NMA
National
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Association

2025 Mining Facts

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Modern life is a materials and energy intensive life. As new technologies are developed and adopted across the country and around the world, there is an ever growing demand for energy, metals and minerals to feed supply chains and power our electrified world.

We're using artificial intelligence more frequently in our jobs and homes every day. Data centers are being built at a rapid pace, with some demanding the energy equivalent to an entire city. Increasing numbers of Americans are plugging in instead of gassing up. These are the realities of today.

At the same time, challenges remain. Our supply chains continue to be exposed through our over-reliance on imports and to market manipulation that geopolitical rivals are using to hamper domestic mining investment. Litigation tactics employed by anti-mining groups continue to stall promising, responsible projects. Unlawful over-regulation, unnecessary land withdrawals and cumbersome permitting processes are self-imposed barriers to progress. And attracting and retaining the workforce of tomorrow is difficult for nearly every industry.

There is reason for optimism. From the halls of the Capitol to mainstream America, there is a new understanding of the importance of mining to our economic and national security. Our elected officials and every day Americans are proud that we do things better here, ensuring that materials are mined in accordance with the world's highest environmental, labor and safety standards.

Made in America should also be Mined in America, and the U.S. mining industry stands ready to meet the demand.

America's Mining

AT A GLANCE

488,000 Number of direct mining industry jobs.

$95,000 Average annual salary for a miner, well above the U.S. average wage of $72,000.

834,000 Indirect jobs generated by the mining industry.

$133B Annual U.S. revenues generated through mining.

Every American uses an average of

40,000 lbs

newly mined materials every year, including two tons of coal.

*Employment numbers based on MSHA Q4 2024 preliminary employment data, applied to IMPLAN 2018 data economic multipliers.

390,000
Direct minerals mining jobs

98,000
Direct coal mining jobs

615,000
Indirect minerals mining jobs

219,000
Indirect coal mining jobs

$18,000,000,000
Total federal, state and local taxes attributable to mining jobs

*Employment numbers based on MSHA Q4 2024 preliminary employment data, applied to IMPLAN 2018 data economic multipliers.

Resources for Our Economy

Mining is the foundation of our economy, providing the materials, manufacturing inputs and power for nearly every industry and product, keeping the lights on and bills low for families and businesses across the U.S.

The mining industry is supported by hundreds of thousands of hardworking Americans. They are deeply proud of the contributions they make to our country each day, fueling America and supplying the materials that make our high quality of life possible and America a global leader in innovation.

46

Number of nonfuel mineral commodities for which imports made up more than one-half of U.S. consumption.

4

Number of minerals key to the production of batteries or semiconductors on which China imposed export restrictions in 2023.

$1.16B

Amount of platinum, which is used in 20 percent of all manufactured goods, the U.S. imported from Russia in 2023.

#1

China and Canada are tied as the #1 suppliers of nonfuel mineral commodities for which the United States was more than 50 percent import reliant in 2024.

80%

Percentage of commodities defined by USGS as Critical Minerals, for which the U.S. is more than 50 percent import dependent.

Resources for Supply Chain Security

Mined materials are the foundation of our economy, providing essential resources for our manufacturing, defense, energy, technology and medical supply chains. Despite this importance, the U.S. has let domestic production atrophy while our adversaries have improved their global competitive position.

In 2024, China restricted imports to the U.S. of gallium, germanium and antimony, and imposed tighter restrictions on graphite exports to the U.S., highlighting in stark terms how exposed our supply chains are to outside manipulation.

Resources for a Better Future

Technologies made possible through, and employed by, mining stimulate innovation, providing the necessary resources for a better life and a better future.

45
Number of commercial facilities applying carbon capture, utilization and storage (CCUS) to industrial processes, fuel transformation and power generation.

2x
Growth in demand for nickel, cobalt and rare earth elements by 2040.

4.7 tons
Amount of copper needed for a single wind turbine.

150%
Increase in global nickel demand by 2035 for transportation technologies.

35%
CO_2 emissions reductions achieved through high efficiency, low emissions coal plants.

8x
Growth in lithium demand by 2040.

6x
A typical electric car requires six times the mineral inputs of a conventional car, including 450+ pounds of minerals, including lithium, nickel, copper, manganese, cobalt, graphite and rare earths.

