Hexagon Resources Limited (ASX:HXG) would like to advise that Managing Director, Mike Rosenstreich features in a video interview discussing American Innovation Metals Inc. (AIM).

AIM will be the vehicle for the incorporated joint venture which will commercialise the RapidSX™ approach to separation and purification of rare-earth elements as disclosed to the market on 10 October 2019.

The link to the video is https://hexagonresources.com/investor-centre/media/

A presentation summarising the rare-earths business opportunity is attached and is available on this link https://hexagonresources.com/investor-centre/presentations/

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Next-Generation Energy Materials Start Here.
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Rare-Earth Elements

- Rare-earth elements (REEs) comprise a relatively abundant group of 17 elements, including the 15 lanthanide elements on the periodic table, plus two other related elements, scandium and yttrium.

- The unique magnetic, electric, optical, and chemical properties of REEs have made them an integral part of modern life.

- REEs are critical, non-substitutable inputs required in countless high-tech, green-energy, transportation and defence applications.

- REE permanent magnets are the most significant and lucrative demand driver for the REE downstream, consuming various REEs, most notably, praseodymium, neodymium, samarium, terbium and dysprosium.

- A study by the US Department of Commerce’s Bureau of Industry and Security reported that 66% of respondents, the majority of whom are vendors to US Department of Defense (DoD), indicated they imported REE materials.

- After China, Australia is the largest upstream producer of mixed REE chemical concentrates globally. The US has just one producing REE mine — the Mountain Pass Mine in California — however, the mined REE mineral concentrates are shipped to China for processing into mixed REE chemical concentrates and subsequent separation into REE oxides (REOs).

Background: Neodymium-based permanent magnets – the strongest type of magnet commercially available.
Rare-Earth Elements

**REE separation to produce REOs – the key technical challenge**

- China dominates downstream REE separation, producing ~85% of global REO output
- Solvent extraction (SX) is the dominant, industry-standard commercial processing method for REE separation
- Highly capital-intensive due to technical challenges of REE separation and the hundreds of mixer-settler stages required for conventional SX
- REEs are divided into light REEs (LREEs) and heavy REEs (HREEs), with HREEs being more valuable, but LREEs being used in greater quantities

![REE Elements Chart]

**REO Indicative Pricing**

<table>
<thead>
<tr>
<th>REO</th>
<th>Price (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nd₂O₃</td>
<td>$45/kg</td>
</tr>
<tr>
<td>Pr₆O₁₁</td>
<td>$54/kg</td>
</tr>
<tr>
<td>Tb₄O₇</td>
<td>$546/kg</td>
</tr>
<tr>
<td>Dy₂O₃</td>
<td>$263/kg</td>
</tr>
</tbody>
</table>

*Indicative prices in US$, source: BAI INFO October 2019*
**REEs in an xEV**

The diverse uses of REEs in EVs illustrate how these important elements have permeated diverse contemporary technologies.

- **Electric Motor & Generator**
  - Neodymium
  - Praseodymium
  - Dysprosium
  - Terbium

- **Headlight Glass**
  - Neodymium

- **Component Sensors**
  - Yttrium

- **UV Cut Glass**
  - Cerium

- **LCD Screen**
  - Europium
  - Yttrium
  - Cerium

- **Glass and Mirrors Polishing Powder**
  - Cerium

- **Catalytic Converter**
  - Cerium
  - Lanthanum

- **Fuel Additives**
  - Cerium
  - Lanthanum

- **25+ Electric Motors throughout the vehicle**
  - Neodymium
  - Praseodymium
  - Dysprosium

Illustration: Ford Motor Company
REE permanent magnets are essential non-substitutable components in many electric motor, generator and sensor applications, for defence, aerospace, medical, and numerous industrial and high-tech applications.

The most efficient motors require REE permanent magnets to convert electrical energy into mechanical motion. Similarly, high-efficiency turbines and generators require these magnets to convert mechanical motion into electrical energy.

