

Canadian Rare Earth Element Network Chair on building a domestic supply chain

The Technology Metals Show host Jack Lifton talks with Ian London, Chair of Canadian Rare Earth Element Network (CREEN), about CREEN's collaborative network designed to accelerate the creation of a rare earths supply chain in Canada. The network brings together mineral exploration companies, academics, commercial and government laboratories, service providers and government representatives.

"It is a big industry, it is a long supply chain," Ian said. "We all have expertise but if we don't bring it together, we can't pull this together."

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738 Billion Defense Bill plus

U.S. and Canadian Critical Materials Memorandum Equals Pivotal Year for Rare Earths

On Friday, we received a call from the CBC requesting more data on how the recent Fiscal Year 2020 National Defense Authorization Act (NDAA) that was passed on December 17th would impact the North American rare earths market. This combined with the recently signed memorandum of understanding (MOU) for critical materials signed on December 18th between the U.S. and Canada to reduce our dependence on Chinese rare earths and from all vantage points, Jack Lifton is correct in saying **“2020 looks to be a pivotal year for rare earths”**.

This timely passing of a “massive \$738 billion defense authorization bill” by both the U.S. House and Senate, unquestionably holds ramifications for those of us following the North American public markets. In fact, it should mean that the leading players in this market should not only experience an increase in market valuations effective immediately, but this will inevitably result in much needed financings to achieve a successful rare earths supply chain in North America.

Jack Lifton commented that “The 2020 National Defense Authorization Act, which authorizes funding for the U.S. military, has expanded its recognition of the critical importance of the rare earths from the FY 2019’s mandate that the U.S. military only buy non-Chinese rare earth permanent magnets to the requirement that the U.S. Defense Department develop a plan and implement a strategy to discover or develop and integrate each of the necessary industrial components into a total domestic American rare earth supply chain for any and all rare earth enabled products utilized by the U.S. Dept of Defense.” He adds: **“This is the greatest opportunity to revive**

a non-Chinese rare earth industry, since the movement to China of that industry in the last years of the twentieth century.”

In reviewing the 2020 NDAA, we have cut out the relevant excerpt from clause (c) listed under Section 850 titled “Acquisition and Disposal of certain Rare Earth Materials” for our readership.

NDAA Excerpt:

(c) REPORT ON SUPPLY CHAIN ISSUES FOR RARE EARTH MATERIALS.—Not later than 180 days after the date of the enactment of this Act, the Administrator of the Defense Logistics Agency, in coordination with the Deputy Assistant Secretary of Defense for Industrial Policy, shall submit a report to Congress assessing issues relating to the supply chain for rare earth materials. Such report shall include the following:

(1) An assessment of the rare earth materials in the reserves held by the United States.

(2) An estimate of the needs of the United States for rare earth materials—

(A) in general; and

(B) to support a major near-peer conflict as described in war game scenarios in the 2018 National Defense Strategy.

(3) An assessment of the extent to which substitutes for rare earth materials are available.

(4) A strategy or plan to encourage the use of rare earth materials mined, refined, processed, melted, or sintered in the United States, or from trusted allies, including an assessment of the best acquisition practices (which shall include an analysis of best value contracting methods) to ensure the viability of trusted suppliers of rare earth materials to meet national security needs.

While the above will inevitably be the catalyst for finally addressing the supply chain and inevitable sustainability issues in North America around these technology metals, I agree with Alkane Resources Ltd.'s (ASX: ALK | OTCQX: ANLKY) Managing Director Nic Earner who wrote "It is good to see continued moves by the US Government to establish independent supply. We look forward to seeing this lead into purchasing and commercial arrangements with US Defence suppliers in time."

I have reached out to my favorite and most knowledgeable players in the industry with a request for them to provide practical feedback on what this means for our sector and how it will impact us in 2020. Their comments are below, and I have added everyone to the commentary section so you may respond directly to them.

"In a complementary initiative, on December 18th, Canada and the U.S. signed a Memorandum of Understanding confirming Canada's participation in the U.S.-led Energy Resource Governance Initiative (ERGI), part of a multi-pronged strategy by Washington to break free of China's near-monopoly on so-called critical energy minerals essential for high-tech industries – producing everything from lithium batteries for electric cars, to smartphones and computers, wind turbines and defense assets. **There are great economic benefits for Canada if our natural resource wealth and industrial capabilities can be adapted toward creating both new primary mineral supply sources and the value-added derivative products needed for electric vehicles as well as other clean technology and defense applications.** I look forward to learning more about the Governments' plans and I know that industry leaders and technical experts across the full supply chain can contribute toward creating collaborative and innovative solutions." – Ian London, Chair, Chair, Canadian Rare Earth Elements Network

(GREEN)

