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6 AMERICA'S FUTURE: LEADING A NEW ERA OF ENERGY

7 DOMINANCE, SECURITY, AND ENVIRONMENTAL STEWARDSHIP

8 TUESDAY, DECEMBER 5, 2023

9 House of Representatives,

10 Subcommittee on Energy, Climate, and Grid Security,

11 Committee on Energy and Commerce,

12 Washington, D.C.

13

14 The subcommittee met, pursuant to call, at 10:01 a.m. in
15 Room 2123, Rayburn House Office Building, Hon. Jeff Duncan
16 [chairman of the subcommittee], presiding.

17

18 Present: Representatives Duncan, Burgess, Latta,
19 Guthrie, Griffith, Johnson, Bucshon, Walberg, Palmer, Lesko,
20 Pence, Armstrong, Weber, Balderson, Pfluger, Rodgers (ex
21 officio); DeGette, Peters, Fletcher, Matsui, Tonko, Veasey,

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22 Kuster, Schrier, Castor, Sarbanes, Cardenas, and Pallone (ex
23 officio).

24

25 Also present: Representatives Carter and Miller-Meeks.

26

27 Staff Present: Kate Arey, Digital Director; Sarah
28 Burke, Deputy Staff Director; David Burns, Professional Staff
29 Member; Nick Crocker, Senior Advisor and Director of
30 Coalitions; Sydney Greene, Director of Operations; Nate
31 Hodson, Staff Director; Tara Hupman, Chief Counsel; Daniel
32 Kelly, Press Assistant; Sean Kelly, Press Secretary; Alex
33 Khlopin, Staff Assistant; Peter Kielty, General Counsel;
34 Emily King, Member Services Director; Elise Krekorian,
35 Professional Staff Member; Drew Lingle, Professional Staff
36 Member; Mary Martin, Chief Counsel; Brandon Mooney, Deputy
37 Chief Counsel; Kaitlyn Peterson, Clerk; Karli Plucker,
38 Director of Operations (shared staff); Emma Schultheis, Staff
39 Assistant; Olivia Shields, Communications Director; Peter
40 Spencer, Senior Professional Staff Member, Energy; Michael
41 Taggart, Policy Director; Dray Thorne, Director of
42 Information Technology; Waverly Gordon, Minority Deputy Staff

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43 Director and General Counsel; Tiffany Guarascio, Minority
44 Staff Director; Perry Hamilton, Minority Member Services and
45 Outreach Director; Krisopher Pittard, Minority Professional
46 Staff Member; Emma Roehrig, Minority Staff Assistant; Kylea
47 Rogers, Minority Policy Analyst; Andrew Souvall, Minority
48 Director of Communications, Outreach, and Member Services;
49 Medha Surampudy, Minority Professional Staff Member; and
50 Tuley Wright, Minority Staff Director, Energy, Climate, and
51 Grid Security.

52

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53 *Mr. Duncan. The Subcommittee on Energy, Climate, and
54 Grid Security will now come to order.

55 The chair recognizes himself for five minutes for an
56 opening statement, and I want to thank all the witnesses for
57 being here, as well.

58 This is the second hearing we have had on this subject.
59 Bill Johnson had a hearing last week in the Environment
60 Subcommittee. This is sort of a follow-up for that, so I am
61 looking forward to it. So I thank you all for being here
62 today, and welcome to the Energy, Climate, and Grid Security
63 Subcommittee hearing, "America's Future: Leading a New Era
64 of Energy Dominance, Security, and Environmental
65 Stewardship.'`

66 The world is a safer and more secure place with American
67 leadership, and this means leadership with our energy, with
68 our technology, and with our values. As we continue our path
69 towards reduction of greenhouse gas emissions and cleaner air
70 and water, we cannot lose sight of the role energy plays in
71 assuring our economic future, our nation's security, and the
72 security of our allies.

73 We also cannot lose sight of the fact that the world

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74 would demand more energy, not less, in the future.

75 Developing nations are hungry for the benefits of reliable,
76 affordable energy that will help lift their people out of
77 poverty and into prosperity.

78 Because of this demand, there will be a great energy
79 expansion in the coming years, and America should play a key
80 role in this expansion, not retreat from it, and not deprive
81 the world of the benefits of our abundant resources and
82 technologies.

83 Pro-growth energy policies and a predictable regulatory
84 environment and the American entrepreneurial spirit enabled
85 America to be a leader in energy production while
86 simultaneously reducing emissions. We led the world in
87 reducing carbon dioxide emissions, while also becoming the
88 world's number-one producer of both oil and natural gas. The
89 air is cleaner globally, and our allies in Europe and Asia
90 are more energy secure because of America's high-quality
91 energy production and exports.

92 Last week in our Environment, Manufacturing, and
93 Critical Minerals Subcommittee we highlighted how the United
94 States is leading the world in reducing emissions of all

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95 types, and the types of policies that have contributed to
96 this success. Today we will focus on what is needed to
97 continue success and preserve the benefits of American energy
98 dominance, our security, and the environmental benefits that
99 can flow from that.

100 The United States have become the number-one producer of
101 oil and natural gas because of policies that allow the
102 private sector to innovate and advance their technologies,
103 and we do it cleaner and safer than any other country. U.S.
104 LNG exports are 40 percent cleaner than Russian LNG, and is
105 cleaner than other alternative fuels. Using our gas and gas
106 turbine technologies to meet the demand of the developing
107 world will lead to lower emissions as we head _ as we heard
108 in testimony just last week.

109 It will also meet our paramount interest in assuring
110 national and energy security. Remember, there is no national
111 security without energy security.

112 Unfortunately, the approach taken by this Administration
113 seeks an aggressive regulatory agenda and transition away
114 from our energy strengths. The result would be less reliable
115 and affordable energy, and an increased reliance on

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116 adversarial nations that have little to no environmental or
117 labor standards. As we become weaker, our adversaries become
118 stronger.

119 H.R. 1, the Lower Energy Cost Act passed by the House
120 earlier this Congress, recognizes this and seeks to restore
121 American energy dominance by increasing domestic energy
122 production, modernizing the permitting process, boosting the
123 production of critical minerals to secure our energy supply
124 chains, and streamlining permitting for energy exports.

125 A key goal of restoring American energy dominance will
126 be to strengthen our nuclear industry and leadership. Of
127 course, nuclear energy is our nation's leading source of
128 emissions-free energy, but is also a critical national
129 security asset. Being a leader in nuclear energy provides us
130 the opportunity to export our nuclear technologies and set
131 global nuclear safety and security norms. If we don't do
132 this, China and Russia, both with robust nuclear programs,
133 surely will do it to the detriment of our national security.

134 So I am pleased to have introduced the Atomic Energy
135 Advancement Act with my colleague, Ranking Member DeGette.
136 This bill encapsulates the work of many members of this

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137 committee on both sides of the aisle, and seeks to advance
138 the benefits of nuclear energy by enabling efficient, timely,
139 and predictable licensing, regulation, and deployment of
140 nuclear energy technologies.

141 I am excited that we are moving forward with this true
142 bipartisan effort to advance nuclear energy in the United
143 States to help position us for success on the global stage.
144 We will be marking that up today, and hopefully get that
145 package to the floor rather quickly.

146 So with that, let me welcome our witnesses today. I
147 look forward to the discussion and how we can advance
148 American energy and our global leadership.

149 [The prepared statement of Mr. Duncan follows:]

150

151 *****COMMITTEE INSERT*****

152

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153 *Mr. Duncan. And with that I will yield back and
154 recognize the Ranking Member DeGette for five minutes.

155 *Ms. DeGette. Thank you so much, Mr. Chairman. With
156 the start of COP28 last week and international climate
157 negotiations well underway, we must focus on how the United
158 States can continue to lead the world's clean energy
159 transition. That is why I am glad for this hearing today.

160 As a nation we have taken tremendous steps in reducing
161 our greenhouse gas emissions. Investments like the Inflation
162 Reduction Act and the Bipartisan Infrastructure Law are how
163 we must approach energy security, leadership, and
164 environmental stewardship. And we must ensure that we fully
165 fund both transformational laws enacted under the Biden
166 Administration. Our actions have improved health and
167 economic outcomes for some of our most disadvantaged
168 communities, while at the same time producing cutting-edge
169 technology and climate solutions for the world.

170 But according to the fifth National Climate Assessment,
171 without even more deep reductions in greenhouse gas
172 emissions, the risk of intensifying harmful climate impacts
173 will only continue to grow. So how do we do that? There are

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174 several ways, but one of the most critical ways is targeting
175 methane emissions.

176 According to the EPA, methane concentrations have more
177 than doubled in the last two centuries, largely due to human
178 activity. And as we know, methane is the second largest
179 greenhouse gas contributor to climate change, while also
180 being 28 times more potent than CO2. Thankfully, under the
181 Biden Administration, the U.S. continues to lead in the fight
182 against methane emissions.

183 On Saturday at COP, the Administration announced new
184 methane regulations to sharply reduce methane and other air
185 pollutants from the oil and gas industry. The rule would
186 prevent an estimated 58 million tons of methane emissions
187 from leaking into our atmosphere from 2024 to 2028.

188 Additionally, the many investments from the Inflation
189 Reduction Act, including the Methane Emissions Reduction
190 Program, affectionately known as MERP, will put the U.S. on
191 track to meet our commitments under the Global Methane
192 Pledge. And so far during COP, in a big diplomatic win,
193 additional countries have already signed on to the Global
194 Methane Pledge. I am hopeful that these commitments will

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195 turn into concrete action, because addressing methane
196 emissions is the quickest way to combat climate change and
197 protect public health.

198 Now, as Chairman Duncan mentioned, our subcommittee has
199 worked in a bipartisan manner to move legislation updating
200 the regulation and deployment of nuclear energy, named the
201 Atomic Energy Advancement Act. Nuclear energy is currently
202 responsible for almost half the carbon-free electricity we
203 create here in the U.S. It is part of our clean energy
204 transition toolbox.

205 And already during COP the U.S. joined the new Net Zero
206 Nuclear Initiative, which is a commitment to tripling global
207 nuclear capacity by 2050. This bipartisan bill that we hope
208 to mark up this afternoon and get to the floor as quickly as
209 possible _ and even has some Senate companionship _ can be
210 one of the first steps in supporting this new global
211 commitment.

212 Now, I do not believe that nuclear energy is the
213 so-called silver bullet that will completely solve the
214 climate crisis. We have to ensure that new nuclear reactors
215 are safe and protective of public health, and that we have a

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216 strategy to dispose of spent fuel. But the bill we are
217 putting forward takes common-sense, bipartisan steps to
218 improve the industry while still ensuring our nation's
219 reactors are safe and secure. I have made this point many
220 times in these hearings, but it cannot be overemphasized:
221 Combating the climate crisis requires us to drastically
222 reduce our emissions. Every single report coming out makes
223 this point, and the predominant way to do that is to reduce
224 our reliance on fossil fuels.

225 Unfortunately, the majority's proposed partisan solution
226 is the Lower Energy Costs Act, H.R. 1, which is just simply
227 not a viable climate solution. H.R. 1 would increase
228 domestic oil production by 2 million barrels a year, and
229 natural gas production by around 10 percent. If it was
230 viable, the House of Representatives would have transmitted
231 it to the Senate last March, when it was passed. But eight
232 months later it remains in the House.

233 Look, we cannot politicize the urgent necessity to do
234 climate change legislation, and this bill that the chairman
235 and I are doing shows that we can do it in a bipartisan way.
236 So let's stop trying to do messaging, and let's start trying

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237 to do bipartisan legislating for bills that can go into law.

238 Now, there is disagreement on how we lessen our input _

239 output of greenhouse gas emissions. But I think we can

240 continue to discuss the importance of U.S. leadership in the

241 supply and delivery of energy.

242 [The prepared statement of Ms. DeGette follows:]

243

244 *****COMMITTEE INSERT*****

245

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246 *Ms. DeGette. And I yield back.

247 *Mr. Duncan. The gentlelady yields back. The chair now
248 recognizes the chair of the full committee, Chair Rodgers,
249 for five minutes for her opening statement.

250 *The Chair. Thank you, Mr. Chairman. Good morning,
251 everyone, and welcome to our witnesses.

252 Last week we examined America's record as a global
253 leader in environmental stewardship from increasing air
254 quality, cleaner waters, and reducing emissions. Our energy
255 producers and industries have made these achievements
256 possible while increasing our national security, our energy
257 security, and the productive capacity of our nation. This is
258 the message that Energy and Commerce plans to carry to the
259 world stage at COP28. It will be a message about building on
260 America's energy leadership to demonstrate a path to a
261 cleaner, more secure world and more prosperous and resilient
262 communities.

263 Today's hearing is about building upon our successes and
264 making sure America is leading the next era of clean energy
265 and environmental stewardship. We will examine the
266 ingredients of America's success and the lessons for enabling

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267 the delivery of affordable, reliable energy to people. We
268 will focus on what matters for people and the security of our
269 nation. What matters for Americans also matters for our
270 allies and people in the developing world. Our leadership
271 and experience can light their path to a prosperous, more
272 secure future, a future that can escape the grip of
273 adversaries like China, Russia, and Iran.

274 The U.S. is blessed with tremendous natural resources
275 which have been able to harness, as a result, the free market
276 principles and an environmental spirit that is uniquely
277 American. We have harnessed the power of nuclear energy,
278 electrified millions of rural Americans homes with clean
279 hydropower, and ushered in the shale revolution, which
280 continues to create millions of new jobs, bring manufacturing
281 back to the U.S., and revitalize communities across the
282 country.

283 America is more energy secure today than ever before,
284 thanks to this legacy which was built on the foundation of
285 free enterprise, entrepreneurship, and giving people the
286 opportunity to choose which energy sources best suit their
287 needs. Today we are the number-one producer of oil and

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288 natural gas in the world. We have become the top energy
289 exporter, which is helping to shift markets and bolster our
290 security against countries like Russia and Iran.

291 This shale revolution and the affordable and reliable
292 natural gas that American workers are now producing has also
293 enabled America to reduce emissions more than any other
294 nation. We have the capacity to continue helping countries
295 reduce their emissions even further.

296 American energy leadership is critical to ensuring we
297 are not reliant on China, which maintains some of the worst
298 environmental and labor standards in the world. Building on
299 our clean, efficient energy systems can fuel our allies and
300 the world with clean LNG, reducing emissions and increasing
301 reliable energy for those who need it most. Expanding our
302 nuclear technologies and nuclear energy relationships can
303 advance not only the wonderful benefits of nuclear energy,
304 but the strength of new strategic relationships and
305 demonstrating the value of our free enterprise spirit built
306 on private capital and initiative will highlight the path to
307 more secure energy and the promise of human achievement.

308 These features of the American way stand in strong

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309 contrast to the misguided goals behind the rush-to-green
310 agenda. I am concerned about EPA's latest steps to advance
311 this agenda with burdensome regulations for methane. These
312 new rules could dramatically expand the agency's regulatory
313 reach in a manner that will stifle innovation, increase
314 operational costs, and increase the price of energy. These
315 burdens will fall directly on American families and
316 businesses.

317 Especially on the world stage, like at COP28, we must be
318 honest about the reality and the risk of following an energy
319 path in the name of greenhouse gases that cedes American
320 leadership. By all accounts, this rush-to-green runs right
321 into the control of China, the world's biggest polluter,
322 which would shut down reliable American energy and weaken our
323 security.

324 Energy has been the lifeblood of our modern economy.
325 The introduction of coal, oil, and natural gas over the last
326 several centuries has improved productivity, economic
327 development, and people's standard of living across the
328 world. America's abundant energy resources have empowered
329 people and human potential, resulting in the greatest

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330 technological achievements in history.

331 Today we should talk about what is truly necessary to
332 continue lifting people out of poverty, raising the standard
333 of living, and ensuring energy security by standing up for
334 American values of free market competition, innovation, and
335 environmental stewardship. We can advance this legacy. Our
336 economy, our national security, the stability of global
337 markets, and the environment will only benefit from continued
338 American leadership.

339 [The prepared statement of The Chair follows:]

340

341 *****COMMITTEE INSERT*****

342

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343 *The Chair. I yield back.

344 *Mr. Duncan. The gentlelady yields back. The chair
345 will now recognize the ranking member of the full committee,
346 Mr. Pallone, for five minutes.

347 *Mr. Pallone. Thank you, Mr. Chairman.

348 This is the second hearing we have had to examine
349 America's leadership in combating the worsening climate
350 crisis as the 28th United Nations Climate Summit, COP28,
351 continues this week in Dubai.

352 The U.S. continues to show that it is a global leader in
353 reducing emissions and investing in clean energy, and that is
354 especially true over the last couple of years. President
355 Biden and congressional Democrats delivered real climate
356 action last year with the Inflation Reduction Act and its
357 historic \$369 billion in critical investments for clean
358 energy and reducing greenhouse gas emissions, and these
359 investments are helping us lower costs for American families
360 while growing our economy. The Inflation Reduction Act is
361 expected to create nine million good-paying American jobs
362 over the next decade.

363 Unfortunately, congressional Republicans opposed the

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364 Inflation Reduction Act, and House Republicans have spent
365 this year in the majority pushing policies that put polluters
366 over people. This backward thinking is increasing costs for
367 consumers and weakening America's global competitiveness.
368 Republicans continue to promote fossil fuels over everything
369 else, and they continue to launch attack after attack on the
370 exact clean energy policies that have positioned America to
371 be a leader in reducing emissions and in the transition to a
372 clean energy economy.

373 Whether it is attempting to repeal parts of the
374 Inflation Reduction Act, cancel common-sense, money-saving
375 regulations, or launch attacks on efficiency standards that
376 help consumers save money, House Republicans have refused to
377 put forward any meaningful climate solutions. In fact, once
378 this hearing is over, we will begin a full committee markup
379 this afternoon on several bills that gut energy efficiency
380 standards. And these Republican bills will increase energy
381 costs for American families and halt progress on reducing
382 emissions. That is hardly global energy leadership and,
383 instead, continues their push to put polluters over people.

384 Now, while Republicans continue to focus on natural gas

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385 and LNG exports, Democrats continue to work with the Biden
386 Administration to invest in clean energy, and build out
387 domestic manufacturing, and growing domestic jobs, and
388 building resilient communities. Just this past weekend EPA
389 announced a final rule that will significantly reduce methane
390 and other pollutants from the oil and natural gas industry.
391 This final rule will prevent an estimated 58 million tons of
392 methane emissions from 2024 to 2038. It also targets harmful
393 air pollutants, and is expected to provide a range of health
394 benefits for communities located near oil and gas operations.
395 And even oil and gas executives, like the chairman and
396 president of BP, are supportive of the final rule, showing
397 that it is possible to make meaningful progress in reducing
398 emissions in a collaborative way.

399 The Biden Administration also joined more than 20 other
400 countries in the launch of the Declaration to Triple Nuclear
401 Energy, and these nations committed to working together to
402 triple nuclear energy capacity globally by 2050.

403 The fifth National Climate Assessment, which was
404 released last month, reiterated that we must continue to cut
405 emissions to stave off the worst effects of climate change,

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406 and the evidence is all around us. The United States
407 experiences extreme weather events with damages over \$1
408 billion once every 3 weeks. These tragic weather events are
409 happening all over the country in all of our congressional
410 districts. It is irresponsible to ignore climate change or
411 to pretend like our work here is done.

412 We have made progress over the last couple of years, but
413 our work in combating the worsening climate crisis is far
414 from complete, so I look forward to hearing from our
415 witnesses today and learning how we can build on our
416 emissions reducing efforts. COP28 presents us with an
417 opportunity to show the world that we are leaders, and that
418 we are committed to continuing this important work. In order
419 to achieve this, we need to support domestic investments in
420 the clean energy transition, as well as prioritize
421 international cooperation.

422 [The prepared statement of Mr. Pallone follows:]

423

424 *****COMMITTEE INSERT*****

425

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426 *Mr. Pallone. So again, thank you, Mr. Chairman. I
427 yield back the balance of my time.

428 *Mr. Duncan. The gentleman yields back. We now
429 conclude with the members' opening statements. The chair
430 would like to remind members that, pursuant to committee
431 rules, all members' opening statements will be made part of
432 the record.

433 I want to thank all the witnesses for being here today
434 and taking time to testify before the subcommittee. Each
435 witness will have an opportunity to give an opening statement
436 followed by a round of questions from our members.

437 All the witnesses, I think, have been here in some
438 capacity before, so welcome back.

439 Dr. Edmund Schweitzer, founder and president of chief _
440 and chief technology officer of Schweitzer Engineering
441 Laboratories.

442 Ms. Anne Bradbury, president and CEO of American
443 Exploration and Production Council.

444 Dr. Noah Kaufman, a senior research scholar at Columbia
445 University's Center on Global Energy Policy.

446 And David Gattie, associate professor at the College of

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447 Engineering and senior fellow at the Center of International
448 Trade and Security at the University of Georgia. I
449 appreciate you being here today.

450 I will now recognize Dr. Schweitzer for a five-minute
451 opening statement.

452

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453 STATEMENT OF EDMUND O. SCHWEITZER III, PH.D., FOUNDER,
454 PRESIDENT, AND CHIEF TECHNOLOGY OFFICER, SCHWEITZER
455 ENGINEERING LABORATORIES; ANNE BRADBURY, CEO, AMERICAN
456 EXPLORATION & PRODUCTION COUNCIL; DAVID GATTIE, PH.D.,
457 ASSOCIATE PROFESSOR OF ENGINEERING AND SENIOR FELLOW, CENTER
458 FOR INTERNATIONAL TRADE AND SECURITY, UNIVERSITY OF GEORGIA;
459 AND NOAH KAUFMAN, PH.D, SENIOR RESEARCH SCHOLAR, CENTER ON
460 GLOBAL ENERGY POLICY AT COLUMBIA UNIVERSITY

461

462 STATEMENT OF EDMUND O. SCHWEITZER

463

464 *Dr. Schweitzer. Good morning, everyone.

