

Statement of Lawrence D. Meinert
Mineral Resources Program Coordinator, U.S. Geological Survey
U.S. Department of the Interior
before the
Senate Energy and Natural Resources Committee
on
S. 1600
January 28, 2014

Good morning Chairman Wyden, Ranking Member Murkowski, and Members of the Committee, and thank you for the opportunity to discuss S. 1600, the Critical Minerals Policy Act of 2013. The bill directs the Secretaries of the Interior and Energy to perform a large number of activities intended to support and enhance the Nation's critical mineral supply chain, beginning with developing a methodology to determine which minerals are critical to the Nation's economy. In this statement, I will address the provisions relevant to the Department of the Interior.

The Department of the Interior supports the goal of facilitating the development of critical minerals in an environmentally responsible manner. We note that many of the activities called for in S. 1600 are within the scope of existing Department of the Interior authorities.

Background

The U.S. Geological Survey (USGS) is responsible for conducting research and collecting data on a wide variety of mineral resources. Research is conducted to understand the geologic processes that have concentrated known mineral resources at specific localities in the Earth's crust and to estimate (or assess) quantities, qualities, and areas of undiscovered mineral resources, or potential future supply. USGS scientists also conduct research on the interactions of mineral resources with the environment, both natural and as a result of resource extraction, to better predict the degree of impact that resource development may have on human and ecosystem health. USGS mineral commodity specialists collect, analyze, and disseminate data and information that document current production and consumption for about 100 mineral commodities, both domestically and internationally for 180 countries. This full spectrum of mineral resource science allows for a comprehensive understanding of the complete life cycle of mineral resources and materials—resource formation, discovery, production, consumption, use, recycling, and reuse—and allows for an understanding of environmental issues of concern throughout the life cycle.

Global demand for critical mineral commodities is on the rise with increasing applications in consumer products, computers, automobiles, aircraft, and other advanced technology products. Much of this demand growth is driven by new technologies that increase energy efficiency and

decrease reliance on fossil fuels. To better understand potential sources of critical mineral commodities, the USGS has completed studies of known domestic and global rare-earth reserves, resources, and uses (Long and others, 2010; Tse, 2011; Wilburn, 2012). These studies summarize basic geologic facts and materials flow issues related to rare earth element resources, which are a type of critical mineral. Other USGS studies analyze world trade and supply chains for other critical minerals including lithium, platinum-group metals, and tantalum (Goonan, 2012; Yager and others, 2012; Soto-Viruet and others, 2013).

The Bureau of Land Management (BLM) administers over 245 million surface acres of public land located in the 12 Western states, including Alaska, as well as 700 million acres of sub-surface mineral estate throughout the nation. The BLM manages mineral development under a number of different authorities, including the Federal Land Policy and Management Act, the Mineral Leasing Act of 1920, the Materials Act of 1947, and the Mining Law of 1872. Each of these authorities, along with BLM regulations and guidance, provides a legal framework for the development of minerals, including critical minerals, on Federal and Indian lands.

Though rare earth elements are currently of most concern to many stakeholders, including the Department of Defense which funded some of the studies, it should be noted that in 2012 the United States was 100 percent dependent on foreign suppliers for 17 mineral commodities and more than 50 percent dependent on foreign sources for an additional 24 mineral commodities. Import partners include Brazil, Canada, China, France, Germany, Japan, Mexico, Russia, and Venezuela. In 2008, a National Research Council committee, funded largely by the USGS, developed a “criticality matrix” that combines supply risk with importance of use as a first step toward determining which mineral commodities are essential to the Nation’s economic and national security (National Research Council, 2008). This has been updated by subsequent studies and ongoing work by the Critical and Strategic Mineral Supply Chain Interagency sub-committee of the National Science and Technology Council, which is co-chaired by the USGS on behalf of the Department of the Interior.

S. 1600

S. 1600, the Critical Minerals Policy Act of 2013, directs the Secretary of the Interior, through the Director of the USGS, to perform a number of actions that build on current USGS activities and capabilities, including the recent rare earths inventory. The bill in Section 101 directs the USGS to develop a rigorous methodology for determining which minerals are critical and then to use that methodology to designate critical minerals. Section 103 calls for a comprehensive national mineral resource assessment within four years of the bill’s enactment for each mineral designated as critical under Sec. 101, and it authorizes field work for the assessment, as well as technical and financial assistance for States and Indian tribes. The bill establishes in Section 108 a collaborative effort between USGS, academic institutions, and the U.S. Energy Information

Administration for annual reviews of domestic critical mineral trends as well as forward-looking analyses of critical mineral production, consumption, and recycling patterns. Section 301 of the bill repeals the National Critical Minerals Act of 1984.

