

The Rare Earth Element Advanced Coal Technologies Act of 2019

Ranking Member Joe Manchin

Background:

- Rare earth elements (REEs) are “critical minerals” required for the manufacturing of commodities that American consumers rely on every day, such as cell phones, medical equipment, and automobiles.
- The United States, once a leading producer of REEs, no longer has active rare earth element mining operations and instead relies on foreign nations, predominately China, to supply REEs.
- Recognizing the strategic vulnerability of our reliance on foreign actors to supply REEs, the National Energy Technology Laboratory (NETL), under the Department of Energy’s Office of Fossil Energy (FE), is developing technologies to separate REEs from coal and coal byproducts.

Purpose:

- The Rare Earth Element Advanced Coal Technologies Act (REEACT) of 2019 will ensure the United States Department of Energy and its partners continue ongoing research into the development that is necessary to commercialize the technology for domestic production of REEs from coal and coal byproducts – a critical step toward re-establishing a U.S. domestic production source for these products. By doing so we will make our nation less vulnerable to potential supply disruptions.

Summary:

- REEACT authorizes an annual appropriation of \$23 million per year through FY 2027 for the Department of Energy to carry out the program for extraction and recovery of REEs from coal and coal byproducts.
- The bill also requires the Secretary of Energy, in consultation with the Secretary of Defense and Secretary of Interior, to submit to Congress a report to assess the research, development, and demonstration of REE production technologies as well as evaluate the market impact of commercialization of these coal-based technologies.

NETL Research:

- The Consolidated Appropriations Act of 2019 provided \$18 million for the National Energy Technology Laboratory (NETL) based in Morgantown, West Virginia, to develop prototype advanced separation technologies for extraction and recovery of rare earth elements and minerals from coal and coal byproducts.
- NETL hopes to demonstrate REE separation technologies by 2023-2025 that will show that technologies can be economically deployed, enabling domestic supply of REEs; reduce the environmental impact of coal and REE production through advances in REE production from coal and coal by-products; and deliver advanced technologies that can be developed and manufactured within the United States.
- In 2018, West Virginia University, in partnership with NETL, and opened a commercial scale pilot processing facility to study advanced separation technologies for REEs.