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4 ``THE AMERICAN ENERGY INITIATIVE: A FOCUS ON H.R. 6172''
5 THURSDAY, SEPTEMBER 20, 2012
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 10:03 a.m.,
11 in Room 2322 of the Rayburn House Office Building, Hon. Ed
12 Whitfield [Chairman of the Subcommittee] presiding.

13 Members present: Representatives Whitfield, Shimkus,
14 Walden, Terry, Burgess, Scalise, Olson, McKinley, Gardner,
15 Pompeo, Griffith, Barton, Upton (ex officio), Rush, Markey,
16 Green, Capps, Doyle and Waxman (ex officio).

17 Staff present: Anita Bradley, Senior Policy Advisor to
18 Chairman Emeritus; Maryam Brown, Chief Counsel, Energy and

19 Power; Allison Busbee, Legislative Clerk; Patrick Currier,
20 Counsel, Energy and Power; Andy Duberstein, Deputy Press
21 Secretary; Cory Hicks, Policy Coordinator, Energy and Power;
22 Heidi King, Chief Economist; Ben Lieberman, Counsel, Energy
23 and Power; Mary Neumayr, Senior Energy Counsel; Peter
24 Spencer, Professional Staff Member, Oversight; Kristina
25 Friedman, Democratic EPA Detailee; Caitlin Haberman,
26 Democratic Policy Analyst; and Alexandra Teitz, Democrat
27 Special Counsel, Energy and Environment.

|
28 Mr. {Whitfield.} I would like to call this hearing to
29 order, and once again, I want to thank the members of the
30 panel for being here and we look forward to your testimony.
31 All of you have had a lot of experience in the issues that we
32 will be talking about, so after we finish opening statements,
33 I will be introducing each one of you individually.

34 Today we are holding the 29th day of our American Energy
35 Initiative hearing. We will be focusing on H.R. 6172, which
36 would prohibit EPA's proposed New Source Performance Standard
37 for greenhouse gases from being finalized until it is
38 technologically and economically feasible. I want to thank
39 Mr. McKinley of West Virginia for spearheading this
40 legislation and I also want to thank the Democratic members
41 who cosponsored this legislation.

42 I don't think that anyone is not aware of the fact that
43 this Administration has a strong bias against coal. We all
44 are familiar with the President's comments in San Francisco
45 when he was running for President that people would be able
46 to build coal plants if he is elected President but they
47 would be bankrupt. Yesterday, many of you read about Alpha
48 Resources closing down eight coalmines, 1,200 jobs. Patriot
49 Coal recently announced they were going into bankruptcy.
50 Murray Coal up in Ohio, West Virginia, Kentucky and Illinois

51 has announced they are going to be closing down three mines.
52 And I understand the argument on the other side because they
53 say it has nothing to with us, it has nothing to do with our
54 regulations, this is because natural-gas prices are low,
55 which is true. But even if that were not the case, once this
56 regulation becomes final, no one will be able to build a new
57 coal power plant in America. And so I lay that at the foot
58 of the President and his Administration. It is their
59 responsibility and they are responsible for where we are
60 today as it relates to coal. It still produces a great
61 portion of the electricity in our country.

62 Now, it is easy to talk about the benefits of lowering
63 carbon dioxide emissions, and I would be the first to admit
64 the Clean Air Act has been very successful. But I would also
65 say that when EPA considers the benefits, and there are
66 benefits from many regulations, that they have a
67 responsibility to consider the cost and the impact on the
68 health care of the thousands of people who lose their jobs as
69 a direct result of the regulations. And of course, they
70 never consider those costs.

71 And so this legislation is very simple. It basically
72 says no, you are not going to be able to implement this until
73 it is shown that technologically and economically it is
74 feasible to use carbon capture and sequestration and it

75 appoints three different agencies in the government to make
76 that decision.

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

78 ***** COMMITTEE INSERT *****

|

79 [H.R. 6172 follows:]

80 ***** INSERT 8 *****

|
81 Mr. {Whitfield.} So I was going to yield to Mr. Barton.
82 I see he is not here. Mr. Shimkus, do you have any comments
83 you would like to make?

84 Mr. {Shimkus.} Thank you, Mr. Chairman. I appreciate
85 the hearing.

86 There was a huge rally in deep southern Illinois over
87 the weekend to protect and save coalmining jobs in the
88 country, and for the Administration to continue to make this
89 assault on our cheapest form of electricity generation, and I
90 think for a lot of us who have been in this fight for a long
91 time, it is the multitude of rules and regulations that are
92 coming down from boiler MACT, mercury MACT, cooling towers to
93 CSAPR. You name it, there is another rule and reg. No
94 wonder there is uncertainty in the sector and no wonder they
95 have to make tough decisions. These tough decisions are the
96 loss of jobs, coalmining jobs in rural America.

97 The untold story is also the loss of a taxpaying base to
98 small, rural America that helps support our schools, our
99 hospitals, our local communities, our public-safety net.
100 That is why we are as impassioned as our friends on the other
101 side saying we just have to stop this assault, so I
102 appreciate the hearing. It comes at a critical time, and
103 thank you for it.

104 [The prepared statement of Mr. Shimkus follows:]

105 ***** COMMITTEE INSERT *****

|
106 Mr. {Whitfield.} At this time I recognize the gentleman
107 from Illinois, Mr. Rush, for 5 minutes.

108 Mr. {Rush.} I want to thank you, Mr. Chairman, and Mr.
109 Chairman, we are here yet another time, yet another day, yet
110 another bill being introduced by my Republican colleagues
111 that will attempt to roll back the progress that the American
112 people have made and block and delay EPA rules that are
113 designed to make our air, land and water cleaner for the
114 American people including those people who now currently have
115 and will in the future work in coalmines.

116 Today's hearing marks the 29th in a series of hearings
117 that the majority party has dubbed the American Energy
118 Initiative, but from each of those hearings, which represents
119 hundreds of hours of endless debate, endless discussion and
120 endless delay, we have enacted exactly zero, nada energy
121 policy to move the country forward. All this hearings and it
122 hasn't produced one bill that moved this country forward.

123 Mr. Chairman, if today's hearing feels a bit like déjà
124 vu all over again, as Yogi Berra would say, to those that are
125 watching this subcommittee just because we have been here and
126 we have done this countless times already.

127 Today's hearing will focus on H.R. 6172, a bill that
128 prohibits the EPA from finalizing standards of performance

129 under section 111 of the Clean Air Act for carbon dioxide
130 emissions from existing or new fossil fuel-fired power plants
131 unless or until carbon capture and storage is found to be
132 technologically and economically feasible. Ironically, Mr.
133 Chairman, this bill comes on the heels of the last markup the
134 subcommittee held where the majority defeated an amendment I
135 offered that would have exempted future clean-coal projects
136 from the arbitrary December 2011 deadline, and my Republican
137 colleagues' misguided attempts to disrupt the Department of
138 Energy loan program by prohibiting any funding for future
139 proposals regardless of the merits or technological advances
140 of those projects. So as the first attempt to abandon any
141 new Department of Energy funding for future clean-coal
142 projects, the majority party is now bringing forth a bill
143 that would block and delay EPA rules from finalizing the
144 proposed carbon pollution standards for new power plants or
145 any future carbon pollution standards for existing power
146 plants until carbon capture and sequestration is
147 technologically and economically feasible. This bill to most
148 people would seem simply another attempt to try and shield
149 the dirtiest polluters from commonsense air quality standards
150 that would make their facilities cleaner and more efficient
151 while protecting Americans' health.

152 Mr. Chairman, this messaging bill sends a clear message

153 to industry that if we don't succeed once, twice, 10, 20, or
154 in this instance, 29 times, we will try and try and try again
155 to show the industry that we are with them standing shoulder
156 to shoulder not to be divided by the plight or the affairs of
157 Americans' public health.

158 Mr. Chairman, this is a dead-on-arrival bill, as you
159 well know, and if the stakes weren't so high and important to
160 the protect the American people, then we could get a laugh
161 out of 29 times and nothing to show for it, these message
162 after message attempts on the part of the Republicans.
163 Whatever happened to governing through bipartisan
164 legislation?

165 Mr. Chairman, I think that this bill and our time here
166 is a waste of our energy, a waste of our time, and it
167 certainly is not an attack on coal, it is an attack on
168 progress and what is best for the American people and common
169 sense.

170 I yield back.

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

172 ***** COMMITTEE INSERT *****

|
173 Mr. {Whitfield.} Thank you, Mr. Rush.

174 At this time I recognize the gentleman from Michigan,
175 Mr. Upton, for 5 minutes.

176 The {Chairman.} Well, thank you, Mr. Chairman.

177 This hearing on H.R. 6172 continues the committee's
178 oversight of EPA's costly regulatory agenda and follows
179 previous subcommittee hearings on EPA's myriad greenhouse gas
180 regulations, including its most recently proposed rule that
181 would establish new emissions standards for fossil-fuel-fired
182 power plants. We are extremely concerned about the impacts
183 that this proposed rule would have on the future of
184 affordable coal-fired power operation in America if indeed it
185 is finalized.

186 As currently written, the rule requires any new coal-
187 fired plants to install costly carbon capture and
188 sequestration technology. However, even President Obama's
189 Department of Energy has acknowledged that CCS technology is
190 not yet commercially available and that large-scale
191 commercialization remains years, if not decades, away.

192 Leaders in CCS technology and industry stakeholders
193 agree that significant technical, legal and regulatory
194 hurdles still need to be overcome in order to successfully
195 bring CCS to commercial scale. And because CCS technology

196 remains in its early stages of development, not a single CCS
197 developer in the world can currently guarantee that its
198 technology will work at commercial scale, and without such a
199 guarantee, power plant operators will not, and cannot, make
200 investment in CCS technology.

201 In other words, unless and until CCS technology is
202 proven to be commercially viable and cost-effective, EPA's
203 proposed rule will effectively prevent the construction of
204 any new coal-fired power plants in America. But a ban on
205 coal-fired generation is the end result that the
206 Administration probably is trying to achieve.

207 We shouldn't be surprised by that. This
208 Administration's position on coal has been crystal clear:
209 President Obama himself said he wants to ``bankrupt'' coal
210 companies and that ``electricity prices will necessarily
211 skyrocket.'' Meanwhile, the Secretary of Energy has declared
212 that coal is his worst nightmare. Those are his words.

213 This proposed rule would do exactly what the
214 Administration set out to do from the very start: prohibit
215 the future use of coal in this country. Clearly, there is a
216 war on coal that is being waged by the Administration. Just
217 ask the 1,200 employees of Alpha Natural Resources that were
218 told this week that they are going to be out very quickly
219 because of the announced mine closures forced in part by

220 federal regs aimed at restricting the use of coal, or the
221 hundreds, probably thousands of other miners across the coal
222 belt who have recently received pink slips too.

223 If finalized, this rule will have a detrimental impact
224 on electricity generation in the country and future
225 electricity prices as well. This is why we are going to
226 continue to scrutinize EPA's proposed rule and why I
227 appreciate the gentleman from West Virginia's leadership on
228 this bill, and I will yield now the balance of my time to Mr.
229 McKinley.

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

231 ***** COMMITTEE INSERT *****

|
232 Mr. {McKinley.} Thank you, Mr. Chairman.

233 The EPA is indeed proposing a regulation that future
234 coal-fired facilities must implement a carbon capture system
235 that reduces their emissions by 50 percent, but like you have
236 heard from some of the other speakers, it cannot be
237 performed. There are no commercial applications available.
238 We have even heard testimony, as you before from the EPA,
239 saying we know that it can't be done for 10 years or more.
240 Therefore, the mission here is no coal-fired electric
241 powerhouses will be constructed in America until this
242 technology is available.

243 Now, that has to be coupled with the concept of maybe
244 through research and development, maybe that will happen, but
245 we all know here in Congress that this Administration has cut
246 the research money in National Energy Technology Lab last
247 year 40 percent, this year 41 percent. How are we going to
248 achieve this objective if we don't have the research into the
249 development of this process?

250 You have heard the quotes. I will add one more. Joe
251 Biden, the Vice President, has said that this Administration
252 does not support clean-coal technology. What better
253 manifestation of it in this particular rule that they are
254 promulgating? They are trying to bankrupt us to stop us from

255 burning coal and what they are doing is hurting the working
256 men and women all across America, putting them out of work,
257 these 1,200 people.

258 We have learned that AEP has already canceled one of its
259 own projects, the Mountaineer plant, because they found out
260 that that cost was going to be, as I understand it,
261 increasing the utility bills by 80 percent to consumers, to
262 schools, to manufacturers, and they chose not to do it.

263 So for anyone that believes that there is no war on
264 coal, they are in denial. This President, this
265 Administration and those who support him are hurting our
266 consumers. They are hurting our Nation. They are close-
267 minded about where we are going to go in developing our
268 fossil fuels, the fuel that feuded our industry revolution.

269 So this war on coal must stop. These ideologically
270 driven regulations must not be implemented until the
271 technology and the economics justify their cost.

272 Thank you very much, and I yield back the balance of my
273 time.

274 [The prepared statement of Mr. McKinley follows:]

275 ***** COMMITTEE INSERT *****

|
276 Mr. {Whitfield.} At this time I recognize the gentleman
277 from California, Mr. Waxman, for 5 minutes.

278 Mr. {Waxman.} Thank you very much, Mr. Chairman.

279 This committee has heard a lot of arguments from victims
280 and people are being convinced that they are victims by the
281 government when that is not the case. Let me cite an
282 example. This committee had a hearing on EPA's proposed
283 regulation of farm dust. Can anybody think of anything more
284 ridiculous than regulating farm dust that is ubiquitous to
285 farms? So this committee rushed legislation to protect the
286 farmers from EPA regulation of farm dust even though EPA said
287 they had no plans to regulate farm dust, and we passed a
288 bill. Do you know what the bill did? It provided for repeal
289 of regulations from open-pit mining that put out particulate
290 matter and toxic substances in the air. So the farmers were
291 told they were victims and they were being used for a
292 different purpose.

293 It is not the government's fault if a utility decides it
294 is cheaper to use natural gas than coal. That is what we
295 call economics. If it is cheaper to use another substance,
296 they will use it. Do we want to stop them from doing that?
297 Do we want to stop the free enterprise system?

298 We don't have the technology to remove the carbon from

299 coal and store it. It is a technology we all should want to
300 have. But the industry has no incentive to develop that
301 technology because they are doing fine selling coal and using
302 coal without that technology. That would just be an extra
303 expense.

