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3 HEARING ON PREPARING FOR CLIMATE CHANGE: ADAPTATION POLICIES

4 AND PROGRAMS

5 WEDNESDAY, MARCH 25, 2009

6 House of Representatives,

7 Subcommittee on Energy and Environment

8 Committee on Energy and Commerce

9 Washington, D.C.

10 The subcommittee met, pursuant to call, at 9:30 a.m., in
11 Room 2123 of the Rayburn House Office Building, Hon. Edward
12 J. Markey (chairman) presiding.

13 Members present: Representatives Markey, Inslee,
14 Butterfield, Melancon, Matsui, McNerney, Welch, Dingell,
15 Green, Capps, Harman, Baldwin, Barrow, Upton, Hall, Stearns,
16 Shimkus, Pitts, Walden, Sullivan, Burgess, Scalise, and
17 Barton (ex officio).

18 Staff present: Matt Weiner, Legislative Clerk; Melissa

19 Bez, Professional Staff; Michael Goo, Counsel; Lindsay Vidal,
20 Press Assistant; Amanda Mertens Campbell, Minority Counsel;
21 Peter Spencer, Minority Professional Staff; Andrea Spring,
22 Minority Professional Staff; and Garrett Golding, Minority
23 Legislative Analyst.

|
24 Mr. {Markey.} Welcome, ladies and gentlemen, to the
25 subcommittee on Energy and Environment. Today's hearing is
26 on Adaptation Programs and Policies as we prepare to deal
27 with inexorable, inevitable consequences of climate change.

28 Nearly 20 years ago, Congress passed the Global Change
29 Research Program Act of 1990, which requires the preparation
30 of a national assessment of the consequence of climate
31 variability and change. This assessment was designed to help
32 understand the impacts of climate change in the United
33 States.

34 A distinguished panel of experts completed that
35 assessment in 2000. One of the lead authors, Dr. Tom Karl,
36 is with us here today. On the front cover of the report were
37 these prophetic words ``Humanity's influence on the global
38 climate will grow in the coming century. Increasingly there
39 will be significant climate change related problems that will
40 affect each one of us.'' We must begin now to consider our
41 responses as the actions taken today will affect the quality
42 of life for us and for future generations.

43 In the decade since that report was completed, global
44 warning has not waited. It has accelerated. Climate change
45 is occurring as we speak, and the greenhouse gases already in
46 the atmosphere will continue to warm the planet for decades.

47 In the United States and the world, we must work
48 together to successfully combat climate change. Mitigation,
49 the act of reducing greenhouse gas emissions, will not be
50 enough. Our country and other nations must also implement
51 adaptation policies to respond to changes in our climate, in
52 our ecosystems, and in our infrastructure.

53 The many changes predicted in the national assessment
54 are already happening, and they are happening faster than
55 expected. An updated 2008 assessment of the 2007 report of
56 the Intergovernmental Panel on Climate Change documented many
57 of these changes. According to the UN Panel, North American
58 has experienced locally severe economic damage plus
59 substantial ecosystem, social, and cultural disruption from
60 recent weather-related extremes, including hurricanes, other
61 severe storms, floods, droughts, heat waves, and wild fires.

62 Whether it is the eroding coastal areas of Louisiana,
63 Texas, or the Atlantic states, the floods in the Midwest,
64 hurricanes in Florida, wildfires in California, or the loss
65 of snow pack in the Pacific Northwest, I am sure that every
66 member of the subcommittee has their own story of how a
67 changing climate has affected their area.

68 North America is not the only continent facing
69 adaptation challenges. Internationally, low-lying island
70 states like the Maldives could literally go under as sea

71 levels rise. As a result, the president of the Maldives is
72 considering purchasing land to prevent his population from
73 becoming ``climate refugees living in tents for decades.``

74 In Africa, the UN Panel projected that by 2020, 250
75 million people will be exposed to increased water stress due
76 to climate change and yields from rain-fed agriculture could
77 be reduced by up to 50 percent, severely compromising food
78 production.

79 This, in turn, could lead to significant national
80 security issues for the United States. The UN Panel also
81 noted that if warming continues unabated, 30 to 40 percent of
82 all the species on the planet will be at risk of extinction.

83 In the climate change bill I introduced last year, I
84 included provisions for a national climate service. A
85 national climate service would create a central source of
86 federal information on climate change, ranging from
87 projections of additional sea level rise to mapping the
88 nation's best sites for solar and wind power. This
89 information will be vital in the years ahead and will reap
90 tremendous long-term dividends. I look forward to hearing
91 from NOAA to discuss their plans to implement this much-
92 needed program.

93 Adaptation alone cannot solve climate change. We can
94 and must take actions to reduce emissions. Yet as we enter

95 the warming world that we have now created for ourselves, we
96 must recognize that we, as humans, have worldwide
97 responsibilities for all of God's creatures, both human and
98 animal, many of whom have little or no ability to adapt to
99 climate change on their own. They will need our help, and we
100 should be prepared to provide it as best we can.

101 I hope that that will be our goal as we craft our
102 ongoing adaptation policies. I look forward to our
103 witnesses' testimony.

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

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

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106 Mr. {Markey.} I turn now to recognize the ranking
107 member of the subcommittee, the gentleman from Michigan, Mr.
108 Upton.

109 Mr. {Upton.} Well, thank you, Mr. Chairman. As you
110 said, our hearing today is on climate change adaptation
111 policies. And I view, as you know, cap and tax as a policy
112 that requires adaptation. How will Americans adapt to losing
113 their jobs? How do we adapt to increased energy costs? How
114 do we adapt to a legislatively imposed economic recession?
115 How does the nation adapt to losing its superpower status?

116 Cap and tax isn't our only option. We can pursue
117 policies that will both help the environment and our economy.
118 And by design, a cap and tax can only hurt the economy while
119 providing a questionable environmental benefit. It is indeed
120 a scheme. Absent of global agreement that includes the heavy
121 emitting developing countries, cap and tax will only send
122 energy costs up while sending employment numbers down or some
123 place else.

124 This year, the U.S. will reduce its greenhouse gas
125 emissions. We will reduce them, and we will do it without
126 cap and tax. Emissions are way down in Michigan this year,
127 but emissions levels haven't even dropped to the 1990 levels,
128 and folks are asking for 80 percent below those levels by the

129 year 2050 perhaps.

130 How do we get those reductions down so far?

131 Unemployment in Michigan is already about 13 percent. 15
132 percent perhaps isn't too far away with greater reductions in
133 emissions. But in this debate over climate change, we have
134 lost sight of our real goal. We have lost sight of what our
135 policy should achieve. The focus has become a cap and tax as
136 an end in itself. What about reducing global temperatures?

137 As one who believes that climate change must be dealt
138 with on a global scale, I have advocated a no-regrets policy
139 that will achieve the same, if not better, results as an
140 arbitrary cap-and-tax scheme at a fraction of the cost.

141 In fact, there are policy options available that would
142 have a net economic and societal benefit while at the same
143 time, cutting emissions. We have lost too many jobs already.
144 We shouldn't pursue options that will make matters worse.

145 If we are going to pass climate change legislation, it
146 should adhere to the following five principles. One, provide
147 a tangible environmental benefit to the American people.
148 Two, advance technology and provide the opportunity for
149 export. Three, protect American jobs. Four, strengthen U.S.
150 energy security. And five, require global participation.

151 These principles deal with the issue of cost versus
152 benefit, the cost of action as well as inaction. Cap-and-tax

153 schemes simply don't meet that criteria. We don't need
154 costly mandates if we invest in clean coal technology, remove
155 the regulatory barriers to nuclear power, reward efficiency
156 gains and allow a technology to succeed in a marketplace.
157 And we won't need the developing world to remain in the Stone
158 Age, if we want to export American technology. We don't need
159 to lose millions of jobs if we help our energy-intensive
160 industries in domestic auto manufacturers with their R and D
161 investments.

162 Climate change is a global problem, and it requires a
163 global solution. And without joint international action,
164 jobs and emissions will simply ship some place else overseas
165 to countries that require few, if any, environmental
166 protections, harming the global environment as well as the
167 United States economy. And I yield back.

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

169 ***** COMMITTEE INSERT *****

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170 Mr. {Markey.} Gentleman's time has expired. The chair
171 recognizes the gentleman from Michigan, Mr. Dingell.

172 Mr. {Dingell.} Thank you, and I commend you for holding
173 this hearing. It is important. You are building a record
174 which I hope will be very important as we go through the
175 consideration of climate change legislation.

176 Today's hearing is also on a matter that is important.
177 The funds generated by an auction are already in great demand
178 for all manner of things, some with great merit, some with
179 rather less, and some with quite frankly, none. As we have
180 already seen in the President's budget, the funds generated
181 from an auction are being counted on for budget purposes.

182 I note that the fourth assessment report of the
183 Intergovernmental Panel on Climate Change noted
184 ``observational evidence from all continents and most oceans
185 shows that many natural systems are being affected by climate
186 changes, particularly temperature increases." In the same
187 report, we are warned that in the lifetime of a child born
188 today, 20 to 30 percent of the world's plant and animal
189 species will be on the brink of extinction if we don't take
190 action now.

191 I would note that the wild lands that we have a chance
192 to save here are of immense value, not just to the future of

193 society, but also to the purpose which we have, which is
194 protecting us against climate change. So we must consider
195 the value of marshes, mountains, forests, and ecosystems
196 which can serve both as carbon sumps and also as
197 opportunities for conservation in the traditional sense.

198 A great conservationist, one that we all admire, the
199 26th president of the United States, Theodore Roosevelt,
200 taught us that conservation is also a great moral issue.
201 That it is our duty as it ensures safety and continuity for
202 this nation.

203 So, Mr. Chairman, as we move forward, I remain committed
204 to securing a dedicated fund for natural resource adaptation.
205 I encourage the members of this subcommittee to look at
206 subtitle B of the Dingell-Boucher draft released last year,
207 which has in it carefully crafted natural resource adaptation
208 language that was written by my staff and the staff of the
209 natural resources committee. And it has the support of most,
210 if not all, the conservation community.

211 Similar actions are going to taken by the committee on
212 natural resources. So I want to thank you for holding this
213 hearing today, Mr. Chairman. And I hope that my colleagues
214 will join me in saving some of the precious treasures that we
215 can save, using the resources and the finances generated by
216 the auctions, which will take place for the monies that we

217 can produce for a very important cause. I thank you, and I
218 yield back the balance of my time.

219 [The prepared statement of Mr. Dingell follows:]

220 ***** COMMITTEE INSERT *****

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221 Mr. {Markey.} We thank the gentleman. The chair
222 recognizes the gentleman from Illinois, Mr. Shimkus.

223 Mr. {Shimkus.} Thank you, Mr. Chairman. The right of
224 free speech is a great right that we have in this country.
225 Very few times we use it to espouse our theological religious
226 beliefs, but we do have members of the clergy here as members
227 of the panel. So I want to start with Genesis 8, verses 21
228 and 22. ``Never again will I curse the ground because of man
229 even though every inclination of his heart is evil from
230 childhood, and never again will I destroy all living
231 creatures as I have done. As long as the earth endures, seed
232 time and harvest, cold and heat, summer and winter, day and
233 night will never cease.'' I believe that is the infallible
234 word of God, and that is the way it is going to be for his
235 creation.

236 The second verse comes from Matthew 24. ``And he will
237 send his angels with a loud trumpet call, and they will
238 gather his elect from the four winds, from one end of the
239 heavens to the other.'' The earth will end only when God
240 declares it is time to be over. Man will not destroy this
241 earth. This earth will not be destroyed by a flood.

242 And I appreciate having panelists here who are men of
243 faith, and we can get into the theological discourse of that

244 position. But I do believe God's word is infallible,
245 unchanging, perfect.

246 Two other issues, Mr. Chairman. Today we have 388 parts
247 per million in the atmosphere. I think in the age of the
248 dinosaurs when we had the most flora and fauna, we were
249 probably at 4,000 parts per million. There is a theological
250 debate that this is a carbon-starved planet, not too much
251 carbon. And the cost of a cap-and-trade on the poor is now
252 being discovered. These miners lost their jobs through the
253 last--and Mr. Chairman, we have talked about this job lost.
254 I have an IDNR report, Illinois Department of Natural
255 Resources, that points to four mines that were closed
256 specifically because of Clean Air Act amendments in 1990. I
257 am going to share those with you later because we did have
258 that discussion, and I do appreciate that.

259 Appreciate the hearing, and I look forward to the
260 questions. Thank you, Mr. Chairman.

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

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

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263 Mr. {Markey.} We thank the gentleman. The chair
264 recognizes the gentlelady from California, Ms. Matsui.

265 Ms. {Matsui.} Thank you, Mr. Chairman, and thank you
266 very much for this hearing today. I am eager to hear from
267 today's witnesses about how our communities and our world can
268 adapt to climate change, and adapt we must.

269 California's Department of Water Resources projected
270 that the Sierra Nevada snow pack will experience a 25 to 40
271 percent reduction by 2050. These are not empty numbers.
272 They represent real impacts of climate change that translate
273 into serious risks for my constituents.

274 As California's climate warms, more of the Sierra
275 Nevada's watersheds will contribute to peak storm runoff.
276 High frequency flood events are projected to increase as a
277 result. We have no choice but to adapt to these changing
278 realities.

279 In Sacramento, we live by two beautiful rivers, the
280 Sacramento and the American. As global warming intensifies,
281 scientists predict greater storm intensity that could forever
282 change these rivers' flow patterns. This means that my
283 district will have to cope with more direct runoff and more
284 flooding.

285 California has not hid from these changes. Instead, we

286 are leading the way in cutting greenhouse gas emissions. We
287 are developing a comprehensive climate adaptation strategy.
288 However, California and the entire United States will need
289 additional resources to adapt to the realities of climate
290 change. Water resource adaptation strategies will need to be
291 coordinated between local, state, and federal leaders. And
292 states with strained budgets and growing needs will require
293 federal funding in order to adapt and protect our
294 communities. That is why upcoming climate legislation must
295 be bold and resourceful when it comes to adaptation policy.

296 I thank you, Mr. Chairman, for this hearing, and I look
297 forward to today's testimony. I yield back the balance of my
298 time.

299 [The prepared statement of Ms. Matsui follows:]

300 ***** COMMITTEE INSERT *****

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301 Mr. {Markey.} We thank the gentlelady. Chair
302 recognizes the gentleman from Pennsylvania, Mr. Pitts.

303 Mr. {Pitts.} Thank you, Mr. Chairman. Thank you for
304 convening today's hearing on this important topic. I believe
305 it is imperative to look at the role of adaptation as we
306 continue to discuss cap-and-trade legislation. Human beings
307 are designed to be able to adapt to changing climate
308 temperatures, and there are repeated examples in history of
309 mankind being able to adapt when temperatures have
310 fluctuated.

