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5           HELP OR HINDRANCE?   THE IMPACT OF U.S.

6           ENVIRONMENTAL LAWS ON CRITICAL MATERIAL

7           SUPPLY CHAINS, NATIONAL SECURITY, AND

8           ECONOMIC GROWTH

9           WEDNESDAY, APRIL 22, 2026

10          House of Representatives,

11          Subcommittee on Environment,

12          Committee on Energy and Commerce,

13          Washington, D.C.

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17                 The subcommittee met, pursuant to call, at 2:06 p.m., in Room 2123, Rayburn House Office

18                 Building, Hon. Gary Palmer [chairman of the subcommittee] presiding.

19                 Present:   Representatives Palmer, Latta, Griffith, Carter of Georgia, Joyce, Weber, Pfluger,

20                 Miller-Meeks, Evans, Fedorchak, Guthrie (ex officio), Tonko, Ruiz, Peters, Barragan, Soto, Menendez,

21                 and Landsman.

22                 Also Present:   Representatives Balderson and Fulcher.

23                 Staff Present:   Ansley Boylan, Director of Operations; Byron Brown, Chief Counsel; Jessica

24                 Donlon, General Counsel; Sydney Greene, Director of Finance and Logistics; Christen Harsha, Senior

25                 Counsel, Environment; Joel Miller, Deputy Staff Director; Lillian Noland, Staff Assistant; Seth Ricketts,

26 Clerk; Chris Sarley, Member Services/Stakeholder Director; Timothy Trimble, Staff Assistant; Matt  
27 VanHyfte, Communications Director; Katie West, Press Secretary; Keegan Cardman, Minority Staff  
28 Assistant; Anthony Gutierrez, Minority Professional Staff Member; Caitlin Haberman, Minority Staff  
29 Director, Environment; Serena Klebba, Minority Intern; Kylea Rogers, Minority Policy Analyst; and  
30 Hannah Treger, Minority Staff Assistant.

31

32 Mr. Palmer. The committee will come to order.

33 Before we begin our official hearing, I am going to yield to the gentleman from New York,  
34 Mr. Tonko, for a point of personal privilege.

35 Mr. Tonko. Thank you, Mr. Chair.

36 I, along with so many, was so very sad last week to hear about the passing of our former  
37 colleague, Representative David McKinley. David was the consummate legislator and a tremendous  
38 human being. He had so many interests, and we bonded over both being engineers and enjoyed  
39 that work together here on the subcommittee. He served as the leadership team, the  
40 ranker -- chair and then ranker for me.

41 And, you know, there were certainly policy disagreements that we had, but there were places  
42 also of common interest and concern, and we worked tirelessly to move issues along in that capacity.  
43 Many great efforts over the years promoting energy efficiency, addressing opioid addiction, providing  
44 hope for people with rare diseases, preserving our heritage areas, and many more.

45 Most of all, I will recall and always remember how much he loved his district. We hosted  
46 each other in our respective congressional districts, and he welcomed me into his home as a  
47 colleague and, I believe, as a friend. And, you know, he fought for his constituents, for his area, for  
48 this country, and I really respect that.

49 I extend my deepest condolences to his widow, Mary, and their family, and may he rest in  
50 peace.

51 And, with that, Mr. Chair, I yield back.

52 Mr. Palmer. I thank the gentleman for that, and I too appreciated his service. He was a  
53 mining engineer. And I worked, as I have said, for a couple of engineering companies, and he was  
54 one of these quiet guys that got a lot done. So, if we may, we will just take a moment of silence and  
55 then we will begin our hearing.

56 [Moment of silence.]

57 Mr. Palmer. The Subcommittee on Environment will now come to order.

58 The chair recognizes himself for an opening statement.

59 Good afternoon, and thank you all for joining us for today's very important hearing about how  
60 U.S. environmental laws impact critical mineral supply chains, our national security, and economic  
61 growth.

62 Our country has a rich bounty of natural resources, and for most of the 20th century, the  
63 United States was the leader in producing and refining critical minerals. However, in the past  
64 several decades, China has aggressively sought to dominate the global market for critical minerals  
65 with dire consequences for our national security. China is now responsible for almost exclusively  
66 producing about two dozen critical minerals that our national security and defense depend on, and  
67 most of the so-called black mass that is recovered from lithium-ion batteries is shipped back to China  
68 for recycling.

69 Today, April 22, is recognized as Earth Day. It is fitting that we are discussing how the move  
70 of critical supply chains to China has coincided with the enactment of multiple environmental laws in  
71 the U.S. where we have seen improvements in our environment but at what cost to our  
72 manufacturing economy and national security.

73 President Trump has issued several executive orders to focus the Federal Government's  
74 attention on these risks and to have all departments and agencies working together to reshore the  
75 domestic critical mineral mining and processing supply chains. My bill, H.R. 4370, the Securing  
76 America's Mineral Supply Act, would codify these policies to support domestic critical mineral mining  
77 and processing.

78 As we on the Energy and Commerce Committee consider legislative reforms to the Toxic  
79 Substances Control Act, the Resource Conservation and Recovery Act, and other environmental laws,  
80 we should work together to find solutions that support the reshoring of the entire critical mineral

81 supply chain. It will make little sense for us to support increased critical mineral mining in the U.S. if  
82 we are not also supporting the other parts of the supply chain, from the manufacture of the  
83 chemicals and energy needed to process critical minerals to the facilities needed to recover and  
84 recycle these valuable commodities on the back end.

85           Given our broad jurisdiction, the Energy and Commerce Committee is well-positioned to  
86 advance commonsense legislative reforms to ensure that the United States has the tools it needs to  
87 both produce and process critical minerals in this country.

88           We have an excellent panel with us today to discuss the challenges in securing domestic  
89 supply chains for critical minerals.

90           First, we have Mr. Chris Lehman, the chief development officer for Principal Mineral, which is  
91 working to build out the domestic supply chain for critical minerals. Mr. Lehman served as the  
92 director of the Defense Production Act's Title III program during the first Trump administration and  
93 helped to set up the Office of Strategic Capital.

94           Second, we have Dr. Beia Spiller, a fellow and the transportation program director with  
95 Resources for the Future.

96           Next, we will hear from Jane Neal, senior vice president for AMG Vanadium, which is working  
97 to secure domestic supply chain for vanadium, a critical mineral that is used to harden steel and in a  
98 variety of aerospace applications.

99           Finally, we will hear from Josh Gubkin, associate general counsel for Redwood Materials,  
100 which works to recover critical minerals from used batteries. Mr. Gubkin has decades of experience  
101 as a lawyer and consultant and working on complicated chemical safety and recycling issues.

102           Thank you all for being here.

103           The chair now recognizes the ranking member of the subcommittee, the gentleman from New  
104 York, Mr. Tonko, for 5 minutes for an opening statement.

105           [The prepared statement of Mr. Palmer follows:]

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107 \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

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109           Mr. Tonko. Thank you, Mr. Chair, and happy Earth Day to everyone. I can remember that  
110 first Earth Day in 1970 when Americans, especially young people, came together to celebrate our  
111 shared home and to raise awareness for the need to better protect it.

112           Back then, we had big problems threatening our public health and our economy: rivers on  
113 fire, thick smog poisoning our lungs, and PCBs dumped into our waterways. It is not hard to  
114 understand why bipartisan majorities in Congress have worked together to address these issues, and  
115 no one can deny the success of the laws born out of that moment. But, today, we face another  
116 generation of environmental threats: climate change, PFAS, and plastic waste, to name a few.

117           So as we gather together on this Earth Day, rather than examine how we can work together  
118 to solve these challenges, the majority would prefer to discuss how our successful legacy  
119 environmental laws are failing us. That is the completely wrong approach, I believe, to frame a  
120 conversation that I truly believe is worth having.

121           Critical materials are indeed important. We need more of them. We should be seeking to  
122 reduce our reliance on unreliable foreign supply chains that may have security or ethical concerns.  
123 We should be promoting ways to raise the bar for environmental, labor, and human rights standards  
124 to ensure that these materials are sourced responsibly, regardless of where the extraction and  
125 processing occurs.

126           When we enter into bilateral mineral agreements, we should be requiring foreign nations to  
127 raise their standards to match ours rather than having Congress consider how to lower our standards  
128 to match these competitors. It is why I have long called for increasing the transparency and  
129 traceability of our critical material supply chains to identify problems with overseas minerals and to  
130 hold bad actors accountable.

131           I have no reason to doubt the motivations of members of the majority. I believe that they  
132 believe promoting more secure critical mineral supply chains is a national security and economic

133 competitiveness imperative. But if that is true, then those members should be much more willing  
134 to embrace policy priorities supported by House Democrats, meeting us halfway on areas where we  
135 can agree to legislate meaningful and, yes, durable policy.

136 Unfortunately, over the past 16 months, we have witnessed congressional Republicans and  
137 the Trump administration repeal major incentives and regulations that were already working to  
138 induce demand for domestic critical materials. That includes the Republicans' repeal of the  
139 30D Clean Vehicle Tax Credit, which derived up to one half of its value from a vehicle's use of an  
140 American-made battery with compliant mineral components. Additionally, the Trump  
141 administration has terminated hundreds of millions of dollars in grants to domestic battery  
142 manufacturers.

143 The uncertainty that has been created by these decisions has resulted in the cancellation of  
144 tens of billions of dollars of private sector investments intended to build a domestic clean energy  
145 industry to compete with China.

146 These ideological-driven actions are making our supply chain vulnerabilities worse, plain and  
147 simple. Instead, we will still consider this majority's preferred solution to every industrial challenge:  
148 repealing our Nation's environmental and public health laws. It is tiresome. It is not getting us  
149 any closer to enacting meaningful and durable Federal policy.

150 So, instead, I would recommend that we have a conversation about how Federal laws can  
151 play a constructive role in achieving our shared goals. In my view, that could start with a national  
152 extended producer responsibility program for lithium-ion batteries and e-waste. Every expert  
153 agrees that recycling can address a significant part of our needs.

154 Once we have gone through the troublesome efforts of importing critical materials by  
155 imposing collection, reuse, and recycling requirements, we can ensure that those materials stay here  
156 in the United States and displace the need for additional imports in the future.

157 I will not suggest that negotiating such a bill would be easy. Doing serious legislative work

158 never is. But we need to start somewhere, and the sooner we can move past the notion that simply  
159 waiving environmental protections will single-handedly unleash our domestic critical mineral  
160 industry, the sooner we can begin work on policies where we may be able to find common ground.

161 So on this Earth Day, I want to again encourage us to consider just how the next generation of  
162 environmental laws can play a role in addressing some of the biggest public health and economic  
163 threats facing our Nation, just as those members did back in 1970 and the seventies that followed.

164 With that, I thank you, Mr. Chair, and yield back.

165 [The prepared statement of Mr. Tonko follows:]

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167 \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

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169 Mr. Palmer. I thank the gentleman.

170 The chair will recognize the chairman of the Health Subcommittee, Mr. Morgan, to give an  
171 opening statement on behalf of the chairman of the full committee, Mr. Guthrie.

172 Mr. Griffith. Thank you, Mr. Chairman. I appreciate it. Chairman Guthrie is tied up on  
173 the floor, so I will be reading his opening statement to the committee that he previously drafted.

174 Good afternoon. And thank you to our witnesses, and thank you, Chairman Palmer, for  
175 holding this hearing.

176 I just want to take a minute to recognize my friend -- and I can say this along with Brett -- my  
177 friend, the gentleman from Alabama, for his leadership on critical mineral issues and for sounding the  
178 alarm that our national security and economic prosperity are at risk if we do not have reliable  
179 domestic sources for these important materials.

180 Winning the race to AI dominance will depend not only on having access to critical minerals  
181 that go into semiconductors and other advanced technologies, but also on access to the chemicals  
182 needed to manufacture, refine, and recover these critical minerals in the United States rather than  
183 having to rely on China.

184 Many of our Nation's environmental laws were enacted more than 50 years ago and have not  
185 kept pace with the current economic and geopolitical conditions. The Energy and Commerce  
186 Committee is leading the way in working to modernize the Toxic Substances Control Act, TSCA, and  
187 other environmental laws so that we can meet the challenges posed by China and other countries,  
188 while also continuing to protect our environment.

189 Even though TSCA was updated 10 years ago, it has become clear that the law is not working  
190 as needed. We need to maintain a strong manufacturing base in the United States, and that  
191 includes the ability to manufacture our own chemicals and produce other critical materials, all of  
192 which are essential for national defense and economic security.

193 I look forward to hearing from our panel of witnesses on their experiences navigating these  
194 laws and their ideas for how we can regulate -- excuse me -- how we can reduce regulatory burdens  
195 and continue to have a healthy environment.

196 Thank you, Mr. Chairman, and I yield back.

197 [The prepared statement of Mr. Griffith follows:]

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199 \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

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201 Mr. Palmer. I thank the gentleman.

202 The chair now recognizes the gentleman from California, Dr. Ruiz, to give an opening  
203 statement on behalf of the ranking member for the full committee, Mr. Pallone.

204 You are recognized for 5 minutes.

205 Mr. Ruiz. Thank you, Mr. Chairman. These are the remarks of Ranking Member Frank  
206 Pallone.

207 On this Earth Day, I would like to take a moment to commemorate our bedrock  
208 environmental laws that keep our air clean, our drinking water safe, and our lands free of  
209 contamination. Despite what the title of this hearing implies, we do not have to choose between  
210 growing our economy and preserving the planet. Our country's most fundamental environmental  
211 and public health laws help us lower energy costs and boost our economy, all while combating  
212 pollution and the climate crisis.

213 As it relates to the topic of today's hearing, it is possible to shore up our critical material  
214 supply chains without compromising those same environmental and public health protections.  
215 Democrats support the responsible and sustainable build-out of our domestic critical material supply  
216 chains. It is important for our energy, economic, and national security, and necessary for the clean  
217 energy transition.

218 That is why Democrats secured important downpayments in the Bipartisan Infrastructure Law  
219 and the Inflation Reduction Act. Together, these laws included billions of dollars in Federal  
220 investments to strengthen our critical material supply chains, create jobs, boost American  
221 manufacturing, and lower costs for hardworking families.

