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4 ``THE FISCAL YEAR 2014 U.S. DEPARTMENT OF ENERGY BUDGET''

5 THURSDAY, JUNE 13, 2013

6 House of Representatives,

7 Subcommittee on Energy and Power,

8 Committee on Energy and Commerce,

9 Washington, D.C.

10 The Subcommittee met, pursuant to call, at 10:09 a.m.,
11 in Room 2123 of the Rayburn House Office Building, Hon. Ed
12 Whitfield [Chairman of the Subcommittee] presiding.

13 Members present: Representatives Whitfield, Scalise,
14 Hall, Shimkus, Terry, Burgess, Latta, Olson, McKinley,
15 Gardner, Kinzinger, Griffith, Barton, Upton (ex officio),
16 Rush, McNerney, Tonko, Engel, Green, Capps, Doyle, Barrow,

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17 Matsui, Christensen, Castor, and Waxman (ex officio).

18 Also present: Representative Johnson.

19 Staff present: Nick Abraham, Legislative Clerk; Gary
20 Andres, Staff Director; Charlotte Baker, Press Secretary;
21 Mike Bloomquist, General Counsel; Sean Bonyun, Communications
22 Director; Matt Bravo, Professional Staff Member; Alison
23 Busbee, Policy Coordinator, Energy & Power; Annie Caputo,
24 Professional Staff Member; Patrick Currier, Counsel, Energy &
25 Power; Andy Duberstein, Deputy Press Secretary; Vincent
26 Esposito, Fellow, Nuclear Programs; Tom Hassenboehler, Chief
27 Counsel, Energy & Power; Ben Lieberman, Counsel, Energy &
28 Power; Nick Magallanes, Policy Coordinator, CMT; David
29 McCarthy, Chief Counsel, Environment/Economy; Brandon Mooney,
30 Professional Staff Member; Mary Neumayr, Senior Energy
31 Counsel; Andrew Powaleny, Deputy Press Secretary; Peter
32 Spencer, Professional Staff Member, Oversight; Tom Wilbur,
33 Digital Media Advisor; Jeff Baran, Democratic Senior Counsel;
34 Phil Barnett, Democratic Staff Director; Greg Dotson,
35 Democratic Staff Director, Energy and Environment; Kristina
36 Friedman, Democratic EPA Detailee; and Caitlin Haberman,
37 Democratic Policy Analyst.

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38 Mr. {Whitfield.} I would like to call the hearing to
39 order this morning. And today's topic and hearing will be on
40 the Department of Energy's fiscal year 2014 budget. And, of
41 course, this is the first opportunity that we have had to
42 have our new Energy Secretary Ernest Moniz with us.

43 And, Mr. Secretary, we are delighted you are here. We
44 know that you have a lot of experience at the Department of
45 Energy having served there in the Clinton Administration.
46 And I think all of us were quite impressed with the way you
47 sailed through confirmation. I think the vote was 97 to 0.
48 And that is quite a tribute to you, I would say. So
49 congratulations on that confirmation.

50 And I will recognize myself now for a 5-minute opening
51 statement.

52 Under the Obama Administration, the Department of Energy
53 in my view has often taken a backseat to the Environmental
54 Protection Agency and was all too willing to acquiesce to
55 EPA's agenda rather than affirmatively assert its own pro-
56 energy agenda. Particularly, DOE allowed itself to become a
57 part of the Administration's--for lack of a better word--

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58 attack on fossil fuels when it should have been defending
59 them as a core component of our energy future and a critical
60 contributor to job creation, global competitiveness, and
61 affordable energy prices.

62 When I think about an anti-fossil fuel movement,
63 frequently, I think about Europe and what has happened.
64 Europe has placed so much emphasis on renewables and wind
65 energy and solar, and when the natural gas prices started
66 escalating in Europe, all of a sudden in Europe they are
67 burning more and more coal now. And on the books they have
68 plans to build 69 new coal-powered plants, 60 gigawatts of
69 new power. And so I think that it is important that we think
70 about this instead of this Administration has moved--the
71 budget reflects most of the money is being spent on renewable
72 rather than the baseload energy needs.

73 I will never forget then-Secretary of Energy Chu made
74 the statement that coal is his worst nightmare. And I don't
75 think that we need a Department of Energy that sees this
76 Nation's growing abundance of natural gas and oil as a
77 problem to be solved rather than an opportunity to be
78 embraced.

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79 The Department of Energy in my view should not treat
80 conventional energy and renewable energy as an either/or
81 proposition where the Federal Government actively discourages
82 conventional energy in order to create an artificial market
83 for renewable energy. The President says himself that he is
84 for ``all of the above'' and yet, frequently, in his
85 Administration, that absolutely is not the case.

86 We need a Department of Energy in my view open to all
87 domestic energy sources that are economically competitive, be
88 they conventional or renewable. ``All of the above,'' as I
89 said, has supposedly been the President's motto, but his
90 policies have suggested otherwise.

91 In fact, yesterday, I introduced legislation along with
92 a Democratic Member that would repeal a provision in the
93 Energy Independence and Security Act of 2007 that would
94 require that the Federal Government not use any fossil fuel
95 for heating new or modified federal buildings by the year
96 2030. So our bill is in keeping with the President's stated
97 goal of using all of the above. And yet, that 2007 Energy
98 Independence and Security Act would phase out the use of
99 fossil fuel in its entirety for any federal new building or

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100 modified building by the year 2030.

101 I look forward to working with Secretary Moniz, and I
102 believe that the proposed fiscal year 2014 DOE budget we will
103 review today, as I said, still reflects the mistakes of the
104 recent past and is not a forward-looking proposal.

105 For example, we see in this budget an outsized--and I
106 know that the Secretary certainly was not there at the time--
107 but we see an outsized request for the Department of Energy's
108 Office of Energy Efficiency and Renewable Energy, which we
109 all support, a nearly \$1 billion increase. And when you look
110 at these numbers, you have got batteries in electric vehicles
111 receiving more money than any other entity, solar energy
112 next, building technologies next, biomass next, and the
113 conventional fuels are way down the list. And I don't think
114 there is anything that reflects an Administration's overall
115 goals better than its budget request.

116 So I think the shale gas and oil revolution in America
117 holds tremendous potential for energy affordability and
118 security, for job creation, for export opportunities, and for
119 strengthening America's standing in the world, but it also
120 poses implementation and innovation challenges for which DOE,

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121 in my view, can play an important role. DOE should be out in
122 front of this revolution taking steps to facilitate its
123 development and not creating obstacles to it.

124 So I look forward to working with you, Mr. Secretary.
125 We certainly look forward to your testimony and your answers
126 to our questions today. And, with that, at this time I like
127 to recognize the distinguished gentleman from Chicago, Mr.
128 Rush, for a 5-minute opening statement.

129 [The prepared statement of Mr. Whitfield follows:]

130 ***** COMMITTEE INSERT *****

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131 Mr. {Rush.} I want to thank you, Mr. Chairman.

132 I want to thank you, Secretary Moniz, for being here
133 today to discuss DOE's fiscal year 2014 budget, as well as
134 the Agency's overall energy agenda.

135 Mr. Secretary, I believe you are heading one of the most
136 important agencies in the Nation, as the field of energy will
137 hold the keys to unlocking America's creativity and
138 innovative spirit while also taking our economy to another
139 level and providing an abundance of rewarding jobs and
140 rewarding careers.

141 In fact, as I have stated many times before this
142 subcommittee, the country that leads the world in advanced
143 energy technology, energy production, and clean and renewable
144 energy breakthroughs will also lead the global race for
145 economic superiority, and it is imperative that our Nation
146 remains in the forefront in each of these areas.

147 I believe in an all-of-the-above agenda that
148 encapsulates my five core principles: 1) safe and reliable
149 and affordable energy for all Americans; 2) focus on STEM
150 education and training; 3) jobs and economic opportunities

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151 for all segments of the American population; and 4) policies
152 to address climate change; lastly, North American energy
153 independence over the next few decades.

154 With the emergence of the shale and natural gas finds,
155 as well as the Obama Administration's commitment to investing
156 in new advancements in clean and renewable energy technology,
157 I believe that it is possible to find the right balance
158 between protecting the Nation's earth, land, and water supply
159 through sensible environmental regulations while at the same
160 time ensuring that all Americans have the chance to share in
161 the employment, the business, and the economic opportunities
162 that the energy industry will provide.

163 Since my ascension as ranking member on the Energy and
164 Power Subcommittee in 2011, I have held a series of
165 discussions with top energy leaders in the oil, gas, and
166 renewable energy and pipeline industry, and we finally began
167 to make some headway in our efforts to ensure that
168 minorities, that women, and that historically
169 underrepresented groups are given a chance to fully
170 participate in the lucrative and vastly expanding energy
171 sector.

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172 Just 2 years ago when asking energy leaders about the
173 levels of participation of these underrepresented groups, the
174 most common response that I would receive undoubtedly would
175 be sorry, Mr. Rush, we don't have that information. We will
176 get back to you. Today, I am holding serious discussions
177 with top industry leaders on what they can do proactively to
178 ensure that minorities and other groups are aggressively
179 being recruited, aggressively being trained, and aggressively
180 given the opportunities to participate in the energy field.
181 Mr. Secretary, over the past year, my office has worked
182 extensively with your agency, including your Office of
183 Economic Impact and Diversity, and together, we are making
184 great strides in our combined efforts to increase minority
185 participation in all sectors of the energy field from
186 increasing STEM education and training opportunities to
187 assessing employment and business opportunities.

188 Mr. Secretary, I look forward to working with you. I
189 look forward to working with your department in close
190 collaboration to make sure that all Americans are afforded
191 the opportunity to benefit wholly in the energy area.

192 Mr. Secretary, I am delighted to have you before this

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193 subcommittee. I believe that your department will play a
194 vital role in pushing America towards greater innovation,
195 greater prosperity, and greater energy independence.

196 Thank you, and I yield back.

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

198 ***** COMMITTEE INSERT *****

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199 Mr. {Whitfield.} Thank you, Mr. Rush.

200 At this time I would like to recognize the gentleman
201 from Michigan, the chairman of the full committee, Mr. Upton,
202 for 5 minutes.

203 The {Chairman.} Well, thank you, Mr. Chairman. And
204 today, we do welcome the new Secretary, Secretary Moniz, to
205 the Committee to receive his testimony on the Department of
206 Energy's fiscal year 2014 budget.

207 You know, it has been over 30 years since Congress
208 enacted the Department of Energy Organization Act of 1977.
209 That was a different time, a time of dwindling oil and gas
210 supplies, rising energy prices--we remember those gas lines--
211 and overreliance on energy imports from unfriendly nations.
212 In short, it was a time of energy scarcity and uncertainty.

213 Fast-forward 3 decades and our energy landscape is
214 dramatically different. We have entered a new era of energy
215 abundance, providing a level of energy security and certainty
216 that was simply unimaginable just a few years ago.

217 American ingenuity and innovative technologies have
218 powered an incredible energy transition, turning the trends

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219 in domestic oil and natural gas production upside down. And
220 according to the International Energy Agency, the U.S. is now
221 the world's leading producer of natural gas, and we have a
222 chance--and I think we will--surpass Saudi Arabia as the
223 world's largest oil producer by 2020.

224 And while we should all support a diverse and balanced
225 energy strategy, including renewables and energy efficiency,
226 unfortunately, the President's fiscal year 2014 budget for
227 the Department of Energy ignores a number of new energy plans
228 in the landscape. The President's energy budget doubles-down
229 on some failed policies of the last 4 years, continuing to
230 risk taxpayer dollars on ``green energy'' programs that have
231 proven costly, ineffective, and failed to deliver on the jobs
232 that were promised.

233 Notably, the President calls for \$2.8 billion for the
234 DOE's Office of Energy Efficiency and Renewable Energy, a 56
235 percent increase over prior years. The amount is nearly
236 double the budgets of the Offices of Nuclear Energy, Fossil
237 Energy, and Electricity combined. Such a disparity in
238 funding levels directly conflicts with the President's stated
239 commitment to an ``all-of-the-above'' energy strategy.

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240 The President's energy budget isn't just about dollars
241 and cents; it is about priorities for the country, and the
242 priorities set forth in his budget are a little bit out of
243 touch with today's energy reality and present a stark
244 contrast from the energy priorities being pursued by this
245 committee.

246 Our vision for the Nation's energy future is a true,
247 open, ``all-of-the-above'' strategy that would promote
248 greater production and use of our new energy abundance,
249 facilitate private sector innovation to develop advanced
250 energy technologies and manufacturing, and ensure that U.S.
251 consumers indeed have a long-term supply of reliable and
252 affordable energy. It should also include a global
253 perspective on how North America's abundant resources can be
254 used to launch strategic international diplomacy and
255 geopolitical stability around the world.

256 To achieve those objectives, I believe that it is time
257 to repurpose the Department of Energy to reflect the
258 opportunities of today and meet the challenges of tomorrow,
259 and I am very happy to see the Secretary's testimony reflect
260 these new ideas in both organizational changes, as well as

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261 the overall mission.

262 Our transforming energy landscape requires a DOE for the
263 21st century. We need an agency that is ready to shed its
264 culture of scarcity and instead embrace a mindset of
265 abundance and opportunity. We need a department that will
266 take full advantage of our newly discovered energy resources
267 and capitalize on private sector expertise to modernize our
268 energy systems, and that includes continued oversight
269 regarding U.S. export policies that impede U.S. participation
270 in international energy projects and commerce, not true just
271 for LNG and coal but for nuclear suppliers, equipment, and
272 renewables as well.

273 Such a transition, if done properly, will spur dramatic
274 economic growth, create thousands of good American jobs, make
275 us significantly more energy secure, and in fact set the U.S.
276 down a path of becoming a global energy superpower.

277 So, Mr. Secretary, congratulations on your appointment.
278 We certainly look forward to working with you over the next
279 couple of years to achieve our common objective.

280 And I would yield the balance of my time to nobody. I
281 yield back.

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282 [The prepared statement of Mr. Upton follows:]

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284 Mr. {Whitfield.} Thank you, Mr. Chairman.

285 At this time, I recognize the gentleman from California,
286 Mr. Waxman, the ranking member of the full committee, for a
287 5-minute opening statement.

288 Mr. {Waxman.} Thank you, Mr. Chairman. Mr. Secretary,
289 I want to thank you for being here today. The Department of
290 Energy will benefit from your expertise and leadership and we
291 look forward to working with you as the Nation continues its
292 transition to a clean energy economy.

293 The Department has a host of challenging
294 responsibilities from cleaning up Cold War-era nuclear sites,
295 maintaining our nuclear weapons stockpile, to managing 17
296 national labs and operating the Strategic Petroleum Reserve.
297 Running the Department of Energy is a big job and you have
298 the experience to do it, but I want to tell you how I view
299 your role.

300 I look at your responsibilities through the lens of
301 climate change. Climate change is the biggest energy
302 challenge we face. There is no debate about the science.
303 Climate change is happening now. It is caused by humans and

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304 the impacts are real. The paramount responsibility of the
305 Secretary of Energy is advancing the Nation's response to
306 this accidental threat.

307 For decades, experts have talked about the potential
308 future impacts from climate change. They have warned that in
309 the future we will face extreme heat waves, floods, droughts,
310 wildfires, ocean acidification, and dramatic sea level
311 rising. These are no longer future threats; they are
312 happening today. Climate change is spawning extreme weather
313 across the country from the Texas droughts to the Colorado
314 wildfires to Super Storm Sandy. And as the impacts mount,
315 the window for effective action to address climate change is
316 closing.

317 And just this week, the International Energy Agency
318 warned that, unless the world acts to reduce carbon pollution
319 before 2020, global temperatures could rise by more than 9
320 degrees Fahrenheit, which would ``be a disaster for all
321 countries.'' IEA found that taking key actions now to reduce
322 emissions could be done at no net economic cost while delay
323 would impose trillions of dollars in costs on society.

324 Mr. Secretary, your job would be a lot easier with

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325 support from Congress, but don't count on it. This committee
326 and the Republican-controlled House has become one of the
327 last remaining refuges of the flat-Earth society. We have
328 the jurisdiction to do so much to protect future generations,
329 yet we won't even hold a hearing to learn from the scientists
330 about their concerns about climate change. So you will have
331 to act without us.

332 President Obama got it exactly right in his State of the
333 Union address when he said that if Congress did not act, he
334 would. Some of the most important authorities are those in
335 the Department of Energy. You need to act aggressively to
336 strengthen energy efficiency standards for appliances and
337 equipment. That will save consumers money while reducing
338 energy use and carbon pollution. You should implement the
339 President's proposal for a ``race to the top'' on energy
340 efficiency and grid modernization to encourage States to
341 voluntarily adopt forward-leaning policies, and you can
342 invest in research and development and provide other support
343 for promising clean energy and energy storage technologies.

344 Mr. Secretary, you also can play an important role in
345 educating Congress and the public about the threat of climate

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346 change and the urgent need for action. We are at a critical
347 crossroads. We face great peril if we ignore the science and
348 cling to the fuels of the past. Or we can listen to the
349 scientists, invest in the clean energy technologies of the
350 future, and lead the world in energy innovations.

351 Mr. Secretary, I am confident you will help us choose
352 the right path and I look forward to your testimony and to
353 working with you on all the issues that you confront where we
354 can be of help. I yield back my time.

355 [The prepared statement of Mr. Waxman follows:]

356 ***** COMMITTEE INSERT *****

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357 Mr. {Whitfield.} Thank you, Mr. Waxman.

358 That concludes the opening statements, so, Secretary

359 Moniz, we will recognize you for 5 minutes for your opening

360 statement and look forward to your testimony. And be sure

361 and put the microphone on. Thank you.

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362 ^STATEMENT OF HON. ERNEST J. MONIZ, SECRETARY, U.S.