311 However, adapting to drastic job losses and a failing
312 economy due to burdensome cap-and-trade or massive
313 bureaucratic regulations or a national energy tax scheme will
314 be incredibly difficult for all Americans. A March 2009
315 National Public Radio survey said that Americans' top concern
316 is the decline in the stock market and investment losses.
317 The second highest concern is job losses.

318 Every American realizes that we are in a time of
319 economic trouble. So we must ask the question. Is it
320 prudent to pass a cap-and-trade bill which will increase the
321 cost of energy and conceivable cause 3.75 million job losses?
322 What is more, is it prudent to pass legislation that will
323 make matters even worse by levying a new national energy tax

324 that could cost families up to \$3,100 per year?

325 Mr. Chairman, we need to carefully consider the negative
326 impact a cap-and-trade bill with the a national energy tax
327 will have on our economy. I do not believe it is in the best
328 interest of American families to pass a bill that will make
329 their way of life harder and more challenging.

330 Instead, we should focus on investment in economic
331 growth and direct actions to adapt to climate change as
332 better alternatives. I look forward to hearing our witnesses
333 today and yield back.

334 [The prepared statement of Mr. Pitts follows:]

335 ***** COMMITTEE INSERT *****

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336 Mr. {Markey.} Thank the gentleman. The chair
337 recognizes the gentleman from Texas, Mr. Green.

338 Mr. {Green.} Thank you, Mr. Chairman, and I appreciate
339 you calling this hearing on adaptation policies and programs.
340 One of the things I would like to say is I hope whatever this
341 committee creates, cap-and-trade, that those dollars that are
342 generated from it would be designated for the direct utility
343 consumer assistance and not be used as a piggy bank for the
344 U.S. government. We need to make sure that we deal with the
345 policies that we really are trying to protect.

346 While Congress continues to debate how to address future
347 greenhouse gas emissions, many scientists believe we must
348 learn to adapt to changes in the earth's climate caused from
349 emissions existing in the atmosphere today. Human beings
350 have been adapting in our world for literally millions of
351 years. Altered climate systems may have impacts on our
352 environmental economic well being, and agencies at all levels
353 of the government must be tasked when implementing adaptation
354 policies respond to real or potential climate change threats.

355 This is not an easy task. Previous natural disasters in
356 the U.S. have shown how woefully ill-prepared our nation is
357 in responding to natural events. A hurricane in the Gulf of
358 Mexico is not unusual, whether it was Hurricane Katrina or

359 Rita, or the most recent was Hurricane Ike that was the first
360 hurricane to hit the Houston that I represent for 25 years.
361 Thousands of homes were destroyed. Vast areas of our
362 community were left for weeks without power, and many areas
363 were short on essentials, food, ice, or water supplies.

364 We must avoid the mistakes of the past and create more
365 efficient and responsive federal recovery efforts for natural
366 events. Coordinating climate research and monitoring across
367 the federal government will be challenging, and I hope to
368 learn more about NOAA's efforts to provide policymakers with
369 the latest climate information and assessments.

370 Perhaps most important will be preparing officials for
371 decision-making and future planning based on unknown or
372 unreliable factors. According to the National Research
373 Council the decision rules that assume a stationary climate
374 are no longer valid.

375 I hope we can create the tools and provide the resources
376 necessary to assist officials in preparing for outside-the-
377 box thinking to address these future conditions. State and
378 local governments would also be provided assistance to
379 perform local assessments at climate impact related
380 preparation efforts such as updating flood plain maps and
381 reinforcing levees and flood drainage systems, conditions to
382 survive for those vulnerable to climate change, particularly

383 low-income Americans with insufficient resources to prepare
384 or adapt to the changing environmental conditions.

385 And thank you again for the hearing, Mr. Chairman. I
386 yield back my time.

387 [The prepared statement of Mr. Green follows:]

388 ***** COMMITTEE INSERT *****

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389 Mr. {Markey.} Great. Thank the gentleman. The chair
390 recognizes the gentleman from Texas, Mr. Burgess.

391 Mr. {Burgess.} Thank you, Mr. Chairman, and I certainly
392 look forward to hearing from our witnesses today. I think we
393 have a very varied and potentially a very lively panel, and I
394 am sure it will be very enlightening as well as very
395 entertaining.

396 Now, I am not sure how the climate is going to change in
397 the future or necessarily what effect our behaviors today are
398 going to have on the planet, but one thing I do know is we
399 need to do a better job ensuring that people are prepared for
400 changes, changes in the weather, changes in natural
401 disasters.

402 This is something we can address without necessarily
403 taxing carbon or proposing or imposing a cap on carbon or
404 establishing a trading platform where sophisticated investors
405 can work up exotic carbon options and manipulate the market
406 and make great sums of money.

407 Now, next month in my district, I will be hosting an
408 emergency preparedness summit. I want to ensure that I am
409 providing the people in my district with information and
410 resources that they need to survive and overcome changes in
411 the environment. I don't have to tell my constituents

412 because the weather in Texas is legendary. It changes
413 constantly, and we have some of the most varied weather
414 between hurricanes, tornadoes, hailstorms, snow, sleet, dust
415 storms. We have some of the most varied cosmological
416 conditions on the planet.

417 But taking the time to prepare and plan ahead does save
418 money and does save lives. And that leads me to the point of
419 today's hearing. Preparing for any potential effects of
420 climate change would be far less costly to the economy than
421 mandating a carbon cap. And I have said it before this
422 committee. Strong and growing economies are more likely to
423 develop the technology and the breakthroughs that we need to
424 spur the next wave in energy innovation.

425 Stifling the economy with carbon mandates may actually
426 stifle our ability to solve this very problem. And
427 yesterday, in the ``Washington Post'' the second editorial, I
428 believe, dealt with just that issue. That it would be more
429 straightforward and more honest of this committee to be
430 talking about a carbon tax as opposed to a cap-and-trade. I
431 don't support a carbon tax. I think it is the wrong idea,
432 but let us not hide behind this cloud of obfuscation with a
433 cap-and-trade when really what we are going to do is tax
434 energy, tax jobs, and tax carbon. I will yield back.

435 [The prepared statement of Mr. Burgess follows:]

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437 Mr. {Markey.} Okay, gentleman's time has expired. The
438 chair recognizes the gentlelady from California, Ms. Harman.

439 Ms. {Harman.} Thank you, Mr. Chairman. Global warming
440 needs a two-pronged approach. One, mitigation and two, as we
441 have been discussing this morning, adaptation. We are just
442 beginning to understand that even if we implement an
443 aggressive mitigation policy and significantly begin to
444 reduce greenhouse gases, our nation and the world will still
445 confront the impacts of global warming, including changes in
446 weather patterns, deadly heat waves, and increasing
447 infectious disease outbreaks.

448 This is why any climate bill passed from this committee
449 must address adaptation. California is already in the
450 process of developing a statewide adaptation strategy because
451 of its vulnerability to global warming. For example, my
452 district includes a breathtaking part of the California
453 coast, one of our nation's most beautiful natural resources.
454 As a result of rising sea levels and increased storm
455 intensity, we could lose the beaches. This not only affects
456 the quality of life for me and my constituents but will have
457 a huge financial impact with the loss of tourism dollars.

458 My district will also confront other California-wide
459 impacts such as a reduced water supply as salt water mixes

460 with our fresh water sources, increased air pollution, and
461 more days with temperatures over 100.

462 The consequences of global warming will also lead to
463 major national and global security concerns. And as someone
464 who focuses on security, this is where, I think, we all need
465 to focus. They include large scale human migration due to
466 resource scarcity, increased competition for food, water, and
467 other resources, increased frequency and severity of disease
468 outbreaks. The impact of climate change, such as
469 desertification in the horn of Africa, could lead to
470 conflicts and push countries to the brink of collapse. This
471 could strengthen terror groups that are already active in the
472 region and could be a central breeding ground and safe haven
473 for jihadists.

474 That is why I am pleased that we are studying climate
475 change as a part of our national intelligence estimates, and
476 I think it is absolutely critical, Mr. Chairman, to focus on
477 adaptation here as one of the strategies that will hopefully
478 keep our country and the world safer. I yield back.

479 [The prepared statement of Ms. Harman follows:]

480 ***** COMMITTEE INSERT *****

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481 Mr. {Markey.} Okay, we thank the gentlelady. The chair
482 recognizes the gentleman from Louisiana, Mr. Scalise.

483 Mr. {Scalise.} Thank you, Mr. Chairman. This is an
484 important hearing, and I appreciate the panel's participation
485 today. It is the job of Congress to seek ways to promote our
486 country's economy prosperity and to support policies that
487 protect our country's national security interests. It is my
488 opinion that a cap-and-trade energy tax does neither and runs
489 contrary to where our focus should be in these tough economic
490 times.

491 The members of this subcommittee do not all agree on the
492 causes of climate change, nor have all of the experts that
493 have come before our group. While the debates on the causes
494 of climate change have not been settled, what also has not
495 been called into question is the fact that a cap-and-trade
496 energy tax will cost this country millions of good jobs and
497 will force the average American family to pay thousands of
498 dollars in increased energy costs.

499 President Obama's budget director, Peter Orszag, has
500 even testified that energy taxes designed to decrease carbon
501 emissions will be passed on to American families. According
502 to Mr. Orszag, the average American household, the cost to
503 them would be about \$1,300 a year for a 15 percent cut in CO2

504 emissions. He admitted to Congress last year that the price
505 increases borne by consumers are essential to the success of
506 a cap-and-trade energy tax. If the idea is to promote clean
507 energy, why do we continue to reject nuclear power as an
508 alternative source of energy? Energy production and
509 development in our country has come a long way over the past
510 few decades.

511 Instead of taxing American families and the small
512 businesses that create wealth in this country, we should
513 promote policies that encourage the development of new,
514 cleaner technologies. That is the direction and the course
515 that we are currently on, and we should continue to travel
516 that path instead of crippling our economy when we can least
517 afford it.

518 There are countless small businesses across America that
519 are watching the subcommittee's action very closely to
520 determine their future in our country. They employ millions
521 of Americans and want to continue to invest here, but if we
522 act irresponsibly, these firms will pack up and ship their
523 investment and American jobs overseas.

524 And to add insult to injury, many of the countries where
525 these companies will relocate do not have the environmental
526 standards that we already have today in America.

527 These are important issues we need to discuss, and I

528 look forward to hearing from the panel. Thank you, Mr.
529 Chairman.

530 [The prepared statement of Mr. Scalise follows:]

531 ***** COMMITTEE INSERT *****

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532 Mr. {Markey.} Great. We thank the gentleman. Chair
533 recognizes the gentleman from Louisiana, Mr. Melancon.

534 Mr. {Melancon.} Thank you, Mr. Chairman. I would like
535 to thank you for holding this hearing today, and I appreciate
536 the conversations we have had and your decisions to try and
537 look at all energy sources. I appreciate the ability of you
538 to recognize that we need to explore all avenues.

539 We are here today to talk about the effect of climate
540 change in the world around us, and I find it interesting that
541 some people say it is a world problem now since we didn't
542 participate in Kyoto. We should have been there at that
543 point in time so we wouldn't be discussing what we need to be
544 doing, which is different now.

545 Even if this Congress enacted climate change legislation
546 tomorrow, it would be impossible to avoid the consequences
547 related to the early effects of climate change. In fact, my
548 district has felt the effects of warm ocean waters firsthand.
549 Three years ago, Hurricanes Katrina and Rita made landfall on
550 the coast of Louisiana and leveled entire cities. Nearly
551 2,000 lost their lives to those storms, and tens of thousands
552 more lost everything else.

553 The widespread devastation from the greatest natural
554 disaster this country has ever seen is still evident today.

555 Communities across the Gulf are facing rising tides,
556 increased temperatures in the Gulf, which leads to stronger
557 hurricanes. And in the case of Louisiana, the fastest
558 sinking coastline in the country. Louisiana has lost over
559 1,900 square miles of land since the 1930s. That is more
560 land than the entire state of Rhode Island.

561 This country can't survive without coastal communities.
562 These are the people that provide the seafood that we eat,
563 the energies that drives our economy, and the labor that
564 keeps our exports flowing to buyers around the world.
565 Keeping our coastal communities alive ensures the health of
566 the rest of the country, and to help these coastal
567 communities preserve as the vibrant hubs of hard work and the
568 culture that they are, we must all work together to find
569 creative ways to adapt to the world that is always changing
570 around us.

571 Again thank you for your interest and your help in this
572 matter.

573 [The prepared statement of Mr. Melancon follows:]

574 ***** COMMITTEE INSERT *****

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575 Mr. {Markey.} We thank the gentleman. The chair now
576 recognizes the gentleman from Texas, Mr. Barton.

577 Mr. {Barton.} Thank you, Mr. Chairman. I want to again
578 commend you and Chairman Waxman for holding these series of
579 hearings. They are very informational and informative, and
580 most of the time, they are even entertaining. So I am
581 grateful, as always for this regular order.

582 I especially want to thank Lord Monckton for testifying.
583 He is generally as one of the most knowledgeable, if not the
584 most knowledgeable experts from a skeptical point of view on
585 this issue of climate change. And we are very glad that he
586 could stay over this week in the United States and testify at
587 this important hearing.

588 Today's hearing is about adaptation. Adapting is a
589 common natural way for people to adapt to their environment.
590 I believe that the earth's climate is changing, but I think
591 it is changing for natural variation reasons. And I think
592 mankind has been adapting to climate as long as man has
593 walked the earth. When it rains, we find shelter. When it
594 hot, we get in shade. When it is cold, we find a warm place
595 to stay. Adaptation is a practical, affordable, utterly
596 natural reflex response to nature when the planet is heating
597 or cooling, as it always is doing one or the other.

598 As Lord Monckton will testify, in the Middle Ages, it
599 was warmer almost everywhere in the world than it is today.
600 Some of our ancestors grew grapes in Britain. Others sailed
601 ice-free seas to settle northern places like Newfoundland and
602 Greenland. This period used to be known as the Medieval Warm
603 Period. It was followed by the Little Ice Age, the Period of
604 Dramatic Cooling, which lasted until the middle of the 19th
605 Century.

606 During the Little Ice Age, both the Vikings and the
607 British adapted to the cold by changing. I suppose that one
608 possible adaptation response of Viking retrenchment and
609 British expansion is that we are conducting the hearing today
610 in English instead of Norwegian.

611 In the Chesapeake Bay and the Piedmont Marsh, the lower
612 Hudson Valley, layers of sediment reflect what happened to
613 the North American continent. That history shows that the
614 nature of the climate is to change and to make organic shifts
615 in temperature regardless of mankind's presence or supposed
616 influence.

617 Nature doesn't seem to adjust to people as much as
618 people seem to adjust to nature. I think that it is
619 inevitable that humanity will adapt to global warming. I
620 also believe the longer we postpone finding ways to do it
621 successfully, the most expensive and unpalatable the

622 adjustment will become.