465 Schweitzer Engineering Laboratories is part of the 140-
466 year-old electric power industry. It is a legacy stemming
467 from the pioneers, including Thomas Edison and Samuel Insull,
468 and advancing to the modern miracle it is today.

469 Electric power is the only commodity that moves at the
470 speed of light. It travels from the chair's district in
471 northwest to southern California in only six milliseconds.
472 Because of that miracle, excess solar and wind energy
473 generated during the day can be economically stored behind

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474 the dams on the Snake and Columbia Rivers, and even farther
475 north into Canada for use when it is dark and calm.

476 Electric power moves almost twice as fast as information
477 does in an optical fiber. What a miracle. And so are the
478 public service companies. These regional franchises, also
479 invented by Edison and Insull, operate under the watchful
480 eyes of the state public utility commissions. PS companies
481 were born dedicated to providing safe, reliable, economical
482 service for us all.

483 The electric companies competed with gas companies to
484 provide illumination. At first, electrical illumination cost
485 more than gas. Some customers converted anyway because of
486 safety. No one really wanted an open gas flame to light up
487 their closet. To win more business, the electric companies
488 became more efficient, generating more power with less fuel.

489 Insull frequently reminded folks that capital always
490 gets its pay. Making the best use of capital is essential
491 for shareholders and customers alike.

492 The industry also invented new uses for electricity.
493 Tesla's invention of the induction motor freed millions of
494 Americans from the drudgery of pumping water and washing

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495 clothes by hand. The inventions continue. Today's heat
496 pumps can now cool in the summer and heat in the winter, and
497 do so efficiently.

498 Regionally franchised PS companies compete with each
499 other. Neighboring utilities built tie lines to share power.
500 These neighbors demanded fair prices of one another, and they
501 knew what fair pricing is because they are in the same
502 business. When you connect, you compete and collaborate to
503 the benefit of customers, shareholders, and the environment.

504 Unfortunately, Enron and others have employed sophist
505 arguments to demand deregulation. They wanted to build
506 unregulated power plants, not under the watchful eyes of the
507 PUCs, but where their gas pipelines passed under electric
508 transmission lines to expand their businesses into the
509 electrical sector.

510 Legislators and regulators of both political parties
511 eventually bought the sophist arguments, resulting in the re-
512 regulation of the industry under FERC 888 and 889, re-
513 regulation that favored Enron's business interests. Their
514 independent generating companies dumping power into the
515 regulated lines treated as the grid, and regulated

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516 distribution companies drawing power from the grid as if it
517 were a farmer's vegetable market. None of this makes sense.

518 And what about planning to ensure there is enough
519 electricity when we need it? That used to be handled region
520 by region. A whole new level of governance emerged:
521 independent system operators and regional transmission
522 operators. Gone was the single responsible entity for the
523 generation, transmission, and distribution supplying electric
524 power to you and me.

525 In the past 30 years we have seen new regulations, more
526 difficulties permitting, prescriptions and proscriptions,
527 subsidies, mandates, and bans, incentives, and other market
528 distorters. We have thrown so much sand in the gears of free
529 enterprise that now we suffer long supply chains reaching all
530 the way to China.

531 What would happen if we take the sand out of the gears?
532 Whether we are Ds or Rs, we are all plugging into the same
533 wall plugs. It is high time that we unleash the spirit of
534 free enterprise together, the very spirit that made America.
535 Let's free the hundreds of millions of minds to fully embrace
536 our unalienable rights of life, liberty, and the pursuit of

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537 happiness, and we will lift the heavy burdens from this
538 generation of emerging Edisons and Insulls.

539 The best part is it won't cost the government a dime.
540 Instead, we will produce tax revenues we can't even imagine
541 today to pay down our debts. Our 100 percent employee-owned
542 company is succeeding by inventing the future without turning
543 to government for subsidy or mandate. We urge you and all of
544 your colleagues representing us to ensure a fair, free, flat,
545 and open environment for every individual in America.

546 Believe in the Constitution. Believe in America. I do.

547 Thank you.

548 [The prepared statement of Dr. Schweitzer follows:]

549

550 *****COMMITTEE INSERT*****

551

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552 *Mr. Duncan. Thank you.

553 And Ms. Bradbury, you are recognized for five minutes.

554 [Pause.]

555 *Mr. Duncan. Make sure your mike is on there. Is the
556 button pushed?

557 *Ms. Bradbury. Thank you.

558

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559 STATEMENT OF ANNE BRADBURY

560

561 *Ms. Bradbury. Chairman Duncan, Ranking Member DeGette,
562 Chair Rodgers, and Ranking Member Pallone, distinguished
563 members of the committee, thank you so much for the
564 invitation to speak here today on behalf of AXPC.

565 AXPC represents the leading independent producers of oil
566 and natural gas who brought this country from a place of
567 energy scarcity to energy abundance, shepherding in the last
568 decade of American energy leadership on the global stage.

569 You have chosen an incredibly important topic for
570 today's hearing. How can America, building on our past
571 achievements, lead a new era of energy dominance, security,
572 and environmental stewardship?

573 Fortunately, we are well poised to do so. Our nation is
574 already blessed with a wealth of natural resources, human
575 resources, innovation, and know-how necessary to build that
576 future. The American oil and gas industry looks forward to
577 continuing to play our part.

578 One thing is certain; the need for oil and natural gas
579 is not going away. Demand is skyrocketing as the global

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580 middle class expands. Access to reliable, secure, and
581 affordable energy, exactly the kind that oil and natural gas
582 provide, is the number-one indicator of human progress. The
583 question is not whether the world will continue to use oil
584 and gas, but rather whose oil and gas will the world be
585 using.

586 There is an enormous difference between the safe and
587 efficient oil and natural gas produced in our country and
588 what is produced in many other nations. Providing these
589 resources to the world is an environmental, economic, and
590 security opportunity for America.

591 U.S. LNG, made plentiful by the shale revolution, may be
592 one of the greatest environmental breakthroughs of the last
593 century. If we want to help make a dent in global emissions,
594 exporting more U.S. LNG should be a top priority. Of course,
595 there is always room for further improvement, and our
596 industry is leading in the investment and innovation required
597 to further lower emissions from oil and natural gas from the
598 wellhead to the end user.

599 In the past decade we have dramatically increased the
600 efficiency of our operations. Today companies produce

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601 exponentially more from a single location and do so in less
602 time, with less footprint, and less impact on the
603 environment.

604 American energy innovations are also being used to
605 produce some of the cleanest oil and gas molecules in the
606 world. Innovations such as fixed sensors, lasers,
607 specialized cameras mounted to drones, or aircraft and
608 satellites are enabling companies today to better understand
609 and mitigate emissions over broader areas, finding leaks
610 faster so they can be eliminated.

611 According to the Global Methane Tracker, U.S. oil and
612 natural gas production has one of the lowest methane
613 intensities in the world. Only seven other producing nations
614 have a slightly lower methane intensity, and the U.S.
615 produces more oil and natural gas than all seven of those
616 nations combined. If the U.S. winds down production, another
617 country will fill the supply gap, likely with a much higher
618 emissions intensity.

619 And our innovation also reaches well beyond our own
620 operations, aiming to tackle emissions from hard-to-abate
621 sectors such as commercial transportation, heavy industry,

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622 and power generation. It is these sectors that drive 80
623 percent of global carbon emissions.

624 We are investing in cutting-edge technologies such as
625 carbon capture utilization and storage, low-carbon hydrogen,
626 and geothermal energy, which relies on advanced drilling and
627 fracking techniques pioneered by our industry. Scaling up
628 these technologies and driving down their costs will rely on
629 a scale of engineering, capital, and project management
630 capabilities that match those of large oil and gas companies.

631 Our discussion today touches on many facets of America's
632 global energy leadership, and appropriately so. American-
633 made energy is a security advantage for us and our allies,
634 and that is particularly true during this time of
635 geopolitical chaos. Because of American energy dominance,
636 the American people are more secure and the world is more
637 stable.

638 The energy production of today is largely a result of
639 industries, innovations, and the energy policies of previous
640 administrations. Climate policy, energy policy, and foreign
641 policy are inextricably linked, and we must work collectively
642 to get each right in order to maintain and build on the

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643 energy dominance that we have worked so hard to achieve.
644 AXPC members join you in a shared commitment to tackling
645 those twin challenges, challenges of reducing emissions and
646 meeting global growing energy demand. We have been hard at
647 work on that mission for years, and we have only just begun.

648 I look forward to your questions.

649 [The prepared statement of Ms. Bradbury follows:]

650

651 *****COMMITTEE INSERT*****

652

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653 *Mr. Duncan. Thank you, Ms. Bradbury.

654 Now, Dr. Kaufman, you are recognized for five minutes.

655

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656 STATEMENT OF NOAH KAUFMAN

657

658 *Dr. Kaufman. Thank you. My name is Noah Kaufman, I am
659 an economist.

660 My testimony will make three points: first, there has
661 been dramatic changes in the economics of the energy
662 transition; second, recent laws will help Americans navigate
663 the energy transition; and third, we need strong
664 international cooperation to take advantage of the improving
665 economics of clean energy.

666 To the first point, a decade ago about 60 percent of new
667 electricity capacity in this country was from fossil fuels.
668 Last year about 70 percent of new capacities was from carbon-
669 free sources, including renewables and nuclear. Globally,
670 this percentage is even higher. Vehicles may be next. Two
671 of the three most valuable automakers in the world produce
672 only electric vehicles. Even legacy automaker investments
673 are disproportionately electric.

674 We are living in interesting times. Energy systems
675 remain heavily fossil-intensive today, but when most of the
676 new stuff we are building is clean, an energy transition

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677 becomes almost inevitable. These changes have profound
678 implications for economic policy.

679 Previously, countries may have justified inaction due to
680 the risks of an energy transition. Today there is clearly no
681 safe status quo option, which brings me to my second point
682 about the host of recent actions that Congress have taken.
683 These laws will reduce emissions that will save lives, make
684 people healthier and more productive. Just as importantly,
685 they will help American workers and communities navigate the
686 energy transition.

687 We are global, leading producers of carbon-intensive
688 products. Cleaner technologies and fuels are now gaining
689 economic importance. We were essentially ceding markets for
690 rapidly-growing technologies like batteries to producers in
691 China and other countries. Recent actions of Congress have
692 given American producers a fighting chance to compete.

693 The most salient risks of the energy transition are at
694 local levels. Communities across this country are heavily
695 dependent on carbon-intensive industries for jobs and public
696 revenues. A net-zero strategy that works for the whole
697 country needs to be paired with robust support for these

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698 communities. Recent laws start to do this. They will fund
699 remediation projects at old mines and wells, they will help
700 fund many clean energy projects in these communities. These
701 are only first steps. Communities need holistic economic
702 development strategies. Clean energy may often play just a
703 small role.

704 Even the petrostates in the Middle East recognize the
705 importance of economic diversification. Dubai is an example.
706 Declining oil reserves forced the emirate to shift away from
707 its reliance on oil, and Dubai has become a financial and
708 tourist hub and an international city that hosts events like
709 the ongoing climate change conference, COP28.

710 And that segues to my third point. The international
711 community has applauded the United States for its growing
712 climate ambition, but countries have also expressed deep
713 concerns about the large support in recent laws for U.S.
714 producers. These measures have exacerbated the severe
715 geopolitical tensions that surround energy access and the
716 energy transition. Trade disputes raise prices for
717 consumers, they limit export markets for producers, and they
718 slow innovation. Fortunately, actions that support domestic

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719 producers and encourage strong international cooperation are
720 not necessarily mutually exclusive. I will give you two
721 examples.

722 First, we need broad, multilateral agreements to
723 decarbonize internationally-traded products like steel.
724 These agreements must be compatible with the industrial
725 strategies of richer countries, and also the development
726 goals of lower-income countries like India, where most future
727 emissions will occur. The agreement to phase out HFCs with
728 the Kigali Amendment provides a useful template, and it
729 received bipartisan support in the Senate last year.

730 A second priority is a modernized set of international
731 trade rules. The current World Trade Organization is not a
732 credible arbiter for disputes related to the energy
733 transition. Revised rules can reaffirm the importance of low
734 trade barriers, while clearly recognizing the need to support
735 communities to nurture emerging industries and to ensure
736 energy security. These actions can benefit U.S. producers,
737 but they will not happen without the strong leadership of the
738 U.S. Government.

739 I will conclude by emphasizing that energy transition

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740 policies come with trade-offs. How do we ensure low costs
741 for consumers and high-paying jobs for workers?

742 How do we make the transition sufficiently smooth for
743 communities, yet sufficiently rapid to protect the often
744 vulnerable and voiceless people who will suffer the most from
745 climate damages?

746 My suggestion is to work together on solutions that
747 address these trade-offs head on. There are no perfect
748 solutions, but given the rapidly-changing economics of the
749 energy transition, inaction would be a disservice to
750 Americans.

751 Thank you very much.

752 [The prepared statement of Dr. Kaufman follows:]

753

754 *****COMMITTEE INSERT*****

755

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756 *Mr. Duncan. Thank you, Dr. Kaufman. Now Dr. Gattie
757 for five minutes.
758

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759 STATEMENT OF DAVID GATTIE

760

761 *Dr. Gattie. Thank you, Chair Duncan and Ranking Member
762 DeGette, for the opportunity to testify this morning.

763 You have heard testimony that the U.S. has reduced
764 carbon emissions for the past 20 years. I have included two
765 papers along with figures and data that align with those
766 conclusions. So in my opening remarks I would like to
767 address what I believe to be one of the most direct and acute
768 impacts an energy transition policy could have on our
769 national security. It revolves around the central point,
770 that being the imperative that we secure an industrial base
771 and energy resource advantage over our 21st century strategic
772 competitors, particularly China.

773 America's industrial base was built on a diverse energy
774 portfolio of fossil fuels, nuclear, and renewables. And that
775 industrial base is the platform from which the U.S. projects
776 national power globally. America dominated the 20th century,
777 in large part because of our industrial capacity relative to
778 other powers, specifically the Soviet Union. We were in this
779 position because all past U.S. energy transitions were

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780 cumulative, domestic resources were added, and diversity
781 increased. With this came flexibility, resilience, and
782 reliability, all of which translated to our national security
783 and opportunities for global partnerships with emerging
784 economies.

785 We have learned that energy resources have different
786 value propositions in an economy. Fossil fuels are stored,
787 primary energy resources with high heating values that are
788 necessary for industrial processes. They can be transported
789 to where demand is greatest, and deployed when called on.
790 Nuclear power is a baseload, 24/7 resource with zero carbon
791 emissions. These are intrinsically different value
792 propositions compared with intermittent renewables, which are
793 not transportable, callable, or 24/7.

794 Renewables should be included in a diverse energy
795 portfolio, but not as a replacement resource, as they won't
796 deliver the same value to America's industrial base as fossil
797 fuels or nuclear. Emerging economies and our competitors
798 know this. This is important, as the battle for hearts and
799 minds is a core objective in great power competition, and the
800 outcome will be affected by the decisions of weaker powers.

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801 Great powers compete, but weaker powers may ultimately
802 determine who wins.

803 This said, it is a matter of national security that U.S.
804 energy policy account for the energy needs of emerging
805 economies in need of proven, reliable energy resources. The
806 world will consume oil and natural gas, and it is going to
807 build nuclear reactors with us or without us. Better that it
808 be with us than with our strategic competitors who would
809 welcome the opportunity.

810 I want to make a particular comment about nuclear power,
811 which is becoming increasingly bipartisan, and that is very
812 encouraging. America once had a special relationship with
813 nuclear power as a national security imperative, the original
814 principle on which nuclear power was founded. Currently,
815 however, it is being treated as just another market commodity
816 or technology for carbon reduction. I invite the members to
817 read the paper I have included in my testimony on national
818 security as a value-added proposition for nuclear power.

819 In closing, America's economy, our industrial base, our
820 military, our system of self-governance, our global network
821 of alliances, and our global security guarantees is the most

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822 sweeping success story of democracy and individual liberty in
823 human history. It also, arguably, is the most complex system
824 on Earth. As such, forcing this system to restructure itself
825 with pledges to reduce carbon emissions by pre-determined
826 dates constitutes a systemic change that will be fraught with
827 unintended consequences.

828 Our current national security strategy is clear. While
829 Russia constitutes an immediate and acute threat, the PRC, by
830 contrast, is the only competitor with both the intent to
831 reshape the international order and increasingly the
832 economic, diplomatic, military, and technological power to
833 advance that objective. To this end, China is expanding its
834 industrial base with all energy resources and all energy
835 technologies, and they are establishing long-term
836 partnerships with energy-rich nations. It is building a
837 deep, diverse industrial base from which to project power and
838 challenge the U.S.

839 Moreover, China has openly declared its principle of
840 building the new before discarding the old. China will not
841 jeopardize its geopolitical objectives in order to address
842 climate change. As such, a core national security concern

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843 for any proposed U.S. energy transition should be this: Can
844 the U.S., with its industrial base restructured around low
845 and zero-carbon energy, retain its 20th century economic,
846 military, industrial, and geopolitical advantage relative to
847 21st century strategic competitors, and outcompete China, and
848 deny the CCP of its intentions to disrupt a rules-based
849 international order?

850 Our energy legacy tells us that we can rise up to this
851 21st century strategic challenge with all energy resources
852 and technologies in our industrial base. To attempt
853 otherwise will constitute a grand experiment on the most
854 important industrialized nation in the world at a time of
855 unprecedented challenges to freedom and liberty.

856 I look forward to your questions.

857

858

859 [The prepared statement of Dr. Gattie follows:]

860

861 *****COMMITTEE INSERT*****

862

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863 *Mr. Duncan. I want to thank you, all of you, for your
864 testimony. It is a great foundation as we go into the
865 question-and-answer portion of this hearing. I will now
866 begin the questioning and recognize myself for five minutes.

867 Ms. Bradbury, the shale revolution has been foundational
868 for our energy security and our economy for over the past 15
869 years. Jobs have been created in all 50 states, billions of
870 dollars that would have gone to OPEC and Russia stayed here
871 in our economy. And tax revenues have helped fund
872 infrastructure, hospitals, and schools. So we know the
873 benefits.

874 You also know that prior to 2007 or so the true impact
875 of the shale revolution was not fully appreciated. Many
876 policy advocates were talking about peak oil at the time.
877 Can you speak a bit to the role of innovation in our free
878 enterprise system, and the story of this energy revolution?

879 *Ms. Bradbury. Thank you, Chairman Duncan, for your
880 question, and for your support of American energy. That is a
881 great question.

882 As you point out, in the early 2000s people believed
883 that American energy production was declining. But as a

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884 result of the innovations from this industry, as well as the
885 foundation of free enterprise, our abundant natural resources
886 and our underlying foundation of contract law and rule of law
887 kicked off what we now call the American energy revolution.

888 This was driven by the incredible innovation of the industry.

889 And I will note that this was not just a moment of _ in
890 time, that this innovation continues today, that the industry
891 continues to innovate to both find additional efficiencies in
892 the production of oil and natural gas _ they are now drilling
893 wells miles under the surface, which really reduces surface
894 impact _ and continuing to innovate to produce ever-cleaner
895 energy.

896 So innovation and free enterprise is really the driving
897 force behind the great American energy revolution.

898 *Mr. Duncan. Yes. You know, there is some confusion
899 sometimes that mandates and regulations drive innovation
900 rather than respond to innovation. Ms. Bradbury, were the
901 EPA and climate policies responsible for the development of
902 the resources in Marcellus, Utica, or Permian Basin?

903 *Ms. Bradbury. I would not say the regulations were
904 responsible for those innovations.

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905 *Mr. Duncan. Thank you for that. From your
906 perspective, should we be building on our energy successes?

907 *Ms. Bradbury. I believe we should be building on
908 energy successes.

909 *Mr. Duncan. How will that promote cleaner technology
910 and benefits to the world?

911 *Ms. Bradbury. I am sorry?

912 *Mr. Duncan. How will that benefit _ promote cleaner
913 technology and benefit the world?

914 *Ms. Bradbury. Absolutely. A healthy American energy
915 sector is good for the world. It not only produces abundant
916 energy here at home, but it incentivizes the technology
917 development that can be used to produce ever-cleaner energy
918 at home, and then to export that technology around the globe
919 to help our allies in producing regions to help drive down
920 emissions, as well.

921 *Mr. Duncan. Absolutely. Mr. Gattie, you have noted
922 that a hallmark of America's energy and national security
923 legacy is an abundant domestic supply of diverse energy
924 resources. These provide the flexibility and resilience in
925 times of economic disruption, geopolitical turmoil, something

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926 Europe has witnessed firsthand since Russia's Ukraine
927 invasion.

928 Would you agree we should preserve the security benefits
929 of American energy as we develop policies to address climate
930 risk?

931 *Dr. Gattie. Yes, Chair, I would agree. And I think
932 that diversity aspect is one that is critical as far as
933 moving forward in the country. Again, it provides us with
934 flexibility and options. You could _ we could ask the
935 question _ in fact, we could ask Europe right now just where
936 they would be if we were not a diverse nation with plenty of
937 natural gas that we could ship there. I think Europe would
938 probably give us a pretty good answer of the importance of
939 that.

940 But domestically, it is going to underpin our industrial
941 base, the fact that we have a diverse supply of flexibility
942 options so that we can respond to, you know, catastrophes and
943 emergencies, domestic and abroad. We are going to need those
944 resources.

945 *Mr. Duncan. Yes. We have allowed our nuclear
946 leadership to atrophy, but we are working to realign our

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947 policies to meet the vision of the Atomic Energy Act which
948 helped launch the nuclear age. We will be marking up a
949 package you heard earlier. We will do that later today.

950 Nuclear energy has a role in reducing greenhouse gas
951 emissions. But a central role in a future national security
952 framework should add extra urgency to getting our policies
953 right. Wouldn't you agree with that?