Permanent magnets are critical in maximising the efficiencies and capabilities of electricity in modern technologies.
Critical Applications for REEs

America’s manufacturing and defence industrial base requires a growing number of widely used specialised materials, including REEs and REE permanent magnets.
# REEs in Green Energy

<table>
<thead>
<tr>
<th>REE</th>
<th>Magnets</th>
<th>Batteries</th>
<th>Phosphors</th>
<th>US DoD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanthanum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cerium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Praseodymium</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Neodymium</td>
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<tr>
<td>Samarium</td>
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<tr>
<td>Europium</td>
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<tr>
<td>Terbium</td>
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<tr>
<td>Dysprosium</td>
<td></td>
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<tr>
<td>Gadolinium</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yttrium</td>
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</tr>
</tbody>
</table>
The Problem

Praseodymium (Pr) metal
“There is oil in the Middle East. There are rare earths in China. We must take full advantage of this resource.”

Deng Xiaoping (1992)
Paramount Leader of the People’s Republic of China
China’s Dominance

China controls 85% of global REE production without enforcing adequate environmental safeguards.

A rare-earth processing plant pollutes the air and produces hazardous waste in Baotou, Inner Mongolia, China. Illegal and undocumented REE mining and production in China is a serious, ongoing issue.
China’s Domination

China's domination of the REE market illustrates the dangerous interaction between Chinese economic aggression guided by its strategic industrial policies — and vulnerabilities and gaps in America's manufacturing and defence industrial base.

China has strategically controlled the global market with REEs at subsidised prices, driven out competitors, and inhibited new market entrants. When China feels the need to flex its soft-power muscles by embargoing REEs, it does not hesitate (e.g. China’s maritime dispute with Japan in 2010).

As part of the increasingly global manufacturing and defence industrial base, imports of strategic and critical materials, such as REEs, have increased, causing a trade-off between supply dependency and lower costs.
“Don’t underestimate the Chinese capacity to counter-attack. Don’t say we didn’t warn you”

The quote was from The Chinese Communist Party (May 19, 2019) published in the official newspaper, the People’s Daily, warning against China’s use of rare earth elements (REEs) as bargaining leverage in the ongoing US-China trade dispute.

Those familiar with Chinese diplomatic language know the weight of the statement, specifically the rare Chinese phrase of “don’t say I didn’t warn you” which was used before China went to war with India (1962) and Vietnam (1979).
“Military equipment firms in the United States will likely have their supply of rare earths restricted”

The Chinese Communist Party (June 17, 2019)
Published in the Global Times, an official newspaper of the Chinese Communist Party

A U.S. Air Force B-2 Spirit Stealth Bomber in flight. The B-2 Spirit is manufactured by Northrop Grumman, with an average cost of more than $2.1B per aircraft

Photo: U.S. Air Force
100% US Reliance

A matter of US Economic, Industrial and National Security: the US must reduce its REE downstream reliance on China

The US was once largely self-sufficient in REEs, but over the past quarter century, China has emerged as the dominant global leader in REE production.

REEs are a focal point in the escalating trade war between the US and China.
How China Overpowered the U.S. to Win the Battle for Rare Earths

Bloomberg News
June 10, 2019, 7:17 PM EDT  Updated on June 11, 2019, 2:50 AM EDT

Six state companies at heart of key government-run industry
Crucial sector shaping as the new battleground in trade war

The government has prepared steps to use its stranglehold on critical rare earth minerals to hurt the US economy.

How China Could Shut Down America’s Defenses
Advanced US. weapons are almost entirely reliant on rare-earth materials from China—and they could be a casualty of the trade war.

BY KEITH JOHNSON, LAURA SELIGMAN  JUNE 11, 2019, 5:10 PM

President Donald Trump has often argued that China has much more to fear from a trade war than the United States in a trade war. But critics say his administration has failed to appreciate that China, too, has powerful weapons in its arsenal.

Click for background on the trade war

Marco Rubio Knows America's Future Depends On Rare Elements
James Conca  Contributor
Energy
I write about nuclear, energy, and the environment.