623 Adaptation to shifts in temperature is not that
624 difficult. What will be difficult is the adaptation to
625 rampant unemployment, enormous, spontaneous, and avoidable
626 changes to our economy if we adopt such a reckless policy as
627 cap and tax or cap-and-trade. That will devastate our
628 economy, and we will have great difficulty adapting to that.

629 The majority of this committee has promised, and I hope
630 this is a promise they don't meet, to introduce an economy-
631 wide cap-and-trade bill in the next month no matter that the
632 past seven years have witnessed a cooling period. Europe
633 just experienced its coldest winter in the last 20 years last
634 winter.

635 In the name of the house of cards posing as scientific
636 certainty and an alarmist policy asserted by its followers
637 with a religious fervor, the Democratic majority apparently
638 is hell-bent to propose to cap our economy and trade away our
639 jobs. Some of us on this committee are going to try to stop
640 that or at least deflect it.

641 On top of the very real threat of job losses caused by
642 closed factories, shut down mines, vacant power plants
643 rendered uncompetitive under an American cap-and-trade
644 scheme, the new majority's cap-and-trade goal is to make our
645 electricity so expensive, our gas so pricey, and our food so

646 dear that we will be forced to change the way we live. We
647 will literally be forced to change the American way of life.

648 We have had hearing after hearing where armies of
649 witnesses representing both sides of the debate have warned
650 us that the impact of cap-and-trade on everybody in this
651 country but the mega-rich. The people at greatest risk are
652 low income, middle income families, blue-collar workers, the
653 elderly, and those whose jobs will be destroyed--and I say
654 will be, not may be, will be destroyed if we adopt a cap-and-
655 tax policy.

656 The question is not how Americans will adapt to cap-and-
657 trade legislation. The question is if and how we will
658 survive when blackouts, rampant job loss, and empty cupboards
659 threaten out very way of life. With those cheery words, Mr.
660 Chairman, I yield back, and I look forward to this hearing.

661 [The prepared statement of Mr. Barton follows:]

662 ***** COMMITTEE INSERT *****

|
663 Mr. {Markey.} And we thank the gentleman. The chair
664 recognizes the gentleman from Georgia, Mr. Barrow. The
665 gentleman's time will be reserved. The chair recognizes the
666 gentlelady from Wisconsin, Ms. Baldwin.

667 Ms. {Baldwin.} Thank you, Mr. Chairman. I woke up this
668 morning and watched a little bit of the morning news, and the
669 headlines were about very unnatural adaptation that is going
670 on in North Dakota. Apparently hundreds of citizens spent
671 the night last night filling over a million bags with sand as
672 they are trying to race against time to keep the Red River
673 within its bank. It is now twice its natural level, and, of
674 course, our thoughts go out to them.

675 Last year, I witnessed firsthand the extreme rain and
676 flooding and devastation that people in my district and
677 across the upper Midwest experienced as a result of intense
678 rainfall. We lost homes and businesses and farmland, not to
679 mention millions of dollars of productivity. Wisconsinites
680 also will not soon forget the severe winter storms that we
681 shoveled our way out of a year ago. My hometown had more
682 snow than had ever been recorded since such measurements
683 began to be taken decades and decades ago. And in fact, we
684 beat the old existing record by 40 percent approximately.

685 Many, including leading experts on climate change, fear

686 that, as a result of unabated increases in greenhouse gas
687 emissions, this record rain and snowfall will become the
688 norm. These events used to be called 100 year events or 500
689 year events, and we find them happening separated only by
690 years or decades these days.

691 And as the various regions across the country and the
692 world experience sweeping changes in precipitation and
693 weather patterns, not only is the environment at risk, but
694 also food and water supplies, ecosystems, social structure
695 and national security.

696 Fortunately, adaptation efforts are occurring to
697 minimize both the cost and severity of climate change. In
698 Wisconsin, local communities like Dane County are assessing
699 lake levels to minimize property damage. Funding wetland
700 restoration efforts and updating the hazardous mitigation
701 plan, which identifies potential impacts of natural hazards.

702 Smart planning is essential to ensuring that the most
703 vulnerable regions and populations are protected. I expect
704 our witnesses today will inform us about other adaptation
705 practices taking place around the globe.

706 Finally, let me state what I hope many here will agree
707 with, that the impacts of climate change vary greatly from
708 area to area. As such, to the extent that future proceeds
709 are directed to support adaptation strategies, we must

710 recognize that states and localities are best equipped to
711 make decisions about how to effectively and efficiently
712 invest in these practices. I hope we keep that in mind as we
713 craft our bill. And thank you, Mr. Chairman. I yield back
714 the balance of my time.

715 [The prepared statement of Ms. Baldwin follows:]

716 ***** COMMITTEE INSERT *****

|
717 Mr. {Markey.} The gentlelady's time has expired. The
718 chair recognizes the gentleman from Florida, Mr. Stearns.

719 Mr. {Stearns.} Mr. Chairman, thank you and my good
720 friend Mr. Upton for having this hearing. It is nice to
721 have, as Mr. Barton mentioned, Lord Monckton here. He was a
722 policy advisor to the Prime Minister Margaret Thatcher. And
723 so he is a very good witness for us to have, Mr. Chairman.
724 And I would like to welcome Dr. Beisner from Florida from
725 Broward County. Dr. Beisner is a welcome witness here from
726 my home state.

727 We have gone through this whole idea of cap-and-trade
728 here and is a mantra for global warming and now is a mantra
729 for cap-and-trade. But if you said to yourself is there any
730 country in the world who is doing cap-and-trade? Well, there
731 is. The European Union has put in place cap-and-trade.
732 Phase one was tried, and now they are into phase two. As I
733 understand it, they had to suspend the cap-and-trade
734 commodity exchange because of very serious problems on
735 ethics.

736 And I think, Mr. Chairman, in all deference to you, I
737 think we should also have a hearing on how cap-and-trade is
738 working in the European Union because if you have something
739 that is actually being implemented somewhere, then it does

740 not become theoretical. It becomes pragmatic and actual.
741 And so, at this point, we can theorize here, but the bottom
742 line is let us see how it is working in Europe.

743 Now, I can quote obviously statistics to show--but the
744 bottom line is that where are your statistics to show this
745 enormous increase in jobs because of the greening or the cap-
746 and-trade? So I think you have to show us that. We can show
747 you statistics that we are going to lose jobs. It is going
748 to increase taxes, but I think it is incumbent upon you folks
749 when you talk about all these new jobs from the greening of
750 America, where are they coming from? And what kinds of jobs
751 are they? And I yield back. Thank you, Mr. Chairman.

752 [The prepared statement of Mr. Stearns follows:]

753 ***** COMMITTEE INSERT *****

|
754 Mr. {Markey.} We thank the gentleman. The chair
755 recognizes the gentleman from North Carolina, Mr.
756 Butterfield.

757 Mr. {Butterfield.} Thank you very much, Mr. Chairman,
758 for convening this important hearing and particularly to the
759 seven witnesses. Thank you for coming forward today.

760 Mr. Chairman, the effects of climate change at times now
761 seem distant compared to the pressing matters of restoring
762 our economy, dealing with AIG bonuses and the like and, of
763 course, attending to our budget. But ignoring this issue
764 would be a terrible, terrible mistake. Regardless of our
765 success at curbing greenhouse gas emissions, the global
766 temperatures will continue to rise in the coming decades.

767 Consequentially, we face rising sea levels, increased
768 tropical storm activity, more precipitation in wetter areas
769 and less in dryer areas, and increased spread and range of
770 disease. This will affect immunities domestically and
771 abroad. And low-income communities will be at greatest risk.

772 It would be my hope, Mr. Chairman, that in a cap-and-
773 trade bill to see regular funding generated from auction
774 revenue dedicated to 2 to 3 percent each for both domestic
775 and international adaptation efforts annually.

776 Domestically, the Department of Interior and the U.S.

777 Army Corps of Engineers should administer these funds to deal
778 with sea level rise and flood reduction and wise water use.
779 Internationally, the U.S. Agency for International
780 Development, as we call it, USAID, should administer the
781 funds to promote ecosystem-based adaptation.

782 Further, investments in deploying technology to
783 developing countries, aiding farmers who face shifting
784 weather patterns, and responding to increases in tropical-
785 borne disease are imperative to confronting the coming
786 problems rather than reacting to them.

787 Again, Mr. Chairman, thank you for convening this
788 hearing. I yield back the balance of my time.

789 [The prepared statement of Mr. Butterfield follows:]

790 ***** COMMITTEE INSERT *****

|

791 Mr. {Markey.} Okay, gentleman's time has expired. All
792 time for opening statements has been completed. We are now
793 going to turn to our very distinguished witness panel. I
794 will advise the panelists before we begin that I am going to
795 strictly enforce the 5-minute rule. So my advice to you
796 would be this. I am going to introduce you so everyone will
797 know who you are. You will not have to reintroduce yourself.
798 If you have three key points and they are on page three of
799 your testimony, move them up to the top, and then at the very
800 end, if there is time left over, you can tell us more about
801 your wonderful organizations.

802 Okay, but get to your key points. I will be tapping the
803 gavel right at 5 minutes, so please try to make sure that you
804 think in those terms as we are going along.

805 Our first witness is Mr. Thomas Karl, director of the
806 National Oceanic and Atmospheric Administration, National
807 Climate Data Center. Dr. Karl has had a distinguished
808 scientific career and has served as lead author on many key
809 scientific reports including as a lead author on the recent
810 fourth assessment of the Intergovernmental Panel on Climate
811 Change, and as the co-chair of the National Assessment on
812 Climate Variability and Change. We thank you for joining us,
813 Mr. Karl. Whenever you are ready, please begin.

|
814 ^STATEMENTS OF THOMAS KARL, DIRECTOR OF THE NATIONAL CLIMATIC
815 DATA CENTER, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION;
816 JOHN STEPHENSON, DIRECTOR OF NATURAL RESOURCES AND
817 ENVIRONMENT, GOVERNMENT ACCOUNTABILITY OFFICE; LARRY
818 SCHWEIGER, PRESIDENT AND CEO, NATIONAL WILDLIFE FEDERATION;
819 E. CALVIN BEISNER, THE CORNWALL ALLIANCE FOR THE STEWARDSHIP
820 OF CREATION; LORD CHRISTOPHER MONCKTON, THIRD VISCOUNT
821 MONCKTON OF BRENCHLEY; DAVID WASKOW, CLIMATE CHANGE PROGRAM
822 DIRECTOR, OXFAM AMERICAN; AND BISHOP CALLON HOLLOWAY,
823 EVANGELICAL LUTHERAN CHURCH IN AMERICA, ON BEHALF OF THE
824 NATIONAL COUNCIL OF CHURCHES

|
825 ^STATEMENT OF THOMAS KARL

826 } Mr. {Karl.} Thank you, Chairman Markey, Ranking Member
827 Upton, and members of the committee. I appreciate the
828 opportunity to testify before you today. First I do want to
829 make note that Dr. Lochanko, our new administer for NOAA,
830 sends her regrets for not being able to be here today. This
831 is her third day on the job, and she looks forward to working
832 with the committee in the future.

833 I wanted to mentioned that the Intergovernmental Panel
834 on Climate Change definition of climate change refers to

835 climate change over time, whether due to natural variability
836 or the result of human activity. One of the things that we
837 have already seen in many observed changes in the climate
838 within the United States and globally.

839 These include changes in air and water temperature, sea
840 level, fresh water, severity of intense hurricanes. These
841 kind of changes are likely to increase and continue and have
842 profound effects on the physical and biological environment,
843 our economic prosperity, human health, and national security.
844 There are typically two courses society can take to respond
845 to climate-related impacts.

846 First is mitigation. Mitigation meaning options for
847 reducing heat-trapping gases. Second is adaptation.
848 Adaptation meaning changes that can be made to better respond
849 to present or future climate change and other environmental
850 conditions, thereby reducing harm and taking advantage of
851 whatever opportunities a changing economy may present.

852 Adaptation can include a wide variety of activities.
853 Farmers deciding to grow crops in a different way. Moving
854 business centers away from coasts, protecting coastlines.
855 There are a countless number of adaptation plans that already
856 have been devised. A few of them have actually been
857 implemented but very few.

858 NOAA is the nation's provider of weather and climate

859 data and information. We assemble this from a great variety
860 of sources. NOAA's climate information services result from
861 a long history of collaboration coordination with our sister
862 agencies, NASA, USGS, USDA, National Science Foundation,
863 other government agencies.

864 Climate information such as drought forecasts, long-term
865 precipitation trends, fire forecasts, the frequency and
866 intensity of coastal storms are all examples of the kinds of
867 information that NOAA provides and will be useful for
868 adaptation plans and strategies that will be developed by
869 resource managers.

870 NOAA works with customers and stakeholders to ensure we
871 are providing high-quality information that is user-friendly,
872 responsive, relevant to the issues being addressed.
873 Increasing demands today for adaptation information, however,
874 are straining the ability of the agency to provide the kinds
875 of information that is being requested at the appropriate
876 space and time scales.

877 Some of the categories for climate information products
878 and services, technical assistance, and training that NOAA
879 provides today include scientific assessments of climate
880 change and impacts, as the chairman has mentioned. We work
881 with a number of partners in providing information services
882 in support of adaptation. This would include applications to

883 living green resources, applications to coastal communities,
884 and applications to water resources just to name a few.

885 In closing, I wanted to mention that despite the
886 substantial efforts that NOAA has had to date, there still
887 remains significant knowledge gap, uncertainties for
888 adaptation, as well as impediments to flows of knowledge
889 information relevant for decision makers.

890 In addition, the scale at which reliable information is
891 produced does not always match what is needed for adaptations
892 decisions. We have considerable information about and
893 confidence about changes in broad-scale aspects of climate
894 change. Often questions are asked of us to provide local and
895 regional information where the certainty is less apt to be as
896 confidently applied as might otherwise be in a more general
897 case. So there is clearly a need for some new tools and new
898 science to ensure that adaptation progresses at the most
899 appropriate pace.

900 An effective response to changing climate conditions is
901 going to require integrated flexible and responsive
902 government-wide approach. To help this need, NOAA has been
903 working to build on existing capacities to create seamless
904 integrated processes for transferring climate science
905 information to society and allow for informed decision making
906 in the development of adaptation activities at federal,

907 state, and local levels.

908 I thank you for letting me have this opportunity today.

909 I would be happy to answer questions subsequently.

910 [The prepared statement of Mr. Karl follows:]

911 ***** INSERT 1 *****

|

912 Mr. {Markey.} We thank you, Mr. Karl. Our next witness
913 is Mr. John Stephenson. He is the director for Natural
914 Resources and Environment for the Government Accountability
915 Office. Mr. Stephenson has appeared many times before this
916 committee to provide GAO's perspective on energy and
917 environmental issues. We welcome you back, sir.

|
918 ^STATEMENT OF JOHN STEPHENSON

919 } Mr. {Stephenson.} Thank you, Mr. Chairman, Mr. Upton,
920 and members of the subcommittee. I am here today to give
921 GAO's perspective on how the United States is adapting to
922 actual and anticipated changes in the climate.