304 So you have two ways you could get that technology. One
305 is to say you have got to use it in order to achieve a
306 certain standard. Well, the best way to achieve that
307 standard, that is the way the environmental laws have worked
308 in the past as long as we allow source of electricity to
309 compete as long as it does not cause unacceptable harm to
310 health and the environment. This bill picks winners and
311 losers. The other EPA would set a standard that companies
312 that generate electricity from coal will not have a free pass
313 on pollution.

314 But there was another way to do it. That was the way
315 Mr. Upton proposed in legislation that would have put a fee
316 on those who get electricity from coal and that fee would
317 have been used exclusively for research and development of
318 the technology. That was a bill he introduced in the last
319 Congress with Mr. Boucher, and I suggested to him that we
320 would take up that bill and vote for it. If we can't do
321 anything else, at least do that. Never heard any other word
322 on the subject after we proposed doing that.

323 The Republicans in this House passed H.R. 910, the
324 Upton-Inhofe bill. That would have barred EPA from reducing
325 dangerous carbon pollution and codified science denial by
326 overturning EPA's scientific finding that carbon pollution
327 endangers health and welfare. It is a premise that climate
328 change is a hoax, and since that time early last year, this
329 Republican House has proved to be the most anti-environmental
330 in the history of the Congress.

331 Republicans have voted more than 300 times on the House
332 Floor to weaken longstanding public-health and environmental
333 laws, block environmental standards, defund protections of
334 our air, water and public lands, oppose clean energy. They
335 voted 47 times to block action on climate change. When they
336 passed that Upton-Inhofe bill a year and a half ago, House
337 Republicans argued the science was uncertain, EPA was
338 exceeding its authority. By now, everybody should understand
339 that they were wrong on both counts. The science has been
340 clear and clearer, and just look at all the signs of climate
341 change occurring around us: recent wildfires, droughts, heat
342 waves, exactly the type of extreme weather events that
343 scientists have been predicting for years and that this
344 committee has been ignoring.

345 Since the passage of the Upton-Inhofe bill, we have sent
346 17 letters to the chairman of this committee requesting

347 hearings on new developments in climate science. We haven't
348 even gotten a reply. Instead, what we have is the leadership
349 of this committee talking about a war on coal, and if
350 coalminers are losing their jobs, it is because of the
351 government. Well, it is because of economics and the
352 unwillingness of the Republicans who control the House to
353 figure a way out of this issue.

354 The EPA is not overreaching. The courts have affirmed
355 their power to regulate in this area. It is about time we
356 try to help the people in the coal area be viable in a new
357 economy that is coming. Otherwise you can scare them with
358 talk of war against them but it is a dishonest approach. It
359 doesn't help them. It stirs up the feelings of victimology
360 by the people in these areas, and I suppose it is supposed to
361 help Republicans in the election. But sometimes let us stop
362 playing politics and deal with national urgent matters, and
363 this committee has refused to do it for a year and a half.

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

365 ***** COMMITTEE INSERT *****

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366 Mr. {Whitfield.} At this time I would like to introduce
367 the members of the panel. Once again, thank you for being
368 with us today. We look forward to your testimony.

369 First, we have Mr. Eugene Trisko, who is an attorney at
370 law representing the United Mine Workers of America. We have
371 Mr. Mark McCullough, who is Executive Vice President of
372 Generation at American Electric Power. We have Mr. John
373 Voyles, Jr., who is the Vice President of Transmission and
374 Generation Services at Louisville Gas and Electric and KU
375 Energy. We have Mr. Robert Hilton, who is Vice President of
376 Power Technologies for Government Affairs at Alstom Power.
377 And we have Mr. John Thompson, who is the Director of Fossil
378 Transition Project at the Clean Air Task Force, and we have
379 Dr. Dan Lashof, who is the Director of Climate and Clean Air
380 for the Natural Resources Defense Council, and we have Dr.
381 John R. Christy, who is Professor and Director of the Earth
382 Science System Center at the University of Alabama in
383 Huntsville.

384 So thank you for being with us. Each one of you will be
385 given 5 minutes to give an opening statement, and you will
386 notice there is a little clock up here, so once your time is
387 expired, it is expired. Obviously I am not going to just
388 immediately cut you off but I wouldn't want you to go on like

389 10 minutes, but we do forward to your testimony.

390 Mr. Trisko, I will recognize you for 5 minutes for your

391 opening statement.

|
392 ^STATEMENTS OF EUGENE TRISKO, ATTORNEY AT LAW, ON BEHALF OF
393 UNITED MINE WORKERS OF AMERICA; MARK C. MCCULLOUGH, EXECUTIVE
394 VICE PRESIDENT OF GENERATION, AMERICAN ELECTRIC POWER; JOHN
395 N. VOYLES, JR., VICE PRESIDENT, TRANSMISSION AND GENERAL
396 SERVICES, LG&E AND KU ENERGY LLC; ROBERT HILTON, VICE
397 PRESIDENT, POWER TECHNOLOGIES FOR GOVERNMENT AFFAIRS, ALSTOM
398 POWER; JOHN THOMPSON, DIRECTOR, FOSSIL TRANSITION PROJECT,
399 CLEAN AIR TASK FORCE; DANIEL LASHOF, PROGRAM DIRECTOR,
400 CLIMATE AND CLEAN AIR, NATIONAL RESOURCES DEFENSE COUNSEL;
401 AND DR. JOHN R. CHRISTY, PROFESSOR AND DIRECTOR, EARTH SYSTEM
402 SCIENCE CENTER, NSSTC, UNIVERSITY OF ALABAMA IN HUNTSVILLE

|
403 ^STATEMENT OF EUGENE TRISKO

404 } Mr. {Trisko.} Thank you. Good morning, Chairman
405 Whitfield, Ranking Member Rush, distinguished members. I am
406 Eugene Trisko. I am an attorney in private practice, and I
407 am pleased to be here today to testify on behalf of the
408 United Mine Workers of America to support the enactment of
409 H.R. 6172. I have had the honor of representing the UMWA in
410 Clean Air Act and domestic international climate change
411 issues for the past 25 years.

412 H.R. 6172 is sound policy and a commonsense solution to

413 the threat to new advanced coal generation posed by EPA's
414 proposed carbon pollution standard rule. That rule sets a
415 uniform CO2 emissions rate of 1,000 pounds of CO2 per
416 megawatt-hour applicable to both coal and natural-gas
417 combined cycle units. New coal units would need to employ CCS
418 technology to comply while new natural-gas combined cycle
419 units could comply without CCS.

420 EPA and DOE's National Energy Technology Lab estimates
421 that applying CCS to new coal-based units would increase the
422 cost of electric power by 80 percent. CCS has not been
423 commercially demonstrated in this country as indicated by the
424 findings of the 2010 Interagency Task Force Report on Carbon
425 Capture and Storage. EPA's proposed rule is simply a means
426 of forcing winners and losers in the future market for
427 electric generation.

428 The proposed rule also ignores 40 years of EPA
429 regulation under the Clean Air Act by lumping together these
430 two very different sources of electric generation into one
431 category subject to a single emission standard that only one
432 type of source can meet. The EPA rule says in effect that
433 the best system of emission reduction for new coal and
434 natural-gas units is natural-gas combined cycle technology.
435 The mine workers comments to EPA, which are attached to my
436 testimony, note that natural-gas combined cycle is a form of

437 producing electricity, not a best system of emission
438 reduction under the Clean Air Act.

439 The UMWA has supported previous legislation to
440 accelerate the commercial demonstration of CCS technologies
441 including the Upton-Boucher bill. This legislation has not
442 been enacted and funding available through DOE has not been
443 adequate to support successful large-scale demonstration of
444 CCS technology. We are hopeful that new proposals will be
445 developed to put CCS demonstration projects on a firmer
446 financial footing.

447 Coal an indispensable part of America's energy supply
448 and must be a core element of any all-of-the-above energy
449 policy. More than one-third of our Nation's electricity is
450 generated by coal, mainly in baseload plants. The principal
451 alternatives to coal for future baseload generation are
452 nuclear and natural gas. While natural-gas prices have
453 declined recently, substantial uncertainty surrounds future
454 natural-gas prices, particularly in view of the 40- to 60-
455 year lifetimes of electric generation assets.

456 The United States should take the lead in establishing
457 the technical and commercial viability of CCS technology for
458 use both here and abroad. India and China have vast coal
459 reserves and will continue to rely upon them to support their
460 own economic development. China alone consumes three times

461 more coal than we do. Our recoverable coal reserves hold the
462 energy equivalent of the world's proven oil reserves.

463 The United States should pursue policies that will
464 accelerate, not stymie, the full range of advanced coal
465 technologies including commercial-scale demonstration and
466 deployment of CCS. Rethinking the EPA carbon pollution
467 standard rule is an important step in that direction, and we
468 support this bill. Thank you, Mr. Chairman.

469 [The prepared statement of Mr. Trisko follows:]

470 ***** INSERT 1 *****

|

471 Mr. {Whitfield.} Thank you.

472 Mr. McCullough, you are recognized for 5 minutes.

|
473 ^STATEMENT OF MARK MCCULLOUGH

474 } Mr. {McCullough.} Chairman Whitfield, Ranking Minority
475 Member Rush and distinguished members of the Committee on
476 Energy and Commerce, thank you for inviting me here today. I
477 appreciate this opportunity to offers the views of AEP on
478 EPA's proposed Greenhouse Gas New Source Performance Standard
479 and the current state of carbon capture and storage
480 technology.

481 My name is Mark McCullough. I am the Executive Vice
482 President of Generation at AEP. AEP is one of the Nation's
483 largest generators, owning more than 37,000 megawatts of
484 generating capacity and serving more than 5 million retail
485 customers. EPA's generating fleet employs diverse fuel
486 sources including coal, nuclear, hydroelectric, natural gas,
487 oil and wind. Due to the location of our service area and
488 historic importance of coal to the economies of our States,
489 approximately two-thirds of our generating capacity utilizes
490 coal.

491 AEP has a long history of proactive involvement in
492 environmental stewardship, particularly with regard to
493 reducing its net carbon emissions. Perhaps AEP's most
494 significant contribution to technology solutions for

495 addressing greenhouse gas emission was a successful
496 completion of a validation scale demonstration of the world's
497 first fully integrated CCS project at an exciting coal-fired
498 electric generating unit. The Mountaineer CCS Project
499 treated a 20-megawatt portion of flue gas from our 1,300-
500 megawatt Mountaineer plant, removed the CO₂, compressed it
501 and injected it into two deep underground formations from
502 2009 to 2011, permanently storing nearly 40,000 tons of CO₂.

503 AEP has long maintained that the Clean Air Act is not a
504 practical or cost-effective vehicle to limit greenhouse gas
505 emission and any system to regulate greenhouse gas emissions
506 should be developed by Congress. Global climate change and
507 greenhouse gas emissions present a new set of issues that the
508 existing framework of the Clean Air Act was never intended to
509 address. As such, regulation of greenhouse gases under the
510 existing Act is likely to be ill designed and significantly
511 more costly than a more flexible legislative approach.

512 The proposed New Source Performance Standard is a fuel-
513 discriminatory rule that in effect requires CCS technologies
514 that are not yet commercially available to be used on all new
515 coal plants. As such, the NSPS is impractical and not
516 legally justifiable. AEP's main concerns are the combination
517 of two source categories, coal and natural gas, and setting a
518 single standard based on EPA's estimate of the emission rate

519 achievable at a new natural-gas combined cycle unit. This
520 standard will preclude the construction of new coal-fired
521 generation without the addition of CCS. However, based on
522 AEP's experience and EPA's own admission, this technology is
523 neither commercially demonstrated nor economically viable for
524 coal-fired electric generation. Without a viable CCS
525 solution, the NSPS forces reliance on a historically volatile
526 commodity--natural gas--for new fossil generation, which
527 could burden consumers with additional and unnecessary future
528 risk in their energy costs.

529 AEP believes that technological solutions such as CCS
530 are critical to reducing emissions. However, CCS technology
531 has not yet been proved at a commercial scale and cannot be
532 provided with robust guarantees on performance and
533 reliability. Furthermore, the path to CCS commercialization
534 is also filled with significant regulatory and legal barriers
535 regarding the ownership of storage space and long-term
536 liability, which will also need to be resolved prior to
537 commercialization. Given the obvious need for commercially
538 available and cost-effective CCS in order to meet EPA's
539 proposed NSPS for coal plants, H.R. 6172, introduced by
540 Representative McKinley, provides much needed Congressional
541 direction in finalizing the NSPS for power plants and ensures
542 that coal continues as a fuel for a balanced energy future.

543 Thank you for the opportunity to testify, and I look
544 forward to your questions.

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

546 ***** INSERT 2 *****

|

547 Mr. {Whitfield.} Thank you very much.

548 And Mr. Voyles, you are recognized for 5 minutes.

|
549 ^STATEMENT OF JOHN N. VOYLES, JR.

550 } Mr. {Voyles.} Good morning, Chairman Whitfield, Ranking
551 Minority Member Rush and distinguished subcommittee members,
552 thank you for the opportunity to appear before you today to
553 present comments regarding proposed House bill 6172. My name
554 is John Voyles, Jr. I am the Vice President of Transmission
555 and Generation Services for LG&E and KU Energy. LG&E and KU
556 Energy is a wholly owned subsidy of PPL Corporation and
557 operate Louisville Gas and Electric Company and Kentucky
558 Utilities Company, regulated utilities that serve 1.3 million
559 customers in 90 Kentucky counties and five counties in
560 Virginia.

561 Today, the company's operated capacity is approximately
562 8,100 megawatts. Of that capacity, 74 percent is coal-fired,
563 25 percent is gas-fired peaking units, and the remaining 1
564 percent is hydroelectric. Approximately 96 percent of our
565 coal-fired capacity is equipped with controls for sulfur
566 dioxide and 67 percent of the capacity has SCR for nitrogen
567 dioxide control. After assessing the impact of the most
568 recent regulations promulgated by the EPA, the companies
569 developed compliance plans, which were presented to and
570 approved by the Kentucky Public Service Commission in

571 December of 2011 and May of 2012. Those plans include
572 installing additional environmental controls at four
573 stations, retiring 800 megawatts of coal-fired capacity and
574 constructing a new 640-megawatts gas-fired combined cycle
575 unit. These investments are expected to cost up to an
576 additional \$3 billion and projected to raise electric rates
577 by up to 14 percent and 18 percent for KU and LG&E customers,
578 respectively, by 2016.

