern as proposed in BLM's Conservation and Landscape Health Rule, will inhibit exploration and development of essential minerals.

- **Mining companies must have security of land tenure throughout the mining life cycle, from prospecting to closure, to justify investing the hundreds of millions to billions of dollars required to find, develop, and mine economic mineral deposits. The Mining Regulatory Clarity Act (S. 1281 and H.R. 2925)** would reverse the recent 9th Circuit's *Rosemont* decision, which threatens security of tenure, and would restore rights under the U.S. Mining Law. These bills establish that paying claim fees secures the right to use mining claims with or without a discovery of a valuable mineral deposit for mineral exploration, development, mining, and mine support facilities.

- **The amendments to the National Environmental Policy Act (NEPA) enacted in the 2023 Fiscal Responsibility Act (FRA) would streamline permitting for all of the kinds of projects** for our energy future including renewable energy and mining projects, and all types of infrastructure including roads, pipelines, and electrical transmission lines. These permitting reforms can be achieved while maintaining very high levels of environmental protection and worker safety. Unfortunately, the **Council on Environmental Quality's proposed NEPA rule will take us in the wrong direction and will increase permitting timelines that will delay the energy transition.**

- **The permitting process to explore for minerals and develop a mine can take over 15 years in the U.S. and often involves litigation.** The FRA's NEPA amendments are a good start, **but Congress needs to enact additional permit streamlining measures and litigation reforms** to facilitate domestic mining of lithium, rare earth elements, copper, nickel, cobalt, platinum group elements, and other minerals and to build the infrastructure needed for our energy future.

- **President Biden has used his authority under Title III of the Defense Production Act and the Bipartisan Infrastructure Law to provide Department of Defense and Department of Energy grants and loans to qualifying critical minerals projects.** Unfortunately, despite these grants and loans, the protracted permitting process seriously impedes the Nation's ability to strengthen domestic mineral supply chains and reduce our dependency on adversaries like China for the minerals needed for our energy future, national security, technology and manufacturing sectors, infrastructure, and economic well-being.

- Similarly, without improving the permitting process, **the EV and advanced manufacturing tax credits for critical minerals in the Inflation Reduction Act, which are designed to stimulate domestic mining and processing of battery metals, are illusory.**

- **S. 912 and H.R. 2685, the Mining Schools Act of 2023, will help fund U.S. mining schools to educate the next generation of mining professionals.**
  The shortage of mining professionals contributes to our reliance on foreign minerals. Only about **600 students** are currently enrolled in U.S. mining schools. Reportedly, China has over **one million students** studying mining engineering in Chinese mining schools.

For more information on these subjects and other mining-related topics, please contact WMC via email at **wearewmc@wmc-usa.org** or visit our website at **www.wmc-usa.org**

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The U.S. Urgently Needs More Mining Students and Educational Programs to Compete with Chinese Mining Schools

The Mining Schools Act of 2023 (S. 912 and H.R. 2685) will Strengthen Domestic Mining Education

There is an enormous disparity between the number of U.S. mining engineering schools and students compared to China.

U.S. has only 14 mining schools accredited by the Accreditation Board for Engineering and Technology, Inc. The estimated enrollment at these schools has rapidly declined from almost 1,500 in 2015 to just under 600 students today. Roughly 200 students are anticipated to graduate with Bachelor of Science degrees in mining engineering from U.S. schools this year.

China is reported to have over 1 million more mining students than the U.S.

600 enrollments per year in USA

VS

1.4M enrollments per year in China

In comparison, **China has at least 44 mining engineering schools that have reported aggregate enrollment of over 1.4 million students.**

Source: https://edurank.org/engineering/mining/cn/

In addition to mining engineering, many Chinese schools offer degrees in extractive metallurgy, mineral processing engineering, and other related fields that are critically important to the mineral supply chain. Some U.S. mining schools no longer offer degrees in these fields resulting in a critical shortage of students trained in extractive metallurgy and mineral processing.

China's domination over the world's mineral supply chains extends beyond mining and processing of minerals – it starts with educating the mining professionals workforce

Accredited U.S. Mining Engineering Schools

University of Alaska (Fairbanks)

University of Arizona

Colorado School of Mines

University of Kentucky

Michigan Tech

Missouri University of Science & Technology

Montana Technological University

University of Nevada (Reno)

New Mexico Institute of Mining & Technology

Penn State (Pennsylvania)

South Dakota School of Mines & Technology

University of Utah

Virginia Polytechnic Institute & State University

West Virginia University

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The Barrasso – Manchin Mining Schools Act of 2023 (S. 912 and H.R. 2685) will Help Train the U.S. Mining Professionals Workforce

Establishes a Department of Energy grant program for mining schools to receive funds to recruit students and to pay for studies, research projects, and demonstration projects related to minerals production;

Authorizes the appropriation of $10,000,000 for fiscal year 2024 through 2031 for this grant program; and

Creates the Mining Professional Development Advisory Board to evaluate applications, recommend recipients to the Secretary of Energy, and to conduct oversight to ensure that grant funds are appropriately used.