954 *Dr. Gattie. I would agree, and I would really like to
955 see us prioritize nuclear power, Chair Duncan, that we
956 elevate this to the national security level that it was
957 originally intended, really, back in the 1950s. We
958 understood that.

959 *Mr. Duncan. Yes.

960 *Dr. Gattie. We are talking about long-term energy
961 relationships here that extend 80 years.

962 *Mr. Duncan. If we don't do that, if we don't advance
963 our nuclear technology, and _ who fills that void, Dr.
964 Gattie?

965 *Dr. Gattie. Well, I think we can look at the
966 construction starts. Currently, China and Russia already are
967 deploying those, and they are exporting them.

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968 *Mr. Duncan. Yes. It is time for America to reclaim
969 its leadership in that.

970 With that I will now recognize the Ranking Member
971 DeGette for five minutes for questions.

972 *Ms. DeGette. Thanks, Mr. Chairman.

973 So Dr. Kaufman, I want to ask you a few questions. Last
974 year the United States invested \$39 billion in clean energy
975 manufacturing. Is that right?

976 *Dr. Kaufman. That sounds right, about \$39 billion in
977 clean energy manufacturing was invested in the United States.
978 And that is something like double _

979 *Ms. DeGette. Right.

980 *Dr. Kaufman. _ previous _

981 *Ms. DeGette. Okay.

982 *Dr. Kaufman. _ the previous year.

983 *Ms. DeGette. And in your testimony you mentioned that
984 the laws investing this money allow American producers a
985 chance to compete in international markets. Is that right?

986 *Dr. Kaufman. Yes.

987 *Ms. DeGette. And how does that investment support
988 American producers' competitiveness in those markets? How

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989 does that happen?

990 *Dr. Kaufman. Well, it happens because, I mean, there
991 is two main reasons.

992 First of all, you just have a lot of, you know, what
993 economists would call market failures preventing early-stage
994 innovation in key technologies if you don't have government
995 support. So you have plenty of other countries, regions like
996 Europe, that are providing that support _

997 *Ms. DeGette. Like China too, right?

998 *Dr. Kaufman. China, too. And that is the second point
999 I was going to make, is that, even beyond the market
1000 failures, you have a lot of countries that are, you know,
1001 putting a lot of emphasis on supporting their own domestic
1002 industries.

1003 *Ms. DeGette. So to that end, investments from the
1004 Inflation Reduction Act and the Infrastructure Investment and
1005 Jobs Act are duly supportive of industry competitiveness, as
1006 well as climate goals.

1007 I want to also ask you, Dr. Kaufman, global carbon
1008 dioxide emissions actually increased last year, didn't they?

1009 *Dr. Kaufman. Yes.

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1010 *Ms. DeGette. How would these two laws I just
1011 referenced assist in decreasing carbon emissions?

1012 *Dr. Kaufman. That was the infrastructure bill and the
1013 Inflation Reduction Act?

1014 *Ms. DeGette. That is correct.

1015 *Dr. Kaufman. Well, so they do it by further changing
1016 the economics of clean energy.

1017 So the infrastructure bill, you know, it is in the name,
1018 it helps facilitate the infrastructure that you need to
1019 deploy clean energy faster and cheaper.

1020 And then the Inflation Reduction Act has, you know, a
1021 host of different measures that directly change the economics
1022 of the cleaner versus the dirtier options.

1023 *Ms. DeGette. Great.

1024 *Dr. Kaufman. Again addressing very well-known market
1025 failures.

1026 *Ms. DeGette. Thanks. The IRA also invests in domestic
1027 programs like the Methane Emissions Reduction Program, which
1028 support the U.S. in meeting global _ the Global Methane
1029 Pledge to reduce emissions by at least 30 percent by 2030.
1030 And as I said in my opening statement, additional countries

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1031 are signing on to the Global Methane Pledge at COP.

1032 So, Dr. Kaufman, is there a way for the U.S., as a
1033 leader in reducing emissions, to help support action on those
1034 commitments at COP?

1035 *Dr. Kaufman. I think it is very important that we
1036 announce our recent methane rules alongside other countries
1037 at COP because, you know, climate change is a global problem,
1038 as I think many of us have recognized. So no single
1039 country's actions alone are going to make the difference.

1040 *Ms. DeGette. It has to be global.

1041 *Dr. Kaufman. It has to be _

1042 *Ms. DeGette. And the U.S. can lead, right?

1043 *Dr. Kaufman. Not only can we lead, I think it is very
1044 unlikely that we will see the sort of strong international
1045 cooperation if global leadership isn't prioritized by the
1046 U.S. Government.

1047 *Ms. DeGette. So Ms. Bradbury, I just want to kind of
1048 follow that up with a question to you because you point out
1049 in your written testimony that the United States actually is
1050 a leader on methane emission right now. Is that right?

1051 *Ms. Bradbury. That is correct.

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1052 *Ms. DeGette. And one of the reasons is because, if you
1053 can capture that methane during drilling, it actually can be
1054 an economic benefit to the company. Isn't that right?

1055 *Ms. Bradbury. Methane is the primary ingredient in
1056 natural gas, which is _

1057 *Ms. DeGette. Right.

1058 *Ms. Bradbury. _ one of our commodities.

1059 *Ms. DeGette. So if you can capture that, not let it
1060 out into the atmosphere, that has _ it is a win-win because
1061 it has a financial benefit and also an environmental benefit.
1062 Isn't that correct?

1063 *Ms. Bradbury. That is correct _

1064 *Ms. DeGette. Yes.

1065 *Ms. Bradbury. _ that natural gas is a commodity, yes.

1066 *Ms. DeGette. Yes, and that is why I have been working
1067 on trying to figure out ways to capture methane for years,
1068 because I think it should be an incentive for producers to do
1069 that, as well.

1070 I just have one more question for you because I listened
1071 to your testimony and I also read your testimony. I think
1072 even among the oil and gas producers, who are the folks who

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1073 you work for, there is a recognition that we need to reduce
1074 emissions and that we need to seriously address climate
1075 change. Isn't that correct?

1076 *Ms. Bradbury. I would say that is correct.

1077 *Ms. DeGette. And one thing that, at least when I talk
1078 to the producers in Colorado and throughout the West, they
1079 really appreciate not having _ they appreciate having clear
1080 standards to which they have to adhere, not ever-shifting
1081 rules and regulations. Wouldn't that be a fair statement?

1082 *Ms. Bradbury. That is a fair statement, that industry
1083 supports understanding the rules of the road. I will also
1084 note that _

1085 *Ms. DeGette. Thanks.

1086 *Ms. Bradbury. _ Colorado did a great job of working
1087 with their producers to develop those standards in Colorado.

1088 *Ms. DeGette. You are totally right. Thank you for the
1089 commercial for Colorado.

1090 [Laughter.]

1091 *Ms. DeGette. I yield back, Mr. Chairman.

1092 *Mr. Duncan. Okay. Thank you, Ranking Member.

1093 A point of personal privilege, I want to just ask all of

This is an unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker.

1094 you to help me thank my current chief of staff, who is
1095 leaving at the end of the week. He is also a shared employee
1096 on Energy and Commerce. Allen Klump has been with me for 14
1097 years, 15 years.

1098 And, Allen, thanks for your service to our country, our
1099 state, and to this committee. So thank you.

1100 [Applause.]

1101 *Mr. Duncan. Thank you for that. I will now recognize
1102 the chair of the full committee, Chair Rodgers, for five
1103 minutes.

1104 *The Chair. America must lead a new era of energy
1105 dominance, security, and environmental stewardship. This
1106 example requires focus on the principles and values that have
1107 long enabled American innovation, productivity, and
1108 prosperity.

1109 Dr. Schweitzer, I am thankful that you are here today to
1110 celebrate how eastern Washington is leading the way _ now a
1111 commercial for eastern Washington. You tell the story of
1112 electricity, the miracle of electricity, and it is truly an
1113 American story of innovation and market competition that
1114 works to the benefit of all, including environmental

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1115 stewardship.

1116 You also tell us about misguided regulations, permitting
1117 challenges, subsidies, mandates, and bans, and other market
1118 distortions. Today electric rates have been rising.
1119 Reliability is declining, which is the opposite of what we
1120 should expect from our free enterprise system.

1121 So Dr. Schweitzer, is picking winners and losers through
1122 regulation and subsidy the right course?

1123 *Dr. Schweitzer. I don't think that government is
1124 capable of choosing winners and losers. It seems that so
1125 many of the subsidies end up to subsidize losers and losers,
1126 that it is no substitute _ despite everybody's best efforts,
1127 it is no substitute for the power of the free markets.

1128 *The Chair. Thank you. How do you take the sand out of
1129 the gears of our free enterprise system?

1130 And if we don't take the sand out of the gears, won't we
1131 lose our security to China?

1132 *Dr. Schweitzer. There is no question about it, that we
1133 are turning off reliable assets for generating power in this
1134 country and trying to substitute intermittent sources such as
1135 solar panels made with predominantly Chinese resources. And

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1136 that is a dependance that should not continue to progress.

1137 I am delighted to hear many of you on both sides talk in
1138 favor of nuclear power. That is the answer. And I hope that
1139 things go well in your markup this afternoon from both sides.

1140 *The Chair. Thank you.

1141 Dr. Gattie, welcome back to the committee. Your
1142 testimony argues for putting national security back at the
1143 center of energy policy, including our climate-related
1144 policies. China's government-driven industrial growth is
1145 formidable. Would you say that this poses clear threats to
1146 our national security and our role in the world?

1147 And why should we account for the energy needs of
1148 emerging economies which want proven, reliable sources like
1149 fossil fuel and nuclear?

1150 *Dr. Gattie. Thank you for the question, Chair Rodgers.

1151 Yes, China is a threat. And again, my focus _ and this
1152 is what I really hope that I can bring to the members _ this
1153 is about our industrial base. And I am not talking about
1154 just our defense industrial base, but I am talking about the
1155 country's industrial base. China's industrial base is
1156 getting broader, deeper, more flexible, more options. They

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1157 are every energy resource and technology known to
1158 civilization.

1159 We can ask ourselves the question in the end: Whose
1160 industrial base wins the competition, the diverse industrial
1161 base with combustion and flames in it, or the one that is
1162 built around decarbonization and renewables dominantly?

1163 The weaker powers now, they are going to choose
1164 partners. They need energy. Everyone has testified to that.
1165 That is as known as any fact we have got in the committee.
1166 They are going to choose partners. They are looking for
1167 partners. They really prefer us. We are just not giving
1168 them the option right now _

1169 *The Chair. Thank you.

1170 *Dr. Gattie. _ if we are going to cut fossil fuels off.

1171 *The Chair. Thank you.

1172 Ms. Bradbury, can America's oil and gas industry deliver
1173 energy, and deliver it cleaner than anybody else?

1174 *Ms. Bradbury. Thank you for the question, Chair
1175 Rodgers.

1176 I would say it can and it is. The U.S. is already the
1177 world leader in producing oil and gas. We are currently at

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1178 record levels of production. When you look at the additional
1179 barrels that are getting put on the global market today, the
1180 vast majority of those are American sources.

1181 And again, we continue to deliver that oil and gas under
1182 some of the highest standards and lowest emissions in the
1183 world.

1184 *The Chair. I have asked this in other hearings.
1185 Increasing people's capacity to thrive and prosper is a good
1186 thing, whether in America or around the world. So as a
1187 follow-up, if we build on our shale revolution and export
1188 more of our energy, our technology, and our know-how, will
1189 that help or harm people?

1190 *Ms. Bradbury. Unquestionably help. You know, we in
1191 America are incredibly fortunate to have this abundant,
1192 affordable energy available to us 24/7, 365 days a year.
1193 There are 3.5 billion people in the world who don't have
1194 access to reliable energy. There are almost a billion people
1195 in the world who have no access to energy, and there are
1196 billions of people in the world for whom energy is
1197 unaffordable.

1198 And so energy is a necessary prerequisite to lifting

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1199 people out of poverty and raising standards of living around
1200 the globe. And American energy is the differential for
1201 billions of people around the world who are looking for that
1202 upward mobility.

1203 *The Chair. Thank you. Thank you all for being here.
1204 I yield back.

1205 *Mr. Duncan. The gentlelady yields back. I will now go
1206 to the ranking member of the full committee, Mr. Pallone, for
1207 five minutes.

1208 *Mr. Pallone. Thank you, Mr. Chairman. My questions
1209 are of Dr. Kaufman.

1210 As you mentioned in your testimony, the energy
1211 transition is well underway. However, according to the fifth
1212 National Climate Assessment, we must continue to cut
1213 emissions to avoid the worst effects of climate change. So
1214 can you please elaborate on how American leadership, such as
1215 investments made in the Inflation Reduction Act and the
1216 Bipartisan Infrastructure Law, plays an important role in
1217 helping us reduce emissions and avoid the worst effects of
1218 climate change?

1219 *Dr. Kaufman. Sure, thank you for the question. And,

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1220 you know, it is a global problem, but the United States is so
1221 important to global decarbonization that you are just not
1222 going to see decarbonization that really confronts the risks
1223 of climate change if the United States doesn't act.

1224 And, you know, I do think the actions of Congress over
1225 the last few years took us from a place where annual
1226 emissions may not have even been falling anymore throughout
1227 the rest of this decade to certainly a lot of downward
1228 pressure on emissions. And we will see where they go.

1229 I guess one other thing I will add is that it sounds
1230 like we all agree here on the importance of ensuring national
1231 security, energy security, reliability, economic growth. And
1232 just from my perspective, there is nothing inconsistent with
1233 achieving those goals and at the same time rapidly reducing
1234 our greenhouse gas emissions.

1235 *Mr. Pallone. Well, thank you. Unfortunately, House
1236 Republicans have spent their time in the majority working to
1237 repeal large parts of these landmark laws, including the
1238 Critical Greenhouse Gas Reduction Fund and even tax credits
1239 for nuclear power. So, Dr. Kaufman, how do the investments
1240 from these laws compare to investments other countries have

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1241 made to reduce emissions?

1242 *Dr. Kaufman. Well, in some ways we have jumped ahead
1243 of some countries in the last couple of years. I would say
1244 in terms of policy measures to support clean energy and to
1245 reduce emissions, the United States was a laggard for a long
1246 time, you know, and that is how we were seen in the
1247 international community.

1248 I mean, we are the country that is most responsible for
1249 the greenhouse gas emissions that are in the atmosphere from
1250 the last couple centuries. And then the actions this
1251 Congress has taken over the last couple of years has really
1252 put us on par, at least, with some of the global leading
1253 countries taking steps towards reducing their emissions.

1254 *Mr. Pallone. And then, I mean, obviously, America has
1255 been a leader in reducing emissions and investing in the
1256 clean energy transition. But my concern here is that
1257 Republicans, if they have their way, will keep chipping away
1258 at this American leadership.

1259 So Dr. Kaufman, with most of the world transitioning to
1260 clean energy, what do we lose by doubling down on fossil
1261 fuels?

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1262 Can you elaborate on the economic costs of not
1263 prioritizing clean energy development?

1264 *Dr. Kaufman. Sure. I mean, I think it is _ more than
1265 anything, it is a risk management strategy for our economy,
1266 right? As I mentioned in my testimony, you see sort of
1267 undeniably there is a growing importance of clean energy
1268 technologies and supply chains around the world. And
1269 certainly, countries like China have a big advantage in some
1270 of these markets like batteries, like production of solar.
1271 Dr. Gattie mentioned the advantage in nuclear.

1272 I think some of the measures Congress has taken, you
1273 know, I don't see them so much as picking winners as giving
1274 American producers just the opportunity to compete in these
1275 global markets if they can earn it.

1276 *Mr. Pallone. Well, I appreciate that. You know, I am
1277 just concerned that if we don't prioritize the clean energy
1278 transition we face increasing greenhouse gas emissions and
1279 mounting climate disasters, which we see all the time here,
1280 but we also risk watching other countries taking the lead and
1281 benefiting from the enormous economic opportunities found in
1282 clean energy.

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1283 So I just hope my colleagues across the aisle join us in
1284 fighting for continued investments in the energy transition
1285 because I do think it is so important in so many ways.

1286 And I yield back, Mr. Chairman.

1287 *Mr. Duncan. The gentleman yields back. I will now
1288 recognize the gentleman from Kentucky, Mr. Guthrie, for five
1289 minutes.

1290 *Mr. Guthrie. Thank you very much. Thank you for being
1291 here. This is an important topic and discussion, and it
1292 deserves more than slogans. I guess people use politically
1293 things like "polluters over people." I think that is just
1294 below the dignity of this hearing we are having today.

1295 And I will tell you what we have for the _ is for the
1296 people. We want people to have sustainable, affordable, and
1297 reliable energy. That is important because the people at the
1298 lowest end of the economic spectrum is better _ is more
1299 greatly affected.

1300 And I will say that I was just _ I am just _ kind of got
1301 me off on a tangent, but I will go on it a little bit. I am
1302 reading the Robert Caro series on the years of Lyndon
1303 Johnson, and he talks about when Lyndon Johnson was part of

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1304 this body. One of his big accomplishments was bringing
1305 electricity to the hill country of Texas. And to set up how
1306 important that was, he goes on for 20 or 25 pages about what
1307 life was like for people in the hill country _ now I know it
1308 is a big tourist area, but it wasn't at the time of Lyndon
1309 Johnson, it was poverty _ and what life was like, and I am
1310 reading that.

1311 I knew my great grandmother. She was born in 1894, died
1312 in 1980 when I was 16, so I knew her well. She was not from
1313 the hill country, she was from where the Natchez Trace
1314 crossed into Alabama on the Tennessee side. But I can tell
1315 you the poverty was just as extreme there. That is why the
1316 Tennessee Valley Authority came and changed their lives. And
1317 I am reading this. She was probably in her thirties or
1318 almost forties when electricity came.

1319 So she had to _ Dr. Schweitzer, you talked about it _
1320 hand-wash clothes, canned everything because there is no
1321 refrigeration. It just _ and if you think about it, she was
1322 born at the time the Biltmore mansion was opened. And I can
1323 tell you George Vanderbilt didn't have to worry about
1324 electricity, because when he walked in the room somebody lit

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1325 the lamp, when he took off his clothes somebody took them out
1326 and washed them. What it did, it really improved the lives
1327 of people at the lowest end of the economic spectrum. That
1328 is what we are talking about, what affordable energy does.

1329 I can tell you I have a good friend who is a 96-year-old
1330 lady, and she decides when she drives or doesn't drive based
1331 on what the gas prices are in Bowling Green, Kentucky weekly.
1332 I mean, she really does. She really makes those decisions.
1333 And so what we do here affects people. It really affects
1334 people.

1335 And I want to _ and it affects on an international
1336 level. I was with a _ somebody that definitely speaks at the
1337 high levels for the German Government, and actually said, "If
1338 you want peace, produce gas.'`

1339 And somebody made the comment to that person and said,
1340 "Well, I understand that Germany has all of the liquid
1341 natural gas they can _ their docks can contain.'`

1342 And this person said, "Well, sell it on the world
1343 market. We want the price to come down.'`

1344 If you think about it, the White House is asking for _
1345 and I believe we should support Ukraine, but the White House

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1346 is asking for an appropriation, a supplemental appropriation
1347 to support Ukraine. If you think about it, because we don't
1348 drill for gas the price of natural gas is high throughout the
1349 world. They buy it from Russia. We are funding Russia's
1350 army by our environmental policy, by our energy policy. We
1351 are sending money to Ukraine to fight an army that only
1352 exists because we don't drill for gas. It is that simple.
1353 It really is that simple.

1354 And so, Dr. Gattie, I just want to ask you, would you
1355 expand on the importance of putting American energy and
1356 export of American energy into the national security debate?

1357 *Dr. Gattie. Thank you for the question, Congressman.

1358 Again, I want to take us back again to the preeminence
1359 of what the country was built on. The country was built on
1360 diverse domestic energy supplies: coal, oil, gas, nuclear,
1361 and renewables. That is a position. And I know the word
1362 "dominance" is _ maybe, perhaps, it is overused. But it is
1363 still a relevant term today, that we need to operate from a
1364 position of advantage, advantage relative primarily to our
1365 competitors, but also an advantage that allows us to serve
1366 other countries. So that position of _ it is an advantage,

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1367 but it is a position of relevance.

1368 We can imagine if the U.S. disengages, just disengages
1369 from the global network, the global energy network. What
1370 voice do we have at that point in decisions that are made
1371 globally, including the climate discussion?

1372 *Mr. Guthrie. I am about out of time, so I will thank
1373 you for that. And it is important that we focus on
1374 continuing to be the world leader in dropping emissions.
1375 People need to understand that is where America is, the world
1376 leader in dropping of emissions.

1377 So, Ms. Bradbury or Dr. Schweitzer, can you describe how
1378 innovation like the shale revolution is going to do this
1379 quicker than any government top-down regulation?

1380 Ms. Bradbury, you _ a fellow _ now a fellow
1381 Louisvillian, a fellow Kentuckian.

1382 *Ms. Bradbury. Absolutely, thank you for the question,
1383 and I would also actually like to just jump on a point that
1384 you made earlier, and that is the importance of production in
1385 our economic growth.

1386 Because of the shale revolution, prices of energy,
1387 household energy costs dropped in the United States by 10

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1388 percent, while costs of health care and education skyrocketed
1389 30, 40 percent over the last 10 years. So it is foundational
1390 to our economy that we have abundant energy to keep prices
1391 low, and then that same energy sector is able to invest in
1392 emissions reductions technology that also ensures that we are
1393 producing the cleanest and most affordable energy in the
1394 world.

1395 *Mr. Guthrie. Thanks, and I am sorry, my time has
1396 expired.

1397 And I will yield back.

1398 *Mr. Duncan. I thank the gentleman, and I will go to
1399 California, Mr. Peters, for five minutes.