579 My company has not been standing idly by on the
580 sidelines waiting for carbon dioxide policy or regulatory
581 developments. Since 2006, we have invested millions of
582 dollars in research and development aimed at finding
583 technically and economically viable carbon management
584 solutions for electric generating units. We were the
585 founding member of the Carbon Management Research Group at
586 the University of Kentucky's Center for Applied Energy
587 Research and a member of the Western Kentucky Carbon Storage
588 Foundation. The CMRG membership has grown to include three
589 other electric generators that operate in Kentucky and the
590 Electric Power Research Institute. We have made our E.W.
591 Brown coal-fired plant site available to the CMRG as the test
592 location for a carbon capture slipstream project which
593 received a \$14.5 million supporting grant from the Department
594 of Energy in 2011. Additionally, we fund research on carbon

595 capture technology supported by two other DOE grants, one
596 with the University of Texas and one with the 3H Company. As
597 a member of EPRI, we continue to fund collaborative research
598 for carbon management and stay abreast of technological
599 developments. Through these efforts we track several pilot
600 projects in North America and across the globe. We are aware
601 of no full-scale application of carbon capture and storage in
602 continuous operation on a fossil-fueled electric generating
603 unit. There are several technical and policy hurdles for CCS
604 that remain unresolved which I will highlight briefly today.

605 First, the energy penalty to add CCS technology to a
606 coal-fired electric generating unit is prohibitively high.
607 Many of the current pilot projects estimate that the
608 parasitic load and cycle efficiency penalties to be at least
609 25 or 30 percent of a generating station output. For a
610 company like mine, those penalties would mean if CCS
611 technology were retrofitted to an existing 2,000-megawatt
612 coal-fired station producing power for our customers today,
613 the output from the plant would be reduced by 500 megawatts
614 at a minimum. That loss of production capability would have
615 to be replaced by some source of energy supply, creating
616 additional costs for the consumers and perhaps other
617 emissions to the environment.

618 However, an even bigger challenge is the application of

619 CO2 storage technology. While some carbon dioxide is
620 successfully being utilized in enhanced oil or methane
621 recovery operations and other pilots have successfully
622 injected small quantities of CO2 into deep saline aquifers,
623 the volume of storage necessary to facilitate such operations
624 on a continuous basis for the life of an electric generating
625 station has yet to be established. Very serious questions
626 remain regarding the implications such injection processes
627 have on mineral and property rights, the monitoring of the
628 CO2 plume across property lines or State boundaries, and the
629 verification systems necessary to ensure long-term monitoring
630 is taken into account. We believe these questions loom much
631 larger than the simple view that CO2 can be captured and
632 injected underground and might be done more cost-effectively
633 with less energy penalties at some undetermined point in the
634 future.

635 Until such time as CCS technology is commercially
636 available to be deployed at full scale in a technical and
637 economical manner, we are concerned that any standard of
638 performance proposed for CO2 emissions from existing or new
639 electric generating units will effectively eliminate coal-
640 fired generation from the Nation's energy portfolio. On July
641 16, 2012, we provided testimony to this subcommittee on the
642 U.S. EPA's proposed Greenhouse Gas New Source Performance

643 Standards. In those comments, we explained the importance
644 of having separate standards for new and existing plants by
645 fuel type and our concern that EPA's proposal for new plants
646 could not even be met by new gas-fired plants. Those
647 comments assumed that EPA is required by law to develop
648 greenhouse gas standards. A clearly better course would be
649 for Congress to pass legislation relieving EPA of the
650 obligation to develop greenhouse gas standards until carbon
651 capture and storage becomes an economically and
652 technologically viable option.

653 Thank you for the opportunity to comment on House bill
654 6172.

655 [The prepared statement of Mr. Voyles follows:]

656 ***** INSERT 3 *****

|

657 Mr. {Whitfield.} Thank you very much, Mr. Voyles.

658 Mr. Hilton, you are recognized for 5 minutes.

|
659 ^STATEMENT OF ROBERT HILTON

660 } Mr. {Hilton.} Thank you. Good morning. My name is
661 Robert Hilton. I hold the position of Vice President of
662 Power Technologies for Government Affairs for Alstom. I
663 would like to thank Chairman Whitfield and Ranking Member
664 Rush as well as the entire subcommittee for the opportunity
665 to address these key issues on CCS.

666 Alstom is a global leader in power generation,
667 transmission and transportation infrastructure. More than 50
668 percent of the power plants in the United States have Alstom
669 equipment, and 25 percent of the world's electricity is
670 generated on Alstom equipment. We are the largest air
671 pollution control company in the world. In the United
672 States, Alstom employs about 6,000 full-time permanent
673 employees in 45 States, and 91,000 globally. Alstom provides
674 virtually all power generation technology options.
675 Significant pillars of our program are deployment of non-CO2
676 sources of generation, like renewables and nuclear, reduced
677 CO2 emissions through efficiency, and the CO2 capture from
678 fossil fuels. Alstom invests approximately \$1 billion in
679 annually in R&D. Alstom has completed work on four pilot and
680 validation-scale plants and has 10 pilots, validation, and

681 commercial-scale plants in operation, design, or construction
682 worldwide. These CCS projects include both coal and gas
683 generation.

684 We are here today to specifically address the status of
685 CCS as a commercial technology. CCS is, within the realm of
686 innovation, no different than any other technology under
687 development. It is required to move through various stages
688 of development at consistently larger scale. Alstom has
689 taken each of its CCS-related technologies from the bench
690 level to validation scale with the aim of finally reaching
691 commercial. However, to date, no CCS technologies have been
692 deployed at commercial scale. Validation scale is the proof
693 of technology in real field conditions. This is important.
694 It is at this point we can say confidently that the basic
695 technology works. CCS technology is technologically feasible
696 now.

697 The final stage to reach commercial status is to perform
698 a demonstration at full scale. It is critical to define the
699 risk of technology to make offers. This cannot be defined
700 until the technology can be shown to work at full scale.
701 This is the first opportunity we have to work with the exact
702 equipment in the exact operating conditions that will become
703 the subject of contractual conditions including performance
704 and other contractual guarantees. This also becomes the

705 first opportunity to optimize the process and equipment to
706 effect best performance and seek cost reduction. Based on
707 these criteria, Alstom does not currently deem its
708 technologies for CCS commercial and, to my knowledge, there
709 are no other technology suppliers globally that can do so. I
710 emphasize, however, that the technologies being developed by
711 Alstom and others work successfully.

712 For a number of reasons primarily related to technology
713 funding and lack of regulatory clarity, the timeline for
714 commercialization for CCS is not clear. The current DOE
715 program for first generation-technologies on CCS appears not
716 likely to become operational until 2017 with the exception of
717 the Kemper plant. Globally, the picture is similar.

718 When we look at the history of the EPA and the air-
719 pollution-control industry, we generally see a harmony of
720 regulation and technology development. In many cases, we
721 have had the ability to meet or anticipate the need for
722 certain technologies and in other cases we have developed the
723 base technologies either in other industries. In its recent
724 rulemaking, EPA has required CCS for all new coal plants and,
725 conceivably gas plants. While Alstom, in conjunction with
726 AEP, has run the largest plant, we are not ready to do this
727 on 500- or 1,000-megawatt plants. It has been suggested that
728 the proposed rule would stimulate CCS development. However,

729 advancing CCS requires a regulatory approach that recognizes
730 the steps of the technology development process and the need
731 for financing. Commercial power plants cannot secure
732 financing for a plant that includes technology still under
733 development and that carries with it undefined guarantees.

734 Coal is an important part of America's future energy mix
735 as it has been in the past. It is an abundant resource we
736 have, and we have the technologies to make it clean in all
737 other respects. CCS is coming but preventing new highly
738 efficient coal plants from being built to replace older less
739 efficient plants by requiring a technology not yet in
740 practice is not in keeping with the needs of the industry or
741 the public. We believe a more realistic approach would be to
742 provide a reasonable ramp down of CO₂ over time that can take
743 advantage of efficiency and other technologies to reduce CO₂
744 in a gradual manner. This would provide the industry, along
745 with State and local regulators, with the needed incentive to
746 support CCS.

747 Alstom believes that the technology will be commercial
748 when the industry determines that both buyer and seller can
749 enter into ordinary contractual relations that meet the needs
750 of both parties. We know that carbon capture technology
751 works. We believe CCS will play a pivotal role in meeting
752 the needs of carbon. We need time and support to reach the

753 point of commercial offerings.

754 I thank you.

755 [The prepared statement of Mr. Hilton follows:]

756 ***** INSERT 4 *****

|

757 Mr. {Whitfield.} Thanks, Mr. Hilton.

758 Mr. Thompson, you are recognized for 5 minutes.

|
759 ^STATEMENT OF JOHN THOMPSON

760 } Mr. {Thompson.} Thank you, Mr. Chairman, Ranking Member
761 Rush, members of the committee. My name is John Thompson. I
762 direct the Fossil Transition Project of the Clean Air Task
763 Force. The Clean Air Task Force is a nonprofit environmental
764 group headquartered in Boston and with offices in Beijing,
765 Illinois, Ohio, Washington, D.C., Texas, New Hampshire and
766 Maine. I am from our Carbondale, Illinois, office.

767 Our mission is to reduce the air pollutants associated
768 with climate change and premature death and disease. We work
769 throughout the United States and China on these issues, and
770 the project I direct works to shift fossil fuels to use
771 technologies that have less impact on the environment.

772 I want to be clear: worldwide coal use will increase
773 dramatically in the coming decades as the standard of living
774 in developing nations improves. Increasing energy
775 efficiency, greater use of renewables and nuclear power will
776 displace some of the CO2 emissions associated with this
777 growth in fossil use but any meaningful climate action must
778 include widespread use of carbon and storage. It is the only
779 technology that can remove up to 90 percent of the carbon
780 dioxide from large stationary sources. Without CCS, it will

781 be difficult, if not impossible, to avoid the worst aspects
782 of climate change.

783 The Clean Air Task Force is committed to finding ways to
784 advance CCS development. Our organization has filed comments
785 in support of air permits for coal plants with CCS. We have
786 advocated for coal projects that use advanced technology
787 before State public service commissions. We have worked to
788 promote incentives for CCS and EOR, and we have supported
789 regulations that establish CO2 emission limits that enable
790 CCS. We have promoted partnerships between U.S. and Chinese
791 companies that would lower CCS costs and encourage projects
792 in both countries. I also serve on the National Coal
793 Council, which advises DOE on coal-related projects.

794 I would like to make a few points this morning. First,
795 the value of CCS goes beyond reducing emissions for the
796 purpose of climate change. Capture of CO2 from industrial
797 and power sources could be used to expand domestic oil
798 production through EOR. Currently, EOR accounts for 6
799 percent of domestic oil production but with additional
800 supplies of carbon dioxide, more oil could be produced from
801 domestic oil wells. Estimates for the amount of EOR that can
802 be produced domestically have grown in recent years. DOE has
803 estimated that approximately 67 billion barrels of oil are
804 economically recoverable, but to produce that 67 billion

805 barrels of oil, we need approximately 20 billion tons of CO2.
806 That is an amount that is equivalent to about 30 years of CO2
807 emissions from about a third of the Nation's coal plants.

808 Now, contrary to assertions earlier today, several coal
809 plants are proposed or are under construction that show the
810 feasibility of CCS at scale and would meet EPA's CO2
811 emissions standards for fossil plants, and they would use the
812 CO2 for EOR to increase domestic oil production. These
813 include Mississippi Power's Plant Ratcliffe in Kemper County
814 and Summit Power's Texas Clean Energy Plant in Odessa, Texas.
815 Plant Ratcliffe is a 582-megawatts IGCC plant which began
816 construction in 2010 and is expected to go into operation in
817 2014. It will gasify lignite, capture 65 percent of the CO2
818 emissions and sell them for EOR. The Texas clean energy
819 plant is a 400-megawatt gross plant that would capture 90
820 percent of its CO2 and produce about 200 megawatts of power
821 and fertilizer and produce about 2.5 million tons of CO2 to
822 produce 7 million barrels of oil annually.

823 What I would like to make as points are a couple things
824 here. First of all, CO2 performance standards are needed to
825 gain public service commission approval for coal CCS
826 projects. After AEP's West Virginia Mountaineer project was
827 denied, Mike Morris, the CEO of AEP made a statement that
828 included this sentence: ``It is impossible to gain

829 regulatory approval to recover our share of costs for
830 validating and deploying the technology without federal
831 requirements to reduce greenhouse gas emissions already in
832 place.''

833 U.S. EPA considered technical feasibility and cost in
834 its draft CCS rule. They concluded CCS was technically
835 feasible, and addressed the cost issues through a number of
836 means: establishing reasonable standards of 50 percent
837 reduction overall through partial capture rather than full
838 capture of 90 percent. They provided regulatory flexibility.
839 They gave longer periods of time to comply with the
840 standards, and I think this approach is reasonable.

841 I would like to just conclude by saying that the problem
842 with H.R. 6172 is that you can't consider technical and
843 economic feasibility in a vacuum. You must consider it in
844 the context of regulations, and EPA's regulatory approach is
845 reasonable, and what is more, contrary to the intent of the
846 sponsors of this bill, I believe this will add confusion to
847 regulations, which will only help the building of natural-gas
848 plants. We need certainty. What H.R. 6172, by creating this
849 regulatory confusion, would do would contribute to the
850 following problems. It would delay new CCS projects because
851 regulators would not know whether they had to meet these
852 standards in order to build them. It would delay the

853 economic production of oil through EOR, and it would replace
854 longstanding precedent of promoting technology that has
855 achieved significant public-health and environmental benefits
856 with a static, backward-looking approach.

857 So I would conclude by saying that what Congress really
858 needs to focus on is two things: we need performance
859 standards but we also need incentives to move EOR. EPA's
860 regulations coupled with further incentives I believe is the
861 correct approach. H.R. 6172 would delay that progress.

862 Thank you.

863 [The prepared statement of Mr. Thompson follows:]

864 ***** INSERT 5 *****

|
865 Mr. {Whitfield.} Dr. Lashof, you are recognized for 5
866 minutes.

|
867 ^STATEMENT OF DANIEL LASHOF

868 } Mr. {Lashof.} Thank you, Mr. Chairman, Mr. Rush and
869 members of the committee. My name is Daniel Lashof. I am
870 the Director of the Climate and Clean Air Program at NRDC,
871 and I appreciate the opportunity to testify before the
872 committee.

873 NRDC strongly opposes H.R. 6172 for a simple reason: It
874 would interfere with EPA doing its job, which the taxpayers
875 pay it to do and want it to do of protecting public health
876 from dangerous carbon pollution. And let us not make any
877 mistake: Carbon pollution is dangerous. It is imposing
878 staggering health and environmental costs in the United
879 States and around the world now, contributing to more severe
880 heat waves, worsening smog pollution, fueling more extreme
881 weather that takes the lives of thousands of Americans and
882 causes billions of dollars in damage. So EPA is moving
883 forward under the law and following the science in proposing
884 the standards that it has proposed to set performance
885 standards for carbon dioxide emissions from power plants.