923 Thus far, attention and resources have focused largely
924 on emissions reduction options, climate science research, and
925 technology investment. However, adaptation is beginning to
926 receive more attention because the greenhouse gases already
927 in the atmosphere are expected to continue altering the
928 climate system regardless of efforts to control emissions.

929 While it may be costly to build coastal dikes to protect
930 community from sea level rise or to build higher bridges or
931 to improve storm water systems, there is a growing
932 recognition in the United States and elsewhere that the cost
933 of inaction could be greater.

934 My testimony addresses the actions federal, state, local
935 and international authorities are currently taking to adapt
936 to changing climate, the key challenges these officials are
937 facing in their efforts to adapt, and the actions that
938 Congress and federal agencies could take to help address
939 these challenges.

940 The information in my testimony is based largely on
941 prior GAO work but also draws on our ongoing study for this
942 subcommittee. In summary, we found that a variety of
943 adaptation-related activities are underway at different
944 levels of government including federal efforts like NOAA's to
945 provide information and guidance to decision makers.

946 In addition, federal resource management agencies like
947 the Departments of Interior and Agriculture are beginning to
948 consider climate change in their planning activities. We
949 also found that certain state, local, and international
950 governments are developing and implementing climate change
951 adaptation plans.

952 For example, we just completed a site visit exploring
953 Maryland's strategy for reducing its vulnerability to climate
954 change, focusing on sea level rise and coastal storms. We
955 found that the state has completed an extensive mapping
956 effort to identify coastal vulnerability and has begun
957 educating coastal communities about changes that can be made
958 to local ordinances to reduce coastal erosion and increase
959 resilience.

960 Specifically, Maryland provided guidance to three
961 coastal counties, recommending changes to planning documents,
962 building codes, and local laws to address the risk resulting
963 from sea level rise. We attended a public meeting held

964 within the county threatened by sea level rise and observed
965 how difficult it was to come to a resolution about the costs
966 and trade-offs associated with taking versus not taking
967 adaptive measures.

968 Several of our recent reports illustrate a number of
969 challenges faced by government officials in attempting to
970 address climate change adaptation. First, climate change is
971 one of many priorities competing for their attention.
972 Second, a lack of guidance can constrain the ability of
973 officials to consider climate change in management and
974 planning decisions. Third, insufficient site-specific
975 information can reduce the ability of officials to manage the
976 effects of climate change on the resources they oversee. And
977 finally, officials are struggling to make decisions based on
978 projected future climate scenarios rather than past
979 conditions.

980 On this last point, a recent report by the National
981 Resource Counsel stated that decision makers are not prepared
982 to manage or plan for adaptation because many of their usual
983 practices assume a continuation of past climate conditions.
984 According to the NRC, this assumption is no longer valid
985 because climate change will create a new and constantly
986 changing decision environment.

987 Our own 2000 report on FEMA's national flood insurance

988 program, which insures properties against flooding, and
989 USDA's federal crop insurance corporation, which insures
990 crops against drought or other weather disasters, reached
991 similar conclusions. Both highlighted how historical
992 information may no longer be a reliable guide for decision
993 making. Unlike private sector insurers, neither federal
994 insurance program had considered how climate change could
995 affect their portfolios over the near or long term,
996 potentially exposing the programs and taxpayers to greater
997 financial risk.

998 Our ongoing work for this committee will continue to
999 explore these other adaptation issues and identify actions
1000 that can be taken to help move adaptation programs forward.

1001 To date, preliminary observations suggest a need for,
1002 one, improving coordination among federal agencies and with
1003 state and local governments; two, preparing a national
1004 adaptation strategy and better guidance; and three,
1005 developing regional and sector-specific information on the
1006 impacts of climate change.

1007 Some have also suggested the creation of a centralized
1008 government entity to collect and publicly share information
1009 about climate change impacts and adaptation strategies. We
1010 plan to continue to obtain information and perspectives from
1011 a broad range of federal, state, and local stakeholders, and

1012 later this year, issue a report to the committee on the
1013 results of our work. Mr. Chairman, that concludes my
1014 statement, and I will be happy to answer questions at the
1015 appropriate time.

1016 [The prepared statement of Mr. Stephenson follows:]

1017 ***** INSERT 2 *****

|

1018 Mr. {Markey.} And we thank you, Mr. Stephenson, very
1019 much. Our next witness is Mr. Larry Schweiger, who is the
1020 president and CEO of the National Wildlife Federation.
1021 Previously Mr. Schweiger served as president and CEO of the
1022 Western Pennsylvania Conservancy and as the first vice-
1023 president of the Chesapeake Bay Foundation. He currently
1024 chairs the Green Group, a coalition of environmental
1025 organizations. We welcome you back, and whenever you are
1026 ready, please begin.

|
1027 ^STATEMENT OF LARRY SCHWEIGER

1028 } Mr. {Schweiger.} Thank you, Mr. Chairman, and members
1029 of the subcommittee.

1030 Mr. {Markey.} Pull the microphone in just a little bit
1031 closer please.

1032 Mr. {Schweiger.} Yeah. America has been blessed with
1033 an abundance of natural resources. Born and raised as a
1034 hunter and angler, I can say that our unique wildlife
1035 heritage has helped define the traditions and values of my
1036 family and I know of many other American families for
1037 generations.

1038 Since the conservation leadership of President Theodore
1039 Roosevelt, millions of Americans have devoted themselves to
1040 protecting and restoring our country's natural resources.
1041 Now, because of unchecked global warming, a century of
1042 conservation achievement is in jeopardy.

1043 Today's hearing is essentially about whether Congress
1044 will ensure our children and their children are not left in a
1045 world that is fundamentally different from the one that we
1046 have enjoyed. I ask you, Mr. Chairman and subcommittee
1047 members, are you ready to talk about a world that no longer
1048 has polar bears, vast sagebrush depth, and free-roaming

1049 antelope, ice fishing, and deep snows in the water, cold
1050 water rivers teeming with salmon and trout? It is not an
1051 exaggeration to call what we are facing a climate crisis. In
1052 fact, the problem with the debate so far is that the climate
1053 change has consistently been underestimated. The
1054 conservative protections that have framed this story for many
1055 years are now being surpassed at a rate that has even shocked
1056 scientists closely monitoring the changes.

1057 Congress must enact a two-part agenda in its climate and
1058 energy legislation to adequately address the climate crisis.
1059 First, Congress must cap global warming pollution now and
1060 being steadily and rapidly reducing at a rate and pace
1061 dictated by the science and by the precautionary principles.
1062 Reducing carbon pollution in the atmosphere is the only way
1063 to head off the worst impacts of the climate change on people
1064 and on wildlife.

1065 Secondly, Congress must use revenues from the carbon cap
1066 program to carry out a program that is clean, green, and
1067 fair. Clean because we must invest in clean energy
1068 technologies to move to a new place in this country. Green
1069 because we must provide a large-scale dedicated funding to
1070 protect our nation's wildlife and other natural resources
1071 from climate change. And fair because we must protect
1072 consumers and particularly help those who are most vulnerable

1073 around the world

1074 I want to emphasize if we cap carbon pollution but fail
1075 to invest adequately in natural resource protection, we will
1076 have accomplished only half of the job. Because we have
1077 already committed so much global warming pollution to the
1078 atmosphere, we will necessarily be grappling with the harmful
1079 impacts to wildlife for decades to come.

1080 National Wildlife Federation is working with scientists,
1081 resource managers, and a coalition of more than 700 hunting,
1082 fishing, and conservation organizations from every state in
1083 the nation to urge Congress to design climate legislation
1084 that conserves wildlife and other natural resources from the
1085 impacts of global warming.

1086 You will see from the attached to my written testimony a
1087 set of principles from the National Wildlife Federation and
1088 19 other national conservation and supporting organizations
1089 calling for large-scaled dedicated funding for natural
1090 resource adaptation and for identifying key legislative
1091 provisions to ensure that expenditures of such funding is
1092 science based and strategic.

1093 Also attached is a letter from 612 leading scientists,
1094 highlighting the urgency of the issue and also calling for
1095 large-scale dedicated funding to the purpose of adaptation.
1096 We are gratified to see President Obama pledge in his

1097 campaign to use dedicated funding from the climate
1098 legislation for natural resource adaptation. We are also
1099 pleased that our coalition's principles were largely
1100 reflected in the Climate Security Act, passed by the Senate
1101 Environmental Public Works Committee last year.

1102 Conservation practitioners have already started planning
1103 their natural resource adaptation efforts across the country,
1104 but planning will be wasted without the resources to put that
1105 program on the ground. Some have argued that funds for
1106 safeguarding natural resources should come from sources other
1107 than a cap program; however, the principle of pollute-or-pay
1108 must apply here. Any legislation that allows companies to
1109 pay to pollute must dedicate a portion of those payments to
1110 repair the current and future damages caused by that
1111 pollution.

1112 Mr. Chairman, the fourth report of the IPCC warns that
1113 in the lifetime of a child born today, 20 to 30 percent of
1114 the world's plant and animal species will be on the brink of
1115 extinction if we don't take action now. It makes it clear
1116 that unless we both cut carbon emissions and invest in
1117 adaptation, we could easily lose over a million species.

1118 To meet our fundamental ethical duty to pass on a
1119 healthy planet to future generations, we must reduce carbon
1120 pollution, and we must invest now in natural resource

1121 adaptation. We must protect the natural world that protects

1122 us and our children. Thank you.

1123 [The prepared statement of Mr. Schweiger follows:]

1124 ***** INSERT 3 *****

|
1125 Mr. {Markey.} Thank you, Mr. Schweiger, very much. Our
1126 next witness is Dr. Calvin Beisner, founder and national
1127 spokesman of the Cornwall Alliance for the Stewardship of
1128 Creation. Dr. Beisner also serves on the pastoral staff of
1129 Holy Trinity Presbyterian Church in Broward County, Florida.
1130 Thank you for being with us, Dr. Beisner.

|
1131 ^STATEMENT OF E. CALVIN BEISNER

1132 } Mr. {Beisner.} Thank you, Mr. Chairman, Mr. Upton, and
1133 members of the committee.

1134 Mr. {Markey.} Pull that microphone in just a little bit
1135 closer.

1136 Mr. {Beisner.} I have prepared a more extensive
1137 documented written testimony and submit it for the record.
1138 When the Apostle Paul wrote to the Galatians about meeting
1139 with the other apostles early in his ministry, he said ``they
1140 only asked us to remember the poor, the very thing I also was
1141 eager to do.'' That has been my motivation for over 25 years
1142 of study and writing on developmental and environmental
1143 economics.

1144 Both the Old and the New Testaments insist that rulers
1145 protect the poor from harm, following the example of Yahweh,
1146 who Psalm 140:12 tells us ``will maintain the cause of the
1147 afflicted and justice for the poor.'' Yet often the very
1148 people who are responsible to protect the poor make laws
1149 that, whether intentionally or not, harm them.

1150 Climate change legislation may, I fear, be one such
1151 case. The naturalist atheistic worldview sees earth and all
1152 its ecosystems as the result of chance processes and

1153 therefore inherently unstable and fragile, vulnerable to
1154 enormous harm from tiny causes. The biblical worldview sees
1155 earth and its ecosystems as the effect of a wise God's
1156 creation and providential preservation and therefore robust,
1157 resilient, and self-regulating, thus preventing small
1158 perturbations from setting off a catastrophic cascade of
1159 reactions.

1160 Both this biblical worldview and high quality scientific
1161 empirical findings convince me that the fear of catastrophic
1162 manmade global warming is mistaken. And if so, fighting it
1163 is a waste. But even if not, fighting it may still be a
1164 mistake. The most thorough comparisons between the costs and
1165 benefits of temperature mitigation on the one hand and
1166 adaptation through economic growth on the other have
1167 concluded resoundingly that adaptation wins hands down.

1168 I am aware that the Stern Review argues that the costs
1169 of doing nothing will exceed those of fighting warming, but
1170 it reaches that conclusion by assuming, among other mistakes,
1171 a zero time discount rate to compare the values of present
1172 and future costs. If you doubt the buffoonery of that, see
1173 me afterward. I would like to borrow \$1 million for 90 years
1174 at zero interest.

1175 What concerns me most is the impact of climate policy on
1176 the poor. If we tax CO2 emissions, which, after all, enhance

1177 plant growth and so benefit all of life, if we tax them,
1178 whether directly or via cap-and-trade, we raise the price of
1179 energy and so the prices of all things made and transported
1180 by energy, which is essentially everything. This is
1181 particularly devastating to the poor, for whom energy
1182 constitutes a higher proportion of spending than for others.

1183 Forcing the poor in the developing world, as must be
1184 done if we seriously mean to stabilize CO₂, to forego the use
1185 of carbon-based fuels, coal, oil, and natural gas, the
1186 cheapest fuels per kilowatt hour of energy delivered, means
1187 delaying by decades or generations the time when they can
1188 afford electricity for their homes and industries and thus
1189 delays for similar periods the time when they can refrigerate
1190 their food and so protect it from spoilage and themselves
1191 from under-nutrition for lack of food and diseases from
1192 spoiled food.

1193 When they can heat their homes with clean electricity
1194 rather than by open fires of wood and dry dung, the smoke
1195 from which causes respiratory diseases that reduce the amount
1196 of work they can do and so reduce their incomes and kill two
1197 to four million per year.

1198 When they can air condition their homes and so close
1199 windows and doors, keeping out insects that spread malaria,
1200 dengue fever, and other diseases that kill millions every

1201 year and disable scores to hundreds of millions.

1202 As Lomborg puts it, in the Third World, access to fossil
1203 fuels is crucial. About 1.6 billion people don't have access
1204 to electricity, which seriously impedes development. 2.5
1205 billion people use biomass, such as wood, waste, and dung, to
1206 cook and keep warm. About 1.3 million people, mostly women
1207 and children, die each year due to heavy indoor air
1208 pollution. A switch from biomass to fossil fuels would
1209 dramatically improve 2.5 billion lives.

1210 Inexpensive fossil fuels contributed enormously to the
1211 economic development of the wealthy countries of the world.
1212 To demand that poor countries forgo their use is to deprive
1213 them of that benefit and is, I insist, a grave injustice. It
1214 is the demand of wealthy powerful elites at the expense of
1215 the vulnerable poor.

1216 No alternative fuels can compete at present with fossil
1217 fuels for price. To compel their use in order to reduce CO2
1218 emissions is therefore to raise the price of energy and to
1219 harm the poor. Until someone can justify just a regressive
1220 tax with its fatal consequences, I can only conclude that it
1221 is unethical and that we are morally obligated not to impede
1222 access by the poor to abundant, inexpensive fossil fuels.