Rare earths: Beijing threatens a new front in the trade war
China believes its near-monopoly over rare-earth mining and processing gives it the upper hand in the trade war.
RapidSX™ Rare-Earth Separation

Innovation Metals Corp (IMC)

- Private Canadian company, founded to develop cost-effective separation processes for critical minerals (REEs, Lithium, Cobalt, Nickel)
- World-renowned technical research and development expertise; partners and clients include public/private companies and government agencies

- IMC successfully developed and piloted the RapidSX™ approach — a proven, enhanced SX technology offering major REE separation efficiencies, with significantly reduced CAPEX & OPEX
- The RapidSX™ technology was piloted with US$1.8M funding from the US DoD, via the US Army Research Laboratory
- Successful piloting of RapidSX™ REE separation for demonstrated highly efficient and cost-effective production of REOs
- RapidSX™ Pilot Plant demonstrated a production capacity of 1 – 2 tonnes of REOs per month (depending on the REE feed)
- RapidSX™ Pilot Plant results indicated average separation costs for a suite of high-value, in-demand REOs of <$2/kg for LREOs and <$12/kg for HREOs
RapidSX™ Rare-Earth Separation

IMC to Participate in US Department of Defense Rare-Earth Project and Launches Lab-Scale Solvent Extraction Pilot Plant Program

June 5th, 2014

TORONTO, June 5, 2014 – Innovation Metals Corp. (IMC or the Company) today announced its participation in a new $1.2M rare-earth supply-chain development program, led by Technology Metals Research, LLC (TMR) and funded by the US Army Research Laboratory (ARL), part of the US Department of Defense (DOD).

IMC joins a dozen other participants in the program, which will enable the Company to construct and to operate a 120-stage, lab-scale rare-earth-element (REE) pilot plant. The plant will be used to test solvent-extraction (SX) process-flow diagrams, for the extraction and separation of REEs, focused on the much sought-after heavy REEs.

“The United States and Canada are well endowed with critical- and heavy-rich REE deposits,” said Gareth Hatch, President of IMC, co-founder of TMR and the Principal Investigator for the 12-month program. “What is missing from mine-development projects is the ability to extract and to separate heavy REEs here in North America, once the ores have been initially processed. IMC is in the process of ‘re-shoring’ the knowledge and expertise required for the production of separated heavy REEs, and will use the new SX test apparatus to provide baseline comparative data to the overall ARL program.”

Once constructed, the pilot plant will be run by experienced personnel at a third-party process-engineering facility in Canada. The Company will initially use heavy REE-rich concentrates that are commercially available from non-Chinese sources. IMC will also collaborate with future heavy REE producers that are able to provide similar concentrates for testing.

IMC Announces Successful Testing of Proprietary Low-Cost Rapid Solvent Extraction Process

February 18th, 2016

TORONTO, February 18, 2016 – Innovation Metals Corp. (“IMC” or “the Company”) is pleased to report on the successful testing of its proprietary rapid solvent-extraction (“RapidSX”) process, for the low-cost separation of rare-earth elements (“REEs”) and other technology metals.

“The patent-pending RapidSX™ approach reduces the number of SX separation stages by over 90%,” said Patrick Wong, CEO of IMC, “leading to a significant reduction in plant footprint and associated capital expenditures. The process also leads to dramatic reductions in operating costs and time to process completion, when compared to conventional SX.”

In June 2014, IMC joined the first phase of a REE supply-chain development program, led by Technology Metals Research, LLC (“TMR”) with US$1.2M in funding from the US Army Research Laboratory (“ARL”), part of the US Department of Defense. This first phase enabled the Company to operate a 130-stage, lab-scale conventional REE SX separation pilot plant in 2014 and 2015. Results from this work will be presented at the IMPC meeting in September 2016, to be held in Quebec.

In 2015, IMC began work to improve the conventional SX process, through its participation in a $1.7M second phase of the TMR / ARL development program. The Company evaluated a number of avenues before focusing on its current RapidSX approach.