S. 912 and H.R. 2685 will

- **increase the number of well-trained mining professionals** specializing in exploration, mine planning and execution, mine site reclamation and remediation, and metallurgy/mineral extraction (which includes the following disciplines: comminution, mineral separation, refining, alloying, smelting, concentration and purification).
- **develop professionals with expertise in rare earths and other critical minerals exploration, extraction**, and refining, and who specialize in recovering critical minerals from previously mined materials including rare earths from coal and coal residue.

Strengthening domestic mineral supply chains and reducing the Nation's reliance on foreign minerals requires a much larger, well-educated mining professionals workforce

The DOE grant program will educate the future mining professionals workforce to address the current shortage of U.S. students enrolled in domestic mining education programs

Read a copy of S. 912 at:

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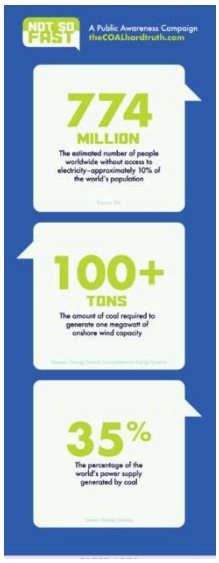
Thermal Coal is Essential for Life



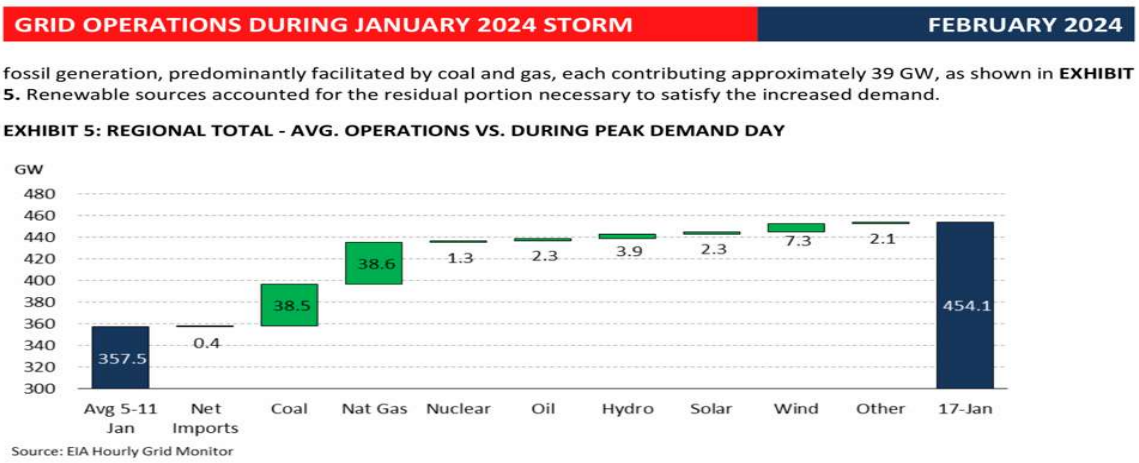
Energy poverty or energy insecurity is the "inability to adequately meet basic household energy needs," and has profound implications for health and health equity. In this instance, "energy" refers to the electricity, gas, or other power sources used for lighting, cooling, heating, and the use of household appliances and electronic devices. Globally 759 million people lack access to consistent electricity and 2.6 billion people use dangerous and inefficient cooking systems. The U.S. Energy Information Administration conducted a survey in 2020 indicating an estimated in 33 million in the United States are energy insecure.

Coal is abundant worldwide, making it economical for both developed and developing countries to utilize this fuel source to make electricity. The global energy crisis of 2021-23 underscored the resilience of coal as a power generation source, mitigating severe consequences that could have escalated without coal as a backup.

Coal contributes globally to energy security, affordability, and reliability (the energy trilemma) benefiting energy economies, providing essential backup to renewables and supporting high-value manufacturing jobs, research and development, and job security within the coal supply chain, particularly in mining operations.

