

Responsible Development of our Domestic Mineral Resources is Crucial
to Meeting the Challenges of the 21st Century

by David F. Briggs

In the November 2013 issue of *Nature Geoscience*, Oliver Vidal, Bruno Goffé and Nicholas Arndt published an article titled; "[Metals for a low-carbon society](#)." They discuss one of the most important challenges society will face over the next century, the transition from non-renewable, carbon-based energy sources, such as oil, gas and coal, to renewable, environmentally friendly energy sources, such as solar, geothermal and gravity (i.e. tidal and hydroelectric). However, this transition will come at a cost - a significant increase in the consumption of metals and minerals that will be needed to build the infrastructure required to supply our future energy needs. It essentially replaces one non-renewable resource (i.e. fossil fuels) with another non-renewable resource (i.e. metals and minerals).



Solar Array at Davis-Monthan Air Force Base, Tucson, Arizona
(Photo obtained from Davis-Monthan Web Site)

There have been significant increases in the world-wide demand for iron, copper, aluminum and industrial minerals since 2000. All of these raw materials will be essential for the development of the infrastructure required to meet our future energy needs. Where are the future sources for these and other metals and minerals?

Recycling represents an environmentally friendly way to meet the demand for these metals and minerals. However, recycling is limited, especially when one considers the huge amounts of steel, aluminum, copper and other materials that will be sequestered over the 20 to 30 year life span of the infrastructure that will be required to meet our renewable energy goals. This leaves the development of new mineral deposits as the sole remaining source for these raw materials.

The natural resources we consume are not evenly distributed throughout the world. Some of the metals and minerals required for this transition can be mined from domestic sources, while others will need to be imported from abroad. Environmental (i.e. carbon footprint) and financial costs of

transporting these raw materials from remote foreign sources can be minimized by mining and processing the ores from areas that are located closer to where the mined products will be ultimately transformed into consumer goods by our nation's manufacturing sector. Additional benefits gained from this strategy include the creation of local jobs and the reduction of America's unsustainable trade deficits that rob us of resources that could be invested in our economic future.

Our nation's laws recognize there must be a balance between meeting the needs of society and protecting the environment. They don't prohibit development, but are actually designed to promote responsible development. Supplying our needs from domestic sources reduces negative environmental impacts that often result from outsourcing natural resource operations to regions of the world, where environmental regulations are less strict or non-existent.

Today, less than half of the minerals used by the U. S. manufacturing industry are derived from domestic sources. We have both a moral and environmental responsibility to produce more of the metals and minerals we consume. Decreasing our dependence on foreign sources for the materials we consume also strengthens our national security, making us less vulnerable to decisions made by foreign governments.

The decisions we make today concerning the responsible development of mining projects, such as Resolution, Florence, Rosemont and elsewhere, will have a profound impact on America's capacity to make the transition from carbon-based fossil fuels to the renewable energy sources of the future. Let's not cripple our ability to supply the metals and mineral products we will require to meet tomorrow's challenges.

Disclaimer: David F. Briggs is a resident of Pima County and a geologist, who has intermittently worked on the Rosemont Copper project since 2006. The opinions expressed in this article are the author's and do not necessarily reflect those of the Rosemont Copper Company.

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