“The RapidSX process utilizes the time-proven chemistry of SX, in a set of proprietary columns filled with a simple contact medium,” commented Gareth Hatch, President of IMC, co-founder of TMR and the Principal Investigator for the ARL-funded program. “The process avoids the need for expensive resins or other separation approaches unproven at scale.”
The RapidSX™ technology is now ready for commercialisation
American Innovation Metals (AIM)

IMC and Hexagon’s wholly owned US-based subsidiary, Energy Materials of America, LLC plan to form a joint venture — **American Innovation Metals Inc. (AIM)** — to commercialise the RapidSX™ downstream REE separation technology.
American Innovation Metals (AIM)

AIM is a de-risked downstream REE separation business, with RapidSX™ technology ready for commercialisation

Hexagon has a binding Investment Agreement to acquire 49% of the RapidSX™ technology for REE separation through AIM

- **Investment is US$2M to build out a Commercial Demonstration Plant within 12 months, plus US$4M deferred payments, payable through Hexagon’s share of future AIM cash flows. Investment is subject to Hexagon shareholder approval expected 22 Nov. 2019**
- **Hexagon will contribute commercial and marketing skills, identify/secure feedstocks, generate RapidSX™ licencing opportunities, and sales/offtakes for REOs produced**

- AIM intends to play a role in the rebalancing of REE supply and demand between China and US
- Potential to expand AIM beyond USA — to Australia, Europe, Japan, South America, South Korea, and India — through licensing
- The feedstocks are mixed REE chemical concentrates; the RapidSX™ technology is source-agnostic *(not reliant on the REE source; multiple LREE and HREE feedstocks)*
- There is little upstream risk, as REE feedstocks are readily available
AIM’s value is in the demonstrated ability of the RapidSX™ technology to separate REE concentrates into high-purity REOs.
REO Global Market Value

In 2018, the total global REO market was worth ~US$3.4 billion

- Requiring REOs, REE permanent magnets are the most significant and lucrative demand driver for the REE downstream, constituting ~60 to 70% of the value of the global REO market.

- REE permanent magnets consume various REOs, including oxides of praseodymium, neodymium, samarium, terbium, and dysprosium, which for all uses represented an estimated of 35% REO demand by volume in 2018.

- By 2025, magnets are forecast to exceed 39% of REO total demand by volume and 42% by 2030.

Source: Adamas Intelligence, 2019
REE Supply Chain

REE Mining & Primary Concentration

(REE ore produced primarily from bastnaesite, monazite, and ion-adsorbed clay mineralisation)

REE Concentrate Production

REE Separation

REEs are separated to produce individual high-purity REOs

REE separation is the sole focus of AIM’s RapidSX™ technology

REE Separation

REEs refined into REE mischmetal, metals, alloys, and powders

REE Metal & Alloy Making

REE alloys are transformed into permanent magnets

REE-Containing Final Products

REE-containing components are utilised in major green-energy, high-tech and military/defence applications

Upstream

Downstream

Node 1

Downstream

Node 2

Downstream

Node 3
REE Supply Chain Outputs

↑ UPSTREAM
• REE Ores
• REE Mineral Concentrates
• Mixed REE Chemical Concentrates

↓ DOWNSTREAM
• Separated REE Oxides (REOs)
• Separated REE Chem Compounds

↓ DOWNSTREAM
• REE Metals
• REE Alloys

↓ DOWNSTREAM
• REE Permanent Magnets
• REE Components/Applications
Constraint is in the Downstream

There is no shortage of REE upstream concentrate production/feedstock suppliers outside of China (USA, Australia, South America)

REE separation is the supply-chain constraint. Commercialising the RapidSX™ technology will address non-Chinese REE separation deficiency

REE downstream clients are now demanding non-Chinese metals and alloys for their downstream REE products
Under-served Downstream Consumers

A selection of REE Metal & Alloy and REE Magnet Makers — outside of China
# RapidSX™ vs Conventional SX

<table>
<thead>
<tr>
<th>Performance &amp; Efficiency</th>
<th>RapidSX™</th>
<th>Conventional Solvent Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Purity</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>REE Recovery Rates</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Processing Time</td>
<td>Rapid</td>
<td>Slow</td>
</tr>
<tr>
<td>Time to Equilibrium</td>
<td>Days</td>
<td>Several Weeks</td>
</tr>
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</table>

## CAPEX

<table>
<thead>
<tr>
<th>Equipment Cost</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation Staging</td>
<td>90% Reduction</td>
<td>Very High</td>
</tr>
</tbody>
</table>

## OPEX

<table>
<thead>
<tr>
<th>Metal Inventory/WIP</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Volumes</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Labour</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

The RapidSX™ technology dramatically reduces the number of REE separation stages in the SX chemical circuits by up to 90% compared with conventional SX systems, leading to a significant reduction in plant footprint and associated CAPEX.