11%
Amount of all gold produced that is used in industry, from medical and electronics, to automotive, defense and aerospace.

35
Average number of minerals contained in modern electronic devices.

What Resources Play a Key Role in Your State?

coal, copper, gold, iron ore, molybdenum, zinc, uranium, lead, rare earths, platinum-group metals, salt, gypsum, silver, nickel, phosphate, boron, limestone, kyanite, beryllium, cobalt, bentonite, bromine, cement, common clays, diatomite, feldspar, gemstones, greensand marl, helium, magnesium metal, palladium, peat, potash, sand and gravel, soda ash, stone, tripoli, wollastonite, zirconium, lithium, titanium, manganese, vanadium

Alabama
Coal, cement, stone, lime, sand and gravel, kyanite, common clays

Alaska
Coal, zinc, gold, lead, silver, sand and gravel

Arizona
Copper, molybdenum, sand and gravel, cement, stone, silver, manganese

Arkansas
Bromine, stone, cement, gypsum, sand and gravel, lime

California
Sand and gravel, stone, cement, boron, gold, rare earths, lithium

Colorado
Coal, molybdenum, sand and gravel, cement, gold, stone

Connecticut
Stone, sand and gravel, common clays, gemstones, vanadium

Delaware
Stone, sand and gravel, magnesium, gemstones

Florida
Phosphate rock, stone, cement, sand and gravel, zirconium

Georgia
Clays, stone, cement, sand and gravel, barite, gemstones, titanium, zirconium

Hawaii
Stone, sand and gravel, gemstones

Idaho
Phosphate rock, sand and gravel, silver, lead, stone, antimony

Illinois
Coal, sand and gravel, stone, cement, tripoli

Indiana
Coal, stone, cement, lime, sand and gravel

Iowa
Stone, cement, gypsum, sand and gravel, lime

Kansas
Helium, cement, salt, stone, sand and gravel, gypsum

Kentucky
Coal, stone, lime, cement, sand and gravel, common clays

Louisiana
Coal, salt, sand and gravel, stone, lime

Maine
Sand and gravel, cement, stone

Maryland
Coal, cement, stone, sand and gravel

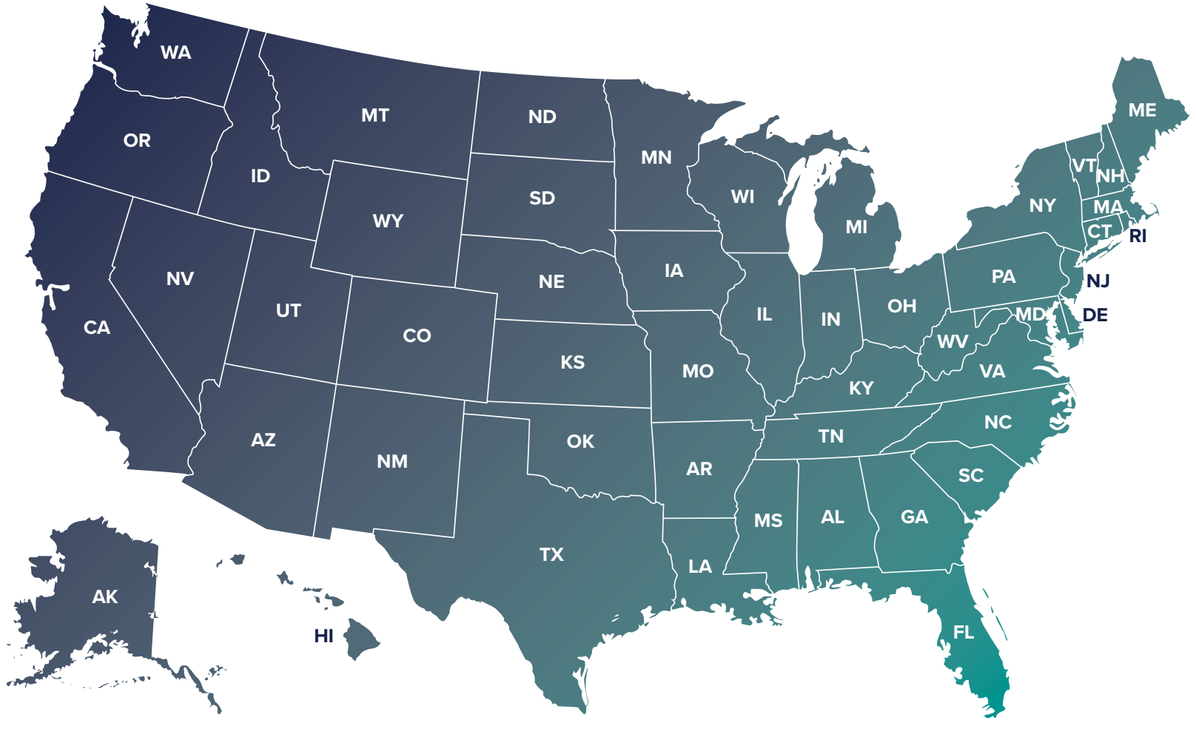
Massachusetts
Stone, sand and gravel, lime, common clays

