Insight

Coal and the HEALS Act

EWELINA CZAPLA | JULY 28, 2020

Executive Summary

- Senate Republicans have issued proposed legislation to provide COVID-19 relief, the Health, Economic Assistance, Liability Protection, and Schools (HEALS) Act, which includes provisions to fund research and development for rare earth element extraction.
- There is little rare earth element production in the United States because of limited economical viability.
- Programming to increase viability through improved extraction exists at the Department of Energy and attempts to create duplicative programming in the relief bill are misguided.

Introduction

Senate Republicans have proposed the Health, Economic Assistance, Liability Protection, and Schools (HEALS) Act to provide continued economic support as the COVID-19 pandemic carries on. The proposed legislation is composed of various bills, one of which calls for not only increased domestic production of personal protective equipment, but also programming for the extraction and recovery of rare earth elements (REE) from coal and its byproducts.[1] While REE are critical to the production of many electronic products, any attempt to fund programming at the Department of Energy (DOE) that improves their recovery through this stimulus is inopportune at best.

Rare Earth Elements and Coal

The REE are a group of 17 elements sharing similar chemical properties. They include

yttrium, scandium, and the 15 elements of the lanthanide series. The name "rare earth element" can be deceiving because they are actually more abundant in the Earth's crust than precious metals, such as gold, silver, and platinum. Due to the diffuse nature of their concentration, however, their extraction can prove difficult.

While they do not appear in economically viable deposits, such as gold veins, REEs are nonetheless increasingly used in renewable energy technologies and components of commercial products, such as magnets, batteries, and catalysts. The United States, however, currently produces just 9 percent of global REE from a single mine in California, while 70 percent of global production comes from China.[2] As a result, the relatively high presence of REEs in coal deposits and their presence in ash following coal burn has been a subject of study.

The HEALS Act

The HEALS Act calls for the Secretary of Energy, acting through the Assistant Secretary for Fossil Energy, to carry out a program that develops advanced separation technologies for the extraction and recovery of REE. The bill calls for $23 million in funding for fiscal years 2021-2028. Within a year of enactment of the HEALS Act, a report that evaluates the advanced separation technologies for extraction and recovery of REE from coal and its byproducts, including acid mine drainage, would be due to the Senate's Energy and Natural Resources and Energy and Commerce Committees.[3] The language mirrors a 2019 proposal which made it out of the Senate Energy and Natural Resources Committee nearly one year ago.[4]

The bill fails to provide any clarity on how the proposed programming differs from existing programming supported by DOE and the National Energy Technology Laboratory. Their joint Feasibility of Recovering Rare Earth Elements program is similarly described as "developing extraction, separation and recovery technologies for the production of rare earth elements and critical materials from coal and coal-based resources."[5] Its mission is the "development of an economically competitive and sustainable domestic supply of rare earth elements and critical materials to assist in maintaining our Nation's economic growth and National Security."[6] The program which was initiated in 2014 aims to create technology that will allow for economically competitive REE production by 2025.

While the success of the current programming or the extent of its funding may be worthy of reconsideration, this bill hardly seems to be the appropriate venue, and duplication of an ongoing project certainly seems unwise. The relief effort should be focused on the issues at

hand, ensuring the continued viability of existing enterprises rather than increasing investment in one's that have not yet proven viable.

[1] https://www.lgraham.senate.gov/public/_cache/files/bac7d1c0-a7ba-4ace-bb1a-59cdd09bfa51/bai20728—domestic-manufacturing.pdf

[2] https://pubs.usgs.gov/fs/2019/3048/fs20193048.pdf

[3] https://www.lgraham.senate.gov/public/_cache/files/bac7d1c0-a7ba-4ace-bb1a-59cdd09bfa51/bai20728—domestic-manufacturing.pdf

[4] https://www.govtrack.us/congress/bills/116/s1052/text

[5] https://www.netl.doe.gov/coal/rare-earth-elements/program-overview/background

[6] https://www.netl.doe.gov/coal/rare-earth-elements/program-overview/background#:~:text=The%20mission%20of%20DOE%2DNETL's,economic%20growth%20and%20National%20Security.