The RapidSX™ technology significantly reduces OPEX and time to process completion, reducing processing times — from several weeks to just days — for each REE separation completed.
RapidSX™ vs Conventional SX

Why the RapidSX™ technology is superior to conventional SX

**Increased Separation Kinetics**
Reduced time to achieve desired transfer of metal(s) of interest, from one liquid phase to the other

**Low CAPEX**
Due to considerably reduced size, number of separation stages and resulting physical plant footprint, compared to conventional SX approaches

**Low OPEX**
Due to significantly reduced separation times (days compared to weeks), reduced reagent and power consumption, reduced manpower requirements, and reduced in-process metal inventories

**Agnostic**
Robust process capable of taking LREE-rich, HREE-rich and even blends of mixed REE feedstocks

**Commercially Available**
All construction materials, equipment and chemistry are readily available with no ‘black-box’ technology

**Scalable & Modular**
Process lines are modular and scalable
American Innovation Metals (AIM)

RapidSX™ commercialisation steps:

- Construct a RapidSX™ REE separation Commercial Demonstration Plant (CDP) for US$1.5M (~6 months build time and ~3 months commissioning; ~9 months total)
- Planned production capacity of 6,000–8,500 kg/mo REO (70–90 tpa)
- Procure mixed REE chemical concentrates
- Provide and/or sell separated REOs to potential customers
- Testwork for existing and emerging mixed REE concentrate producers at client’s cost
- Conservative assumption of generating fees from executing RapidSX™ Technology Licencing Agreements
- Progressively go to commercial scale through incremental addition of full-scale separation lines
- Modular and scalable, the RapidSX™ technology is capable of entering into a significantly under-served US market without the risks of oversupply
RapidSX™ CDP Timeline

- RapidSX™ IP Protection
- Feedstock Agreements
- CDP Detailed Engineering
- CDP Construction
- CDP Commissioning
- CDP Operation

The US Defense Production Act (DPA Title III) is the President’s primary authority to ensure the timely availability of private-sector resources for national defence.

DPA Title III provides unique economic authorities to mitigate industrial-base shortfalls and expand US production capabilities to promote national defence.

Objectives include:
- Expanding and sustaining production capacity
- Ensuring US Government access to technology and resources
- Ensuring long-term commercial viability

DPA Title III requires the President to make one or more Determinations in order to authorise the US government to invest directly into privately owned manufacturing capabilities.

In July 2019, President Trump issued five Presidential Determinations pertaining to US downstream REE production.
The five Presidential Determinations proclaimed domestic REE processing capabilities are essential to national defence and addressed:

- HREE Separation *
- LREE Separation *
- REE Metals & Alloys
- NdFeB Magnets
- SmCo Magnets

* The RapidSX™ technology is a proven, low-cost solution to both HREE & LREE separation

**Presidential Documents**

Presidential Determination No. 2019–18 of July 22, 2019

Presidential Determination Pursuant to Section 303 of the Defense Production Act of 1950, as Amended

Memorandum for the Secretary of Defense

By the authority vested in me as President by the Constitution and the laws of the United States of America, including section 303 of the Defense Production Act of 1950, as amended (the “Act”) (50 U.S.C. 4533), I hereby determine, pursuant to section 303(a)(5) of the Act, that the domestic production capability for Rare Earth Metals and Alloys is essential to the national defense.

Without Presidential action under section 303 of the Act, United States industry cannot reasonably be expected to provide the production capability for Rare Earth Metals and Alloys adequately and in a timely manner. Further, purchases, purchase commitments, or other action pursuant to section 303 of the Act are the most cost-effective, expedient, and practical alternative method for meeting the need for this critical capability.

You are authorized and directed to publish this memorandum in the Federal Register.

