



Legislation Incentivizes Rare Earth Element Development in Coal Mining Areas

State and federal lawmakers are creating economic opportunities for the coal industry and landowners to support production of “critical materials” in high demand for technology products. The term “critical materials” refers to a group of 50 minerals, elements, substances, and materials that the U.S. Department of Energy (DOE) has identified as key components of products that are essential to the economic or national security of the United States, and that are susceptible to supply chain disruption. The federal legislation generally known as the “Infrastructure Bill” allocates more than \$1.3 billion to support a number of new and existing DOE initiatives directed toward research, development, and production of critical materials, including substances known as “rare earth elements.”

Rare earth elements are essential for many high-tech products such as smart phones and other sophisticated electronic devices. Rather than being “rare,” these elements exist in many places throughout the United States (and the rest of the world) although generally in very low concentrations that make them difficult to economically recover and process. Relatively greater concentrations of rare earth elements, along with other critical materials, can be found in coal seams and adjacent geologic formations. Even higher concentrations often exist in polluted water flowing from surface and underground coal mines – commonly referred to as “acid mine drainage” or AMD.

Members of the mining industry – not just academic institutions or research foundations – are eligible to apply for large amounts of funding created by the Infrastructure Bill related to the extraction of critical materials generally and rare earth elements specifically. The bill allocates \$127 million in grants focused on research to support the recovery of rare earth elements from coal and coal byproducts, such as AMD. Grant funding totaling \$140 million has been dedicated toward establishing a feasible full-scale operation to extract, separate, and refine rare earth elements from AMD, mine waste, and other “deleterious material.” \$600 million in grant funding is available for projects to establish a sustainable long-term supply of critical materials, including innovations in technologies to diversify commercially viable sources of these materials. \$400 million is appropriated to fund pilot projects for the processing, recycling and development of critical materials, at least 30 percent of which must be granted to projects relating to secondary recovery, which includes recovery of critical materials from mine waste piles, AMD sludge, or byproducts produced through legacy mining activities. Finally, another \$75 million will fund contracts to support construction of a research facility focused on developing a reliable supply chain for rare earth elements and other critical materials. Opportunities to apply for these grants and contracts through the DOE are expected to open beginning in the fourth quarter of 2022, subject to the development of appropriate policies or regulations to guide the process.

State lawmakers in West Virginia are also taking steps to promote rare earth element recovery associated with coal mining operations. Legislators have recently introduced multiple bills in the 2022 Legislative Session intended to clarify that those who successfully extract rare earth elements from mine drainage may derive a commercial benefit from doing so. These efforts seek to resolve the issue of who owns the

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substances present in AMD, which historically has been considered a liability rather than an asset due to the costs (and permitting liability) associated with treating it.

What the current legislation fails to acknowledge is that attributing specific volumes of water to specific properties can present difficult challenges. In certain circumstances, such as the direct flow of water from a specific mine, the source of the water may be able to be identified. However, even a single mine can span multiple tracts with many different mineral owners. Water is also, by its very nature, mobile and thus moves through the subsurface in both mined-out voids and unmined geologic formations. Mine drainage can thus be an amalgamation of water flowing from and/or through a number of different underground mines forming one or more underground mine pools. While volumes of water flowing from or through certain mine voids can likely be calculated, estimating what quantity of rare earth elements came from a particular mine void would be challenging to say the least. Technical approaches that have been accepted in similar legal contexts may prove helpful in addressing this question.

These and other legislative actions present substantial opportunities for members of the coal industry to participate in grant programs and otherwise derive revenue from recovery and sale of rare earth elements and other critical materials associated with mining operations. Babst Calland has a team of lawyers following state and federal activities related to rare earth element development opportunities and implementation of the Infrastructure Bill. Please contact any of the following attorneys to learn more: Robert M. Stonestreet at rstonestreet@babstcalland.com or 681.265.1364; Christopher B. “Kip” Power at cpower@babstcalland.com or 681.265.1362; or Ben Clapp at bclapp@babstcalland.com or 202.853.3488.

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