“This year should be the culmination of nearly 10 years of effort to move the U.S. government from endless studies and research projects to actually investing in the production of rare earth materials needed to support the Department of Defense, which should serve as a catalyst to long-term commercial viability for the industry. The DOD currently has three active Requests for Proposal to invest in establishing the capability to separate light and heavy rare earths through two new facilities, and the establishment of an inventory of NdFeB magnets. With the continued support of Congress and the Pentagon, 2020 should be the year that separates the wheat from the chaff in the prospective rare earth market, as only the most viable prospective producers of rare earths will be selected for government funding – the time for hype and pipe dreams is over as we move to an era of actual investment in production.” – Jeff Green, President, J.A. Green & Company

“These two initiatives are essential to attract and renew investment interest in the rare earth sector. Search has participated in the requests from both the US and Canadian governments, which identifies Search Minerals as a key participant in the North American rare earth supply chain. It is also helpful that Canada rare earth resources are considered ‘domestic source’ for these additional funding opportunities.” – Greg Andrews, CEO, Search Minerals Inc. (TSXV: SMY)

Dr. David Dreisinger, Vice-President, Metallurgy of Search Minerals adds: “Since our inception, we have met our objectives to have a proven processing technology which has low capital and operating costs, environmentally friendly and scalable. The new initiatives could help fund separation

facilities or technologies in North America which could process our concentrate into individual oxides. Our resources contain both light and heavy rare earths required for many applications deemed critical under NDAA. **The initiative allows the ability for new government funding opportunities required to advance the supply chain initiative, ie offtake agreement or direct investing.**"

"The 2020 NDAA is an excellent additional step in a process that will ultimately lead to the establishment of a rare earth supply chain in the United States. Various agencies in the Department of Defense are now also beginning to put serious funding into the establishment of a domestic supply chain. Texas Mineral Resources and its funding and development partner USA Rare Earth Inc. is not waiting to take action. Rather, it has proactively established a Colorado based rare earth pilot facility that will ultimately be transported to Texas and ultimately envisions Texas as the center of a domestic rare earth and critical mineral supply chain." – Anthony Marchese, Chairman, Texas Mineral Resources Corp. (OTCQB: TMRC)

"The NDAA will bring focus on the rare earths sector and some much-needed funding to implement a North American strategy for rare earths. Six months is a very short time to summarize the state of the industry unless they have multiple inputs from those with knowledge of the space. Hopefully they will look at investing in the magnet supply chain, which needs rebuilding for the production of neodymium magnets (NdFeB). This initiative should build more confidence in the investment side and raise the profile for projects that can go into production in a short period of time." – Alastair Neill, Trinity Management Ltd.

“Trillions of dollars of all-important products are dependent on one dominant group which, in the past, has used rare earths for economic, political, social and technical gains. **The United States’ most recent vocalized concern over threatened or possible disruption of rare earth supply is once again drawing attention to the potentially tenuous situation and the importance of the companies addressing this situation.** Prudent business practice dictates the use of multiple suppliers particularly for key inputs. That said, the sourcing of rare earth raw materials in the United States and its allies can be arranged in the not too distant future, however, the paramount issue is establishing and implementing the technical know-how to process the raw materials into refined rare earths and then into useful applications and products. Processing capability is of paramount importance and is fundamental to unlocking supply dependency and will take considerably longer to implement due to the unique characteristics and the technical aspects of the rare earths.” – Tracy A. Moore, CEO of Canada Rare Earth Corp.

“Lynas welcomes the U.S. Defense Department’s plan to encourage the development of a rare earth supply chain in the United States, or with trusted allies. **As the world’s second largest Rare Earths producer, Lynas is well positioned to help the establishment of a sustainable and resilient rare earth supply chain from mine to magnet and to energy efficient electric motors.**” – Lynas Corporation

“Bringing together the NDAA, the Australian Government’s AUD4.4bn Defence Export Facility being made available to rare earth development projects, and joint U.S.-Australia critical minerals initiatives, **it’s clear that not since the Government of Japan helped fund Lynas in 2011 to build their Malaysian process plant, have we seen Western governments, including those of the EU member states, focus, co-operate and now act on the issues that have allowed China to effectively take**

control of the rare earth market over the past 20 years. These efforts could result in further diversification (beyond Lynas) of NdPr and heavy rare earth supply, including by Arafura Resources, into ex-China NdPr metal-NdFeB magnet alloy/magnet manufacturing and the downstream clean energy supply chain.” – Richard Brescianini, Arafura Resources Limited

“Medallion Resources has been focused on the development of rapid ‘go to production’ rare earth business model and proprietary extraction process using by-product monazite feedstocks. These are available throughout the Americas, Australia and Southern Africa. **We recently announced the start of US site selection process for an initial REE extraction plant with capital requirements that are a fraction of traditional REE mining and processing operations.**” – Donald Lay, President & CEO Medallion Resources