363 DEPARTMENT OF ENERGY

364 } Secretary {Moniz.} Great. So, Chairman Upton and
365 Whitfield, Ranking Members Waxman and Rush, members of the
366 committee, I thank you for this chance to appear before you
367 today to lay out some of my priorities and vision for the
368 next few years of the Department of Energy. It is my first
369 opportunity to appear in the House as Secretary of Energy,
370 and I look forward and hope to use these brief remarks to at
371 least partially introduce myself to the committee as a basis
372 for our work going forward.

373 I have been working on energy science and security
374 issues for most of my professional career, and I think it is
375 known I served as DOE Under Secretary during the Clinton
376 Administration after serving as associate director in the
377 Office of Science and Technology Policy.

378 Most of my professional career has been at MIT where I
379 have been on the faculty since 1973, including serving as
380 head of the Department of Physics and founding director of

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381 the MIT Energy Initiative in 2006.

382 So today, I will lay out some of my vision for how the
383 Department can be best positioned to address the pressing
384 challenges before us and touch on some of the initiatives in
385 the President's fiscal year 2014 budget request for the
386 Department of Energy. And I will organize some brief remarks
387 around the DOE mission areas, starting with energy technology
388 and policy.

389 Since the President took office, it has been already
390 said, in fact, by Chairman Upton, the global energy landscape
391 has undergone a profound change. In the United States, oil
392 and gas production has increased each year, while oil imports
393 have fallen to a 20-year low. At the same time, renewable
394 electricity generation has doubled and carbon emissions have
395 fallen to the lowest level in United States in nearly 2
396 decades. But even with this increase in domestic oil and gas
397 production, high gasoline prices impact American families and
398 businesses every day and remind us that we are still too
399 reliant on oil, and the risks of global climate change, as
400 Mr. Waxman said, threaten the health, security, and
401 prosperity of future generations.

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402 The President's fiscal year 2014 budget request will
403 help us double American energy productivity by 2030, save
404 consumers and businesses money by saving energy, and support
405 groundbreaking research innovation to leverage every domestic
406 source of energy from hydrocarbons to nuclear to solar and
407 wind, and other renewables as well like hydro and geothermal.

408 The President's budget increases investments in DOE's
409 applied energy programs. Among these are the Energy
410 Innovation Hubs which bring together top scientists and
411 engineers pursuing game-changing energy goals and also the
412 Advanced Research Projects Agency for Energy, ARPA-E,
413 supporting high-impact, early-stage technologies on the way
414 to the marketplace. And I very strongly support both of
415 those programs.

416 I also served on the President's Council of Advisors on
417 Science and Technology, and 2-1/2 years ago, that group
418 recommended a new approach to try and integrate various
419 threads of energy policy, environment, security, economy
420 specifically by launching an Administration-wide process
421 termed the Quadrennial Energy Review, and I plan to work on
422 that across the Administration but clearly also with input

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423 from the Congress, from the industry, from NGOs and others.
424 This will build on the Quadrennial Technology Review carried
425 out in the Department in 2011. And to do this work, I feel
426 it is very important that we beef up our analytical
427 capabilities as the underpinnings of a fruitful discussion
428 with all of the stakeholders.

429 In science, DOE science programs really are a key part
430 of the backbone of basic research in the physical sciences in
431 the United States. Earlier this month, I took my first trip
432 as Secretary. I went to Oak Ridge, Tennessee. Among other
433 things, I saw Titan, the world's fastest supercomputer. By
434 pursuing the research that is necessary to enable and build
435 the next generation of supercomputers, we can help ensure
436 continued U.S. leadership in this area. But we certainly
437 cannot be laid back about it. International competition,
438 especially from China, is closing in quite rapidly.

439 While I was at Oak Ridge, I also visited the first hub
440 called Castle applying these large-scale computational tools
441 to nuclear power reactors. It is producing product already,
442 a virtual environment for reactors.

443 The President's budget also continues support for the

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444 Energy Frontier Research Centers, which have been, in my
445 view, a great success at many universities and laboratories
446 across the country.

447 On nuclear security and environmental radiation I will
448 be brief, although these are clearly pretty important
449 missions for the Department. The President's budget
450 proposes, I think, a strong basis for transitioning to a
451 smaller but always safe, secure, and reliable nuclear
452 stockpile. It also strengthens the science, technology, and
453 engineering base to maintain the safety and reliability over
454 the long-term.

455 Environmental remediation at the many sites involved in
456 decades of nuclear weapons production during the Cold War
457 remains a major mission for the Department. This is a legal
458 and moral imperative, and the President's budget proposal
459 provides resources to clean up this legacy and continue the
460 world's largest environmental remediation effort in the
461 Department. Next week, I will visit the Hanford site where
462 we have some of our most difficult challenges in trying to
463 reach eventual closure of all of these sites.

464 Finally, improving the management and performance of the

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465 Department really is one of my top priorities as Secretary.
466 I believe we need to do this to enable our pursuit of mission
467 effectively. And I will just say I have identified now
468 particularly four areas where I would like to focus attention
469 on improved management performance. One is better
470 integration of our science and energy functions; second,
471 elevating the focus through organizational change unimagined
472 in performance as an enterprise-wide requirement; third,
473 security. We need clear alliance of authority and
474 responsibility and we will pursue that organizationally. And
475 finally, I have already mentioned beefing up the analytical
476 capacity in the Department and our laboratories as part of
477 our analyzing policy.

478 So in summary, the Department of Energy, I think, does
479 have very significant responsibilities that bear on America's
480 economic, energy, environmental, and nuclear security future.
481 I have appreciated the opportunity to collaborate with
482 members of this committee and with other Members of Congress
483 both in my previous tenure at DOE--some of you were here
484 then--and in the years since, and I am committed to working
485 with Congress in search for solutions to this country's

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486 energy and nuclear security challenges.

487 Mr. Chairman, I have submitted a longer statement for

488 the record and I look forward to your observations,

489 suggestions, and questions. Thank you.

490 [The prepared statement of Mr. Moniz follows:]

491 ***** INSERT 1 *****

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|
492 Mr. {Whitfield.} Well, thank you, Mr. Secretary. We
493 appreciate your comments and look forward to working with you
494 as you move forward at the Department of Energy.

495 I think today's opening statements reflected the
496 divergent views here in the Congress about energy and its
497 impact on economic growth and job promotion. And Mr. Waxman
498 talks about climate change, and I know that he genuinely is
499 concerned about that issue, as we all are. And I think one
500 of the key issues that many of us that are elected to
501 represent over 700,000 people each is our economy has been
502 very sluggish. We are trying to promote economic growth, we
503 are trying to create jobs, we are trying to increase revenues
504 for the government so we can do more programs.

505 And many of my friends on the other side of the aisle,
506 as I said, are very sincere in their views, and they would
507 like to see us go right down the road the European Union has
508 gone down, and we know that the European Union has pursued a
509 broad range of climate policies, including renewable energy
510 subsidies for wind and solar power. They had a cap-and-trade
511 system. But the results of this, it appears quite clearly,

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512 is not working.

513 As I said, The Economist just a few months ago had a big
514 article talking about ``Europe's energy policy delivers the
515 worst of all possible worlds.'' And their gas prices are so
516 high, you have companies leaving Europe. They closed all
517 their nuclear power plants in Germany. They were backing
518 away from coal, and now, they are planning to build 69 new
519 coal-powered plants in Europe.

520 And then recently, we had this article in the New York
521 Times, ``high-energy costs plaguing Europe.'' And they talk
522 specifically about how the head of the European power and
523 carbon at the energy consulting firm in Paris said we
524 embarked in Europe on a big transition to a low-carbon
525 economy without taking into account the cost and without
526 factoring in the competitive impact.

527 And I know many of our friends on the side of the aisle
528 view us as we are too far this way and we think they are too
529 far that way, so we hope that you can help lead this country
530 in a more balanced approach on energy.

531 I am a fan of the Sierra Club in that it has done a lot
532 of good things for America and protecting our environment,

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533 but when the president of the Sierra Club says we want to get
534 to a place where we do not use any fossil fuels, and next
535 week, the Sierra Club is going to be in Louisville, Kentucky;
536 they are going to be demonstrating and protesting against the
537 use of coal. And I don't think anyone realistically can say
538 that we can meet our electricity demands in this country and
539 remain competitive without a strong fossil fuel presence.
540 You can't build enough windmills and solar panels to meet
541 that need.

542 And I talked to you soon after your confirmation and you
543 are certainly not involved in it, but right across the line
544 in Tennessee from my home State of Kentucky, Hemlock
545 Corporation built a \$1.4 billion plant to make some component
546 parts for solar panels, and they said it was going to be
547 2,500 new jobs. There was government stimulus money in the
548 project, and they announced in January after they got up to
549 400 employees that they were going to close the plant down.
550 They were never even going to open the planet. So now they
551 are down to 20 employees. They built a \$20 million railroad
552 line into that plant, and they are not going to move one
553 product out of there. It is being closed down.

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554 So I think the challenge we face in this country is just
555 having a balanced approach without someone saying, hey, we
556 don't need fossil fuels at all. I do believe what the
557 President said. We need an all-of-the-above policy, but
558 frequently, my view is that this Administration says one
559 thing and does another in that arena.

560 Now, I meant to ask you some questions. I don't know
561 how I got so worked up here, but one thing I would just ask
562 you quickly on the Paducah plant. Hopefully, it is the
563 Department of Energy's policy to try to maintain the
564 viability of that plant and protect the 1,200 jobs there.
565 Would you agree with that?

566 Secretary {Moniz.} Yes, Mr. Chairman. We do agree with
567 that.

568 Mr. {Whitfield.} And you are going to consider requests
569 for proposals for expressions of interest to continue to
570 operate the plant?

571 Secretary {Moniz.} Correct. In fact, if I may, I can
572 even reflect on a little history in terms of the history with
573 the Portsmouth plant where USEC ceased operations there in
574 2000. And the plan, which I think is a good model going

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575 forward with Paducah, is that we go into cleanup. That
576 prepares the way for decommissioning but on a parallel track
577 we look for new business opportunities to use the site, the
578 people at the site, the resources that the site.

579 Mr. {Whitfield.} Okay. Thank you. My time is expired.
580 I now recognize the gentleman from Illinois, Mr. Rush.

581 Mr. {Rush.} Thank you, Mr. Chairman.

582 Mr. Secretary, as I stated in my opening remarks, it is
583 a huge priority for me to ensure that all Americans,
584 especially those who have been historically underrepresented
585 in the energy field, have access to the employment, business,
586 and economic opportunities that this industry provides.

587 I stated in my previous statement that I have had talks
588 with various industry leaders on the issue of jobs from both
589 the demand and the supply side, and they have spoke of and
590 they are very concerned with the fact that up to half of the
591 current energy workforce in some sense will need to be
592 replaced due to retirements and attrition over the next 5 to
593 10 years. And in order to replace these energy workers, the
594 industry leaders are beginning to recognize that minorities
595 and other historically underrepresented groups will need to

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596 be called upon to help fill these jobs. So we must therefore
597 be proactive in ensuring that future workers are being
598 trained with the necessary skills.

599 Are you, Mr. Secretary, confident in your capacity and
600 your programmatic trust, are you confident that your
601 department has the resources, including the budget and staff,
602 the authority to effectively engage the minority communities
603 and help them enter into all aspects of the energy sector by
604 helping them, creating access through training, STEM
605 education, jobs, and other business opportunities?

606 Is there anything that your department needs from the
607 Members of Congress to make sure they assist you in your pro-
608 activity in terms of outreach to minorities?

609 Secretary {Moniz.} Congressman Rush, thank you for the
610 question. I think you raise a really important issue. As
611 you say, the energy industry, I think, is booming and I think
612 it has every indication that it will in the future from
613 fossil fuel production to hopefully our leadership role in
614 producing advanced technologies for the future. If you look
615 at the demographics of our country and where they are
616 heading, we will need to draw upon all of our people, women,

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617 minorities who have not yet played a sufficient role. So I
618 think this is a place that I would really like to work with
619 you on this.

620 I might note that, recently, at the White House there
621 was a focus on women in clean energy. Perhaps we could talk
622 about doing some similar things with underrepresented
623 minorities in that regard. I think we should focus on also
624 what we do with small and minority businesses. We do have a
625 program there.

626 What I will do is I will go back and scrub where we are
627 in terms of resources and authorities, and after I understand
628 that, I would like to come back to you to discuss some
629 specifics of what we might do.

630 Mr. {Rush.} Mr. Secretary, I look forward to our
631 discussions and our working together.

632 I would like to just ask you a question about the impact
633 that sequestration--sequestration is harming our
634 competitiveness. In the race to see which country will lead
635 the clean energy economy, your department has an important
636 role. The ARPA-E has had several major technological
637 achievements and commercial successes. These technologies

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638 have affected over 450 million in follow-on investment from
639 private sector after receiving just 70 million of initial
640 investment from ARPA-E. How will the funding cuts due to
641 sequestration effect the ARPA-E in its mission to continue
642 its support of research and development for breakthrough
643 technologies?

644 Secretary {Moniz.} Well, sir, clearly, the
645 sequestration has had an impact. I believe the impact is
646 about \$1.9 billion across the Department, across all the
647 missions. And, as of today, we are at about 1,500 workers
648 laid off or with substantial furloughs. This obviously is
649 affecting our work. I want to thank the Congress for working
650 with us in some reprogramming, which has ameliorated the
651 impacts in various sites. But clearly, we cannot avoid those
652 impacts. So it is everything from putting at risk milestones
653 in some of our cleanup programs to diminished research
654 capacity in programs like ARPA-E.

655 Mr. {Whitfield.} The gentleman's time is expired.

656 At this time, I recognize the gentleman from Texas, Mr.
657 Barton, for 5 minutes.

658 Mr. {Barton.} Thank you, Mr. Chairman.

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659 And, Mr. Secretary, welcome. You are no stranger to the
660 Committee, and certainly in the past few years have been a
661 very forthcoming witness and decent representative for the
662 Administration. So with that, we look forward to working
663 with you.

664 Secretary {Moniz.} Is ``decent'' praise?

665 Mr. {Barton.} Decent is good. Decent is good. There
666 are other D words that I could use that are not good, but
667 decent is good.

668 In your immediate position at MIT, you were an author or
669 co-author of the study entitled, ``The Future of Natural
670 Gas,'' and it recommended that the U.S. should not erect
671 barriers to natural gas imports or exports. I share that.

672 You are now the Secretary of Energy, and as Secretary of
673 Energy, you are going to have some decision-making authority
674 on whether to approve permits to export LNG to nations that
675 do not have a Free Trade Agreement with this country. There
676 is a rebuttable presumption in the law that the Department of
677 Energy should authorize the permit unless they can find that
678 it is not in the national interest. There is apparently a
679 finding document, which, if it is public, I don't know that

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680 it is public. Could you enlighten the Committee on the
681 evaluation process you are using on these permits and also
682 enlighten us as to whether you still agree with the study
683 recommendation that the U.S. should not erect barriers to
684 natural gas imports or exports?

685 Secretary {Moniz.} Thank you, Mr. Barton. And we have
686 had many opportunities to talk before in the past. I should
687 clarify one thing and then I will go directly to the answer.
688 In terms of the study, I just want to emphasize that those
689 statements were in somewhat different context in terms of
690 they were addressing the potential for imports in about 25
691 years.

692 But fundamentally, I think as the guidance, which you
693 have stated, that there is a presumption of approving
694 licenses unless there is something that would jeopardize the
695 public interest, I think, reflects the kind of philosophy
696 that you have just stated. So the question then becomes how
697 do we judge the public interest? And there, I think there
698 has been a whole set of criteria put forward as guides. They
699 are not statutory but have been put forward by the
700 Department, and certainly, these issues of balance of trade,

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701 of job creation, environmental considerations, energy
702 security, domestic need, impacts on the economy are all part
703 of that.

704 Perhaps I can say what I am today. First of all, I am 3
705 weeks--

706 Mr. {Barton.} So far, you are doing a good answer at
707 not answering the question.

708 Secretary {Moniz.} Well, I am--

709 Mr. {Barton.} I am assuming that at some point in time
710 there will be a pony in all of this that you are giving us,
711 and we will get an answer.

712 Secretary {Moniz.} So I am 3 weeks and 2 days into the
713 job.

714 Mr. {Barton.} You are learning quickly.

715 Secretary {Moniz.} And I have said that I have been
716 reviewing assiduously the processes used to date and I am
717 intending to move now expeditiously into evaluating the
718 license applications. That will be done case-by-case, go
719 right through them with the order, as has been stated by the
720 Department in terms of the filing requirement.

721 Mr. {Barton.} Okay. Now, I want to make sure in the

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722 remaining minute, this study, this was when you were at MIT,
723 ``the U.S. should not erect barriers to natural gas imports
724 or exports.'' I am quoting that study correctly, correct?

725 Secretary {Moniz.} Correct.

726 Mr. {Barton.} Okay. So that we haven't abused you
727 there?

728 Secretary {Moniz.} No, no.

729 Mr. {Barton.} All right. You are now the Secretary of
730 Energy. You have a different hat you have to wear. You did
731 agree, though, that the presumption is that the project
732 should be approved unless you believe it is not in the public
733 interest. Now, I think you agreed with that statement?

734 Secretary {Moniz.} That was--

735 Mr. {Barton.} You agreed with that?

736 Secretary {Moniz.} Right.

737 Mr. {Barton.} And you just did say that you are going
738 to look at these in an expeditious fashion, which, in my
739 dictionary, means as quickly as possible.

740 Secretary {Moniz.} Correct.

741 Mr. {Barton.} So could you give us a time frame, the
742 next 3 months, the next 6 months? And I know you have got

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743 multiple projects, but would you be expecting to make some
744 decisions in this calendar year? We don't want another
745 Keystone pipeline thing.