1400 *Mr. Peters. Thank you, Mr. Chairman.

1401 Okay, Ms. Bradbury, an olive branch. You must be very
1402 frustrated or amused sometimes at people who drive their cars
1403 in here to work and then talk about getting rid of oil and
1404 gas, and I am not going to be one of those people. And I am
1405 also not going to deny what Mr. Guthrie just said, which is
1406 natural gas burns cleaner than coal. If it was up to me, we
1407 would never burn another spoonful of coal. That is why I
1408 have always been talking about methane.

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1409 And the thing that is obvious to me from this discussion
1410 already is that we should be agreeing on methane here, okay?
1411 The industry has described how they are leading in the
1412 reduction of methane emissions, and it is not because of Joe
1413 Biden's rush-to-green agenda, it is because of customer
1414 demand. It is because Korea and Japan and Europe have
1415 demanded clean gas.

1416 And as a result of that, the industry has developed _ to
1417 your total credit, I am happy this happened _ new
1418 technologies for monitoring methane that not just _ that
1419 don't just identify the presence of methane, but the
1420 concentration of methane from the air and from the ground,
1421 and it has given new _ you have given new attention to
1422 actually preventing the release of methane into the
1423 atmosphere.

1424 And that is important because, as I said before, methane
1425 emissions are 80 times more potent in the short run than CO2,
1426 and can cause about 25 to 2,000 times more warming per ton
1427 over a 25 to 100-year period. And that has happened before
1428 these regulations that were announced this week even went
1429 into effect. So kudos to the industry for actually giving

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1430 attention to that, maybe driven by customer demand, and for
1431 taking it upon yourselves to really come up with this
1432 attention to methane that I think is all good for all,
1433 everyone. And I want to thank you for that. I think it is
1434 great.

1435 It is because of that, by the way _ but there is a point
1436 at which that is not enough. And the problem is that, as
1437 good as many of your actors are, and as attuned as they are
1438 to the demands around the world for clean gas, not everyone
1439 is.

1440 And that is why the other thing I have advocated is that
1441 we need to go the next step as a government to say that
1442 everyone has got to be on the methane train. Everyone has
1443 got to be controlling methane, not just the ones who are not
1444 operating close to the margin. Because we know that there is
1445 those independent operators _ I have heard about it from my
1446 friends in west Texas _ that are on the margins that aren't
1447 going to make those investments.

1448 So, first of all, as a matter of environmental
1449 integrity, I think we need everyone to be on the board, but
1450 also, as a matter of competition, it is not fair for one

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1451 person to be taking these actions and someone down the street
1452 not be able to do that. That is the role of the government,
1453 and that is why I am happy that we had this announcement in
1454 Dubai about cutting-edge methane detection and control. The
1455 EPA estimates that the rule will prevent an estimated 58
1456 million tons of methane emissions from 24 to 2038, nearly 80
1457 percent reduction in methane emissions from what would
1458 otherwise be in the air without the rule. We should agree on
1459 that at the beginning of the day.

1460 I think oil and gas is going to be around for a long
1461 time. And I don't know how California or Germany replaces
1462 the nuclear that we took out without oil and gas. In the
1463 short run we can't do it. We don't have enough batteries.
1464 There is supply chain challenges with that. There is going
1465 to be a period of transition of time.

1466 So I would ask everyone in the room, let's not lose
1467 sight of making sure that what we are using today is as clean
1468 as possible. And we are on the track, but we have to take
1469 the next step, and that is why it still concerns me that my
1470 Republican colleagues are talking about eliminating rules on
1471 methane. I just think that that is not possible. And I

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1472 think it is an area where we can agree it is the minimum
1473 thing we can do, it is the low-hanging fruit, and it is a
1474 total win.

1475 So thank you for developing the technology that makes it
1476 possible for us to do that. Thanks for doing what you have
1477 done on your own. I think it is up to us to take the next
1478 step.

1479 The other place where I don't think that our interests
1480 necessarily converge in oil and gas is that we have to have a
1481 more diversified energy system to be more secure. It is not
1482 Ms. Bradbury's job to sell nuclear or solar and wind. It is
1483 not her job to set up a transmission system that supports all
1484 kinds of energy. That is our job, and that is why we have to
1485 take the next step.

1486 But I didn't want to miss the chance to point out that
1487 the oil and gas industry is doing a lot of what my Republican
1488 colleagues say we don't need to do, and it is doing it
1489 without a rush-to-green drive from the Biden Administration.

1490 Dr. Kaufman, I just want you to address one other thing
1491 in the short period of time I have left. The inevitability
1492 of this transition, apart from the United States, talk about

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1493 this. Is this _ if this so-called rush-to-green thing
1494 weren't happening in the United States, would there still be
1495 an energy transition?

1496 *Dr. Kaufman. I mean, it is early days, but it
1497 certainly looks _ when you look at these key sectors that I
1498 mentioned in electricity, in vehicles, and some of the
1499 innovations that we are seeing across other sectors, there is
1500 a transition that is happening. The question is how fast,
1501 right? And I think that depends on a lot of different
1502 factors, including how serious we are about _

1503 *Mr. Peters. My time has expired. But if we also want
1504 to lead it, we are going to make the innovations, we are
1505 going to make _ get the economic return in the United States.
1506 And I think we should be at the lead.

1507 And I yield back.

1508 *Mr. Duncan. The gentleman yields back. I now
1509 recognize the gentleman from Ohio, who is chair of the
1510 Environment Subcommittee, Mr. Johnson, for five minutes.

1511 *Mr. Johnson. Thank you, Mr. Chairman.

1512 Ms. Bradbury, let me start with you. First of all,
1513 thanks for all that you do, especially representing smaller

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1514 and mid-sized producers in my district and across the
1515 Marcellus and Utica Shale _ I am sorry, Ms. Bradbury, I said,
1516 "Mr.,' ` I got that wrong _ but all that you do to represent
1517 the small and mid-sized producers in my district. I want to
1518 ask you some questions in regards to liquefied natural gas,
1519 and I appreciate AXPC's support of my legislation, the
1520 Unlocking our Domestic LNG Potential Act. We still want to
1521 get that over the finish line this year.

1522 As you mentioned in your testimony, American LNG exports
1523 strengthens our geopolitical position while reducing global
1524 emissions in an increasingly energy-hungry world. Energy
1525 demand is going up, and the only question is who is going to
1526 provide it. Russia, also a major gas producer, knows this.
1527 It has been widely reported that Russia and others are
1528 bankrolling and pushing anti-American natural gas ideas in
1529 the West. The COP climate conference is this week, and I am
1530 sure that many green NGOs, as they are called, will be active
1531 there in disparaging America's clean, abundant natural
1532 resources.

1533 So, Ms. Bradbury, can you describe the damage that
1534 Russia's smear campaigns and tactics cause to the reputation

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1535 of U.S. natural gas abroad?

1536 *Ms. Bradbury. Thank you, Mr. Johnson, for that
1537 question, and thank you for your leadership in regard to U.S.
1538 energy, especially with some of the _ our Ohio producers at
1539 home.

1540 So first I will say that the Russian campaign against
1541 "fracked gas," or American natural gas is well documented by
1542 intelligence officials of both sides going back well over a
1543 decade. It, you know, I think, highlights the intersection
1544 of energy security, national security, and economic security,
1545 and Putin clearly recognized that American energy production
1546 is a threat to Russian interests. And I think today we can
1547 see why he thought that, because, you know, we know that, you
1548 know, Mr. Putin has been weaponizing Russia's energy
1549 resources to fund their invasion of Ukraine and to _ against
1550 our allies in Europe.

1551 *Mr. Johnson. Can you quickly then provide _ let me
1552 give you an opportunity to briefly discredit this
1553 misinformation. Flip to talking about how the U.S. produces
1554 the cleanest natural gas in the world.

1555 *Ms. Bradbury. Certainly. So the U.S. produces among

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1556 the cleanest natural gas in the world, and multiple
1557 independent studies have shown that U.S. LNG is somewhere
1558 between 10 and 40 percent lower emissions than Russian gas
1559 piped to Europe.

1560 *Mr. Johnson. Okay, all right. Let me pivot. I want
1561 to mention an encouraging development for our full committee
1562 markup this afternoon.

1563 I am encouraged by the inclusion of my Strengthening
1564 American Nuclear Competitiveness Act as part of the broader
1565 bipartisan nuclear package we want to take to the House
1566 floor. My legislation streamlines the export of U.S. nuclear
1567 energy technologies while bolstering American civilian
1568 nuclear competitiveness in the global market.

1569 Globally, Russia leads the number of exports, with about
1570 half of the 53 units under construction around the world
1571 today. And modernizing our export process, leveraging
1572 investments from our allies in determining how the U.S. can
1573 better compete globally, is necessary to ensure that the U.S.
1574 remains a global leader in nuclear technology.

1575 So Mr. Gattie, can you speak to the importance of
1576 American leadership in the global nuclear energy market?

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1577 *Dr. Gattie. Thank you for the question, Congressman.

1578 Yes, sir.

1579 We have always led. We have been the leaders since the
1580 1960s and the 1970s and the 1980s. And the developing
1581 economies are going to look for that leadership again. They
1582 don't want to choose Russia, they don't want to choose China.
1583 They want to choose the U.S.

1584 I think it is imperative for us here in the U.S. to look
1585 at getting our supply chain, as you point out, Congressman,
1586 with our allies on board, to get _ essentially, conduct a
1587 nuclear industrial base review to see what it is going to
1588 take for us to be competitive again _

1589 *Mr. Johnson. Sure.

1590 *Dr. Gattie. _ and regain that.

1591 *Mr. Johnson. How can the U.S. become cost competitive
1592 with countries like China and Russia in the nuclear export
1593 market?

1594 I mean, they give out, you know, interest-free loans.
1595 Basically, they understand the _ get the camel's nose in the
1596 tent and the rest of the camel is coming through, too. So
1597 how can we become more cost competitive?

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1598 *Dr. Gattie. Well, first, I think we are going to have
1599 to get past the non-recurring engineering phase of this. We
1600 actually are just doing one-offs for nuclear power production
1601 in the U.S. We have got to get a demand signal out there,
1602 Congressman, that is going to give us a book of business so
1603 that we can come down that _ it is going to take time, but it
1604 is going to also take prioritizing it here in D.C. and in
1605 states.

1606 *Mr. Johnson. Okay, all right.

1607 With that, Mr. Chairman, I yield back.

1608 *Mr. Duncan. I thank the gentleman, and I will now go
1609 to Mr. Tonko for five minutes.

1610 *Mr. Tonko. Thank you, Mr. Chair.

1611 And Dr. Kaufman, what does the phrase "place-based
1612 policy," or "place-based industrial strategy" mean?

1613 *Dr. Kaufman. Oh, it recognizes the fact that, number
1614 one, you know _ if you are talking about place-based policies
1615 with respect to our energy and climate challenges, I mean, I
1616 think that, number one, recognition is that if we are serious
1617 about climate change, that means we need to rapidly reduce
1618 our emissions. You know, we could argue about the date, but

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1619 we need to drive down emissions in this country.

1620 And it is a recognition that fossil fuel production and
1621 the production of carbon-intensive products _ projects are
1622 very geographically concentrated in the country. So we have
1623 communities that are just dependent not just for jobs, but
1624 for public services they are dependent on these industries.
1625 So a place-based strategy recognizes that, and it emphasizes
1626 the importance of building prosperity and resilient economies
1627 in specific places.

1628 *Mr. Tonko. Thank you. And so is it the idea that
1629 there can be intentionality and cooperation between the
1630 public and private sectors when determining where and how to
1631 make investments?

1632 *Dr. Kaufman. Sure. I mean, I think there has to be
1633 cooperation. And I think designing strategies that, you
1634 know, incentivize _ I mean the real issue is that if you have
1635 dominant industries or employers in a certain place, if they
1636 start leaving, communities can get into these downward
1637 spirals, right, where they have trouble attracting new
1638 industries or retaining the ones that are already there.

1639 So what I think _ the role of the government is to

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1640 figure out the right incentives to, you know, counteract
1641 those forces, and to protect the people who want to stay in
1642 their communities.

1643 *Mr. Tonko. Okay. So for the revitalization of
1644 communities that may be included in that thought that are
1645 struggling today or are expected to have challenges with the
1646 energy transition, would fossil-fuel-dependent communities
1647 and deindustrialized communities fit that mold?

1648 *Dr. Kaufman. They would definitely _ they definitely
1649 fit in that mold, yes.

1650 *Mr. Tonko. Okay. So, you know, as an example, I would
1651 look to the Appalachian Regional Commission. Now we are
1652 talking about dramatically reordering our national economy
1653 and energy system. So of course, these efforts need to be
1654 supercharged.

1655 So Dr. Kaufman, as the Biden Administration has worked
1656 to implement recently-enacted historic laws like the American
1657 Rescue Plan, the Infrastructure Investment and Jobs Act, the
1658 CHIPS and Science Act, the Inflation Reduction Act, is this a
1659 strategy that has been consciously adopted by the
1660 Administration to make certain that all communities have the

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1661 opportunity to benefit in this clean energy transition?

1662 *Dr. Kaufman. It has. It is a major focus of the
1663 Administration's economic and climate policy.

1664 And I would say it is really the first time, at least in
1665 our country, we have seen sort of a large-scale effort at
1666 place-based policy, which _ you know, that means there is a
1667 lot of learning to do, right? So it is sort of on us in the
1668 scholarly community to work with government to help you
1669 figure out what is working well, what is not working well,
1670 how do we build on this, because we are going to have an
1671 energy transition for decades.

1672 *Mr. Tonko. Okay. And how can place-based policies
1673 build upon a region's history and identity, and leverage
1674 existing assets including infrastructure, workforce, and the
1675 academic institutions to the fullest?

1676 As a recent example, I would consider the Department of
1677 Commerce's Regional Technology and Innovation hubs in upstate
1678 New York. The southern tier has been awarded a battery tech
1679 hub, building upon great work by the New York Battery and
1680 Energy Storage Technology Consortium, and world-class
1681 research at Suny Binghamton. And there is a semiconductor

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1682 manufacturing tech hub to support the huge commitments that
1683 have been made by Micron and GlobalFoundries and other chip
1684 manufacturers.

1685 So can you build upon that, with that thought, for us?

1686 *Dr. Kaufman. Sorry, could you repeat the last part of
1687 the question?

1688 *Mr. Tonko. Yes. Could you just build upon that whole
1689 regional, place-based strategy?

1690 *Dr. Kaufman. Sure. Well, I think you are hitting on
1691 what I think is the _ probably the number-one insight in the
1692 literature on place-based policies, which is that one-size-
1693 fits-all strategies are probably not going to be very
1694 effective, right? And we have tried some of that in our
1695 country with programs like empowerment zones.

1696 And I think what you are pointing to is that you really
1697 need bottom-up strategies developed by the communities
1698 themselves that take advantage of the strengths of those
1699 communities. So that might be resources, it might be
1700 workforce, you know, it might be sort of taking advantage of
1701 emerging, you know, technologies that could be sited in that
1702 area, and hubs of technologies with agglomeration effects.

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1703 But absolutely, you want to take advantage of those
1704 strengths.

1705 *Mr. Tonko. Well, with that, I thank you very much.
1706 And Mr. Chair, I yield back.

1707 *Mr. Duncan. The gentleman yields back. I now go to
1708 Ohio's Mr. Latta for five minutes.

1709 *Mr. Latta. Well, thank you very much, Mr. Chairman,
1710 and especially for holding this important hearing today. And
1711 thanks to our witnesses for being with us.

1712 Since 2005, thanks to the American energy renaissance,
1713 the U.S. has been a world leader in reducing carbon
1714 emissions. We were able to do this through innovations in
1715 technology and improved industrial practices, not top-down
1716 government mandates like the Green New Deal. A diverse
1717 energy portfolio that includes _ such as natural gas, nuclear
1718 alternatives, hydro, hydrogen, in addition to the cleaner and
1719 more efficient legacy fuels is key to both protecting the
1720 environment and growing our economy.

1721 Looking to the future, I truly believe we must achieve
1722 both energy security and national security by utilizing the
1723 carbon-free source that is nuclear energy. Dr. Gattie, how

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1724 can the utilization of nuclear energy help the United States
1725 continue to reduce its emissions profile?

1726 *Dr. Gattie. Thank you for the question. As you are
1727 aware, Congressman, a lot of _ we are closing coal plants
1728 across the country. That has been our baseload power plant
1729 for many, many years. If we are going to continue to do
1730 that, we are going to need nuclear to backfill it.

1731 What it is going to allow us to do at that point, if we
1732 can get our nuclear enterprise spun back up to the point that
1733 it was somewhere back in the 1970s, we are going to be
1734 attractive to other countries around the world. They are
1735 looking for low-carbon resources, but their priority is
1736 reliability. They are looking for reliable energy resources.
1737 And their partner, they want us to be their nuclear partner,
1738 long term.

1739 This is something Russia and China understand. Again,
1740 as I pointed out earlier, this is an 80-year relationship.
1741 We are looking at this in the best interests of those
1742 countries and with respect to our own national security.
1743 China and Russia are leveraging these for geopolitical
1744 objectives. And if we don't counter that they are going to

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1745 choose someone else, and it is not going to be us.

1746 So I do trust and hope that the members of the committee
1747 are going to continue to push, because this is probably our
1748 core energy resource on which national security is going to
1749 depend.

1750 *Mr. Latta. Thank you.

1751 Dr. Schweitzer, how has a more modernized and efficient
1752 grid helped to reduce emissions and promote a cleaner
1753 environment?

1754 *Dr. Schweitzer. Well, thank you for the question.

1755 We depend on our transmission networks. The way it all
1756 happened is that the individual regional franchises chose
1757 individually to interconnect for the benefit of each other
1758 and their customers and their shareholders. So this
1759 collection of interties today is frequently referred to as
1760 "the grid." And I do think it is important to keep in mind
1761 that these interties were built for the mutual benefit of
1762 shareholders and customers and, frankly, the environment, to
1763 your point.

1764 I had made the point earlier that energy generated in
1765 one place in the cleanest ways that we know how, whether it

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1766 be nuclear or solar or wind or _ you pick your favorites of
1767 the moment _ or gas substituting for coal and so forth, that
1768 energy generated at one point can reach people far away at
1769 186,000 miles a second, you know, 11 inches in _ it goes a
1770 nanosecond. I mean, in a nanosecond it goes 11 inches. It
1771 is amazing.

1772 So it is possible, and Edison and Insull realized that
1773 over a century ago. Insull said something to the effect of I
1774 wish I could see 50 years ahead, which would have been to
1775 about 1961 when he wrote it, that I would expect to see
1776 transmission lines carrying energy from one part of the
1777 country to another, where it is generated in the cheapest
1778 ways possible and used most anywhere, so that any class of
1779 industry can develop anywhere and at a low, affordable price.

1780 And I was interested to hear your colleagues' comments
1781 about how important low energy costs are, especially to the
1782 people who are not as fortunate as others. It is an
1783 obligation, I believe, that we have to _ liberating
1784 humankind. One of the cleanest things that we can do, even
1785 with the dirtiest sources of energy that you can think of, is
1786 replace with these technologies _ replace using human muscle

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1787 to do work.

1788 So as the society advances not only in this country, but
1789 around the world, where our energy systems are displacing
1790 using muscle power by virtue of _ whether it is a combustion
1791 or photovoltaics or splitting atoms, we are going to be
1792 better off, environmentally.

1793 *Mr. Latta. Well, thank you very much, Mr. Chair. My
1794 time has expired, and I will submit my other questions in
1795 writing.

1796 [The information follows:]

1797

1798 *****COMMITTEE INSERT*****

1799

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1800 *Mr. Duncan. I thank the gentleman, and I will now go
1801 to Mr. Veasey from Texas for five minutes.

1802 *Mr. Veasey. Thank you, Mr. Chairman. Well, I think
1803 that there is some areas that we actually found some
1804 agreement on today. And I agree that America has led the
1805 world in reducing emissions without sacrificing innovation,
1806 economic development, or our national security.

1807 I also agree that we have done more than any other
1808 country in the world to promote freedom and raise the
1809 standard of living and fight poverty, also while maintaining
1810 some of the best environmental and labor standards in the
1811 world. This is a great legacy for us to build up on. And
1812 our nation's energy security is linked to our ability to
1813 adapt and innovate while maintaining our energy security. I
1814 think that that is also clear.

1815 I want to talk about the Inflation Reduction Act and the
1816 Infrastructure Investments and Jobs Act, because I think that
1817 represents also _ and showcases our commitment to adapting
1818 and innovating. And by prioritizing these efforts and
1819 investing in diverse energy sources, we are securing our
1820 nation's energy independence and mitigating the dangers of _

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1821 that we talked about with the environment. With these
1822 efforts we are positioning ourselves as a global leaders in
1823 the race towards a sustainable future.

1824 And many countries, as you know, are transitioning, and
1825 they want this technology for themselves. We _ a bipartisan
1826 group of us saw that in Norway this summer, and we have to
1827 figure out in America how we are going to maintain our energy
1828 security, but also how we are going to lead a lot of those
1829 efforts that the group of us that went to Norway this summer
1830 saw.

1831 My question is to Anne Bradbury and Dr. Noah Kaufman.

1832 As you know, Texas is the leader when it comes to oil
1833 and gas, and also wind. We have done a great job in those
1834 areas. But I wanted to ask you about geothermal energy
1835 drilling. And as you know, geothermal energy can use some of
1836 the very same workforce that the oil and gas drilling uses
1837 with little additional training, and the jobs pay very
1838 similar.

1839 Enhanced geothermal systems have vast potential for
1840 domestic, cleaner, firm power production, and that means not
1841 just adding reliable clean power to the grid, but also

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1842 growing the geothermal drilling workforce. What economic
1843 benefits do you foresee in the terms of job creation and
1844 economic growth as a result of prioritizing the development
1845 and scaling of enhanced geothermal energy technologies,
1846 especially in the areas of the country with workforce
1847 expertise in drilling?