Michigan
Iron ore, cobalt, cement, nickel concentrates, stone, sand and gravel, salt

Minnesota
Iron ore, sand and gravel, stone, lime

Mississippi
Coal, sand and gravel, stone, clays (fuller's earth, ball, bentonite)

Missouri
Coal, cement, stone, lead, lime, sand and gravel



Montana
Coal, palladium, molybdenum, copper, platinum, gemstones

Nebraska
Cement, sand and gravel, stone, lime

Nevada
Copper, gold, silver, lime, diatomite, sand and gravel, stone, gypsum, lithium

New Hampshire
Sand and gravel, stone, gemstones

New Jersey
Stone, sand and gravel, greensand marl, peat

New Mexico
Coal, copper, potash, sand and gravel, cement, salt

New York
Salt, stone, sand and gravel, cement, wollastonite, zinc

North Carolina
Stone, phosphate rock, sand and gravel, feldspar, lithium

North Dakota
Coal, sand and gravel, stone, lime, common clays

Ohio
Coal, stone, salt, sand and gravel, lime, cement

Oklahoma
Stone, cement, sand and gravel, helium, gypsum

Oregon
Cement, stone, lime, sand and gravel, common clays

Pennsylvania
Coal, stone, cement, lime, sand and gravel

Rhode Island
Sand and gravel, stone, gemstones

South Carolina
Cement, stone, sand and gravel, gold

South Dakota
Gold, cement, sand and gravel, stone, lime

Tennessee
Coal, stone, zinc, cement, sand and gravel, clays

Texas
Coal, stone, gypsum, sand and gravel, cement, salt, lime

Utah
Coal, potash, molybdenum, copper, salt, magnesium metal, lithium, beryllium

Vermont
Stone, sand and gravel, talc, gemstones

Virginia
Coal, stone, cement, sand and gravel, lime, kyanite

Washington
Sand and gravel, stone, gold, cement, zinc, diatomite

West Virginia
Coal, stone, cement, lime, sand and gravel

Wisconsin
Sand and gravel, stone, lime

Wyoming
Coal, soda ash, bentonite clays, helium, uranium, sand and gravel, cement

15%
Portion of U.S. electricity that comes from coal.

18%
Portion of electricity generated from nuclear energy powered by uranium.

29
Number of minerals it takes to deliver electricity to our homes and businesses.

85%
Portion of U.S. fossil energy reserves (coal, natural gas and oil) that comes from coal on a BTU basis.

170,000kg
Amount of steelmaking coal used in the average wind turbine.

20%
Portion of total world coal reserves held by the U.S.—the most of any country.

300+
Number of new mines needed by 2035 if material supply is to keep up with battery demand.

8.77B
8.5 billion tonnes of coal utilized globally in 2024, an all time high.

Resources That Power Our Lives

Electricity should be accessible and affordable to all.

Resource diversification — powered by a mix of domestic coal, natural gas, nuclear power, oil and renewable sources — ensures that U.S. households and businesses can minimize market disruptions and reduce reliance on foreign energy sources.

New technologies, such as advanced coal power generation and carbon capture and storage, will give Americans energy choices that are aligned with environmental and climate objectives without having to sacrifice reliability or affordability.

Resources for America's Infrastructure

America's miners play an indispensable role in powering and building our nation.

From foundations to roofs, power plants to power lines, roads and bridges to communications grids and data storage centers — America's infrastructure projects begin with mining.