746 Secretary {Moniz.} Absolutely. Absolutely.

747 Mr. {Barton.} Okay. Thank you. Perfect timing, zero
748 time.

749 Mr. {Whitfield.} All right. Thank you.

750 At this time, I recognize the gentleman from California,
751 Mr. Waxman, for 5 minutes.

752 Mr. {Waxman.} Thank you.

753 Mr. Secretary, you can play an important role in
754 educating Congress and the public about the threat of climate
755 change and the urgent need for action. There is no debate
756 about the science that indicates that climate change is
757 happening now and it is caused by humans and the impacts are
758 real.

759 Mr. Secretary, you are an esteemed scientist. You were
760 unanimously confirmed by the Senate. Can you take a moment
761 and explain why it is important for us to act now to address
762 climate change?

763 Secretary {Moniz.} Yes, thank you, Mr. Waxman.

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764 Well, first of all, I certainly agree that it is
765 indisputable that we are experiencing warming and that the
766 pattern of consequences that has long been expected--in fact
767 are appearing around us--are unfortunately typically at the
768 higher end of the predicted ranges, whether it is melting
769 ice, which is easily visible, to the issues I think that you
770 raised earlier, be they storm intensities, droughts,
771 wildfires.

772 Now, clearly, this is a statistical result as opposed to
773 something that applies to any one event, but the fact is the
774 pattern is completely consistent with that expected prolonged
775 time only, unfortunately, accelerating faster than we
776 expected.

777 Mr. {Waxman.} Does that mean we should do something
778 now?

779 Secretary {Moniz.} Yes. And a key reason is that, in
780 particular, especially carbon dioxide, the principal
781 greenhouse gas associated with energy supply, resides in the
782 atmosphere for many, many centuries. So it is a cumulative
783 impact, not something that we can just kind of turn on and
784 off very easily. And we are building up an irreversible

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785 momentum. So prudence suggests that I think we need to start
786 talking about how, within the all-of-the-above energy
787 philosophy, we manage the transition to a low-carbon economy.

788 Mr. {Waxman.} Our chairman and others have said that,
789 look, U.S. carbon dioxide emissions are at their lowest level
790 in 20 years. The implication is that no further action to
791 address climate change is necessary. I don't believe that is
792 the case. What matters is not whether U.S. emissions have
793 declined; it is whether we are on track to decline in the
794 future by the amount needed to prevent dangerous climate
795 change.

796 Mr. Secretary, are you aware of any reputable expert who
797 believes we are currently on track to avoid dangerous climate
798 change?

799 Secretary {Moniz.} Well, certainly, the overwhelming
800 preponderance--I mean nearly unanimous in the scientific
801 community of relevance certainly expects that we are on a
802 pathway to very negative consequences.

803 Mr. {Waxman.} That is a mild way of putting it. Look,
804 we are told that the market is working, that we are doing
805 more than our share in the United States. The Europeans and

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806 others are doing nearly as much. And I just wanted to cite
807 for you some information that I think is worth noting. This
808 was all in a letter dated March 11, 2013, that Mr. Rush and I
809 sent to Chairman Upton and Chairman Whitfield.

810 We pointed out that the European Union is committed to
811 reduce all greenhouse gas emissions from its member states by
812 20 percent by 2020 compared with 1990 levels and is on track
813 to meet this target. The European Union has pledged to
814 achieve even more reductions if the United States and other
815 developed countries would agree to do more.

816 The President pledged, when he was in Copenhagen in
817 2009, we are going to reduce our greenhouse gas emissions by
818 17 percent below 2005 levels by 2020. This is equivalent to
819 a reduction of just 3 percent compared to 1990 levels.
820 Several European countries outside the European Union have
821 made more ambitious pledges than the U.S. Do you think we
822 are the best in the world in reducing these emissions? You
823 would think that recent carbon dioxide emission reductions in
824 the U.S. is due to the marketplace. Now, it is certainly due
825 to the fact that we are in a recession. It is due to the
826 fact that we have more renewables. It is due to the fact

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827 that natural gas is playing a better role and that we are
828 promoting renewable energy. Is that happening because of the
829 marketplace or U.S. laws and policies?

830 Secretary {Moniz.} Well, I think, as you have said, I
831 mean, it is a mixture of drivers. Certainly, the large
832 increase in gas use for the electricity sector has been a
833 market-driven approach, but of course policies at the state
834 and federal level have stimulated this, for example, this
835 doubling of renewables only in the last 4 years, which is a
836 major, major, major advance.

837 Mr. {Waxman.} And we need more policies to accelerate
838 the transition to a clean energy economy. Do you agree?

839 Secretary {Moniz.} I think we need more technology and
840 more policy to move towards the low-carbon economy.

841 Mr. {Waxman.} Thank you.

842 Thank you, Mr. Chairman.

843 Mr. {Whitfield.} At this time, I recognize the
844 gentleman from Louisiana, vice chairman of the subcommittee,
845 Mr. Scalise, for 5 minutes.

846 Mr. {Scalise.} Thank you, Mr. Chairman. Appreciate you
847 having this hearing.

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848 And, Mr. Secretary, welcome to our committee. Thank you
849 for coming to testify before us and talk about some of the
850 issues that we work on here in the Energy Subcommittee.

851 I know over the years a lot of us have been pushing for
852 a true all-of-the-above energy strategy to open up more areas
853 that are right now blocked for exploration in America to try
854 to green-light projects like the Keystone pipeline so that we
855 can bring in more energy from a trusted partner and friend
856 like Canada that gives us less reliance on some of these
857 Middle Eastern countries who don't like us, help our trade
858 imbalance, and just many other things that are needed to
859 expedite the process of producing American energy, keeping
860 agencies like EPA from trying to interfere with the hydraulic
861 fracturing process that has been so successful and opened up
862 so many of these shale plays across the country that are not
863 only creating a lot of American energy but a lot of jobs,
864 really a bright spot in our economy.

865 Your predecessor in this position had made comments over
866 the years that we should have gas prices at the levels of
867 Europe and really pushed for an energy policy that, I think,
868 the President shared that actually has led to making less

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869 American energy, made it harder for us to open up areas and
870 do more exploration in America.

871 I am curious to see what your overall strategy is on
872 energy in general but also specifically things like gas
873 prices as families still pay over \$3 a gallon right now, and
874 with the summer approaching, likely to be paying higher. Do
875 you have a plan to try to lower gas prices, to try to
876 increase American energy, to try to keep the Federal
877 Government from making it even harder to produce in this
878 country than it is right now and create those jobs? If I can
879 just throw that out to you.

880 Secretary {Moniz.} Quite a few questions in there,
881 thank you.

882 So, first, again, I very much subscribe to the
883 President's all-of-the-above strategy and I think--

884 Mr. {Scalise.} We disagree with the President's
885 definition of ``all of the above.'' It seems to be more
886 focused on above and nothing below, which is not all of the
887 above.

888 Secretary {Moniz.} Yes, I mean, with all due respect, I
889 would have to say, you know, the ground truth is, as we all

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890 know, that oil production is up dramatically. In fact, we
891 had a little--

892 Mr. {Scalise.} And, I mean, I have actually had a
893 conversation with the President about this because he says
894 that a lot. He says oil production, energy production, has
895 never been higher under his Administration. When I pointed
896 out to him in fact on federal lands it is actually
897 dramatically down; on private lands it is up. And so in the
898 areas where the President has no control it is up, but in the
899 areas where he has had control, it has been down in many
900 cases because of his policies.

901 So I do think it is disingenuous for the Administration
902 to go out and say, you know, and the President himself to say
903 since I have been President, energy production has never been
904 higher, when in fact his policies on federal lands have
905 actually reduced production. And that is a fact that the
906 Energy Department has actually confirmed.

907 And so, you know, as you say that, you can say it
908 because it is an accurate statement across the board to say
909 it is higher, but on federal lands, energy production is down
910 in many cases because of the Administration's policies. And

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911 that is why we disagree with this connotation of all of the
912 above.

913 I mean, you can't be for all of the above when you are
914 saying no to Keystone, when you are making it harder to
915 actually explore on federal lands for American energy. And
916 so I hope you understand that distinction.

917 Secretary {Moniz.} No, I understand. I was trying to
918 address it. I think the reality is it is a question of what
919 choices are made by private companies where they want to go
920 to drill. There are many leases--this is a Department of
921 Interior issue--

922 Mr. {Scalise.} Right.

923 Secretary {Moniz.} --not Department of Energy, but
924 there are many leases going unused on federal lands. The
925 fact is the industry is moving hard and producing more oil,
926 moving hard and producing more gas. There are some
927 infrastructure issues which will involve both state and
928 federal permitting, but, I mean, the ground truth is we are
929 producing more oil. We are producing more gas. We are--

930 Mr. {Scalise.} But do you recognize that where we are
931 producing more gas is primarily on private land and on

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932 federal land, production is lower?

933 Secretary {Moniz.} These are facts but all I was saying
934 is--

935 Mr. {Scalise.} But as Secretary of Energy, though,
936 would you encourage a change in that policy where we can
937 actually open up some of those federal lands that are right
938 now closed? I mean so many areas of our federal lands across
939 the country are closed to production where you have got very
940 rich reserves. You know, we have been trying to get the
941 Administration to be an all-of-the-above administration and
942 open some of that up. Would you be open to kind of promoting
943 that as Secretary of Energy where you have a bully pulpit to
944 push for that kind of increase in production on federal lands
945 where it is down?

946 Secretary {Moniz.} Again, we both understand that is a
947 Department of Interior responsibility--

948 Mr. {Scalise.} Right, but I mean you are the Secretary
949 of Energy. And you have the President's ear on energy issues
950 in general.

951 Secretary {Moniz.} In terms of where I am is, A)
952 supporting the idea that the country pursues what we call

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953 ``all of the above.'' That is, we will continue to produce
954 more oil, decrease our exports, help our balanced trade. The
955 Department of Energy will be supporting that certainly in
956 trying to advanced technologies for environmentally sound
957 production. We want to work with our other sister agencies
958 like DOI and EPA in terms of getting better data. There are
959 issues such as methane emissions and beneficial reuse by the
960 companies. I had a meeting this morning in fact which was
961 very, very interesting in that regard.

962 So I think we are totally supportive of this vision of
963 pushing all of the above.

964 Mr. {Scalise.} I look forward to working with you on
965 that and--

966 Mr. {Whitfield.} The gentleman's time is expired.

967 Mr. {Scalise.} --I know that we will have more of this.
968 I know I am out of time.

969 Secretary {Moniz.} Oh, I am sorry.

970 Mr. {Scalise.} I appreciate that. I know we will have
971 more of this conversation in the future but thanks for
972 coming--

973 Secretary {Moniz.} Thank you. I would be happy to

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974 discuss that.

975 Mr. {Scalise.} --and I think congratulations on getting
976 this new position. I look forward to working with you.

977 Mr. {Whitfield.} At this time, I recognize the
978 gentleman from California, Mr. McNerney, for 5 minutes.

979 Mr. {McNerney.} Thank you, Mr. Chairman.

980 Thank you, Mr. Secretary, for coming today. It is a
981 good thing to get to know you a little bit. I haven't been
982 on the committee long enough to see your testimony before, so
983 I appreciate your coming forward.

984 Secretary {Moniz.} Thank you.

985 Mr. {McNerney.} I want to talk a little bit about
986 fracking. We are going to be producing a lot of natural gas
987 and oil using that technique, and that may be beneficial, but
988 there is a significant risk in my opinion of natural gas
989 escaping into the environment, which is a strong greenhouse
990 gas, and potential for groundwater contamination, which is
991 very important in California and many Western States.

992 I see a budget request of \$17 million for research into
993 the safety of fracking. Do you think that is going to be a
994 sufficient amount to help guide us through this boom in the

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995 fracking that we are going to be seeing?

996 Secretary {Moniz.} Well, of course, the \$17 million
997 request I think is very important for getting engaged in this
998 but of course there is a lot of work as well going on through
999 industry. There is work going on in a cost-shared way using
1000 the Royalty Trust Fund. So I think the DOE component and
1001 also Interior and EPA, so the DOE component is one part. I
1002 think a key will be for us to make sure that we are kind of
1003 integrating what we support with that of what other agencies
1004 and the private sector are doing.

1005 Mr. {McNerney.} Okay, good. Thank you.

1006 Secretary {Moniz.} And I would just add the methane
1007 emissions that you alluded to is something we clearly need to
1008 get our arms around. Currently, the estimate is that about
1009 2-1/2 percent of total greenhouse gas emissions in the United
1010 States is CO2 equivalent of methane emissions in fossil fuel
1011 production, so it is about 2-1/2 percent, but the data are
1012 not very good, number one.

1013 And, number two, we believe there are many opportunities
1014 to capture and beneficially use that methane in the
1015 production.

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1016 Mr. {McNerney.} Thank you. To change the subject a
1017 little bit, what do you think are the biggest barriers to
1018 financing clean energy projects today?

1019 Secretary {Moniz.} Oh, there are lots. I think one
1020 issue is--well, turning it around, how can one mobilize a lot
1021 of private capital that is kind of on the sidelines today to
1022 come in in terms of clean energy and clean energy projects?
1023 This is something that I have brought in some new people. We
1024 are trying to analyze these issues.

1025 But I will give you as an example it is very difficult
1026 to, say, in the renewable space, say distributed solar, we
1027 have a lot of small projects. You have nothing like what I
1028 would call the standard contracts as you have in the mortgage
1029 business, and therefore, it is very difficult to aggregate
1030 them and be able to get access to the kinds of capital
1031 markets that one can in other parts of the energy industry.
1032 So these are the things we need to discuss, I think.

1033 Mr. {McNerney.} And you are going to be aggressively
1034 moving to find the solution?

1035 Secretary {Moniz.} And, as part of this Quadrennial
1036 Energy Review, we will be working with Treasury and OMB and

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1037 others trying to see what are the right mechanisms to
1038 stimulate private capital coming into these markets more
1039 strongly.

1040 Mr. {McNerney.} Okay. Well, I understand that the DOE
1041 has a stated goal of wind energy producing 20 percent of our
1042 electricity by the year 2020. Is that a realistic goal? Can
1043 we make that goal?

1044 Secretary {Moniz.} That is the President's goal.

1045 Mr. {McNerney.} Can we make that goal?

1046 Secretary {Moniz.} We are going to try. Yes.

1047 Mr. {McNerney.} So part of the barriers are financial
1048 barriers?

1049 Secretary {Moniz.} Yes. I would have to check this,
1050 but I think we are about halfway there so we have to pick up
1051 the pace, and moving private capital in would be important.

1052 Mr. {McNerney.} And then moving on to electric
1053 vehicles, what are our barriers in terms of getting electric
1054 vehicles accepted in the marketplace?

1055 Secretary {Moniz.} Well, electric vehicles clearly have
1056 a lot of promise. In fact, the Tesla was--of course, it is
1057 an expensive vehicle, but Tesla was rated by Consumer Reports

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1058 as the best car they ever tested, not in that year, but ever.
1059 I mean I think often what we forget is electric vehicles are
1060 very high-performance vehicles.

1061 Now, clearly, the biggest barrier right now is getting
1062 the cost of the batteries down because if you want to have a
1063 long range on electric drive, you are talking today a battery
1064 that, you know, is literally in the tens of thousands of
1065 dollars.

1066 Mr. {McNerney.} And there is some promising technology
1067 in the DOE in that area?

1068 Secretary {Moniz.} And so there has been about a 40
1069 percent drop in net cost in the last few years. We have got
1070 to keep driving down. The goal is to get to \$100 to \$200 per
1071 kilowatt of storage. Today, we are in the 5, \$600 range.

1072 Mr. {McNerney.} Thank you, Mr. Chairman.

1073 Mr. {Whitfield.} The gentleman's time is expired. At
1074 this time, I recognize the gentleman from Texas, Mr. Hall,
1075 for 5 minutes.

1076 Mr. {Hall.} I thank you, Mr. Chairman.

1077 And Mr. Waxman has made a statement that, as I
1078 understood it, climate change is caused by people, and I like

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1079 to agree with him sometimes, but the closest I can get to
1080 that is it punishes people. It punishes taxpayers. It
1081 punishes taxpayers to the extent of \$34 billion and we
1082 haven't gotten anything yet, nothing that alludes to getting
1083 the benefit of the money that the taxpayers have had to pay
1084 out. I don't think you disagree with that, do you?

1085 Secretary {Moniz.} I am sorry, Mr. Hall, if you could
1086 clarify the question. I didn't quite understand it. I
1087 apologize.

1088 Mr. {Hall.} It wasn't a question. It was a statement.

1089 Secretary {Moniz.} Oh, I am sorry.

1090 Mr. {Hall.} That Mr. Waxman said climate change caused
1091 by people--and the Sierra Club, and I am certainly not a fan
1092 of the Sierra Club; I want that to go on the record. I think
1093 they are an enemy of anybody that is 18 years old or older
1094 that needs a job or is looking for a job. But climate change
1095 has cost the taxpayers 33 to 34 to \$35 billion so far and we
1096 have gotten very little out of that. How can you disagree
1097 with that?

1098 Secretary {Moniz.} Well, sir, the--

1099 Mr. {Hall.} And what have we got out of it?

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1100 Secretary {Moniz.} I am sorry? Oh, okay. So, well, I
1101 would say, first of all, as we said before, the United
1102 States, among industrialized countries, is unique in having
1103 decreased our CO2 emissions; but secondly, I think we have
1104 laid the foundation for a new technology enterprise in this
1105 country.

1106 Mr. {Hall.} You laid the foundation that nobody is
1107 following. Russia is not, Mexico is not, India is not; no
1108 one is helping us. They want us to clean the world. You are
1109 not recommending that, are you?

1110 Secretary {Moniz.} Well, I would be happy if we are--

1111 Mr. {Hall.} If we could, I would be happy, too.

1112 Secretary {Moniz.} --of exporting technologies to those
1113 countries.

1114 Mr. {Hall.} Let me get to my real questions. New York
1115 Times earlier this year related the power shortages in New
1116 England and noted the importance to the region of being able
1117 to import power from the Indian Point nuclear facility
1118 quoting one individual as saying, ``without Indian Point, New
1119 England would have been toast.'' The situation in New
1120 England was due to an overdependence on gas. Would you agree

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1121 this reflects why it is important to have fuel diversity?