222 For example, the Bipartisan Infrastructure Law included \$7.9 billion for battery materials  
223 processing, manufacturing, and recycling. It also directed EPA to develop best practices for battery  
224 collection and voluntary labeling guidelines to help grow our circular economy for critical

225 mineral -- materials.

226 The Inflation Reduction Act included tax credits for electric vehicles, domestic or ally-sourced  
227 critical materials for batteries, and domestic battery manufacturing to expand our capacity and boost  
228 our supply chain resiliency.

229 Instead of building on this important work, Republicans have taken a wrecking ball to many of  
230 these important demand drivers. They have canceled clean energy projects, programs, and  
231 incentives, and in the process, destroyed downstream manufacturing that is an essential facet to  
232 bolstering critical material supply chains.

233 For example, due to the Republican attacks, clean vehicle and battery projects accounted for  
234 more than \$21 billion in lost investment in 2025. Needlessly dampening demand for critical  
235 minerals will jeopardize our ability to attract and grow domestic critical material operations.

236 Republicans continue to talk about the very threat from China, but their policies are  
237 misaligned. The rest of the world, particularly China, is investing in the clean energy economy,  
238 more so now after Trump's war in Iran. China has created a vertically integrated model centered on  
239 supply and demand for clean energy technologies, like solar and batteries, giving them a stranglehold  
240 over the world's downstream, midstream, and upstream supply chain for critical materials.

241 If we want to get serious about combating China's dominance over the critical material supply  
242 chain, Republicans and the Trump administration need to stop their assault on homegrown clean  
243 energy. Their clean energy rollbacks undermine our efforts to lead the global clean energy  
244 transition, leaving the world to rely on China for critical minerals and exposing us to geopolitical  
245 supply chain risks.

246 To change this dynamic, we need a strong domestic market for clean energy technologies so  
247 that companies are willing to make long-term investments in this sector. Instead of scapegoating  
248 environmental laws, Congress must build on Democratic investments to create a domestic market for  
249 critical minerals, bolster domestic supply chains, create jobs, and fuel a clean energy economy.

250           We must also strengthen our domestic capabilities to reduce our reliance on foreign sources.  
251 We must grow and cement our relationships with our friends and allies abroad to develop and access  
252 new critical mineral supply chains, also known as friend-shoring. The United States must invest in  
253 the processing of critical materials and battery recycling to increase the domestic supply of these  
254 resources, and we must rely on and invest in American ingenuity in creating innovative solutions that  
255 reduce the need for extraction, like innovative battery chemistries.

256           I welcome a productive conversation today about strengthening our critical materials supply  
257 chain, but Democrats will not entertain the idea that we must roll back important environmental  
258 protections to do so.

259           Thank you, Mr. Chairman, and with that, I yield back the balance of the time.

260           [The prepared statement of Mr. Ruiz follows:]

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262           \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

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264 Mr. Palmer. I thank the gentleman.

265 We now conclude with member opening statements. The chair would like to remind  
266 members, pursuant to the committee rules, all members' opening statements will be made part of  
267 the record.

268 We want to thank our witnesses for being here today and taking the time to testify before the  
269 subcommittee. The witnesses will have the opportunity to give an opening statement followed by a  
270 round of questions from the members.

271 Our witnesses for today are Chris Lehman, chief development officer, Principal Mineral; Dr.  
272 Beia Spiller, fellow and transportation program director, Resources for the Future; Jane Neal, senior  
273 vice president, AMG Vanadium; and Josh Gubkin, associate general counsel, Redwood Materials.  
274 We appreciate you being here today.

275 I now recognize Mr. Lehman for 5 minutes to give an opening statement.

276  
277 **STATEMENTS OF CHRIS LEHMAN, CHIEF DEVELOPMENT OFFICER, PRINCIPAL MINERAL; BEIA**  
278 **SPILLER, FELLOW, TRANSPORTATION PROGRAM DIRECTOR, RESOURCES FOR THE FUTURE; JANE**  
279 **NEAL, SENIOR VICE PRESIDENT, AMG VANADIUM; AND JOSH GUBKIN, ASSOCIATE GENERAL**  
280 **COUNSEL, REDWOOD MATERIALS**

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282 **STATEMENT OF CHRIS LEHMAN**

283  
284 Mr. Lehman. Chairman Palmer, Ranking Member Tonko, members of the subcommittee,  
285 thank you for the opportunity to testify today.

286 I serve as the chief development officer of Principal Mineral, a mission-focused strategic  
287 materials platform dedicated to forging resilient U.S. supply chains. I have the privilege to work  
288 with a team of patriots operating at the intersection of capital markets, scaled industrial  
289 development, and strategic material supply chains essential to our national and economic security.

290 My motivation to execute our mission at Principal Mineral comes from my prior service in  
291 government at the Pentagon. I served as the director of the Defense Production Act Title III  
292 program focused on addressing key shortfalls in the domestic industrial base. I also served as the  
293 deputy director of the Office of Strategic Capital, which utilizes debt-based investment tools to  
294 attract and scale private capital investment into critical supply chains for national security. In both  
295 of these jobs, strategic material supply chains and the strategic risks posed to our Nation by the  
296 glaring gaps within them were front and center.

297 The first point I would like to make is that strategic materials, be it critical chemicals, rare  
298 earths, copper, or a multitude of others, are not only foundational for the defense industrial base but  
299 for the entire modern economy. U.S. leadership in these markets will be essential to shaping our  
300 Nation's long-term economic competitiveness and resilience.

301 Strategic materials are embedded in nearly every sector driving growth today: energy  
302 infrastructure, advanced electronics, telecommunications, transportation, and artificial intelligence.  
303 The scale of dependence is significant. According to the U.S. Geological Survey, the U.S. relies on  
304 imports for over half of its supply of more than 40 critical minerals and is fully import-dependent for  
305 at least a dozen. Inputs like copper, rare earth elements, and specialty metals are essential across  
306 everything from data centers to grid systems to consumer technologies.

307 At the same time, global markets for these materials are often characterized by concentrated  
308 production, limited transparency, and periods of significant price volatility. In industries where  
309 projects require billions of dollars and years to develop, that volatility has real consequences.  
310 When future pricing and supply conditions are difficult to model, the cost of capital raises,  
311 investment slows, and production capacity does not get built.

312 Second, strengthening the supply chains requires a coordinated, system-wide approach, not  
313 isolated policy actions. The core challenge is not simply resource availability; it is whether the U.S.  
314 can create the conditions under which capital will be committed to building industrial capacity across  
315 the value chain and at scale.

316 That depends on alignment across several interconnected factors: regulatory clarity and  
317 permitting timelines; aligning policy tools to support long-term investment; access to long-duration,  
318 patient capital; coordination across supply chain segments; and consistency in environmental and  
319 operating standards.

320 When these elements work together, investment becomes viable, timelines compress, and  
321 capacity grows. When they are misaligned, projects stall, even when demand is strong and  
322 technology is proven.

323 Third, regulatory clarity and consistent environmental standards are central to enabling that  
324 system and to attracting long-term investment. The United States should maintain strong  
325 environmental protections. That is essential for public trust and long-term sustainability. But

326 from the perspective of developers and investors, the defining issue is predictability.

327 Today, regulatory processes are often fragmented across agencies, timelines are uncertain,  
328 and outcomes can vary. When regulatory pathways are clear and consistently applied, investors are  
329 willing to commit long-duration capital. When they are not, projects are delayed or do not move  
330 forward at all.

331 At the same time, consistent environmental and labor standards -- both domestically and  
332 across allied supply chains -- ensure that growth does not come at the expense of responsible  
333 production. They also help prevent a shift of activity to jurisdictions with weaker protections, which  
334 ultimately undermines both environmental and economic objectives.

335 Finally, innovation and commercialization will determine whether the U.S. can compete at  
336 scale in these markets. The U.S. has competitive advantages in research and development and the  
337 deepest, most trusted and liquid capital markets in the world, markets that can fund the transition  
338 from R&D to commercialized innovation and industrial capacity. Policymakers have the opportunity  
339 to set positive conditions that will unleash these competitive advantages to build the strategic  
340 material supply chains our Nation needs.

341 In closing, leadership and strategic materials markets will be determined not by any single  
342 project or initiative, but by the strength and coherence of the overall system. The U.S. has a clear  
343 opportunity to lead. If the system is aligned, capital will flow, capacity will be built, and the U.S. can  
344 establish durable leadership in these sectors for decades to come.

345 Thank you, and I look forward to your questions.

346 [The prepared statement of Mr. Lehman follows:]

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348 \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

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350 Mr. Palmer. Thank you.

351 The chair now recognizes Dr. Spiller for 5 minutes.

352

353 **STATEMENT OF BEIA SPILLER**

354

355 Dr. Spiller. Chairman Palmer, Ranking Member Tonko, and distinguished members of the  
356 subcommittee, thank you for the opportunity to testify today. My name is Beia Spiller. I am a  
357 fellow and transportation program director at Resources for the Future. The views I am expressing  
358 today are my own.

359 Building a domestic critical mineral supply chain is challenging, and the difficulty is not  
360 explained by any single factor. In my remarks today, I will cover four key barriers to scaling  
361 domestic supply, address why weakening environmental safeguards won't solve them, and discuss  
362 four policy options that can support the domestic industry while still protecting communities.

363 So let's talk about the barriers to building a domestic critical mineral supply chain. First, it is  
364 more expensive to extract and process minerals in the United States than in other regions, in part,  
365 because key inputs, like labor, electricity, and construction materials, cost more here, and while  
366 environment regulations can raise costs, they are generally not the primary cost driver.

367 Second, domestic producers face global prices that are often low and frequently volatile.  
368 This creates an investment risk that domestic producers cannot control. And, importantly, low  
369 prices are often artificially low because they reflect unpriced environmental and labor harms of  
370 production. When those harms are not internalized, the global price signal undercuts firms that are  
371 trying to operate responsibly.

372 Third, permitting times are long, but the evidence suggests that eliminating community  
373 engagement to speed up timelines is not a shortcut. In fact, reduced engagement can increase the

374 likelihood of litigation after permits are issued, potentially lengthening timelines rather than  
375 shortening them.

376           And, fourth, we have a workforce and know-how challenge. After decades of limited  
377 domestic activity, we have gaps in trained labor and institutional expertise. Capacity constraints  
378 show up in industry, and recent staffing shortages in Federal agencies reduce the government's  
379 ability to support mapping, permitting, regulatory review, and innovation.

380           Given these barriers, weakening environmental protections will not create a viable domestic  
381 supply chain. The binding constraints are larger and more structural, and these include cost  
382 differentials, price volatility, missing skills and capacity, and long development timelines. But  
383 beyond that, environmental safeguards are part of the competitive advantage of producing here in  
384 that they help ensure that the supply chain is sustainable and socially legitimate.

385           And well-designed environmental rules can encourage innovation, including process  
386 improvements that can reduce emissions and sometimes even reduce costs. Strong standards can  
387 support workforce recruitment and retention, because people are more likely to live and work where  
388 air and water are clean and safety risks are managed.

389           Finally, healthier environments means a healthier workforce, reducing illness and  
390 absenteeism and increasing company productivity.

391           But for these laws to support rather than hinder the development of the supply chain, we  
392 need strong governance, and that means a well-staffed and well-funded public workforce that can  
393 implement the rules consistently and without unnecessary delays.

394           So the question really comes down to, what are the policies that can most effectively move  
395 the needle to support the development of a domestic mineral supply chain?

396           So, first, let's focus on improving permitting efficiency not by skipping steps but by running  
397 better processes, and this can include stronger interagency coordination and more concurrent  
398 reviews.

399           Second, let's invest in workforce and technical capacity. This includes things like State and  
400 regional trading initiatives, targeted support for higher education, and ensuring Federal agencies  
401 have the staffing they need to support the industry and implement laws effectively.

402           Third, let's invest in R&D and commercialization. Innovation can lower costs, reduce  
403 environmental impacts, and make the U.S. more competitive.

404           And, finally, let's focus on connecting the upstream with the downstream demand in the  
405 supply chain. If downstream manufacturers have stable expectations of demand, they can invest  
406 and enter into off-take agreements that provide long-term price and demand certainty for upstream  
407 mineral producers. Those agreements reduce risks on both sides of the supply chain, helping to  
408 stabilize domestic markets and supporting manufacturing jobs nationwide.

409           In short, building a domestic mineral supply chain requires recognizing its true constraints.  
410 Policies like permitting improvements, workforce investment, innovation support, and strong  
411 demand linkages are likely to do more to grow domestic supply than weakening environmental  
412 safeguards, and they can do so while protecting communities and supporting long-term  
413 competitiveness.

414           Thank you again for the opportunity to testify. I look forward to your questions.

415           [The prepared statement of Dr. Spiller follows:]

416

417           \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

418

419 Mr. Palmer. Thank you.

420 The chair now recognizes Ms. Neal for 5 minutes.

421

422 **STATEMENT OF JANE NEAL**

423

424 Ms. Neal. Thank you, Chairman Palmer, Ranking Member Tonko, and members of the  
425 subcommittee, for the opportunity to testify today. I am Jane Neal, senior vice president at AMG  
426 Vanadium, an Ohio-based manufacturer.

427 AMG Vanadium is the only domestic producer of ferrovanadium, supplying approximately 40  
428 percent of the U.S. market for this critical mineral that is essential to steelmaking for infrastructure,  
429 energy, transportation, and defense. The balance of U.S. demand is imported, with 75 percent of  
430 global production concentrated in Russia and China.

431 AMG recycles petroleum refinery waste to reclaim vanadium, but we are not merely a waste  
432 processor. We are a critical minerals company and a strategic domestic manufacturer. In 2022,  
433 AMG commissioned a \$300 million facility to expand capacity to upwards of 75 percent of U.S.  
434 demand. Meanwhile, others are exporting the same material for vanadium reclamation overseas,  
435 including to Asia. Despite this, current interpretations of the RCRA regulations threaten AMG's  
436 ability to operate after 2031.

437 Approximately 90 percent of vanadium is used in steelmaking, which is AMG Vanadium's  
438 principal market. The remaining 10 percent is used as vanadium oxide, including in growing  
439 applications as electrolyte in large-scale energy storage that supports renewable energy.

