



# GreenMet

WRITTEN TESTIMONY BEFORE THE  
HOUSE SCIENCE, SPACE, AND TECHNOLOGY  
U.S. HOUSE OF REPRESENTATIVES

FULL COMMITTEE HEARING ON  
“THE ROLE OF FEDERAL RESEARCH IN ESTABLISHING A ROBUST U.S. SUPPLY  
CHAIN OF CRITICAL MINERALS AND MATERIALS”

DREW HORN  
FOUNDER, PRESIDENT & CEO  
GREENMET

November 30, 2023

Chairman Lucas, Ranking Member Lofgren, Members of the Committee: Thank you for the opportunity to testify today on this important topic of leveraging Federal research dollars to achieve a robust American supply chain for critical minerals.

My name is Drew Horn, and I am founder, president and CEO of GreenMet - a private company working to develop American critical mineral and green energy supply chains. Our efforts serve to reduce U.S. over-reliance on foreign imports of critical minerals and metals - particularly from our adversaries - thereby strengthening U.S. national security. In other words, Mr. Chairman, **America’s critical mineral security is our national security.**

I am also a former U.S. Army Special Forces officer and a Marine officer who served this country for over 10 years in uniform. During my time as an officer, I successfully completed three combat deployments to Afghanistan as a Green Beret, and one to Iraq as a Marine. After my military service I had the privilege to serve as a senior policy executive at the Departments of Defense and Energy, the Office of the Vice President, and the Office of the Director of National Intelligence.

Our GreenMet team is made up of decorated veterans, former public servants, and industry experts. GreenMet was founded in 2021 to build U.S.-based technical solutions to mining, processing, and metallurgy for critical minerals that are more cost-efficient and environmentally responsible than those practiced in the same trade space that is dominated by U.S. adversaries. As the conduit between private capital and critical mineral innovation, GreenMet has the unique privilege of representing the complete private sector policy interests that support and sustain reliable and uninterrupted U.S. supply chains for critical minerals from mine through manufacturing.

GreenMet is currently involved in multiple mineral resource projects that will strengthen domestic critical mineral supply chains. GreenMet is focused on developing the required infrastructure for sustainable and uninterrupted critical mineral supply chains which can meet U.S. and North American energy and technological needs. Our approach is predicated on the belief that good, comprehensive critical mineral policy begins with good public-private partnership to tackle much needed innovative research and development in the minerals resource arena. This approach helps incubate, accelerate, and scale innovations in all segments of the mineral supply chains from mining to manufacturing.

Our GreenMet team works to demonstrate that the U.S. can produce domestic energy in a cleaner and more technologically superior way than the current status quo practiced by our foreign adversaries. Our nation's 21st century mining and metalmaking practices are governed by the world's highest and best standards. Hence, as the U.S. unleashes its domestic energy production according to these high standards, sustainable and uninterrupted supplies will result.

As the U.S. rebuilds its mineral supply chains, we need to place the greatest emphasis on minerals and metals that make our energy independence possible, including our energy systems and especially our energy grid. Not all minerals or elements are of equal priority to our national agenda.

For example, we absolutely need the rare earth metal *neodymium* to produce rare earth magnets. However, only magnets containing added *dysprosium* and *terbium* can resist extreme temperatures required for essential military and civilian uses. Magnets without heavy rare earth *dysprosium* and *terbium* are only useful for low-temperature application as in commercial electronics, appliances, and toys. Our adversaries in China and Russia recognize this and restrict access to heavy rare earths wherever and whenever they can as our trade history with them has demonstrated in the last 15 years.

While the CHIPS Act touches fabrication and other supply chain links, Federal research funding needs to directly support (i.e. "applied research") those identified innovative methods and technologies needed to successfully re-shore U.S. capabilities in mining, mineral processing, metal and alloy refining (metallurgy), and manufacturing. Given the interdependent nature of our economic and national security priorities, we believe the inclusion of funding for these mineral projects will propel the advancement of a domestic supply chain and meet our current and future defense needs.

The Inflation Reduction Act and its advanced manufacturing tax credits that include critical minerals was a step in the right direction. However, to facilitate the hand off from Federally supported R&D to commercial viability, future funding must be targeted further upstream in the critical mineral supply chain. We cannot build the house from the roof down, nor can we only incent a single step in the supply chain. If we do, then all our efforts are for naught, and we are still relying on China for the rest.

The first crucial step in the complex challenge of fortifying U.S. critical mineral supply chains will require Federal applied research funding tailored to prioritize advancements in technology resulting in better environmental standards while enabling robust U.S. competition in the global

market, especially against countries that don't subscribe to our economic and environmental standards and rules. By directing applied research funds further upstream, the U.S. can continue to bolster its capabilities in mining, processing, refining, and metallurgy – all the steps that lead to TRUE domestic manufacturing.