1122 Secretary {Moniz.} Definitely.

1123 Mr. {Hall.} All right.

1124 Secretary {Moniz.} Um-hum.

1125 Mr. {Hall.} And in your view do nuclear facilities play
1126 a critical role in ensuring the reliability of the grid?

1127 Secretary {Moniz.} Well, clearly, nuclear power is 20
1128 percent of our electricity today, and it is carbon-free.

1129 Mr. {Hall.} And did you know that, Mr. Secretary,
1130 during your confirmation hearing, you promised to review what
1131 is out there before approving any additional LNG export
1132 applications? And I think Mr. Barton got into that a little
1133 bit. Let me ask you a little bit more. Can you update the
1134 Committee on the progress?

1135 Secretary {Moniz.} It has gone very well. Frankly,
1136 tomorrow, I have perhaps the key summary meeting on the
1137 review and also we have had the EIA look at how developments
1138 in the markets in the last few years might influence this,
1139 but I think, as I said to Mr. Barton, we are getting pretty
1140 much ready to start evaluating the dockets on a case-by-case
1141 basis.

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1142 Mr. {Hall.} At an event in Palo Alto this last week,
1143 President Obama reportedly said, ``we believe in a light
1144 touch when it comes to regulations.'' Would you characterize
1145 EPA's wave of rules affecting the energy sector during the
1146 President's first term as a light touch?

1147 Secretary {Moniz.} Well, sir, again, I am at the
1148 Department of Energy. We are not doing those regulations. I
1149 look forward to working with the EPA as appropriate in terms
1150 of providing analytical basis, technical advice, but it is
1151 clearly their--

1152 Mr. {Hall.} And you should. You have a tough job. For
1153 one, it has been working on energy science and security
1154 issues for most of your professional life, served on the MIT
1155 faculty beginning in 1973, included as head of the Department
1156 of Physics. You were the founding director of MIT Energy
1157 Initiative in 2006. That seems like that knowledge that you
1158 have gleaned there and that you have departed makes it pretty
1159 tough for you to agree with the person that appointed you?

1160 Secretary {Moniz.} Well, sir, I completely agree with
1161 the President in terms of, again, all-of-the-above energy
1162 approach, and I think the facts on the ground support--

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1163 Mr. {Hall.} Would you characterize EPA's wave of rules
1164 affecting the energy sector during the President's first term
1165 as a light touch?

1166 Secretary {Moniz.} Again, I think the EPA is
1167 statutorily--

1168 Mr. {Hall.} And you agree with that, the way the EPA
1169 has handled their business?

1170 Secretary {Moniz.} That is not for me to judge.

1171 Mr. {Hall.} But I will just ask you one last question.

1172 Mr. {Whitfield.} The gentleman's time has expired, Mr.
1173 Hall.

1174 Mr. {Hall.} In that case, I will yield back my time.

1175 Mr. {Whitfield.} Okay. Thank you.

1176 At this time, I recognize the gentlelady from
1177 California, Mrs. Capps, for 5 minutes.

1178 Mrs. {Capps.} Thank you, Mr. Chairman.

1179 And congratulations on your confirmation, Secretary
1180 Moniz, and thank you for your testimony.

1181 The Department of Energy has been doing great work in
1182 recent years, particularly in the development of renewable
1183 technologies. Basic research is obviously critical to

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1184 developing these technologies and I know you understand this
1185 coming from MIT.

1186 The fiscal year 2014 budget clearly prioritizes this
1187 research, and I commend the Administration for making a firm
1188 commitment to this critical work even in these tough fiscal
1189 times. I am fortunate to have to world-class research
1190 institutions in my district--Cal Poly San Luis Obispo and UC-
1191 Santa Barbara--that have benefited from DOE funding.

1192 For example, UCSB is one of DOE's Frontier Energy
1193 Research Centers and has produced numerous local spinoff
1194 companies. Just earlier this year, a Cal Poly research team
1195 received a DOE grant to further advance its research in
1196 reusing the wastewater used in the production of algae-based
1197 biofuels. This research project could produce technologies
1198 that could save Californians hundreds of millions of dollars
1199 in water recycling costs each year. These research dollars
1200 are creating tangible economic benefits in my district, and I
1201 am sure there is quite a similar impact at other universities
1202 throughout the Nation with their surrounding communities.

1203 Could you elaborate briefly on this? I want to ask you
1204 a couple more questions as well, but what are some of the

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1205 other benefits, examples of DOE research dollars being turned
1206 into tangible benefits for taxpayers?

1207 Secretary {Moniz.} Thank you for the question.

1208 Well, those are two outstanding institutions, and as you
1209 say, actually our great research universities across this
1210 country are really engines of innovation, particularly when
1211 they are embedded in a broader system of investors, et
1212 cetera. So if one just looks at ARPA-E as an example--

1213 Mrs. {Capps.} Yes.

1214 Secretary {Moniz.} --we are getting close to about 300
1215 projects, which have been funded, and you take a subset of
1216 less than 20, you have a multiplier of like a factor of five
1217 in terms of private capital coming in to follow those
1218 investments. That is just one example of this multiplier
1219 effect.

1220 Mrs. {Capps.} Let me try another topic. I know you
1221 probably have several other examples you could cite
1222 immediately, but meeting our renewable energy needs is going
1223 to require more than just research. So many great ideas are
1224 developed in the lab that never make it into the marketplace
1225 due to a lack of investment. The biggest issue I hear from

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1226 these energy innovators in my district is the difficulty they
1227 have in bridging what they call the valley of death.

1228 What is DOE doing, if you are doing anything at all, to
1229 address this problem and help move more technologies out of
1230 the lab in the research institution out into that
1231 marketplace?

1232 Secretary {Moniz.} I might just add that many, many of
1233 them would say there are actually two valleys of death. They
1234 have to get through both of them to scale in the market. But
1235 I think in particular at the Department I would highlight
1236 three programs there. One is ARPA-E, as I already mentioned,
1237 which I think is developing a strong track record of getting
1238 things into the economy. Another, which I think will take a
1239 little bit more time to judge, but the Energy Innovation
1240 Hubs, these are structured so that they can work on a
1241 specific problem but anywhere across the innovation chain as
1242 it makes sense for that problem to move out into the
1243 marketplace.

1244 In California, there is one on Sunlight to Fuels, for
1245 example. And of course a third has been the loan programs,
1246 for example, which started in the last administration, came

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1247 to this administration and have helped move some of the
1248 world's largest concentrated solar plant, for example, in
1249 California is about to have first light.

1250 Mrs. {Capps.} Thank you. I do want to get one further
1251 question out on a technology, solar. There are so many roofs
1252 and parking lots and homes, businesses, nonprofits,
1253 government buildings that are perfect for solar, yet go
1254 unused because the owners can't afford the high cost of
1255 installation. I faced this same challenge when I wanted to
1256 do something in my own private home in Santa Barbara.

1257 Thankfully, my county, Santa Barbara County, has a
1258 program that they call emPowerSBC in Santa Barbara County.
1259 It helps secure low-cost financing and rebates for homeowners
1260 that want to install solar and other energy-efficient
1261 programs. These programs are not very common yet. Is there
1262 anything you are doing to encourage the development of
1263 programs like emPowerSBC help make small- and medium-scale
1264 solar more widely available?

1265 Secretary {Moniz.} Well, part of that, as I alluded to
1266 earlier in terms of looking at how to move private capital
1267 off the sidelines--

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1268 Mrs. {Capps.} Yes.

1269 Secretary {Moniz.} --is that I think we need to find
1270 ways of better aggregating small projects into ways with
1271 uniform contracting that can attract, you know, market
1272 capital into the game. That is one point.

1273 A second point is what I did not mention earlier but I
1274 have emphasized in the Department that one of the kind of
1275 shifts in philosophy a little bit that I want to emphasize is
1276 much more work with States. I think States have been a
1277 center of innovation in advancing energy. One of the issues,
1278 however, is we have enormous variability and so we could not
1279 do one-size-fits-all.

1280 Mrs. {Capps.} Right.

1281 Secretary {Moniz.} I think we need to work with the
1282 States and then build up from the States to a more national.

1283 Mrs. {Capps.} Thank you very much.

1284 Mr. {Whitfield.} Time is expired.

1285 At this time, I recognize the gentleman from Illinois,
1286 Mr. Shimkus, for 5 minutes.

1287 Mr. {Shimkus.} Thank you, Mr. Chairman. Welcome, Mr.
1288 Secretary.

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1289 The Administration's proposed budget cuts 46 million
1290 from the Office of Energy's carbon storage research line.
1291 This is down from 107 million it was funded at last year.
1292 This program funds research at the Carbon Sequestration
1293 Project in Decatur, Illinois, which is already halfway to
1294 injecting a million metric tons of carbon. The University of
1295 Illinois, as a part of the Midwest Geological Sequestration
1296 Consortium, has great concern that these cuts will leave the
1297 research incomplete, compromising the 3-year monitoring phase
1298 demonstrating the project's safety and viability.

1299 I have a letter here from the University of Illinois
1300 that goes into greater detail on the project, its progress
1301 and success to date, as well as recommendations for moving
1302 forward, and I would ask, Mr. Chairman, for unanimous consent
1303 for the letter to be submitted for the record.

1304 And for you, Mr. Secretary, I will provide you with a
1305 copy of that letter directed to you and your staff for review
1306 and consideration. So if I could do that, Mr. Chairman.

1307 Mr. {Whitfield.} Without objection.

1308 [The information follows:]

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1309 ***** COMMITTEE INSERT *****

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1310 Mr. {Shimkus.} And then to my favorite topic, Mr.
1311 Secretary, as you are aware, the Circuit Court of the
1312 District of Columbia has a pending case before with regard to
1313 whether the Nuclear Regulatory Commission must review the
1314 Yucca Mountain repository license application mandated in the
1315 Nuclear Waste Policy Act. If the court orders the NRC to
1316 resume the license review, will you honor the court's
1317 decision and support the NRC process?

1318 Secretary {Moniz.} We will follow the law, sir.

1319 Mr. {Shimkus.} Good answer. I wish we were following
1320 it now. That is the problem. This past April, Assistant
1321 Secretary Peter Lyons testified before the House Energy and
1322 Waters Appropriations Subcommittee that DOE currently has
1323 18.5 million from nuclear waste fund carryover that are
1324 unspent from prior appropriations. Is that your
1325 understanding?

1326 Secretary {Moniz.} Sir, I will have to explore that. I
1327 am not aware of that specific number.

1328 Mr. {Shimkus.} It is a similar question that I asked
1329 before so I think your staff should be pretty well in

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1330 agreement with that. So if you would get back to us if that
1331 is the case.

1332 Secretary {Moniz.} It appears to be correct, I think.

1333 Mr. {Shimkus.} Good. Good answer. If the Court rules
1334 and you find that DOE has insufficient funding to fully
1335 support the license review process, will you commit to
1336 prepare and submit a supplemental budget request this fiscal
1337 year if needed? Now, remember, the court has ruled that they
1338 have to finish the study. You have got some money available.
1339 If you are going to comply with the law, if you need
1340 additional funds, would you then let us know what that would
1341 be?

1342 Secretary {Moniz.} I presume that would be the path
1343 forward.

1344 Mr. {Shimkus.} I will take that as a yes, thank you.
1345 Are you aware of any technical or scientific issues that
1346 would prevent Yucca Mountain from being a safe repository?

1347 Secretary {Moniz.} Well, I think the answer to that
1348 question really would come out from a detailed look. To be
1349 straightforward, I am on the record many, many years ago as
1350 pointing out that there are some issues in terms of, to be

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1351 mildly technical about it, it is an oxidizing environment,
1352 and one would probably prefer a chemically reducing--

1353 Mr. {Shimkus.} Well, and that is the importance of the
1354 final report which will make a judgment of whether it is safe
1355 for a million years or not and that is what we await and
1356 hopefully the court--

1357 Secretary {Moniz.} And obviously, that is what I said.
1358 That is an NRC decision ultimately to be taken, but there is
1359 that little scientific factoid.

1360 Mr. {Shimkus.} DOE's document strategies for management
1361 and disposal of used nuclear fuel and high-level radioactive
1362 waste issued on January 11 of this year and dictates
1363 legislation is needed to deploy that strategy. Why hasn't
1364 the Administration sent legislation to Congress yet?

1365 Secretary {Moniz.} I believe the Administration's
1366 position is that it will be working with the Congress to
1367 develop it, and I might say that I have personally been
1368 working with some Senators on their draft and I would be
1369 happy to work with Members in this chamber.

1370 Mr. {Shimkus.} I would suggest, since we have a
1371 bicameral legislation, a legislative body, and there are two

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1372 chambers that might be helpful if you would have ideas of how
1373 to move forward, that you would come and talk to us.

1374 Secretary {Moniz.} If I was asked to come and join the
1375 discussion, I would be most delighted to accept an invitation
1376 here as well.

1377 Mr. {Shimkus.} Thank you, Mr. Chairman. And with that,
1378 I will yield back my time.

1379 Mr. {Whitfield.} Thank you.

1380 At this time, I recognize the gentlelady from Florida,
1381 Ms. Castor, for 5 minutes.

1382 Ms. {Castor.} Thank you, Mr. Chairman.

1383 Congratulations, Secretary Moniz, on your appointment
1384 and confirmation. You will bring a fresh perspective to the
1385 Department, so good luck to you. I look forward to working
1386 with you.

1387 I want to bring to your attention an important issue
1388 relating to the economic well-being of our country,
1389 particularly jobs in American shipping, our ports and related
1390 businesses. It involves the Jones Act and the excessive
1391 numbers of waivers that the Administration and the Department
1392 of Energy have granted to that important federal law.

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1393 Mr. Secretary, the Jones Act requires that cargo that is
1394 shipped between U.S. ports, domestic ports be transported on
1395 American vessels. The law is vital to our Nation's economic
1396 and national security because it supports the core maritime
1397 industries of our country, American shipbuilding and American
1398 jobs.

1399 In 2011 when the Administration tapped the Strategic
1400 Petroleum Reserve and a few other times, the Administration
1401 agreed to almost 50 waivers of the Jones Act. This is more
1402 than all in American history combined, and it was excessive.
1403 The law says that in order to grant a waiver, there must be a
1404 national security emergency and domestic carriers must not be
1405 available. They must be unavailable.

1406 At that time, that was the time of the Libyan conflict
1407 and I guess the powers that be decided that it was more
1408 important to get that oil delivered. But it was an
1409 excessively high number of waivers. It took jobs from
1410 American maritime industries, American cargo vessels. The
1411 work went instead to foreign shippers, and I just think this
1412 is very poor public policy, particularly at a time when we
1413 had a high unemployment rate. The only ones that really

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1414 benefited at that time were the oil speculators and foreign-
1415 owned oil companies and foreign shippers.

1416 So I wanted to ask you at the outset of your service,
1417 can you assure me that you and the Department will stand by
1418 American workers and American businesses, support the Jones
1419 Acts and the related American jobs and U.S. maritime
1420 industries and look very skeptically upon further waiver
1421 requests?

1422 Secretary {Moniz.} Well, certainly supporting American
1423 jobs is obviously one of our key objectives. And so we are
1424 totally committed to that. On this particular issue, I was
1425 not aware of these particular waivers, but I can assure you
1426 that to the extent to which I am involved in that discussion-
1427 -and I am not entirely sure at the moment--that we clearly
1428 will follow the law and the guidance in terms of only
1429 emergency waivers of the Jones Act.

1430 Ms. {Castor.} I appreciate that. And I thought that
1431 might be the case and just wanted to bring that to your
1432 attention at the outset of your services, Secretary.

1433 Secretary {Moniz.} Thank you.

1434 Ms. {Castor.} On another topic, as we look at all of

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1435 the various sources of energy, the power of America, it seems
1436 like the one big area that is out there that is clean, that
1437 would save consumers money, is in energy efficiency. And I
1438 don't think that we have done enough to unlock the power of
1439 consumers to implement smart technology to be able to pick up
1440 their smartphones and change the thermostats to do things on
1441 set clock stops on table. I think that technology is
1442 changing quickly and I think there is significant energy
1443 savings.

1444 It seems like the entire business model for electric
1445 utilities is outdated now, and we should be looking at
1446 incentives for them to promote conservation to a greater
1447 extent. What are your priorities? What do you see in the
1448 future? What do you think the Congress should be focused on
1449 to move in that direction?

1450 Secretary {Moniz.} Thank you. First of all, I think
1451 immediately after I was sworn in, within 2 hours I was
1452 speaking at an efficiency meeting, which was symbolic in a
1453 certain sense of the very high priority. This will be a
1454 major focus area. For the Department, there are several
1455 threads and I would be happy to come and discuss this in more

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1456 detail.

1457 Of course, one is that the Department does have
1458 compliance with efficiency standards responsibilities.

1459 Frankly, we need to accelerate getting a number of those out,
1460 which are in various stages of review in the Department and
1461 in OMB.

1462 Number two, I think we need to really advance the
1463 enablers, and I think you already alluded to it, particularly
1464 the integration of information technology, smart grids,
1465 controls, sensors, consumer choice. So that is second.

1466 And 3rd, I would say this is very much in the line of
1467 the emphasis I want to give to working with States because,
1468 for example, you mentioned utilities and we need to talk
1469 about the utility of the future, which is not the same thing
1470 as the future of the utility because there may be very many
1471 different services involved in the utility of the future.
1472 But the regulatory structures are very different in different
1473 States, and so the programs again cannot be a one-size-fits-
1474 all. But I think we need to work with the States in
1475 providing assistance in moving in a direction that you
1476 outlined.

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1477 Mr. {Whitfield.} The gentlelady's time is expired.

1478 At this time, I recognize the gentleman from Texas, Dr.
1479 Burgess, for 5 minutes.

1480 Dr. {Burgess.} Thank you, Mr. Chairman.

1481 Mr. Secretary, welcome to our humble little committee,
1482 appreciate you being here today, look forward to lively
1483 exchanges with you during your tenure.