Roads, railways, appliances, buildings, stadiums, bridges, airports and other structures are supported by steel — a material dependent on mining. Even structures using concrete employ steel for reinforcement. And copper's flexibility, conformity, thermal and electric conductivity, and resistance to corrosion make it an ideal industrial metal.

70%
Portion of the world's steel that requires coal for its production.

42%
Portion of U.S. copper demand that goes to the construction industry.

6M
Tons of steel used in the U.S. National Highway System.

439 lbs
Amount of copper used in the average American home.

57,000 tons
Steel contained in the Empire State Building, which also includes 730 tons of aluminum and stainless steel.

60%
Portion of global zinc consumption used to coat steel, making it highly resistant to corrosion.

85%
Portion of U.S. nickel consumed to make heat and corrosive resistant alloys.

Caring for Our People

Ensuring the safety and health of our colleagues is a core value of the mining industry.

The goal? Zero fatalities and injuries. To achieve our shared goal, we go beyond what is required by regulations. To accelerate the pace of mine safety improvement, the U.S. mining industry has taken voluntary steps to implement best practices that encourage a culture of safety.

By identifying and eliminating potential hazards and deploying state-of-the-art technology, the NMA, its members and respected industry safety and health professionals have developed CORESafety®, an award-winning safety framework that is bringing more miners home safely after every shift, giving mining a lower nonfatal injury and illness record than manufacturing, construction or private industry.

53%
Portion by which injuries in U.S. mines have been reduced over the last 15 years.

25%
Portion by which fatalities in U.S. mines have been reduced over the last 15 years.

$100B+
Amount coal plant owners have invested in advanced emissions control technologies over the last 20 years.

3.3M
Acres of mined land that have been restored by U.S. mining companies.

$11B+
Amount the U.S. mining industry has paid to reclaim mines that were abandoned prior to laws requiring reclamation.

Caring for the Environment

Natural resources are at the heart of mining — environmental stewardship is imperative.

Today's mining projects begin with extensive environmental and engineering studies, public involvement in major decision-making and compliance with scores of state and federal laws and regulations governing every facet of the environment, from wildlife habitat protection to complying with strict water quality standards. They end with land reclamation that transforms sites for recreation, wildlife enhancement and other local community needs.

Building on the extraordinary environmental progress made in recent decades, the industry is committed to advancing technologies that make the use of our resources cleaner and more efficient. Today's technologies are making combustion of coal more efficient while reducing emissions. And ongoing advancements in high efficiency, low emission (HELE) coal technologies and carbon capture and storage (CCS) hold promise for the future.

Speaking of Mining: Key Industry Terms

Alloy: A substance with metallic qualities that is composed of two or more chemical elements, of which at least one is an elemental metal.

Anthracite: See "ranks of coal."

Auger mining: Form of underground mining that uses an auger (rotary drill) to penetrate, break and transport drilled material onto a waiting conveyor belt. Usually employed to recover remaining material in deep overburden areas that cannot be reached economically by further contour or area mining.

Base metals: Any of the non-precious metals. Copper, lead and zinc are usually considered the primary base metals, but tin, aluminum and magnesium are also among those important to modern society.

Bioleaching: Addition of naturally occurring bacteria to extract or remove a soluble substance from ore.

Bituminous coal: See "ranks of coal."

Bond: A prerequisite for obtaining a mining permit, companies must post a reclamation bond to ensure sufficient funds to restore a site in the event a company fails to complete the reclamation plan approved in the permit.

Btu: British thermal unit. This is a measure of the energy required to raise the temperature of one pound of water one degree Fahrenheit. On average, coal contains about 20 million Btu per ton.

Bullion: Mixture of gold and silver in cast bars. Also called doré.

Captive mine: A mine whose resource is used largely or totally by its owners or a subsidiary operation.

Clean coal technologies: A number of innovative technologies designed to reduce emissions and use coal in a more efficient manner. These include processes applied before, during and after combustion, and involve those which change coal into a gas or liquid.

Coal seam: A bed or stratum of coal. Usually applies to a large deposit.

Coke: A hard, dry carbon substance produced by heating coal to a very high temperature in the absence of air. Coke is used in the manufacture of iron and steel.

Concentrate: The result of separating ore or metal from its containing rock or earth.

Continuous miner/mining: A mining machine and technique that removes coal from the face and loads it onto cars or conveyors without the use of cutting machines, drills or explosives and without interrupting the loading process. Can be highly automated and operated by remote control.

