

**Testimony Submitted by
American Geosciences Institute**

Allyson K. Anderson Book, Executive Director

**To the United States Senate
Committee on Appropriations
Subcommittee on Energy and Water Development, and Related Agencies
Regarding the Department of Energy**

May 24, 2017

Thank you for this opportunity to provide the perspective of the American Geosciences Institute (AGI) on fiscal year (FY) 2018 appropriations for programs within the Subcommittee's jurisdiction. Department of Energy (DOE) investments in geoscience-related research and development (R&D) will help to provide employment and to develop energy resources that support economic growth and strengthen national security.

Within DOE, AGI supports \$75 million for the Geothermal Technologies Program, \$85 million for the Water Power Program, \$20 million for the Critical Materials Hub, and asks support for the Subsurface Technology and Engineering RD&D crosscut. AGI supports robust funding of \$5.7 billion for the Office of Science, and \$122 million for the Energy Information Administration.

To create an effective and efficient energy future, we urge DOE to work closely with the U.S. Geological Survey, the National Science Foundation, universities, and others to coordinate research on all aspects of the subsurface and to ensure that innovation throughout the energy sector is compatible with the Earth system where the technologies will be deployed.

AGI is a nonprofit federation of 51 geoscientific and professional associations that represent approximately 250,000 geoscientists who work in industry, academia, and government. Founded in 1948, AGI provides information services to geoscientists, serves as a voice of shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resilience to natural hazards, and the health of the environment.

DOE Office of Energy Efficiency and Renewable Energy

Geothermal Technologies Program: Major investments in the Frontier Observatory for Research in Geothermal Energy (FORGE) and hydrothermal resources research should lead to significant advances and increased private-sector engagement in a clean energy sector that already shows progress towards larger scale deployment and can supply essential base-load power.

Water Power Program: Low-impact water power projects can be a resilient, clean source of power; onshore projects at various scales and marine hydrokinetic energy development show strong potential but need increased R&D to become ready for commercial adoption.

AGI supports \$75 million for the Geothermal Technologies Program and \$85 million for the Water Power Program to diversify our energy portfolio.

Advanced Manufacturing Technologies: AGI is a member of the Minerals Science and Information Coalition, which supports mineral functions in the federal government. The Critical Materials Hub, a consortium led by Ames National Laboratory, is carrying out important and timely research that should increase the nation's ability to withstand possible disruptions in the supply chains of elements that are critical to the energy sector. **AGI strongly supports funding of at least \$20 million for nationally significant work at the Critical Materials Hub.**

We urge DOE to take a comprehensive and holistic view of the lifecycle of materials. Critical materials studies should integrate knowledge from the geosciences, including sourcing raw materials and the secure disposal of used products, with the existing technological expertise in DOE to produce a full lifecycle analysis of materials critical to the energy sector.

Crosscutting Initiatives

Subsurface Technology and Engineering RD&D crosscut (SubTER): The Subsurface Technology and Engineering RD&D crosscut integrates research, development, and demonstration on shared issues associated with the Earth's subsurface across the agency. It is encouraging to see a collaborative effort to minimize duplication and maximize synergies across several DOE offices. We strongly suggest that DOE expand this effort to include communication and, to the extent possible, collaboration with the U.S. Geological Survey (USGS), the National Science Foundation (NSF), universities, and others to integrate projects and research, to share knowledge and best practices, and to optimize federal investment in the energy and materials sectors. The subsurface is a key frontier that we need to understand from multiple perspectives if we are to unlock its resources to sustain society.

AGI respectfully suggests that the Committee encourage interagency collaboration, particularly between DOE, USGS, and NSF, to ensure the most efficient, safe, and effective exploration, development, and use of all aspects of the subsurface and its resources.

DOE Office of Fossil Energy Research and Development

Fossil Energy R&D: We request the Committee to support increased research on natural gas, unconventional fossil fuel, carbon capture and geologic carbon storage, and hydrates.

According to Energy Information Administration forecasts, the United States will obtain about 80 percent of our energy mix in 2040 from fossil fuels, though with a decreasing fraction from coal. Investing in developing more efficient technologies and in minimizing the impacts of fossil fuels, with an emphasis on the dominant natural gas and oil sectors, will benefit the economy, the environment, and human health and wellbeing.

AGI supports investment in fossil fuel R&D that would enable the nation to gain the greatest benefit, while causing the least associated harm, from ongoing fossil fuel production and use.

DOE Office of Science

The DOE Office of Science is the single largest supporter of basic research in the physical sciences in the United States. The Biological and Environmental Research Program carries out important work in atmospheric modeling and the linkages between Earth, biological, and human systems; the Chemical Sciences, Geosciences, and Biosciences Division of the Basic Energy Sciences program helps elucidate the geochemical and geophysical characteristics of the Earth. The Workforce Development for Teachers and Scientists program actively engages those who will become and who train the workforce of the future. This program supports a diverse and talented pool of students and scientists; it merits robust funding. **AGI respectfully requests funding of \$5.7 billion for the Office of Science for FY 2018.**

Energy Information Administration

The Energy Information Administration (EIA) provides impartial information and analysis on all forms of global energy production, demand, flow, and prices. The public and private sectors use EIA products extensively to guide strategic national, economic, and environmental decisions; this information is vital for policy making at all levels of government and to support efficient, open markets. **AGI supports funding of \$122 million for EIA and urges coordination and collaboration between EIA and USGS in areas of mutual interest.**

Thank you for the opportunity to present this testimony to the subcommittee. If you would like any additional information for the record, please contact Maeve Boland at 703-379-2480, ext. 228 voice, 703-379-7563 fax, mboland@agiweb.org, or 4220 King Street, Alexandria VA 22302-1502.