Korea: a rising star for graphite, rare earths, critical metals

Back between 1950 and 1990 South Korea was the world’s second largest producer of graphite, accounting for an annual output of around 77,000 tonnes of flake and amorphous graphite. Then, just after 1990, the world’s largest producer — China, of course — decided to dump cheap graphite on the world market. It wrecked many non-China mines, including South Korea’s and today (according to the U.S. Geological Survey) China produces about 800,000 tonnes a year and South Korea just 70 tonnes.

The USGS also counts North Korea as the world’s fourth largest producer at 30,000 tonnes, but most industry authorities doubt this; the north’s mines are believed to be operating well below capacity. Whatever the actual production, most of North Korea’s graphite goes to China — which, as one analyst has remarked, raises considerable doubts regarding China’s ability to ramp up its own graphite output. A story surfaced in 2007 in the newspaper Hankyoreh that North Korean graphite was being shipped to the south, a 200 tonnes consignment being loaded on a vessel at Haeju destined for Incheon. The plant was 50% owned by the south’s Korean Resources Corp.

The Korean peninsula is gradually being seen as a potential key player, not just for graphite but for critical metals and rare earths.

According to a briefing put together by an Australian company, Lamboo Resources (ASX:LMB), which has flake graphite targets in South Korea, most of the graphite produced since the Second World War went to the former colonial master, Japan, for use in the steel industry. What is surprising is that South Korea was able to be such an important producer without using any
bulk mining, with most extraction being done with hand-working. All the mines closed after the Chinese dumping.

Lamboo, incidentally, argues that it has got its timing right for investing in new flake production. Apart from the range of technology developments and market growth which is propelling the graphite sector as a whole, Lamboo puts considerable emphasis on trends within the Chinese industry: declining production overall, the problems of mining in the winter (the northern graphite mines in Heilongjiang province close for several months each year) and the 20% export tariff slapped on Chinese exports. The company also cites what it describes as the declining quality of Chinese graphite, increasing mining and labour costs, tougher environmental standards; in fact, the company says that out of 72 Chinese graphite producing companies, only eight are considered major industry players with annual capacity of greater than 30,000tpa graphite.

RARE EARTHS and CRITICAL METALS: Information is — not surprisingly — rather hard to come by from North Korea. But last year the newspaper Dong-A Ilbo, or East Asia Daily, finally got to hear about two rounds of secret talks between the two Koreas regarding development of rare earths in the north. Four samples were handed over to the South Koreans but nothing — at least, nothing known — has transpired since.

Over the years InvestorIntel, and its predecessors, has reported on the sometimes extraordinary claims made about North Korea’s rare earth potential (the figure of $6 billion being put on their value) but little seems to have come of this. That is not surprising, either.

But relations have broken down between the two, with the jointly run Kaesong Industrial Complex still closed to South Koreans. On Friday, Hankyoreh reported that talks have again broken down. An indicator of how difficult a problem this will be was indicated by the fact the negotiations lasted just 10 minutes.
But South Korea in itself is an emerging target. Two tungsten-molybdenum projects are under way. One is owned by Woulfe Mining (TSX.V:WOF) which tells us that South Korea once had a thriving mining industry, including Woulfe’s Sandong mine which was one of the world’s leading tungsten producers. Many mines closed in the 1990s when commodity prices dived, and mining now contributes just 0.5% of South Korea’s GNP.

But the commodities boom has underpinned the revival of the Korean mining industry. Another to benefit is Australia’s Desert Mines and Metals (ASX:DSN) which has the Daehwa project, also a molybdenum-tungsten proposition. Its case is that South Korea is a developed economy and, for miners, offers a ready market: smelters for molybdenum and tungsten being located closed to the Daehwa ground. (Both tungsten and molybdenum have production dominated by China and, partly as a consequence, are high up on most lists of critical metals.) The Daehwa mine opened in 1904 and closed in 1984 due to low molybdenum prices.

DMM says the government in Seoul is providing strong support to the revival of mining. The Korea Resources Corp provides capital loans to mine projects.