440 The RCRA language that AMG operates under uses vague terms such as "legitimate recycling,"  
441 leaving regulated companies subject to the interpretation of regulators. For more than 20 years,  
442 Ohio EPA has issued variances recognizing AMG's operations as legitimate recycling. Those

443 variances have long enabled AMG to operate safely and lawfully in this environment of duplicative  
444 and vague regulations.

445           The issue arose when EPA Region 5 staff adopted interpretations that differed from the past  
446 20 years. In 2019, AMG received a variance issued by Ohio EPA after U.S. EPA Region 5 review.  
447 This allowed AMG to begin construction on the \$300 million expansion facility. After operations  
448 commenced, U.S. EPA reversed its position, advising Ohio EPA that AMG's operations did not  
449 represent legitimate recycling. They directed Ohio EPA to revoke AMG's variances, which would  
450 have left the company unable to operate. Under pressure from then-Senator Brown and Ohio EPA,  
451 Region 5 settled on a position not to allow renewal of the variances after 2031.

452           The core problem is a lack of clarity in the RCRA regulations, not a lack of environmental  
453 controls. Ohio has ensured that the variance is as protective of human health and the environment  
454 as a permit. Yet changing interpretations by Federal staff now threaten AMG's operations.

455           RCRA needs clarification and modernization, not weakening. The law should clearly support  
456 the safe domestic recycling of spent petroleum catalysts for critical mineral recovery and distinguish  
457 legitimate domestic recyclers from disposal operations. And it should remove duplicative  
458 regulations where other programs, including the Clean Air Act, already provide protection.

459           The principle is simple. RCRA should favor recycling when human health and environmental  
460 protection are maintained.

461           While AMG's position is supported by the Region 5 administrator, administrative  
462 interpretations are not durable. National interest cannot depend on shifting agency views.  
463 Endurance comes from statutory clarity.

464           AMG has invested hundreds of millions of dollars to recycle hazardous waste into valuable  
465 materials without environmental harm, processing over 500,000 tons of spent catalysts and  
466 recovering over 50 million pounds of vanadium. Modernizing RCRA would protect environmental  
467 goals while advancing strategic, economic, and national security interests.

468 Congress should ensure that legitimate recycling is encouraged, valuable materials remain  
469 domestic, and ambiguous language cannot be used against responsible recyclers. RCRA should  
470 allow variances and exemptions to work together and eliminate duplicative overlap where other  
471 environmental programs already improve -- impose protective controls. The Spent Catalyst  
472 Recycling and Critical Minerals and Metals Recovery Act, introduced earlier this year by  
473 Representative Troy Balderson and Senator John Husted, provide such language.

474 Thank you again for this opportunity and for your consideration of the impact of these  
475 regulations on the companies operating under them.

476 [The prepared statement of Ms. Neal follows:]

477

478 \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

479

480 Mr. Palmer. Thank you.

481 The chair now recognizes Mr. Gubkin for 5 minutes for an opening statement.

482

483 **STATEMENT OF JOSH GUBKIN**

484

485 Mr. Gubkin. Chairman Guthrie, Palmer, Ranking Member Tonko, and members of the  
486 subcommittee, thank you for the opportunity to testify today. My name is Josh Gubkin. I serve as  
487 associate general counsel at Redwood Materials, founded by JB Straubel, cofounder and former CTO  
488 of Tesla.

489 Redwood is building the first fully integrated U.S.-based battery supply chain. Roughly 90  
490 percent of all domestically recycled lithium-ion batteries are processed through our facilities, making  
491 us the largest lithium-ion battery recycler in North America. We recover, on average, 98 percent of  
492 critical minerals from end-of-life batteries. Our operations represent the first commercial-scale  
493 nickel mine to open in the U.S. in a decade, the only new commercial-scale domestic lithium in  
494 decades, and the largest U.S. source of cobalt. Our operations set the standard for what domestic  
495 recycling should look like.

496 Redwood's approach spans the full battery lifecycle. We repurpose batteries that still have  
497 useful life for grid-scale energy storage, we recycle batteries that have reached end of life to recover  
498 their critical minerals, and we refine those minerals and manufacture new battery components,  
499 including cathode active material, the most expensive component in a new battery. That is done  
500 with zero fossil fuels, zero industrial discharge, and with an air emission permit that is akin to those  
501 at hospitals and hotels. End-of-life batteries are not an environmental problem. They are a  
502 strategic resource that can be reinvested into the next generation of American industry.

503 The title of this hearing asks whether our environmental laws help or hinder critical mineral

504 supply chains. These laws were different -- written for a different era, before the lithium-ion  
505 battery industry existed. Applied to today's materials and processes, they are producing outcomes  
506 that no one intended, pushing investment, manufacturing, and critical mineral recovery offshore  
507 rather than keeping them within our borders.

508 Two EPA legal frameworks are at the center of this problem: RCRA and TSCA. Both need  
509 to be modernized to reflect current technology and market realities and to align with the goals this  
510 committee and the administration are pursuing.

511 Under RCRA, EPA classifies used lithium-ion batteries as hazardous waste. That classification  
512 forces domestic recyclers into a permitting process that can take years to complete -- it is a death  
513 knell for innovation -- or it requires us to store batteries at a physically separate location from where  
514 we process. Batteries must be unloaded and reloaded and trucked on a public road from one  
515 property to the next. This creates more risk, not less.

516 China reclassified these same materials as non-waste raw material last year and now controls  
517 more than 80 percent of global lithium-ion recycling capacity. The EU went the other direction,  
518 classified black mass as hazardous waste, and is already seeing investor flight and canceled projects.  
519 The United States is on track to make the same mistake.

520 Under TSCA, the EPA treats each modified cathode material as an entirely new chemical  
521 substance, triggering a review process that is supposed to take 90 days but, in practice, takes over a  
522 year. It is followed by a second rulemaking that adds months or years more. Total time to market  
523 regularly exceeds 3 years. The message to manufacturers is simple: Build overseas and import  
524 the finished product.

525 TSCA also punishes recyclers. Restrictions imposed by EPA under TSCA prevent new variants  
526 of battery materials from domestic distribution. Consequently, a domestic recycler cannot  
527 distribute the material it recovers within the United States. As a result, critical minerals are  
528 exported. That is the exact opposite of what this committee is trying to achieve.

529           These batteries also impact energy storage. Many end-of-life EV batteries retain up to 80  
530 percent of their usable capacity. Through Redwood Energy, we deploy the largest second-life  
531 battery material installation in the world. But EPA's framework creates uncertainty about these  
532 batteries, whether they are waste when they first leave a vehicle, hindering the entire repurposing  
533 industry when demands from data centers and AI is surging.

534           Our ask is straightforward: First, enact a national lithium-ion battery manage act that  
535 creates a unified Federal framework; second, use EPA rulemaking to exclude lithium-ion batteries  
536 and battery materials destined for repurposing or recycling from the definition of solid waste; third,  
537 reform TSCA's treatment of cathode materials so domestic manufacturers and recyclers are not  
538 penalized for operating in the U.S.; and, fourth, mandate interagency alignment so EPA works  
539 towards the same goals as other agencies and this committee.

540           The materials are in the U.S. The technology is in the U.S. The investment is ready.  
541 What we need is a regulatory framework that prioritizes these critical materials for what they are:  
542 strategic assets.

543           Thank you. I welcome your questions.

544

545 [The prepared statement of Mr. Gubkin follows:]

546

547 \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

548

549 Mr. Palmer. I thank our witnesses for their opening statements.

550 The chair now recognizes the chairman of the full committee, the distinguished gentleman  
551 from Kentucky, Mr. Guthrie, for 5 minutes for his questions.

552 The Chair. Thank you. Thank you for calling me. I appreciate the recognition.

553 And I want to start with -- I know we are talking about critical minerals and mining. One of  
554 the great mining engineers to serve in Congress was a dear friend of all of ours, David McKinley.  
555 And David McKinley passed away last week, and I think his funeral is this Monday. He was a  
556 colleague, and he loved this subcommittee. He was very important to this subcommittee, and he is  
557 someone that we will all miss.

558 His dear wife, Mary, who was here with him quite often, and so we got to know her as well.  
559 I think I can speak for everybody on the committee and the subcommittee that he was a dear man  
560 and his thoughts and -- our thoughts and prayers are with him and his -- his wife and his family  
561 because we are certainly going to miss him. He still kind of kept in touch with a lot of us, so we  
562 really appreciated that.

563 And the Earth is a little less today because David McKinley is not with us anymore. And he  
564 certainly loved West Virginia, he loved what he did, and he knew that the minerals of this world were  
565 important and were important to what we are able to use for our country. So God bless him. God  
566 bless the McKinleys.

567 So, Mr. Gubkin, in -- Gubkin? Is it Gubkin or --

568 Mr. Gubkin. Gubkin.

569 The Chair. Gubkin. -- in your testimony, you describe a complicated regulatory framework  
570 that your company, Redwood Materials, has to navigate in order to recycle and recover critical  
571 minerals from batteries. One of the challenges we have heard about TSCA is that even slight  
572 variations of an existing chemical have to undergo a full risk review.

573           How do you -- so the question is, how do you think allowing EPA to group together similar  
574 equivalent chemicals for expedited risk reviews would improve the process and provide more  
575 certainty to manufacturers?

576           Mr. Gubkin. Thank you for your question. And I think it will speed things up, first of all,  
577 because -- to use an analogy, you have various shades of green. You have deep green, light green,  
578 emerald, sea green. These are all green. They are just slight variations of the same thing.

579           And so if instead TSCA were to group these and work through the science to determine the  
580 protections for them as green, they can do this as a class. It should be a quicker one and so a  
581 quicker process, closer to the 90 days that they are supposed to.

582           And in addition to that, once they have made that determination for green, it covers all green,  
583 so you don't have to go through it again and again for each process. This is actually similar to what  
584 they do in Europe under REACH. So this isn't something that is new or novel, but it is something  
585 that makes sense.

586           The Chair. As an avid recycler myself, I am known to pull aluminum cans out of the garbage  
587 not because I collect them to sell; I turn them in because either they go in the ground or they can go  
588 back in the stream of commerce. And why do we want them back in the -- my family is in the  
589 aluminum business, so I figure the more aluminum that exists, the cheaper aluminum is going to be  
590 for everybody. And so -- and it saves from putting them in the ground, which is a waste.

591           And so we need to make it easier for people to recycle. We need to make it -- and  
592 particularly these critical minerals that we have.

593           So, also, Mr. Gubkin, in your testimony, you discuss how EPA requirements are not -- often  
594 not aligned with safety standards issued by OSHA and other regulatory bodies. Can you briefly  
595 describe your workplace safety practices and how conflicting regulatory requirements can present  
596 challenges for your workers and potentially impact -- I think both agencies want them to be safe, but  
597 sometimes they conflict in how -- could you give us an example?

598 Mr. Gubkin. Yeah. So, you know, I think the example to use, really, is between -- going  
599 back to TSCA, what you have from that organization going and putting restrictions for safety on one  
600 company versus another and them not being aligned even though it is the same materials, and that  
601 can be different from what OSHA has done, who has the delegated scope for protecting employees.  
602 And so you have three different things that, possibly, you are looking at.

603 And just as an example with LFP, you have restrictions that come out based on TSCA where  
604 the filter protection that you have for the manufacturer of it is one-tenth the protection for the  
605 recyclers using the same material from the same -- that come down from the same company.  
606 There is really no rationale beyond that. It doesn't provide any added protection for the workers.  
607 It just provides added cost and added problems for the recycler.

608 And so, why aren't these aligned? And, moreover, why doesn't OSHA, who has the ability  
609 and the mandate to go and find these levels of protection -- have them do the work on that so that  
610 we have a consistent framework from State to State across the Nation for how we protect our  
611 employees.

612 The Chair. Thank you.

613 I don't have much time left, so I will just leave with this, is that I was just on the floor of the  
614 House and they announced the passing of David Scott. I think all of us are aware of that now.  
615 And, again, just like with our dear friend David McKinley, David Scott -- his wife was Hank Aaron's  
616 sister. So Hank Aaron was his brother-in-law, and he was a -- we used to -- I was growing up a  
617 Braves fan. That was kind of our connection. He would talk about all the issues that Hank Aaron  
618 had to go through, and I can tell you -- when he moved to Atlanta to play baseball. And I can tell  
619 you, the whole world was cheering for him in 1974.

620 So it is amazing what that family has brought into our country, and particularly David Scott  
621 and his service. So our thoughts and prayers are with Mrs. Scott and the Scott family.

622 So thank you.

623 Mr. Palmer. I thank the gentleman.

624 The chair now recognizes the ranking member of the committee, Mr. Tonko, for 5 minutes.

625 Mr. Tonko. Thank you, Mr. Chair.

626 Dr. Spiller, I want to associate myself with your testimony that securing our critical mineral  
627 supply chains is a complex, multifaceted issue that does not need to come at the expense of our  
628 environmental laws. We heard from a few witnesses that the recycling of critical minerals can play  
629 an important role in securing domestic supplies, and there may be -- may very well be additional  
630 regulatory barriers that make recycling more challenging.

631 Dr. Spiller, as a first-order issue, can you give us a sense of the potential for recycling to play a  
632 role in reducing our dependence on foreign supply chains?

633 Dr. Spiller. So that is a great question. We have limited material here right now in terms of  
634 just the quantity of, you know, batteries and black mass to really make a huge dent, currently.  
635 Obviously, as EV demand ramps up, the more electric vehicles we buy and turn over -- over the years,  
636 we will have the ability to reduce our dependence on foreign sources. But, currently, we  
637 don't -- just don't have a huge amount of mass to really make a dent in it right now.

638 Mr. Tonko. Thank you. And your testimony mentioned that there were incentives and  
639 regulations in the forms of the 30D Clean Vehicle Tax Credit and EPA's GHG tailpipe rule -- which  
640 have now been repealed -- that were structured to further induce investments in and demand for  
641 domestic critical minerals, including recycled minerals. Is that correct?

642 Dr. Spiller. I am sorry, I am having a hard time hearing you. Could you repeat the  
643 question?

644 Mr. Tonko. Sure. The incentives and regulations that were in the form of the 30D Clean  
645 Vehicle Tax Credit and EPA's GHG tailpipe rule -- which have now been repealed -- were structured to  
646 further induce investments in and demand for domestic critical minerals, including recycled minerals.  
647 Is that correct?