1484 This year in December will mark the 60th anniversary of
1485 when President Eisenhower went before the United Nations and
1486 gave his very famous ``Atoms for Peace'' speech. The United
1487 States Congress the following year took up that concept and
1488 passed the Atomic Energy Act of 1954 and declared that we
1489 should use atomic energy to make the maximum contribution to
1490 the general welfare. One of the purposes of the Act was to
1491 provide for ``a program of international cooperation to
1492 promote the common defense and security and to make available
1493 to cooperative nations the benefits of peaceful applications
1494 of atomic energy as widely as expanding technology and the
1495 considerations for the common defense will permit.''

1496 So in light of the challenges that we have in developing
1497 domestic nuclear energy, would you agree that nuclear exports

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1498 can help maintain a sustainable commercial nuclear
1499 infrastructure in the United States?

1500 Secretary {Moniz.} Certainly, and in addition, support
1501 our nonproliferation aims.

1502 Dr. {Burgess.} Correct, which was part of the intent of
1503 President Eisenhower's appearance at the United Nations that
1504 day. So as a committee, can we look forward to you working
1505 with us to explore and examine ways to increase the United
1506 States' competitiveness in the nuclear trade?

1507 Secretary {Moniz.} Yes, indeed. And I might add also
1508 if I may, sir, that Deputy Secretary Poneman has also been
1509 very, very committed to this same issue.

1510 Dr. {Burgess.} Very well. One element of the atomic
1511 energy mission involves the Department's role in the export
1512 of nuclear technology. Probably preceding your tenure by
1513 just a little bit in March, the Committee wrote the
1514 Department of Energy for detailed information concerning how
1515 the Department implements its nuclear technology export
1516 reviews. The response from the Department was received last
1517 week, probably was not adequate, and I think your staff is
1518 aware of the Committee's feelings on that.

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1519 So as a committee, can we count on you providing a more
1520 robust response to our requests on this important issue?

1521 Secretary {Moniz.} I will certainly look into that and
1522 get back to you, sir.

1523 Dr. {Burgess.} I have copies of our original letter and
1524 the response, and, Mr. Chairman, I will ask unanimous consent
1525 to enter these into the record.

1526 Mr. {Whitfield.} Without objection.

1527 [The information follows:]

1528 ***** COMMITTEE INSERT *****

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1529 Dr. {Burgess.} We will make them available to you
1530 before you leave today.

1531 Secretary {Moniz.} Thank you.

1532 Dr. {Burgess.} And then one important benefit of
1533 increased United States nuclear exports is to ensure that the
1534 United States' know-how on safety and security is implemented
1535 worldwide. Will you help us by taking a close look at the
1536 Department's and the National Nuclear Security Agency's
1537 current activity regarding export controls to ensure the
1538 process continues to work for the benefit of the United
1539 States?

1540 Secretary {Moniz.} I would be happy to work with you on
1541 that. It is an important issue, yes.

1542 Dr. {Burgess.} Well, I thank you for your responses to
1543 those questions.

1544 I had a question on the actual line item of the budget
1545 that we received. I guess it was referred to as the
1546 highlights. And under the section dealing with fossil
1547 energy--I apologize for not having turned to it earlier so I
1548 would have the page number for you--but you look down the

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1549 line. All the numbers are negative in the--oops, sorry.
1550 That is renewable energy. Let's just skip ahead, shall we?
1551 Fossil energy, page 33, if you look at the line items,
1552 they are fiscal year 2014 versus fiscal year 2012. For
1553 fiscal year 2014 all of the numbers are negative and
1554 substantially negative, and yet the total fossil research
1555 energy and development is reported to be plus \$83 million. I
1556 guess the line item that confuses me on that page is the line
1557 that says ``adjustments'' about halfway in the page under
1558 total fossil energy, last line item that is entered and there
1559 is a line that says ``adjustments.'' Can you tell me what
1560 ``adjustments'' is referring to? Or, if not, can you
1561 possibly get back to us and let us know what that represents?
1562 Secretary {Moniz.} I think I had better get back to you
1563 on that and not give an incorrect answer. So we will do that
1564 promptly. I do want to note that, of course, in addition to
1565 what is here, there was several billion dollars already put
1566 in to the currently going Carbon Capture Utilization and
1567 Sequestration Demonstration project. So that is not captured
1568 here in this budget.
1569 Dr. {Burgess.} Very well. And just to note, I

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1570 appreciate your comments on the fracking issue, the fact that
1571 it can be done environmentally in a safe manner. The United
1572 States should be the leader in developing that technology,
1573 and indeed, we should be exporters of that technology to
1574 other places in the world. And I thank you for that.

1575 Mr. {Whitfield.} The gentleman's time is expired.

1576 At this time, I recognize the gentleman from New York,
1577 Mr. Tonko, for 5 minutes.

1578 Mr. {Tonko.} Thank you, Mr. Chair. Mr. Secretary,
1579 congratulations.

1580 Secretary {Moniz.} Thank you.

1581 Mr. {Tonko.} It is great to have you here before the
1582 Subcommittee.

1583 I represent a district in New York in the capital region
1584 of New York, which has incorporated much wind opportunity
1585 into the State's supply of energy. Can you give us an
1586 overview of what the Department of Energy is doing to spur
1587 the ongoing development of advanced wind energy?

1588 Secretary {Moniz.} Well, there are obviously two major
1589 directions. One is on the technology side. There is, for
1590 example, a focus on helping simulate the technology for

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1591 effective use of lower wind speeds, which would greatly
1592 increase the deployment possibilities. And another one is to
1593 basically try to drive down the cost of offshore wind, which
1594 where, of course, you have a great resource but it is a
1595 difficult environment to work in. So that is on the
1596 technology side.

1597 And the other dimension I would say is some of the loan
1598 and assistance projects have helped deploy substantial
1599 amounts of wind and solar.

1600 Mr. {Tonko.} Thank you. And I have had legislation
1601 that will deal with efficiency in terms of wind turbines and
1602 their assembly, how they are manufactured, how they are
1603 placed in order to get the maximum for the investment.

1604 Not only are we using more and more wind power, I am
1605 told we are building more of it right here in the U.S. The
1606 wind components such as turbines and towers, blades, gears
1607 are increasingly being built by United States' manufacturers.
1608 My understanding is that the percentage of wind components
1609 that are domestically manufactured has doubled from 35
1610 percent in 2005 to 70 percent today. Do you find that
1611 accurate?

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1612 Secretary {Moniz.} I don't know the precise numbers but
1613 I do know the trend is in that way. And by the way, in
1614 addition, wind I believe was the largest capacity addition
1615 over the last year in the American system.

1616 Mr. {Tonko.} Okay. And is DOE's wind program on target
1617 to reduce the average cost of utility-scale onshore wind
1618 power to around 5 cents a kilowatt hour by, I believe, it was
1619 the year 2020?

1620 Secretary {Moniz.} Yes, I think. Of course, you know,
1621 it depends upon the location, et cetera, but in good wind
1622 locations the costs are dropping dramatically. Five cents is
1623 a very reasonable expectation. Of course, there is the other
1624 issue up sometimes those good wind locations are far away
1625 from the load center and we have to solve the transmission
1626 problem.

1627 Mr. {Tonko.} Right. And what about the interconnect
1628 systems, too, because I am told that much of the capacity for
1629 wind--especially wind, perhaps solar--but we have
1630 interconnect situations that are still of major concern?

1631 Secretary {Moniz.} Well, you mean in terms of the
1632 transmission?

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1633 Mr. {Tonko.} The transmission or the actual technology
1634 that needs to be perhaps better developed or more high-tech
1635 in nature.

1636 Secretary {Moniz.} Well, I am not certain of that, sir,
1637 but what is an issue potentially is, for example, if you have
1638 remote, high-quality wind farms, you might want to go to high
1639 voltage direct current lines, and for that, technology in
1640 terms of the power electronics is very important because--

1641 Mr. {Tonko.} Right.

1642 Secretary {Moniz.} --with D.C. it is the ends that kill
1643 you.

1644 Mr. {Tonko.} Absolutely. Now, you somewhat alluded to
1645 this, Mr. Secretary, in that there are some barriers out
1646 there, long distances by which to get wind over to the source
1647 that is required. What is the Department doing to address
1648 those barriers to widespread wind development?

1649 Secretary {Moniz.} Well, again, on the technology side
1650 a key issue is large-scale storage. And, for example, the
1651 Department supports some very interesting work in terms of
1652 efficient compressed air storage. So if we can have storage
1653 that meets the scale of intermittent resources, then you have

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1654 the opportunity to dispatch it and you solve that problem.
1655 In the nearer term, until these costs come down, I think we
1656 have a lot more to do, and NREL in particular is looking at
1657 the integration of natural gas in renewables. That is
1658 another way to balance the load-serving function.

1659 Mr. {Tonko.} In terms of the storage issue, what are
1660 the best hopes there for the development of battery types
1661 that will store incremental type powers?

1662 Secretary {Moniz.} Well, it is not only batteries. I
1663 mean, in fact, today, if you are in the right place, for
1664 example, in the TVA service territory, they have some very
1665 good pumped hydro as a way of storage. In general, hydro is
1666 a very good way of balancing renewables. There are more far-
1667 out things. ARPA-E funded a so-called liquid metal battery,
1668 a whole different architecture. There is compressed air.
1669 There are flywheels. So all of these technologies are being
1670 pushed. A lot of them are materials problems.

1671 Mr. {Tonko.} Thank you very much, Mr. Secretary. I
1672 yield back, Mr. Chairman.

1673 Mr. {Whitfield.} At this time I recognize the
1674 gentleman, Mr. Terry, from the State of Nebraska.

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1675 Mr. {Terry.} Thank you, Mr. Chairman. Mr. Moniz, I
1676 appreciate you being here. You have an impressive résumé and
1677 you are doing a good job today.

1678 Secretary {Moniz.} Thank you.

1679 Mr. {Terry.} I have focused on natural gas as an energy
1680 transportation fuel, and I appreciated your comment in your
1681 written statement that domestic natural gas production over
1682 the past 5 years has helped contribute to market-led
1683 reductions in carbon dioxide emissions, as well as the
1684 expansion of manufacturing and associated jobs. We have
1685 actually held a hearing that I chair in the Commerce,
1686 Manufacturing, and Trade Subcommittee especially in the steel
1687 industry the importance of natural gas. And Ed and I are
1688 going to be doing, I think, next week in other manufacturing
1689 areas as a combined hearing. So I appreciate your comments
1690 and support, particularly for the manufacturing.

1691 But my questions are going to focus more on the
1692 transportation side. Would the same hold true if more semis
1693 and straight trucks and large fleets were to change from
1694 diesel or gasoline to natural gas? Would we see reductions
1695 in CO2 emissions?

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1696 Secretary {Moniz.} Yes. So if we convert gas to liquid
1697 fuels, typically, we do not see a reduction. But if we
1698 directly use the gas, then we can--

1699 Mr. {Terry.} So you are saying compressed versus liquid
1700 would have a benefit?

1701 Secretary {Moniz.} No, liquefied natural gas is fine.

1702 Mr. {Terry.} Okay.

1703 Secretary {Moniz.} No, but I mean the other direction
1704 is to convert gas to a liquid fuel to convert it to a liquid
1705 fuel. That does not give typically any clear benefit.

1706 Mr. {Terry.} Doesn't it?

1707 Secretary {Moniz.} But CNG or LNG--

1708 Mr. {Terry.} It would.

1709 Secretary {Moniz.} --would benefit as long as methane
1710 leakage is controlled.

1711 Mr. {Terry.} At the pump side or at the side of
1712 production as you had mentioned with talking about with
1713 McNerney?

1714 Secretary {Moniz.} If you use LNG for your Class A
1715 truck, you are going to have some boil-off, and so the
1716 question is how you control for safety reasons. And so the

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1717 question is it is a quantitative issue.

1718 Mr. {Terry.} Right.

1719 Secretary {Moniz.} But the potential is there to save
1720 carbon.

1721 Mr. {Terry.} That is part of our intent, as well as not
1722 importing OPEC fuel or oil. So it then concerns me a little
1723 bit when I see this \$17 million set aside for natural gas
1724 technologies, and we have \$356 million in batteries and
1725 electric vehicles--is actually 575 million. So there seems
1726 to be a real disparity, a gap between natural gas
1727 technologies and battery technologies, electric vehicles. So
1728 the first thing that pops into my mind is that is DOE
1729 implementing the Sierra Club's Beyond Natural Gas campaign in
1730 any way?

1731 Secretary {Moniz.} No, sir. I think the point is that
1732 the research funding is for technologies of tomorrow. I
1733 think in terms of natural gas vehicles, you know, the
1734 technology is largely here. There is research also in ARPA-
1735 E, I believe, in terms of getting new materials for better
1736 storage tanks so that you can put more in because--

1737 Mr. {Terry.} So there is DOE funding on the tank side?

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1738 Secretary {Moniz.} Correct.

1739 Mr. {Terry.} And is that part of the 17 million?

1740 Secretary {Moniz.} I think that may be in ARPA-E but I
1741 will get back to you on that.

1742 Mr. {Terry.} Okay. I would appreciate that.

1743 Secretary {Moniz.} I will clarify that for you and for
1744 me.

1745 Mr. {Terry.} So from the cynical side when we see such
1746 a gap between the funding, we are assuming that there is a
1747 legitimate, logical conclusion that there is not much
1748 interest in natural gas.

1749 Secretary {Moniz.} I think the issues are, for example,
1750 if you take the LNG trucks, the Class A trucks, and there are
1751 trucks out there now using LNG.

1752 Mr. {Terry.} Yes.

1753 Secretary {Moniz.} In many ways, the issue is the OEMs
1754 to try to get the capital cost difference. A Class A truck
1755 capital cost--

1756 Mr. {Terry.} Oh, no, I am well aware of the cost and
1757 that is one of the barriers is--

1758 Secretary {Moniz.} Yes, and then it is the

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1759 infrastructure.

1760 Mr. {Terry.} And that is coming despite our best
1761 efforts.

1762 Secretary {Moniz.} Yes, the open road use is very
1763 difficult, but I think the market is going to be station-to-
1764 station.

1765 Mr. {Terry.} Yes, and I have so many other questions on
1766 that, but in the last 8 seconds, have you formed a position
1767 on Keystone pipeline in regard to your position from DOE?

1768 Secretary {Moniz.} That is a Department of State
1769 decision--

1770 Mr. {Terry.} Well, other agencies have input and DOE
1771 will be one of them.

1772 Secretary {Moniz.} We will make input certainly in
1773 technical analysis but the decision is in Secretary Kerry's
1774 hands.

1775 Mr. {Whitfield.} The gentleman's time is expired.

1776 At this time I recognize the gentleman from Texas, Mr.
1777 Green, for 5 minutes.

1778 Mr. {Green.} I think for my colleague from Nebraska I
1779 think the Secretary has enough on his plate to pick a fight,

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1780 but I appreciate you.

1781 And congratulations, Mr. Secretary, again. And I know
1782 we have met before. And in Texas they would say you know
1783 where I come from, but you know the area I represent, and I
1784 appreciate and look forward to working with you.

1785 I would ask you some questions about LNG exports but our
1786 Natural Gas Caucus is actually holding a briefing now with
1787 Chris Smith, a bipartisan briefing, so I think that will
1788 handle a lot of the questions I have.

1789 Let me talk about something that has come up over the
1790 years. Carbon capture and storage is consistently discussed
1791 in context that it is used possibly as carbon control
1792 technology under EPA rules on utilities and refiners. The
1793 problem is it is still too expensive commercially to be used,
1794 and I ask DOE this question every budget hearing so I could
1795 continue to monitor the progress. Can you please describe
1796 current DOE CCS activities?

1797 Secretary {Moniz.} Yes. Well, we have about a half-
1798 dozen now major projects going forward, some are power
1799 plants, some are industrial facilities, for example, a large
1800 ethanol plant of Archer Daniels Midland plant. And I think

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1801 the majority of them actually also is what is called CCUS--
1802 utilization and sequestration--specifically using it for
1803 enhanced oil recovery.

1804 So today, I think a story not well known is that today
1805 we are using about 60 million tons per year of CO2 to produce
1806 300,000 barrels a day of oil from enhanced recovery, and a
1807 Department of Energy study a few years ago estimated that
1808 could go up by a factor of 10. So 3 million barrels a day is
1809 getting pretty serious.

1810 Mr. {Green.} Yes.

1811 Secretary {Moniz.} And to do that--

1812 Mr. {Green.} That is two more than we would ever get
1813 from Keystone pipeline.

1814 Secretary {Moniz.} Yes. And to do that we would need
1815 to use CO2 from power plants or industrial facilities. There
1816 is not enough natural CO2 for that scale.

1817 Mr. {Green.} Okay. And is there any idea when CCS may
1818 be commercially viable? I know these plants wouldn't be
1819 there where they are now without the assistance of the
1820 Department of Energy.

1821 Secretary {Moniz.} Right. I think this is the case

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1822 where government funding is the only way to get to the
1823 demonstration phase. The goal is to demonstrate it at the
1824 level where the regulatory requirements can be settled such
1825 that the private sector knows what the game is. But, of
1826 course, that will only come as well when carbon emissions are
1827 being limited and/or we have enough use of the CO2 like
1828 enhanced oil recovery or other applications.

1829 Mr. {Green.} Okay. Okay. I am a strong supporter of
1830 smart grid technology and I noticed that the Administration
1831 is recommending a 37.9 percent decrease in smart grid
1832 funding. Is that because we are moving these activities
1833 elsewhere or are they truly reducing the activities for smart
1834 grid?

1835 Secretary {Moniz.} No, our intention is to increase the
1836 focus on smart grids, so I will clarify, Mr. Green, that
1837 budget issue for you.

