

The U.S. Department of Energy's (DOE) Office of Fossil Energy (FE) has announced \$28.35 million in federal funding for cost-shared research and development projects under the Funding Opportunity Announcement (FOA) DE-FOA-0002404, *Advanced Processing of Rare Earth Elements and Critical Minerals for Industrial and Manufacturing Applications*.

The U.S. imports more than half of its annual consumption of 31 of the 35 critical minerals (CM). The U.S. has no domestic production for 14 CMs and is completely dependent on imports to supply its demand. CM are used in the manufacture of high-tech devices, national defense applications, and green growth-related industries.

One of these CM, rare earth elements (REE) are the 15 elements in the lanthanide series shown in the periodic table. Scandium and yttrium are included in the manufacture of cell phones, LED screens, solar panels, energy infrastructure, defense technologies, and other essential high-tech applications. The U.S. currently imports 80% of its REEs directly from China, with remaining portions indirectly sourced from China through other countries.

By creating a sustainable domestic CM and REE supply chain, the United States would reduce its risk of supply disruption for essential domestic and military industries, while producing these needed materials for the emerging clean energy technology market. The current \$5 billion global REE market is projected to grow 40% in the next five years, with similar growth anticipated for the CM market.

This FOA seeks to fund research and development projects that will focus on developing innovative midstream processing technologies that will be environmentally benign, and potentially lower capital costs and operating expenses. Phase 1 applications for two areas of interest (AOI) are being sought at this time:

- **AOI 1:** Advanced Process Development for Production of Rare Earth Metals (REM) and Co-Production of Critical Minerals (CM) from Coal-Based and Alternate Resources
- **AOI 2:** Production of Critical Minerals (CM) (Excluding Rare Earth Elements or REE) from Coal-Based and Alternate Resources

This FOA requires project teams of subject matter experts and stakeholders from across the entire CM and REE value/supply chain. This will include experts from the areas of resource assessment and characterization; mining and minerals processing; pilot-scale REE and CM facility developers and operators; advanced separation and purification developers; reduction to metal process developers; and a minimum of one industrial partner whose expertise is in manufacturing and/or production of intermediate and/or end-use products containing REE and/or CM.

A maximum of eight awards is anticipated for Phase 1. Applications must be submitted by **March 1, 2021**. For more information, visit [FedConnect](#).

Read more details [here](#). FE's National Energy Technology Laboratory (NETL) will manage the selected projects.

The Office of Fossil Energy funds research and development projects to reduce the cost of advanced fossil energy technologies and further the sustainable use of the nation's fossil resources. To learn more about the programs within the Office of Fossil Energy, visit the [Office of Fossil Energy website](#) or [sign up](#) for FE news announcements. More information about the National Energy Technology Laboratory is available on the [NETL website](#). This FOA is supported by DOE's [Critical Minerals Sustainability Program](#).

Source: [U.S. Department of Energy to Invest \\$28.35M in Advanced Processing of Rare Earth Elements and Critical Minerals for Industrial and Manufa...](#)