648 Dr. Spiller. Yes, that is correct.

649 Mr. Tonko. So is it fair to say that well-designed Federal policies, whether that is incentives  
650 or environmental regulations, can actually promote our domestic critical mineral goals?

651 Dr. Spiller. Absolutely. The 30D tax credit, I think, was a really great option and was a  
652 really great policy because what it did was, at the same time that it created this really increased  
653 demand for the electric vehicles, it tied the sourcing of the minerals -- it tied the demand for the  
654 electric vehicle to domestic sourcing of the minerals themselves.

655 So in order to be able to get the tax credit, the minerals in the batteries had to come either  
656 from domestic sources or from friendly nations, so that led to a lot of, you know, off-take  
657 agreements with domestic lithium producers. So by tying the demand side to the upstream, it  
658 created, you know, a really strong base for our supply chain.

659 Mr. Tonko. Well, the national Extended Producer Responsibility -- the EPR -- requirement  
660 for the safe repurposing, recycling, and disposal of batteries was a good, strong incentive. The  
661 Infrastructure Investment and Jobs Act required EPA to develop such a framework, and I have been  
662 pleased that this effort has continued under the current Trump administration.

663 Dr. Spiller, could a national program like this where battery manufacturers are responsible for  
664 a standardized system supporting the collection, recovery, repurposing, and recycling of batteries  
665 help achieve our goals of reusing critical minerals and reducing risks of exporting minerals that have  
666 already entered the U.S. economy?

667 Dr. Spiller. I am not an expert on that policy. I don't really know much about that, so I  
668 can't speak that directly, but any sort of policy that requires the collection of the batteries  
669 themselves for recycling I think would be probably a pretty good policy to help, you know, ensure  
670 that we are continuing to collect the material needed to, you know, shore up the supply chain.

671 Mr. Tonko. And, Mr. Gubkin, I believe Redwood Materials has been part of those  
672 conversations -- am I not correct -- that led -- that have been led by EPA to inform the development

673 of this framework?

674 Mr. Gubkin. You are referring to the Extended Producer Responsibility?

675 Mr. Tonko. Right.

676 Mr. Gubkin. Yes. Definitely, we have been involved in those discussions, I believe both at  
677 the State and the Federal level, and we continue to be involved in those, seeing that when there is an  
678 advantage to increasing recycling, we are interested in being part of that.

679 Mr. Tonko. And what is your impression of the effort, and what are some of the elements  
680 that may be included in the forthcoming framework?

681 Mr. Gubkin. I think the issues right now mostly are that it is on a State-by-State level, and  
682 that poses challenges for anyone when you have to change what you are doing from one State to the  
683 other, especially for something like an EV battery that can be bought in one State and moved to  
684 another. So that is something that needs to be looked at.

685 Beyond that, I have to admit that I am not the one who is most directly involved in those  
686 conversations for it. But, again, if we have something where it helps to promote recycling, see that  
687 these batteries, which have an extended life possibility through second purpose or afterwards if they  
688 don't have that life possible, that they can be used for recycling to recover critical minerals, generally  
689 speaking, Redwood is in favor.

690 Mr. Tonko. I thank you for that.

691 I have exhausted my time. And with that, Mr. Chair, I yield back.

692 Mr. Palmer. I thank the gentleman.

693 The chair now recognizes the chairman of the Energy Subcommittee, the gentleman from  
694 Ohio, Mr. Latta, for 5 minutes for his questions.

695 Mr. Latta. Well, thank you very much, Mr. Chairman, and thanks for our witnesses for being  
696 here.

697 If I could start, Mr. Gubkin, with you. In your written testimony, you discuss the potential

698 for used lithium battery -- lithium-ion batteries to be repurposed for grid-scale energy storage and  
699 supplying electricity for utilities, manufacturing facilities, and data centers, among other facilities.  
700 How would repurposing these batteries support our efforts to make sure our important  
701 infrastructure has access to reliable power while also protecting ratepayers from price increases  
702 resulting from increased demand?

703 Mr. Gubkin. What I can tell you is, as I had said in my verbal testimony, Redwood Energy has  
704 deployed the largest second-life battery installation in the world. So that is a 63 megawatt-hour  
705 microgrid powered by repurposed EV batteries that is operating right now on our campus. It was  
706 completed in -- under 6 months, and that is a 50 percent lower cost than conventional systems.

707 So just using that as a quick example of what can be done with resources that we have, same  
708 materials can be provided and given for infrastructure, for industry. We recently announced a  
709 partnership with Rivian to help provide energy storage systems for their manufacturing plant. So  
710 there is wide applicability where we have this resource available and we can use them right away in a  
711 quicker, cheaper deployment for both utilities and the private sector.

712 Mr. Latta. You know, what countries are -- or what country or what countries out there are  
713 doing the most in battery repurposing right now?

714 Mr. Gubkin. Honestly, I am not sure who else is. We seem to be doing some of the first  
715 initial work on this. We are an innovator. Each battery company makes different types of  
716 batteries and they speak a different language, and we have learned how to crack the code and have  
717 that happen so that we can use different type of batteries and have this function, but we want to see  
718 that it is used on a large scale. Obviously, it is a very important part.

719 Mr. Latta. You know, you also noted that EPA's framework creates uncertainty around  
720 battery repurposing and makes it -- subjects reused batteries to RCRA if classified as waste. What  
721 alternative approach should Congress be considering right now to support reuse while ensuring safe  
722 handling?

723 Mr. Gubkin. So there are two parts to that. First, as far as how you could change the  
724 regulations so that they are not considered waste, there is already a process for this. It is 40 CFR  
725 261.4, which is exclusions for certain materials if they are recycled. You could simply add batteries  
726 and battery materials to that list the same way that shredded circuit boards are listed there. That  
727 takes it out of the waste category and makes a more streamlined approach for recyclers or others.

728 It still requires, as mentioned by my counterpart, the need for legitimate recycling. So there  
729 are still protections there, and there is also other protections from other agencies. So we are not  
730 giving up anything. We are not reducing environmental. It is just a pathway to go ahead and do it  
731 in a better way, and it says to the world that these materials are feedstock, not waste.

732 Mr. Latta. Thank you very much.

733 Mr. Lehman, what national security or economic benefits will result for repurposing batteries  
734 domestically, and would there be a private sector interest in expanding this industry domestically  
735 with a clear regulatory environment?

736 Mr. Lehman. Yes, absolutely. And I would expand the aperture further, as well as broader  
737 electronic scrap. The vast majority of it is exported today. The vast majority of that is going to  
738 China. So the opportunities for recycling and reclamation to supplement what, you know, primary  
739 means we will have to scale production is going to be absolutely essential.

740 And, you know, we have mountains of material under our feet with the -- on the electric  
741 motor side. You know, the initial vintages of electric vehicles are reaching end of life. We have a  
742 mountain of that coming in terms of drive motors. So the opportunity to scale domestic capabilities  
743 for recycling is significant, and a major unlock would be clarity and regulatory framework that has,  
744 you know, certainty, clarity, and clear timelines.

745 Mr. Latta. Yeah. You know, I am just going to ask a quick question to follow up. When  
746 you talk about, especially with the EVs today and, you know, reclaiming the critical minerals and this,  
747 are those being exported right now to, let's say, China?

748           Mr. Lehman. For drive motors specifically, I don't have specific knowledge on that, but  
749 e-scrap more generally, absolutely. But there is limited, you know, ability for current recyclers to  
750 extract rare earth elements. There are other aspects that are done domestically today at  
751 scale -- you know, platinum group metals, catalysts, related items, things like that where there are,  
752 you know, recycling capabilities -- but it needs to be extended for, you know, broader critical  
753 minerals that we need.

754           Mr. Latta. Well, thank you very much, Mr. Chair. My time has expired, and I yield back.

755           Mr. Palmer. I thank the gentleman.

756           The chair now recognizes the distinguished member from California, Dr. Ruiz, for 5 minutes  
757 for his questions.

758           Mr. Ruiz. Thank you, Mr. Chairman.

759           The framing of today's hearing, "Help or Hindrance," is deeply frustrating. It reinforces a  
760 false choice between protecting public health and securing America's critical mineral supply chain.

761           Today, lithium is primarily extracted through evaporation ponds or hard rock mining, both  
762 land- and energy-intensive processes that can put the public's health at risk.

763           That said, California's 25th District is home to Lithium Valley, a region defined as much by its  
764 potential as by its resource base. What makes Lithium Valley unique is both what it holds and how  
765 it can be developed. It sits atop one of the largest known lithium reserves in the Western  
766 Hemisphere, in fact, the fifth largest in the world. And Lithium Valley uses the cleanest way to  
767 extract minerals in the world.

768           You see, it is a closed-loop circuit where you draw -- geothermal brine extracted goes up,  
769 creates geothermal energy produced, releasing vapor water stream. And as it goes back to the  
770 brine reinjected underground, critical minerals are filtered and extracted out, including lithium and  
771 manganese, and this would generate the battery manufacturing that we need and the clean energy  
772 that our Nation needs. No large salt lakes or deep, cavernous mines emitting pollutants in the air.

773                   Lawrence Berkeley National Lab estimates 3.4 million metric tons of lithium could be  
774                   recovered in Lithium Valley and over 5,000 times current U.S. annual production.

775 RPTR MCGHEE

776 EDTR CRYSTAL

777 [2:06 p.m.]

778 Mr. Ruiz. This could shift America's critical mineral supply chain away from China.

779 And it goes beyond lithium. Lithium Valley also holds manganese, vital for batteries and  
780 defense, a mineral we have had zero domestic production of since 1970.

781 What makes this powerful is that it is operational, not theoretical. Companies are already  
782 extracting lithium, manganese, zinc, and cesium from geothermal brine while producing clean  
783 energy.

784 Dr. Spiller, in developing critical mineral manufacturing projects, why is it crucial for  
785 developers to secure community trust and support?

786 Dr. Spiller. Well, from an investor perspective, community trust is a material risk factor.  
787 Projects that fail to secure it are much more likely to face permanent delays, litigation, cost overruns,  
788 or even cancellation. And all this is going to undermine the project economics and even deter  
789 capital.

790 And it is important to note, many critical mineral projects are located near communities that  
791 have a history of exposure to really severe mining harms, and particularly Indigenous communities.  
792 And so investors really need to pay close attention to whether or not developers can manage this risk  
793 credibly.

794 Mr. Ruiz. I agree. Fostering community trust is nonnegotiable.

795 What does effective, meaningful, and equitable community engagement look like? And how  
796 does community engagement also benefit developers?

797 Dr. Spiller. Well, I mean, that can be defined as sort of community-led engagement that  
798 takes place across all phases of project development.

799 So it requires companies to bring in communities as sort of partners to the development

800 process and communities are sort of involved in decision-making processes around development that  
801 is happening in their neighborhood and where they live. And so it creates the social license to  
802 operate and communities feel that they are part of the process.

803 Mr. Ruiz. Thank you.

804 Some of my colleagues point to environmental laws as the chief obstacles to domestic  
805 development. I see it differently.

806 The National Environmental Policy Act and the Clean Air Act do not hinder development.  
807 They structure it. When implemented efficiently, these laws reduce risk for developers and give  
808 communities a meaningful seat at the table.

809 So, Dr. Spiller, how would weakening or undermining our environmental regulations remove  
810 our ability to have the upper hand against foreign adversaries?

811 Dr. Spiller. Well, weakening our standards really undermines the two major things that we  
812 compete upon, which are trusted supply chains and high-value markets.

813 One of the big issues is that our global buyers and allies are moving towards cleaner  
814 procurement standards and carbon-based requirements. So if we don't meet those standards, we  
815 are going to be locked out of premium markets and partnerships.

816 Mr. Ruiz. Thank you.

817 You see, this is not about help or hindrance. It is about doing the right thing in the right  
818 way. Lithium Valley shows what responsible domestic permitting can achieve when science,  
819 communities, and national security align. This is how we compete with China -- not by cutting  
820 corners, but by building something better.

821 I yield back.

822 Mr. Palmer. I thank the gentleman.

823 The chair now recognizes the chairman of the Health Subcommittee, the distinguished  
824 gentleman from Virginia, Mr. Guthrie.

825 Mr. Griffith. I was Mr. Guthrie -- I played Mr. Guthrie earlier today. I know it has been a  
826 long day, Mr. Chairman.

827 Mr. Palmer. Mr. Griffith, it has been a long day.

828 Mr. Griffith. It has been a long day. And I did play Mr. Guthrie earlier today in the opening  
829 statement, so I understand the confusion.

830 Mr. Palmer. Well, yesterday on the floor I introduced Representative Hern and it was  
831 actually Representative Crane.

832 Mr. Griffith. It happens.

833 Mr. Palmer. I am on a roll.

834 Mr. Griffith. Mr. Lehman, researchers at Virginia Tech, which is located in my district, like  
835 my friend Dr. Yoon, have carried out research to analyze and separate rare earth elements in coal  
836 and in gob piles or coal waste.

837 How can State and Federal coordination incentivize the identification of other sources of  
838 waste that may also contain critical minerals?

839 Mr. Lehman. Thank you for the question.

840 There has been a significant amount of research and development and project work done  
841 specifically on coal tailings and the ability to extract.

842 I think looking at the broader aperture of waste streams and applying a similar level of rigor is  
843 certainly merited on the research and development front.

844 I would say at the same time there is a need to move forward with what is most immediately  
845 deployable and scalable and has a pathway to being economically competitive. But that innovation  
846 has to be a core part of the solution set at scale, as I mentioned in my statement, so continued  
847 research and development on extractive methodologies for broader apertures makes sense.

848 Mr. Griffith. And I guess as a follow-up, are there particular industries or operations that  
849 lenders and venture capitalists are hesitant to invest in because of a lack of regulatory consistency?

850 Mr. Lehman. Yes. As I mentioned, when there is uncertainty with regards to timelines, the  
851 regulatory pathways, it is much more challenging to underwrite a given project if there is a track  
852 record of uncertainties, delays, stops and starts.

853 So really the only point I am making is that one consideration would be a prioritized  
854 regulatory pathway with clearly established timelines and requirements up front so it is clear to the  
855 market and clear to the counterparty executing the project what that is.

