

“Balancing Policy, Price Volatility, and Sustainability: Building a Resilient U.S. Rare Earth Market”

The rare earth elements (REE) industry faces multiple barriers to establishing a vertically integrated supply chain in the U.S., including a highly volatile market. This study examines these barriers and identifies strategies to boost REE mining, including supply-side policies like loans/grants to mining and processing projects, a more efficient permitting process, and critical minerals partnerships with countries aligned with U.S. politics. The key policy development generated in this study is a **stabilization payment mechanism** to boost REE production. The study first examines the feasibility of a pricing stabilization policy through comparisons to the UK’s contract for difference (CfD) policy, DoD Cost-Plus contracts, and U.S. agriculture subsidization. Then, using a hypothetical rare earth mine-site, *Castle Rock Rare Earth Mine*, this study evaluated the effectiveness of the stabilization payment mechanism in stabilizing mine site revenues and improving long-term profitability. The hypothetical mine-site model was built in Excel using real REE mine feasibility economic data and Monte Carlo (@Risk) distribution methods to determine the all-in sustaining capital (AISC) and assess the mine’s profitability with and without revenue stabilization.. The quantified results of the study are forthcoming. The research aims to determine the effectiveness of government intervention in stabilizing mine site revenues to reduce the massive risk companies face in commodity price volatility and increase investments and development of rare earth projects in the U.S.

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