America's growing minerals deficit

Daniel McGroarty

The U.S. is now tied for last, with Papua New Guinea, in the time it takes to get a permit for a new mine.

After every election, there's a mad scramble in Washington over the must-make-it-happen agenda for the newly inaugurated president and Congress. There are welcome signs from the White House's own Material Genome Initiative that securing America's access to critical metals and minerals will be high on the list.

A good thing, too. Jobs and capital increasingly flow to countries that command the resources to power modern manufacturing, and American manufacturing is more dependent on metals and minerals access than ever before. Yet there is no country on the planet where it takes longer to get a permit for domestic mining. Among other consequences of this red tape, there are now 19 strategic metals and minerals for which the U.S. is currently 100% import-dependent-and for 11 of them a single country, China, is among the top three providers.

Even so, the president's interest in the subject is a double-edged sword: Will U.S. policies be guided by sound science? Or will they be unduly influenced by environmental politics-despite the fact that many minerals we need are essential components for the production of green energy?

The White House Office of Science and Technology Policy underlined the importance of this access in a Jan. 14 statement. "A century ago, plentiful elements like iron, lead, and copper fueled our Nation's transition to an industrial economy. But today, many of the materials that characterize the industrial cutting-edge-such as rare earths, indium, and lithium-are not as naturally abundant or easy to access as their predecessors."

The implication that we've entered a brave new world where arcane "technology metals" replace their industrial precursors is a bit misleading, though. The situation is actually more acute. The country's metals dependency is even more pronounced

than the White House indicates-and some of those metals and minerals, important in many processes, are not just "cutting-edge" ones like rare earths and indium.

General Electric, for instance, is now using 72 of the first 82 elements on the periodic table in its product-manufacturing mix. Not just iron, lead and copper, either. GE also needs zinc, aluminum, tin and nickel-elements that the American Resources Policy Network argues are best understood as "gateway metals," resources whose byproducts include scores of critical metals recovered during mining.

Consider copper, which serves as a gateway to 21 elements on the periodic table, collectively supporting transportation, manufacturing, modern medicine and the major alternative-energy sources to power the clean technology of the future. Copper can also be processed to produce selenium and tellurium (used in solar power), molybdenum (used in steel super-alloys), and rhenium (used in jet engines, lead-free gasoline and treatments for liver and bone cancers). Finally, copper is sometimes found with rare-earth elements which are used in alternative-energy production, for wind turbines, electric-vehicle batteries and compact-fluorescent light bulbs.

The country's advanced weapons systems are equally-and increasingly-metals-intensive. Measured in metric tons, copper is the second-most-used metal in defense applications. In April 2009, the Department of Defense reported that a shortage of copper had caused a "significant weapon system production delay for DOD."

The White House's Material Genome Initiative says its goal is to "support U.S. institutions in the effort to discover, manufacture, and deploy advanced materials twice as fast, at a fraction of the cost."
The need for speed is accurate, but it's going to prove difficult for American innovators to be twice as fast when America's mine permitting process is easily twice as slow as in other mining nations.

The U.S. has domestic resources for 18 of those 19 metals and minerals we now exclusively import from abroad. But a maze of government regulations has made mining them here too difficult. That's the consistent finding of the annual Behre Dolbear Country Rankings for Mining Investment, known in the mining world as the "Where-Not-to-Mine Report." The U.S. is currently tied for last place (with Papua New
Guinea) in the time it takes to permit a new mine-seven to 10 years on average.

In a world where the technology industry regards a year as an eternity, waiting a decade for new supplies of critical technology metals will severely hamper America's ability to innovate. Without significant reform of the country's mining-permit process, the U.S.
may be starved of the resources to build everything from smartphones to weapons systems, impairing both the economy and national security.

Reform could begin with streamlining the permitting process to get rid of

redundancies at the local, state and federal levels, so the process can run concurrently. Among other benefits, this would mean that environmental challenges and litigation-bitter ironies given the fact that the mined metals and minerals are needed for many forms of green energy-do not set the permit process back repeatedly.

All that will depend on whether the White House initiative is the first step toward a strategic-resource policy that asserts the importance of domestic metals and minerals exploration. Or will the initiative bring only a federally funded study group writing what might prove to be the definitive white paper on the industrial decline of the U.S.?

Mr. McGroarty is president of American Resources Policy Network, a nonpartisan education and public-policy research organization based in Washington, D.C.

Note: This article originally ran in the Wall Street Journal (http://online.wsj.com/article/SB10001424127887324039504578261790837469914.html?mod=googlenews_wsj [1])

Source URL (retrieved on *03/14/2014 - 6:12pm*):
http://www.ecnmag.com/blogs/2013/02/americas-growing-minerals-deficit?qt-recent_content=0&qt-video_of_the_day=0&qt-most_popular=0

Links:
[1] http://online.wsj.com/article/SB10001424127887324039504578261790837469914.html?mod=googlenews_wsj