856 Mr. Griffith. And oftentimes, if I am understanding you, that is what we call shot clocks on  
857 certain things, is to say that you have got to say yes or no by a certain time so that people know what  
858 is going on or say you didn't give us enough information and reset the so-called shot clock.

859 Mr. Lehman. And I know it has been a focus of both Congress and the administration  
860 applying FAST-41 towards critical projects. Considering strategic materials projects as a  
861 classification to be bucketed and allocated towards priority regulatory pathways like that makes a lot  
862 of sense to me, because the scope, scale, and complexity of the gaps resident within this broad  
863 complex of strategic materials is significant and vast. And there has got to be a way to -- I had an  
864 experience from COVID response when I was running the DPA program.

865 With leadership and urgency and resourcing, we can attack this problem, and private capital  
866 will deploy at scale if some of the barriers are removed.

867 Mr. Griffith. Or reduced.

868 Mr. Gubkin, in your written testimony you suggested adding used lithium ion batteries and  
869 battery materials intended to be recycled to the list of materials excluded from the definition of solid  
870 waste.

871 Why do you believe excluding these materials would address your concerns with how battery  
872 recycling is regulated?

873 Mr. Gubkin. So currently with recycling the way that things are, as I said, there are two  
874 pathways basically that we are forced to go.

875           Either you go through a RCRA part A, B permitting process, which can take somewhere  
876 around two years to complete. If you want to make any modifications, you are looking at several  
877 months more for any modifications for those to be approved and incorporated into your permit. If  
878 you are an innovator, if you are a startup, this is not really helpful.

879           The other path, as I have said, was you wind up categorizing materials as universal waste;  
880 again, calling them a waste. But there is a weird spot within these regulations that say you have  
881 your destination facility where you process. You can't keep the materials that you want to process  
882 on that property. You have to store them somewhere else. And that, again, does not make sense.

883           And from an environment and safety perspective, it doesn't make sense, as well as the  
884 logistics perspective. You now have to handle the material more, move it again, put it on a public  
885 road, load it, unload it. It is ridiculous, quite frankly. And I don't see the reason for why it is there.

886           By contrast, if you go and exclude these materials, recognize them as material feedstocks  
887 similar to other materials, like I mentioned before, shredded circuit boards, very analogous, and say  
888 these are important, EPA has recognized the importance of these and said if these are recycled they  
889 are not waste, you don't have to deal with either of those frameworks, so you are able to move  
890 forward. You still have to prove that you are legitimately recycling. So you don't lose anything  
891 from environmental protection.

892           Mr. Griffith. Yeah. And my time is up.

893           I would say, Ms. Neal, I am going to have some questions for you for the record. And as the  
894 old song said, one woman's trash is another woman's treasure.

895           I yield back.

896           Mr. Palmer. The gentleman yields.

897           The chair now recognizes the distinguished Representative from the State of California, Ms.  
898 Barragan, for her questions.

899           Ms. Barragan. Thank you, Mr. Chairman.

900 Critical minerals are essential for our phones, our semiconductors, clean energy electric  
901 vehicles, and the grid.

902 One area where we can make real progress is expanding battery recycling and reuse so we  
903 can strengthen domestic supply chains while reducing the need for new mining.

904 Mr. Gubkin, I want to start with you.

905 Your testimony highlighted that many batteries can still be used for energy storage when they  
906 come out of vehicles, but current rules often treat them as waste, which makes reusing them more  
907 difficult.

908 At the same time, we need to make sure that reused batteries are safe and reliable. They  
909 can pose fire risk if not handled properly.

910 What standards for battery use, collection, and labeling would help strike a balance so that  
911 we can increase reuse without creating new safety or environmental risks?

912 Mr. Gubkin. Thank you for that question.

913 And what I would say is there actually are standards to help address this. The National Fire  
914 Protection Association and the International Fire Code, they develop standards for batteries that  
915 include storage, handling, transportation.

916 These are standards that are developed by a group both from industry, from government,  
917 private sector, national interests, and they take a lot of time to go and figure out what the best  
918 standards are for these protections. They look at them both from a used battery perspective and  
919 they also have regulations that they develop for energy storage and when used in that aspect.

920 I will add as well, for something like second life batteries where we are trying to repurpose for  
921 energy storage, there are requirements for testing, UL testing, Underwriting Laboratories, that we  
922 have to go and meet. We have recently announced passing a series of those tests, and I am very  
923 proud of that.

924 And that, again, is something that is out there that we have to do to make sure that we are

925 making sure as these are out there they are safe for people.

926 Ms. Barragan. Great. Thank you.

927 Mr. Lehman, in your testimony you support strong environmental standards and you stress  
928 the importance of consistency with our regulations and our permitting timeline.

929 Are there ways to improve coordination across agencies like DOE and EPA and others to  
930 reduce delays and uncertainty for critical minerals projects?

931 Mr. Lehman. Thank you for the question.

932 Yes. And I think that has been a focus of the current administration with some of the recent  
933 executive orders specifically around enhanced coordination with the EPA and relevant agencies.

934 Is there likely still room for improvement? Of course.

935 Specifically, taking the Department of War as an example, there is an opportunity to  
936 systematize and bring automation and clarity timelines to the process.

937 To be able to handle the extent of the portfolio projects, that would need to get appropriate  
938 monitoring and attention and treatment on priority regulatory pathways and have sufficient crosstalk  
939 and make sure that they understand the given agencies' priorities and requirements as it relates to  
940 strategic materials and the projects that they are sponsoring.

941 Ms. Barragan. Okay. Thank you.

942 Dr. Spiller, we also need consistent Federal policies. In 2025, the Trump administration took  
943 a 5 percent ownership stake in Lithium Americas to support domestic lithium production.

944 Now, Lithium Americas has an agreement with General Motors to supply lithium for its EV  
945 batteries. At the same time, the Trump administration has ended Federal support for electric  
946 vehicles.

947 What happens when the government supports building more domestic critical mineral supply  
948 but at the same time weakens demand for the products that use those minerals -- materials?

949 Dr. Spiller. Yeah. Well, in this specific case, this was really problematic, because when that

950 happened General Motors was already backing out of that specific off-take agreement. So it  
951 exposed the American public to downside risk.

952 At the same time that the government was taking this equity risk, the Lithium Americas deal  
953 was really problematic, because they -- the government was not able to provide that sort of demand  
954 certainty in terms of providing more and more demand for the lithium in terms of having greater  
955 demand for batteries and it exposed the American taxpayers to greater downside risk.

956 Ms. Barragan. Great. Thank you. I yield back.

957 Mr. Palmer. The gentlelady yields.

958 The chair now recognizes the gentleman from Georgia, the distinguished member, Mr. Carter,  
959 for five minutes for his questions.

960 Mr. Carter of Georgia. Thank you for getting my name right. Appreciate it.

961 Thank you all for being here today. This is very important.

962 I am not going to repeat everything that we all know, and that is how China is dominating the  
963 rare earth minerals, the rare earth elements, like graphite, lithium, cobalt, and copper. We all know  
964 that and we all understand how important it is for us to be competitive there.

965 However, to develop the domestic capacity to process and refine critical minerals  
966 domestically, we need a more efficient permitting process. And that is why I have introduced H.R.  
967 3059, the Streamlining Critical Mineral Permitting Act.

968 It actually passed the House as part of the Lower Energy Cost Act last Congress and is still  
969 pending again this Congress.

970 It will allow processors and refiners of critical energy resources to operate under an interim  
971 permit under the Resource Conservation and Recovery Act subtitle.

972 Mr. Gubkin, I want to ask you, how would allowing these facilities to operate under an interim  
973 hazardous waste permit support efforts to build up domestic refining and processing capacity while  
974 still ensuring that hazardous waste is managed properly?

975 Mr. Gubkin. So I will say it is a path that could be taken and it is better than the current  
976 situation. I would not say that it is the most preferred path to go, quite simply.

977 Mr. Carter of Georgia. Well, what concerns do you have?

978 Mr. Gubkin. Well, you are still going through this permitting path. It is interim, which  
979 means to some extent you are operating at your own risk. And you still have to go through in the  
980 end full permitting and getting everything done there. So there is still that time frame before it is  
981 formalized.

982 You still have to go through every time you make a modification the full permitting process  
983 for a modification, which takes time.

984 So I respect the idea of going through that, but if we really want to treat these materials as  
985 critical and as a feedstock, again, I go back to putting them as a feedstock and going through the  
986 exclusions allowed that EPA has followed as well. To so do that and have it go --

987 Mr. Carter of Georgia. Okay. But you would agree it is better than what we got now.

988 Mr. Gubkin. I would say it is better than what we currently have.

989 Mr. Carter of Georgia. Okay.

990 Mr. Lehman, let me ask you, how do delays in obtaining permits to open refining and  
991 processing facilities deter investment in the United States?

992 Mr. Lehman. Diversion investment doesn't come through when there is uncertainty.

993 Mr. Carter of Georgia. Right.

994 Mr. Lehman. And there is not predictability to the process.

995 Mr. Carter of Georgia. Right. I would agree with you.

996 It doesn't matter what sector of the economy we are talking about. When I have groups in  
997 my office, whether it be healthcare, technology, or even processing, it is always the same: We need  
998 as much certainty as we can get. In order to invest, in order to plan for the future, we need that  
999 certainty. So I appreciate that.

1000 Let me ask you also, do you have any recommendations for the committee in keeping  
1001 permitting timelines more predicable?

1002 Mr. Lehman. I do. In terms of you considering a prioritized and expedited regulatory  
1003 pathway for strategic materials projects, I know there has been some projects where FAST-41 has  
1004 been applied to it clearly delineating timelines, accountabilities, and providing specific prioritized  
1005 attention to making sure that those dates and timelines are satisfied and making sure that they are  
1006 enforceable.

1007 Mr. Carter of Georgia. Good.

1008 Mr. Gubkin, in your written testimony you explained the facilities that want to recycle lithium  
1009 ion batteries have two options, both of which drive investments overseas.

1010 One of these is enter the RCRA part A and B permitting process. You describe some of the  
1011 challenges with this process and how its timeline is unworkable for the fast-growing and constantly  
1012 evolving industries.

1013 Why is this? And are there opportunities to make this permitting process more efficient that  
1014 Congress can consider?

1015 Mr. Gubkin. So why does the permitting process take as long as it does? I can't answer  
1016 that as well as the folks over at EPA, to be quite honest with you.

1017 It is a matter of, I suppose, they want more information, more information, more information  
1018 for whatever reasons that they do.

1019 The permitting process was developed for really chemical treatment plants as opposed to  
1020 something like battery recycling plants.

1021 And so, again, you mentioned the interim permitting as an option instead. But really what  
1022 you wind up having is for batteries, lithium ion batteries, they can be classified as a subcategory of  
1023 hazardous waste, universal waste, which doesn't require the permit so long as you don't store the  
1024 materials on site.

1025           And that is what you drive people to. But then you have the problem, as I said before, of  
1026 having the material feedstock at a different site from where you are processing it, which from a  
1027 logistics and safety standpoint doesn't really make sense.

1028           Mr. Carter of Georgia. Well, I am out of time, but I really do feel like the legislation that I  
1029 have, the Streamlining Critical Mineral Permitting Act, will help modernize this process and will be  
1030 productive and helpful.

1031           So thank you and I appreciate it.

1032           I yield back.

1033           Mr. Palmer. The gentleman yields.

1034           The chair now recognizes the distinguished gentleman from Ohio, Mr. Landsman, for five  
1035 minutes for his questions.

1036           Mr. Landsman. Thank you Mr. Chair, Ranking Member.

1037           Thank you all for being here.

1038           I want to talk about the batteries first. Obviously, the critical minerals work that we do has  
1039 huge implications for our economy, for individual household spending, national security. It is one of  
1040 the most significant things we have got to solve and win on.

1041           The domestic production piece is a challenge. There are some doors that we can go  
1042 through. One is the production recycling of batteries.

1043           I want to start with you, Mr. Gubkin.

1044           How does the investing in battery recycling help us as it relates to critical minerals?

1045           Mr. Gubkin. Well, first off, it keeps the materials here within U.S. soil. We can do the full  
1046 life cycle and have it here.

1047           So you can have the production of batteries, put it into the vehicle, or wherever else those  
1048 lithium ion batteries go. They go through their life. We can repurpose them and keep them here.  
1049 And then we go through and take those and recycle them and keep the critical minerals.

1050 So instead of having any of that flowing outside the U.S., we have it all here.

1051 In addition, it is a way of using what we call an urban mine. The materials are here. They  
1052 are well packaged. They are in the same location nice and easy as opposed to going to several  
1053 different mines, whether they are in the U.S. or outside.

1054 Mr. Landsman. It is one thing that we are buying all of these batteries from all over the  
1055 world, critical minerals coming from all over the world. Once they get here, though, we are in a  
1056 position to keep them.

1057 Mr. Gubkin. Absolutely.

1058 Mr. Landsman. And that is through the battery recycling efforts.

1059 In the Bipartisan Infrastructure Law, there was about \$6 billion in battery manufacturing,  
1060 recycling, and processing. Trump has targeted these efforts, canceling \$700 million in grants,  
1061 including support for a billion-dollar recycling battery facility in Kentucky.

1062 Dr. Spiller, can you talk, speak to the importance of certainty and what this does when these  
1063 dollars get pulled out of the market?

1064 Dr. Spiller. Yeah. Thanks for that question.

1065 Market certainty is really important. Projects are really expensive and take years to build.  
1066 And there are three specific aspects of certainty that we have to think about.

1067 The first one is regulatory and policy certainty, thinking that the policies are going to maintain  
1068 and not flip flop over time as we saw.

1069 The second one is demand certainty, and this has a lot to do with policies. Policies drive  
1070 demand. So understanding whether or not the demand for the products are going to grow over  
1071 time.

1072 And then, finally, price certainty. So being able to know whether or not you are going to  
1073 have a price of minerals that is going to not be subject to massive price volatility.

1074 And so this is where off-take agreements is so hugely important. And so this is why, when

1075 we are talking about connecting the upstream with the downstream, it is so important, because the  
1076 ability to enter into long-term, fixed-price, off-take agreements is going to be really key for market  
1077 certainty.

1078 Mr. Landsman. Thank you. I appreciate that.

1079 I think it is -- I know it is incumbent on this Congress, both sides, to hold the administration  
1080 accountable, to say: Look, we passed this, these investments in battery production, recycling.  
1081 They have to go out the door. There has to be consistency. We have to make these investments.