Coal Stands Ready in Times of Extreme Weather

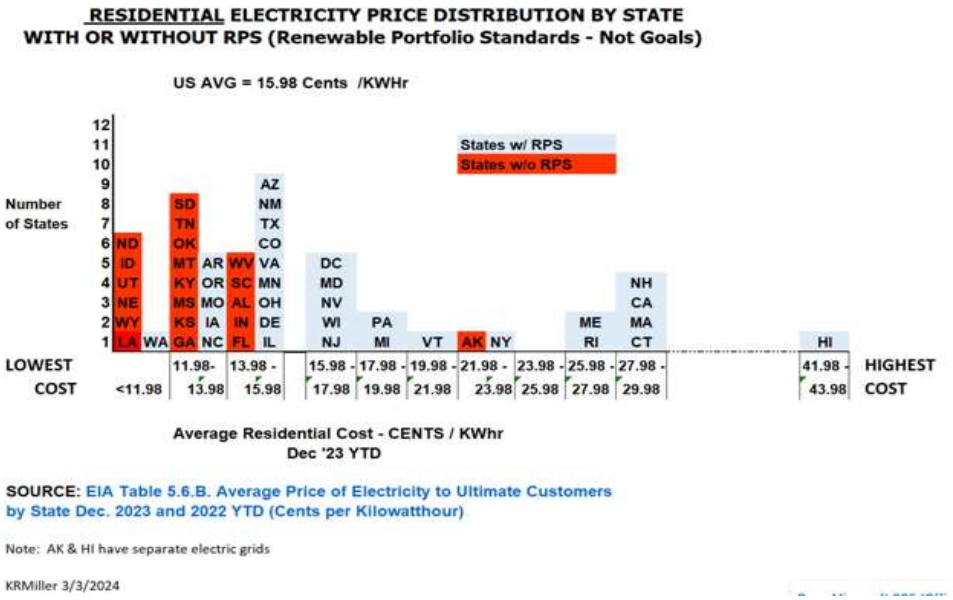
This graph was created by Energy Ventures Analysis for an America's Power report entitled "Operation of the US Power Grid During the January 2024 Storm", February 2024.



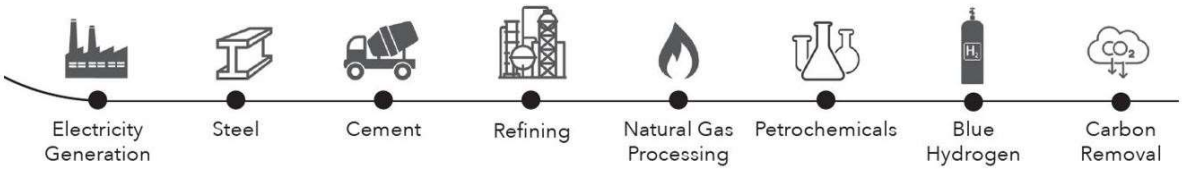
Coal plants increased their output by approximately 40 GW during the January Winter Storm when electric demand peaked on January 17, 2024. Yet 98 GW of current coal generation is scheduled for retirement by 2035. ***"Evidence is mounting that the premature closure of dispatchable generation will elevate the risk of electricity outages particularly in tight load hours including hours of extreme cold and extreme heat, as well as those hours when wind generation is low. These events are likely to pose a threat to life and property. This is of grave concern to this commission."*** South Dakota Public Utilities Commission to Xcel Energy concerning premature closure of coal plants.

Coal is Affordable Domestic Energy

The price of coal is expected to remain low and relatively unchanged next year. But coal plant closures expose consumers to higher and volatile natural gas prices. Last year 42 states relied on coal for electricity. Coal plants have months of fuel stored on site. They are not impacted by fuel supply disruptions during extreme weather like gas, wind, or solar generation can be.

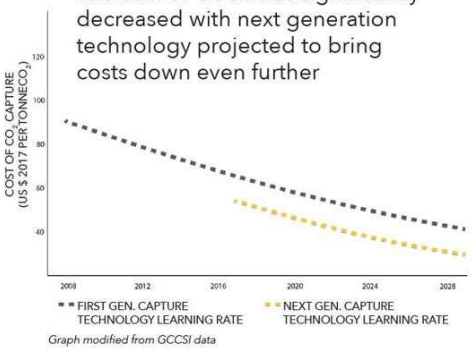


Carbon Capture Utilization and Storage (CCUS)



CCUS Investment

- The cost of CCUS has significantly decreased with next generation technology projected to bring costs down even further



CCUS Impacts

- Potential for gigaton carbon mitigation
- Job creation and retention
  *A potential project in Wyoming could create up to 480 new net jobs during construction, with 150 new net jobs during ongoing operations**
- Transition ready workforce

UW School of Energy Resources

CCUS Opportunities

- Continued and increased research and development funding
- Pore space ownership on federal lands
- Liability
- Extension of 45Q tax credit
- Closing the cost gap (45Q direct pay, etc.)

For more information on this subject and other mining-related topics,
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