1223 Thank you.

1224 [The prepared statement of Mr. Beisner follows:]

1225 ***** INSERT 4 *****

|

1226 Mr. {Markey.} We thank you very much for being here.
1227 Our next witness is Lord Christopher Monckton. He is the
1228 Viscount of Brenchley. Lord Monckton is the chief policy
1229 advisor to the Science and Public Policy Institute. From
1230 1982 to 1986, Lord Monckton served as a special advisor to
1231 Prime Minister Margaret Thatcher. Please proceed, Lord
1232 Monckton.

|
1233 ^STATEMENT OF LORD CHRISTOPHER MONCKTON

1234 } Mr. {Monckton.} Sir, I bring fraternal greetings from
1235 the mother of Parliament to the great Congress of your
1236 athletic democracy, and I pray that God's blessing may rest
1237 upon your counsels.

1238 [Slide.]

1239 The right response to the non-problem of global warming
1240 is to have the courage to do nothing.

1241 [Slide.]

1242 Slide please. Thank you. There has been global
1243 cooling, as you see on that slide, for 7 years. The UN's
1244 climate panel has exaggerated carbon dioxide's effect on
1245 temperature sevenfold, verified by satellite observation--
1246 next slide please--that the diminution over time in outgoing
1247 long-wave radiation is one-seventh of that which the UN's
1248 computer models were told to predict.

1249 [Slide.]

1250 Next slide please. Carbon dioxide is accumulating in
1251 the air at less than half the rate that the United Nations
1252 had imagined. This century we may warm the world by just
1253 half a Fahrenheit degree, if that.

1254 [Slide.]

1255 Next slide please. If doing nothing is inexpedient,
1256 adaptation to warmer or cooler weather, when and if
1257 necessary, is many times more cost effective than attempted
1258 mitigation.

1259 Adaptation to warmer weather is, of course, unnecessary
1260 the weather actually gets warmer. For 14 years, there has
1261 been no statistically significant global warming. Do not do
1262 or spend anything to mitigate or adapt to global warming
1263 until global temperature is two Fahrenheit degrees warmed
1264 than in 2000. That may not happen for at least a century.

1265 We have been adapting to natural variations in climate
1266 throughout the history of humankind. Adaptation is a
1267 practical, affordable natural response to natural climate
1268 change. In the Middle Ages, it was warmer worldwide than
1269 today. Then global cooling set in. Our ancestors adapted.
1270 The Vikings abandoned their settlements in Greenland. Their
1271 graveyard in Hvalsey is under permafrost. It was frost free
1272 when they were buried.

1273 In Europe we adapted too. We moved to the valleys as
1274 the glaciers advanced, burying mountain roads, silver mines,
1275 and forests. Only now are all of these emerging once again.
1276 Adaptation therefore is at present unnecessary. Mitigation
1277 is always unnecessary. It is also disproportionately
1278 expensive as Dr. Beisner has rightly pointed out.

1279 In particular, the impoverishing regressive poll tax
1280 that is cap-and-trade has an ignominious past and no future.
1281 It has collapsed twice in Europe and once in New Zealand. If
1282 the United States adopts cap-and-trade, she may find herself
1283 doing so alone. Cap-and-trade will create green jobs by the
1284 thousands while destroying real jobs by the million at a cost
1285 of trillions. It is senseless. Green jobs are the new
1286 euphemism for mass unemployment.

1287 Cap-and-trade will perversely increase the global
1288 emissions it is intended to diminish. You will transfer your
1289 jobs, industries, and wealth to India and China. Their
1290 emissions per unit of production are far greater than your
1291 own. Protectionist tariffs, to try to prevent that, are the
1292 last resort of the economically illiterate and the
1293 politically desperate. Tariffs always damage those nations
1294 who impose them and they also flout your nation's obligations
1295 to the World Trade Organization. They are ultra vires.

1296 For proof of the economic damage caused by unilateral
1297 but futile attempt at influencing climate, see the galloping
1298 exodus from California. Everyone with any get-up-and-go is
1299 getting up and going. And unlike their robotic governor,
1300 they won't be back.

1301 Or see the food riots in a dozen of the world's poorest
1302 regions after the biofuels scam that arose directly from the

1303 global warming scare doubled food prices in 18 months. A
1304 third of your farmland no longer grows food for people who
1305 need it. It grows fuel for automobiles that don't.

1306 For us, dearer food is inconvenient. For starving
1307 millions worldwide, as Dr. Beisner has pointed out, it is
1308 death. Next slide please.

1309 [Slide.]

1310 In Haiti, the biofuel driven doubling of world food
1311 prices has forced the poorest to eat mud pies made with real
1312 mud. There is serious starvation going on around the world
1313 now, and this is directly--not as a result of global warming.
1314 There hasn't been any for 14 years--but as a result of
1315 policies intended to mitigate what does not need to be
1316 mitigated. You must apply the precautionary principle also
1317 to the precautions.

1318 [Slide.]

1319 And finally--next slide please--King Canute reminds his
1320 courtiers of the limitations of earthly power when the waves
1321 disobeyed his command not to wet the royal feet. You can no
1322 more command the forces of nature than could King Canute.
1323 For the sake of your taxpayers and the poor, whom their taxes
1324 support and defend, please don't try.

1325 [The prepared statement of Lord Monckton follows:]

1326 ***** INSERT 5 *****

|
1327 Mr. {Markey.} Good show, Lord Monckton. Very good
1328 show. Our next witness is Mr. David Waskow. Mr. Waskow is
1329 the climate change program director at Oxfam America. Before
1330 joining Oxfam, he worked for Friends of the Earth where he
1331 focused on a range of international, environmental, and
1332 development issues. We welcome you, sir.

|
1333 ^STATEMENT OF DAVID WASKOW

1334 } Mr. {Waskow.} Good morning. Thank you. Oxfam is an
1335 international development and humanitarian organization that
1336 works in more than 120 countries, including the United
1337 States, and I am here today because our staff and partners
1338 are already responding to the serious impacts of climate
1339 change, including heat waves, severe storms, sea level rise,
1340 and reduced water supplies.

1341 Both in the United States and abroad, we believe it has
1342 become essential to develop innovative and effective
1343 adaptation strategies for vulnerable communities. And, as I
1344 will note in a moment, we also believe these strategies are
1345 an opportunity for economic growth, both at home and abroad.

1346 We witnessed the reality of climate impacts firsthand in
1347 our operations in the Gulf Coast, responding to the aftermath
1348 of Hurricane Katrina. And although a particular weather-
1349 related event like Katrina cannot be specifically attributed
1350 to climate change, its impacts do stand as a tragic warning
1351 sign of the consequences if we fail to develop robust
1352 adaptation strategies.

1353 And let me just note for a moment here that I think our
1354 approach to climate change in general should be a proactive

1355 one, not reactive. And that is the case both in terms of
1356 reducing our emissions and also in doing adaptation, which is
1357 a matter of promoting resilience in a proactive manner.

1358 In the United States, low income and other vulnerable
1359 populations will be disproportionately affected by climate
1360 change, as has been noted earlier. According to the recent
1361 findings of the Federal U.S. Climate Change Science Program,
1362 many of the expected health effects are likely to fall
1363 heaviest on the poor, the elderly, the disabled, and the
1364 uninsured. Health waves and extreme weather events are but
1365 two examples of climate impacts that will disproportionately
1366 affect the low income and other vulnerable populations.

1367 As a first step to addressing these challenges in our
1368 country, the federal government should establish a national
1369 climate adaptation strategy, coordinate actions across
1370 agencies, and provide capacity building assistance to state
1371 and local governments. All of these climate adaptation
1372 strategies should prioritize and include the participation of
1373 vulnerable communities, including improving the management of
1374 emergency response strategies for those who are most
1375 vulnerable.

1376 Internationally, the capacity of vulnerable communities
1377 in developing countries is even more limited and is being
1378 stretched even further that is the case here in the United

1379 States. Agricultural practices, water systems, disaster
1380 preparedness, and health systems will all need to be
1381 strengthened and improved in order to be more climate
1382 resilient.

1383 In these countries, the consequences of climate change
1384 reach significantly beyond direct impacts of course.
1385 Stability and security will be undermined by climate change,
1386 and recently retired U.S. admirals and generals recommended
1387 that the U.S. take serious action to build climate resilience
1388 in those countries.

1389 Climate resilience, however, is not only a necessity
1390 both in the United States and around the world. It is also
1391 smart economically. Taking preventive action now will pay
1392 for itself many times over, and studies have shown that
1393 reducing disaster risk saves \$4 for every dollar spent on
1394 disaster preparedness.

1395 Adaptation strategies are also a key economic
1396 opportunity that we should seize. Innovative solutions can
1397 be an integral part of a global transition to a clean and
1398 climate-resilient economy. From developing climate resilient
1399 buildings to buttresses sustainable transport systems to
1400 improving water systems and agricultural practices around the
1401 world, we can find substantial economic benefits from
1402 adaptation strategies.

1403 In the Gulf Coast, we have been involved with a
1404 promising example of climate resilient economic development
1405 building green, climate resilient housing. And we are seeing
1406 the development of new markets at home and abroad for
1407 technologies and services to help communities build
1408 resilience. Water pumps, infiltration devices, irrigation
1409 equipment, early warning systems for weather events, and
1410 weather index microinsurance.

1411 U.S. companies and workers are well poised to partner
1412 with communities at home and abroad in deploying these
1413 technologies and services. For example, Pent Air, a
1414 Minnesota-based company, manufactures pumps and filters for
1415 the entire water cycle and recently installed and maintained
1416 filtration systems in rural communities in India and
1417 Honduras.

1418 The development of new, clean energy technologies to
1419 support climate adaptation and resilience, both here and in
1420 developing countries, is another economic opportunity. And I
1421 would just take a moment to note that in many cases, off-grid
1422 renewable energy technologies are, in fact, the most cost
1423 effective, best way to provide energy sources to the poor in
1424 developing countries.

1425 Out of necessity, a wave of innovation is possible if we
1426 seize this opportunity to tackle climate adaptation and

1427 resilience that stands before us. So I encourage you to
1428 seize that opportunity. Thank you.

1429 [The prepared statement of Mr. Waskow follows:]

1430 ***** INSERT 6 *****

|
1431 Mr. {Markey.} Thank you so much, sir. And our final
1432 witness is Bishop Callon Holloway who was recently elected to
1433 his third term as bishop of the Southern Ohio Synod of the
1434 Evangelical Lutheran Church in America. Prior to that, he
1435 served as assistant to the bishop of the Southern Ohio Synod
1436 and pastor of the Western Lutheran Church in Dayton. Please
1437 begin whenever you feel comfortable, Bishop.

|
1438 ^STATEMENT OF BISHOP CALLON HOLLOWAY

1439 } Bishop {Holloway.} Thank you very much. Good morning,
1440 Chairman Markey and Congressman Upton and members of the
1441 committee. I thank you for the opportunity to testify today,
1442 and I am with the Evangelical Lutheran Church in America and
1443 also representing the National Counsel of Churches. Between
1444 them, the five million members of the ELCA and 45 million in
1445 the National Counsel of Churches, I speak in their behalf.

1446 I am delighted to have the opportunity to speak from the
1447 perspective of those of us involved in the faith community as
1448 we are called and to speak with you about global climate
1449 change, particularly our concern for those who are living in
1450 poverty around the world and here who are already facing the
1451 impacts of this climatic change.

1452 For many people of faith, the call to be good stewards
1453 of the earth is grounded in God's command in Genesis to keep
1454 and to till the earth. Christians look to Christ's example
1455 and heed the call to seek justice, care for our neighbor, and
1456 provide for those who are living in poverty or are otherwise
1457 suppressed. And our response to climate change must reflect
1458 the principles of stewardship and justice. Particularly for
1459 those who are living in poverty around the world, they are

1460 the ones who are least responsible for the changes taking
1461 place and most likely to suffer from its impact.

1462 The diverse coalition of faith communities including
1463 Catholics, Protestants, evangelicals, and our inter-faith
1464 partners have endorsed the climate fairness agenda, which
1465 unites our communities behind the goal of working to ensure
1466 that the United States government aggressively reduces
1467 greenhouse and gas emissions while providing for the most
1468 vulnerable here in our own country and around the world.

1469 And I would like to submit to you for the record a
1470 document ``Climate Fairness Agenda: A Religious Call to
1471 Address Global Climate Change and Poverty.''

1472 Mr. {Markey.} We will include that in the record
1473 without objection.

1474 Bishop {Holloway.} Thank you very much, sir. In its
1475 2007 assessment reports, the Intergovernmental Panel on
1476 Climate Change, the IPCC, paints a pretty bleak pictures of
1477 God's creation and those already struggling with hunger and
1478 disease. The report details how climate change will increase
1479 insecurity in places where food is already scarce while
1480 reversing progress made to fight against hunger in other
1481 regions. Rising temperatures will increase water scarcity
1482 and some areas and spread of disease, such as malaria, fever,
1483 West Nile virus.

1484 More severe natural disasters and longer-term drought
1485 will lead to increased migration. I have seen this with my
1486 own eyes and worked with those who are working with the
1487 people who are most affected by this. I have been privileged
1488 to see this in my own church and our response to global
1489 climate change, through my own synod's companionships in
1490 Tanzania, Brazil, and also in Kazakhstan most recently.

1491 And I have met with farmers who are struggling with
1492 extreme weather pattern changes and unpredictable rainfalls,
1493 and our people are working hard, fast, furiously, and in
1494 partnership with great numbers and diversity of other people
1495 and organizations to provide basic water supply, cleanliness,
1496 and opportunities to eat.

1497 For us, we are blessed in our country with waking in the
1498 morning and deciding what color tie to wear or what color
1499 iPod to have having from our sides while most people around
1500 the world deciding if they are going to eat that day.

1501 Although churches and other NGOs are already working to
1502 assist communities adapting to climate change, the reality is
1503 that the changes are far too great for us to manage alone.
1504 We cannot do that alone. We are not structured for it. It
1505 is not our primary calling.

1506 A number of proposed bills in the House during the 110th
1507 Session including, Chairman Markey, your recommendations with

1508 the iCAP bill and Counselman Doggett's Climate MATTERS bill
1509 and the Boxer/Warner/Lieberman bill in the Senate include an
1510 international adaptation assistance language and funding.

1511 There are several items I would like to get to in this
1512 report. That funds should be appropriately targeted in terms
1513 of recipient countries by 10 percent. Local communities must
1514 be engaged in a participatory process through transparent
1515 mechanisms, and funds should be provided to fund the current
1516 levels of official development assistance. The funds should
1517 be targeted for climate impact, and legislation should
1518 enhance developing country efforts to reduce greenhouse gas
1519 emissions.