1838 Mr. {Green.} Okay. In the President's budget for
1839 fiscal year 2014, the budget request for ARPA-E is 379
1840 million, an increase of 38 percent above enacted levels. He
1841 mentioned one of the strategic areas that funding will go
1842 toward is providing greater reliability and security in

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1843 delivery of electricity. Electric reliability is a priority
1844 of mine and I am wondering if you could elaborate on some of
1845 the projects or what projects are going on within the space?

1846 Secretary {Moniz.} There is a whole bunch of projects;
1847 some of them are very much in the technology development
1848 area. I mentioned earlier power electronics. That is a new
1849 focus area which is a critical component of that. Another
1850 different cut on it is of course cyber security. You can't
1851 forget cyber security very long when you are talking about
1852 the grid and the smart grid--

1853 Mr. {Green.} And reliability. I understand.

1854 Secretary {Moniz.} And that is a huge focus. Another
1855 area is the proposed race to the top, which is for both
1856 energy efficiency and grids. We are--

1857 Mr. {Green.} Okay. I only have about 19 seconds. Do
1858 you have flexibility with current revenue funds for that race
1859 to the top?

1860 Secretary {Moniz.} No, that is a proposal to the
1861 Congress in the fiscal year 2014 budget.

1862 Mr. {Green.} Okay. But you don't have the current
1863 funds? You can't put current funds toward this and this

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1864 would not happen without those additional funds?

1865 Secretary {Moniz.} That is my understanding, yes.

1866 Mr. {Green.} Okay. Thank you, Mr. Chairman.

1867 Mr. {Whitfield.} At this time I recognize the gentleman
1868 from Ohio, Mr. Latta, for 5 minutes.

1869 Mr. {Latta.} Thank you, Mr. Chairman.

1870 And, Mr. Secretary, thanks very much for being with us
1871 today. It is good to have you before us.

1872 And I think you have heard a wide range of questions
1873 from members on both sides of the aisle. And, if I could,
1874 maybe just to kind of reiterate just a little bit here, just
1875 kind of give you a background.

1876 You know, I think that we talk a lot about all-of-the-
1877 above energy policy, and I know it was in 2008 that
1878 Republicans put forward our plan for an all-of-the-above
1879 energy policy, and that is really going through, you know,
1880 everything that we have today you have been hearing from
1881 nuclear to clean coal to oil to natural gas to hydro and all
1882 of the alternatives. We want to make sure that those are
1883 being used.

1884 And at the same time, you know, I look at my district.

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1885 I represent a manufacturing district with 60,000 jobs. I
1886 also represent the largest ag district in the State of Ohio.
1887 And so it comes down to we use a lot of energy in my neck of
1888 the woods. And so when we use energy, we talk about baseload
1889 capacity because when those factories are running three
1890 shifts a day, they have got to make sure that they have that
1891 energy straight through the day. And at the same time, you
1892 know, to get that energy, we have to make sure that we have
1893 that ability.

1894 You know, on the front page today of today's Wall Street
1895 Journal we had the report showing that we have about a
1896 million barrels more of oil being produced in this country
1897 every day, which is very, very important because again we
1898 want to get our reliance off of foreign countries out there.
1899 And I think the last number I saw we were importing about 43
1900 percent of the oil that we are using every day into the
1901 country.

1902 So, you know, when you look at what is happening out
1903 there and it is great that what we are doing in production
1904 here in the United States, and I think that Dr. Burgess had
1905 asked a little bit about it, but really what has really

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1906 helped us get there is on the whole the means that we are
1907 using to bring this oil and natural gas up. And it is a
1908 known technology which is fracking.

1909 And there is reports, you know, of several weeks back of
1910 OPEC countries that some of them are getting into a panic and
1911 they are saying it is all because of fracking that is going
1912 on in the United States that is bringing up our ability to
1913 bring up this oil and to really get this into the United
1914 States market. Can I just ask you again, what is your stand
1915 on fracking?

1916 Secretary {Moniz.} Well, I am not sure it is a stand,
1917 but what my view is that, as we have said, that I would say
1918 all of the environmental issues that have arisen I believe
1919 are manageable. I think we know what to do. They may be
1920 challenging in some cases but we know what to do; the issue
1921 is doing it. And there, of course, has not been--you know,
1922 we have had obviously incidents.

1923 As an example, the biggest problem in terms of the
1924 number of incidents has been, frankly, just poor well
1925 completion, bad cement jobs. You know, again, you would know
1926 what to do in principle but you just have got to have best

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1927 practices done all the time. Another example which is
1928 slightly more challenging to address but again I think we
1929 know what to do is methane emissions.

1930 Now, we are moving more than half I believe now of the
1931 frack jobs are so-called green completions where the methane
1932 is captured and is for economic benefit. In fact, if I may
1933 just add one more, just this morning I was speaking with
1934 someone from a company where it is interesting. They are
1935 capturing the methane in the frack job not using 30,000
1936 horsepower diesel engines anymore to drive the hydraulic
1937 fracturing but using gas-fired engines. And that then in
1938 turn is greatly improving air quality issues by displacing
1939 the diesels. So I think there are solutions there; we just
1940 have to make sure we are using them.

1941 Mr. {Latta.} Okay. In just my last 40 seconds here,
1942 another issue that is a real concern out there is on cyber
1943 security. And I know I have had several events in my
1944 district on cyber, and it is a big issue out there. But one
1945 of the questions is is that, you know, when we are looking at
1946 really protecting the grid out there, can you justify right
1947 now when I am looking at your budget numbers here that the

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1948 cyber security for the electric grid would be only about 38
1949 million is what your department is asking for? And shouldn't
1950 there be more dollars out there to make sure that the grid is
1951 protected?

1952 Secretary {Moniz.} Well, the cyber security activity in
1953 the budget actually appears in many different places in the
1954 Department, and I have pulled together a council bringing
1955 together the various entities. So the Office of Electricity
1956 has a cyber security budget. The Office of Intelligence; the
1957 NNSA, the National Nuclear Security Administration, has a big
1958 program on cyber security. And I am forgetting one. Oh, and
1959 the CIO of course is heavily involved.

1960 So what we are trying to do is to make sure we bring all
1961 of these assets together to look at everything from grid
1962 reliability and resilience to frankly protecting our own
1963 national security secrets.

1964 Mr. {Latta.} Thank you. Mr. Chairman, my time is
1965 expired and I yield back.

1966 Mr. {Whitfield.} At this time, I recognize Ms. Matsui
1967 of California for 5 minutes.

1968 Ms. {Matsui.} Thank you, Mr. Chairman.

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1969 And thank you, Secretary Moniz, for joining us today.

1970 And I congratulate you on your new position.

1971 I appreciate the Department of Energy's continued
1972 commitment to clean energy technology, energy efficiency, and
1973 the reduction of carbon emissions.

1974 The American manufacturing sector has an essential role
1975 when it comes to U.S. competitiveness. It accounts for 12
1976 percent of GDP, 70 percent of private sector R&D investment,
1977 and 60 percent of exports. And the manufacturing sector
1978 added a half-a-million jobs in the past 3 years. The
1979 President has emphasized the importance of investing in
1980 American manufacturing to build on this momentum.

1981 My district of Sacramento boasts nearly 14,000 clean
1982 energy, clean technology jobs and more than 230 clean
1983 technology firms. I am keenly interested in advancing our
1984 clean energy manufacturing sector and have introduced
1985 legislation that would assist these companies in exporting
1986 these products abroad, thus allowing them to create jobs and
1987 better compete in the global market.

1988 Mr. Secretary, the Energy Department's Clean Energy
1989 Manufacturing Initiative is focused on improving the

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1990 manufacturing of clean energy products and increasing
1991 manufacturing energy productivity more broadly. Why is this
1992 initiative important and what benefits are we going to see?

1993 Secretary {Moniz.} Well, I think the initiative is
1994 important, frankly, for the reasons that you have already
1995 stated, that this is the way of getting the next cutting-edge
1996 technologies moved into the manufacturing environment in this
1997 country so we can capture those immediate jobs. But then, we
1998 should not forget the spillover in the sense of capturing
1999 important parts of the supply chain, that supply chains like
2000 to go together, and so you have a multiplier effect.

2001 The project in Youngstown, Ohio, for example, on the 3-D
2002 manufacturing--or additive manufacturing sometimes it is
2003 called--is a good example. This is a technology that is
2004 already penetrating the manufacturing sphere but it is only
2005 just kind of a toe in the water. So that is a place where we
2006 have got to put that into our manufacturing environment quite
2007 solidly. The next one will be on some semiconductors. That
2008 is out there right now.

2009 So again, I think we really need to think about in the
2010 end we need to capture the high-margin parts of the supply

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2011 chains of clean technologies.

2012 Ms. {Matsui.} Okay. This market is going to be worth
2013 trillions of dollars in the next decade. What needs to
2014 happen for the United States to lead in this market?

2015 Secretary {Moniz.} Well, I think much of this will
2016 happen in the private sector, but I think the Federal
2017 Government does have a role, as we just described. This is a
2018 good example in the manufacturing initiative. But I would go
2019 back to what may be even more important and that is
2020 developing our human capital. I mean this is absolutely
2021 essential and, in fact, one of the things that I would like
2022 to perhaps at some point--and I think about it more--talk
2023 with members of this committee and others in the Congress is
2024 I think at the Department of Energy we should maybe think
2025 about doing traineeships that focus right in on the key parts
2026 of energy technologies, energy activities where perhaps we
2027 are not producing enough young people, and to go back to
2028 Congressman Rush's point in making sure we are drawing upon
2029 the entire range of our human capital.

2030 Ms. {Matsui.} Okay. Well, that is good.

2031 First of all, I want to talk a little bit about ARPA-E.

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2032 Can you tell us about the work ARPA-E is doing to invest in
2033 potentially breakthrough technologies and attract private
2034 capital support to the development of these technologies?

2035 Secretary {Moniz.} ARPA-E is, I think, was a wonderful
2036 initiative. And I really credit Secretary Chu for pushing
2037 that both before he was Secretary in a report of the National
2038 Academy and then as Secretary. I think ARPA-E, in many ways,
2039 I think it is the face of innovation for the Department of
2040 Energy. It does business in a different way. It is
2041 targeting specific areas.

2042 For example, going forward, there will be a much bigger
2043 focus on advanced transportation options coming forward and
2044 soliciting ideas that sometimes are a little bit out there,
2045 pretty risky. I think, you know, we will have to judge
2046 ultimately 7 years down the road whether these technologies
2047 scale up to be major marketplace players. But every
2048 indicator is extremely encouraging, certainly, lots of lots
2049 of patents, disclosures, startup companies coming out of it.

2050 I will note we shouldn't forget I think if you go back
2051 to the very first request for proposals or concept papers,
2052 there were more than 3,000 concept papers put in for 37

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2053 awards. I do not think we are tapping our full capacity to
2054 innovate in this country. We need to do more of it.

2055 Ms. {Matsui.} All right. Thank you, Mr. Secretary.

2056 Thank you.

2057 Mr. {Whitfield.} The gentlelady's time is expired.

2058 At this time, recognize Mr. McKinley from West Virginia
2059 for 5 minutes.

2060 Mr. {McKinley.} Thank you, Mr. Chairman.

2061 Mr. Secretary, earlier in the remarks, Chairman
2062 Whitfield noted about your predecessor and his aversion to
2063 fossil fuels, very clear, and he made that throughout the 4
2064 years he was there making that clear with that. It
2065 manifested itself in the budget with increasing money is
2066 being spent on renewable energy sources, on R&D, but it
2067 decreased in fossil energy R&D. So I have got a chart that
2068 shows that what happened in the time preceding his
2069 administration and then in the last; you see the direction we
2070 have gone and in fossil fuel research.

2071 So I am just concerned with that, not only the direction
2072 but also because I found that I am trying to reconcile the
2073 information that your office up here only had provided from

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2074 your predecessor, and that was over the \$421 million, as
2075 indicated there at the end. It says that is a 24.8 percent
2076 increase. Mr. Secretary, just saying so doesn't mean it, so
2077 I am trying to understand if your office would get back to me
2078 to explain why they think that is a 24 percent increase when
2079 in reality you can see that it is a fairly significant
2080 decrease in funding for the National Energy Technology
2081 Laboratory. I am sure that Mr. Doyle, Murphy, and all of
2082 those of us that have an interest in those facilities that we
2083 don't see that money cut any further.

2084 So my point here with this a little bit is that during
2085 your Senate confirmation there were statements to that effect
2086 and newspaper articles how you are supporting the CCS
2087 research and R&D, and I applaud you for that because we need
2088 to have that. I am a little concerned whether you will be
2089 able to carry that out if we continue to have a lessening
2090 amount of money in R&D with NETL.

2091 So the question that I would ask is do you support or
2092 are you supporting the President's proposed decrease in
2093 funding for NETL or will you make an effort to alter or work
2094 with us to alter it so that we can get that money back up to

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2095 a more reasonable level?

2096 Secretary {Moniz.} First of all, I think there is
2097 again--I think not shown on this graph is the \$3 plus billion
2098 of Recovery Act funding that has already been put out there
2099 for the CCS projects. So that is--

2100 Mr. {McKinley.} This all came from the Congressional
2101 Research Service.

2102 Secretary {Moniz.} But I think that is separate. But I
2103 think we need to look at the whole picture. The other thing--
2104 --and I just don't know from this picture--NETL also receives
2105 \$12-1/2 million a year for research from the Royalty Trust
2106 Fund. Now, I think the bottom line is, however, frankly,
2107 back in 1999 we were part of forming NETL from the previous
2108 FETC--

2109 Mr. {McKinley.} Okay.

2110 Secretary {Moniz.} --and I think that NETL is our lead
2111 laboratory for fossil energy research--

2112 Mr. {McKinley.} Thank you.

2113 Secretary {Moniz.} --and I have worked with--

2114 Mr. {McKinley.} If I could--and I appreciate you--we
2115 are going to have more of a discussion, but there were some

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2116 other remarks earlier, and I want to maybe parse the words a
2117 little bit. You said that it is indisputable that there is
2118 global temperature change. I don't know too many of us who
2119 disagree that there has been some global temperature change,
2120 but my question, do you agree with Congressman Waxman that it
2121 is primarily manmade? Or is it natural and cyclical?

2122 Secretary {Moniz.} I believe in my view there is no
2123 question that a major component is anthropogenic.

2124 Mr. {McKinley.} Interesting.

2125 Secretary {Moniz.} And that comes from--

2126 Mr. {McKinley.} Is that from a consensus?

2127 Secretary {Moniz.} It is practically--I would say 98
2128 percent of scientists involved in this area--

2129 Mr. {McKinley.} You are aware of the petition process
2130 has 32,000 scientists and physicists who have disagreed that
2131 it is manmade?

2132 Secretary {Moniz.} But sir--

2133 Mr. {McKinley.} They say it is contributing. I think
2134 it would be irresponsible to say we don't contribute, but is
2135 it primarily--

2136 Secretary {Moniz.} If I may say, and I would be happy

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2137 to come and have a long discussion, but a few facts that,
2138 first of all, the rise in CO2 emissions in the last half-
2139 century is clearly tracked to our global increased energy
2140 use. Secondly, I know how to count. I can count how many
2141 CO2 molecules have gone out from fossil fuel combustion, and
2142 I know how many additional CO2 molecules are in the
2143 atmosphere.

2144 Mr. {McKinley.} Let me just close with saying in terms
2145 of consensus, I think consensus has a place in politics but
2146 consensus doesn't have a place in science.

2147 Secretary {Moniz.} Again, sir, I just want to clarify.
2148 My--

2149 Mr. {McKinley.} I yield back my time.

2150 Secretary {Moniz.} --judgment is based on numbers on
2151 data and not on the consensus. And I would be really
2152 delighted if we could have a discussion.

2153 Mr. {McKinley.} If we could have that, I would like to
2154 do it. Thank you very much.

2155 Secretary {Moniz.} Thank you.

2156 Mr. {Kinzinger.} [Presiding] The gentleman's time has
2157 expired. The chair recognizes the member from Virgin

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2158 Islands, Ms. Christensen, for 5 minutes.

2159 Dr. {Christensen.} Thank you, Mr. Chairman.

2160 And welcome, Secretary Moniz, and thank you for your
2161 testimony and we look forward to working with you to
2162 implement your and the President's agenda for the Department
2163 and the country.

2164 Some of my questions have been answered. I had some
2165 questions around weatherization because it is such an
2166 important program. It has helped low-income families for
2167 over 30 years now. And in 2012 the funding was at a historic
2168 low but the President's request for 2014 really aims to
2169 ensure that the program can continue providing these
2170 important services. And that would be especially important
2171 for every place in the United States but in my district where
2172 we face energy costs of over five times the national average.

2173 You talked a bit about including job training. Is that
2174 included in the President's budgetary increase or is that
2175 something that you are looking forward to doing? Because I
2176 think that is very important as well as, you know--

2177 Secretary {Moniz.} This traineeship idea is one that I
2178 would like to start to work to develop.

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2179 Dr. {Christensen.} Okay. And in determining the
2180 funding that goes to the States and the territories--I
2181 represent the Virgin Islands, so I am a territory--you
2182 generally have a formula, but is the funding level ever
2183 influenced by need or is it just a straight formula? And you
2184 may not know that at this point.

2185 Secretary {Moniz.} I believe that at the moment we are
2186 locked into kind of a formula, but as you said, also in the
2187 weatherization case, what was--

2188 Dr. {Christensen.} It is the weatherization I am
2189 talking about.

2190 Secretary {Moniz.} Yes, in weatherization it is
2191 absolutely critical if a Continuing Resolution would have
2192 that funded at 70 million. It got so low because of the
2193 Recovery Act funding but it has to now come back up. And the
2194 request is for 184 in fiscal year 2014. At 70 million we
2195 could not sustain the program nationally.

2196 Dr. {Christensen.} Okay. And I am asking because we
2197 have a letter into your office requesting an increase even
2198 just for a couple of years because of our high energy costs.