1082 With the time I have left, part of getting to the domestic production piece also includes the  
1083 permitting reform that my colleagues have talked about. My frustration is that there are two ways  
1084 to do this.

1085 You can do it in a partisan way where you just say we are going to pass a permitting bill and it  
1086 may not pass the Senate. In fact, it won't. It may pass the House. Won't get us anywhere.

1087 Or you can get a bipartisan deal done which requires, in my opinion, just the following: You  
1088 have to put the environmental folks in a room with the industry folks and figure out that way forward  
1089 where Democrats and Republicans can come together and say: Look, we are going to go find these  
1090 resources, but we are going to do it in a way that protects the environment.

1091 If you had to put folks in a room, who are the key environmental and industry folks? Let's  
1092 start with Mr. -- and just very quickly.

1093 Mr. Gubkin. I would say have us sit with the deputy administrators, administrators,  
1094 directors of EPA.

1095 Ms. Neal. I would agree.

1096 Mr. Landsman. Dr. Spiller?

1097 Dr. Spiller. Definitely need community groups in there too.

1098 Mr. Lehman. Industrial operators of these businesses and investors.

1099 Mr. Landsman. By the way, if you put those folks in a room and you say: Look, we have to

1100 get to permitting reform, get a couple Democrats, couple Republicans, there is a bipartisan bill that  
1101 probably includes everything that you mentioned.

1102 Dr. Spiller, I believe you had a few ideas.

1103 Mr. Gubkin.

1104 All of that gets done and done in a way that makes a lot of sense, gets to the floor, and  
1105 passes.

1106 Thank you. I yield back.

1107 Mr. Palmer. The gentleman yields.

1108 I now recognize myself for five minutes.

1109 Mr. Lehman, there are no major rare earth refineries in the entire Western Hemisphere.

1110 There are only nine in the world, eight are in China, the other one is in Malaysia.

1111 Cobalt. China controls up to between 75 and 80 percent of the cobalt process and refining,  
1112 94 percent of the rare earth refining, 90 percent of high-value graphite.

1113 Would you agree that this represents a significant threat to our national security and our  
1114 economic security?

1115 Mr. Lehman. Hundred percent.

1116 Mr. Palmer. Would you agree that we are in a time frame, a window of opportunity to  
1117 correct that?

1118 I often compare it to our space race, this generation's space race. Would you agree with  
1119 that assessment?

1120 Mr. Lehman. Yes.

1121 Mr. Palmer. Can we do this? Can we secure our own supply chain, not just by building the  
1122 critical infrastructure that we need here in the U.S., but working with allies to build out this process?  
1123 Would you agree that we could do this and maintain the environmental quality that we have always  
1124 expected and continue to expect?

1125 Mr. Lehman. I think we can and we have to. It requires a sense of urgency. It requires  
1126 leadership and requires resourcing.

1127 And the one thing -- you need to solve the full value chain before the problem is solved.  
1128 And it was very good to see in the President's budget a significant increase in resourcing for a DPA  
1129 program, for the Office of Strategic Capital, for several industrial base-oriented programs that --

1130 Mr. Palmer. I am well aware of this and been very involved.

1131 Can we create a marketplace that we can put a wall around where if China wants to  
1132 participate they can participate but can set a floor for prices?

1133 Mr. Lehman. That is a vitally important point to have a Western index, particularly in the  
1134 rare earth space. That is a perpetual challenge, something that I know Congress and the  
1135 administration are considering options for and executing against. But that is foundational to have a  
1136 functioning marketplace with providence of supply, clarity on price, and functioning market is going  
1137 to be critical.

1138 Mr. Palmer. Ms. Neal, the process that my colleague described for -- closed loop process for  
1139 lithium processing that was described earlier, can that be applied universally to all critical mineral  
1140 and rare earth element processing and refining? Is it that simple?

1141 Ms. Neal. I am sorry, but I am probably not the right person to answer that question. I  
1142 know that in our case, we are taking spent catalysts that has recovered vanadium from the refining  
1143 industry.

1144 Mr. Palmer. That is a different process.

1145 Ms. Neal. And we are able to recycle it and recover the vanadium.

1146 There are similar catalysts that are cobalt based, so similar recoveries. But I don't know  
1147 about -- there is a wide swath of elements that I wouldn't know how.

1148 Mr. Palmer. Well, for instance, with rare earth elements, some of those are radioactive.  
1149 Thorium, for instance. So we are going to have to have different processes. But we can still do

1150 everything that we need to do and maintain the environmental quality that we want to have.

1151 On the batteries, I thought Mr. Landsman raised some good issues there, and we have had  
1152 this discussion about China buying up spent lithium batteries.

1153 But that is not all they are doing. The regular lead batteries that are critical to our supply  
1154 chain for providing lead, which is now on the critical minerals list, but also antimony, which we have  
1155 to have.

1156 Mr. Gubkin, we are at a point now where China is setting up vaults of companies in other  
1157 countries to buy up these batteries to the degree that just about three or four weeks ago U.S. battery  
1158 recyclers had to shut down operations because there were no batteries.

1159 Would you consider that a problem?

1160 Mr. Gubkin. I do believe it is a problem if our feedstock is going to China. I would say  
1161 Redwood Materials is in something of a lucky position as far as the domestic supply of batteries for  
1162 recycling we are taking and the majority that stays here. So I suppose we are also a reason for  
1163 other companies having a problem.

1164 But the vast majority of materials that are going over to China and them taking them, that is  
1165 definitely a significant issue. And the reason we are here, I believe, is partly to make sure that that  
1166 doesn't become a growing issue and so that there is retained within this country enough feedstock in  
1167 those batteries to go in so that we can recycle and we can recover those critical minerals.

1168 Mr. Palmer. I thank the gentleman for his response.

1169 My time is expired.

1170 I now recognize the distinguished gentleman from New Jersey, Mr. Menendez, for five  
1171 minutes for his questions.

1172 Mr. Menendez. Thank you, Chairman.

1173 American leadership in the world should reflect our commitment to protecting public health  
1174 and creating economic opportunity for the people we represent. Yet Republicans have once again

1175 chosen to focus our time on rolling back environmental safeguards that protect our communities.

1176 I agree that we need urgent action to address Chinese dominance in the critical minerals  
1177 sector, and as we build out domestic critical mineral capacity, it is vital that the U.S. pursue  
1178 alternatives that reduce our dependence on China.

1179 Collaborating with our allies is a faster, more efficient, and more cost-effective way to secure  
1180 critical minerals than expanding domestic industry alone.

1181 Dr. Spiller, how will shifting our supply chains away from our adversaries and to our partners  
1182 diminish China's market dominance?

1183 Dr. Spiller. Thanks for that question.

1184 I mean, quite frankly, we are going to need to friendshore and work with our allies to chip  
1185 away at China's market dominance.

1186 Given the major challenges that we have been discussing today and that I presented in my  
1187 testimony, the U.S. isn't going to be able to do this alone, particularly not in the time frame that the  
1188 Federal Government is hoping to be able to achieve market independence or get away from China's  
1189 market dominance.

1190 So we are going to need to ally with as many countries as possible and leverage our  
1191 comparative advantages all along the supply chain.

1192 Mr. Menendez. Right. And the Trump administration has said repeatedly that America  
1193 First does not mean America Alone. We need to engage with our allies.

1194 And, Dr. Spiller, how can cooperation with those allies help reduce the need for domestic  
1195 extraction and processing?

1196 Dr. Spiller. Well, we can rely upon other countries that have maybe already started  
1197 extraction. They may already have projects that are ongoing. They might be able to expand those  
1198 projects.

1199 They might have better ore qualities, for example, or might have more resources than we do

1200 in certain minerals and they might be able to expand those at cheaper prices than us.

1201 So it might actually reduce the cost of actually getting the minerals that we need and be able  
1202 to do it faster and cheaper than we could do it here. And so that would avoid us having to build  
1203 new mines that might take us many years and at higher cost.

1204 But I think it is really important that we don't just focus on finding the least-cost partner but  
1205 that we find the least-cost partner that also has really strong governance and really good  
1206 environmental regulations so that we are ensuring a sustainable supply chain.

1207 Mr. Menendez. I appreciate that. And you mentioned reliability, but that is a two-way  
1208 street. So not just with our allies, but how the allies perceive the United States, because we need  
1209 long-term cooperation.

1210 The President continues to cause instability throughout the world. He has enacted  
1211 historically high tariffs, intervened in Venezuela, gone to war with Iran, and threatened a military  
1212 takeover of Greenland.

1213 It is difficult to achieve the cooperation and predictability needed for new industries to build  
1214 capacity over time, especially as the Trump administration makes the world less stable and less safe.

1215 Dr. Spiller, how do rising tensions between nations weaken our ability to sustain collaboration  
1216 on critical minerals?

1217 Dr. Spiller. It makes it very challenging. And just as one very clear example, the country  
1218 right now -- the United States right now is pursuing a multilateral agreement to try to have a price  
1219 floor that is supported by import tariffs against China.

1220 But in order to be able to have this price floor actually work to support new entrance of  
1221 investors, the investors need to believe that this price floor is credible over a long-term period. And  
1222 that means that allies and that this group of allied countries is actually going to be able to hold for a  
1223 long time.

1224 And with more and more geopolitical tensions the credibility of that allyship is not going to be

1225 able to hold. And so unless there is significant confidence, this is going to fall apart and there is not  
1226 going to be a true sign of market certainty.

1227 Mr. Menendez. That is exactly right. You are referring to FORGE right?

1228 Dr. Spiller. Yeah. Exactly.

1229 Mr. Menendez. Right. And so Politico reported on a State Department cable signaling in  
1230 the lead-up to, I think, a 50-nation summit that there is, quote, "wariness among some countries  
1231 about signing onto a framework agreement pledging joint cooperation in sourcing and processing  
1232 critical minerals," especially certain European diplomats quoted in the story specifically expressed  
1233 concerns over Trump's request that NATO member Denmark allow the U.S. to take over Greenland.

1234 Because the volatility makes these partnerships harder to maintain. And I am concerned the  
1235 President's actions contribute to that volatility, strain our alliances, as you have seen already in the  
1236 last several weeks and months, and could ultimately undermine our ability to lead a durable critical  
1237 mineral strategy and counter China, because I think everyone here agrees that on friendshoring that  
1238 it is something that we need to pursue, right?

1239 But I think we need to be cognizant of the lack of credibility that this administration has given  
1240 its own actions. And I would love my Republican colleagues to join in this choir of people saying we  
1241 need more from this administration and our allies should expect more from us as an ally.

1242 Thank you so much.

1243 Mr. Weber. [Presiding.] The gentleman yields back.

1244 The the chair now recognizes Dr. Joyce of Pennsylvania for five minutes.

1245 Mr. Joyce. Thank you, Mr. Chairman, for holding this important meeting and to our panel  
1246 for being here today to testify.

1247 Securing domestic critical material supply chains has been a key focus for both of the Trump  
1248 administration and of this committee.

1249 This is not an abstract concern. China currently controls the global critical minerals market

1250 and has already shown a willingness to place export controls on materials that are needed in the  
1251 national defense and manufacturing sectors.

1252 Not only are we not significantly mining or processing these minerals domestically, but our  
1253 current regulatory schemes are also making it harder to recycle the materials that we have already  
1254 imported and could potentially reuse.

1255 Instead of crafting regulations to keep these materials in circulation domestically, the current  
1256 framework often pushes the recovery of these materials right out of the country -- only to be sold  
1257 back to the United States again.

1258 Failing to update our regulations to address this issue has both economic and national  
1259 security ramifications. We need to work toward a regulatory scheme that acknowledges the reality  
1260 of how important certain materials and chemistries are to U.S. interests.

1261 Mr. Lehman, from your time at the Pentagon and now working in the critical mineral industry,  
1262 what barriers have you seen to EPA considering the national security implications when creating  
1263 environmental regulations?

1264 Mr. Lehman. Personally, I didn't experience any direct engagement or roadblock, but from  
1265 colleagues there are challenges sometimes with regards to the exclusions or treatments at the  
1266 Federal level versus State and local.

1267 But for the EPA I think there is a need to continue to look at legislative reforms but also faster  
1268 priority regulatory tracks that these projects can take so that there is clarity around the requirements  
1269 and the timelines to provide certainty for timeline to execution.

1270 And I know there has been sponsorship coordination for specific projects already with regards  
1271 to that and applying FAST-41 to those. That makes a lot of sense to me.

1272 But all for any other additional reforms or regulatory changes at the EPA that would facilitate  
1273 market speed for going through the permitting and regulatory process.

1274 Mr. Joyce. Mr. Gubkin, earlier you talked about the life cycle of batteries and how the

1275 batteries and the parts that we need, the critical materials that we need, are imported and we utilize  
1276 those -- and then they leave our country, only to be imported again.

1277 Can you discuss how the reuse and recycling goals of the Resource Reuse and Recovery Act of  
1278 1996 are hindered by EPA's continued presumption of batteries as hazardous waste, putting the  
1279 burden on recyclers like you to prove otherwise?

1280 Mr. Gubkin. Yeah. So as I mentioned, when you go and have a presumption of waste, then  
1281 you wind up having to go through two different avenues.

1282 One avenue being this RCRA A, B permitting process, which is timely and burdensome, and it  
1283 is very problematic for a startup and for an innovator.

1284 The other option that you wind up having is that you have storage in different areas for  
1285 between the processing and where you hold it.

1286 In addition, you have through something like TSCA these areas where when you are trying to  
1287 manufacture something, you are trying to move it, you produce something, you have these  
1288 requirements, and you are not able to distribute it within the country.

1289 So all these wind up combining and saying we don't want to really have the materials here.  
1290 It doesn't make sense. It all pushes things so that you move it out.

1291 Mr. Joyce. It does not make sense. I agree with you completely.

1292 And as we see those materials go right out of our hands, returning to our adversaries, only to  
1293 be purchased back again, the recycling of batteries in that life cycle that you discuss, what should we  
1294 be doing to appropriately classify regulations? And should there be additional legislation to protect  
1295 and incentivize that recycling to create that life cycle to begin and end here in the United States?