886 Let me just give you one--Mr. Rush commented that this
887 seems like déjà vu. Let me give you one piece of new
888 information. This was released yesterday, and it updates my

889 testimony even though it was only submitted a couple days
890 before NASA released new data showing the minimal arctic ice
891 that we have ever seen since satellites have been monitoring
892 this in 1979. The minimum was reached on September 16th. It
893 is a full 50 percent below the minimum from 1979 when the
894 records started, about 50 percent below the average from the
895 1980s and 1990s. And we are confident that this is driven by
896 carbon pollution, which is trapping heat in the atmosphere,
897 because not only are we setting this record minimum ice
898 extent but the thickness of the remaining ice is much lower,
899 making it more vulnerable, and the warming that we see is not
900 just in the ice. Heat is accumulating in the oceans, which
901 is a major driver of this.

902 Now, this is the arctic. It is far away. Most
903 Americans don't visit the arctic. None of us own land up
904 there except a few folks in Alaska, so why do we care about
905 this? The fact is that what happens in the arctic doesn't
906 stay in the arctic. The changes here are so dramatic and
907 they affect the energy balance of the entire earth. They
908 change the position of the jet stream. They accelerate the
909 melting of the Greenland ice, which does contribute to more
910 rapid sea-level rise, and they contribute to enhancing global
911 warming in several other ways that I detail in my testimony.
912 So this startling image I think should give us all pause, and

913 recognize that we need to allow EPA to move forward and do
914 its job.

915 Now, I want to comment specifically on the proposed
916 regulation that EPA has issued because we have heard language
917 about a war on coal, about how the EPA is picking winners and
918 losers. The fact is that EPA's proposed standards for carbon
919 emissions are fuel and technology neutral. They set a rate
920 for all plants that provide the same service of providing
921 baseload and intermediate-load electricity to consumers.
922 This is the kind of commonsense performance-based standard
923 that I would expect Congress to welcome. It is not a
924 command-and-control regulation. It doesn't say what
925 technology to use. It is completely technology and fuel
926 neutral.

927 H.R. 6172 turns that on its head by limiting EPA's
928 ability to move forward with that regulation until one
929 particular technology is deemed technically and economically
930 feasible. Now, as both Mr. Thompson and Mr. Hilton have
931 testified, CCS is technically feasible. It is not
932 economically feasible for the simple reason that no
933 commercial entity is building new coal-fired power plants
934 with or without CCS now. The economics in the absence of
935 performance standards for carbon dioxide dictate that we are
936 meeting our electricity needs through energy efficiency,

937 through expansion of renewable energy such as wind, and
938 through natural gas, which is much less expensive. So
939 Congress can no more repeal those rules of economics than
940 they can repeal the physics and chemistry that is driving
941 climate change.

942 The reality is that we hold no other EPA standards up to
943 this single-technology approach. EPA has moved forward for
944 decades with performance-based standards, and they should be
945 allowed to do their job as the American people would like
946 them to do to set sensible performance standards for carbon
947 emissions from power plants. Thank you.

948 [The prepared statement of Mr. Lashof follows:]

949 ***** INSERT 6 *****

|

950 Mr. {Whitfield.} Thank you.

951 Dr. Christy, you are recognized for 5 minutes.

|
952 ^STATEMENT OF JOHN R. CHRISTY

953 } Mr. {Christy.} Thank you, Chairman Whitfield and
954 Ranking Member Rush and members of the committee. I am John
955 Christy, Alabama State Climatologist, Professor of
956 Atmospheric Science, and Director of the Earth Systems
957 Science Center at the University of Alabama at Huntsville. I
958 am a climate scientist who builds data sets from scratch to
959 answer questions about climate variability and to test
960 assertions people make about climate change. That is really
961 what the scientific method is all about.

962 During the heat wave of late June and early July, high
963 temperature extremes became newsworthy. Claims were made
964 that thousands of records were being broken and that this is
965 what global warming looks like. However, these headlines
966 were not based on climate science. As shown in figure 1.3 of
967 my testimony, it is scientifically more accurate to say this
968 is what Mother Nature looks like since heat waves even worse
969 than these happened before greenhouse gases were increasing
970 like they are today.

971 Now, it gives some people great comfort to offer a quick
972 and easy answer when the weather strays from the average
973 rather than struggle with the real truth, which is, we don't

974 know enough about the climate to even predict these kinds of
975 heat waves as Nature magazine itself reported yesterday.

976 More evidence is available now to suggest that the
977 climate is not as sensitive to extra greenhouse gases as
978 previously thought. A simple comparison between climate
979 model output and observation makes this point. In figure 2.1
980 of my written text, I plotted 38 of the very latest climate
981 model simulations. The models tend to overreact to carbon
982 dioxide by warming the earth much more than what has actually
983 happened. This has bearing on the recent 33-year record low
984 of arctic sea ice coverage that you saw previously. Model
985 projections warmed by CO2 show somewhat more warming than in
986 that region in the observations but not too much in figure
987 2.2.

988 It is tempting to believe that the models are correct
989 and the CO2 warming is the main cause of melting the ice.
990 However, when compared with the area of sea ice around
991 Antarctica, where as shown in figure 2.3 the temperature is
992 not increasing and the sea ice is not decreasing. The models
993 fail the test. The CO2 warming in climate models doesn't
994 explain what we see. I cite research in my testimony which
995 again points to natural variability as the main cause.

996 I encourage you to propose legislation based upon what
997 observations show rather than speculative climate models.

998 Basing legislation on observations means addressing the large
999 year-to-year variations like droughts and floods, which will
1000 always occur and which will continue to cause economic
1001 distress. When it comes to legislation and regulatory
1002 actions, there really is nothing that will definitively alter
1003 whatever the climate is going to do. However, I suspect
1004 there will be some discernible negative economic consequences
1005 if energy costs are made to rise.

1006 As more CO₂ is released back into the atmosphere, there
1007 are benefits that are often overlooked. Most notable of
1008 these is the invigoration of plant life on which we and the
1009 rest of the animal world depend for food. Atmospheric CO₂
1010 fundamentally is plant food and therefore our food. In my
1011 opinion, higher food production is a benefit to society and
1012 should be factored in any cost-benefit analysis.

1013 Now, with all due respect to former President Bush, in
1014 my opinion, he was not accurate to say in 2006 that we are
1015 addicted to oil. Oil and other carbon-based energies are
1016 simply the affordable means by which we satisfy our true
1017 addictions, and those are long life, good health, plentiful
1018 food, Internet services, freedom of mobility, comfortable
1019 homes with heating, cooling, lighting and even colossal
1020 entertainment systems. Carbon energy has made all those
1021 possible.

1022 Today, carbon energy provides about 87 percent of the
1023 world's energy demand so rising CO2 emissions can be an
1024 indicator that a nation is providing energy for its people,
1025 energy which allows them to live longer, healthier and more
1026 prosperous lives.

1027 But, and I will close with this unpleasant thought,
1028 demanding a reduction in worldwide carbon emissions and
1029 without affordable and reliable energy alternatives means
1030 reducing the opportunities for many of our fellow world
1031 citizens to escape their impoverished conditions.

1032 I thank you for your time and I will be happy to answer
1033 questions.

1034 [The prepared statement of Mr. Christy follows:]

1035 ***** INSERT 7 *****

|
1036 Mr. {Whitfield.} Thank you, Dr. Christy, and thank all
1037 of you for your opening statements. At this time I will
1038 recognize each member for 5 minutes of questions, and I will
1039 begin by recognizing myself.

1040 Mr. Trisko, Dr. Lashof in his opening statement made the
1041 comment that the standard under the proposed greenhouse gas
1042 regulation is a commonsense, performance-based, fuel-neutral
1043 standard. Now, it is my understanding that that proposed
1044 regulation reverses 40 years of precedent at EPA in that they
1045 are requiring coal to meet the same standards as any other
1046 fuel, and in the past they had standards for individual
1047 fuels--gas, coal, whatever. Is that your understanding?

1048 Mr. {Trisko.} In general, yes, Mr. Chairman, and let me
1049 explain the basis for this. We are talking really about
1050 setting particular standards for different types of
1051 generation technologies. EPA has regulated coal for the past
1052 40 years under subpart (d)(A) regulations covering steam
1053 electric-generating units. These are basically large boilers
1054 utilizing coal or oil. There are not many oil boilers now
1055 being built. The first coal-based NSPS standard was set by
1056 EPA in 1971 pursuant to Section 111 of the 1970 Clean Air Act
1057 Amendments. That coal-based standard was subsequently
1058 revised by EPA in 1978 pursuant to the 1977 Clean Air Act

1059 Amendments that added the so-called percent reduction clause.

1060 Mr. {Whitfield.} Excuse me. I asked a question and I
1061 am sorry to interrupt, but we all get caught up in this time
1062 clock, but the bottom line was that in this greenhouse gas
1063 regulation, the same emission standard was set for every
1064 fuel, and that had never been done before.

1065 Mr. {Trisko.} What had never been done before, Mr.
1066 Chairman, was to combine subpart (d)(A) for steam electric-
1067 generating units--coal or oil--with subpart (kkkk) which
1068 covers natural gas combined cycle units. Those had always
1069 been subject to separate, discrete standards.

1070 Mr. {Whitfield.} But not under this regulation?

1071 Mr. {Trisko.} But not under this regulation.

1072 Mr. {Whitfield.} And that is a significant change, and
1073 because of that, we cannot build a new coal-powered plant in
1074 the United States because the technology is simply not there
1075 at an affordable price. Is that correct?

1076 Mr. {Trisko.} Yes, Mr. Chairman, because in effect this
1077 regulation raises the cost of electric generation from coal
1078 plants by 80 percent but does not impose any increase in cost
1079 on natural gas combined cycle. Therefore, only natural gas
1080 combined cycle plants would be constructed in the future.

1081 Mr. {Whitfield.} So in my opinion, this is not a fuel-
1082 neutral proposed regulation.

1083 Now, we recognize that it only applies to new coal-
1084 powered plants but what creates additional problems is that
1085 the Utility MACT applies to existing coal-fired plants, and
1086 in order to meet those standards, they are going to have to
1087 modify some of the existing plants, and there is some genuine
1088 concern that if you modify, then you might be classified as
1089 new. Is that your understanding, Mr. Voyles?

1090 Mr. {Voyles.} Yes, sir, Mr. Chairman, that is my
1091 interpretation of how we read the rules, that you make
1092 modifications, it does subject you to different parts of the
1093 standard.

1094 Mr. {Whitfield.} Yes, so, you know, when they were up
1095 here testifying, Lisa Jackson and others, they were talking
1096 about oh, this applies only to new plants but they had
1097 already pushed through the Utility MACT, as I said, that
1098 applies, makes you modify existing plants, and once you
1099 modify, then you have got to meet the new standard. So I
1100 think the President's comment when he was running for
1101 President clearly shows that there is a bias against coal and
1102 they are following through with that.

1103 Now, Mr. Trisko, you are here on behalf of United Mine
1104 Workers. Is that correct?

1105 Mr. {Trisko.} Yes, sir.

1106 Mr. {Whitfield.} And you read yesterday that Alpha

1107 Resources is closing down eight mines, and I am assuming your
1108 membership is quite concerned about the way things are
1109 happening to the coal industry.

1110 Mr. {Trisko.} These are not happy times in coalfields
1111 generally, Mr. Chairman.

1112 Mr. {Whitfield.} And, you know, in my opening
1113 statement, I made the comment that even Lisa Jackson when she
1114 was here and she said well, if other countries don't do the
1115 same thing on greenhouse gas, then our doing it is not going
1116 to make any difference. But the thing that really upsets me
1117 is that all these analysis talks about the benefits on health
1118 improving because of regulations but they never explore, look
1119 at, consider in any way the negative impact on the health
1120 care of the thousands of people in this industry that are
1121 losing their jobs, and they have indicated, no, we don't
1122 consider that, which I do not think is a fair and balanced
1123 playing field.

1124 My time is expired. I recognize for 5 minutes Mr. Rush.

1125 Mr. {Rush.} Dr. Lashof, Mr. Trisko indicated--he spoke
1126 disparagingly of the standards that the EPA is setting, and
1127 he also indicated that this plant that had modifications and
1128 that that plant would be classified as a new plant and it
1129 would suffer some negative responses, would have to newer,
1130 higher standard because of the new reclassification. How do

1131 you respond to some of the things he said?

1132 Mr. {Lashof.} Thank you, Mr. Rush. Well, you know, it
1133 is funny because the EPA is actually very explicit in its
1134 proposal in saying that it does not apply to modified plants.
1135 They have not proposed any standards that apply to the
1136 existing fleet, and the argument that the existing plants
1137 couldn't meet the current standard is irrelevant because the
1138 proposal only applies to new plants. So, you know, the
1139 problem here with this legislation is, it doesn't actually do
1140 anything to promote CCS. It just blocks other solutions and
1141 cost-effective ways of reducing pollution.

1142 Mr. {Rush.} I guess that is really my point. I am from
1143 Illinois. Illinois is a coal-producing State. You know, the
1144 President is from Illinois, and I don't think that the
1145 President is waging an attack on coal. I think the President
1146 is taking some postures under his Administration to make sure
1147 that coal is usable in the future and that it is not only
1148 energy, we can use coal for our energy needs but also that
1149 coal does not have to be harmful to the climate and to our
1150 health.

1151 Mr. Thompson, let me ask you this. Can you talk about
1152 some of the advances in clean-coal technology that has
1153 occurred under the President's Administration?

1154 Mr. {Thompson.} Well, I think perhaps the largest

1155 advance has just been the plants that have broken ground. I
1156 have mentioned two, the Kemper plant, which broke ground in
1157 2010, and the Texas Clean Energy Project, which will break
1158 ground in 2013 and go into operation in 2017. There has been
1159 a lot of funding for Future Gen and projects like that, loan
1160 guarantees that help advance coal, but obviously there is
1161 more work that needs to be done, and I think Congress should
1162 pick up areas that I alluded to like incentives to promote
1163 enhanced oil recovery. There is a lot of work that can be
1164 done on both sides of the aisle.

1165 Mr. {Rush.} Mr. Hilton, what are the most important
1166 things we should do to stimulate CCS development and
1167 deployment?