S. 1600, Section 102, amends the National Materials and Minerals Policy, Research and Development Act of 1980 to encourage Federal agencies to facilitate the availability, development and environmentally-responsible production of critical minerals. Section 105 directs the BLM to improve the quality and timeliness of decisions regarding the environmentally responsible development of critical minerals on Federal lands. The BLM supports the responsible development of minerals on Federal lands and is working to improve efficiencies while ensuring protection of other resources. Section 105 also directs the BLM to annually report on the implementation of these measures and on critical and hardrock mineral production on Federal land. We note that under the Mining Law of 1872, the BLM does not collect the quantity, type, and estimated value of minerals produced on Federal land.

Conclusion

The Department maintains a workforce of geoscientists (geologists, geochemists, geophysicists, and resource specialists) with expertise in critical minerals and materials. The Department continuously collects, analyzes, and disseminates data and information on domestic and global rare-earth and other critical mineral reserves and resources, production, consumption, and use. This information is published annually in the USGS Mineral Commodity Summaries (USGS, 2013) and includes a description of current events, trends, and issues related to supply and demand.

The Department, through the USGS, stands ready to fulfill its role as the federal provider of unbiased research on known mineral resources, assessment of undiscovered mineral resources, and information on domestic and global production and consumption of mineral resources for use in global critical mineral supply chain analysis. The BLM is committed to implementing efficiencies for the environmentally-responsible development of critical minerals on Federal lands.

We note, however, that many of the activities called for in S. 1600 are already authorized by existing authorities. Any activities conducted to fulfill the objectives of the bill would require substantial resources and would need to compete for funding with other priorities.

Thank you for the opportunity to present the views of the Department on S. 1600. I will be happy to answer any questions.

For More Information

Goonan, T.G., 2012, Lithium use in batteries: U.S. Geological Survey Circular 1371, 14 p., 2011–1042, 11 p., available at <http://pubs.usgs.gov/circ/1371/>

Goonan, T.G., 2012, Materials flow of indium in the United States in 2008 and 2009: U.S. Geological Survey Circular 1377, 12 p., available at <http://pubs.usgs.gov/circ/1377/>

Long, K.R., Van Gosen, B.S., Foley, N.K., and Cordier, Daniel, 2010, The principal rare earth elements deposits of the United States—A summary of domestic deposits and a global perspective: U.S. Geological Survey Scientific Investigations Report 2010–5220, 96 p., available at <http://pubs.usgs.gov/sir/2010/5220/>

National Research Council, 2008, Minerals, Critical Minerals, and the U.S. Economy: Washington, D.C., National Academies Press, 264 p.

Soto-Viruet, Yadira, Menzie, W.D., Papp, J.F., and Yager, T.R., 2013, An exploration in mineral supply chain mapping using tantalum as an example: U.S. Geological Survey Open-File Report 2013–1239, 51 p., <http://pubs.usgs.gov/of/2013/1239/>

Tse, Pui-Kwan, 2011, China's Rare-Earth Industry. U.S. Geological Survey Open-File Report 2011–1042, 11 p., available only at <http://pubs.usgs.gov/of/2011/1042>.

USGS, 2013, Mineral Commodity Summaries 2013. U.S. Geological Survey, 198 p. <http://minerals.usgs.gov/minerals/pubs/mcs/2013/mcs2013.pdf>

Wilburn, D.R., 2012, Byproduct metals and rare-earth elements used in the production of light-emitting diodes—Overview of principal sources of supply and material requirements for selected markets: U.S. Geological Survey Scientific Investigations Report 2012–5215, 15 p., available online at <http://pubs.usgs.gov/sir/2012/5215/>.

Yager, T.R., Soto-Viruet, Yadira, and Barry, J.J., 2012, Recent strikes in South Africa's platinum-group metal mines—Effects upon world platinum-group metal supplies: USGS Open-File Report 2012-1273, 18 p., <http://pubs.usgs.gov/of/2012/1273/>.