A good recent example of prioritizing upstream funding is The Defense Production Act Title III in the Inflation Reduction Act (Public Law 117-169) that is intended to fund critical domestic projects based on the latest R&D. Two projects well suited for this type of funding are the Wyoming-based “Bear Lodge Rare Earth Project,” and the Missouri-based Caldera tailings reclamation project at Pea Ridge, between which we can meet all domestic heavy rare earth demand without looking outside our borders. GreenMet is proud to support both as they seek to provide the U.S. government with the most cost-effective and practical path to a secure and uninterrupted supply chain for heavy rare earths, from mine to separated rare earth oxides or “REOs.” These REOs are critically necessary to produce high-strength permanent magnets required for defense, offshore wind turbines, and electric vehicles, and innumerable uses in clean technology.

To help ensure R&D efforts and national labs are pursuing and advancing innovations that meet our national priorities, the U.S. also needs increased centralized oversight by the White House and at the headquarters-level of appropriate agencies. The most effective way to ensure proper and coordinated funding and policy oversight for the critical mineral sector is to establish an interagency taskforce under the Executive Office of the President.

To reiterate, mineral security is national security. The window of opportunity is fleeting, and delay increases our already severe mineral vulnerabilities. By fast-tracking the deployment of projects arising from federal research projects, we can accelerate them towards commercialization. Conflicts in Ukraine have drawn down our nation's munitions. Our National Defense Stockpile of critical minerals is at an all-time low, only about 4% of what it used to be at its peak. America is vulnerable, but we have begun to tackle the challenge. You, the esteemed members of this committee, can help us change course by investing federal research dollars into all levels of the mineral supply chain, especially the ones most dominated by our adversaries such as mineral extraction, refining, and processing.

Successful research grants should both facilitate break-through developments and incubate those new methods to the point of a viable commercial hand off. From minerals in American mines to their end products in American manufacturing plants, our industries really benefit from Federally funded R&D that goes beyond laboratory and demonstration projects, with an eye toward achieving full commercialization as rapidly as possible.

To that end, projects developed through Federal R&D dollars must automatically qualify for fast-tracking of any follow-on permitting required to commercialize. Expedited permitting for critical mineral projects here at home will bring us closer to a carbon neutral economy, decrease our dependence on China, and increase our energy and national security.

Mr. Chairman, inaction regarding the utilization of America's mineral wealth to sustain our national security and protect our economic stability is far beyond extremely serious, it is

dangerous given our wild over-reliance on critical mineral imports from China and other adversaries. America is behind the curve reshoring our mineral supply chains.

Our country is blessed with mineral deposits beyond belief and geologists are still far from completing mapping of the U.S. Now we desperately need the national will to leverage our mineral wealth. This can be achieved through successful public-private partnerships with our great mining and metallurgical industries, and the elimination of the permitting labyrinth and frivolous lawsuits that stymy our progress toward mineral independence.

The time for bold, transformative bi-partisan Congressional action is now. In summary, we need your support for investing federal research dollars across the entire mineral supply chain to enable America to be secure and self-reliant. Furthermore, when allocating those precious taxpayer dollars, we must be expeditious in moving innovations through the entire project development lifecycle.

Mr. Chairman, I thank you for permitting me to testify today regarding the importance of fueling American ingenuity to fully realize the potential of our domestic mineral wealth.

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## Drew Horn



Drew Horn is a trailblazer in securing critical minerals supply chain resources to serve business and national security needs. With this vision in mind, he founded GreenMet, the world's primary project finance company dedicated to building and facilitating responsible and economically-sound growth in the United States renewable energy and critical minerals supply chain. GreenMet specializes in matching public and private capital to build advanced materials growth in a manner that supports the energy and technological needs of the future.

Mr. Horn's time in the federal government, private sector, and active-duty military service gave him extensive leadership experience in business management and national security. During his time in the US federal government, he led US government efforts in minerals supply chain development. He served as a senior policy executive at the Departments of Defense and Energy, Offices of the Vice President, and the Director of National Intelligence. Mr. Horn led government-wide efforts in economic security and intelligence. This entailed creating and implementing a new US strategy for building the national critical minerals supply chain, as well as a new international energy plan focused on optimization of renewable energy efforts worldwide. These efforts culminated in his work to optimize related national intelligence operations and accelerate the establishment of public-private partnerships between government and business leaders in the energy, commercial, and manufacturing security space.

Prior to his federal service, Mr. Horn worked as a strategic management consultant at one of the Big Four consulting firms. There he managed teams that provided intelligence and risk analysis for clients in the national security space. Mr. Horn also spent ten years in uniform as a commissioned officer in the US military, first as a United States Marine and then as a Special Forces Officer in the United States Army. He has extensive combat experience in Afghanistan as a commander of a direct-action commando team and successfully completed three combat deployments to Afghanistan, and one to Iraq as a Marine.