**Trump Issues Order to Spur Production of Rare-Earth Magnets**

Trump invoked the 69-year-old Defense Production Act to remedy what he called “a shortfall” in production of the super-strong magnets made with rare-earth minerals neodymium and samarium.

Bloomberg: Jul 25, 2019

President Donald Trump on Monday ordered the U.S. Defense Department to spur the production of a slew of rare-earth magnets used in consumer electronics, military hardware and medical research, amid concerns China will restrict exports of the products.
US Defense Production Act, Title III

DPA Title III actions stimulate private investment in production resources by reducing the risks associated with the capital expenditures required to establish the needed US production capacity. The program executes projects ranging from process improvement to production plant construction.

“I hereby determine, pursuant to section 303(a)(5) of the Act, that the domestic production capability for separation and processing of Heavy Rare Earth Elements is essential to the national defense.”

“I hereby determine, pursuant to section 303(a)(5) of the Act, that the domestic production capability for separation and processing of Light Rare Earth Elements is essential to the national defense.”

“I hereby determine, pursuant to section 303(a)(5) of the Act, that the domestic production capability for Neodymium Iron Boron Rare Earth Sintered Material and Permanent Magnets is essential to the national defense.”

“I hereby determine, pursuant to section 303(a)(5) of the Act, that the domestic production capability for Samarium Cobalt Rare Earth Permanent Magnets is essential to the national defense.”

Donald J. Trump
President of the United States of America
July 22, 2019
In June 2019, the Defense Production Act Title III Office published a Request for Information (RFI) for “Light and/or Heavy Rare Earth Element Separation and Processing Production Capability.”

“Specifically, the DPA Title III Program Office is interested in input regarding the feasibility and desirably of government support for development of domestic LREE and HREE refining, separation, and processing capacity.”

Typically, an RFI leads to a Request for Proposals (RFP) for funding grants to finance efforts ranging from process improvement to production-plant construction.

The contracting office was the US Air Force’s Air Force Research Laboratory (AFRL) in conjunction with Northrop Grumman.

On July 12, 2019, the US DoD announced a $5-billion grant program for the “Expansion of Domestic Production Capability and Capacity” through the DPA Title III and the AFRL.
IMC submitted a response to the RFI from the Defense Production Act Title III Office. In addition to answering the specific questions requested in the RFI, IMC proposed the commercialisation of the RapidSX™ technology.

The DPA Title III program authorises the Federal Government to procure and install equipment within plants, factories, and other industrial facilities which are owned by private entities.

During 2014 to 2016, IMC’s Chairman and CEO, Dr. Gareth Hatch, served as Principal Investigator (PI) on a US$2.9M DoD-funded development program for REEs, with US$1.8M specifically awarded to IMC for work leading to the development of the RapidSX™ REE separation technology.
Rubio Introduces Bill to Combat China's Rare Earth Monopoly, Boost U.S. Advanced Manufacturing

WASHINGTON, D.C. — Today, U.S. Senator Marco Rubio (R-FL) will introduce the Rare Earth Cooperative 21st Century Manufacturing Act. The legislation would establish a privately funded, operated, and managed Rare Earth Refinery Cooperative responsible for coordinating the establishment of a fully integrated domestic rare earth value chain to serve U.S. national security interests and restore American competitiveness of critical advanced manufacturing industries.

"As the Chinese government and Communist Party aggressively subsidize and invest in their own economy at our expense, we must shift our policies to restore the competitiveness of critical American industries for the 21st century," Rubio said. "Beijing's mercantilist tactics have contributed to a market failure for the development of rare earth resources, both in the United States and around the world. Continued U.S. dependence on China for the mining and processing of rare earths and the manufacture of those metals into useful products is untenable — it threatens our national security, limits our economic productivity, and robs working-class Americans of future opportunities for dignified work.

"The Rare Earth Cooperative 21st Century Manufacturing Act is a crucial ingredient for the resurgence of America's advanced manufacturing sector by allowing domestic industries to regain competitiveness and break China's control over the global rare earth value chain," Rubio continued. "We can't beat China by playing their game, which is why this bill harnesses the American cooperative model as a time-tested way to correct for failed markets without relying on heavy-handed federal intervention. We are in a geopolitical competition that will determine the future prosperity of our nation, and it is long overdue for the U.S. government to act like it in every phase of our work for the American people."