2199 And then the other question I had has to do with solar

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2200 programs, and as you have said already, DOE is conducting a
2201 range of research development and demonstration and
2202 deployment activities for renewable sources, and could you
2203 tell us about the SunShot Initiative? Did you speak about
2204 that already?

2205 Secretary {Moniz.} Well, no, I have not. So the
2206 SunShot Initiative we feel very good about in terms of where
2207 it is going. It is about driving down the cost of solar, and
2208 it is happening. The solar costs have dropped incredibly.
2209 Solar module cost is now somewhere around \$1 per watt, and it
2210 wasn't long ago that that was \$2.50. So we are getting into
2211 a very interesting area.

2212 Dr. {Christensen.} You have a very ambitious goal of
2213 dropping to 6 cents per kilowatt by the end of the decade.
2214 You think you are on track for that?

2215 Secretary {Moniz.} I think we are on the technology.
2216 Then the question is to get that, there will be a lot of
2217 requirements as well in terms of local regulations, how you
2218 install systems because installation costs are now getting to
2219 be larger than the solar technology cost itself.

2220 And I might say, you know, in Germany, for example,

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2221 their installation costs are about 40 percent of our costs
2222 through some uniform standards.

2223 Dr. {Christensen.} I have been interested in OTEC for
2224 quite a while. Is the Department investing in research of
2225 that particular technology, the ocean thermal--

2226 Secretary {Moniz.} To be honest, I am not sure where
2227 the Department stands right now on that program.

2228 Dr. {Christensen.} I have not noticed or seen anywhere
2229 where there is a lot of activity but, you know, for a place
2230 like ours, small islands surrounded by ocean--

2231 Secretary {Moniz.} Yes.

2232 Dr. {Christensen.} --some deep water that can
2233 accommodate it, it would just seem like a renewable energy
2234 that we ought to pursue. And, you know, I hope that in your
2235 tenure you will take a look at it.

2236 Secretary {Moniz.} Okay. I will.

2237 Dr. {Christensen.} Thank you. Mr. Chairman, I yield
2238 back.

2239 Mr. {Kinzinger.} The gentlelady yields back.

2240 The chair now recognizes himself for 5 minutes.

2241 Mr. Secretary, thank you for being here. The Department

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2242 of Energy is fortunate to have somebody with your technical
2243 and scientific expertise. Personally, I am excited to see
2244 the direction you take regarding nuclear policy considering
2245 your background. As we are all aware, your time is short in
2246 office but the course that you take now has the potential to
2247 steer the Department for years and decades to come. I hope
2248 you choose nuclear policy as one of your priorities.

2249 I am concerned with the current direction of our nuclear
2250 energy policy as nuclear is a reliable and clean source of
2251 massive amounts of energy both domestically and through the
2252 world. In fact, in Illinois 50 percent of our energy is from
2253 nuclear. With our infrastructure and experience, the U.S.
2254 should be the leader in the realm of nuclear know-how and
2255 operation, but our current nuclear energy strategy is
2256 unstructured and without clear goals. This lack of direction
2257 leaves our scientists and labs vulnerable when appropriators
2258 are looking for areas to cut.

2259 With the closure of a number of nuclear plants in just
2260 the past few months alone, I am afraid the U.S. is going to
2261 see a vacuum of nuclear energy experts in the very near
2262 future, and as those individuals and their knowledge are

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2263 snatched up by foreign competitors, there is no getting them
2264 back.

2265 An effective nuclear energy policy should look to use
2266 the best resources available to us in order to lead the world
2267 in this area. In your written testimony, you mentioned that
2268 our national labs have unique capabilities and expertise to
2269 provide technical assistance. I was happy to read this, as I
2270 also believe that our national labs such as Argonne National
2271 Lab in my home State of Illinois can play a key role in
2272 devising an enhanced nuclear energy security strategy.
2273 Collaborative partnerships among our national laboratories to
2274 develop such a strategy are going to be key to U.S. nuclear
2275 energy leadership in the future, and I hope that you will
2276 look towards developing the unique capabilities of those labs
2277 as you look to improve innovation and effectiveness of the
2278 Department of Energy's energy programs.

2279 Just a few questions: A number of DOE national labs,
2280 Idaho, Oak Ridge, Savannah River, Argonne--have begun talks
2281 with one another in order to gain full advantage of their
2282 collective expertise in nuclear energy. Do you have any
2283 plans or what are your plans to help with this collaborative

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2284 process moving forward in order to get the most of what each
2285 of them has to offer?

2286 Secretary {Moniz.} Thank you. First, more generally
2287 than nuclear energy specifically, I have met already with all
2288 the lab directors. We met down in Oak Ridge actually in my
2289 first week in office basically. And so I am working with
2290 them to engage the laboratory leadership much more what I
2291 would call in a strategic partnership for the Department as
2292 to where we are going. The phrase I would use is if you want
2293 people there on the landing, you should have them there on
2294 the takeoff. And so we are working to try to talk about what
2295 are the strategic technology directions that we are going.

2296 Among those is clearly nuclear, and you have named to
2297 the labs that are leading it. Actually, others; Los Alamos
2298 also contributes, but clearly, Idaho and Argonne historically
2299 and Oak Ridge were probably the three largest.

2300 Mr. {McKinley.} And what are your goals for the growth
2301 of nuclear energy overall and how do you believe the budget
2302 put forward by your agency can successfully accomplish all of
2303 those goals?

2304 Secretary {Moniz.} Well, I think in my view the way I

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2305 have always looked at it is our job is to make sure the
2306 marketplace in the end has the choices that it needs. Among
2307 those choices should be nuclear power. I think now there are
2308 several issues. I mean one is, as you know--

2309 Mr. {McKinley.} I have got a couple more so I will just
2310 cut you off if that is okay.

2311 Secretary {Moniz.} Yes, sure. Sure, sure.

2312 Mr. {McKinley.} We have done high-level comparisons
2313 with this Administration's budget proposal for the Office of
2314 Nuclear Energy. What we found is a decline since 2010 of
2315 actually almost 28 percent. What is a little more striking
2316 is that during that time DOE moved some additional line items
2317 into the nuclear energy budget that seem to mask even a
2318 sharper decline. Given the environmental benefits of nuclear
2319 energy and its contribution to energy security do you think
2320 such a decline is appropriate or could it cause any problems?
2321 And will you commit to examine this apparent decline knowing
2322 that you are new in this position and respond to this
2323 committee with a full explanation of it?

2324 Secretary {Moniz.} I would be happy to, and I have
2325 spoken with Pete Lyons. I am committed to maintaining a

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2326 healthy nuclear energy program. SMRs are an important
2327 direction, for example. Also, we should note there is the
2328 commitment at least made on the very, very large loan
2329 guarantee to help stimulate the construction of reactors in
2330 Georgia.

2331 Mr. {McKinley.} Wonderful. Thank you and I yield back.

2332 And the chair recognizes Mr. Doyle for 5 minutes.

2333 Mr. {Doyle.} Thank you, Mr. Chairman.

2334 Mr. Secretary, welcome back for your inaugural visit in
2335 a different capacity, but we are happy you are here and we
2336 look forward to working with you. I just want to get some
2337 clarity to some of the remarks that my friend Mr. McKinley
2338 made on CCS.

2339 The President's fiscal year 2014 budget request for
2340 research related to CCS is 376.6 million, which is a decrease
2341 of 23 percent below the fiscal year 2012 enacted levels.
2342 Now, I heard you make mention of stimulus money, some \$3
2343 billion, and I am curious. That is back in, what, 2009? How
2344 much of that \$3 billion has yet to be spent or is currently
2345 being--you know, is that \$3 billion gone?

2346 Secretary {Moniz.} No, it is not. I can't give you the

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2347 exact number. I can get it later on. But in some cases much
2348 of the funding has been expended. As an example, the
2349 industrial project which I believe is in Illinois is well
2350 along. On the other hand, another project in Illinois
2351 actually, I think the FutureGen, is still in the second phase
2352 prior to the major construction, and they are, to be honest--
2353 and it is well known that we need to pick up the pace in
2354 order to have those funds expended prior to the end date for
2355 recovery funds.

2356 Mr. {Doyle.} Yes, I would be curious to see how much
2357 still exists in the 3 billion.

2358 Secretary {Moniz.} Okay.

2359 Mr. {Doyle.} The other thing I am just curious about
2360 when you look at the subprograms within CCS, in the carbon
2361 capture part of this subprogram there is an increase of 62
2362 percent in that budget from fiscal year 2013, but in the
2363 storage subprogram, that has been decreased, almost been cut
2364 in half. I am just curious why the increase in the money is
2365 going into capture and then a decrease in funding on the
2366 storage end? What is all of that?

2367 Secretary {Moniz.} I think the reason is that--I think

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2368 I like to just think about it as these two fundamental
2369 problems. One is we need to demonstrate the storage with
2370 substantial injections over an extended period of time. That
2371 is what those recovery-funded projects are going to do using
2372 conventional capture technology. But for power plants in the
2373 long-term, the big cost driver is the capture technology. So
2374 the research is looking at the cost reduction of new capture
2375 technologies while the big demonstration projects will
2376 address the storage side.

2377 Mr. {Doyle.} Thank you very much.

2378 Mr. Secretary, over the past 10 years, my colleagues and
2379 I have been championing efforts to support the development
2380 and commercialization of fuel cell technologies to promote
2381 our U.S. energy independence. And in particular, I am deeply
2382 committed to promoting the success of the Solid State Energy
2383 Conversion Alliance, SECA, under your fossil energy section.

2384 SECA is a successful partnership, as you know, between
2385 the government, academia, industry, and the national labs in
2386 developing solid oxide fuel cells that are capable of cleanly
2387 and efficiently utilizing our domestic energy resources, most
2388 notably natural gas, in the coming years. In fact, SECA has

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2389 met or exceeded every benchmark that has been set for it by
2390 Congress and the DOE.

2391 Now, you have spoken of the importance of natural gas as
2392 a bridge to a cleaner energy future. Solid oxide fuel cells
2393 such as those under development in SECA are the cleanest,
2394 most efficient way to use natural gas, as well as a range of
2395 domestic energy sources. So in light of your support for
2396 natural gas, what are your plans for ensuring the continued
2397 success of the SECA program to ensure we develop technologies
2398 that make the most efficient use of that fuel?

2399 Secretary {Moniz.} To be honest, I will have to go and
2400 look at that in detail, but I can make a few comments because
2401 I have not been briefed on this to be honest in the last 3
2402 weeks. But one, I do know that certain costs have come down,
2403 perhaps partly through SECA, I mean, 35 percent kind of cost
2404 reductions in the last few years. And secondly, I think also
2405 solid oxide fuel cells could be very interesting for
2406 combining power applications because of their higher
2407 temperatures. So I will look into that and get back to you
2408 on the specifics.

2409 Mr. {Doyle.} Thank you, Mr. Secretary. I wish you well

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2410 and I look forward to working with you. I yield back.

2411 Secretary {Moniz.} I do as well.

2412 Mr. {Whitfield.} Sorry. I was thinking about something

2413 else there for a moment. Your comments are so insightful

2414 that it makes me think about other things.

2415 Secretary {Moniz.} Thank you.

2416 Mr. {Whitfield.} Mr. Olson of Texas, you are recognized

2417 for 5 minutes.

2418 Mr. {Olson.} I thank the chair.

2419 And welcome to Secretary Moniz. Congratulations on your

2420 nomination by the President to be the 13th Secretary of

2421 Energy and by being confirmed by the Senate with an

2422 impressive 97-to-nothing vote.

2423 Mr. Secretary, my home State of Texas is the fastest-

2424 growing State in the Union. Texans want to sustain that

2425 growth and they know that one of our challenges is reliable

2426 power being available. Federal and state regulators agree

2427 that we could see a crisis on our grid if we have another hot

2428 summer like the August 2011.

2429 One of the most significant areas of fossil fuel

2430 research in the DOE's budget is carbon capture and

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2431 sequestration. And since I gathered this information on
2432 sequestration at MIT.edu, I assume you are aware of a DOE-
2433 supported--I guess you would call it--CCUS project at the
2434 W.A. Parish power plant outside of Needville, Texas, in my
2435 district. The goal of this project is to decrease CO2
2436 emissions by 90 percent with appropriate reductions in SOx,
2437 NOx, and mercury emissions. The captured CO2 will be used
2438 for enhanced oil recovery operations in nearby old oil
2439 fields.

2440 DOE issued its final EIS on March 15 of this year with
2441 the finding of negligible to minor environmental impacts.
2442 The W.A. Parish plant is leading the CCUS research but they
2443 will tell you, like you said here, CCUS is not ready for
2444 prime time.

2445 Well, let me step back. CCUS is not realistic for many
2446 power plants. We are unique because we are so close to a
2447 former oil field. Unfortunately, EPA is not waiting for DOE
2448 to do the research and the proposed regulations that
2449 essentially mandate the use of unproven CCUS technologies on
2450 any new coal-fired power plant. My State needs power but the
2451 EPA is effectively banning a major source of new generation

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2452 by requiring unproven technology in our power plants. In a
2453 sense, W.A. Parish has committed to invest \$163 million in
2454 this project. Will you commit to work with them to see that
2455 their unique circumstances for CCUS are economically viable
2456 from a market perspective?

2457 Secretary {Moniz.} I should be happy to be briefed by
2458 them and to discuss with them, yes.

2459 Mr. {Olson.} And help them get EPA out of the way?

2460 Secretary {Moniz.} Well, I think that we will have to
2461 see what the situation is.

2462 Mr. {Olson.} Yes, sir. I appreciate your commitment.

2463 And as you know, another tool you have to help my home
2464 State avoid blackouts is Section 202(c) of the Federal Power
2465 Act. Under Section 202(c) DOE has the authority to order a
2466 power plant to run during an emergency even if that would
2467 cause a brief violation of environmental laws.

2468 Unfortunately, EPA environmental groups have usurped
2469 DOE's 202(c) of authority by bringing lawsuits which have
2470 resulted with power plant owners paying fines for complying
2471 with DOE regulations and orders. Two weeks ago, the House
2472 passed my bill, H.R. 271 to prevent this regulatory trap.

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2473 The last Congress it was favorably discussed by the FERC
2474 commissioners and your predecessor Secretary Chu.

2475 The Senate has yet to take up the bill, so I am going to
2476 go Texan and shoot straight. Do you support my bill, H.R.
2477 271?

2478 Secretary {Moniz.} Sir, I will have to study it first
2479 but it sounds like an issue I should get up to speed on.
2480 Thank you.

2481 Mr. {Olson.} Thank you. I appreciate that.

2482 And finally, your department has some critical decisions
2483 ahead of it on LNG exports. My support for LNG exports comes
2484 from a strong belief in free markets and my State's booming
2485 energy production. But most importantly, LNG exports can
2486 sustain our national security, strengthen it, by developing
2487 relationships with countries that are important to the United
2488 States of America.

2489 One of those countries is India. There is a vibrant
2490 Indo-American community in my district. Our relationship
2491 with India is key and our Indian allies can either buy gas
2492 from us or by gas from nations like Iran.

2493 My first question--and I am running out of time here--is

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2494 do you support energy exports? Yes or no?

2495 Secretary {Moniz.} Well, again, I will be evaluating
2496 the export applications on a case-by-case basis
2497 expeditiously. I might also add I will be in India in two
2498 weeks.

2499 Mr. {Olson.} Great. Great. Bring this up. They will
2500 bring it up with you; I can guarantee you. I am out of my
2501 time. Thank you.

2502 Mr. {Whitfield.} The gentleman's time is expired. At
2503 this time, I recognize the gentleman from Virginia, Mr.
2504 Griffith, for 5 minutes.

2505 Mr. {Griffith.} Thank you, Mr. Chairman. I appreciate
2506 that. Following up on LNG, multiple studies of LNG exports
2507 have pointed out that the U.S. projects are in a race to meet
2508 worldwide demand for LNG with international projects all
2509 around the world. Do you agree the delays in the DOE
2510 permitting process are putting U.S. export projects at a
2511 disadvantage compared to competing projects in the Middle
2512 East, Russia, and elsewhere?

2513 Secretary {Moniz.} Well, I am not sure I characterized
2514 delays. I mean I am starting my own process now--

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2515 Mr. {Griffith.} Yes, sir.

2516 Secretary {Moniz.} --expeditiously, but I do want to
2517 point out the pitfalls of litigation, et cetera, are there so
2518 we have to do it right. So I want to be very, very
2519 systematic, transparent, and march through these as
2520 expeditiously as I can.

2521 Mr. {Griffith.} And I would also be remiss being a
2522 representative from Virginia--even though I am a long way
2523 from the shore--that Virginia believes that we have a lot of
2524 natural gas offshore, and we would love to be able to get to
2525 that and any oil that might be out there as well. And that
2526 has been the policy of at least the House of Delegates in
2527 Virginia since 2004 when I was there and has been the policy
2528 of the State as a whole, I think, for about the last 45
2529 years. But if you could expedite that, that would be great.
2530 We are ready to get started.

2531 Secretary {Moniz.} It is not in my lane.

2532 Mr. {Griffith.} I understand. I will tell you that it
2533 is interesting when you study all of these issues and you
2534 look at the environment and you look at ways and problems and
2535 things that we have to move forward on. And it is one of

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2536 those things that I have always loved is that in the 1890s
2537 the major cities of the world, particularly northeastern
2538 United States and some others, were very concerned about the
2539 environmental problem that they were having with dealing with
2540 the dead horses. And through technology, we were able to
2541 move forward without having that problem. They worried about
2542 having to deal with manure as high as 30-story buildings and
2543 the environmental impact of not being able to get the
2544 decaying horse carcasses out of the streets in a timely
2545 fashion when the population rose and they were looking at
2546 projections out to 1930 and 1950.

2547 That being said, you were, I believe, the cochairman of
2548 a group at MIT that did a report in 2007 on the future of
2549 coal. And while there are a number of difficulties that
2550 people look at with coal, there is also some really
2551 interesting technological advances that are moving forward.
2552 And so I would ask why, when we look at the budget, do we not
2553 see more money being spent on looking at some of these
2554 technological advances that have come forward?