1520 The U.S. must acknowledge its role, both claimed and
1521 granted, in the responsibility for this global crisis and
1522 should commit to providing substantial financial support
1523 reaching between \$7 and \$21.5 billion a year by 2030.

1524 Some will say we cannot afford to make this sort of
1525 investment at a time of global economic turmoil. I counter
1526 that if we do not do it, we cannot afford that either. I
1527 thank you very much as we look to protect creation and God's
1528 people.

1529 [The prepared statement of Bishop Holloway follows:]

1530 ***** INSERT 7 *****

|
1531 Mr. {Markey.} Thank you, Bishop Holloway and to the
1532 other six witnesses. Watching you go one minute over, I went
1533 to religious school every day from age 6 to 26, 20 years in a
1534 row, and I don't have it within me to tell anyone wearing a
1535 collar when to stop. Okay, so I am disciplined that way. So
1536 I apologize to the other witnesses, but I was gripped by the
1537 admonitions of those 20 years every day, religious school.
1538 The gentleman from Texas.

1539 Mr. {Burgess.} Mr. Chairman, would you yield for a
1540 question?

1541 Mr. {Markey.} I will be glad to yield.

1542 Mr. {Burgess.} May I inquire as to whether or not this
1543 hearing is being covered on one of the C-SPAN channels?

1544 Mr. {Markey.} You mean one of the internal House
1545 channels.

1546 Mr. {Burgess.} No, one of the broadcast channels so
1547 people could--we have an incredible panel of witnesses and--

1548 Mr. {Markey.} It is not being covered, but that is not
1549 our decision. That is a decision that is made by C-SPAN or
1550 by the internal House--

1551 Mr. {Burgess.} But none of your gripping hearings have
1552 been covered on any broadcast television. I think that is a
1553 mistake, just to watch the body language of Lord Monckton

1554 while Mr. Waskow was testifying, and vice versa, I think
1555 would have been worth the price of admission for our C-SPAN
1556 audience. And I regret that my constituents aren't able to
1557 tune in.

1558 Mr. {Markey.} I am with you. We don't have to go to
1559 Piccadilly. Piccadilly comes to us, you know, and I am very,
1560 you know, honored that we have all these people. But again
1561 it is not within our control, okay. The cameras are there.
1562 They are working if anyone wants to pick it up, it is their
1563 decision, not our decision at all. And I--for my purpose, we
1564 are better off having this full discussion. I would have
1565 wanted everyone to have just heard Bishop Holloway tell us
1566 what our moral obligations are, but it is not my decision.

1567 Mr. {Burgess.} Well, just for the record, Mr. Chairman,
1568 you are infinitely more interesting than a budgetary hearing.
1569 And I will yield back.

1570 Mr. {Markey.} I thank the gentleman, I think. The
1571 chair will recognize himself for a round of questions. I am
1572 going to go to you, Dr. Karl, and relate back to Lord
1573 Monckton. Can you tell me based upon 150 years of data from
1574 the World Meteorological Association and extensive analysis
1575 of public data by governments around the world, including the
1576 United States government, is the earth cooling in the long
1577 term, or is it warming as a result of human activity?

1578 Mr. {Karl.} I can make this answer very short,
1579 Chairman. There is no question the earth is warming. Out of
1580 the last 14 years, 13 of them have been the warmest in our
1581 recorded history in terms of--

1582 Mr. {Markey.} Can you say that again please?

1583 Mr. {Karl.} Of the last 14 years, 13 have been the
1584 warmest on record in our observed climate record case.

1585 Mr. {Markey.} So when Lord Monckton goes back to 1998
1586 and he says since then we have been on a cooling trend, is it
1587 a little bit like saying well, you know, Babe Ruth, you know,
1588 when he started hitting his home runs, there had never been
1589 any more than 20, and when he hit 60 in 1927, there was a
1590 decline after that? Looking, of course, at Hank Greenburg's
1591 58, Hack Wilson's 56, Jimmy Fox's 58, so it was kind of a
1592 downward trend because no one could quite match Babe Ruth.
1593 On the other hand, Babe Ruth had just completely eclipsed
1594 anything that had existed before that? Isn't that a little
1595 bit like what Lord Monckton is doing here in saying there has
1596 been a decline from 1998, without reflecting upon the fact
1597 that, as you pointed out, can you give me that number again?

1598 Mr. {Karl.} Of the last 14 years, 13 have been the
1599 warmest on record going back on--

1600 Mr. {Markey.} The warmest on record. Thank you. So
1601 there is a little bit of disingenuineness in Lord Monckton's

1602 testimony, and I think that the incompleteness historically
1603 in his testimony is something that doesn't serve the
1604 committee really that well because it is these longer-term
1605 trends that are at much higher levels by a significant amount
1606 in terms of their warming impact that is of great concern and
1607 why the United Nations put together that group of 3,000
1608 scientists, to reflect upon that and to make recommendations
1609 to the world and to the United States.

1610 Mr. Schweiger, could you reflect upon what Mr. Karl just
1611 pointed out?

1612 Mr. {Schweiger.} One of the ways to think about this is
1613 to think about what is happening to the earth. And if you
1614 look at what is going on in the Arctic Region, the melt of
1615 the Arctic is setting all sorts of new records. The thing
1616 that concerns me most is this carbon storage that we find in
1617 the Arctic Region is now being given off at, I think, quite
1618 significant rates.

1619 The leakage of methane, the Boral Forest in Canada, for
1620 example, are going to be giving off more carbon in the next
1621 10 years than they are going to be storing. Nine of the next
1622 10 years are going to be net producers of carbon. So as the
1623 earth warms, it begins to behave in ways that are very
1624 troubling.

1625 So I would suggest to us that we are in a second phase

1626 of global warming, that phase where humans are not only
1627 contributing, but we are now seeing nature giving back some
1628 of its carbon stores. And I would ask the committee to pay
1629 close attention to that.

1630 Mr. {Markey.} Thank you, Mr. Schweiger, very much. Dr.
1631 Karl, the legislation I introduced last year, it established
1632 the national climate service. Does the administrator of NOAA
1633 support a climate service? And could you distinguish between
1634 what a weather service and a climate service would provide in
1635 terms of information for ourselves and for the rest of the
1636 world?

1637 Mr. {Karl.} Yes, in fact, Administrator Lojanko has
1638 made it clear during her testimony for her confirmation
1639 hearing that she does support the development of a national
1640 climate service, similar scope as compared to a national
1641 weather service. The differences between a climate service
1642 and a weather service is that a climate service would be
1643 focusing on aspects of climate change mitigation and
1644 adaptation, as we are discussing here today, delivering
1645 products and services in that respect.

1646 I have often been asked the question about well, would
1647 the weather service and climate service, would there be a
1648 demarcation between what time scale a weather service
1649 addresses and a climate services addresses? And I think the

1650 way to think about this is that obviously a weather is going
1651 to continue to protect us, get us out of harm's way, protect
1652 life and property, forecasting the kind of weather events
1653 that occur in a real-time basis. But as Congressman Baldwin
1654 pointed out, when we have floods like we had last year, we
1655 want to be able to better understand whether there are
1656 anthropogenic influences that may be causing such floods. And
1657 so a climate service would want to be there helping to
1658 explain those conditions, intense and severe hurricane
1659 seasons are the contributions that humans may be adding to
1660 those kinds of events. So that is the best I could do in
1661 terms of helping to describe the differences.

1662 Mr. {Markey.} Thank you, Dr. Karl, very much. Chair
1663 recognizes the gentleman from Michigan, Mr. Upton.

1664 Mr. {Upton.} Thank you, Mr. Chairman. I think Lord
1665 Monckton wanted to have a say in that first question you
1666 posed. So Lord Monckton?

1667 Mr. {Monckton.} Certainly, sir. Yes, I do. If you
1668 want it put in perspective, let us put it in perspective.
1669 Let us go back 600 million years to the Cambrian Era. Yes, I
1670 remember it well.

1671 Mr. {Upton.} Just for the record, that, I think is when
1672 the Chicago Cubs last won the title. I don't know if you
1673 know baseball as well, sir.

1674 Mr. {Monckton.} I will ride with that. Certainly 600
1675 million years ago, there was about 20 times as much carbon
1676 dioxide in the atmosphere as there is today, and global
1677 temperature was about 12.5 Fahrenheit degrees warmer than
1678 today. That is how much extra carbon dioxide you have to put
1679 in the atmosphere to get that kind of increase. And for most
1680 of the last 600 million years, it has been around 12.5
1681 degrees warmer than today Fahrenheit.

1682 However, if we come more recently to the last 10,000
1683 years since the end of the last Ice Age, for most of the last
1684 10,000 years, it has been around 4 or 5 Fahrenheit degrees
1685 warmer than today. Most recently in the Minoan and Roman and
1686 Medieval warm periods, it was warmer than today.

1687 There was then a period of considerable cooling. Indeed
1688 the sun, between 1645 and 1715 was at its lowest level of
1689 activity in 10,000 years according to sunspot records. Now,
1690 thereafter the sun's activity gradually increased until, in
1691 the last 70 years of the 20th Century, it reached, what is
1692 known to solar physicists, as a solar grand maximum. That
1693 coincided with a considerable period of warming.

1694 However, the warming period of 1975 to 1998 when it
1695 stopped, there was no greater warming rate then than there
1696 was between 1860 and 1880 and again between 1910 and 1940.
1697 There is therefore no anthropogenic signal whatsoever in the

1698 temperature record so far. The IPCC has predicted global
1699 warming, and yet for the last seven years, there has been
1700 global cooling. Now, that global cooling is, of course, a
1701 consequence of natural variability just as very nearly all of
1702 the global warming of the 300 years that preceded it is, on
1703 any view, also attributable to natural climate variability.
1704 There is, therefore, nothing in the temperature record that
1705 should give us any cause of concern to day.

1706 Mr. {Upton.} Thank you. Mr. Karl, I regret that I
1707 didn't bring this publication, but I read a story just this
1708 week it was made public. The Chinese apparently had
1709 indicated that they had not--they didn't have any more recent
1710 data than, I believe, 1994 in terms of specific emissions
1711 within their country. And I think South America or was it
1712 Brazil was close to the same. How do we actually monitor
1713 what other nations are doing?

1714 One of the concerns that a good number of us have is if
1715 we imposed a cap-and-trade scheme that particularly countries
1716 like China and India would welcome that because they would
1717 see that job growth be exported from the U.S. to those
1718 countries. And as we have seen with China building a new
1719 coal plant literally two every single week, how is it that we
1720 are going to actually monitor the emissions from those
1721 nations when, in fact, they are at least, as we saw this

1722 week, putting up their hands and saying it is not any of your
1723 business? What type of tools do we have?

1724 Mr. {Karl.} Yeah, right now, NOAA has something called
1725 a carbon tracker program. You can actually go on the web and
1726 take a look at our best estimates as to how carbon is being
1727 moved around the world. And this is actually into the
1728 atmosphere. We actually have observatories in the North
1729 Pole, Barro, and several other locations. We have a global
1730 monitoring network. We collect glass samples from across the
1731 world to try and measure atmospheric concentrations.

1732 This kind of information is used in models, and there
1733 are some technical methods that are used to try and go back
1734 to the sources. And we actually measure the amount of carbon
1735 in the atmosphere so we can better understand where they are
1736 actually being admitted and being absorbed.

1737 It is an area in which NOAA is very interested and
1738 continue to improve our capabilities here, and we have
1739 actually put forth a number of proposals.

1740 Mr. {Upton.} Did you see the report that was put out
1741 this week by the Chinese?

1742 Mr. {Karl.} No, I have not.

1743 Mr. {Upton.} We will get it, and I would like you to
1744 maybe comment in writing. We will get it to you and do that.
1745 I see my time has expired. I yield back.

1746 Mr. {Markey.} The gentleman's time has expired. The
1747 chair recognizes the gentlelady from--I am sorry. The chair
1748 recognizes the gentleman from Michigan. I have an obstructed
1749 view seat here. The chair recognizes the gentleman from
1750 Michigan, Mr. Dingell. Mr. Dingell, if you could--okay,
1751 thank you.

1752 Mr. {Dingell.} Last year, Mr. Boucher and I introduced
1753 or rather released a draft which we addressed the question of
1754 using some of the resources generated by the cap-and-trade to
1755 see to it that we could use these allowances for safeguarding
1756 wildlife natural resources from the effects of climate
1757 change. We also have the intention of seeing to it that we
1758 would preserve wetlands, marshes, mountains, forests,
1759 grasslands and things of that kind. Have you seen that
1760 draft?

1761 Mr. {Schweiger.} Yes, I have, sir, and I wanted to
1762 thank both of you for that sponsorship.

1763 Mr. {Dingell.} Do you support that?

1764 Mr. {Schweiger.} We do support that.

1765 Mr. {Dingell.} Natural wildlife does?

1766 Mr. {Schweiger.} And a number of other organizations
1767 that are signed on to our statement also support that effort.
1768 We believe that it is important to take some of the revenues
1769 that are generated from a cap and invest program and apply

1770 them to protect these vital resources. The numbers that was
1771 in the Senate Environment and Public Works Committee last
1772 year is a good number, I think, to start with for our efforts
1773 going forward. But we clearly think the wildlife need
1774 funding, that adaptation needs to be implemented. There are
1775 plans that are beginning to be developed. Much more needs to
1776 be done across the entire country in fact.

1777 Mr. {Dingell.} Would you equate this with adaptation,
1778 the language that Mr. Boucher and I have released? Would you
1779 equate that with adaptation in a good form?

1780 Mr. {Schweiger.} Absolutely.

1781 Mr. {Dingell.} Very good. Given the extensive
1782 conservation investments that we have made in the Congress,
1783 going back to Pip and Robertson, Dingell, Johnson, and all of
1784 the other programs of this kind, how much risk is there that
1785 these investments could be squandered if we fail to invest
1786 now in natural resource adaptation?

1787 Mr. {Schweiger.} One example of the risk that we face,
1788 there was a recent assessment of the National Wildlife
1789 refugees, and over 60 percent of those refugees that were
1790 studied will be out of their biome if we continue to--on the
1791 course that we are on today. So what that means is the
1792 natural diversity that existed on those refugees will no
1793 longer be able to survive in the warming climate in those

1794 locations. So there is a great urgency to help in that
1795 transition.

1796 Mr. {Dingell.} Thank you. Now, going across, starting
1797 with you, Bishop Holloway, if you please. Do you support the
1798 idea of adaptation?

1799 Bishop {Holloway.} Absolutely.

1800 Mr. {Dingell.} Next witness, do you? Yes or no?

1801 Mr. {Waskow.} Yes.

1802 Mr. {Dingell.} Next witness please.

1803 Mr. {Monckton.} Sir, if you must do anything, then
1804 adapt. That is what we have been doing since we were
1805 created. I am sure we will continue just fine, and we
1806 probably don't need Congress to help us.