1848 *Ms. Bradbury. Thank you, Congressman Veasey, for your
1849 question. I might defer to someone with a "Dr.'" in front of
1850 their name to answer some of your more technical questions.

1851 But in terms of your workforce question, I can say that,
1852 as you know, oil and gas jobs are some of the most highly-
1853 paid jobs in the country. The mean average wage is about two
1854 times what it is among other industries, and it already
1855 supports millions of jobs in the great state of Texas.

1856 Enhanced geothermal uses many of the same techniques
1857 that fracking does in terms of advanced drilling, in terms of
1858 hydraulic fracturing. And so as that industry expands, the
1859 need for jobs will be very similar to the jobs that are
1860 currently found in the oil and gas industry, things like
1861 reservoir engineers, geophysicists, geologists, down to sort
1862 of the rig hands and the foremen.

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1863 So I would say the workforce potentials are significant
1864 in terms of the parallels that exist with the current oil and
1865 gas industry.

1866 *Mr. Veasey. Yes. Well, thank you very much.

1867 I also wanted to ask a question on the jobs. As you
1868 know, it has been really tough in this body _ not necessarily
1869 on this committee, because it is not the committee of
1870 jurisdiction, but in this body _ to deal with fixing and
1871 improving and overhauling our broken immigration system.
1872 When you think about a lot of the things that we would like
1873 to do, whether it is in the area of oil and gas or whether it
1874 is in the area of cleaner energy deployment and renewable
1875 energy, can you do that?

1876 I mean, I heard Dr. Gattie talk a lot about us being
1877 able to keep up with Russia and being able to keep up with
1878 China, and that we have to be able to counter a lot of what
1879 we are seeing from those countries. Can we counter what we
1880 are seeing with those countries, and employ existing areas of
1881 energy and oil and gas, and also deploy more renewable energy
1882 without fixing our broken immigration system?

1883 *Ms. Bradbury. I will just be quickly for the oil and

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1884 natural gas industry and say that a workforce shortage is one
1885 of the challenges facing our industry, to be sure. And this
1886 industry spends millions of dollars on worker training, as I
1887 mentioned. These are some incredibly high-paying jobs and
1888 incredibly high-paying, blue-collar jobs that we are very
1889 proud of. And we see the need for increasing that workforce,
1890 not shrinking it as our industry develops over the years.

1891 *Mr. Veasey. Thank you.

1892 Thank you, Mr. Chairman.

1893 *Mr. Duncan. The chair will now go to Mr. Bucshon for
1894 five minutes.

1895 *Mr. Bucshon. Thank you, Mr. Chairman, and I thank our
1896 witnesses for their testimony this morning.

1897 Energy is national security. Dr. Gattie, your testimony
1898 describes mistakes in Europe, primarily _ particularly in
1899 Germany _ made by implementing top-down energy strategies
1900 that had energy security consequences.

1901 I recently visited a number of European countries, where
1902 I had the opportunity to hear firsthand from different
1903 leaders about the consequences of their energy policies
1904 investing too heavily in weather-dependent sources and not

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1905 diversifying their energy mix, making them dependent on
1906 Russia, primarily, and helping to fund the war in Ukraine,
1907 initially, until they have _ until recently, when they are
1908 all backtracking quickly and eliminating this dependency on
1909 Russia for natural gas, primarily by importing more
1910 American LNG.

1911 Similarly, I worry about the rush-to-green policies that
1912 will put the United States at a greater dependence on our
1913 adversary, China, for energy. Everyone realizes most
1914 batteries, inputs, lithium, and other things come from China.
1915 We are going to become more dependent on that. In fact,
1916 China just announced restrictions on graphite.

1917 So Dr. Gattie, are we beginning to make some of the same
1918 mistakes that some of our European allies have made in the
1919 past, in recent history?

1920 *Dr. Gattie. Thank you for the question, Congressman.
1921 I am not sure about if we are making the mistakes. I think
1922 we are seeing some of the symptoms of what those mistakes
1923 could be in some states around the country that will remain
1924 unnamed right now. We are seeing that during certain times
1925 of the year, during winter in particular, we are seeing what

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1926 some of those policies' impacts could be on reliability and
1927 on cost, as well.

1928 I think one of the mistakes that are being made is that
1929 we are treating these resources as if they are just
1930 interchangeable. In part of my testimony I pointed out that
1931 they are not. Resources are just created differently. Some
1932 are dispatchable, some are callable _

1933 *Mr. Bucshon. Right.

1934 *Dr. Gattie. _ on down the line. They are not
1935 interchangeable. It is not like fruits and vegetables and
1936 shoes and tires in the market. These resources have very
1937 unique value propositions. And I think some of the top-down
1938 energy policies need to account for that.

1939 And I think in Germany, as you pointed out, their
1940 objective was to move away without maintaining the diversity
1941 that ensured that they actually could make that transition.
1942 I think the transition was the objective, and reliability was
1943 a sidebar.

1944 *Mr. Bucshon. Yes, I mean, they shut down nuclear power
1945 plants, you know, decreasing their _ increasing, not
1946 decreasing, their dependance on Russian natural gas _ and

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1947 their advancement of renewables to the extent where the
1948 energy costs were really prohibitive for their citizens, and
1949 then turned around on the back end and subsidizing the energy
1950 for their citizens, and that ultimately, in my view, with
1951 government intervention in the free market economy,
1952 ultimately catches up to you, and it certainly did there.

1953 This is not a question, Mr. Kaufman, just a comment.
1954 You know, the rush-to-green policies economically actually
1955 are collapsing around the world, they are not getting
1956 stronger. And you don't have to take _ I mean, the private
1957 sector has opened their eyes. And why is it? Well, there is
1958 an article today in the Wall Street Journal that says green
1959 investors were crushed, now it is time to make money. I
1960 mean, the point is there is consumer realities: cost, lack
1961 of future choice, potentially.

1962 And then mainly, government intervention. What has that
1963 been? Whether you consider the Fed the government or not,
1964 artificially low interest rates for over a decade, which led
1965 people to fund projects in _ and all across energy, but
1966 particularly we are talking about green energy investing _ 80
1967 percent funded by debt, and now, of course, rising interest

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1968 rates, coming back to reality, is making that almost
1969 impossible.

1970 And then the fickleness of promised government
1971 subsidies, whether that is at the state level or the Federal
1972 level, because of the cost. And honestly, in my opinion,
1973 because of the questionable impact that those actually have.

1974 For example _ again, I want to make it clear I am an
1975 all-of-the-above. I support EVs, I support wind, solar,
1976 everything _ nuclear. But the financial realities of the
1977 situation, particularly now you are seeing that in the EV
1978 space, are something we need to really open our eyes to and
1979 get away from ideological approaches to this. And let's look
1980 at the facts. Consumers are not buying electric vehicles
1981 right now. And the cost is extremely high, even with
1982 government subsidies. People in my rural district, it is not
1983 practical.

1984 So with that, Mr. Chairman, I will yield back.

1985 *Mr. Duncan. The gentleman yields back. And I will now
1986 go to Ms. Castor from Florida for five minutes.

1987 *Ms. Castor. Thank you, Mr. Chairman.

1988 We face enormous challenges caused by the heating

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1989 climate: rising costs, rising impacts driven by the burning
1990 of fossil fuels. That is why it is so heartening to see the
1991 impacts of the Inflation Reduction Act, the Bipartisan
1992 Infrastructure Law, the investments we intended to strengthen
1993 American supply chains and our industrial base through solar,
1994 wind, and nuclear, and energy efficiency to do everything we
1995 can to lower costs, to create jobs, work on a safer climate.

1996 Just yesterday I was in Saint Petersburg, and went out
1997 to visit with one of my neighbors who was fortunate to get
1998 some of the weatherization dollars. This is going to change
1999 his life because he has a heart condition and the indoor air
2000 quality was not great. But he replaced the heat pump, the AC
2001 unit, just weatherized the home, put in a smart thermostat.
2002 It is going to save him 30 percent on his electric bill,
2003 which is important in the State of Florida, because over-
2004 reliance on gas and extreme weather and high, scorching
2005 temperatures have driven up costs astronomically since 2019.
2006 The average electric bill in _ if you are a Tampa Electric
2007 customer or a Duke Energy customer, has risen 62 percent.
2008 That is just since 2019. So there _ we have a lot to do, but
2009 it is heartening to see what is happening across the country

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2010 based upon the IRA and the infrastructure law.

2011 Dr. Kaufman, you say before we passed these laws the
2012 United States was essentially ceding rapidly-growing markets
2013 for technologies such as solar panels and batteries to
2014 producers in China and other countries. Can you elaborate on
2015 the _ how the investments aimed at scaling up both the
2016 manufacturing and the deployment of all these new
2017 technologies, from heat pumps to electric vehicles and
2018 everything in between, are benefiting American households and
2019 businesses?

2020 *Dr. Kaufman. Sure, thanks for the question. I mean, I
2021 think you hit on the climate motivations for them, which I
2022 think, you know, can't be underscored enough, how reducing
2023 emissions will address these climate risks and just, you
2024 know, address pollution, as well, which affects everyday
2025 Americans.

2026 But, you know, in terms of economic effects, there is a
2027 national component to it, because I think it is just a risk
2028 to our economic competitiveness if you have these emerging,
2029 incredible technologies like solar and like batteries, which
2030 we will use more in the future, and we should use more in the

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2031 future because of _ they are amazing success stories. But if
2032 70, 80 percent of the supply chains are coming from China and
2033 other countries, there is undeniable risks there, and risks
2034 to the U.S. economy.

2035 You know, not that we need to succeed at any given
2036 technology, but, you know, right now we are heavily carbon
2037 intensive. So making sure that American producers have a
2038 chance to successfully compete in a clean economy is just an
2039 important risk management strategy.

2040 *Ms. Castor. I always viewed the IRA, too, and the
2041 infrastructure law as very patriotic. We are going to make
2042 things in America again. It has been difficult to keep up
2043 with all of the announcements across the country _ Kentucky,
2044 Alabama, North Carolina, South Carolina _ a lot in the
2045 southeast, but all over the country, especially in the
2046 industrial Midwest, new factories.

2047 How do you keep up with all of these announcements and
2048 the job creation?

2049 *Dr. Kaufman. I probably don't, but, I mean, you are
2050 touching on _ the second point I was going to make is that
2051 probably more important than just aggregate investments in

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2052 the United States is where the investments are taking place.
2053 And as you say, we are seeing investments in parts of the
2054 country that may need it the most, both in terms of, you
2055 know, fossil-dependent communities in some cases, communities
2056 with lower-income populations, which, as you know, was a
2057 major emphasis of legislation _

2058 *Ms. Castor. You know, I also serve on the Select
2059 Committee on the Strategic Competition with China, and I have
2060 been learning more about the carbon border adjustment,
2061 another way to counter China there, and really protect
2062 American companies, make sure that they are competitive in
2063 global markets.

2064 How _ can you detail how a CBAM policy could also help
2065 strengthen America's industrial base?

2066 *Dr. Kaufman. Well, I mean, I would zoom out just a
2067 little bit and say, you know, some form of tariff on sort of
2068 the embedded carbon in trade, I think, could be a useful
2069 aspect of some of the international agreements that I talked
2070 about in my testimony. I think if we are going to address
2071 internationally-traded products, you can't do it without
2072 international cooperation because you are always going to

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2073 have the producers that, you know, can undercut on price with
2074 the _

2075 *Ms. Castor. And we are hearing a lot from our allies
2076 in the EU, UK, Australia, and Norway about this.

2077 *Dr. Kaufman. Right, right. So I think what you need
2078 _ I mean, a tariff is one component of it, but I think you
2079 have got to work with other countries to develop sort of an
2080 incentive-compatible agreement that sort of has everybody
2081 rowing in the same direction.

2082 *Ms. Castor. Thank you very much.

2083 I yield back.

2084 *Mr. Duncan. The gentlelady yields back. I will now go
2085 to Mr. Palmer from Alabama Roll Tide for five minutes.

2086 *Mr. Palmer. I thank the chairman. Just before I get
2087 started I would just like to say there is no border
2088 adjustment tax and no tariff that will replace the strategic
2089 significance of procuring our critical minerals and rare
2090 Earth elements. This is not just a matter of figuring out
2091 how to reduce CO2 emissions, it is a matter of national
2092 security.

2093 Mr. Schweitzer, on that theme, when we talk about

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2094 critical minerals and rare Earth elements, I think it should
2095 be noted that offshore wind requires 13 times more minerals
2096 than a natural gas generation facility generating the same
2097 amount of power. Onshore wind requires eight times more and
2098 solar six times more. Is there anything out there
2099 technologically that will replace the need for critical
2100 minerals that _ I am _ that is kind of a joke, because,
2101 obviously, there isn't.

2102 *Dr. Schweitzer. Well, since it is a joke, I guess I
2103 don't have to answer it directly.

2104 I am very concerned about things like innovation hubs
2105 and tech hubs and subsidized this and that and mandates and
2106 bans and taxes and tariffs and quotas all being used as
2107 somehow tools, when what they are is market distorters.

2108 *Mr. Palmer. Exactly.

2109 *Dr. Schweitzer. I mean, we are at a point in our
2110 society when we need to make it easier, not harder, easier to
2111 build a factory. It takes, some people say, two or three
2112 times as long to build one in the United States than it does
2113 in China. So capital, which always gets its pay, is going to
2114 move in that direction.

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2115 And I beg to please do what we can to make it easier,
2116 frankly, to drill a hole, mine and refine, to produce, to
2117 manufacture, you know, invent, and create. Whether it is
2118 critical minerals, or diplomas, or pills, or food products,
2119 or clothing, it is that we have to be able to _

2120 *Mr. Palmer. Well, let me just _

2121 *Dr. Schweitzer. _ and compete to serve.

2122 *Mr. Palmer. On that point, we are not going to get to
2123 100 percent renewable. We are not going to get to net zero
2124 by 2050. There is no engineering scenario, no financial
2125 scenario that will allow that. That is a pipe dream.

2126 To get there would require a 4,200 percent increase in
2127 lithium demand. It would require a 2,500 percent increase in
2128 demand for graphite, a 2,100 percent increase for cobalt, a
2129 1,900 percent increase in demand for nickel, a 700 percent
2130 increase in demand for rare earth elements, and you can't cut
2131 a hole in the ground anywhere in the United States right now
2132 without going through a 10 or 12-year process just to get a
2133 permit.

2134 *Dr. Schweitzer. That is true.

2135 *Mr. Palmer. As a matter of national security, we need

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2136 to immediately permit mining for our critical minerals and
2137 our rare Earth elements because what we should have learned
2138 from the war in Ukraine is very fundamental.

2139 First of all, it didn't create the energy crisis, it
2140 exposed it.

2141 But secondly, and maybe more importantly, it should have
2142 educated every nation in the world that no nation should be
2143 reliant on an adversarial nation for something that is
2144 critical to its economy and its national security as energy.
2145 And going to 100 percent renewable with the lack of mining
2146 for these critical minerals in the United States would make
2147 us almost 100 percent reliant on China, and I think
2148 disastrous for our _ not only our economy, but for our
2149 national security.

2150 I want to ask you something else about carbon capture.
2151 I am _ I support carbon capture. The National Carbon Capture
2152 Center is in my district, actually in Wilsonville, Alabama.
2153 Could you give me some thoughts on where we are heading with
2154 the technology on that? Because we have had a couple of
2155 facilities that were really built around the concept of
2156 carbon capture, most notably Kemper in Mississippi that is

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2157 now shuttered. There was another one in Texas that, for
2158 the limited time that it operated, was basically built around
2159 the oil and gas industry in Texas, but it is now shuttered.
2160 So where do you see that going?

2161 *Dr. Schweitzer. I think that the carbon capture,
2162 there is really no market forces that are driving for it. I
2163 do know some of _ some projects where people have captured
2164 carbon and tried to find, you know, markets for the CO2, and
2165 I don't know how successful they are.

2166 So the carbon capture is sort of an uphill battle. And
2167 instead of trying to capture it, it is probably better to be
2168 producing less of not only the carbon, CO2, but also _

2169 *Mr. Palmer. My time is expiring _

2170 *Dr. Schweitzer. _ of the methane _

2171 *Mr. Palmer. On that point, producing less, I think the
2172 small modular reactors, advanced reactors is the way to go.

2173 *Dr. Schweitzer. Absolutely.

2174 *Mr. Palmer. Thank you, Mr. Chairman, I yield back.

2175 *Mr. Duncan. The gentleman yields back. I now
2176 recognize Mr. Sarbanes for five minutes.

2177 *Mr. Sarbanes. Thanks very much, Mr. Chairman. Thank

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2178 you all for being here.

2179 As we have seen, as this discussion certainly emphasizes
2180 following Russia's invasion of Ukraine, control of vital
2181 energy resources can be quickly reshaped by global conflicts,
2182 meaning it is in the best interest of our national and
2183 economic security to, as best we can, foresee and prepare for
2184 ever-changing global circumstances.

2185 We also must stay ahead of the curve in renewable energy
2186 development so that we maintain sufficient and diverse
2187 supplies of energy to meet our tandem goals of powering and
2188 developing global economies, and responsibly addressing the
2189 broad-reaching impacts of climate change on the world's most
2190 vulnerable populations. Succeeding in these goals will
2191 require strong collaboration among international partners,
2192 something the U.S. has an opportunity to do at COP28.

2193 Dr. Kaufman, how important is it for the U.S. to
2194 facilitate international cooperation to increase global
2195 energy security and climate responsibility during these COP28
2196 discussions?

2197 *Dr. Kaufman. Thanks for the question. I mean, I am
2198 glad you highlighted it, because I think it is critically

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2199 important. And sometimes, you know, particularly given the
2200 understandable focus on domestic producers and industries, we
2201 lose sight of the importance of, you know, international
2202 cooperation because, you know, in the end of the day, the
2203 global trading system should benefit everybody, right?

2204 We should be building wealth for the entire world. And
2205 as you said, the more we can do that in collaboration with
2206 our partners, and the more the United States can show its
2207 leadership in doing that, whether it is sort of designing
2208 agreements or, you know, encouraging other countries to
2209 invest in innovation, I think, you know, this will only help
2210 to _ help us pursue our climate and energy security goals.

2211 *Mr. Sarbanes. There is no planet B. This is a global
2212 effort. We have to cooperate internationally. The U.S.
2213 needs to take a leadership role. The Biden Administration is
2214 trying to do that. We need Congress to support those efforts
2215 as much as possible.

2216 The U.S. leadership in this area must also extend beyond
2217 the annual COP28 conversations, as I am sort of alluding to
2218 here. We must work year-round to develop bilateral and
2219 multilateral partnerships that can allow for exchange of

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2220 knowledge among researchers, accelerate the development of
2221 innovative technologies, facilitate business-to-business
2222 exchanges, and share best practices.

2223 So one case in point for this, our Eastern Mediterranean
2224 allies, including Greece, Cyprus, and Israel, are well
2225 positioned to play a critical role in these efforts. They
2226 have a strong record for energy cooperation. Congress
2227 recognized this when it passed the bipartisan EastMed,
2228 Eastern Mediterranean, Security and Energy Partnership Act in
2229 2019, which authorized the establishment of the U.S. Eastern
2230 Mediterranean Energy Center, modeled off the successful
2231 Israel-U.S. Binational Industrial R&D center, or the BIRD
2232 Center, which has been around for a while.

2233 The Eastern Mediterranean Energy Center would be a
2234 consortium of businesses, academia, and researchers with a
2235 goal to "leverage academic and private sector expertise to
2236 focus on renewable and other decarbonized energy sources,
2237 water science, mutually-agreed-upon technology transfer, and
2238 technical analysis of regional energy developments.'`

2239 So, Dr. Kaufman, can you speak to how this kind of a
2240 center, collaborative effort, the Eastern Mediterranean

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2241 Energy Center, or a multilateral partnership such as this
2242 could allow the U.S. and our international partners to stay
2243 ahead of the curve in energy innovation and regional energy
2244 security?

2245 *Dr. Kaufman. Sure, thanks for the question. I mean,
2246 one theme I think that has come out of all of our testimonies
2247 today is the importance of innovation. And I think the
2248 process of innovation is only going to be stronger if it is a
2249 collaborative effort.

2250 And, you know, the United States has been a leader in
2251 innovation. But, let's be honest, we are not going to do it
2252 by ourselves. And we don't want to do it by ourselves. So
2253 the more that we _ you know, one of the most important roles
2254 government can play is to, you know, support public and
2255 private efforts, and hopefully in collaboration, to produce,
2256 you know, lower-cost, more effective technologies. And the
2257 types of collaborations you are talking about sound like a
2258 way _ a means towards that end.

2259 *Mr. Sarbanes. Thanks very much.

2260 I yield back.

2261 *Mr. Duncan. The gentleman yields back. I will now go

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2262 to the gentleman from Michigan, Mr. Walberg, five minutes.

2263 *Mr. Walberg. Thank you, Mr. Chairman, and thanks,
2264 panel, for being here.

2265 This hearing is about the serious need to course correct
2266 America's energy policy. We were on the right track, I
2267 believe, until the current Administration decided to choose
2268 reliance on China and ineffective climate policies over
2269 American innovation and energy security. Offshoring fuel
2270 production, manufacturing, and mining overseas only serves to
2271 make bureaucrats in Washington and, I might add, most COP28
2272 delegates _ of which I will be one, but not in agreement with
2273 them _ to feel better about their climate pledges.

2274 But emissions don't stop over international borders,
2275 especially when China has worse environmental and labor
2276 policies, abusive labor policies. We know that with right
2277 investments we can produce cleaner, safer, better energy here
2278 in the United States than anywhere in the world, and we have
2279 proven it.