Conventional mining: A deep mining method that includes inserting explosives in a seam, blasting the seam and removing the material onto a conveyor or shuttle car. Accounts for about 9 percent of total underground coal production.

Demonstrated reserves: Deposits that are potentially minable on an economic basis with existing technology.

Dragline: A large excavation machine used in the surface mining process to remove overburden (see "overburden"). The dragline has a large bucket suspended from the end of a huge boom (275 feet long or larger) that is capable of scooping up vast amounts of overburden as it is dragged across the excavation area. The dragline, which can "walk" on huge pontoon-like "feet," is one of the largest land-based machines in the world.

Drift mine: A mine entered directly through a horizontal opening drilled into the side of a hill or mountain. This mining method is used in hilly or mountainous areas.

Electrostatic precipitator: An electrical device used in removing particles (see "fly ash") from combustion gases prior to release from a power plant's stack.

Excavator: A large number of power operated digging and loading machines, used increasingly in open-pit mining and quarrying.

Face: The surface where mining work is occurring.

Flotation: Separating ore from waste materials by floating away the materials of lower specific gravity, while the heavier materials sink.

Fluidized-bed combustion: Process to remove sulfur from coal combustion and limit the formation of nitrogen oxides (see "clean coal technologies"). The process involves suspending crushed coal and limestone in the bottom of a boiler by an upward stream of hot air. While the coal is burned in this liquid-like mixture, sulfur from combustion gases combines with the limestone to form a solid compound recovered with the ash.

Fly ash: Particles of ash entrained in gases resulting from the combustion of fuel. At coal-fired power plants, fly ash is captured by special equipment, usually either electrostatic precipitators or baghouses. Fly ash and other forms of coal ash are useful by-products — about 25 million tons are used each year in major concrete projects, such as highway construction.

Fossil fuel: Fuel such as coal, crude oil or natural gas, formed from the fossil remains of organic material.

Gasification: Any of various processes by which coal is turned into low, medium or high-Btu gas.

General Mining Law: The primary statute that governs the right to mine locatable minerals on unappropriated public domain lands. Though enacted in 1872, it has been amended many times.

Hardrock minerals: Locatable minerals that are neither leasable minerals (coal, oil, phosphate, etc.) nor saleable mineral materials (sand and gravel, etc.). Hardrock minerals include copper, lead, zinc, magnesium, nickel, tungsten, gold, silver, bentonite, barite, feldspar, fluorspar and uranium.

Highwall: Unexcavated face of exposed overburden and coal in a surface mine or in a face or bank on the uphill side of a contour mine excavation.

In situ gasification: The gasification of underground coal deposits through partial combustion.

Leaching: The action of percolating liquid in order to remove the soluble parts. For example, cyanide leaching of gold is a process where a weak cyanide solution is percolated through low-grade ore heaped on an impermeable liner. Gold is then extracted from the liquid in a closed-loop system.

Lignite: See “ranks of coal.”

Liquefaction: The process of converting coal into a synthetic liquid fuel, similar in nature to crude oil and/or refined products, such as gasoline.

Locatable minerals: Those minerals — primarily metallic — that can be claimed and mined on public lands under the General Mining Law of 1872; these do not include coal, oil, phosphate sodium, sulfur, or sand and gravel.

Longwall miner/mining: A deep mining machine and technique that uses a steel plow or rotating drum, which is pulled mechanically back-and-forth across a long face of coal to loosen it and collect the product on a conveyor for removal from the mine.

Metallic minerals: Minerals with a high specific gravity and metallic luster, such as titanium, rutile, tungsten, uranium, tin, lead and iron. In general, metallic minerals are good conductors of heat and electricity.

Metallurgical coal: Various grades of coal suitable for carbonization to make coke for steel manufacturing.

Minerals:
Scientific: naturally formed inorganic solids (elements or chemical compounds) with a limited range in chemical composition and with orderly internal atomic arrangements that determine crystalline structure and physical properties.

Legal: organic or inorganic substances occurring naturally, with characteristics and economic uses that bring them within the purview of mineral laws; substances that may be obtained under the applicable laws from public lands by purchase, lease or claim.

Mining claim: That portion of the public mineral lands that a person may claim for mining purposes in accordance with the General Mining Law of 1872, as amended. There are four types of mining claims: lode, placer, millsites and tunnel sites. Only tunnel sites may not be patented under current law.