1807 Mr. {Dingell.} Thank you. Sir?

1808 Mr. {Beisner.} Yes, adaptation is the natural human
1809 action and response to all changes around us. We have done
1810 that for thousands of years, and I think we will continue to
1811 do that very well with or without central planning.

1812 Mr. {Dingell.} Does that mean yes or no?

1813 Mr. {Beisner.} Yes.

1814 Mr. {Dingell.} Mr. Schweiger, I believe you've already
1815 been. Next witness?

1816 Mr. {Stephenson.} Yes.

1817 Mr. {Dingell.} Final witness, sir?

1818 Mr. {Karl.} Yes, and if I could just add, if I may, one
1819 of the real challenges for adaptation will be for us to be
1820 able to provide the kinds of climate-related information that
1821 will be necessary because the climate will be constantly
1822 evolving and changing. And developing those information
1823 transfers between what we understand the science and the
1824 engineering practices that are so important to put in place
1825 for adaptation, there will be a key linkage that I think we
1826 will have to ensure that we do a better job in developing.

1827 Mr. {Dingell.} Thank you. Now, I have another question
1828 here for you, sir. I am curious, and I want you with your
1829 expertise as a member of the GAO, how are we--we are going to
1830 generate enormous sums of money from the sale of these
1831 allowances.

1832 How are we going to keep those sales honest? We are
1833 obviously going to have to have lots of inspector generals.
1834 We are obviously going to have lots and lots of
1835 responsibilities imposed upon these people. We are obviously
1836 going to have to have questions with regard to how we handle
1837 the accounting. Can you give me a quick and dirty answer as
1838 to how we are going to address this problem of keeping honest
1839 men, or maybe somewhat dishonest men, honest given the huge
1840 temptations we are going to lay before them?

1841 Mr. {Stephenson.} Well, this is part of the details of

1842 a cap-and-trade program, and whether or not you use offsets
1843 or not as a cost containment mechanism. Both of those
1844 features require emissions, not certainty but certainly good
1845 estimating techniques and verification techniques to ensure
1846 that the baseline emissions are correct. Then we are
1847 proponents of an auction rather than allocation of the
1848 allowances to make sure that the price of carbon is set
1849 correctly.

1850 We think carbon offsets is a form of cost containment,
1851 but it too has a lot of problems in verifying that the
1852 additional carbon offsets you would get would be additional.
1853 That means it would not have occurred anyway. So the devil
1854 is in the details for all of this legislation. There is much
1855 to do to determine what techniques should be used to estimate
1856 allowances, to verify allowances, and to manage a cap-and-
1857 trade program if that is the way we go.

1858 Mr. {Dingell.} Thank you, Mr. Chairman. You are very
1859 generous.

1860 Mr. {Inslee.} [Presiding] Mr. Barton from Texas.

1861 Mr. {Barton.} Thank you, Mr. Chairman. Again I want to
1862 thank all of our witnesses. I really appreciate you all
1863 being here. I am going to focus on two of our witnesses, Mr.
1864 Karl and Lord Monckton, on some of the science.

1865 Mr. Karl, you are a climatologist. Is that not correct?

1866 Mr. {Karl.} That is correct.

1867 Mr. {Barton.} And you are part of the scientific panel
1868 of the IPCC?

1869 Mr. {Karl.} I was lead author and convening lead author
1870 on the first three IPCC reports and review editor on the
1871 last.

1872 Mr. {Barton.} So we could consider you an expert. You
1873 wouldn't disallow that descriptive?

1874 Mr. {Karl.} You could consider me anything you would
1875 like, sir.

1876 Mr. {Barton.} Well, I think you are an expert. Now,
1877 Lord Monckton presented the committee three charts. One is a
1878 chart from the Hadley and NCDC monthly terrestrial global
1879 temperature data set and the RSS and UAH satellite lower-
1880 troposphere data sets that shows a global cooling over the
1881 last seven years of about, if I read it correctly, equivalent
1882 to 3.5 degrees Fahrenheit a century. Is he lying to us?

1883 Mr. {Karl.} Well, that is a very unusual way of
1884 presenting data that has never, in the IPCC, been combined in
1885 that way. Let me give you an example why.

1886 Mr. {Barton.} But I mean is the data that he presents
1887 it factual?

1888 Mr. {Karl.} I can't attest to the figure you showed on
1889 the figure so quickly. I looked at it for--

1890 Mr. {Barton.} Well, will do you that? Will you
1891 research it and send a report to the committee whether he is
1892 lying to us or telling us the truth?

1893 Mr. {Karl.} I certainly will. I can tell you that when
1894 IPCC does detection attribution studies, one of the key
1895 issues that we look at is the change in the rate of
1896 temperature throughout the atmosphere, and that figure--
1897 actually average temperatures at the surface with
1898 temperatures throughout the troposphere, which is not the way
1899 we go about doing fingerprint attributions. So that was
1900 quite unusual, and I noticed that right off.

1901 Mr. {Barton.} Okay, but it is theoretically possible he
1902 is telling the truth or this chart is factually correct?

1903 Mr. {Karl.} I will reserve judgment. When you send it
1904 to me, we will take a look at it.

1905 Mr. {Barton.} And give us an honest assessment?

1906 Mr. {Karl.} Best we can do.

1907 Mr. {Barton.} Now, his other chart shows that--the
1908 headline is ``The UN exaggerates the greenhouse effect by
1909 sevenfold.'' Are you familiar with that graph, and is that
1910 another case of creative graphing, or is that the truth?

1911 Mr. {Karl.} If I remember, this is the figure that was
1912 showing the rates of carbon emissions? Is that--

1913 Mr. {Barton.} Fourteen years of model-predicted (black)

1914 and ERBE satellite-observed (red)--

1915 Mr. {Karl.} Okay.

1916 Mr. {Barton.} --change in outgoing long-wave radiation
1917 from the earth's surface.

1918 Mr. {Karl.} Yeah, in fact, last week, Chairman
1919 Mullhan's committee had a hearing on climate data records,
1920 and that graph--one of the important aspects of when you show
1921 earth radiation budget data, you have to take into account
1922 the fact that these measurements are made from satellites
1923 that change their orbit over time and from different
1924 satellites. And one has to stitch together the climate
1925 record from those satellites.

1926 Mr. {Barton.} Can you look at this one also?

1927 Mr. {Karl.} Yeah, it is incorrect. I can tell you off-
1928 -right away.

1929 Mr. {Barton.} You just say this one is wrong?

1930 Mr. {Karl.} I can--because I saw that immediately.

1931 That is incorrect because it has--

1932 Mr. {Barton.} And what about his last chart that shows
1933 CO2 concentrations are rising below their prediction, that
1934 the IPCC keeps saying these huge increases are going to--in
1935 CO2 and it just doesn't appear that factually that can be
1936 verified by actual data collection. What is the story about
1937 that?

1938 Mr. {Karl.} Yeah, I was quite surprised to see that
1939 graph because right now, there is a unified synthesis product
1940 the Climate Change Science Program has put together, and it
1941 has just gone through its second round of public review
1942 comments. And we hope to have it cleared through the
1943 agencies, the Climate Change Science Program agencies in the
1944 next few months. But if you look at that document today,
1945 there is actually a graph in there showing the rates of the
1946 missions over the past 15 years. If you look around, compare
1947 it to IPCC scenarios--

1948 Mr. {Barton.} I am about to run out of time, and I want
1949 to give Dr. Monckton--Lord Monckton a chance to--

1950 Mr. {Karl.} The bottom is line is what our concern is
1951 the rates of global emissions are faster than what some of
1952 the IPCC emission scenarios suggest today.

1953 Mr. {Barton.} Lord Monckton, he basically says you are
1954 a liar. What is your--

1955 Mr. {Monckton.} If you concentrate on emissions, then
1956 he is right. Emissions are rising faster than the IPCC
1957 predicted because they didn't expect China to do what China
1958 said she would do and continued to build power stations at a
1959 rate of one a week burning coal. However, concentration
1960 remaining in the atmosphere has indeed fallen, and the reason
1961 why is--it hasn't fallen, but it has gone up much slower than

1962 the emissions have and much below what is forecast. And the
1963 reason why that is is that, as the UN itself admits in its
1964 documents, it is incapable of adding up what is called the
1965 carbon budget in and out of the atmosphere to with a factor
1966 of two of the right answer.

1967 Mr. {Barton.} Well, Lord, just as I have asked Mr. Karl
1968 to try to verify what he said for the committee's
1969 consideration, could you also attempt to give some supporting
1970 documentation to prove that your charts, sir, are accurate
1971 and factual?

1972 Mr. {Monckton.} Certainly. I would be happy to supply
1973 a paper which is currently out for peer review, which
1974 explains exactly how these two graphs are compiled. The
1975 third graph is from a scientific paper, one of a series that
1976 has appeared in the literature on this question of the
1977 outgoing long-wave radiation not diminishing as fast as the
1978 UN's models predicted it would. And I will give you the
1979 references to various papers on that subject.

1980 Mr. {Barton.} Thank you, sir. Thank you, Lord. Thank
1981 you, Mr. Chairman.

1982 Mr. {Inslee.} The lady from California, Ms. Matsui.

1983 Ms. {Matsui.} Thank you, Mr. Chairman. I would like to
1984 shift a while here to get to--from a global level to so-
1985 called ground level in my community.

1986 Millions of people in my state depend upon levees to
1987 protect them, and climate change will increase the state's
1988 flood risk by causing a shift toward more intense winter
1989 storms, which could produce higher peak flows. Flood systems
1990 throughout the state must be upgraded and managed to
1991 accommodate the higher variability of flood flows to protect
1992 public safety, the economy, and ecosystems. And this is not
1993 cheap.

1994 In 2007, Sacramento property owners voted to assess
1995 themselves almost \$300 million for their local match to help
1996 achieve 200-year flood protection in the Sacramento area.
1997 Shortly thereafter, the state legislature passed legislation
1998 authorizing the state to participate in the 200-year flood
1999 protection program and contribute 70 percent of the non-
2000 federal cost of the program.

2001 In 2008, our flood control agency established a
2002 development fee program to add to local funding available for
2003 the 200-year program. Now, Mr. Schweiger, as you can see, my
2004 community has taken it upon themselves to be leaders in
2005 adaptation and water management. However, Sacramento's risk
2006 of flooding remains high, and we need additional help. In
2007 your testimony, you reference a lot of communities and their
2008 efforts to adapt. What are other communities doing to help
2009 prevent flooding and how are they raising the necessary

2010 funding?

2011 Mr. {Schweiger.} A number of groups are working, and I
2012 will give you one example. In coastal Louisiana, to
2013 reestablish some of the damaged wetland systems in the North
2014 Orleans areas, because we believe that by building back this
2015 natural resistance, we will reduce the storm surges, and we
2016 will also provide protection for nearby communities. So we
2017 think that there is an important investment in that area.

2018 I would also suggest that the Army Corps of Engineers
2019 needs to change the way they do their planning and look
2020 forward and not look backwards. You know we have been
2021 designing structures to look at the last hundred years, and I
2022 think it is important that Congress give the Corps direction
2023 to look forward and understand the modeling and how it might
2024 impact communities.

2025 I think that there are many community risks involved in
2026 climate change, and there are also enormous wildlife risk.
2027 Some of your fishery resources, for example, in California
2028 are being lost as coastal areas are being lost due to sea
2029 level rise and port wetland systems are disappearing.

2030 Ms. {Matsui.} And in your opinion, what percentage
2031 should the federal government contribute to adaptation versus
2032 states and communities? And, you know, we are looking for
2033 financing. What are the types of financing should we look to

2034 in tough economic times?

2035 Mr. {Schweiger.} The Senate Environment Public Works
2036 Committee last year had identified a \$7 billion annual
2037 average funding for the first two decades for the climate
2038 adaptation funding for wildlife. And if you look at that,
2039 that is about 1 percent of the economic benefits from outdoor
2040 recreation forest and wetland conservations.

2041 So we think that is a reasonable starting point for
2042 those kinds of investments, and I should say that there is
2043 also a number of other important community investments that
2044 need to be made. And some of those are, in fact, overlapping
2045 because what benefits humans also benefit wildlife in certain
2046 cases.

2047 Ms. {Matsui.} Okay, thank you. Mr. Stephenson, I
2048 understand the GAO is still analyzing adaptation efforts as
2049 you complete your study this year. Based on what you have
2050 uncovered, have you seen examples of adaptation efforts
2051 relating to flood control?

2052 Mr. {Stephenson.} Yeah, the one I mentioned in
2053 Maryland. We just visited the state of Maryland and are
2054 looking at their efforts to address sea level rise. And at
2055 this point, it is more one of providing information to
2056 counties subject to sea level rise and advising what they can
2057 do in their laws and their land management use plans to

2058 address those problems. They are going to have to make
2059 economic decisions in the future as to what kind of adaptive
2060 measures they may want to take.

2061 Ms. {Matsui.} What is the federal government doing to
2062 better understand the flood risk and hydrologic impacts of a
2063 changing planet?

2064 Mr. {Stephenson.} Well, there are many research efforts
2065 both by the federal government and others, both in the U.S.
2066 and throughout the world on this issue. What we are
2067 suggesting is that there needs to be more regional and
2068 localized information so that individual communities and
2069 governments can make decisions on what they should or
2070 shouldn't do. We don't think the information is specific
2071 enough to the local level to be able to make those decisions.

2072 Ms. {Matsui.} And what should Congress specifically do
2073 to finance flood control efforts as they relate to climate
2074 change?

2075 Mr. {Stephenson.} Well, we haven't really looked at
2076 that issue. We did look at the national federal flood
2077 insurance program, and we think it is interesting that there
2078 have been no portfolio adjustments on the federal
2079 government's part for the insurance industry, similar to what
2080 Swissree and some of the big reinsurers of the world have
2081 already done. They have already looked at climate change

2082 projections and adjusted their portfolios to minimize their
2083 risk. And we are suggesting that the federal government
2084 should do the same thing, both for crop insurance and flood
2085 insurance.

2086 Ms. {Matsui.} Okay. Thank you, Mr. Chairman.

2087 Mr. {Inslee.} Thank you. Mr. Pitts, Pennsylvania.

2088 Mr. {Pitts.} Lord Monckton, you say the European try at
2089 cap-and-trade has failed. Would you elaborate? And why do
2090 you suggest the U.S. may go it alone?

2091 Mr. {Monckton.} Certainly. You go it alone, I think,
2092 to answer that question first, because those who have tried
2093 cap-and-trade have found it doesn't work. Those who are
2094 thinking of trying it are, in the light of that, beginning to
2095 revise their opinions on whether they should. There are many
2096 problems with cap-and-trade, but to answer your question
2097 about the European experience in particular, the European
2098 Union, which is governed by effectively a bureaucratic
2099 centralist dictatorship in Brussels, decided to allocate to
2100 each member state a right to emit without payment, which
2101 exceeded each states total emissions.

