

Paper Number: 3048

The Dynamic Nature of Resource Availability: The Cases of Copper and Rare Earths

Eggert, R.G.¹

¹Colorado School of Mines and Critical Materials Institute, USA, reggert@mines.edu

“Resources are not, they become” is how E.W. Zimmerman [1] described the dynamic nature of resource availability. In a physical sense, minerals and metals in the earth’s crust, as well as those embodied in in-use and discarded products, are fixed in size or quantity. They are a fixed stock. In an economic sense, however, mineral and metal resources are anything but fixed. They become available—or are removed from availability—as a result of human activity, which in turn is a function of economic, social, environmental and political factors. This paper reviews the history of resource development for copper, a metal with a long history of human use, and rare earths, a family of metals that has seen widespread use only in the last half century. The paper places special focus on how society has responded to periodic concerns about resource shortages and the implications for future resource availability.

Reference:

[1] Zimmerman EW (1933) *World Resources and Industries*: Harper & Row