2280 Ms. Bradbury and Dr. Gattie, the Department of Energy
2281 engages in energy research and invests in U.S. energy
2282 capabilities historically in all potential forms of energy.

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2283 If the U.S. is going to fund _ and this is my question _ if
2284 the U.S. is going to fund research and development, can you
2285 talk about what kinds of research and funding can provide the
2286 greatest impacts on energy security like nuclear or more
2287 advanced fossil technologies?

2288 Ms. Bradbury, we will start out with you, or _ unless
2289 you want to _

2290 *Ms. Bradbury. No, I will take a stab.

2291 *Mr. Walberg. Okay.

2292 *Ms. Bradbury. So I think that, first of all, it is
2293 most critical that the Federal Government is not involved in
2294 picking winners and losers among energy sources.

2295 *Mr. Walberg. Right.

2296 *Ms. Bradbury. And so among some of the technologies
2297 that my industry is most focused on, things like carbon
2298 capture and storage, hydrogen, geothermal, there are
2299 significant barriers to sort of the commercial scalability of
2300 these at this point in time, and some technological barriers,
2301 as well. So while industry is doing its part to invest and
2302 to innovate in these areas, I think that looking at a
2303 holistic set of options that include fossil options would be

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2304 the best course of action.

2305 *Mr. Walberg. Okay. Dr. Gattie?

2306 *Dr. Gattie. I can't disagree and won't try to
2307 disagree. There is nothing to disagree on what Ms. Bradbury
2308 said.

2309 I also have a problem with DoE picking winners and
2310 losers here. We try to emphasize nuclear a lot. My concern,
2311 though, is that when DoE takes up as its objective to pursue
2312 low-carbon, zero-carbon, they are essentially focusing on
2313 renewables, it seems right, now.

2314 *Mr. Walberg. Yes.

2315 *Dr. Gattie. I think that is a mistake.

2316 In the nuclear space, however, I think one of the issues
2317 we are dealing with, Congressman, is we are just kind of
2318 scattering money all over, and it is just dropping in small
2319 buckets from here to there. We don't really seem to have a
2320 nuclear policy strategy. That is what I am hoping that the
2321 members of this body actually take up, is something that
2322 reorients our nuclear policy to be more strategic, instead of
2323 seemingly scattered right now. But I really don't want DoE
2324 to pick winners and losers.

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2325 *Mr. Walberg. Well, let me jump to my next question,
2326 beyond my question I should have taken next while you are
2327 talking about that.

2328 We will continue to cede, I believe, our global
2329 leadership on nuclear energy to countries like China and
2330 Russia if we keep going the direction we are going. Can you
2331 update us on the state of advanced nuclear technology in the
2332 international marketplace, and what are the biggest barriers
2333 to exporting these technologies, and how can Congress remove
2334 those barriers?

2335 *Dr. Gattie. So right now, as far as advanced reactors,
2336 I don't _ there really aren't a lot of advanced reactors
2337 being deployed right now. China and Russia are still
2338 building large nuclear reactors. They are exporting those
2339 technologies, and they have got countries _ in particular
2340 Russia right now. We are focusing here in the U.S. on SMRs.
2341 That is where we have shifted our attention. China and
2342 Russia are not shifting their attention there. They are
2343 adding SMRs to their nuclear future and their nuclear
2344 objectives, but they are not abandoning the big nuclear
2345 reactors.

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2346 One of the problems, to your point, Congressman, China
2347 and Russia don't _ they don't account for what the cost is,
2348 necessarily. If you were to ask what is the levelized cost
2349 of electricity for a nuclear reactor in China and Russia,
2350 good luck getting an answer. Here _

2351 *Mr. Walberg. They don't care.

2352 *Dr. Gattie. Sir?

2353 *Mr. Walberg. They don't care.

2354 *Dr. Gattie. It is not in their spreadsheet
2355 calculations. That is not why they are doing it. They are
2356 building up their domestic energy base, but it is a an
2357 instrument, an arm of their state-owned enterprises to meet
2358 CCP objectives. It is not how the U.S. works. We don't want
2359 to work that way.

2360 So we have got a hill to climb. And I think one of the
2361 first hills that we need to climb is find out just exactly
2362 what we need to do to spin up a nuclear industrial base,
2363 because we simply don't know what it is going to take to do
2364 that right now.

2365 *Mr. Walberg. Okay, thank you.

2366 My time is expired. I yield back.

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2367 *Mr. Duncan. The gentleman's time is expired. We are
2368 trying to do that today with the first big nuclear bill we
2369 are marking up.

2370 I will now go to Ms. Kuster for _ who I skipped over a
2371 few minutes ago, and I apologized to her. But Ms. Kuster,
2372 you are recognized for five minutes.

2373 *Ms. Kuster. Well, thank you, Mr. Chairman, Chairman
2374 Duncan and Ranking Member DeGette, for hosting this important
2375 hearing.

2376 Dr. Kaufman, I appreciate you taking the time to come
2377 testify before this committee. Since this is the
2378 subcommittee's globally-focused hearing, I think it is
2379 important to talk about what is arguably the most effective
2380 tool for addressing carbon emissions globally, which would be
2381 a price on carbon.

2382 I am a big believer in a carbon price because it creates
2383 a market incentive to reduce emissions and force those who
2384 emit carbon to bear the cost of polluting. The majority's
2385 memo highlights an important fact, and I think the chair
2386 highlighted this in his opening statement. Life cycle
2387 greenhouse gas emissions from U.S. natural gas are 40 percent

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2388 lower than life cycle greenhouse gas emissions from Russian
2389 natural gas. This is because the U.S. has strong
2390 environmental standards that help the industry perform better
2391 than some of the competitors.

2392 While my vision in the long run is to end our dependence
2393 on fossil fuels, in the short and intermediate terms we know
2394 that the global economy will continue to need carbon-based
2395 forms of energy, so we should mitigate the worst effects of
2396 using fossil fuels through some type of price on pollution.
2397 So to Dr. Kaufman, this is a two-part question.

2398 First, could a carbon price or methane border adjustment
2399 mechanism help reward U.S. companies for minimizing emissions
2400 in their production processes and make U.S. products more
2401 attractive on global markets?

2402 And number two, how could a carbon price support
2403 international collaboration in other hard-to-decarbonize
2404 sectors?

2405 *Dr. Kaufman. Yes, thank you for the question, because
2406 you ask an economist about a carbon price, you will see our
2407 face light up. It is an incredibly valuable policy tool, and
2408 I think anyone who is supportive of the power of markets and

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2409 recognizing of the risks of climate change should be
2410 embracing carbon pricing, right? Because all you are doing
2411 is using the power of markets to figure out, you know, what
2412 are the low-cost opportunities to reduce emissions without
2413 anyone needing to know in advance what they are.

2414 It can also help boost innovation if you have a strong
2415 future price signal, as well as raise a bunch of money for
2416 the government. So it is _ it all makes sense.

2417 I mean, I guess one flag is that, as you know, we have
2418 _ over the last couple of years we have established a whole
2419 bunch of policies, including the Inflation Reduction Act,
2420 that do some of the same things that a carbon price would do
2421 in terms of changing relative prices of dirtier and cleaner
2422 products. So we are not starting from scratch anymore.

2423 But one thing I think I heard you say is, you know, that
2424 the focus on industry, and very sort of hard-to-abate
2425 emissions _ I think this is still a huge opportunity for some
2426 form of carbon pricing, first of all, because those sectors
2427 don't have a price signal currently, you expect industry to
2428 be very responsive to price signals. And just in the realm
2429 of international cooperation, having a carbon price, which

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2430 our allies already do _ Europe has a very high carbon price,
2431 Canada has a carbon price _ it would go a long way towards
2432 helping us cooperate on climate and clean energy with some of
2433 our key allies.

2434 *Ms. Kuster. Great, very helpful. Thank you. This
2435 question is for Ms. Bradbury.

2436 I want to quickly turn to you. I think there is support
2437 for a carbon price from some unexpected places. Is it true
2438 that some of your petroleum-producing members support a
2439 carbon price?

2440 *Ms. Bradbury. I can't speak for individual members. I
2441 do believe some of my member companies have expressed support
2442 for a carbon price.

2443 *Ms. Kuster. And if petroleum-producing companies
2444 support a carbon price, I hope my Republican colleagues who
2445 care about the perspective of the fossil fuel industry will
2446 support Representative Carbajal and Peter's Energy Innovation
2447 and Carbon Dividend Act.

2448 One last question to Dr. Kaufman. In your testimony you
2449 point out that many states in the Gulf, notably UAE, are
2450 beginning to wean their economies of fossil fuel exports. In

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2451 the process they are creating new jobs in new industries.
2452 What lessons could the U.S. learn from the Gulf about ways to
2453 diversify fossil fuel economies into new sectors?

2454 *Dr. Kaufman. Thanks for the question. Yes. I mean,
2455 to be clear, I don't think we should be mimicking the action
2456 of petrostates. But I do think that these are case studies
2457 of, more than anything else, it is just countries that are
2458 trying, right? It is countries that have the resources and
2459 are devoting the resources to economic diversification, and
2460 doing it when the times are still good, right? That is the
2461 _ that is going to be the _ if you wait until you have
2462 distressed communities and you try to prop them up, that is
2463 just going to be fundamentally more difficult.

2464 And I guess the other thing is to really try to focus on
2465 your strengths, right? So I mentioned this earlier with
2466 respect to place-based policies. I think that is what you
2467 are seeing in the Middle East, too. You have, you know, a
2468 place like Dubai that has a certain type of workforce and
2469 regulatory environment that, you know, it has used to sort of
2470 transition to be a hub for international finance. That is
2471 certainly not going to work everywhere, but I think that is

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2472 what you have to do in U.S. oil, gas, coal communities is to
2473 figure out what are the industries of the future that we can
2474 help diversify our economies with.

2475 *Ms. Kuster. Yes. My time is up, thank you.

2476 Thank you. I yield back, Mr. Chair.

2477 *Mr. Duncan. I thank the gentlelady, and I now
2478 recognize Mrs. Lesko from Arizona for five minutes.

2479 *Mrs. Lesko. Thank you, Mr. Chair, and thank you all
2480 for being here today.

2481 Ms. Bradbury, what will the Biden Administration's EPA
2482 new rule on methane emissions _ how will it affect
2483 independent oil and gas companies?

2484 *Ms. Bradbury. Mrs. Lesko, thank you for your response.
2485 As I mentioned in my testimony, the United States oil and gas
2486 companies are leading the way in reducing methane emissions,
2487 and industry has stated that we could support the reasonable
2488 and workable regulation of methane. The final rule was
2489 dropped this weekend, and is 1,600 pages long, and so we are
2490 still trying to get our arms around it.

2491 I will say one of the really important provisions of the
2492 rule would be does it incentivize technology. This is an

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2493 area that we are talking about today. And our initial
2494 indications is that it does fall short in that sense. And so
2495 we certainly hope that the EPA would reconsider some of the
2496 alternative technologies that would be allowed to be used for
2497 compliance to incentivize, not discourage those to ensure
2498 that the innovation that the industry is spearheading that we
2499 have talked about so much today isn't stifled under this
2500 regulation.

2501 *Mrs. Lesko. Thank you. After you review the 1,600
2502 pages that was dropped at, what, 3:00 a.m.?

2503 *Ms. Bradbury. Yes.

2504 *Mrs. Lesko. Could you get back to us and let us know
2505 what your thoughts are, talking points on it? I would
2506 appreciate it.

2507 Also, Ms. Bradbury, in 2019 the Department of Energy
2508 published a report that showed retrofitting a coal plant in
2509 Colorado with carbon capture, utilization, and storage had 37
2510 percent lower CO2 emissions and was much cheaper for
2511 ratepayers than a proposed alternative combination of
2512 renewables and a gas plant without CCUS. Why? Because I
2513 assume every megawatt of renewable power produced must be

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2514 backed up by firm generation, such as natural gas.

2515 The same concept applies to natural gas combined cycle
2516 power plants built with CCUS technology. Biden's own
2517 Department of Energy has estimated this type of generation is
2518 much cheaper than wind and solar.

2519 Ms. Bradbury, do you believe we should be building more
2520 natural gas plants with CCUS that are more reliable than
2521 intermittent sources?

2522 *Ms. Bradbury. I think natural gas is the foundation of
2523 our energy grid. It is the reason that we lead the world in
2524 emissions reductions. Sixty percent of the emissions
2525 reductions that we have achieved have been because of a
2526 switch to natural gas in the power sector, and then it also
2527 provides a foundational source of reliable power to offset
2528 the intermittent sources of renewables.

2529 So I think this is absolutely critical, especially as
2530 our grid continues to be stretched thinner and thinner as
2531 more and more demand is placed on it.

2532 I also think that we need to ensure that the regulations
2533 are on pace with the technology, and don't prescribe overly
2534 prescriptive standards of CCUS that industry is not ready to

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2535 meet, especially at a commercial scale.

2536 *Mrs. Lesko. Yes. It is interesting. I was on a phone
2537 conversation with a group that actually is more liberal
2538 thinking, and they really thought CCUS was the answer, the
2539 best bang for the buck to reduce emissions. And so I thought
2540 it was good that a more liberal-thinking organization
2541 actually agreed on that.

2542 Mr. Gattie, in a LinkedIn post you stated, "China has
2543 made very clear that it has no intentions of divesting from
2544 fossil fuels anytime soon. Nonetheless, U.S. policymakers
2545 continue promoting the narrative that U.S. decarbonization is
2546 an act of leadership. Such naivete favors the CCP's strategy
2547 to marginalize and eventually displace America as the global
2548 superpower.'`

2549 Now, you have spoken about this some in your testimony,
2550 but I want to let you know that I agree with you. And can
2551 you please expand upon what you would like to say about this?

2552 *Dr. Gattie. Thank you for the _ I am glad you are
2553 following my _ I guess that was a LinkedIn post, wasn't it,
2554 Congresswoman?

2555 China is in a position where _ and I am not behind the

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2556 doors of the CCP. But if I were, I would probably encourage
2557 the U.S. to continue divesting from reliable domestic energy
2558 resources. If I were the competitor here _ and this is just
2559 simply part of what H.R. McMaster referred to as
2560 strategically empathizing with your competitors. China would
2561 certainly want us to do that, not just to become more
2562 dependent on them for minerals and metals, but they know that
2563 that is going to put us in a very difficult position to stand
2564 up an industrial base that is very, very strong and can
2565 respond quickly.

2566 So it is _ again, I think we have to think about this in
2567 terms of our industrial base, not just an energy transition,
2568 but what is it going to do to our industrial base relative to
2569 China and other competitors.

2570 *Mrs. Lesko. I yield back.

2571 *Mr. Duncan. The gentlelady's time has expired. I will
2572 now go to Mr. Cardenas for five minutes.

2573 *Mr. Cardenas. Thank you very much, Chairman Duncan and
2574 Ranking Member DeGette, for holding this important hearing,
2575 and thank you to all the witnesses for sharing your opinions
2576 and your knowledge with us today.

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2577 Every day the harms of climate change become clearer.
2578 Extreme and unprecedented weather conditions accelerated by
2579 global greenhouse gas emissions are making it harder to
2580 protect our ecosystems, maintain a sustainable economy, and
2581 ensure the safety of infrastructure of homes and _ our homes
2582 and preserve the health of families across America and across
2583 the world.

2584 The good news is that at every level of government, from
2585 local to Federal to global, we can transition to cleaner _ a
2586 cleaner economy. I have seen it many times with my own eyes.
2587 If we set proper and aggressive incentives, we can clean up
2588 our act and also guide _ being guided by the technology
2589 changes that continue to pleasantly surprise us.

2590 For instance, in 2004 I worked to ensure that the Los
2591 Angeles Department of Water and Power, the largest municipal
2592 water and power utility in the nation, that they should
2593 generate at least 20 percent of its electricity from
2594 renewable energy sources by 2017. They met that goal.

2595 And in addition to that, they went on to a more
2596 aggressive goal to set it to 35 percent by 2020. And they
2597 met that goal, as well, even though there were many people

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2598 saying that it couldn't work, it wouldn't work, and all the
2599 while looking at the ratepayers, as well, the lowest common
2600 denominator when it comes to the people who pay for their
2601 electricity and power and water from that municipality.

2602 And just last Congress, Democrats worked together to
2603 pass the Infrastructure Investment and Jobs Act and the
2604 Inflation Reduction Act, which are already advancing clean,
2605 home-grown energy, cutting costs for families, and creating
2606 new jobs across America.

2607 Dr. Kaufman, recognizing that action must be taken
2608 across all levels of government, could you please discuss how
2609 to better connect high-level Federal policies and
2610 international commitments to local governments and
2611 communities?

2612 *Dr. Kaufman. Sure, thanks for the question. I think
2613 it is a very important one, and I think you are right to flag
2614 that _ I mean, the step one is probably buy-in from local
2615 communities and subnational governments. And I think we have
2616 seen more and more of that.

2617 And the more sort of cohesive of a policy you have, the
2618 more cost effective and equitable it is going to be because I

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2619 think in many areas we need bottom-up strategies that the
2620 communities are going to lead on. But when it comes to
2621 national priorities like energy security or national security
2622 or international priorities like climate change, you
2623 inevitably need sort of a top-down, Federal Government
2624 action, as well.

2625 *Mr. Cardenas. Thank you. The IIJA and the IRA
2626 included historic emissions-slashing investments like the
2627 Greenhouse Gas Reduction Fund and the Methane Emission
2628 Reduction Program. Can you discuss how the investments made
2629 in these laws will help the United States meet our global
2630 climate commitments?

2631 And what are the next steps for the U.S. to take to
2632 build on our recent work and continue our legacy of
2633 leadership across the globe?

2634 *Dr. Kaufman. Sure, thanks. I mean, the _ I think the
2635 high-level way to look at it is that, before these laws were
2636 passed, it just wasn't clear that the United States was on
2637 track to reduce our emissions maybe at all this decade, and
2638 certainly not anywhere near in line with the international
2639 commitments that we have made.

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2640 So to me, that is the _ that is the most important
2641 thing, is that we have turned that around. And now we are
2642 implementing laws that are pushing down emissions. And it
2643 does seem like, from what I have heard today, basically
2644 everyone in the room is sort of acknowledging the importance
2645 of climate change, but I think it is important to sort of
2646 also acknowledge what that means, right?

2647 If we are serious about not just a 1.5 or a 2-degree
2648 target, if we are serious about any climate targets it means
2649 eventually we have got to get to net zero emissions, right?
2650 That is what the scientists tell us. Otherwise, warming will
2651 just continue.

2652 So I think what we need to do is figure out where we are
2653 today and, you know, when we want to get to net zero
2654 emissions. And that is going to take some transformational
2655 changes, right? I think there has been a lot of discussion
2656 of more sort of incremental approaches. And reduced
2657 emissions are always good. But I think one thing you are
2658 flagging is the need that these policies have followed
2659 through on, which is to, you know, focus on not just
2660 incremental changes, but incremental changes that take us on

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2661 a successful pathway to net zero.

2662 *Mr. Cardenas. Is incremental change realistic?

2663 *Dr. Kaufman. It _

2664 *Mr. Cardenas. Or the converse of that is being able to
2665 change overnight. Is that really possible? The answer is
2666 no. We can't change overnight, so it has to be incremental
2667 change.

2668 I have seen that my time has expired, Mr. Chairman, I
2669 yield back.

2670 *Mr. Duncan. The gentleman yields back. The chair will
2671 now go to Mr. Pence for five minutes.

2672 *Mr. Pence. Thank you, Chairman Duncan and Ranking
2673 Member DeGette, and thank you to the witnesses for being here
2674 today.

2675 It has become abundantly clear that this Administration
2676 has grossly mismanaged our nation's transportation industry.
2677 Amidst lucrative incentives and anti-ICE vehicle regulations,
2678 EVs continue to pile up on dealer lots across the country, as
2679 I have personally witnessed. And today there was a Politico
2680 article talking about the fact that the charging stations
2681 aren't being rolled out. I hold hearings back in Indiana and

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2682 I talk to the state, all the people that are participating in
2683 the rollout of the electrification of the transportation
2684 industry. And the impediments are huge. Demand isn't there
2685 to warrant the investment, even though they have the money.

2686 For three years now I have voiced my concerns on this
2687 committee that the Biden Administration can't create demand
2688 by forcing supply. Incremental issue. In the
2689 Administration's latest gambit to bail out the EV value
2690 chain, EPA is pushing or considering their eRINs proposal to
2691 bring electric vehicles into the Renewable Fuel Standard, and
2692 we call that a carbon tax on its way.

2693 Instead of generating RINs at the point of blending,
2694 this proposal creates a convoluted process to award credits
2695 to the car manufacturers and other third-party participants
2696 unspecified at this point. I fear buying obligations for
2697 eRINs will fall on existing liquid fuel refineries who could
2698 be forced to buy even more credits than they have to buy now.

2699 The proposal could send ripples across the liquid fuel
2700 industry, driving up costs from the point of production down
2701 to the gas station manufacturers, households, and maybe even
2702 more. Unfortunately, this could drive refiners and producers

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2703 out of business, forcing higher imports of liquid fuels, as
2704 we have seen some refiners sold their refineries here and
2705 moved offshore.

2706 Heavy duty on-road has great potential for hydrogen and
2707 ethanol-based engines, improving the environment where cities
2708 and densely populated areas could benefit from specifically
2709 electrification. Innovators across the country are leading
2710 the way to develop new solutions. Take Cummins Engine
2711 Company from my hometown of Columbus, Indiana, a world leader
2712 in hydrogen and alternative fuel development.

2713 Ms. Bradbury, specifically on the eRINs, I am concerned
2714 the end result of EPA's eRIN proposal could send ripples
2715 upstream, impacting the entire liquid fuels industry. What
2716 would be the impact on the industries you represent if
2717 compliance obligations for eRINs drives up costs for refiners
2718 and producers, and how would it drive up costs for them?