1168 Mr. {Hilton.} I think there is really I would say four
1169 things. You know, we do need proper regulatory structure
1170 that provides guidance to States for permitting and for
1171 funding of R&D, and we need financial support. You know,
1172 grants don't go far enough. Kemper goes ahead because it has
1173 got a 20 percent rate increase associated with it. All the
1174 rest of the projects are struggling. But then we have the
1175 issues, that sequestration is not going to happen until we
1176 resolve the issue of financial liability and poor ownership,
1177 you know, because you can't--so I think those are the four
1178 things.

1179 Mr. {Rush.} Those are the things that you think that
1180 this committee could be focused on that would really be of
1181 help to the industry at large. Is that correct?

1182 Mr. {Hilton.} Yes.

1183 Mr. {Rush.} Mr. Lashof, how important is CCS technology
1184 to ensuring a long-term future for coal?

1185 Mr. {Lashof.} Well, NRDC has supported development of
1186 CCS technology. We supported the Upton-Boucher bill as part
1187 of comprehensive legislation that was passed in the last
1188 Congress, and as Mr. Thompson said, there are applications
1189 around the world so I think that there is a real need for the
1190 United States to be a leader in this technology and a big
1191 market for CCS.

1192 The reality, though, is that the bill that this hearing
1193 is about would set up a catch-22 test because it would block
1194 the very standards that would actually create an incentive
1195 for the industry to invest in making that technology
1196 commercial.

1197 Mr. {Rush.} Thank you.

1198 Mr. Chairman, I yield back.

1199 Mr. {Barton.} [Presiding] Thank you. The gentleman's
1200 time is expired. The Chair now recognizes himself for 5
1201 minutes.

1202 Dr. Christy, you have got a very illustrious résumé both

1203 academically and professionally. Are you now or have you
1204 ever been a part of the IPCC process?

1205 Mr. {Christy.} The IPCC, yes, and about every year
1206 including being lead author in one of the assessments.

1207 Mr. {Barton.} So you would be acknowledged by the U.N.
1208 officials that operate that as a climate scientist?

1209 Mr. {Christy.} I have my certificate that says I am a
1210 Nobel Peace Prize winner.

1211 Mr. {Barton.} But you obviously do not appear to share
1212 some of the more generic, popularized conclusions that they
1213 have promoted. Is that a fair statement?

1214 Mr. {Christy.} That is a fair statement, yes.

1215 Mr. {Barton.} Okay. How do you get along with Dr.
1216 Mann?

1217 Mr. {Christy.} I don't communicate with him since that
1218 time back in--we were lead authors together back in 2001.

1219 Mr. {Barton.} Is it fair to state--I mean, the popular
1220 presentation is that there are thousands of climate
1221 scientists and they all agree that the world is going to hell
1222 because of CO2 and that the sooner we start restricting CO2,
1223 the better. Obviously you don't share that opinion. How
1224 many climate scientists are there like you, and are you ever
1225 heard or welcomed in those discussions?

1226 Mr. {Christy.} Rarely am I welcomed or heard in those

1227 kinds of discussions but I would say that, you know, it
1228 depends on how you define a climate scientist, but it is--

1229 Mr. {Barton.} Well, however you define it, you
1230 obviously are one.

1231 Mr. {Christy.} I am one. Yes, I actually build climate
1232 data sets from scratch. I qualify as a working-stiff climate
1233 scientist. There aren't very many of us, by the way. Other
1234 people that like to use the term, you know, have some oblique
1235 relationship to how climate might impact something but in
1236 terms of the hard core, there aren't many of us, and I would
1237 say that they are lot less confident about what climate
1238 models can do and can tell us, and the Nature article that
1239 just appeared yesterday was very clear about the lack of
1240 ability of climate models to tell us what is going on with
1241 the world and what will go with the world.

1242 Mr. {Barton.} Is it fair to state in your opinion and
1243 the scientists that share your opinion that the science on
1244 CO2 made by man being a primary contributor is unsettled and
1245 that it is not yet conclusive that manmade CO2 is a primary
1246 contributor to global warming?

1247 Mr. {Christy.} That science is unsettled, and I think
1248 the clearest example of that is in the three figures I put in
1249 the written testimony that show what the real world is doing,
1250 what climate models say it is doing or should be doing, and

1251 the two don't agree.

1252 Mr. {Barton.} Dr. Lashof, we obviously are very pleased
1253 that you are here. We do want to have a balanced hearing.
1254 Unfortunately, there is only one of you and you are
1255 outnumbered, but we do appreciate you being here. When you
1256 talked about the performance-based standard, Chairman
1257 Whitfield pointed this out, but I think it bears repeating.
1258 We could do a performance-based standard based on wind power
1259 or nuclear power that would be zero, and those are the only
1260 two that could comply with it. On the other hand, we could
1261 do a performance-based standard set on the 1971 standards
1262 that were first put out under the 1970 Clean Air Act and all
1263 the conventional power sources could comply with that. So it
1264 is a little misleading to say we are just asking for
1265 performance-based standard when you know and everybody else
1266 at this table knows that the only ones that comply with the
1267 proposed EPA standard are natural gas, nuclear and wind
1268 power. No coal plant can comply.

1269 Mr. {Lashof.} Well, Mr. Barton, the EPA's authority is
1270 to regulate emissions from fossil fuels.

1271 Mr. {Barton.} But you admit what I said is true?

1272 Mr. {Lashof.} No, I don't, because we actually believe
1273 EPA could set a tighter standard than it has.

1274 Mr. {Barton.} So you are saying that you think there is

1275 an existing coal technology that is economic that can comply
1276 with this standard?

1277 Mr. {Lashof.} Well, as Mr. Thompson testified, there
1278 are two plants that are under construction that would meet
1279 the standard, and--

1280 Mr. {Barton.} Well, what is the subsidy to the clean-
1281 coal plant down in Texas? How many--I would almost say
1282 billions of dollars, and I support that plant. But on its
1283 own merit, it can't compete without the tax subsidies and the
1284 direct subsidies to it. Isn't that a fact?

1285 Mr. {Lashof.} That may be true but--

1286 Mr. {Barton.} That is not may be true; it is true.

1287 Mr. {Lashof.} Well--

1288 Mr. {Barton.} It is true.

1289 Mr. {Lashof.} --I think there are plants potentially
1290 that have enhanced oil recovery opportunity that may be
1291 competitive.

1292 Mr. {Barton.} My time is expired. I want to ask Mr.
1293 Voyles a question. What is the most economic clean-coal
1294 technology that is currently available today for
1295 commercialization and how much does it add to the cost of the
1296 best coal technology that we already have in place--power
1297 plant generation technology?

1298 Mr. {Voyles.} In our case, the best technology is the

1299 recent unit that we just put in service in 2011. It is a
1300 supercritical coal-fired unit that has got all the available
1301 technology. It actually received an investment tax credit
1302 for clean-coal technology and it has been operating now for 2
1303 years and it actually produces 20 to 30 percent less CO2 than
1304 other technologies.

1305 Mr. {Barton.} And how much additional does it cost than
1306 the technology that it is replacing?

1307 Mr. {Voyles.} Because of its efficiency, it runs all
1308 in, in the \$30- to \$40-a-megawatt range. It is a little bit
1309 more expensive because of the amount of controls that are on
1310 it but significantly less than what you would experience if
1311 you put carbon capture and sequestration.

1312 Mr. {Barton.} Well, the number that I have been given
1313 is at a minimum--

1314 Mr. {Rush.} Mr. Chairman, we have to have regular
1315 order.

1316 Mr. {Barton.} You are exactly right, Mr. Rush.

1317 Mr. {Rush.} I thought you were going to stop at some
1318 point.

1319 Mr. {Barton.} You couldn't be more right, so as soon as
1320 I agree with you that you are right, I am going to recognize
1321 Mr. Doyle. Mr. Doyle is recognized for--is it Mr. Green
1322 instead of Mr. Doyle? I recognize the gentleman from Texas,

1323 Mr. Green, for 5 minutes.

1324 Mr. {Green.} I am finally getting the rules down. If I
1325 come when the gavel goes down, when I come back they will let
1326 me speak. Thank you, Mr. Chairman.

1327 I have a district in Texas. We have refineries and
1328 chemical plants, and I know the EPA, when they exempted coal,
1329 they grandfathered in the existing coal facilities, and yet
1330 the tenor of this hearing and what we hear so much is that
1331 all these layoffs, whether it be Alpha or a lot of them, are
1332 based on the Obama Administration and EPA. There is not a
1333 coal plant that in existence that will have to deal with
1334 carbon under the EPA, and yet Canada is requiring their coal
1335 plants to retrofit. I hope that when the EPA gets around to
1336 my five refineries and chemical plants in our district that
1337 they would let us have the same grandfather clause. But that
1338 is the concern I have.

1339 And I have an area that produces pet coke, not anything
1340 near what coal does, but we have not been able to use that
1341 pet coke in our own country because of the pollution problems
1342 and burning it, and we export it, and I support exporting
1343 coal. In fact, I know there is controversy over a port up in
1344 Washington. So, you know, is the export market, could that
1345 keep our coalmines open whether it be in West Virginia or
1346 Pennsylvania or western United States? Anyone from the coal

1347 industry.

1348 Mr. {Trisko.} Congressman Green, the United States
1349 consumes approximately 1 billion tons of coal annually, and
1350 the predominant customer for that coal is the electric
1351 utility industry, thus the cause of concern that we have
1352 expressed here today. There is a very robust international
1353 market in both steam coal and metallurgical coal with low-
1354 cost producers from countries such as Australia being able to
1355 in effect outcompete the United States. Now, our exports
1356 have increased a good deal over the course of the last 5
1357 years but at most we are talking about an export market that
1358 is on the order of 60 to 70, 80 million tons a year against
1359 that 1-billion-ton utility demand.

1360 Mr. {Green.} I guess I am trying to understand that if
1361 it is a billion tons that is used in existing coal facilities
1362 now and not one of them is being threatened to shut down
1363 because of carbon capture, it seems like we would continue.
1364 Now, I know there is a lot of things that enter into
1365 including the cheap price of natural gas. I am a big
1366 supporter of nuclear power. The problem is, if we didn't
1367 have loan guarantees and even questionable then, we wouldn't
1368 have a nuclear power plant because of the low price of
1369 natural gas. So I think it is a lot of market conditions,
1370 and coming from where I am, I can't not support natural gas

1371 expansion.

1372 Mr. Thompson, you mentioned that several States already
1373 set emission standards for carbon capture for new coal-fired
1374 plants. Can you elaborate? How do companies plan to comply
1375 with these standards?

1376 Mr. {Thompson.} There are several States that already
1377 have emission limits that are similar to what U.S. EPA has
1378 proposed. Some of them are like California and Washington
1379 State. There is a proposed coal project in California called
1380 HECP that seeks to meet that standard and do so with using
1381 carbon capture and storage. In places such as my State,
1382 Illinois, there is actually a clean-coal portfolio standard
1383 that seeks to promote coal projects with 50 percent capture.
1384 And some of those have not, I think are unlikely to move
1385 forward in Illinois simply because the price of gas is so
1386 low, and that is a real challenge.

1387 But what I think is really important to understand is
1388 that what projects need is certainty, and the regulations
1389 that EPA has proposed are quite reasonable: 30 years to
1390 comply if you want to choose that route in some cases for new
1391 plants. The challenge with H.R. 6172 is that it introduces
1392 confusion about whether or not EPA would be allowed to issue
1393 those very reasonable standards, and in an era of low
1394 natural-gas prices, that uncertainty actually, I would

1395 submit, favors the expansion of gas because someone who wants
1396 to finance a project or is being asked to finance a project
1397 is going to say well, you know, I am not really sure if there
1398 is some--

1399 Mr. {Green.} I am almost out of time, and I understand
1400 if somebody is cost-benefiting it out today and you are
1401 building a new power plant, you know, natural gas will get
1402 there. Wind, solar, nothing will get there without
1403 substantial tax incentives except for natural gas.

1404 I am a big supporter of enhanced oil recovery, and we
1405 are trying to grow that in Texas because we have a lot of
1406 fields we can do, and do you have any suggestions on how we
1407 can further incentivize enhanced oil recovery, use some of
1408 that carbon from other States? And I know there is a
1409 potential pipeline from Mississippi into southeast Texas
1410 where our refineries are to be able to deal with that.

1411 Mr. {Thompson.} A group of environmentalists, coal
1412 companies, chemical companies have gotten together under the
1413 umbrella of the National EOR initiative and recommended
1414 several recommendations. I will highlight one, and that is
1415 to actually to use a portion of the tax revenue that would
1416 have--that comes from new oil development and put that back
1417 into subsidizing some of the cost of CCS capture. That would
1418 allow a lot of projects to move ahead. So I would direct

1419 this committee to look at the National EOR Initiative's
1420 recommendations. I think that is a great starting point.

1421 Mr. {Green.} Thank you, Mr. Chairman.

1422 Mr. {Barton.} I just want the record to show that I
1423 gave you extra time, but it was only because you are from
1424 Texas. If you had been from Illinois or Pennsylvania, I
1425 would have been on you.

1426 Mr. {Green.} Well, maybe Mike can have a Texas drawl.

1427 Mr. {Barton.} We want to recognize the gentleman from
1428 the Cornhusker State, Mr. Terry.

1429 Mr. {Terry.} Since I am from the Cornhusker State, do I
1430 get 1 minute?

1431 Mr. {Barton.} It depends on how you are behaving.

1432 Mr. {Terry.} Thank you.

1433 Mr. Hilton and Mr. Thompson, I want to ask you, as I am
1434 trying to sort through this, I haven't been able to resolve
1435 one specific question, and that is whether or not technology
1436 exists to meet the proposed standards, and Mr. Hilton
1437 suggests that it is a work in progress. Mr. Thompson, you
1438 are saying they are already building them. So Mr. Hilton,
1439 you start first. How do I resolve this as a Cornhusker?

1440 Mr. {Hilton.} Well, the first part is, you know, is
1441 that it is technologically feasible. As far as getting to
1442 the point where it is commercially available, we need the

1443 proof that the technology, that what we are guarantee and
1444 what we are going to do, and there are no plants currently
1445 operating out there right now at commercial scale. Kemper
1446 will reach commercial scale because it has been able to get
1447 the financing, and this what I have said that CCS needs. It
1448 has a 20 percent rate increase. Summit, if it goes ahead,
1449 because it doesn't have financing yet--it has an MOU with
1450 Sinopec to sell part of the project and get Chinese
1451 financing--it may go ahead and this is the point that I was
1452 making. There are no projects out there that are going ahead
1453 on their own with the financing package that is, you know,
1454 there. And that is what we need as suppliers to be able to
1455 sell and guarantee the performance. Southern also has unique
1456 thing. It is their technology and they are a self, if you
1457 will, guarantor.