Mr. Horn is originally from Northern Virginia and has a Master of Business Administration from the University of Virginia's Darden School of Business, and an undergraduate degree in Political Science and History from the University of Wisconsin. He currently resides in Northern Virginia and West Virginia.

DREW HORN

**PROFESSIONAL EXPERIENCE**

GREENMET, Washington, DC.

*April 2021 – Present*

***Founder, President, and Chief Executive Officer***

- Founder of GreenMet, the world's premier green energy supply chain company.
- Priorities are matching unparalleled preferred public and private funding options by leveraging the links between national security interests and green energy development needs, utilizing our unique knowledge and expertise of US government and private industry leaders.
- Built the company from conception to full operational status, including building a full management team, incorporating as a C Corporation with a top-level Board of Directors, Board of Advisors, Steering Committee, and solidified deal flow with a valuation more than two billion dollars.

Safeguarding America's Future Energy (SAFE), Washington, DC.

*September 2021 – Present*

***Senior Fellow***

- Provides senior level industry and government leadership perspective to a critical think tank that helps provide energy policy guidance to key global leaders.
- SAFE enhances the nation's energy security and supports our economic resurgence and resiliency, by advancing transformative transportation and mobility technologies and ensuring that the United States secures key aspects of the technology supply chain to achieve and maintain our strategic advantage.
- Primary points of focus include recommendations on policy goals, strategic planning, fund-raising, and period Op-Eds raising public awareness on critical materials.

GREENTECH MINERALS ADVISORY GROUP, Alexandria, Virginia.

*February 2021 – October 2021*

***Founding Partner***

- Founder and leader of a boutique consulting firm dedicated to green and renewable energy supply chain development.
- Core company principles included integration of proven economic principles and responsible and efficient critical minerals processing advancement.
- Dedicated to matching public and private capital for the purposes of building advanced materials growth in a manner that supports the energy and technological development and needs of the future.

DEPARTMENT OF ENERGY, Washington, DC.

*November 2020 – January 2021*

***Senior Advisor to the Secretary of Energy***

- Advised the Secretary of Energy, the White House, and Congressional leadership on national security priorities and all U.S. energy policy.
- Served as one of several key U.S. government leaders on all U.S. critical mineral supply chain and renewable energy policy.
- Led U.S. government efforts on energy security policy, critical minerals supply chain development, advanced nuclear technology, renewable energy innovation, and other strategic energy security issues.

DREW HORN

OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE, McLean, VA.

*March 2020 – November 2020*

***Senior Advisor to the Director of National Intelligence***

- Advised and guided the Director on national security priorities and served in a deputy capacity in Intelligence Community enterprise engagement with the White House, U.S. private sector leadership, Congressional leadership, and leaders of the international community.
- Led Intelligence Community efforts in an acting Deputy capacity, with a primary focus on national energy, business intelligence, defense security, and technological advancement and integration policy issues, and facilitated the transition of roles and responsibilities from the Acting Director of National Intelligence to the new Director of National Intelligence.
- Regularly coordinated with the White House and interagency and represented the Office of the Director of National Intelligence at the deputy and senior director level in engagement with the National Security Council, National Economic Council, and Domestic Security Council.

OFFICE OF THE VICE PRESIDENT, THE WHITE HOUSE, Washington, DC.

*August 2019 – March 2020*

***Associate Director of Policy for the Vice President***

- Advised the Vice President on U.S. policy development and implementation.
- Led Executive Branch policy development at the deputy and senior director level in the energy, interior, trade, commerce, space commerce, law enforcement, national defense, defense industrial, immigration, and critical minerals areas of focus.
- Led Policy Coordination Committee (PCC) meetings that coordinated the actions of each federal agency on the Administration's policy priorities.

DEPARTMENT OF ENERGY, Washington, DC.

*December 2018 – August 2019*

***Principal Deputy Assistant Secretary (Acting) for the Office of International Affairs***

- Led the Office of International Affairs at the Department of Energy, the office responsible for all international energy policy for the Department and served as the alter ego and Acting Assistant Secretary in the Senate-confirmed Assistant Secretary's absence.
- Represented the Department of Energy in key engagement with the National Security Council on energy-related national security matters and represents U.S. interests through interaction with international counterparts.
- Successfully developed and implemented five regional energy strategies that globally increased U.S. energy-related involvement in strategic areas of interest.

DEPARTMENT OF ENERGY, Washington, DC.

*December 2018 – August 2019*

***Chief of Staff for the Office of International Affairs***

- Managed five Deputy Assistant Secretaries, their offices, and staff.
- Managed the budget and appropriations process for the office to include continual Congressional engagement.
- Designed and implemented a major office re-organization that grew the office by forty personnel and three additional Deputy Assistant Secretaries, and their respective sub-offices.