2719 *Ms. Bradbury. Yes, thank you, Mr. Pence, for that
2720 question.

2721 I will say, as a starting point, our industry _ or,
2722 excuse me, my association _ has not to date taken a position
2723 on Renewable Fuel Standard. That being said, we support the

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2724 CARS Act, which is on the floor today, and have taken the
2725 position that, as we know, there is there is not a one-size-
2726 fits all approach, there is not a silver bullet approach to
2727 addressing climate and to reducing emissions, and that these
2728 solutions need to be looked at holistically through the lens
2729 of what will it do not just in terms of emissions, but how
2730 will it impact our economic security, especially cost to
2731 consumers, as well as our energy security in terms of raw
2732 materials and where these products come from and are made.

2733 So with that, we would be happy to look into it further.

2734 But I _

2735 *Mr. Pence. Sure, I understand that you can't kind of _
2736 you got two levels of refiners that you are representing, and
2737 they come at it a little differently, and may be impacted a
2738 little differently. But if eRINs were required on top of
2739 RINs, what would be the impact on smaller refiners of which
2740 there are many in the United States?

2741 *Ms. Bradbury. I only represent upstream producers, not
2742 downstream refiners.

2743 *Mr. Pence. Okay.

2744 *Ms. Bradbury. So, you know, we could look into what

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2745 the impact would be on the production side or the supply
2746 side, but I can't speak to the refining side.

2747 *Mr. Pence. So if that shut down small refiners, say,
2748 in Wyoming, Utah, or wherever, that would have a huge impact.

2749 *Ms. Bradbury. I would have to defer to my colleagues
2750 in the refining industry.

2751 *Mr. Pence. Okay, all right. Okay, with that, Mr.
2752 Chairman, I yield back.

2753 *Mr. Duncan. The gentleman yields back. I will now go
2754 to Mrs. Fletcher from Texas for five minutes.

2755 *Mrs. Fletcher. Thank you so much, Mr. Chairman, and
2756 thank you to our witnesses for your insights today. I think
2757 this has been a really useful hearing, and I want to touch on
2758 a few of the things that _ and the themes that we have
2759 already talked about today.

2760 But first I think it is important to start by observing
2761 that the United States is the global leader in energy
2762 production and in environmental protection, and we can keep
2763 it that way, right, through innovation, collaboration, and
2764 smart regulation.

2765 So just looking to the last Congress, we have heard a

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2766 lot already today about the Inflation Reduction Act, the
2767 Infrastructure Investment and Jobs Act. And through those we
2768 have shown that we don't have to choose, right, between
2769 leading the world in energy production and protecting the
2770 environment. We can do both. We have to do both.

2771 And what we have seen is that this fall the United
2772 States set another record for domestic energy production,
2773 reaching 13.24 million barrels a day in September. At the
2774 same time, we established a new program that we have talked
2775 about a little today and that I want to focus on, which is a
2776 new program to limit our methane emissions, making American
2777 exports more competitive in the world market.

2778 And I do want to acknowledge the comments from Mr.
2779 Peters about how much of that was driven by industry prior to
2780 this regulation. I think it is important to understand that
2781 we are driving this innovation here, and we have added to
2782 that creating billions in subsidies, creating a flood of
2783 energy investment with innovative companies including many in
2784 my district in Houston leading the way.

2785 As these programs roll out, it is really important to
2786 ensure that they are administered in a way that incentivizes

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2787 competition and maintains our edge in protecting the
2788 environment and driving energy abundance. And so I really
2789 want to direct my questions to Ms. Bradbury about some of
2790 these regulations on the methane emissions reduction program,
2791 because I think it is important, with the time that I have to
2792 talk about these provisions contained in the IRA directed the
2793 EPA to update subpart W of the Greenhouse Gas Reporting
2794 Program, and there is still some uncertainty, despite the
2795 1,600 pages of regulations that have come out. There is
2796 still some uncertainty around those regulations, those
2797 updates. And it is my understanding that EPA is currently
2798 working on developing the updates.

2799 So right now, subpart W requires companies to report
2800 estimated annual emissions using prescribed methodologies
2801 from scientific studies and collective research. It is one
2802 of the issues we talked about when we were crafting the
2803 program here, that assessing these fees by a formula has its
2804 own set of challenges and affects the incentives. And so,
2805 Ms. Bradbury, I want to ask you, in the time that we have, I
2806 am just going to throw out my question so you can address
2807 them. And if we run out of time, if you want to submit them

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2808 for the record, that is great.

2809 But one, can you tell us about the investments and
2810 commitments that your member companies are making to reduce
2811 emissions?

2812 Two, would the inclusion of the ability to include
2813 empirical data measuring their own reductions in subpart W
2814 incentivize reduced emissions, as opposed to the formula?

2815 And then third, can you just touch on, in your opinion,
2816 what are the most important factors that EPA should consider
2817 when updating subpart W to incentivize oil and natural gas
2818 companies to reduce their methane emissions?

2819 *Ms. Bradbury. Congresswoman Fletcher, thank you so
2820 much for this question on this really critical and not widely
2821 understood issue.

2822 So subpart W is how oil and gas industry reports its
2823 emissions to the world. It is how America shows its
2824 progress. It is based on a rigorous set of emission
2825 standards, and it is the best in the world.

2826 That being said, it should constantly be updated to
2827 ensure it is as accurate as possible, and EPA recently issued
2828 a proposed rule to update subpart W, which we believe goes in

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2829 the wrong direction. We believe it would actually result in
2830 inflated emissions estimates and double counting of emissions
2831 that would not only show increased emissions, not because
2832 emissions are be going up, but because the underlying factors
2833 in the math has changed.

2834 This is also really important because this is the basis
2835 for the methane tax. So companies are assessed based on this
2836 number. Congress directed and industry asked that EPA
2837 include the use of empirical data in terms of how we report
2838 emissions, because as we have talked about extensively today,
2839 this technology, this innovation is getting better and
2840 better, and we want to be able to show our work.

2841 And unfortunately, EPA, again, went in the wrong
2842 direction and seems to be making it more difficult for
2843 companies to use that empirical data, again, both to show
2844 their progress to the world, but also, again, to _ on which
2845 the methane tax will be assessed. As a result, under the
2846 proposed rule, the scope and amount of funds that _ of the
2847 tax that companies will have to pay has jumped dramatically
2848 from where Congress originally passed the methane tax, which
2849 you and I didn't necessarily agree on, but I think it has now

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2850 sort of escalated our concerns because now exponentially more
2851 companies will be caught in the methane tax, and they will
2852 pay exponentially more if EPA's subpart W is finalized as
2853 proposed.

2854 *Mrs. Fletcher. And I am going to go over my time. But
2855 to the extent you could supplement your response in writing
2856 with any other factors we should consider, I would appreciate
2857 it. I know our chairman would appreciate it.

2858 I appreciate you yielding to me, and I yield back.
2859 Thank you.

2860 *Mr. Duncan. I thank the gentlelady. I now go to Mr.
2861 Weber for five minutes.

2862 *Mr. Weber. Thank you, Chairman. I am going to do
2863 something probably out of the ordinary, which doesn't
2864 surprise many of you, I am sure.

2865 I remember Dr. Kaufman, his comments, saying he thought
2866 that Congress is doing this as a risk management strategy, in
2867 his opinion, end quote.

2868 I remember what President Reagan said. He said the
2869 scariest words are, "I am from the government, I am here to
2870 help.'" So please don't help us is what we are saying. Let

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2871 industry do the innovation.

2872 And I am going to say, as Dr. Bradbury pointed out _ she
2873 said she didn't have a doctorate, but if you have kids you
2874 know you are a doctor, nursemaid, coach, best friend, and you
2875 know how that works, right? You pointed out let the industry
2876 do the innovation. By the way, there are few situations
2877 where anyone as capable as moms is doing those innovations,
2878 just so you all know.

2879 In Ms. Bradbury's exchange with Congressman Johnson they
2880 talked about Russians' "propagandizing" ` against our energy
2881 sector.

2882 In 2017, then-Science Committee Chair Lamar Smith and I
2883 sent a letter to Steve Mnuchin, Secretary of the U.S.
2884 Treasury. We found out that some Russian oligarchs were
2885 sending money to a shell corporation in Bermuda that were
2886 then funneling that money to Greenpeace, Sierra Club, and
2887 some of the others. We thought that they violated two
2888 foreign laws, foreign agent _ I mean two U.S. laws, Foreign
2889 Agent Registration Act, FARA, and also money laundering. For
2890 whatever reason, Secretary Mnuchin decided not to do anything
2891 about that.

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2892 Then you had a conversation with Gary Palmer, where he
2893 said no nation should rely on another adversarial country for
2894 its energy. And Dr. Gattie, you pointed that out in some of
2895 your discussion. And I actually have a copy of something
2896 that was sent to me. And you make the point that the last
2897 time we added 3 billion people to cities was 1950 to 2010.
2898 Oil demand grew from 10 million barrels a day to 88 million
2899 barrels a day. Natural gas use rose from 8 cubic feet to 113
2900 trillion cubic feet. Coal demand increased from 2 billion to
2901 7.1 billion tons. Steel consumption increased from 200 to
2902 1,400 million tons. And then you asked the question: Who
2903 will supply this oil, gas, coal, and steel? This time there
2904 will be also a massive expansion in batteries and critical
2905 minerals, all of which are dominated by, you got it, the
2906 Chinese.

2907 Even though you said you weren't behind the doors for
2908 the Communist Chinese, and that is a good thing, you
2909 certainly have your finger _ you have a peg.

2910 Then you go on to say that U.S. must include in its
2911 energy and climate policy calculus that our authoritarian
2912 great power competitors will exploit for their own

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2913 geopolitical advantage what many in the world are calling a
2914 crisis, an existential threat to humanity, that being climate
2915 change.

2916 So my question is for you all. In light of our warning
2917 to Steve Mnuchin in 2017, and now Dr. Gattie's warning, my
2918 question to each of you is _ and I will start with you, Dr.
2919 Schweitzer down there _ don't you think we ought to take that
2920 into account, what Dr. Gattie has recently warned us about
2921 China?

2922 *Dr. Schweitzer. Absolutely. I think several of us
2923 have shared our concerns about energy security and the _ of
2924 the United States. And it is essential that we maintain and
2925 enhance prior to deregulation, which is really reregulation,
2926 electric power utilities maintain something on the order of a
2927 20 percent margin in transmission and generation resources.
2928 That margin is gone. You need look no further than to see
2929 what has happened _ nearly happened last Christmas in New
2930 York or in Texas or in California.

2931 We must restore that margin or the lights could go off
2932 at the most painful _

2933 *Mr. Weber. Well, thank you for that. Let me move on

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2934 to Dr. Bradbury.

2935 What do you say, Dr. Anne?

2936 [Laughter.]

2937 *Ms. Bradbury. Thank you for the promotion. I _ you
2938 know, I think _ you know, it is _ you know, we clearly feel
2939 that energy security, national security are inextricably
2940 linked, and I think you need to look no further than, you
2941 know, Russians' propaganda agenda against U.S. oil and
2942 natural gas to be evidence of that.

2943 *Mr. Weber. Absolutely. Dr. Kaufman, what say you?

2944 *Dr. Kaufman. Energy security is important. I agree.
2945 Diversification of supply chains is important. I agree with
2946 that, too.

2947 I guess I will just add that cooperation where, we can
2948 do so in a way that benefits Americans, is also important.

2949 *Mr. Weber. Yes.

2950 *Dr. Kaufman. And if we try to cut, you know, trading
2951 partners like China out of our supply chains, you know,
2952 American consumers are going to pay a lot more for their
2953 products than _

2954 *Mr. Weber. Dr. Gattie, what say you?

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2955 *Dr. Gattie. I agree, China is our primary national
2956 security threat.

2957 *Mr. Weber. All right. Well, I am going to yield back.
2958 Thank you, Mr. Chairman.

2959 *Mr. Duncan. The gentleman yields back. I now
2960 recognize Dr. Schrier for her five minutes of questioning.

2961 *Ms. Schrier. Thank you, Mr. Chairman, and thank you to
2962 all of our witnesses here today.

2963 In my home state of Washington, we have adopted an
2964 ambitious climate goal to completely eliminate carbon
2965 emissions from our energy generation portfolio by 2045, which
2966 means we need to utilize many new emission-free sources like
2967 advanced nuclear, wind, solar, in addition to the abundant
2968 hydropower that we already are fortunate to have.

2969 As you pointed out in your testimony, Dr. Kaufman, we
2970 have made tremendous progress by investing in key steps to
2971 transition to clean energy. The CHIPS and Science Act has
2972 invested in novel technologies in the R&D phase, while the
2973 Bipartisan Infrastructure Law accelerates the
2974 commercialization of those energy innovations. And then the
2975 Inflation Reduction Act focuses on incentivizing early

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2976 adoption of these technologies, helping to lower energy bills
2977 for consumers and spurring demand signals for the private
2978 sector.

2979 And this funding, happily, is making its way to
2980 Washington State and Washington's 8th district. Roughly \$1
2981 billion is coming to the Pacific Northwest to spur a regional
2982 hydrogen hub. And I was so excited to lead in this effort to
2983 bring this funding, because we will produce the greenest
2984 hydrogen in the nation through our wealth of hydropower.

2985 Dr. Kaufman, looking forward, there is still a laundry
2986 list of challenges brought on by the climate crisis that we
2987 need to solve domestically and globally, including those
2988 connecting clean energy projects to the grid through
2989 transmission. As you have pointed out in your testimony,
2990 commitments and diplomatic relationships that we make as a
2991 global leader go hand in hand with our efforts here at home.

2992 Now, my colleagues, Representative Castor and Kuster,
2993 have asked a little bit about instituting a carbon border
2994 adjustment and a domestic carbon pricing system. And I know
2995 that the EU and many other countries have implemented carbon
2996 pricing around the globe. And I was wondering if you could

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2997 speak to some of the lessons learned in those countries and
2998 maybe some implementation considerations for a similar
2999 program in the United States.

3000 *Dr. Kaufman. Sure, thanks for the question. I mean,
3001 first lesson: incentives work, right? I mean, what we have
3002 seen in places like Europe is that, as carbon prices have
3003 risen over the last decade, there has been a massive shift
3004 away from, in particular, coal-fired electricity, and that is
3005 sort of a constant theme that you see in carbon pricing
3006 policies around the world. So you institute a carbon price,
3007 emissions will fall, the government will get a bunch of
3008 revenue that, hopefully, they can use in productive ways.

3009 I think the second big lesson has been it has got to be
3010 designed carefully. And, you know, you can think of that in
3011 a couple of ways. Number one, you know, you don't just want
3012 to raise energy prices for people, especially vulnerable
3013 people, without being careful about sort of mitigating the
3014 impacts on those who can't afford it, right? So I think,
3015 more and more, I haven't seen a carbon pricing policy
3016 proposal in 5 or 10 years that doesn't have an element of
3017 let's make sure this is a progressive policy, where we are

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3018 using the revenues in a way that benefit lower-income
3019 households and sort of the communities across the
3020 jurisdiction that are sort of heavily dependent on carbon-
3021 intensive industries.

3022 So _ and then maybe one other thing I will flag, because
3023 you mentioned border adjustments, is you do have to be
3024 careful when we are talking about putting a price on
3025 internationally-traded products, that you are doing it either
3026 in collaboration with other countries or you are careful that
3027 you are not sort of shifting carbon-intensive industries from
3028 your countries to other countries instead. And that is why I
3029 think, you know, a key priority for this Congress could be to
3030 develop policies for these types of products,
3031 internationally-traded products like steel, where you could
3032 have a price, but you do it in collaboration with other
3033 countries that are rowing in the same direction.

3034 *Ms. Schrier. Thank you. Specifically, since you were
3035 talking about carbon pricing and doing it in a progressive
3036 way, there is some bipartisan support for a fee-and-dividend-
3037 type arrangement, where the fee doesn't go to the government,
3038 instead it goes right back to consumers such that the little

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3039 guy actually benefits the most. And that turns it into a
3040 progressive policy that still pushes for clean energy.

3041 Do you have any _ 20 seconds left _ any comments about
3042 that?

3043 *Dr. Kaufman. If you did that, if you took in _ if you
3044 charged a carbon price, and you took all the money and
3045 divided it up equally, you would end up with a hugely
3046 progressive policy because who are the people who spend the
3047 most on carbon-intensive products? It is the rich people, so
3048 they would be paying more of the carbon price, and the lower
3049 middle-income folks would be receiving more in the dividends.

3050 I mean, I think you would want to design it carefully
3051 because now we have a climate strategy to work on top of, but
3052 I think the philosophy makes a lot of sense.

3053 *Ms. Schrier. Thank you.

3054 I yield back.

3055 *Mr. Duncan. The gentlelady's time has expired, and I
3056 will now go to Ohio's Mr. Balderson for five minutes.

3057 *Mr. Balderson. Thank you, Mr. Chairman, and thank you
3058 all for being here today. My first question is for Ms.
3059 Bradbury.

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3060 You are not a doctor, right? He was just saying that
3061 because _

3062 *Ms. Bradbury. I am not a doctor.

3063 *Mr. Balderson. Thank you. Okay. We have discussed
3064 the many environmental benefits from the switch to clean
3065 American natural gas. As a result of the shale revolution,
3066 America is the global leader in exporting LNG and emissions
3067 reductions.

3068 Beyond strengthening our national security and the
3069 corresponding environment benefits, the shale revolution has
3070 been a game-changer for local communities in areas like
3071 southeastern Ohio, where Congressman Johnson and myself
3072 serve.

3073 In the last few _ in just a few weeks, the Muskingum
3074 watershed, under the direction of my dear friend, Mr. Craig
3075 Butler, which covers most of the congressional district,
3076 released a report showing revenues from Utica shale leases
3077 have bolstered the region's economy by nearly \$1 billion.
3078 These leases have allowed the district to invest in upgraded
3079 recreation and camping facilities, new conservation programs,
3080 efforts to improve water quality, and have supported

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3081 thousands of new jobs.

3082 Ms. Bradbury, I referred to this report during an
3083 environmental subcommittee hearing last week, but I would
3084 like to get your thoughts, as well. Can you discuss the
3085 efforts that AXPC's members have taken to be responsible
3086 stewards of the environment, and investments they have made
3087 in local communities where they operate?

3088 *Ms. Bradbury. Mr. Balderson, thank you for the
3089 question. And, you know, it is _ I don't think people think
3090 of Ohio first and foremost when they think of natural gas and
3091 oil powerhouses, but it is one of our leading producers of
3092 both oil and natural gas. So there is a lot to be proud of
3093 there.

3094 *Mr. Balderson. Thank you.

3095 *Ms. Bradbury. I will also say our companies and I
3096 represent most of the leading producers in Ohio, are
3097 incredibly proud of the role they play in communities across
3098 Ohio.

3099 You mentioned the billion dollars in contributions that
3100 they make to the economy. I will say, you know, when we talk
3101 about _ you know, we talk a lot about permit reform. But

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3102 first and foremost, our companies take our social license to
3103 operate very seriously. They invest millions of dollars in
3104 the communities in which they operate. So there is the state
3105 taxes, the local taxes, you know, community fees and hundreds
3106 of millions of dollars paid to the royalty owners.

3107 And on top of that, there is millions of dollars in
3108 philanthropy and volunteer work to support local
3109 organizations. And especially in the Appalachia area, a
3110 region that was really getting left behind in a lot of ways
3111 economically, the oil and natural gas industry has turned
3112 around many of those communities and supported a lot of
3113 existing industries that were losing jobs and going under.

3114 And so I think it has really been the lifeblood for many
3115 communities across this country, Ohio being one of them.

3116 *Mr. Balderson. I couldn't agree with you more. And I
3117 was there in 2010 when the boom started. So _ as chairman of
3118 the committee. So thank you for your answer, Ms. Bradbury.

3119 My next question is for Ms. Bradbury, and Dr. Gattie.
3120 But, Doctor, I am going to let you go first and _ Ms.
3121 Bradbury went already.

3122 European natural gas prices are still double their long-

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3123 term average and more than quadruple prices in the United
3124 States. During a hearing last week, my colleague, Mr.
3125 Palmer, made a great point that the war in Ukraine didn't
3126 necessarily create Europe's energy crisis, but it did expose
3127 these problems. I don't think Europe became reliant on
3128 Russia to meet its energy needs overnight. Can you discuss
3129 how Europe got in this position in the first place?

3130 Doctor, first, and then Ms. Bradbury?

3131 *Dr. Gattie. This actually probably goes back even, you
3132 know, as far as just looking back at the record, there were
3133 _ you know, back in the days of Ronald Reagan they were _
3134 Europe was looking at trying to get gas from Russia, and we
3135 were trying to discourage that, even back in the 1980s. It
3136 was a decision that they made because they assumed that we
3137 were in a new world, and everybody was going to get along,
3138 and everybody was going to play fair, and they overplayed
3139 their hand.

3140 So they got in that position because they assumed that
3141 they were going to be able to depend on a regional partner.
3142 And fortunately, to that end, we were in reserve for them.
3143 We actually had the resources to come back them up when they

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3144 realized they had overplayed their hand. But they just made
3145 a policy mistake. It was a top-down policy mistake that they
3146 made.

3147 *Mr. Balderson. Thank you.

3148 Ms. Bradbury?

3149 *Ms. Bradbury. I would echo that and just add that
3150 Europe failed to invest in their own energy resources, and
3151 made themselves dependent on foreign nations. And when you
3152 choose _ make policy choices not to deploy your own
3153 resources, you are left to the whims of others. And that is
3154 what we have seen in Europe.

3155 *Mr. Balderson. Okay, thank you. I will follow up with
3156 Dr. Gattie.

3157 You know what? I will submit this one, because we are
3158 going to run out of time and I want to be respectful of the
3159 chairman of the committee.