TIPTON INTRODUCES BILL TO REDUCE AMERICA'S RELIANCE ON RARE EARTH MINERALS FROM CHINA

September 19, 2019 | Press Release

WASHINGTON, D.C. — Today, Representative Scott Tipton (CO-03) introduced a bill to make the United States more competitive with China when it comes to the processing of rare earth minerals. Tipton's bill, the Rare Earth Cooperative 21st Century Manufacturing Act (H.R. 4410), would establish a federal cooperative that would allow for companies to process rare earth minerals they rely on for manufacturing. China is currently the world leader in the rare earth mineral processing market and has used its position as leverage during the U.S.-China trade negotiations.

"From cell phones to medical equipment to solar panels, rare earth minerals are found in just about every piece of modern technology used by millions of Americans every day," said Tipton. "China continues to manipulate American companies by practicing unfair trade tactics which have increased the United States' economic and national security vulnerability, especially when it comes to reliance on rare earth minerals from China. This bill will help reverse that trend by empowering American companies to be more competitive with China, allowing them to responsibly extract and process the rare-earth minerals they rely on to manufacture their products. I look forward to continue advocating for the responsible development of energy resources and encourage my colleagues to act quickly to end this delicate situation."

U.S. Senator Marco Rubio introduced an identical Senate version of the bill in July 2019.

"I thank Congressman Tipton for his leadership in the House on this important issue. As the Chinese government and Communist Party aggressively subsidize and invest in their own economy at our expense, we must shift our policies to restore the competitiveness of critical American industries for the 21st century. The Rare Earth Cooperative 21st Century Manufacturing Act is a crucial ingredient for the resurgence of America's advanced manufacturing sector by allowing domestic industries to regain competitiveness and break China's control over the global rare earth value chain," Rubio said. "We can't beat China by playing their
Hexagon Overview

2 emerging multi-faceted downstream businesses

ENERGY MATERIALS OF AMERICA

AIM

AMERICAN BATTERY GRAPHITE

Rare-Earth Elements (REEs) Separation & Purification

Graphite – Energy/Battery Materials & Industrial

ASX Code: HXG
Shares on Issue: 291.8M
Options on Issue: 24.2M
Share Price (10 Oct 2019): A$0.06
Market Capitalisation: A$18M
Debt: nil
Cash (30 June 19): A$4.2M

• Strong Share Register
  25% Institutional holders (with Tribeca Natural Resources Fund holding 12%), Management 9%

• Strong Cash Balance
  A$4.2M (sufficient for FY2020)

• Debt Free
  No debt or exotic funding/equity commitments

• Planned US listing
  Planned listing on the OTC Markets’ OTCQB® Venture Market
Energy Materials of America

Hexagon’s US business vehicle

Energy Materials of America, LLC (EMA) is the holding entity for Hexagon’s two US-based energy-materials businesses:

- **Strong management and technical teams** — comprising US-based, UK and Australian executives with significant graphite, REE and technical-materials marketing experience
- EMA is a potential funding vehicle for Hexagon's US businesses
- Plan to list EMA on NASDAQ/NYSE as an independent US business
Energy Materials of America

Made-in-USA
Premium Energy Materials

DOWNSTREAM RARE-EARTH ELEMENTS
- Proven RapidSX™ REE separation & purification technology
- “Best-in-class” cost and performance efficiencies
- Successfully piloted; produced commercial-grade REOs with 99.5-99.97% purities
- US$1.8M initial development funded by US Department of Defense’s Army Research Laboratory

DOWNSTREAM GRAPHITE
Battery Graphite
- Comprehensive, go-to-market ‘Made-in-USA’ battery-graphite materials business, driven by leading ends users (natural-flake, synthetic and blended battery-graphite products)
- Suite of Tier-1 performance anode & cathode battery materials
- Utilising commercially available feedstocks, transformed via proven commercial technologies already approved/understood by end users
- Not reliant on upstream development activities

Energy & Industrial Graphite
- Diverse suite of specialised products
Contact

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