DREW HORN

OFFICE OF THE UNDER SECRETARY OF DEFENSE FOR POLICY, OFFICE OF THE SECRETARY OF DEFENSE, Arlington, VA.

*July 2017 – December 2018*

***Country Director for Afghanistan***

- Lead as the senior presidentially appointed policy director for U.S. defense policy in Afghanistan.
- Contributed to interagency policy initiatives through regular engagement and collaborative work with multiple federal agencies and the National Security Council, primarily with the South and Central Asia, Transnational Threats, and Middle East directorates.
- Served as the Afghan defense policy representative to interagency Afghan Security, Counter Terror, Middle East-Afghan relations, Counter Narcotics, Defeat-ISIS, Russian-Afghan Relations, Counter Threat Finance working groups, and the DoD Defeat-ISIS Task Force.

DELOITTE CONSULTING LLP, FEDERAL PRACTICE, Arlington, VA.

*January 2016 – July 2017*

***Senior Consultant***

- Coordinated intelligence analysis within the intelligence community and the interagency that supported Department of Homeland Security priorities.
- Managed five teams that conducted all levels of intelligence analysis into adversary trends and preferences through strategic qualitative and quantitative analyses and performed risk modeling through coordinated work with the Department of Energy's National Laboratories, sub-agencies within the Department of Homeland Security, and multiple intelligence agencies.
- Conducted analysis and made recommendations to agency executives on risk assessments on populations of the traveling public and conducted research to develop potential answers to specific questions about adversary characteristics and preferences, adversary preference simulation and modeling, and other analysis.

1<sup>ST</sup> BATTALION, 3<sup>RD</sup> SPECIAL FORCES GROUP, U.S. ARMY SPECIAL OPERATIONS COMMAND, Fort Bragg, NC, and Eastern Afghanistan

*January 2013 – January 2016*

***Special Forces Officer***

- Served as a Direct Action/Counter Terrorism focused Operational Detachment – Alpha Team (A-Team) Commander, Company Executive Officer, Assistant Battalion Operations Officer, and Afghan National Army Special Operations Command Special Operations Advisor.
- Commanded the Battalion's primary Direct-Action Special Forces A-Team in both training and intense, close combat, conducting pre-deployment, deployment, and post-deployment operations, achieving all goals with zero U.S. combat losses. Led a 200-man combined US and Afghan Special Forces force in continuous combat operations, credited with significantly reducing the insurgent presence in the Kapisa, Kabul, Parwan, and Logar Area of Operations.
- Served as an advisor to national strategic-level Afghan security operations, and served in the position billeted for a Major, a rank above the level designated, due to superior performance. Completed three combat deployments to Afghanistan as part of Operation Enduring Freedom, and Operation Resolute Support Mission/Operation Freedom's Sentinel.

U.S. ARMY SPECIAL WARFARE CENTER AND SCHOOL/U.S. ARMY MANEUVER CAPTAINS CAREER COURSE/U.S. ARMY AIRBORNE SCHOOL, Fort Bragg, NC, and Fort Benning, GA



DREW HORN

*November 2009 – January 2013*

***Infantry Officer/Special Forces Officer Candidate***

- Successfully graduated as a Special Forces Officer, as a leader in a class of 205 Soldiers, from the US Army's Special Forces Accessions/Qualification Course, a program with a 15 percent graduation rate.
- Trained to high proficiency in the Pashto language, Direct Action Combat, Unconventional Warfare, Close Quarters Combat, Special Forces Martial Arts, Counterinsurgency, and Intelligence Operations tactics and methods.
- Conducted interagency training with the nation's premier intelligence and counter-insurgency agencies.

U.S. MARINE CORPS, Quantico, VA, Twenty-Nine Palms, CA, and Al Anbar Province, Iraq

*October 2005 – November 2009*

***Marine Officer***

- Trained as an Infantry Officer, Human Resources Officer, Legal Officer, Marine Corps Martial Arts Program Instructor, and Marine Corps Combat Swimmer.
- Commanded a Human Resources section of ten Marines and was responsible for the human resources support for the entire Battalion and served as the Headquarters and Service Company Commander and commanded 150 Marines and Sailors in Logistical Support Operations.
- Completed one combat deployment to Iraq as part of Operation Iraqi Freedom and provided Convoy Security and Logistical Support to Marines and Sailors throughout Al Anbar Province.

FLORIDA DEPARTMENT OF FINANCIAL SERVICES, Tallahassee, FL

*February 2005 – September 2005*

***Accountant II***

- Operated as an accountant in the insurance claim support department of the Florida Department of Financial Services.
- Processed millions of dollars of insurance payments to Florida businesses and citizens.
- Delivered insurance claim support to citizens recovering from Hurricane Katrina.