1296 Mr. Gubkin. I definitely believe one of the things that we are promoting is the Lithium Ion  
1297 Battery Management Act, having something in that form so that you have the designation of these  
1298 materials as the feedstock that they are, have the regulations that cover them basically under one  
1299 roof so that it covers all these different aspects and you don't have EPA at odds with other agencies

1300 like DOW.

1301 Mr. Joyce. So would you agree with me that inaction is not an option, that our adversaries  
1302 are in control of the critical supply chain right now, and we in Congress need to craft legislation that  
1303 allows the U.S. to once again level the playing field?

1304 Mr. Gubkin. I would agree with that, yes.

1305 Mr. Joyce. Thank you very much, Mr. Chairman. My time is expired. I yield back.

1306 Mr. Weber. The gentleman yields back.

1307 The chair now recognizes the gentleman from Florida for five minutes.

1308 Mr. Soto. Thank you, Chairman.

1309 Rare earth metals, rare earth minerals are in just about every technology we use nowadays,  
1310 whether it is electric vehicles, hybrids, computers, cell phones, just about every tech you could  
1311 imagine.

1312 In the Inflation Reduction Act we incentivized new and used EVs and domestic battery  
1313 manufacturing, and we finally saw domestic battery manufacturing growing again. That was before  
1314 Trump's war on clean energy.

1315 Since then, the President canceled \$700 million in battery manufacturing, incentives that  
1316 were already awarded. Under the Big Ugly Law, it eliminated the EV tax credits and the battery  
1317 manufacturing tax credits as well. And since Liberation Day we have seen literally almost two years  
1318 in a row of declining U.S. manufacturing.

1319 So it is rich that a lot of my colleagues who literally voted to destroy the manufacturing  
1320 incentives for batteries are now going to blame environmental laws.

1321 And then, on top of it, the President demanding government ownership shares of private  
1322 companies? That is literally the socialism people are warning about. Add in the tariffs and the  
1323 Iran war and it is not the environmental laws that are a threat to our supply chain. It is the  
1324 President's disastrous policies.

1325           And then we see a current trend that is really disturbing. We only have one U.S. rare earth  
1326 element mine in the country, Mountain Pass, Mojave Desert, which had some shutdowns already.  
1327 We have seen closed mines in the Jervois cobalt mine in Idaho, US Magnesium in Utah, Magnitude 7  
1328 Metals in Missouri.

1329           Doctor Spiller, why are all these mines closing even though we need these types of metals?

1330           Dr. Spiller. Well, a big reason for that is low, low global prices. So the Jervois mine closed  
1331 because of sustained low cobalt prices. So this is not something that the mining companies can  
1332 control.

1333           Mr. Soto. So we are either going to have to subsidize those mines or we are going to have  
1334 to build on domestic demand. Would that be two of the ways to help handle that?

1335           Dr. Spiller. There are other ways. This is something I talk about in my testimony. We can  
1336 invest in innovation.

1337           So there are new approaches to innovating that we could try to identify approaches to  
1338 extraction that are lower-cost ways to extracting minerals that doesn't require continued  
1339 subsidization indefinitely.

1340           Mr. Soto. Ms. Neal, why do you think that some of these mines are closing or barely  
1341 hanging on?

1342           Ms. Neal. I will be honest, mining is not my area of expertise. We are a recycling refinery  
1343 catalyst to recover vanadium as opposed to people having to go mine that out of the earth.

1344           Mr. Soto. Okay. Well, thank you for your opinion on that.

1345           Next we see a bunch of battery plants close over the last year or two. Fortescue canceled  
1346 the \$210 million EV battery factory in Detroit, BlueOval SK, a \$250 million battery production in  
1347 Kentucky, SK Battery America in Georgia, the Hyundai LG plant in Georgia as well.

1348           Ms. Spiller, why are the battery plants also closing?

1349           Dr. Spiller. Well, battery plants are closing mainly because demand for electric vehicles is

1350 crashing. And I would argue that a big reason why demand for electric vehicles is crashing is  
1351 because the policies at the Federal level have reversed and all of the policies that the Biden  
1352 administration had put in place supporting electric vehicle demand have now been removed by the  
1353 Trump administration.

1354 Mr. Soto. It is at a tough time, too, because about 20 percent of new vehicles last year in  
1355 Florida were either electric or hybrid. So we are seeing demand go up, and that is actually still kind  
1356 of steady even after the IRA is gone, but we are losing the manufacturing to help produce these  
1357 vehicles.

1358 Mr. Lehman, how do the tariffs and the Iran war affect our critical material supply chain?

1359 Mr. Lehman. For the Iran war, speaking from an industry perspective, chemical processing  
1360 being a critical input material has been referenced a few times during this hearing. Sulfuric acid is a  
1361 critical component not just for critical minerals processing but also for the oil and gas industry for  
1362 fertilizer.

1363 The shutdown in the strait has created a disruption in that supply chain that has been further  
1364 exacerbated, underscoring China's position with regards to critical minerals and materials. They  
1365 shut off exports of sulfur and sulfuric acid directly after hostilities were initiated.

1366 So that is just underscoring the fact that these supply chains are critical and China is going to  
1367 weaponize its position in these markets.

1368 Mr. Soto. Which we need to improve domestic production as a result with a lot of the ideas  
1369 we talked about today.

1370 Thanks, and I yield back.

1371 Mr. Weber. The gentleman yields back.

1372 The chair now recognizes the gentlelady from Iowa for at least five minutes.

1373 Mrs. Miller-Meeks. Thank you, Mr. Chairman, for holding this important hearing on critical  
1374 mineral supply chains.

1375           The United States certainly finds itself in a perilous position when it comes to critical minerals,  
1376 which has nothing to do with this administration. China has pursued a long-term strategy for  
1377 dominance across the entire supply chain, from mining to processing to manufacturing, while we  
1378 were slow in the United States to respond.

1379           That began to change during the first Trump administration, which directed the Federal  
1380 Government to develop a strategy for securing reliable mineral supplies. Congress built on that  
1381 foundation through the Energy Act of 2020, and today the Federal critical minerals list stands at 50  
1382 commodities, with more than 10 added just this past year.

1383           We have made progress identifying the problem. Now we need solutions.

1384           One area where I focus my efforts is building a stronger secondary market. My bill, the  
1385 Recycling Infrastructure and Accessibility Act, establishes an EPA pilot program to expand collection  
1386 and recycling capabilities, including in rural communities.

1387           And in one of my first terms in Congress, I was able to navigate a bill through that required  
1388 the DOD -- or now Department of War -- to send its hard drives, scrubbed and cleaned, to the Ames  
1389 National Laboratory in Ames, Iowa, to have the critical minerals elements and magnets removed in a  
1390 safe process, and that is now ongoing.

1391           So the goal is simple: collect more, recycle more, feed those materials back into domestic  
1392 refining and processing, rather than sending them overseas.

1393           These industrial processes are deeply interconnected. The byproduct of one process is often  
1394 a critical input for another, which means if we lose the ability to manufacture at any point in that  
1395 chain, the ripple effects cascade through the entire economy.

1396           That is not theoretical. The Biden administration learned it the hard way prioritizing  
1397 regulations that burdened or shut down American refiners without accounting for what we lose  
1398 downstream.

1399           Ms. Spiller, just on the comment you made earlier, are you saying that without government

1400 subsidies -- since we are talking about government subsidies -- without government subsidies that  
1401 demand for electric vehicles decreases?

1402 Dr. Spiller. Yes.

1403 Mrs. Miller-Meeks. Thank you.

1404 Dr. Spiller. We have done our own modeling that shows --

1405 Mrs. Miller-Meeks. Thank you. I just wanted that question answered. I appreciate it.

1406 Ms. Neal, I come from an ag State, and since the beginning of the Iranian conflict the price of  
1407 sulfuric acid has increased by 30 percent -- and I think this was mentioned just a moment  
1408 ago -- directly increasing the price of fertilizer during key planting season. Most people don't  
1409 connect those two things.

1410 Phosphate fertilizers depend on sulfuric acid, which is a byproduct from refining oil. So if  
1411 less oil is refined, we have less sulfur, which means we have less sulfuric acid. And even though  
1412 sulfur is not on the critical minerals list, we see that there is a reduction in sulfuric acid.

1413 So from your position inside the refinery supply chain, how severe do you expect the sulfur  
1414 shortage to get and how long could it last?

1415 Ms. Neal. Thank you for the question. I really appreciate it.

1416 I have not focused on sulfur supply. But we are receiving catalysts from the oil refining.  
1417 And the oils that are being processed that recover the vanadium also tend to recover sulfur. So I  
1418 have not seen a significant decline in that arena.

1419 Mrs. Miller-Meeks. In contrast to our farmers.

1420 Mr. Lehman, how have Federal critical mineral lists influenced decisions about locating  
1421 processing or recycling capacity domestically versus abroad? And are current policy incentives  
1422 sufficient to shift that calculus meaningfully?

1423 Mr. Lehman. It is informed by a requirements detailed analysis around where we have the  
1424 most strategic shortfalls and then taking a look at what is available today. It is never an isolated

1425 domestic-only approach. Partners and allies absolutely need to be a part of the solution.

1426 But if you are talking about the rare earths value chain and obviously very healthy  
1427 magnet-making industry in Japan, but geographically that presents concern in scenarios where there  
1428 is conflict.

1429 So that is why I get back to the point around the issue is not solved until the full value chain is  
1430 solved. And it is not just raw material to finished good. It is the capital equipment and the things  
1431 that we need to source to have the full system operate.

1432 Mrs. Miller-Meeks. Thank you.

1433 Mr. Gubkin, Federal policy often frames domestic supply security in terms of new extraction.  
1434 If you would answer this in written form, but I want to state it, how well do current critical mineral  
1435 programs recognize recycled feedstock as a legitimate and scalable component of that supply base?

1436 And then battery cyclers operating in the United States face a regulatory framework under  
1437 RCRA that is largely originated. How would we classify that?

1438 If you could answer that for us for the record in writing, I would appreciate that.

1439 And my time is expired. I yield back.

1440 Mr. Weber. The gentlelady yields back.

1441 The chair now recognizes the gentlelady from North Dakota for at least five minutes.

1442 Mrs. Fedorchak. Thank you, Mr. Chairman. Appreciate it.

1443 Thank you all for sharing your expertise with us today. This is an interesting hearing and  
1444 subject that we are spending a lot of time on over and over on critical minerals and critical materials.

1445 Mr. Gubkin, I was interested in your testimony when you said by 2030 enough end-of-life EV  
1446 battery packs will exist in North America to supply roughly half of the projected energy storage  
1447 market. And then you list out the two barriers to that being some EPA regulations, the Resource  
1448 Conservation Recovery Act and TSCA.

1449 Can you speak, just provide some more color on that? What do we need to be doing to

1450 prevent -- to enable that recycling?

1451 Mr. Gubkin. Basically we need to promote the idea that these materials are not waste and  
1452 that they have a purpose, second life purpose in energy storage, and that that is put as a priority for  
1453 EV packs over recycling, certainly over shipping them outside the country.

1454 We get that priority straight by going and classifying them as not being waste, but as the  
1455 critical feedstocks that they are.

1456 Then it makes the market there so that they are recognized by those who produce them to  
1457 supply them for second life, for repurposing, for energy storage. And then there is still the recycling  
1458 market once they no longer have that second life to go and recycle them and keep the materials  
1459 there, to keep the life cycle going.

1460 Mrs. Fedorchak. So it is a classification issue at the EPA?

1461 Mr. Gubkin. I think that is a large part for where it starts in terms of energy storage, yes. If  
1462 you start out with a classification, EPA'S 2023 memo on lithium ion batteries, that they recommend  
1463 that companies classify these materials as universal waste, a subset of hazardous waste. When you  
1464 start there, it starts the whole ball rolling in the wrong direction.

1465 So treating these as what they are changes what the regs are for them, it changes the mindset  
1466 for them, it changes what those manufacturing and producing these materials, what they are going  
1467 to do with them when they no longer need them in the vehicle and put them on the right path so  
1468 that they can be used for second life energy storage and then eventually for recycling in this country.

1469 Mrs. Fedorchak. The mindset change is something I want to explore a little bit more.

1470 This morning we had a hearing -- different subcommittee -- with the Nuclear Energy  
1471 Regulatory Commission. All five commissioners were here. They talked about that agency  
1472 changing from being a regulatory mindset to having an enabling mindset and that it has been a sea  
1473 change in the agency by all the employees.

1474 I would like each of you to just briefly -- I have two minutes, so you each get about 30

1475 seconds -- talk about if you were to advise EPA to become an enabling agency, what would that  
1476 mean, what would that look like, where should they start? And we will just go down the line.

1477 Mr. Lehman. Prioritization for what is important with a regulatory pathway that has clearly  
1478 defined timelines, responsibilities. And I agree that culture change is really important. And  
1479 streamlining on permitting, NEPA reviews, that is another one.

1480 Mrs. Fedorchak. Excellent.

1481 Dr. Spiller?

1482 Dr. Spiller. I think cross-agency collaboration is probably going to be really important,  
1483 making sure that there isn't -- really focusing in on some of the issues that Redwood was talking  
1484 about, that there aren't cross-agency issues that contradict each other basically.

1485 Mrs. Fedorchak. Ms. Neal?

1486 Ms. Neal. Speaking in the framework of recycling, I think it is very important for the agency  
1487 to really think about what the recycling process is trying to accomplish and focus on the realities of  
1488 the situation. We will say not go form over function, but really try to promote the recycling and the  
1489 reclamation that is available to us.

1490 Mrs. Fedorchak. Very good.

1491 Mr. Gubkin. I would echo a lot of what has been said, the agency and inter-division within  
1492 the agency alignment, prioritization of those materials that are critical to this country.

1493 I would also say, looking towards that end goal by comparison in the State where I operate,  
1494 Nevada, we have worked with NDEP over there and had them adopt the Federal hazardous  
1495 secondary materials exclusion, which they did not have before. And we did that in concert and  
1496 recognizing, hey, you get all the protections you want, but we get more flexibility from it. So we  
1497 need more of that on the Federal level.

1498 Mrs. Fedorchak. Excellent. Thank you.

1499 Thank you all again for being here.

1500 I yield back.

1501 Mr. Palmer. [Presiding] The chair now recognizes the distinguished Representative from the  
1502 State of Texas, Mr. Weber, for five minutes for his questions.