2555 And I would point to a number of things. One of the
2556 things that was mentioned there is chemical looping and that

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2557 was mentioned in that report. And now, it appears that an
2558 Ohio State University professor, whose first name I am not
2559 familiar with how to pronounce but his last name is easy, I
2560 think, Fan, has come up with a way to use coal. Obviously,
2561 it is in the preliminary stages but to burn or to get the
2562 energy out of coal with virtually no pollutants. A little
2563 coal ash leftover is about it. And he is now taking that or
2564 they are taking that to Alabama and DOE has some money in
2565 that.

2566 But I am wondering why, when we look at reports--and I
2567 am looking at one of the charts that we were provided, budget
2568 for Applied Energy, I am wondering why we don't have more
2569 money going into projects like that to see if we can't make
2570 this technologically feasible since we are in fact in the
2571 United States, the kings of coal throughout the world?

2572 Secretary {Moniz.} Well, again, I will repeat but not
2573 go into detail there is of course the huge amount of money
2574 sitting there in advancing the CCS projects, some of which
2575 are also advancing the technologies along the lines you are
2576 saying. For example, one of the projects is a so-called oxy
2577 combustion project as opposed to a conventional boiler, et

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2578 cetera. The chemical looping, very interesting.

2579 As was already said, we do have an increased focus on
2580 carbon capture technologies and also advanced materials, very
2581 important for--

2582 Mr. {Griffith.} I think that means that we can count on
2583 you to embrace, develop, and ensure the success of these
2584 types of programs for transformational coal technologies.

2585 All right. And I just have a few seconds left but I would
2586 ask that you continue to work in those directions and do fund
2587 I believe it is the National Energy Technology Laboratory
2588 that has been working with the Ohio State project even though
2589 they have got \$5 million. It was 15 years in the
2590 development.

2591 Secretary {Moniz.} Right.

2592 Mr. {Griffith.} But I do have to say when I look at
2593 this chart and I see, you know, biomass and bio refineries
2594 ahead of coal, I am disturbed by that because I really
2595 believe that with our great resource out there of coal that
2596 finding a way to make everybody happy and burning it and
2597 giving jobs back to the 9th District that had been stripped
2598 away over the last few years is extremely important, and I

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2599 would encourage you to continue to pursue that and count on
2600 me in any way that I can be helpful in moving those projects
2601 forward. Thank you.

2602 Secretary {Moniz.} Thank you.

2603 Mr. {Griffith.} And I yield back, Mr. Chairman.

2604 Mr. {Whitfield.} The gentleman yields back.

2605 At this time, I recognize the gentleman from Colorado,
2606 Mr. Gardner, for 5 minutes.

2607 Mr. {Gardner.} Thank you, Mr. Chairman.

2608 And thank you, Mr. Secretary. And I don't know. You
2609 may need a little more time to answer this question; I am not
2610 sure yet. But one of the issues that I hope that you would
2611 be able to address is the building of transmission lines to
2612 help get power to and from rural areas. My district in
2613 Colorado is the size of the State of South Carolina. In
2614 fact, it is a little bit bigger than the State of South
2615 Carolina. And there have been significant issues with the
2616 building of transmission lines on federal lands. Are you
2617 aware, and if so, what is your view of the Interagency Rapid
2618 Response Team which is housed in your agency?

2619 Secretary {Moniz.} You are right; I will have to get

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2620 back to you on that.

2621 Mr. {Gardner.} All right. So I would like to ask a
2622 series of questions--

2623 Secretary {Moniz.} Yes.

2624 Mr. {Gardner.} --if you don't mind on the Interagency
2625 Rapid Response Team and just perhaps get some examples of
2626 successes they have had, some measurements that you are using
2627 to define or determine success. And perhaps if you could get
2628 back with us on specific results of the RRT's efforts to this
2629 point so far and a discussion of the process the RRT uses,
2630 recommendations for improving its effectiveness, and plans
2631 for how to implement those recommendations going forward. It
2632 is very important, I think, to the development of renewable
2633 energy in Colorado and opportunities that we have on federal
2634 lands and resources.

2635 In your testimony you cited that the President's budget
2636 increased investment for Department of Energy efficiency
2637 measures. You also state that you are instituting energy
2638 efficiency measures that reduce energy use in federal
2639 agencies and the industrial and building sectors. I was
2640 interested in your Department's promotion of energy savings

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2641 performance contracts. As you know, the President wrote a
2642 memorandum to federal departments and agencies on improving
2643 energy efficiency in our federal building inventory December
2644 2011. It is a program where private companies take the risk
2645 on the upgrading of federal buildings at no cost to the
2646 taxpayer. Can you provide an update of the use of ESPCs by
2647 the Department of Energy? And you can get back to us if you
2648 would like.

2649 Secretary {Moniz.} Sure. And I can't note also now,
2650 well, first of all, that I am a big fan of ESPCs. Number
2651 two, right now, the commitments are approaching \$600 million
2652 against the \$2 billion target.

2653 Mr. {Gardner.} The overall target, right?

2654 Secretary {Moniz.} The overall target. And I have to
2655 admit the end of this year is going to be pretty tight but I
2656 think that the pipeline that is in there will hit the \$2
2657 billion target in maybe a year or two later.

2658 Mr. {Gardner.} And I just would like to note that one
2659 of my colleagues on this committee, Peter Welch from Vermont,
2660 and I are going to be working on legislation that will
2661 encourage even more utilization of ESPCs and hope that we

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2662 could work together on the use of ESPCs.

2663 Secretary {Moniz.} In general in the whole efficiency
2664 agenda is one I would love to work with you on.

2665 Mr. {Gardner.} Very good. And are you consulting the
2666 President on the Keystone XL pipeline?

2667 Secretary {Moniz.} No, I am not.

2668 Mr. {Gardner.} Do you think you should be consulting
2669 with the President as Department of Energy Secretary?

2670 Secretary {Moniz.} Well, I think the Department is
2671 prepared, of course, to provide technical analysis. Of
2672 course, the EPA is involved in terms of the environmental
2673 statements. And then Secretary Kerry, I think, is the lead--

2674 Mr. {Gardner.} But so far you haven't consulted with
2675 the White House or the Department of State on the Keystone
2676 pipeline?

2677 Secretary {Moniz.} To date I have personally not. Of
2678 course, Secretary Chu may have.

2679 Mr. {Gardner.} And what is your opinion of the Keystone
2680 XL pipeline?

2681 Secretary {Moniz.} I think that it is a decision for
2682 Secretary Kerry.

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2683 Mr. {Gardner.} Well, what would your advice be to
2684 Secretary Kerry?

2685 Secretary {Moniz.} To evaluate all the factors in the
2686 public interest.

2687 Mr. {Gardner.} Very good. So no answers on that. That
2688 is quite all right for the time being.

2689 The Americans against Fracking opposed your nomination.

2690 Secretary {Moniz.} Say that again?

2691 Mr. {Gardner.} Americans against Fracking opposed your
2692 nomination because you had stated earlier today your position
2693 on fracking. Would you agree with both previous
2694 Administrator Lisa Jackson, as well as Governor Hickenlooper
2695 in Colorado, who have said that they are not aware of any
2696 proven case where the fracking itself has affected water?

2697 Secretary {Moniz.} That is true to my knowledge as
2698 well.

2699 Mr. {Gardner.} And what did you say or your response to
2700 Americans against Fracking in your support of hydraulic
2701 fracturing? What did you respond to them?

2702 Secretary {Moniz.} Well, actually, I did not respond.
2703 I have a public record in terms of what I think. I have

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2704 repeated that here today and that remains my position.

2705 Manageable, challenging, must be managed.

2706 Mr. {Gardner.} You know, city did a report talking
2707 about energy independence, North American energy independence
2708 is a real possibility of the American energy renaissance in
2709 this Nation. Can we get to energy independence and continue
2710 the energy renaissance in this country without hydraulic
2711 fracturing?

2712 Secretary {Moniz.} Well, that is a difficult question.
2713 I mean I think certainly given all of our assets,
2714 particularly in North America, there really is a chance that
2715 we could be that independent. It doesn't mean we wouldn't be
2716 exporting and importing but--

2717 Mr. {Gardner.} Right, but can we do it without--

2718 Secretary {Moniz.} --and have as many BTUs as we do--

2719 Mr. {Gardner.} Can we do it without hydraulic
2720 fracturing?

2721 Secretary {Moniz.} Well, today, obviously, it is a huge
2722 contributor for both oil and gas. So--

2723 Mr. {Gardner.} So the answer is no, we could not do it
2724 without--

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2725 Secretary {Moniz.} No, I have a harder time seeing it
2726 clearly without that. But, you know, we are going to be
2727 moving, I think, increasingly to alternative technologies as
2728 well, so I can't rule it out. But clearly, if you look at--

2729 Mr. {Gardner.} But hydraulic fracturing is a critical
2730 part of our energy--

2731 Secretary {Moniz.} Today, it is absolutely critical.
2732 Sure, we would not have the increased oil and gas production
2733 without it.

2734 Mr. {Whitfield.} The gentleman time is expired. At
2735 this time I will recognize the gentleman from Ohio, Mr.
2736 Johnson, for 5 minutes.

2737 Mr. {Johnson.} Well, thank you, Mr. Chairman, for
2738 holding this important committee and for allowing me to
2739 participate.

2740 And, Mr. Secretary, congratulations to you for your
2741 appointment and confirmation to what I believe is one of the
2742 most important Cabinet positions in the Nation right now.

2743 As you may know, my colleague from Ohio, Tim Ryan, and I
2744 have formed a bipartisan LNG Export Working Group along with
2745 six Republicans and Democrats. It is a bipartisan group.

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2746 And a number of them are on this committee and have already
2747 participated in this hearing today. I am going to stay on a
2748 subject that is familiar, LNG exports for a minute or two.

2749 You know, we did not expect you to be sworn into your
2750 new job and start approving pending applications to export to
2751 non-Free Trade Agreement countries overnight. Many in
2752 Congress, however, believe that the time for review has
2753 passed. You have commented just a few minutes ago in your
2754 questions that, I think if I understood you right, you said
2755 you couldn't comment on the delays or what the delays were.
2756 But I can tell you that almost all of the applications have
2757 been pending for over 100 days, and at least one of them has
2758 been pending for almost 800 days. The studies have been
2759 done.

2760 So my question to you--and I appreciate and I am
2761 encouraged that you have said you are going to be
2762 expeditiously evaluating and planning to take action through
2763 the remainder of this year, but there is quite a bit of time
2764 left in this year and there are a lot of applications out
2765 there. So when will you and the Department start making
2766 decisions on what have been languishing for the better part

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2767 of 2 years?

2768 Secretary {Moniz.} Well, as I have said, sir, you know,
2769 I have had to get my head around it, as you have
2770 acknowledged. We are getting, I think, very close to the
2771 time. We are going to start evaluating those dockets.

2772 Mr. {Johnson.} Well, you know, I would encourage you--
2773 and I am sure you have heard this before, let the market
2774 drive this. You know, I mean our private sector oil and gas
2775 folks, they will make the right decisions given that all of
2776 the evaluations have been done. Let's open this up and let
2777 the market drive it and create the jobs that are going to
2778 come with it.

2779 Do you foresee in the evaluation process the Department
2780 of Energy working through the application list in a different
2781 order than in which they were submitted or filed to take into
2782 account which projects may be more viable than others to
2783 build? And if so, what factors might the Department look at
2784 in determining that?

2785 Secretary {Moniz.} Well, no, sir. I think we are going
2786 to stay with the order. I think to start injecting new
2787 subjective judgments I think would just kind of confuse the

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2788 situation and open up some more criticism and possible
2789 intervention so--

2790 Mr. {Johnson.} Wow. Well, I like that answer. You are
2791 one of the first in this Administration to avoid picking
2792 winners and losers here in Washington. I think that is
2793 commendable. I would again urge you to consider let's just
2794 get these approved and let's let the market drive it.

2795 Let me move to another subject now. I would like to
2796 switch gears a little bit, a subject that one of our
2797 colleagues mentioned earlier, and talk about an issue that is
2798 important not only to my constituents but to our country, and
2799 that is the issue of making sure that America has an
2800 indigenous and solely U.S.-owned enriched uranium producer.

2801 Since the Department and USEC were not able to come to
2802 an agreement to keep the Paducah plant operating, once the
2803 Department's current inventory is depleted, the government is
2804 left without a continued source of enriched uranium for
2805 national security purposes. Given this serious situation, I
2806 commend the Department for conducting a 2-year, \$350 million
2807 cost-shared RD&D program to demonstrate reliability of the
2808 U.S. centrifuge project at the Piketon facility. This

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2809 program has been very successful to date, constructing over
2810 120 centrifuge machines and associated plant systems on
2811 budget and on schedule to demonstrate reliability of the
2812 technology.

2813 At the same time, the Federal Government is investing
2814 about 230 million through the end of the current fiscal year
2815 in this RD&D program and has taken title to the centrifuge
2816 machines and the support facilities. The balance of the 48
2817 million of federal cost-share funding is needed to complete
2818 this critical RD&D effort by year's end. And while we in
2819 Congress will continue to have the funding included in any
2820 appropriations bills, given the critical role that this
2821 program has for national security and the fact that the
2822 government is heavily invested in its outcome, can you tell
2823 me how you are going to or what your plans are to find the
2824 balance of the 48 million needed to complete by December 31
2825 if the Senate and the House are not able to come to
2826 resolution on an Energy and Water Appropriations bill?

2827 Secretary {Moniz.} I think we are going to have to have
2828 the discussion with the Congress in the funding. I very much
2829 want to see that demonstration completed because I think that

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2830 is a critical decision point for the path forward. And it
2831 would be, if successful, as you say, our only indigenous
2832 American technology.

2833 Mr. {Johnson.} Certainly. Well, you know the history
2834 that we have had with working with the Senate to try and get
2835 financial bills--whether they be budgets or appropriations
2836 bills--passed. So have you and the Department begun thinking
2837 about how we will come up with that 48 million in funding?

2838 Secretary {Moniz.} I don't have a plan for that yet but
2839 we will have to address it as we see how progress comes.

2840 Mr. {Johnson.} Okay. Well, thank you very much, Mr.
2841 Secretary.

2842 Mr. {Whitfield.} The gentleman's time is expired. And
2843 that, I think, completes the questions.

2844 I have one additional question, Secretary Moniz, and I
2845 don't know if Bobby does or not, but we have heard a lot
2846 about carbon capture and sequestration research and funding
2847 for that research at the Department of Energy, and I was glad
2848 to hear you earlier--or someone--not say sequestration but
2849 say utilization because we hope that there will be
2850 technologies out there to use CO2 instead of storing it,

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2851 maybe use it commercially in some way.

2852 And so as Secretary of Energy, do you feel like you have
2853 the authority, the ability to direct money into research for
2854 carbon capture and utilization rather than sequestration?

2855 Secretary {Moniz.} Well, yes. I think we certainly
2856 have the authorities to do that, and I think ARPA-E has some
2857 ideas in terms of novel utilization techniques. But the
2858 other one is a discussion, I think, with industry, et cetera.
2859 It is not an R&D issue as such, but if the utilization
2860 through enhanced oil recovery is to scale-up, we have a big
2861 infrastructure issue to look at--

2862 Mr. {Whitfield.} Right.

2863 Secretary {Moniz.} --probably as a public-private
2864 partnership.

2865 Mr. {Whitfield.} But even in addition to enhanced oil
2866 recovery, other types of utilization.

2867 Secretary {Moniz.} Yes, other things, building
2868 materials, et cetera, yes.

2869 Mr. {Whitfield.} Right, right. And then my final
2870 comment would be I would urge you once again to use all of
2871 the speed that you all have available to you on your request

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2872 for proposal for the economic development at the Paducah
2873 plant.

2874 Secretary {Moniz.} I should have mentioned earlier--I
2875 forgot--that, as you know, we have several proposals in and
2876 we will be evaluating those, sir.

2877 Mr. {Whitfield.} Thank you. Thank you. Mr. Rush?

2878 Mr. {Rush.} Mr. Secretary, I was a little disturbed
2879 earlier when the fine gentleman from Louisiana, Mr. Scalise,
2880 would not allow you to complete your answers. So there were
2881 a lot of questions. It was quite interesting. I am sure you
2882 have some additional comments that you wanted to make
2883 regarding Mr. Scalise's questions that he was asking you.

2884 Secretary {Moniz.} Well, I think we made our points in
2885 the discussion, so thank you, Congressman.

2886 Mr. {Rush.} Yes. You know, the drilling on federal
2887 lands as opposed to nonfederal lands, I think that that was a
2888 pretty interesting line of questioning, and I wanted to hear
2889 what your real answers were to that.

2890 Secretary {Moniz.} Well, I mean I think my answer was
2891 what I am saying, that I think that the industry is, you
2892 know, it is going out there pretty hard in terms of this

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2893 increased production. There is a lot of infrastructure to
2894 do, et cetera. Frankly, there are limits to the number of
2895 rigs, and there are a number of leases on federal lands that
2896 are not being used. So I think the issue is to keep your eye
2897 on the ball, that oil production, gas production is going up.
2898 It is going up at a pretty rapid pace in fact. And so I
2899 think that is--

2900 Mr. {Rush.} Thank you very much. I really appreciate
2901 it. Thank you.

2902 Mr. {Whitfield.} Secretary Moniz, thank you for being
2903 with us today. We appreciate your patience and you answered
2904 all of our questions. We look forward to working with you as
2905 we move forward, and thank you once again.

2906 Secretary {Moniz.} Thank you.

2907 Mr. {Whitfield.} And this hearing is adjourned.

2908 Secretary {Moniz.} And all the members, thank you.

2909 Mr. {Whitfield.} Thank you.

2910 [Whereupon, at 12:50 p.m., the Subcommittee was
2911 adjourned.]