1458 Mr. {Terry.} Mr. Thompson?

1459 Mr. {Thompson.} Thanks. I also agree with Bob about
1460 the technology is technically feasible. Here is the
1461 different, I think, that maybe you are alluding to. Kemper
1462 and the Texas Clean Energy Project using pre-combustion
1463 capture technology. That has been around for 30 years
1464 commercially available. If you look at my written
1465 statements, you will see what Mississippi Power said in
1466 support of that. What Bob is talking about is the post-

1467 combustion capture, and his technology from his company, I
1468 respect his opinion that it is not ready yet but there are
1469 projects in Texas like the Trailblazer Project. It is a
1470 proposed project, would be post-combustion capture but it is
1471 not moving ahead, fully permitted, that would use this post-
1472 combustion capture technology and they have been able to get
1473 warranties from either MHI or Floor, I can't remember which,
1474 to do post-combustion.

1475 Mr. {Terry.} Let me interrupt, because you said
1476 something in a previous answer that stood out to me from
1477 Nebraska versus Texas is, we don't have oil fields, and you
1478 said having that available is a key component to its fiscal
1479 viability. So what about our northern coal-fired plants?

1480 Mr. {Thompson.} Pipelines. We have been supporters--

1481 Mr. {Terry.} Oh, we have tried that. They are against
1482 it.

1483 Mr. {Thompson.} Well, not everyone is. Seven hundred
1484 miles of pipelines have been proposed by Denbury to go from
1485 the Gulf Coast area through to Kentucky, Indiana, Illinois,
1486 and legislation has been passed in those three States to
1487 provide eminent domain authority to make that happen. So it
1488 is not easy, but that is my short answer.

1489 Mr. {Terry.} All right. Well, I appreciate that.

1490 Then back to you, Mr. Hilton. You had mentioned the

1491 issue of there is liability issues. Can you in a minute and
1492 15 seconds tell me what the liability issues are specifically
1493 and what other barriers in addition to liability?

1494 Mr. {Hilton.} Okay. The liability issue is obviously
1495 if you sequester, there is going to be need typically in
1496 accounting to have some liability associated with having put
1497 that CO2 in a reservoir, so we expect that that is going to
1498 have to be dealt with just like any other waste that has
1499 happened. It may even end up that way in EOR before it is
1500 over, before things are done. So, I mean, there is a
1501 liability issue. There is an issue of poor ownership, you
1502 know, who owns the poor structure you are putting the CO2 in,
1503 and in the history of the United States, it is the classic,
1504 you own to the center of the earth under your house and so,
1505 you know, if you add in paying royalties to put CO2 under
1506 people's houses if they will let you, you know, you have to
1507 get permission. This is a major issue. So I think those are
1508 the really two biggest issues that we are facing.

1509 Mr. {Terry.} All right.

1510 Mr. {Thompson.} I would just say that with EOR, which
1511 could account for a third of the Nation's coal fleet, there
1512 are no liability issues. We have injected over a billion
1513 tons of CO2 in Texas since the 1980s. So there are ways of
1514 addressing this issue even within the EOR context.

1515 Mr. {Barton.} The gentleman's time is expired. We now
1516 recognized the gentleman from the Keystone State, the winner
1517 of the Congressional baseball game manager, Mr. Doyle.

1518 Mr. {Doyle.} Thank you, Mr. Chairman.

1519 Thank you for your all your testimony. I have read it.
1520 Mr. Trisko, you mentioned in your testimony a 2008 wires-
1521 charge bill, which I was a cosponsor of, by the way, which
1522 would have provided path forward for CCS funding. Can you
1523 tell us a little bit about where that bill ended up?

1524 Mr. {Trisko.} Congressman Doyle, the bill eventually
1525 ended up as Section 113 of the Waxman-Markey bill, the larger
1526 climate-change bill, and while that bill passed the House,
1527 the companion legislation in the Senate did not fare as well.

1528 Mr. {Doyle.} Thank you.

1529 Mr. Hilton, in your testimony, you refer to several
1530 commercial-scale CCS demonstrations planned in other
1531 countries--the U.K., European Union, even China. Can you
1532 tell us how these projects are being funded?

1533 Mr. {Hilton.} Well, the U.K. projects are being funded
1534 by a billion-pound fund the U.K. government is putting up.
1535 Most of the European projects are a combination of E.U.
1536 funding from what is called the NER-300, which is a grant for
1537 allowances which can be sold and then funded, which is
1538 somewhere on the order of \$2-1/2 billion to \$4 billion euros

1539 worth of funding. The Chinese projects are a little bit, I
1540 am going to say, different. The Chinese projects get funded
1541 because the Chinese government particularly says that project
1542 will go ahead and where the funding is actually comes from is
1543 harder.

1544 Mr. {Doyle.} From the Chinese government?

1545 Mr. {Hilton.} Right.

1546 Mr. {Doyle.} What about the CCS projects here in the
1547 United States like the Summit plant? How is that being
1548 financed?

1549 Mr. {Hilton.} Well, the Summit plant has a significant
1550 grant from the government. It is going to do EOR but its
1551 financing, it looks like it will come from selling part of
1552 the project as an MOU with Sinopec and Chinese banks.

1553 Mr. {Doyle.} Right. So would you say there is an
1554 argument here then for a commitment to federal funding for
1555 CCS demonstration projects like we provided in the stimulus
1556 bill? In other words, we need to step up to the plate, don't
1557 we?

1558 Mr. {Hilton.} Absolutely.

1559 Mr. {Doyle.} Thank you.

1560 This question is for several of the panelists. There
1561 has been a lot of testimony this morning about the state of
1562 CCS technology development and the need for better drivers of

1563 CCS technology. Many of you have addressed this in your
1564 testimony already, but I want to ask you what you think would
1565 be the best driver for commercialization of affordable CCS
1566 technology. Would it be EPA regulation? Would it be a
1567 carbon tax, cap and trade or something else? Just very
1568 quickly because I have some more to say. Go ahead.

1569 Mr. {Trisko.} Congressman Doyle, we would again
1570 advocate consideration of the wires-charge approach. That is
1571 a non-budget way to raise \$10 billion to support CCS
1572 demonstrations. Until we have commercial-scale
1573 demonstrations, there will not be a regulatory structure that
1574 will allow that technology to proceed, and given the state of
1575 the federal budget, which we are all acutely aware, we need
1576 to find a non-budget source of these revenues.

1577 Mr. {Doyle.} Thank you.

1578 Mr. {McCullough.} Yes, I first of all refer you to the
1579 CURC-EPRI roadmap that recognizes the technology roadmap to
1580 get to cost-effective, reliable CCS capture. We would also
1581 support the funding that Mr. Trisko just--

1582 Mr. {Doyle.} Great. I don't mean to rush you but I
1583 have some more to say.

1584 Go ahead, Mr. Voyles.

1585 Mr. {Voyles.} And I would only add to what Mr.
1586 McCullough says by saying--and we have talked about the

1587 Kemper County plant. That plant has been progressing without
1588 the imposition of any standards so the industry is investing
1589 in carbon research, trying to develop technology, and that
1590 should continue.

1591 Mr. {Doyle.} Mr. Hilton?

1592 Mr. {Hilton.} Clearly, I think a wires charge or
1593 similar thing.

1594 Mr. {Thompson.} A combination, both performance
1595 standards and incentives that promote enhanced oil recovery.

1596 Mr. {Lashof.} Yeah, I would say we need the standards
1597 to make it clear that if you are going to build fossil
1598 plants, you are going to need CCS in the future to motivate
1599 people to invest, and then we need support.

1600 Mr. {Doyle.} Dr. Christy?

1601 Mr. {Christy.} Yes, I would just say please don't raise
1602 the rates of Alabamians for utilities.

1603 Mr. {Doyle.} Okay. Thank you.

1604 This week, Mr. Chairman, in the House, our friends on
1605 the other side are going to bring a bill to stop the war on
1606 coal to the House Floor, and among other things, the bill
1607 prohibits any acknowledgement that global warming is caused
1608 by carbon emissions and it bars the federal government from
1609 setting any kind of carbon-emission limit. The bill we are
1610 debating here in the subcommittee also would bar the federal

1611 government from setting any kind of limit on carbon
1612 pollution. In 2009, Democrats passed a stimulus bill that
1613 provided \$3.4 billion to CCS funding. That was 49 percent of
1614 all the energy funding in the stimulus bill went to CCS.
1615 Half of all that funding, CCS. That bill was denigrated,
1616 maligned and smeared by many in this House chamber. Also in
1617 2009, we took up a cap-and-trade bill that had \$60 billion
1618 for CCS funding as well as the \$10 billion in wire charges
1619 that Mr. Trisko referred to in his testimony. That bill as
1620 well was smeared, denigrated and maligned by many on this
1621 House Floor.

1622 So here we are today dealing with regulations that are a
1623 result of court-imposed deadlines and we are being told that
1624 the industry doesn't have commercially available tools to
1625 meet these limits. Well, whose fault is that? I would just
1626 say to my friends, when you want to bring a bill forward to
1627 invest--you know, you have to do both. You can't just--

1628 Mr. {Gardner.} [Presiding] The gentleman's time is
1629 expired.

1630 Mr. {Doyle.} No, I would like 10 more seconds.

1631 Mr. {Gardner.} I am not from Texas.

1632 Mr. {Doyle.} Let me just say this to my friends. I
1633 have sympathy for what is going on in the coal industry.
1634 Bring a bill to the Floor that says we need commercially

1635 available technology before we can do certain regulations but
1636 where is the money to go with it? There is no commitment to
1637 fund the technology. We do this in nuclear and we do this in
1638 other areas. You know, show me the money. We had \$60
1639 billion on the table and that got voted down. So don't just
1640 come here and say you can't do something because the
1641 technology is not available.

1642 Mr. {Gardner.} The gentleman's time has expired. The
1643 gentleman from Texas is recognized for 5 minutes.

1644 Mr. {Burgess.} Thank you, Mr. Chairman, and I do feel
1645 obligated to point out that during the first 2 years of the
1646 Obama Administration when cap and trade, Waxman-Markey passed
1647 and the stimulus bill did pass, of course the President's
1648 party controlled all the levers of government. Whatever this
1649 side of the dais wanted was absolutely irrelevant because the
1650 Democrats had a 50-vote majority in the House and a 60-vote
1651 filibuster-proof majority in the Senate. It was the Senate
1652 that was unable to do Waxman-Markey because after they saw
1653 the public angst over Waxman-Markey being shoved through the
1654 Floor of the House the last day of June 2009, no Senator had
1655 the courage to step forward and say let us talk about this.
1656 They wanted to withdraw from that fight. Whether it was
1657 right or wrong, I mean, that is what happened. Blame us if
1658 you want if you can't find any other reason but the reality

1659 was, 60 Democratic votes in the Senate and the President
1660 could not get that bill even considered in the other body.
1661 So don't blame House Republicans. I didn't want that. I
1662 thought it was a bad idea. I thought it was a bad idea on
1663 several levels. I will still vote against it if you are able
1664 to bring it up again. But don't blame House Republicans for
1665 your inability to get that done because you know very well
1666 that thing was forced through this committee, subcommittee,
1667 full committee and the Floor of the House and it was in fact
1668 to the detriment of your side because, honestly, you never
1669 recovered the public confidence after you did that. It was
1670 done in the worst possible way, and I would hope whatever
1671 happens with energy legislation going forward it is
1672 constructed in a bipartisan fashion. I think that is the
1673 lesson a lot of us can take away from the last 3-1/2 years.

1674 Mr. Hilton, I have a question for you, because when
1675 Michael Williams was Chairman of the Texas Railroad
1676 Commission, I think he came to this committee and testified
1677 either in committee or in a briefing, and he talked about how
1678 the State of Texas had taken title. You were answering some
1679 questions from Mr. Terry about the liability issues. The
1680 State of Texas, as I understand it, took title to the carbon
1681 that was pumped back down for carbon sequestration. Is that
1682 not correct?

1683 Mr. {Hilton.} Yeah, that is correct.

1684 Mr. {Burgess.} Does that help with the liability issue?

1685 Mr. {Hilton.} It helps in Texas.

1686 Mr. {Burgess.} Right. Has any other State stepped
1687 forward and done that?

1688 Mr. {Hilton.} I don't believe so.

1689 Mr. {Burgess.} Now, Texas, of course, is a little bit
1690 different because we are our own country. We don't have
1691 federal lands; we have State lands. So there actually is the
1692 availability of State land to do that. In other areas of the
1693 country where there are large amounts of federal lands, has
1694 there been any discussion about the federal government taking
1695 title to the carbon that might be injected under federal
1696 lands?

1697 Mr. {Hilton.} I can say it has been suggested. I don't
1698 know if the federal government itself has discussed it, but,
1699 I mean, people have talked about it, of course.

1700 Mr. {Burgess.} But even there with the liability cloud
1701 removed as it was in Texas, I mean, it has been a slow go.
1702 It is not something that has really been--there hasn't been a
1703 lot of enthusiasm for it.

1704 Dr. Christy, welcome back to our committee. You have
1705 spent a lot of time here over the years. I really appreciate
1706 the graphic representation that you brought to us today. It

1707 is fascinating because, I mean, I lived through at least half
1708 of it so I actually remember those years very well. There
1709 does seem to be a certain amount of randomness to the
1710 temperature variations that you described. There also seems
1711 to be some clustering. Are you able to make any predictions
1712 about, is this occurring on a cyclic basis? I mean, clearly
1713 some of the most startling temperatures were in the early
1714 part of the last century as opposed to these latter years
1715 when the carbon numbers were supposedly going up. Are you
1716 able to make any predictive statements based upon the data
1717 that you have collected?

1718 Mr. {Christy.} You know, my most confident predictive
1719 statement is that if it happened before, it will happen again
1720 and probably worse.

1721 Mr. {Burgess.} Well, history always repeats itself
1722 right up until the time that it doesn't.

1723 Mr. {Christy.} Yes. In fact, even on the arctic sea
1724 ice thing, I think it would be interesting to note that over
1725 western civilization the arctic has probably been warmer than
1726 it is today.

1727 Mr. {Burgess.} Well, let me ask you a question because
1728 it did come up that because of the reliance on natural gas
1729 when the price collapsed of natural gas in 2008, apparently
1730 carbon dioxide levels are lower now than what they were

1731 predicted to be. Is that correct?