3160 [The information follows:]

3161

3162 *****COMMITTEE INSERT*****

3163

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3164 *Mr. Balderson. Mr. Chairman, I yield back. Thank you.

3165 *Mr. Duncan. The gentleman yields back. Mr. Pfluger,
3166 you are recognized for five minutes.

3167 *Mr. Pfluger. Thank you, Mr. Chairman, a great hearing
3168 to acknowledge the role that energy plays in our national
3169 security. And I think Dr. Kaufman said just a minute ago
3170 that we want to _ we don't want to shift CO2-intensive
3171 industries to other countries, and that is exactly what is
3172 going to happen if we continue along with the methane
3173 emissions reduction program that is being, in a very ill-
3174 conceived, rushed manner, forced upon many small producers.
3175 And I appreciate all of you being here.

3176 When I look at the Quad B and Quad C rules that were
3177 just released, every operator, no matter their size, will
3178 have to test and inspect. I mean, these are, you know, very
3179 dangerous. And the way that I look at it, representing the
3180 Permian Basin, that it is punitive, that this is a
3181 weaponization. And most producers that I have talked to were
3182 never consulted, and the trade groups and organizations that
3183 represent them _ and I will be interested to hear about that
3184 in a second _ were not consulted.

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3185 But I do look at this as a weaponization from the EPA.
3186 We are very _ we were looking at not only West Virginia
3187 versus EPA, but the Chevron deference case, the expansion of
3188 the administrative state that has, you know, I think, gotten
3189 to a point where we have an inappropriate and highly
3190 unworkable tax on producers. And when you look at the
3191 subpart W expansion and the overhaul that the EPA has done,
3192 it will, in my opinion, make it very difficult to produce.

3193 So I will start with Ms. Bradbury. There is a lot of
3194 good actors who voluntarily report, who have reduced methane
3195 emissions. We have talked about them in hearings. How will
3196 the natural gas tax impact these good actors?

3197 *Ms. Bradbury. Thank you, Congressman, for your
3198 question, and thank you for your energy leadership, as well.

3199 So we believe that the methane tax is not the best
3200 approach to reducing emissions. It is duplicative,
3201 inefficient, and it punishes American producers.

3202 On top of that, there are a number of ongoing and
3203 overlapping methane-related regulations coming out of the EPA
3204 that all seem to be compounding. Because on top of the
3205 methane tax, which we still have not seen guidance for,

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3206 despite the fact that it is set to take effect in less than
3207 30 days, they have revised the underlying math by which the
3208 methane tax is calculated.

3209 And so while, as I understand it, the intent of the
3210 methane tax was only to punish those out of compliance with
3211 new Quad-0 or sort of bad actors, now the overwhelming
3212 majority of producers will be subject to the methane tax.
3213 Just speaking anecdotally from my own member companies,
3214 probably less than a third of member companies would have
3215 been impacted by the methane tax under its original
3216 iteration. Under the new proposed subpart W, at least 75
3217 percent will be impacted, and the fees will go up by an order
3218 of magnitude three, three-and-a-half times of what they
3219 originally estimated.

3220 *Mr. Pfluger. And what is the net impact on those 75
3221 percent of the companies that you represent who also, by the
3222 way, account for over 50 percent of the nation's production?
3223 So what is the effect on the American population, on our
3224 economy?

3225 *Ms. Bradbury. It is going to be significant. It is
3226 hard to say, given all of the changing factors. Again, we

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3227 don't _ we are not entirely sure how to calculate the methane
3228 tax, given we haven't seen the regulations out of EPA. So
3229 that is an open question. Where subpart W lands is an open
3230 question. But the fees seem to be escalating with every
3231 policy that we see. And we have no certainty in terms of how
3232 they will be calculated.

3233 Ultimately, a tax on producers will be a tax on the
3234 American people, and, you know, whether it is hundreds of
3235 millions of dollars or tens of millions of dollars, this will
3236 be a cost to the American people, ultimately.

3237 *Mr. Pfluger. And as you may or may not be aware, for
3238 the witnesses, I am _ I have a Natural Gas Tax Repeal Act.
3239 And I think that the voluntary program, what producers have
3240 done _ and by the way, this country, at 13-plus million
3241 barrels a day, has also in that same time period that we have
3242 increased, almost doubled in the last 15 years that
3243 production, we have also decreased methane emissions.

3244 I am very, very concerned about the overall
3245 weaponization. And I think my _ the question, Ms. Bradbury,
3246 is how many of your companies were consulted and discussed
3247 this issue?

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3248 Because what we keep hearing is this narrative of
3249 polluters over people. Well, we have reduced emissions while
3250 we have almost doubled production, and people are benefiting
3251 from that quality of life increase with all the benefits that
3252 are associated. The narrative is that they were consulted.
3253 I mean, is this _ can you tell us if they were consulted, or
3254 how this went down in the last year-and-a-half?

3255 *Ms. Bradbury. So again, there are overlapping
3256 rulemakings, and so it is hard to speak on behalf of all of
3257 them sort of, you know, as one size fits all.

3258 I will say that there were some constructive
3259 conversations with the EPA on the Quad O rule, of which we
3260 are very appreciative. Others we were not consulted on.

3261 I will note that the White House's methane summit, where
3262 they brought in to talk _ you know, where they brought in
3263 businesses to talk about methane innovations, there was not a
3264 single producer represented in that group. So consultations
3265 have been limited, at best.

3266 *Mr. Pfluger. Thank you for your testimony and to all
3267 the witnesses today.

3268 Chairman, I yield back.

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3269 *Mr. Duncan. Great questions, and we will go to the
3270 last, but not the least, unless another member comes in.
3271 Mr. Griffith from Virginia for five minutes.

3272 *Mr. Griffith. Thank you very much, Mr. Chairman. I
3273 greatly appreciate it.

3274 Dr. Schweitzer, I am going to ask you some questions,
3275 but a lot of the witnesses might be able to _ including Ms.
3276 Bradbury, really ought to be paying attention, because I got
3277 some ideas.

3278 I am a big believer in all of the above. I am also a
3279 big believer in technology. And one of my big concerns has
3280 been _ is that we are putting so many of our eggs into one
3281 basket _ there is a few eggs in the fossil fuel basket _ but
3282 I have been advocating that we have parity between research
3283 dollars for fossil fuel and renewables because we need both
3284 of them. Would you agree with that?

3285 *Dr. Schweitzer. Inasmuch as we would agree that the
3286 best way to subsidize all of the above is to subsidize
3287 nothing, leave it up to a free economy where investors,
3288 shareholders are free to invest _

3289 *Mr. Griffith. And I can appreciate that, but in

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3290 reality the government is going to have to fund some of the
3291 research. Then we can let the private players go and do what
3292 they need to do.

3293 But you are right, private players will play a part in
3294 this, and that is why I brought this up, because I heard one
3295 of my colleagues say we are going to put a carbon tax and,
3296 you know, she was hoping we would _ some of us on this side
3297 of the aisle would agree, and I immediately went, "No, put a
3298 carbon tax on the producers.'`

3299 The problem is, as Ms. Bradbury pointed out, if you put
3300 a tax _ and you would agree with this, wouldn't you, Dr.
3301 Schweitzer? If you put a tax on the producers, they are just
3302 going to pass that tax onto the end user, which is our
3303 manufacturers and our citizens. Isn't that true?

3304 *Dr. Schweitzer. Precisely. It hurts everybody. I am
3305 very concerned about how our country seems to be moving from
3306 a free economy to a command economy _

3307 *Mr. Griffith. Yes.

3308 *Dr. Schweitzer. _ a command economy with one command
3309 after another coming out on this kind of a tax, this kind of
3310 a subsidy, this kind of a mandate, and that we seem to be

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3311 losing faith in our economic and political freedom that
3312 created this great country.

3313 *Mr. Griffith. And you make a good point. And the
3314 reason I get excited about this is that I come from coal-
3315 producing Appalachia. We also have natural gas. We don't
3316 have as much as Marcellus and Utica _ or we have as much, but
3317 it is harder to get to, it is deeper _ but one of our big
3318 sources that has been flushed away for years is methane in
3319 the mines.

3320 And now we have a company that has figured out a way to
3321 get the methane out of the mine straight from the air. They
3322 have got the technology, they have got a whole division
3323 working on it that has done it, and they are doing it in
3324 Buckhannon No. 1, which is a metallurgical coal mine in my
3325 district that has a footprint _ so that people back home can
3326 understand, it has an underground footprint bigger than the
3327 city of D.C. And they have just decided they are going to
3328 open up a whole new area.

3329 While it is not quite as high concentration of the
3330 metallurgical coal, it is still high enough to make it
3331 profitable. And they have combined with, working with a

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3332 different company, to take straight out of the air inside the
3333 mine, suck all the methane up. And the end result, they
3334 believe, will be profit.

3335 *Dr. Schweitzer. Absolutely. What is the best way to
3336 clean up the environment than to make things profitable?

3337 Also, the canaries in the coal mine would appreciate
3338 getting the methane out of there.

3339 *Mr. Griffith. Yes, we haven't used canaries in a long
3340 time, but yes, you are right, everybody appreciates getting
3341 that methane out.

3342 Ms. Bradbury, doesn't that sound a whole lot more
3343 exciting than maybe we put _ if we are going to put dollars
3344 in _ and Dr. Schweitzer thinks maybe we ought not, but if we
3345 are going to put dollars in, isn't it a whole lot more
3346 exciting to find ways to solve the problem, instead of
3347 shutting down American industry or making the cost higher for
3348 people in my district to be able to heat their homes?

3349 *Ms. Bradbury. Mr. Griffith, I think this is a great
3350 question, and I think you are exactly right.

3351 I think given _ you know, we have _ growing global
3352 energy demand is well established. We have talked a lot

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3353 about all-of-the-above energy, and I support all-of-the-above
3354 energy. I would actually suggest amending that to say best-
3355 of-the-above energy. And what you are describing is
3356 inclusive of all forms of energy, but in better forms than we
3357 have used it traditionally.

3358 So I think we need best of all forms of energy as
3359 opposed to government policies that pick winners and losers.

3360 *Mr. Griffith. Yes, we don't want to pick winners and
3361 losers, and we also don't want to increase costs. We have
3362 been _ that has been our policy for the last 30 years, with a
3363 few exceptions. We have decided that we are just going to
3364 make the cost go higher. And let me tell you who that
3365 affects.

3366 I represent a district with take-home pay that is 409th
3367 out of 435 congressional districts in the United States. You
3368 are not going to affect my family directly. I mean, it may
3369 hurt us a little bit, but we are going to be okay. Who you
3370 are hurting are those folks on the front lines who are
3371 struggling, they are working to make a living and are
3372 struggling to make ends meet, and who may not qualify for all
3373 these programs that my friends on the left would like to say

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3374 we would have the programs take care of.

3375 Dr. Gattie, my time is up. But maybe as a sidebar I can
3376 get your reactions to some of the things I have said. And I
3377 have to yield back at this point and let the _ let this
3378 meeting come to a close. But I do love the accent. Thank
3379 you.

3380 [Laughter.]

3381 *Mr. Duncan. The gentleman yields back. And now I will
3382 go to Mrs. Miller-Meeks for five minutes.

3383 *Mrs. Miller-Meeks. Thank you, Mr. Chair, and I want to
3384 thank all of our witnesses for testifying before the
3385 committee today.

3386 Last week, during the Environment, Manufacturing, and
3387 Critical Minerals Subcommittee hearing, we focused on how the
3388 United States has been a global leader in reducing greenhouse
3389 emissions for the last two decades, all while increasing
3390 energy production: a fact that I look forward to
3391 highlighting at the COP28 in Dubai this weekend.

3392 Today I think it is important to direct our attention on
3393 the critical importance of the best-of-any-of-the-above
3394 energy strategy to unleash American energy production, reduce

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3395 reliance on foreign adversaries, and enhance our electric
3396 reliability, all while reducing emissions. A cleaner,
3397 healthier environment is not mutually exclusive from
3398 abundant, reliable, secure and, most importantly, affordable
3399 energy. The winner I want to pick is the United States and
3400 the American people.

3401 Currently, China accounts for 63 percent of the world's
3402 rare Earth mining, 85 percent of rare Earth processing, and
3403 92 percent of rare Earth magnet production. Additionally,
3404 China accounts for more than 75 percent of battery cell
3405 production, which will be needed to store energy from less-
3406 reliable, non-continual sources.

3407 Dr. Gattie and Dr. Schweitzer, how are stringent
3408 environmental regulation in the United States, specifically
3409 around critical mineral mining and processing, further
3410 increasing our reliability on China and their horrible
3411 environmental practices?

3412 *Dr. Gattie. Do you want me to go first? Go ahead.

3413 *Dr. Schweitzer. I appreciate your comments and the
3414 question, and especially the idea that we can do it better,
3415 cheaper, faster, cleaner in America. There is no question.

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3416 Our company just completed a plant to make circuit
3417 boards, a \$100 million investment of employee owners' money.
3418 Not \$0.01 of subsidy was requested or taken from the Federal
3419 Government or the states. This plant is in Moscow, Idaho.
3420 We have worked hard to make it the cleanest, greenest circuit
3421 board plant on this planet because, let's face it, people
3422 like things to be clean and efficient. Efficiency,
3423 cleanliness, creativity, these are all appealing to the human
3424 spirit. There is no need to subsidize these things, that we
3425 can do it at home.

3426 And a big key for this is to make it easier to build a
3427 plant, to look for something new, whether it is underground
3428 or in somebody's mind, that these are the things that I
3429 believe our Congress can be doing for we the people, that we
3430 can do it here in America better, cheaper, faster, cleaner.

3431 *Mrs. Miller-Meeks. I will alter that question a little
3432 bit and say what are the greatest regulatory barriers that
3433 currently exist for utilizing advanced nuclear reactors to
3434 meet domestic energy production objectives?

3435 And what are the barriers for restoring the United
3436 States as a major global exporter of nuclear technology?

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3437 *Dr. Gattie. Thank you, Dr. Miller-Meeks, for the
3438 question.

3439 The barriers really right now, they are financial, they
3440 are supply-chain-oriented, and we simply have not gone past
3441 the non-recurring engineering phases to get up to production
3442 scale. We need a demand signal. We need a nuclear policy
3443 strategy. We can't continue to just do one-off nuclear
3444 construction when we don't even have an enrichment capacity
3445 right now to provide the resources. We are not coordinated
3446 in this, and it is not a priority, and it needs to be a
3447 priority.

3448 *Mrs. Miller-Meeks. So a priority and a policy that is
3449 supportive of nuclear energy would, in fact, be the demand
3450 signal that we are looking for?

3451 *Dr. Gattie. That would be a great first step.

3452 *Mrs. Miller-Meeks. Yes, I am still waiting for an
3453 energy policy from this Administration.

3454 Ms. Bradbury, what role does carbon capture, storage,
3455 and utilization technologies and innovation play in reducing
3456 U.S. emissions moving forward?

3457 And what Federal policies are needed to increase

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3458 accessibility and utilization of these technologies?

3459 *Ms. Bradbury. Mrs. Miller-Meeks, thank you so much for
3460 the question.

3461 I will say that between the IEA, this Administration,
3462 the DoE, there is wide-scale agreement that CCUS has a
3463 critical role to play in meeting climate objectives,
3464 particularly among hard-to-abate sectors.

3465 Some of the issues that we are seeing with full
3466 scalability of carbon capture include permitting reform, and
3467 the need for permitting reform in pipelines.

3468 I would also say, with regard to the permitting of
3469 wells, there are only two states right now that have primacy
3470 when it comes to the permitting of class 6 wells, Wyoming and
3471 North Dakota. There are a number of states that have pending
3472 applications with the EPA for state primacy. States have the
3473 most expertise in permitting this type of well, and that
3474 would be an important step in the right direction.

3475 *Mrs. Miller-Meeks. Thank you, I yield back.

3476 *Mr. Duncan. The gentlelady yields back. I now
3477 recognize the gentleman from the beautiful Savannah area of
3478 Georgia, Mr. Carter, for five minutes.

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3479 *Mr. Carter. Thank you, Mr. Chairman, and thank you for
3480 allowing me to waive on.

3481 Dr. Gattie, I suspect you are as disappointed as I am
3482 with the results of Saturday afternoon. But nevertheless, we
3483 move on. Thank you for being here. You have been here quite
3484 often, and we appreciate it.

3485 And thank all of you for being here, as a matter of
3486 fact.

3487 And Dr. Gattie, I noticed that in your testimony you
3488 made the point _ and you have made it before _ about this
3489 rush to green, and how we are sacrificing our global
3490 competitiveness. And I couldn't agree with you more. As I
3491 think I have told you before, I have been to Europe as a
3492 member of the Conservative Climate Caucus, and I have seen
3493 what has happened there, where they have allowed their
3494 policies to get ahead of their innovation, and now they are
3495 backtracking, even having to use coal in some instances. And
3496 I fear that we may be doing the same thing.

3497 I am very concerned about our home state of Georgia, and
3498 about the fact that we are investing a lot in green energy,
3499 and as we should, and that is good. But, you know, even with

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3500 the Hyundai plant coming, you know, what happens if we get a
3501 change in administration and all of a sudden we shift gears
3502 and we are not headed toward this _ down this path anymore?
3503 But nevertheless, that is the chance we take.

3504 And it is also concerning to me about, you know, this is
3505 a global problem. We all understand that. Everyone here
3506 understands it is a global problem when we are talking about
3507 greenhouse gas emissions, or when we are talking about carbon
3508 emissions. Even in India, as one of the largest emitters,
3509 they admit that they plan to still depend on coal well into
3510 the future. And we know that China is providing them with
3511 that.

3512 So let me ask you, Dr. Gattie, how do these rush-to-
3513 green policies and regulations that have been proposed by the
3514 current Administration, how do they impact the U.S.'s ability
3515 to compete and to power our economy?

3516 *Dr. Gattie. Congressman Carter, it is good to have you
3517 here. I would like to, for the record, say that the chair
3518 made a very hurtful remark earlier to the gentleman from
3519 Alabama.

3520 With regard to the policy impacts on this, this is _ it

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3521 is going to be a recurring point from myself and from my
3522 colleagues that I work with at the University of Georgia.
3523 This is going to fundamentally restructure and reorganize our
3524 industrial base. It is going to change it.

3525 One of the most principled impacts that it is going to
3526 have is the resources that Ms. Bradbury has talked about, our
3527 fossil fuel resources, these represent stored energy
3528 resources. They are in the ground. They are there for us to
3529 use whenever we need them, primary energy resources. To
3530 shift to an industrial strategy where we have to manufacture
3531 our stored energy in terms of batteries, we don't know the
3532 consequences, and we don't know if our industrial base can
3533 stand up to our competitors in that way.

3534 We are looking at electrifying our economy. We don't
3535 know if an electrified economy, an electrified America can
3536 stand up to competitors. There are more unknowns than there
3537 are knowns. So restructuring it around carbon reduction as
3538 the tip of the spear instead of security as the tip of the
3539 spear raises more questions than it does answers.

3540 *Mr. Carter. Great. You and I both know _ and I think
3541 everyone knows _ about the State of Georgia and our use of

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3542 nuclear energy. And I am very proud of that. And I am very
3543 proud that we had the first nuclear reactors built in over 30
3544 years in this country. And I think it adds to our national
3545 security perspective. In fact, I think you mentioned this in
3546 your testimony, as well.

3547 You also said in your testimony that renewables should
3548 be included in a diverse energy portfolio, but not as
3549 replacement resources, as they will not deliver the same
3550 value to America's industrial base as fossil fuels are
3551 nuclear. How have states embraced more diverse energy
3552 portfolios?

3553 Or how _ the states that have embraced more diverse
3554 energy portfolios, how are they doing economically and
3555 competitive?

3556 Our state of Georgia, I would say that we have a very
3557 diverse energy portfolio, and we are the number-one state in
3558 the nation to do business for the 11th straight year.

3559 *Dr. Gattie. So Congressman, I have probably _ I have
3560 spoken at what is probably about 15 or 20 states over the
3561 past 3 years at their states' sections of electric power.
3562 They envy where we are at Georgia, they envy states that have

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3563 diverse resources. Industries in those states are looking
3564 for places that have not only affordable electricity but
3565 reliable.

3566 And also, those states that are looking long term, that
3567 are structuring their power sector not around just carbon
3568 reduction but around an energy future actually that is going
3569 to serve grandchildren, and not just the current generation,
3570 we are doing that in Georgia. And a lot of the _ currently,
3571 the regulated market states like Georgia is _ that is what we
3572 are able to do through integrated resource planning.

3573 *Mr. Carter. Great. Well, thank you for being here.
3574 Thank you, all of you, for being here. Thank you, Mr.
3575 Chairman, and Go Dawgs.

3576 *Dr. Gattie. Yes, Go, Dawgs.

3577 *Mr. Duncan. You could have left that last phrase out.
3578 I am not going to say it, Scott, you can say Roll Tide
3579 if you want to. I think I said it earlier.

3580 But anyway, look, I want to just thank all of you for
3581 being here. This was very informative for all the members.
3582 And I hate that more members didn't jump in here, but the
3583 ones that are going to COP23 [sic] are engaged in this, and

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3584 we are all working for the betterment of America, as you are.

3585 So thank you for that.

3586 I will remind members that you have 10 business days to
3587 submit additional questions for the record, and I ask
3588 witnesses to do their best to submit responses within 10
3589 business days upon receipt of the questions, if there are
3590 any.

3591 I also ask unanimous consent to insert in the record the
3592 documents included on the staff hearing documents list.

3593 Without objection, that will be the order.

3594 [The information follows:]

3595

3596 *****COMMITTEE INSERT*****

3597

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3598 *Mr. Duncan. And without objection, the subcommittee
3599 stand adjourned.

3600 [Whereupon, at 1:09 p.m., the subcommittee was
3601 adjourned.]