Critical Needs: Mineral Resources

Back to Geoscience for America's Critical Needs: Invitation to a National Policy Dialogue

- 
- 
- 
- 

- 

Providing Raw Materials for Modern Society

Daily activities, national security, and the greater economy all depend on an abundant supply of minerals — from gold for cell phones, to potassium for crop fertilizers, to rare earth elements for missile guidance and clean energy technology, to crushed stone in concrete for buildings and roads.
Despite the pervasiveness of minerals in everyday life, the full extent and accessibility of the nation's mineral resources is not known; supplies of some critical minerals are vulnerable to disruption; and mineral extraction, use, and disposal have environmental impacts that should be better understood and mitigated.
Geoscientists locate and characterize mineral deposits and provide essential information for efficient resource extraction and effective environmental stewardship.

To support a secure supply of minerals:

Assess the nature and distribution of domestic mineral resources. This basic information on the nation's natural wealth is essential for government, industry, environmental, investment, and community decision making. Quantify domestic and global supply of, demand for, and flow of minerals.
Industry relies on a stable supply of raw materials. Understanding and predicting the market forces that impact mineral supply is essential to anticipate and avoid supply disruptions and to make well-informed financial and policy decisions.
Support socially, economically, and environmentally responsible domestic mineral production. The United States relies on imports for more than one-half of its apparent consumption[1] of 43 mineral commodities[2], including several that are considered critical to the national interest, such as rare earth elements.
Foster innovative solutions to lessen the environmental impact of mining and mineral use. Recycling and substitution are increasing, but mining is, and will continue to be, the primary source for most materials. New approaches to mining, mineral use, and product disposal can mitigate the impacts of mineral production and consumption.

References

[1]Apparent consumption is usually defined as (production + imports) – exports.
[2]Mineral Commodity Summaries 2015. U.S. Geological Survey. https://minerals.usgs.gov/minerals/pubs/mcs/2015/mcs2015.pdf

Learn more

- Geoscience for America's Critical Needs: Invitation to a National Policy Dialogue (Webpage and Report), *American Geosciences Institute*

  This document outlines high-level actions to address major policy issues where the geosciences play a significant role. Download the report

- Critical Issues: Mineral Resources (Webpage), *American Geosciences Institute*
  Overview of the geoscience behind mineral resource issues.

2015-09-21