1732 Mr. {Christy.} In this country, they have fallen, yes.

1733 Mr. {Burgess.} Is that happening worldwide or is it
1734 just this country?

1735 Mr. {Christy.} I believe that is not the case
1736 worldwide. It is still going up thanks to China and India,
1737 who are really burning a lot of coal.

1738 Mr. {Burgess.} So if we were really able to achieve the
1739 goals that were set forward in Waxman-Markey, the rest of the
1740 world could actually negate any benefit effect if indeed that
1741 was the cause of global warming?

1742 Mr. {Christy.} Whatever the United States does, it will
1743 be pretty much imperceptible for the global climate.

1744 Mr. {Burgess.} Very good. Thank you, Mr. Chairman. I
1745 will yield back.

1746 Mr. {Gardner.} Thank you, Mr. Chairman--or thank you,
1747 Mr. Burgess.

1748 Mr. {Burgess.} I will yield you additional time.

1749 Mr. {Gardner.} Yes, that is right. Well, I was maybe
1750 getting even for Mr. Doyle right there.

1751 Mr. Olson, you are recognized for 5 minutes.

1752 Mr. {Olson.} I thank the Chair, and on behalf of the
1753 people of Texas 22, welcome to our witnesses. Thank you for
1754 your time and expertise today.

1755 Clean air and economic growth are not mutually
1756 exclusive. The great people of Texas 22 aren't buying the
1757 notion that EPA can create jobs by strangling business with
1758 overly burdensome and unnecessary regulations, especially
1759 when the electricity bills are going up. We all know, the
1760 people of my district, Texas 22, our rates by the comments
1761 our President made when he was running for the office in 2008
1762 in San Francisco. You guys know these comments but just let
1763 me read them for you. If someone wants to build a new coal-
1764 fired power plant, they can, but it will bankrupt them
1765 because they will be charged a huge sum. I served 10 years
1766 in the United States Navy. It sounds like an attack on coal,
1767 doesn't it?

1768 My first question is for you, Mr. McCullough and Mr.
1769 Hilton and Mr. Voyles. Do you believe EPA's goal with all
1770 these new rules is to shut down coal plants like the
1771 President said in San Francisco and keep new ones from being
1772 built?

1773 Mr. {McCullough.} Well, the motive is up to someone
1774 else to decide but the effect is that no new coal plants will
1775 be built.

1776 Mr. {Olson.} Mr. Voyles?

1777 Mr. {Voyles.} I would concur with that.

1778 Mr. {Olson.} Mr. Hilton?

1779 Mr. {Hilton.} I would concur with that.

1780 Mr. {Olson.} Thank you.

1781 Texas is predicted to have a severe supply shortage,
1782 meaning that we will need more electricity than it can
1783 generate. We are the second largest State, the fastest-
1784 growing State in our Nation. We are expected to have a
1785 2,500-megawatt shortfall in generating capacity, equivalent
1786 to five large power plants, as early as 2014. We have
1787 proposed a pet coke plant in Texas, the Corpus Christi area,
1788 Las Brisas Energy Center, that EPA has been slow walking for
1789 more than 3 years. Some of my colleagues have wrote EPA
1790 about 2 months ago and they haven't gotten back to us yet.
1791 So we are optimistic that we will get something from EPA.
1792 But is this the sort of treatment you guys are getting used
1793 to from EPA, no answers, no responses? I will put it another
1794 way: has EPA been a corporate partner or are they an
1795 adversary working against you?

1796 Mr. {McCullough.} Well, we have certainly had our
1797 discussions with U.S. EPA around many rules, the MACT rule
1798 for mercury being included in that discussion, and saw very
1799 little in the way of response positively for our industry.

1800 Mr. {Olson.} Mr. Voyles?

1801 Mr. {Voyles.} We too have had numbers of discussions
1802 with EPA on numbers of rules, and the plant that I spoke of

1803 earlier, we had some discussions with them about the time
1804 that was taken to get our permits but we did finally achieve
1805 those.

1806 Mr. {Olson.} Mr. Hilton?

1807 Mr. {Hilton.} As a technology supplier, we really don't
1808 get into those kind of discussions per se. We talk about
1809 technology with the agency.

1810 Mr. {Olson.} Okay. One round of questions for all of
1811 you starting with Dr. Christy. Our former EPA regional
1812 administrator, Mr. Al Armendariz, was in charge of overseeing
1813 our power plants. He had resigned his radical agenda. He
1814 came forward to actually crucify--he used that term--to
1815 crucify the oil and gas companies but it went public. He now
1816 works for the Sierra Club, their beyond-coal campaign. What
1817 do you think about that? Are there more people like Dr.
1818 Armendariz working at EPA now?

1819 Mr. {Christy.} My impression in the federal government,
1820 there are several folks like that, have a pretty clear view
1821 of what the climate situation is.

1822 Mr. {Olson.} Mr. Trisko?

1823 Mr. {Trisko.} Our experience, Congressman, is that EPA
1824 is staffed by highly experienced experts in environmental
1825 regulation, and if one follows the letter of the Clean Air
1826 Act that has not been amended by Congress for some 22 years

1827 except by virtue of a 2007 5-4 Supreme Court ruling, it is
1828 not difficult to understand how we have ended up in the
1829 predicament we are today.

1830 Mr. {Olson.} Mr. McCullough?

1831 Mr. {McCullough.} Yes, I would agree. In the
1832 discussions, the Clean Air Act, I would classify as used as a
1833 reason or a crutch to not be flexible, and it is pretty
1834 consistent in that way.

1835 Mr. {Olson.} Mr. Voyles, your comment, sir?

1836 Mr. {Voyles.} I don't know that I would add anything
1837 that hasn't already been said. I am not sure where they get
1838 all the employees but they have some expertise that we talk
1839 to from time to time, and I think that they do try to use the
1840 Clean Air Act to the advantage of one side or the other,
1841 depending upon the issue.

1842 Mr. {McCullough.} Mr. Hilton?

1843 Mr. {Hilton.} I have great respect for the
1844 professionals at EPA and they do have some terrific experts
1845 there, and I think the comments that Mr. Trisko made are
1846 probably very substantial.

1847 Mr. {Olson.} Thank you.

1848 Mr. Thompson?

1849 Mr. {Thompson.} My experience is, the EPA officials are
1850 very professional and some leave the agency to work for

1851 industry and some for environmental groups.

1852 Mr. {Olson.} And finally last but certainly not least,
1853 Dr. Lashof?

1854 Mr. {Lashof.} Yeah, my experience is similar. EPA Is
1855 trying to protect public health by setting standards. They
1856 have proposed a fuel-neutral and technology-neutral standard,
1857 and the public supports it overwhelmingly.

1858 Mr. {Olson.} Thank you. I am way over time. I thank
1859 the Chair.

1860 Mr. {Gardner.} The gentleman from West Virginia, Mr.
1861 McKinley, is recognized for 5 minutes.

1862 Mr. {McKinley.} Thank you, Mr. Chairman.

1863 Mr. Thompson, I want to focus back in on the enhanced
1864 oil recovery. Are you aware that earlier this year there was
1865 an amendment on the Floor that was adopted by Congressman
1866 Connolly that cut the research funding in the enhanced oil
1867 recovery?

1868 Mr. {Thompson.} I am not familiar with that.

1869 Mr. {McKinley.} So when we hear the folks on the other
1870 side talking about this, if we know this is going to be part
1871 of the solution, this is where we need to be focusing on but
1872 yet all these members, and Mr. Doyle was one of them that
1873 voted to cut the funding. I find that very interesting.

1874 But let me build on that just a little bit. In fact,

1875 all the Democrats did. If the oil industry--because I am
1876 somewhat aware of this process. If the oil industry finds
1877 this is a possibility of increased recovery, instead of--
1878 well, how many of them are contributing from the oil
1879 industry, how many of them are contributing to the carbon-
1880 capture research so that would enable that to occur to
1881 provide them with a supply of material? Are any oil
1882 companies contributing to CCS research?

1883 Mr. {Thompson.} Sure, Shell, among others, is.

1884 Mr. {McKinley.} Do you have numbers for that, how much?
1885 Are they contributing a million or they are contributing
1886 hundreds of millions of dollars?

1887 Mr. {Thompson.} No, I don't, but what I would be happy
1888 to do is after the hearing--

1889 Mr. {McKinley.} I would like to understand more--

1890 Mr. {Thompson.} --I would be happy to respond in
1891 writing.

1892 Mr. {McKinley.} --because if they are going to be the
1893 ones that are going to benefit from this, I think they are
1894 the ones that should be contributing the money for it.

1895 Let us go back now to Dr. Lashof. I am just curious.
1896 It was touched on just a minute ago about the CO2 emissions.
1897 Are you aware that the CO2 emissions across North America are
1898 down to a low that hasn't been seen in 20 years?

1899 Mr. {Lashof.} Yes, I am. I have published a report on
1900 that a month or so ago.

1901 Mr. {McKinley.} And so with that, you think we ought to
1902 go even--we need to continue this message, this fight?

1903 Mr. {Lashof.} Well, the amount of CO2 in the atmosphere
1904 is 25 percent higher than it was in the year I was born,
1905 1959, and what we need to do is stabilize that level. The
1906 United States needs to reduce further. Certainly, China and
1907 India also need to reduce. The United States has to provide
1908 leadership.

1909 Mr. {McKinley.} Because what you are saying is, it is
1910 the main culprit? I think I heard you say that is the main
1911 culprit of global warming.

1912 Mr. {Lashof.} Carbon dioxide traps heat in the
1913 atmosphere. It would be remarkable if it weren't causing
1914 global warming, and in fact, we are seeing global warming.

1915 Mr. {McKinley.} So you disagree with Dr. Lewis, Hal
1916 Lewis, when he resigned from his position, the American
1917 Physicists Society when he said this is the greatest
1918 pseudoscience fraud perpetrated on America?

1919 Mr. {Lashof.} Yeah, I totally disagree with that.

1920 Mr. {McKinley.} I would assume you do. But I think
1921 several others have joined him in resigning because there are
1922 other scientists that disagree with you on that, that this is

1923 being used for other purposes. I look at what Hal Lewis has
1924 said, and if you look back to Milankovic, back to the Serbian
1925 physicist back in the last century, by virtue of his own
1926 studies had predicted that this was going to happen at this
1927 time in our history. Are you aware of that?

1928 Mr. {Lashof.} I am. Look, scientists will always
1929 disagree with each other. That is what they do. That is how
1930 they make a living is writing papers to disagree with other
1931 scientists. If we predicated policy on unanimity among
1932 scientists on any issue, we would never do anything.

1933 Mr. {McKinley.} Do you recognize too that National
1934 Geographic just came out with a study that says we are just
1935 coming out of an ice age, a mini-ice age, and therefore we
1936 should be expecting higher temperatures today?

1937 Mr. {Lashof.} I haven't seen that particular National
1938 Geographic article, but the fact is that the amount of heat
1939 trapping that the excess CO2 that we put into the atmosphere
1940 from burning fossil fuels is now a much bigger factor in
1941 influencing the earth's climate than the Milankovic cycles
1942 and what we have had to start with. We have entered a new
1943 era that many scientists call the--

1944 Mr. {McKinley.} So my point here is, given that there
1945 is not unanimity--and I remember earlier last year when Lisa
1946 Jackson came before us, she said it is all been decided, that

1947 global warming is anthropogenic, global warming is manmade
1948 cause and it is CO2 driven, that there is no argument
1949 anymore, but you also just acknowledged that it is not, that
1950 the science is still up in the air over that issue. So I
1951 accept that there is not a lack of unanimity on it because
1952 what we are about to do here is allow the EPA to impose a
1953 regulation. That is the purpose of my bill. Just hold back.
1954 If we had the scientific ways of doing it, then to go ahead
1955 and implement it, but when we don't have the technology
1956 available, let us hold back because there is enough evidence
1957 that possibly CO2 is not contributing to as much of the
1958 problem as you are suggesting that it is. So let us just
1959 hold back. I am over my time--

1960 Mr. {Lashof.} Mr. McKinley, if I can just answer
1961 quickly, I don't agree that the science is up in the air. I
1962 said that there is not unanimity among scientists and there
1963 won't be, but the National Academy of Science said that the
1964 idea that carbon dioxide is contributing to climate change is
1965 as well proven as gravity, and I think that is a strong basis
1966 for making policy.

1967 Mr. {Gardner.} The gentleman's time is expired. The
1968 gentleman from Massachusetts is recognized for 5 minutes.

1969 Mr. {Markey.} Could you recognize someone from the
1970 minority and then come back to me? Is that possible, Mr.

1971 Chairman?

1972 Mr. {Gardner.} The gentleman yields back.

1973 Mr. {Rush.} Mr. Chairman.

1974 Mr. {Doyle.} Will the gentleman yield for 30 seconds?

1975 Mr. {Markey.} No, I am ready to go, if the majority

1976 does not need to have the time. Thank you, Mr. Chairman.

1977 So here is what I would say, that coal has dropped from

1978 51 percent of electrical generation down to 35 percent over

1979 the last 5 years, but there is a concomitant trend as well

1980 which is operating simultaneously which is that natural gas

1981 has risen from 21 percent to 30 percent. So there is a war

1982 between fossil fuels going on in our country right now.

1983 By the way, the same thing is happening on home heating

1984 oil in New England. The market for home heating oil is

1985 collapsing as the price of natural gas is rising. Now, why

1986 is that? Because natural gas is so much less expensive than

1987 home heating oil. The price of natural gas has collapsed in

1988 terms of a source for generation for electricity. And by the

1989 way, the same thing is true for wind. Wind was only 1

1990 percent of all electricity just 4 years ago. It is now 4

1991 percent of all electricity.

1992 So coal is losing a marketplace battle. There is no

1993 question about it. It is losing a marketplace battle.

1994 Natural gas is up to 30 percent. It will probably go up a

1995 percent a year every year. That is just a fossil-fuel
1996 battle. The same thing is true for home heating oil.
1997 Natural gas is eating into home heating oil in a very
1998 significant way. That is a fossil-fuel interfuel battle.
1999 And I know a lot of people don't like it, you know, any more
2000 than--let us be honest, any more than the horse industry
2001 likes the horseless-carriage industry. It just moving on,
2002 you know, but when the price drops, that is what you get.

2003 So a lot of people are just trying to blame the concern,
2004 which the Obama Administration or members of this committee
2005 that might care about clean air or pollution or science but
2006 that is not what has really been happening. This is all
2007 happening before there was any rule promulgated on CO2. This
2008 is already happening and it is going to continue to happen
2009 because of the low price of natural gas. Now, again, the
2010 Democrats are the party of natural gas and the Republicans
2011 are the party of coal, if that is how you want to frame it,
2012 but that would of course be a wrong frame. That is the wrong
2013 frame. I am just bringing to you the marketplace reality,
2014 the economics of it. When a flat-screen TV costs \$5,000, you
2015 don't buy it. When the cost collapses down to \$299, you are
2016 buying one. That is what is happening with natural gas.
2017 People are buying natural gas, utilities and homeowners, and
2018 they are moving to it, plain and simple.