1503 Mr. Weber. Thank you, Mr. Chairman.

1504 And I am going to fuss at Ms. Fedorchak because she stole some of my questions.

1505 You had some good ones.

1506 I want to come to you, Mr. Gubkin, first. Of the 50 critical minerals in 2022, 49 are essential  
1507 to the energy sector. In my district, 14. The Gulf Coast of Texas provides a lot of energy,  
1508 obviously.

1509 Unfortunately, we rely on China for 26 of those minerals. The U.S. once led the world in  
1510 producing rare refining and rare earth mineral elements.

1511 So today China controls nearly 90 percent of the global rare earth. We have all talked about  
1512 the processing. It has demonstrated a willingness to restrict airports, exports.

1513 In your opinion, exactly how dependent are we on China for critical minerals to secure our  
1514 energy infrastructure and national security, A? And B, if you could wave a magic wand, how would  
1515 you fix that?

1516 Mr. Gubkin. All right. Let me pull out my magic wand here.

1517 As to how reliant we are, I think I mentioned before that China controls more than 80 percent  
1518 of the global lithium ion recycling capacity. So I think that says it there.

1519 And you were talking about much more than just lithium ion batteries. So it is definitely an  
1520 issue right now. It is critical. And it is critical that we change it for our critical minerals.

1521 As far as waving the wand and what do we do to change that, I think it is, again, going and  
1522 putting the regulations and the policies in place that say, hey, we have some of these materials here.

1523 In the instance of the critical materials like cobalt and lithium and nickel, they are all packaged  
1524 within the batteries, so if we go and have those policies and regulations that say we prioritize

1525 batteries, keep them in the U.S., recycle them in the U.S., create the new critical minerals coming out  
1526 of them, and then keep the cycle going within the U.S., that is how you do it.

1527 Mr. Weber. Ms. Neal, would you agree with what he just said?

1528 Ms. Neal. I absolutely would agree with what he said.

1529 I would like to expand on it just a moment, if I could.

1530 Mr. Weber. Yes, ma'am.

1531 Ms. Neal. Really I would like to look at what we should not be doing, and that is in large  
1532 part --

1533 Mr. Weber. Have you been talking to my wife? I am sorry, go ahead.

1534 Ms. Neal. This is in large part what has happened to AMG Vanadium. Mr. Gubkin was  
1535 talking about the challenges of securing the permits. AMG went through that process 20 years ago.  
1536 We have been operating for 20 years under the RCRA regulations with our permits and our variances.  
1537 And now we have got members of the Region 5 staff who have decided to interpret the regulations  
1538 differently.

1539 So his challenges are up front. Our challenges are when we are well-founded.

1540 Mr. Weber. Dr. Spiller, I am going to jump over to you. If we could wave that magic wand  
1541 the way they are describing things, what one single thing would you do up front, very quickly?

1542 Dr. Spiller. To reduce our reliance on China?

1543 Mr. Weber. Well, that is part of it, and bring all the agencies together so that we can  
1544 actually make America First, we will use that term. What would you do, the first thing?

1545 Dr. Spiller. To bring all of our agencies together?

1546 Mr. Weber. That is right.

1547 Dr. Spiller. I would increase the staffing.

1548 Mr. Weber. Okay. That is fair enough.

1549 Mr. Lehman, how about you?

1550           Mr. Lehman. Untenably reliant. And the first thing is just doubling down on the projects  
1551 that are underway, and in particular the midstream for the industry. The rare earth metal making is  
1552 a key shortfall that we see. That is why we have partnered to commercialize technology out of  
1553 Ames National Lab.

1554 RPTR DETLOFF

1555 EDTR CRYSTAL

1556 [4:04 p.m.]

1557 Mr. Weber. Thank you for that. I saved you for last for a reason.

1558 Your testimony outlines the complex challenges for future investments within the current  
1559 regulatory framework. Limiting Federal overreaches that restrict gains in capital investments is  
1560 critical to incentivizing investments in essential sectors like critical mineral extraction, for example.

1561 How can we navigate the current burdensome regulatory environment to free up investors  
1562 willing to deploy capital to reassert our dominance in that global supply chain? What would you  
1563 do?

1564 Mr. Lehman. Utilizing tools like the Defense Production Act or Office of Strategic Capital.

1565 Mr. Weber. Well, we want to get those who are willing to make investments to feel  
1566 comfortable, and they have to know their money is safe.

1567 Mr. Lehman. It is also a signal of commitment and importance. It is both commitment  
1568 from the government, a patient capital provision to a given project, that is going to induce additional  
1569 private capital investment that would have otherwise not invested given those timelines that we  
1570 were referencing.

1571 Mr. Weber. So as they described bringing all these agencies together, would you be there to  
1572 lead up the capital investment discussion?

1573 Mr. Lehman. I would be happy to engage in that discussion. I think it is important.

1574 Mr. Weber. Thank you, Mr. Chairman. I yield back.

1575 Mr. Palmer. The chair now recognizes the distinguished gentleman from Colorado, Mr.  
1576 Evans, for five minutes for his questions.

1577 Mr. Evans. Thank you, Chairman, Ranking Member, of course to the witnesses for coming.

1578 My first question will be to Mr. Lehman and Dr. Spiller.

1579           We have studies from the U.S. Geological Survey that highlight the untapped potential of  
1580 mine waste as a domestic source of critical minerals, especially from Superfund sites.

1581           In my home State of Colorado, we have a ton of significant deposits of critical  
1582 minerals -- niobium, rare earth elements, titanium, tungsten, uranium, vanadium, tellurium -- which  
1583 is essential for defense and for new technologies.

1584           A recent study by researchers at the Colorado School of Mines found that more efficient  
1585 processing of existing waste streams from U.S. mines could supply much of the critical minerals that  
1586 the United States currently imports.

1587           And so, Dr. Spiller, what recommendations do you have for the Federal Government in  
1588 looking into mine waste streams as a source of critical minerals while also encouraging the  
1589 remediation of these sites?

1590           Dr. Spiller. This is a great opportunity, but, unfortunately, it is really uneconomical to  
1591 extract. So I think the question is : What are the approaches to increase the economic potential for  
1592 extracting these resources? What are the innovative approaches to reduce the cost?

1593           We also don't have a good sense of what the costs are. So more research, I think, into  
1594 quantifying those costs and investing in innovative techniques to be able to extract them.

1595           Mr. Evans. So, Mr. Lehman, similar question. How can we support the EPA -- both through  
1596 regulatory burden and then also the cost component of this -- by being able to address some of these  
1597 legacy sites that already have to be cleaned up under Superfund and be able to make use of those  
1598 waste streams in a better manner?

1599           Mr. Lehman. The labs have done a lot of work as it relates to reclamation on sites like that.  
1600 But, again, the concentrations and what is going to be economic is one of the falling points.

1601           But if there is a scalable approach, I think there is a key need to leverage the R&D complex  
1602 that we have in our labs and commercialize technologies that are going to innovate and leapfrog,  
1603 because the current state of the technology is 40 years old from when we offshored it originally.

1604 But in terms of helping the EPA, the ask would be, if we have a clear business case here to  
1605 commercialize the technology, work expeditiously with us to get that done.

1606 Mr. Evans. And so, let's say for the sake of argument, you have that compelling business  
1607 case. And so we are going to be facing, it sounds like, two barriers. The cost barrier -- assuming  
1608 the cost barrier could be addressed, how fast could we overcome that? Given the appropriate  
1609 permitting and regulatory environment, are there any changes that would be needed in the  
1610 regulatory space to help make it more cost-efficient?

1611 Mr. Lehman. I have found getting into the fastest, most expedient track possible and giving  
1612 it the strategic prioritization that these types of projects deserve is really important. Like, I am not  
1613 suggesting skipping key steps. I am suggesting prioritizing and allocating the accountabilities,  
1614 timelines, and responsibilities to get it done.

1615 Mr. Evans. Thank you.

1616 Mr. Gubkin, so I am going to come to you next.

1617 Batteries. We have got to make more batteries. We have got to make more batteries in  
1618 the United States. I have one of the last all-U.S.-sourced battery manufacturers in my district.

1619 I am happy to work with some of my colleagues across the aisle, Rep. Ruiz, we have got the  
1620 Critical Minerals and Manufacturing Support Act, to make sure that we are doing work to continue to  
1621 promote this critical industry there.

1622 I am from Colorado. We also have lots of, unfortunately, wildfires in the State of Colorado.

1623 So what sort of policies can we do to make sure that, if there are battery components or  
1624 batteries themselves, whether small-scale or grid-scale batteries that are damaged in a wildfire or  
1625 other natural disasters, what sort of policies or recommendations do we need to do to be able to  
1626 recover those better?

1627 Mr. Gubkin. So if I understand your question directly, it is about batteries impacted by  
1628 wildfires and how we address those.

1629           Currently, my understanding is when that has happened -- California and Hawaii have both  
1630 had some incidents where there has been issues with battery fires, and EPA comes in and treats  
1631 those sites as a Superfund site. They take control of it and they tightly control what happens with  
1632 those batteries, who they go to, how they are recycled. There is a full process that they go through  
1633 of auditing the sites and whatnot.

1634           Understanding that for the most part, frankly, I don't think all that is necessary. A burnt  
1635 battery actually for a recycler has the same critical minerals as a brand-new battery, and so the  
1636 process is the same.

1637           Redwood Materials helped out with the Maui fires. We are looking to get involved, I  
1638 believe, to help out with Moss Landing material that is there.

1639           And so just by, again, cutting through some of the red tape and letting these materials go to  
1640 those facilities that are able to take them, then we can go and quickly ramp up the amount of  
1641 feedstock that those facilities need to go and recover those critical minerals.

1642           Mr. Evans. Thank you.

1643           And I am out of time, so I yield back.

1644           Mr. Palmer. The chair now recognizes the distinguished gentleman from Ohio, Mr.  
1645 Balderson, for five minutes for his questions.

1646           Mr. Balderson. Thank you, Mr. Chairman.

1647           Thank you all for being here today.

1648           I would also like to welcome my dear friend, Jane Neal, a constituent of Ohio's 12th  
1649 Congressional District.

1650           Ms. Neal, thank you very much for participating in today's hearing and telling AMG's story.

1651           We have had many discussions over the years about how Congress can help expand domestic  
1652 manufacturing and processing of critical minerals and materials.

1653           Can you discuss some of the ongoing regulatory hurdles AMG is facing and how my bill, H.R.

1654 7523, will help provide long-term certainty for the domestic production of these critical minerals?

1655 Ms. Neal. Congressman Balderson, thank you for the opportunity to talk about this, and  
1656 thank you for your support in the bill that you have taken to the House.

1657 As I said a few minutes ago, AMG Vanadium has been processing spent catalyst and  
1658 reclaiming the vanadium and nickel-molybdenum from it for over 20 years. We have been doing  
1659 this under a RCRA variance, and it has been determined through that entire time as a legal process.

1660 Recently, members of Region 5 staff have started interpreting the regulation differently and  
1661 have now determined that -- or decided that our process is not legitimate recycling but, rather, it is  
1662 something more akin to trash disposition. They have made this change without any change in the  
1663 regulation and without any change in our process.

1664 So what we have requested and your bill is going to deliver is some certainty for us. It is  
1665 clarifying the existing regulations. It is not deregulating. It is not weakening the safety and  
1666 environmental stewardship that AMG is required to provide. But it provides us with long-term  
1667 certainty that will allow us to continue this process which allows us to be the domestic source of  
1668 ferrovanadium for the United States.

1669 So we talk about the challenges of China. China manufactures over 60 percent of the global  
1670 vanadium production. And without AMG, everything else gets imported. So you are helping us  
1671 protect against that risk.

1672 Mr. Balderson. Thank you.

1673 Ms. Neal, the Resource Conservation and Recovery Act was passed to promote resource  
1674 recovery while protecting human health and the environment.

1675 How does AMG's process fit into these purposes?

1676 Ms. Neal. So spent refinery catalyst was listed as a hazardous waste because it does present  
1677 significant risk to human health and the environment when it is landfilled. But when it comes to  
1678 AMG for reclamation and recycling, it is not landfilled, and so we are able to alleviate those risks.

1679            Additionally, our process has been designed, our facilities have been designed to be mindful  
1680 and protective of the environment.

1681            So we spent \$300 million on our facility in Zanesville, and of that, over \$100 million was for  
1682 emission controls.

1683            So we are very, quite frankly, proud of that. We like being stewards of the environment.

1684            On the other side of this, as far as resource recovery is concerned, as I said, we are recovering  
1685 vanadium, providing about 40 percent of the domestic market.

1686            Additionally, we have found beneficial use markets for every other product and byproduct  
1687 from our process. So we have over 99 percent conversion from hazardous waste to salable finished  
1688 goods.

1689            Mr. Balderson. Thank you. And I am glad that you brought up the investment. That is  
1690 my last question.

1691            AMG did invest \$300 million to build its new plant in my hometown of Zanesville, Ohio.

1692            How will a clear regulatory framework help companies like AMG continue to expand and  
1693 bring jobs to rural communities? You have got about 20 seconds.

1694            Ms. Neal. Well, speaking directly to AMG, we are contemplating another expansion into the  
1695 vanadium oxide and vanadium electrolyte that will supply electrolyte to grid-scale batteries to  
1696 support the energy market. So we need regulatory certainty in order to contemplate that  
1697 investment.

1698            Mr. Balderson. Thank you very much.

1699            Ms. Neal. Thank you.

1700            Mr. Balderson. Thank you.

1701            Mr. Chairman, thank you.

1702            Mr. Palmer. The gentleman yields.

1703            I would like to thank our witnesses for being here today. Members may have additional

1704 written questions for you.

1705 I will remind members that they have 10 business days to submit additional questions for the  
1706 record, and I ask that the witnesses do their best to submit their responses within 10 business days  
1707 upon receipt of the questions.

1708 I ask unanimous consent to insert in the record the documents included in the staff hearing  
1709 documents list.

1710 Without objection, that will be the order.

1711 [The information follows:]

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1713 \*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

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Mr. Palmer. Without objection, the subcommittee is adjourned.

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[Whereupon, at 4:16 p.m., the subcommittee was adjourned.]

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