



Industrial Minerals' Impact on the U.S. Economy

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Issue

An industrial mineral is any naturally occurring rock or mineral of economic value, exclusive of metallic ores, mineral fuels and gem stones. Typical examples of industrial rocks and minerals are barite, bentonite, borates, calcium carbonate, clays, diatomite, feldspar, gypsum, industrial sand, kaolin, limestone, magnesia, silica, soda ash, talc, wollastonite and zeolite. Industrial minerals are fundamental to the U.S. economy, contributing to the real gross domestic product (GDP) at several levels, including mining, processing and manufacturing a variety of finished products. Although industrial minerals are prevalent in nearly all aspects of our lives in every country in the world, the general public knows very little about the important roles these minerals play to keep our society running. They are immensely valuable components within an array of products from the simplest dinner plate to the most complicated medication.

Background

The properties of industrial minerals are what make them so valuable. The characteristic features of industrial minerals are their physical properties (e.g., material texture, insulation, absorption, high specific gravity) that allow for use in a variety of manufacturing, construction and agricultural applications. Some examples of applications for industrial minerals are:

Abrasives	Foundry castings
Absorbents	Glass
Agriculture	Metallurgy
Cement	Paint
Ceramics	Pharmaceuticals
Chemicals	Pigments
Construction	Plastics
Drilling mud	Paper
Electronics	Refractories
Filtration	Synthetic fibers
Flame retardants	

Industrial minerals are critical raw materials that support these and other market sectors, and add value to the end products.

Economic Contributions

U.S. mining is divided into three primary segments: coal, metal ore and nonmetallic minerals. The National Mining Association estimates U.S. mining in 2011 directly and indirectly generated more than 2.11 million U.S. jobs, \$138 billion in U.S. labor income and \$232 billion of U.S. GDP. Industrial minerals contribution to U.S. GDP is estimated to be \$33.5 billion.

Figure 1. Economic Output by U.S. Mining Segment, 2011

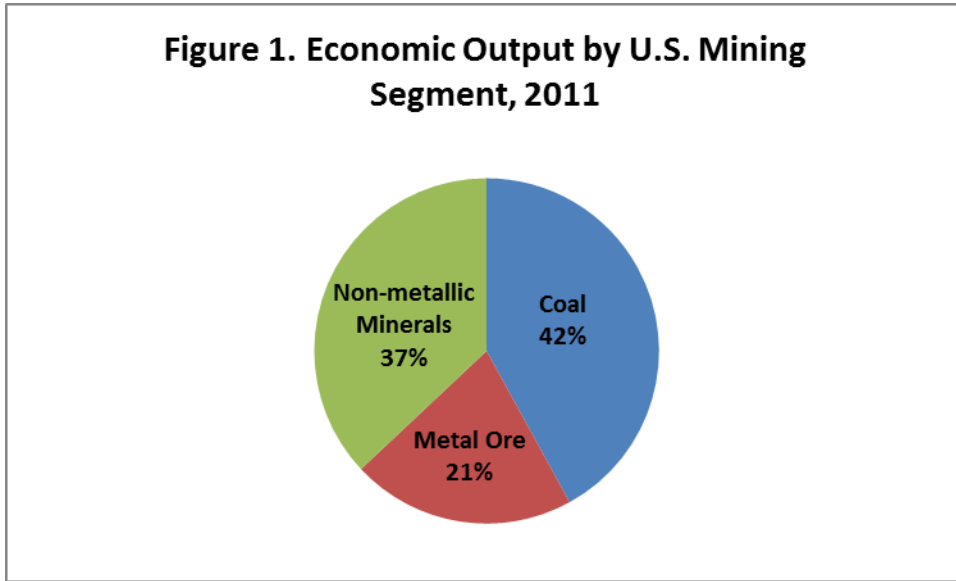


Figure 1. Source: National Mining Association, 2013.

In terms of the direct contribution of the different mining segments, coal mining accounted for 42 percent (\$97.4 billion) of the total value of U.S. mining output in 2011. Nonmetallic mineral mining comprised 37 percent (\$85.8 billion) and metal ore mining 21 percent (\$48.7 billion).

Nonmetallic minerals include crushed stone, sand, gravel and cement, traditionally referred to as aggregates. According to the U.S. Geological Survey’s 2012 Commodity Summary, aggregates comprise 61 percent (\$52.3 billion) of nonmetallic minerals, leaving 39 percent (\$33.5 billion) as industrial minerals.

Value of nonmetallic minerals (per year)

Aggregates	\$52.3 billion
<u>Industrial minerals</u>	<u>\$33.5 billion</u>
Total Nonmetallic minerals	\$85.8 billion

SME Statement of Technical Position

- American manufacturers currently rely on foreign suppliers for more than half of the minerals they use in finished products.
- The United States is 100 percent dependent on imports for 19 minerals and more than 50 percent import-dependent for an additional 24 minerals – many of which are industrial minerals.
- As the U.S. economy continues to recover, manufacturing, construction and agriculture will drive demand for increased use of industrial minerals that will fuel the domestic engine of growth.
- Industrial minerals are responsible for \$33.5 billion of the \$232 billion value that mining adds to the U.S. economy on an annual basis.
- Approximately 68,000 workers are directly employed by the industrial minerals mining sector.¹

References:

“The Economic Contributions of U.S. Mining in 2011,” National Mining Association, 2013.
Mineral Commodity Summaries 2013, U.S. Geological Survey.
Industrial Minerals and Rocks (7th edition), SME 2006.
Industrial Minerals Association – North America, 2013.

1. Direct employment is calculated by subtracting 110,000 estimated direct workers in the aggregates industry (NSSGA 2012) from the state-specific direct nonmetallic mining employment of 177,870 (NMA 2013).