2019 So Dr. Christy, I want to read to you two statements.
2020 One, scientific evidence strongly indicates that natural
2021 influences cannot explain the rapid increase in global near-
2022 surface temperatures observed during the second half of the
2023 20th century, and two, it is virtually certain that
2024 increasing atmospheric concentrations of carbon dioxide and
2025 other greenhouse gases will cause global surface climate to
2026 be warmer. Dr. Christy, do you agree with those statements?

2027 Mr. {Christy.} Those statements have no magnitude to
2028 them, no metrics to them, so if the increase is 1,000th of a
2029 degree due to the greenhouse effect, you would say yes. You
2030 would agree with those statements.

2031 Mr. {Markey.} Okay. Well, Dr. Christy, those
2032 statements are direct quotes from the 2003 American
2033 Geophysical Union statement on human impacts on climate that
2034 you helped to draft. So Dr. Christy, in 2003, you agreed
2035 with those statements, but the Dr. Christy of 2012 does not
2036 agree with those statements.

2037 Dr. Lashof, do you agree with those statements? Is the
2038 science, Dr. Lashof, more certain now than it was in 2003?

2039 Mr. {Lashof.} Yes, there has been a huge accumulation
2040 of observations and studies which tie the warming that we
2041 have seen to the accumulation of heat-trapping pollution in
2042 the atmosphere. Of course, as Dr. Christy says, there is

2043 natural variability. There will always be natural
2044 variability. But on top of the natural variability there is
2045 an undeniable trend that is very significant and very
2046 dangerous.

2047 Mr. {Markey.} So Dr. Lashof, tell us the status of the
2048 arctic right now, could you?

2049 Mr. {Lashof.} Right. So NASA released data yesterday
2050 showing that the arctic ice has fallen to about 3.4 million
2051 square kilometers at minimum. It is less than 50 percent of
2052 what it was in 1979. It is about a 49 percent reduction from
2053 the average over the whole period from 1979 to--

2054 Mr. {Markey.} Thank you, Doctor.

2055 I yield to the gentleman from Pennsylvania, Mr. Doyle.

2056 Mr. {Doyle.} Thank you, Mr. Markey.

2057 You know, I would just say in conclusion to my friends,
2058 and many weren't here when we passed the cap-and-trade bill
2059 in the House, but I think one thing is clear. Mr. Hilton
2060 says, you know, he has an MOU with the Chinese. We are going
2061 to use coal for the foreseeable future, and even if we don't
2062 use it, China is going to use it, India is going to use it,
2063 other countries are going to use it. It only makes sense
2064 that if it is going to be used, we try to do it in the most
2065 efficient and environmentally safe way. To do that, we have
2066 to make an investment in it. These things are not going to

2067 happen by themselves. So either the Chinese are going to
2068 develop the technology, they are going to come over here and
2069 fund the project and part of that deal is, they get the
2070 technology and then they get to market it to the world or the
2071 United States does it. I would suggest that, you know, if we
2072 want to deal with coal, I would say to my friends on the
2073 other side of the aisle, let us put our money where our mouth
2074 is, and if you are going to pass a bill saying there is no
2075 commercially available technology, then where is the money to
2076 make that happen? And until we do that, other countries will
2077 do that and they will have the technology and we won't.

2078 Mr. {Gardner.} The gentleman's time is expired. The
2079 gentleman from Virginia, Mr. Griffith, is recognized for 5
2080 minutes.

2081 Mr. {Griffith.} Thank you, Mr. Chairman.

2082 Dr. Christy, did you want to respond to anything that
2083 the previous gentleman said? I know that he made some
2084 assertions about your positions and you didn't get a chance
2085 to respond. Would you like to do that at this time?

2086 Mr. {Christy.} I agree with those statements in 2003.
2087 I was one of the authors. There were no magnitudes on those
2088 statements. CO₂ is a greenhouse gas. It will cause surface
2089 warming. How much is the uncertainty.

2090 Mr. {Griffith.} And I would point out that one of the

2091 things that I see as a difference with what is happening now,
2092 and lots of time people like to talk about the market
2093 conditions, and clearly the market conditions are important,
2094 but one of the things that is interesting is, is that there
2095 was a reference to the horseless carriage versus the horse-
2096 drawn vehicles, but we didn't outlaw horses at the same time
2097 as the horseless carriage was being developed and that is the
2098 big difference, and while I am getting older every day and
2099 thankful for that, I can remember in my youth a gentleman who
2100 in my hometown still had his team of horses to plow fields,
2101 and people felt he did a great job and he made a living doing
2102 that for a number of years well into the 1970s, and horses
2103 were not made illegal by the advent of the automobile.

2104 Mr. Hilton, did I hear you say that--and I may have
2105 misunderstood so please get me straight--that in regard to
2106 the Kemper coal-fired power plant with what they are doing
2107 that there would be a 20 percent rate increase?

2108 Mr. {Hilton.} That is what I have read, yes.

2109 Mr. {Griffith.} You know, this is part of what causes
2110 me great concern, and Dr. Christy, you touched on this
2111 earlier as well, is that we have all of these requirements
2112 and it is not just the one that we are debating today but we
2113 have numerous requirements coming in and every time we turn
2114 around there is a rate increase. We are already experiencing

2115 that in my district, which is a coal-producing district in
2116 southwest Virginia, but the folks, you know, many counties
2117 away from where the coal is actually dug are watching their
2118 electric rates go up and it is making it hard on the working
2119 poor and on the poor folks because they can't afford a 10
2120 percent increase, or in this case, a 20 percent increase.
2121 And you mentioned that they were having similar problems in
2122 your community in Alabama. Is that true, or that you have
2123 noticed this?

2124 Mr. {Christy.} I would just say this, that we have
2125 many, many poor people in my State and any increase in cost
2126 of living for them is really a hardship.

2127 Mr. {Griffith.} And that is true in my district as
2128 well, and I think that is probably true in a lot of the
2129 districts across the United States, that what you have is,
2130 you have--when the price goes up, then it makes it hard.

2131 And you know, what is interesting is, is that everybody
2132 likes to talk about the statement by the President when he
2133 said that they would bankrupt the facilities if they were
2134 using coal or whatever but they also mentioned at that time
2135 in 2008 he mentioned as well because on capping greenhouse
2136 gases, coal power plants, you know, natural gas, you name it,
2137 whatever the plants were, whatever the industry was, they
2138 would have to retrofit their operations. That will cost

2139 money. They will pass that money on to consumers. So I just
2140 find it rather interesting that the consumer side of this
2141 equation is often left out.

2142 And Dr. Christy, you indicated that if the United States
2143 took all these actions and we reduced and continued to reduce
2144 our carbon footprint that it would be relatively--and I don't
2145 want to put your words in your mouth, I don't remember,
2146 something along the lines of negligible, is that correct?

2147 Mr. {Christy.} Yes.

2148 Mr. {Griffith.} In the world's output. But wouldn't
2149 you agree with me that it is not negligible to the families
2150 that are having to pay those higher increased prices for
2151 electricity to light and heat their homes or to run
2152 factories?

2153 Mr. {Christy.} Yes. I think anyone who sees their
2154 utility bill rise would feel the effect and it wouldn't be
2155 good for them.

2156 Mr. {Griffith.} And of course, we have got not just
2157 this regulation but lots of other regulations that are
2158 putting pressure on those prices, and then of course you have
2159 all these folks that are out of work because it is not just
2160 the 1,200 folks that are going to be laid off by Alpha
2161 Natural Resources, which, by the way, is headquartered in my
2162 district, but it is also all the other coalmines that have

2163 laid off people, sometimes 20 at a time, 30 at a time that
2164 people aren't necessarily noticing and then the people who
2165 are laid off from suppliers, joint manufacturing, other
2166 suppliers to the coalmines, the railroads that may not have
2167 had the effect yet but will have the effect, etc., and so you
2168 are going to have more and more people who are unemployed
2169 because we are insisting upon--for a negligible result, we
2170 are insisting upon taking our economy and throwing it in the
2171 trashcan for a negligible result on carbon footprint in the
2172 world and we are sending our jobs overseas to other countries
2173 and we are watching as they gain the wealth, and when there
2174 comes a time when there is a technology that may make things
2175 better, we won't have the money to buy that technology
2176 because we will have sent all of our wealth overseas.

2177 Thank you, Mr. Chairman, and I yield back.

2178 Mr. {Gardner.} The gentleman yields back. The chairman
2179 recognizes himself for 5 minutes.

2180 Thank you to the panelists for the opportunity to be
2181 here today and your testimony. Several years ago when
2182 Congress was considering its first greenhouse-gas bill, I
2183 received a letter from a couple of local rural electric
2184 associations that were talking about the price impact that
2185 that particular regulation would have on their customers. In
2186 fact, according to one analysis in northeastern Colorado,

2187 they determined that an average farmer, the average sprinkler
2188 cost for a farmer would increase by about \$2,000 per
2189 sprinkler. This is a big pivot irrigation system, 160 acres.
2190 Now, if you are a farmer in eastern Colorado, you don't just
2191 have one pivot irrigation system; you have got five, maybe
2192 ten. That is \$2,000 each. Maybe you have more. And so we
2193 are talking about considerable costs being added under their
2194 estimate from the rural electric association that that
2195 particular regulation would have on their customers'
2196 operations.

2197 And so Mr. McCullough, or was it Mr. Hilton, that you
2198 mentioned rate increase of 20 percent. Is that correct?

2199 Mr. {Hilton.} In Mississippi.

2200 Mr. {Gardner.} In Mississippi. And I would be curious
2201 to see if Mr. Trisko, are you hearing anything through the
2202 various businesses that you work with on rate increases?

2203 Mr. {Trisko.} Chairman, we understand that the Kentucky
2204 Public Commission has decided a number of cases. Now, this
2205 is for prospective Clean Air Act regulations for hazardous
2206 air pollutants and the like, not this proposed regulation,
2207 and the rate increases are on the order of 16 to 18 percent.

2208 Mr. {Gardner.} Mr. McCullough?

2209 Mr. {McCullough.} Yes, I would agree with that. We
2210 recently pulled down an order for a new scrubber for a plant

2211 in Kentucky that would have impacted customers there by over
2212 30 percent.

2213 Mr. {Gardner.} Mr. Voyles?

2214 Mr. {Voyles.} Yes, as I have said in my testimony, the
2215 compliance plans that we recently got approved for the
2216 Utility MACT Rule and the New Source--the National Ambient
2217 Air Quality Standards are impacting our ratepayers by up to
2218 14 and 18 percent, not counting anything on carbon.

2219 Mr. {Gardner.} And to follow up on Mr. Griffith's
2220 questions as well, these are costs that are passed on to your
2221 customers, your consumers. Is that correct, Mr. Hilton?

2222 Mr. {Hilton.} Ultimately, of course.

2223 Mr. {Gardner.} Mr. Voyles?

2224 Mr. {Voyles.} As well as we have said before, we not
2225 only pass it along to all of our ratepayers but it passes
2226 along to the commercial industry so the food prices are
2227 impacted, McDonald's prices are impacted, everybody's prices
2228 are impacted.

2229 Mr. {Gardner.} And who does that affect the most
2230 disproportionately in our society? People on a fixed income,
2231 poor?

2232 Mr. {Voyles.} It certainly presents some significant
2233 challenges for fixed income.

2234 Mr. {Gardner.} Mr. McCullough, what happens to American

2235 business competitiveness with the rate increases of 20
2236 percent, 18 percent, 14 percent?

2237 Mr. {McCullough.} Obviously, it further disadvantages
2238 them. We have seen that in our territory with especially
2239 aluminum smelters who--the Century aluminum plant in West
2240 Virginia went out of business with the recession and recently
2241 Ormat in our home State of Ohio has just announced that they
2242 are going to decrease their production.

2243 Mr. {Gardner.} Dr. Lashof, what happens to an economy
2244 where rates are increasing by 20 percent, the poor being hurt
2245 and those on fixed incomes are being hurt disproportionately?

2246 Mr. {Lashof.} Well, Mr. Chairman if we could return to
2247 the specific proposal that EPA has put forward, it would not
2248 cause any rate increases.

2249 Mr. {Gardner.} My question to you is, if rates increase
2250 by 20 percent, for a variety of reasons that have been
2251 mentioned, what happens to our economy? What happens to the
2252 poor? What happens to people on a fixed income?

2253 Mr. {Lashof.} It depends what else is happening in the
2254 economy. If people are using energy more efficiently, their
2255 costs might go down, which we have seen in many, many States
2256 that have invested in energy efficiency. You can't just look
2257 at rates.

2258 Mr. {Gardner.} If people that have low income are able

2259 to buy something that is more energy-efficient, that will
2260 help them?

2261 Mr. {Lashof.} Yes, and if we provide--and technology is
2262 improving on the efficiency side.

2263 Mr. {Gardner.} Okay. So if people on a fixed income,
2264 are poor can afford to buy something new, then that will help
2265 them?

2266 Mr. {Lashof.} Well, as pollution also imposes more
2267 severe costs on poor people, they are exposed to it more, so
2268 the benefits of air-pollution regulations in fact go to the
2269 low-income people. So the EPA is actually required to look
2270 at costs and benefits when they propose regulations.

2271 Mr. {Gardner.} We have actually heard testimony in this
2272 committee before where they have failed to do an adequate
2273 analysis on cost and benefits, and this is, I think, one of
2274 the frustrating parts of this entire debate. Nobody doubts
2275 that we can do a better job when it comes to energy
2276 efficiency. There is no doubt about that. Nobody doubts
2277 that we have incredible opportunities in new energy. But the
2278 problem is, when we have regulations that come down from
2279 agencies that increase cost on developing energy, on
2280 consuming energy, it hurts our economy and it hurts the
2281 people who are most vulnerable in our society, and that seems
2282 to get left out of this entire debate is the people who are

2283 affected disproportionately are poor and low income because
2284 it hurts the economy and it hurts their ability to lift
2285 themselves and their families out of the position that they
2286 are in.

2287 I see that my time is expired as well, and thank you
2288 very much to the panelists for being here, the witnesses for
2289 your time and testimony today. And with that, this hearing
2290 is adjourned.

2291 [Whereupon, at 12:16 p.m., the Subcommittee was
2292 adjourned.]