Mountaintop mining: A method of surface mining practiced in the Appalachian coal fields of the eastern United States. Mountaintop mining allows the mine operator to completely remove layers of dirt and rock covering a coal seam, making the entire deposit economical for extraction. Valley fill — the depositing of rock and dirt from the surface mine into adjacent valleys — is a practice that is not unique to the mining industry; hundreds of valley fills were constructed throughout the country during the building of the Interstate Highway System.

Non-metallic minerals: Minerals (carbon, diamond, coals, bitumen, asphalt, boron, sulfur, rock salt, etc.) that lack the properties of the metallic minerals.

Non-renewable resources: Resources that are not replaced or regenerated naturally within a reasonable period of time, such as fossil fuels or minerals.

Open pit: A mine or excavation open to the surface. Refers primarily to mines of metal ores; distinguished from coal surface mines.

Ore: Rock that contains important minerals, including metals.

Outcrop: Coal that appears at or near the surface.

Overburden: Layers of earth and rock covering a coal seam or mineral deposit.

Patent: A government deed; a document that conveys legal title to public lands to the patentee.

Placer deposit: An alluvial marine or glacial deposit resulting from the crumbling and erosion of solid rocks, and often containing valuable minerals.

Portal: Entrance to a mine.

Preparation plant: A facility, usually located on a mine site, which crushes, sizes and washes material prior to shipment.

Ranks of coal: The classification of coal by degree of hardness, moisture and heat content. The major ranks, from lowest to highest quality, are lignite, subbituminous, bituminous and anthracite.

Reclamation: The restoration of land and environmental values to a mining site after mining occurs.

Recoverable reserves: Portion of reserves that can be economically and physically mined using current techniques after allowing for normal mining losses.

Reserves: Known identified resources from which a usable commodity can be technologically, economically and legally extracted using current mining techniques.

Rock dusting: The process of coating tunnels in deep mines with powdered limestone to dilute potentially unhealthy or dangerous concentrations of dust and minimize fire hazards.

Roof bolting: A method of supporting the ceilings of underground mines by inserting long steel bolts into holes bored into the strata forming the roof.

Scrubber: Any of several forms of chemical/physical devices that remove sulfur compounds formed during coal combustion. Technically known as flue gas desulfurization systems, they combine the sulfur in gaseous emissions with another chemical medium to form an inert sludge.

Slope mine: A mine with an opening that slopes upward or downward to the seam. It must also have adjoining vertical shafts for air ventilation and emergency use.

Smelter: A furnace in which raw materials are melted, and metals are separated from impurities.

Stope: An excavation from which ore has been removed in a series of steps.

Strategic minerals: Those minerals considered essential for a country’s economic and defense needs, such as metals for defense weapons, satellite communications, automobile parts and medical instruments.

Subbituminous coal: See “ranks of coal.”

Surface mine: A mine in which the coal lies near the surface and can be extracted by removing the covering layer of overburden.

Tailings: The waste material left over after hardrock mining and milling processes have been completed.

Tipple: A surface processing structure for cleaning and sizing coal and automatically loading it onto rail cars or trucks for movement to market.

Underground mine: Also known as a deep mine. Usually located several hundred feet below the earth’s surface, materials are removed mechanically and transferred by shuttle car or conveyor to the surface.

Unit train: A long train of between 60 and 150 or more hopper cars, carrying only coal between a single mine and destination. A typical unit train can carry at least 10,000 tons of coal in a single shipment.

America's mining industry supplies the essential materials necessary for nearly every sector of our economy — from technology and healthcare to energy, transportation, infrastructure and national security.

The National Mining Association (NMA) is the only national trade organization that serves as the voice of the U.S. mining industry and the hundreds of thousands of American workers it employs before Congress, the federal agencies, the judiciary and the media, advocating for public policies that will help America fully and responsibly utilize its vast natural resources. We work to ensure America has secure and reliable supply chains, abundant and affordable energy, and the American-sourced materials necessary for U.S. manufacturing, national security and economic security, all delivered under world-leading environmental, safety and labor standards.

Headquartered in Washington, D.C., the NMA has a membership of more than 250 companies and organizations involved in every aspect of mining, from producers and equipment manufacturers to service providers.

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