2102 Not surprisingly, therefore, the price of the rights to
2103 emit carbon per ton fell to the market clearing level of zero
2104 on the artificial carbon trading hot air markets--called the
2105 trading in hot air on the London market in recognition of its

2106 general uselessness.

2107 So it failed, and they therefore decided they would
2108 issue an edict that each country was not allowed to give away
2109 as many free permits as before. However, the economic
2110 collapse then supervened, and when you have a declining
2111 economy, then what happens is whatever price you try to set
2112 for carbon will promptly fall on the open market and we are
2113 now once again trading carbon permits at dangerously close to
2114 zero. So for the second time, the European system has failed
2115 in much the same way as the New Zealand has also failed. And
2116 in Australia where they had been contemplating carbon
2117 trading, the Senate, much as here, has decided that it
2118 doesn't like the idea.

2119 So if you do impose carbon trading, then you could be
2120 shooting yourselves uniquely in the foot because most other
2121 countries in the world are at present disinclined to follow
2122 you.

2123 Mr. {Pitts.} And whom do you believe will be most
2124 affected by cap-and-trade or a carbon tax or any other method
2125 of increasing energy prices?

2126 Mr. {Monckton.} That is an extremely good question, and
2127 the answer is unfortunately horrifyingly clear. Is the low-
2128 income families. It is the poor. Why? Because a larger
2129 proportion of their income is devoted to spending on energy

2130 than any other sector. Now, of course, there may or will
2131 indeed be elaborate attempts to make transfer payments to the
2132 poor to try to cushion them to some extent or even fully from
2133 the effects of this misguided type of taxation.

2134 But unfortunately, that then leaves the cost of it
2135 falling disproportionately on the middle class because, as
2136 you may know, President Obama has recently given strong
2137 indications to the other people who are most heavily affected
2138 by cap-and-trade--that is very big, heavily emitting
2139 industries, of course, electricity generation, steel,
2140 concrete, construction, so forth. They would have suffered
2141 very badly by this, and President Obama has said that he is
2142 going to look favorably on exempting them to some degree.

2143 If he does that, then the entire cost of a tax, which is
2144 supposed to bring in very nearly the equivalent of the entire
2145 federal budget on average for the last five years, and it
2146 will bring it in every year for the next eight years, \$2
2147 trillion a year. That is going to fall entirely on small
2148 businesses who are already disproportionately affected by the
2149 existing recession.

2150 If that happens, there be bankruptcies all round, and it
2151 is even possible that this scheme, as at present conceived--
2152 and I must make this point very clear to you--could bankrupt
2153 the United States government itself.

2154 Mr. {Pitts.} Dr. Beisner, you criticize the promotion
2155 of solar panels and renewable energy in the developing world.
2156 Why do you believe this is not in the best interest of the
2157 poor?

2158 Mr. {Beisner.} Well, the developed world managed to do
2159 a great deal of its economic growth on the basis of the very
2160 inexpensive energy that was available to us by the
2161 development of grids and the like. Just recently, Abbot E.
2162 Shlaze's book, ``The Forgotten Man'' was published on the
2163 history of the Great Depression.

2164 She discusses the competition between the idea that
2165 there should be small, local generating plants, indeed even
2166 possibly generators at every home, versus the idea of grids.
2167 And essentially what we are being asked to do when we say let
2168 us have the small alternative energy things for people's huts
2169 and so on in Africa is to choose what they figured out, even
2170 at the time of the 1920s and 1930s was not going to work
2171 here. It is a short-term, really elusory solution that has
2172 long-term costs by directing capital investment away from the
2173 types of generation and distribution of electricity that can
2174 reach the lowest cost per kilowatt-hour delivered in the
2175 longer term.

2176 And so what we are actually doing is asking the poor to
2177 adapt fairly expensive short-term solutions in exchange for

2178 much cheaper long-term solutions for their energy needs.

2179 Mr. {Pitts.} So what do we do? What is the best
2180 approach to help developing nations to help the world's poor
2181 and impoverished?

2182 Mr. {Beisner.} Well, as Bjorn Longbourg and the
2183 Copenhagen Consensus have pointed out, certainly one of the
2184 most important things that we can do is to promote the Doha
2185 Round and world trade generally because general world trade
2186 is the most important thing for raising income levels. And
2187 as income levels rise, those can generate enough capital
2188 investment to support the provision of large-scale energy
2189 systems to electrify the homes of the roughly 2.6 billion
2190 people around the world who don't have them.

2191 Rather than highly centralized governmental solutions, I
2192 think the market solutions are the best, and that is what we
2193 learn from the history of economics.

2194 Mr. {Pitts.} My time is up. Thank you, Mr. Chairman.

2195 Mr. {Inslee.} Thank you. Ms. Capps, California.

2196 Ms. {Capps.} Thank you, Mr. Chairman. I want to thank
2197 all of our witnesses. I agree with my colleague who said
2198 this is quite a stellar panel and very interesting. I thank
2199 all the witnesses, and I want to thank especially and
2200 associate myself with the remarks of Bishop Holloway, since
2201 you represent my faith tradition.

2202 And I feel I must make a brief disclaimer to you, Lord
2203 Monckton. I am privileged to represent a congressional
2204 district in California which stretches a bit over 200 miles
2205 of coastline, and I want to reassure you that my neighbors
2206 and I have no intention of packing up and leaving anytime
2207 soon.

2208 Mr. {Monckton.} I am delighted.

2209 Ms. {Capps.} Thank you. Mr. Schweiger, as I mentioned,
2210 my congressional district lies entirely within California's
2211 coastal zone. We must plan for sea rise, and then in that
2212 regard, I suppose I could represent any community along the
2213 coastal areas of our nation and perhaps indeed of the world.
2214 It has been said in my area if we bury our heads in the sand
2215 on the issue of sea rising, we may drown.

2216 Could you give some specific strategies that managers
2217 federally, locally, and other kinds of interveners could
2218 manage to help our communities to be more resilient in the
2219 face of climate change? How might we or should we change
2220 some of our approaches to the management of coastal areas?

2221 Mr. {Schweiger.} Well, thank you for the opportunity to
2222 respond. I think the first thing we need to do is actually
2223 to cap pollution because the most important thing we can do
2224 is quit feeding the beast that is raising the sea levels and
2225 warming our planet. Secondly, I think it is important for us

2226 to do really good downscaling of the models that are
2227 currently being used to assess the condition of our planet.
2228 And I would say the greater granularity we can get into those
2229 models, the more we can know exactly what we are dealing with
2230 locally.

2231 And I think it is important, as we plan those futures,
2232 that we anticipate the range of sea level rise, and that
2233 goes for water supplies, sewage and storm water management.
2234 I think it also speaks to the design of culverts and all the
2235 other things that we do in community. We need to understand
2236 that we are going to have more vigorous rainstorms. Coastal
2237 flooding is going to be more intense in many places.

2238 But I think it is so important to get that downscaling
2239 right so that we know precisely the kind of choices we need
2240 to make for both humans and nature.

2241 Ms. {Capps.} Thank you. And, Mr. Karl, this is what
2242 your agency does. I don't have time to ask you, but I am
2243 certainly very interested in working with NOAA as we design
2244 this granularity to be specific to our communities. And you
2245 have people in my district that I am very grateful for, and I
2246 look forward to that partnership.

2247 I want to turn the rest of my time to the comments that
2248 were made by Mr. Waskow and Bishop Holloway. You made the
2249 statement, Mr. Waskow, that it probably will cost upwards of

2250 \$50 billion to address adaptation needs. And it has been
2251 alluded to that, like the wildlife and the marine life, whose
2252 creatures are most impacted by a climate change and are not
2253 really responsible for it nor in the position to really adapt
2254 a lot. The poorest of the poor, as the bishop described, are
2255 often living in coastal areas. Again didn't contribute very
2256 much to this and will certainly be at the mercy.

2257 And there is a moral compulsion, which I hope each of
2258 you will address. But there is also a piece of it that I
2259 want to get on the record. That it would be in our interest.
2260 It is an investment really that could be made to assist these
2261 communities in adaptation to climate change because it can
2262 provide their self-empowerment and their ability to decrease
2263 their dependency and to increase their self-sufficiency.

2264 And I don't have much time, but maybe if each of you
2265 could say a word to this.

2266 Mr. {Waskow.} Absolutely, and I would fundamentally
2267 agree that it is in our national interest to address
2268 adaptation needs around the world for several reasons. One
2269 is the security dimension that has been alluded to already.
2270 The second has to do with costs that we would face from
2271 responding to disasters. So for example, helping provide
2272 irrigation equipment, improve agricultural practices,
2273 drought, and water resistant seeds. Those kind of things

2274 help in reducing the risk of famine or other food crises.

2275 Similarly, helping communities improve and strengthen
2276 their infrastructure, their roads, their bridges, their
2277 schools, their clinics, helps in reducing potential disaster
2278 response costs down the road. And--

2279 Ms. {Capps.} I know you could say more, but I want to
2280 ask the chairman's indulgence if I could ask my bishop to
2281 make one word on this.

2282 Mr. {Inslee.} Go ahead.

2283 Ms. {Capps.} Thank you.

2284 Bishop {Holloway.} I look at this in a three-tiered
2285 way. That in our work of dealing with the issues and
2286 problems of many different people around the world, I see
2287 that one pillar must be emergency and immediate aid. That is
2288 incumbent upon us. The other is where we can to work in an
2289 accompaniment model. Rather than telling folks what to do,
2290 we work with them to see what we can jointly discover as the
2291 best way to build capacity, the capacity that might lead
2292 toward self-sufficiency.

2293 And the third thing is advocacy for those who do not
2294 have a voice but who have just as much at stake in the
2295 quality of life as anyone else. So these are the three
2296 areas, I think, that we are most effective, and look for
2297 legislation here since we are the, for lack of a better term,

2298 the biggest dog in the pounds.

2299 Ms. {Capps.} Thank you very much.

2300 Bishop {Holloway.} So we have a higher responsibility
2301 since we have higher resource.

2302 Mr. {Inslee.} Thank you.

2303 Ms. {Capps.} Thank you.

2304 Mr. {Inslee.} Mr. Shimkus of Illinois.

2305 Mr. {Shimkus.} Thank you, Mr. Chairman. Great to have
2306 the panel. I apologize for being in and out. That is kind
2307 of our line of work. Let me ask a question. When we have
2308 had these debates in the previous year, we used to talk about
2309 the off ramp. It is not being talked about very much now,
2310 and the basic premise was if China and India do nothing, all
2311 our pain and agony is for no results.

2312 Should there be an off ramp in the legislation on
2313 climate change? And just say kind of yes or no, maybe a
2314 little phrase so I can get my time in. Bishop Holloway?

2315 Bishop {Holloway.} I don't believe so, sir.

2316 Mr. {Shimkus.} Okay.

2317 Bishop {Holloway.} And--

2318 Mr. {Shimkus.} If it can be quickly.

2319 Bishop {Holloway.} Okay, yes. That is impossible.

2320 Mr. {Shimkus.} Why is it impossible?

2321 Bishop {Holloway.} Because ministers cannot speak

2322 briefly.

2323 Mr. {Shimkus.} I thought it was impossible because
2324 China and India will never agree to any cap on carbon, and so
2325 to assume that China and India will be involved in any regime
2326 to control climate, that is the impossibility. Mr. Waskow?

2327 Mr. {Waskow.} We have the greatest historical
2328 responsibility for emissions. We have to take the lead, and
2329 I think that by taking the lead, we will be most able to
2330 bring others like China and India along.

2331 Mr. {Shimkus.} Okay. Lord Monckton?

2332 Mr. {Monckton.} None of the disasters imagined by this
2333 committee will happen. Sea level, in particular, is not
2334 about to rise by more than around eight inches to a foot this
2335 century. Even the UN says only 1.5 foot, maximum 2. That is
2336 not going to do any damage except in places where the land is
2337 subsiding from non-climate change reasons.

2338 Mr. {Shimkus.} Okay.

2339 Mr. {Monckton.} The Chinese and the Indians are
2340 perfectly aware of this. They have declared over and over
2341 again that--

2342 Mr. {Shimkus.} All right.

2343 Mr. {Monckton.} --and rightly that they are not going
2344 to do this. And therefore, you should indeed have an off
2345 ramp. Thank you.

2346 Mr. {Shimkus.} Thank you. Dr. Beisner?

2347 Mr. {Beisner.} Yes, we should have an off ramp for
2348 precisely that sort of reason, but also simply because the
2349 assumption behind all of this is that the climate change that
2350 we are seeing has been human driven. Climate change and
2351 human driven climate change are not the same thing. And the
2352 increasing tendency of the most recent scientific
2353 publications has been to magnify the apparent natural
2354 contribution and minimize the--

2355 Mr. {Shimkus.} Quicker please. Mr. Schweiger?

2356 Mr. {Schweiger.} I believe that the Himalayas are at
2357 great risk. The Chinese and Indian governments are well
2358 aware of those risks, and I--

2359 Mr. {Shimkus.} Should there be an off ramp?

2360 Mr. {Schweiger.} I believe what we ought to do is work
2361 closely with China particularly to find common ground to make
2362 the--

2363 Mr. {Shimkus.} Should there be an off ramp?

2364 Mr. {Schweiger.} I do not believe that we should back
2365 away from our responsibilities.

2366 Mr. {Shimkus.} Should there be an off ramp?

2367 Mr. {Schweiger.} No.

2368 Mr. {Shimkus.} Thank you. Mr. Stephenson?

2369 Mr. {Stephenson.} We can't control what China does. We

2370 have to take action irregardless of what they do. So there
2371 should not be an off ramp.

2372 Mr. {Shimkus.} Thank you. Mr. Karl?

2373 Mr. {Karl.} Our agency works to provide the science to
2374 help provide that.

2375 Mr. {Shimkus.} You are right. Very good. We had
2376 testimony here--I want to talk to the impact on the middle
2377 class and the poor. My district represents 30 counties in
2378 rural southern Illinois, stretching from the state capital of
2379 Springfield down to the Paducah, Kentucky, Indiana line.

2380 This is a mine, as a said in opening statement. 1,200 miners
2381 lost their jobs.

2382 I now know through additional research further mines
2383 closed primarily because of the Clean Air Act amendments.
2384 The economy of southern Illinois has been devastated through
2385 the mine closures. The Coal Association of Ohio testified
2386 just last week 36,000 mine workers lost their jobs.

2387 This is an incredible impact on the livelihood, and it
2388 does fall disproportionately on the poor. They will pay the
2389 burden of this through job loss, through long distances,
2390 through travels.

2391 Lord Monckton, talk to me about this debate on are we a
2392 carbon-starved planet.

2393 Mr. {Monckton.} Well, Will Happer testified--he is from

2394 Princeton--testified in front of the Senate committee with
2395 Dr. Patrari on this recently. In Will Happer's view yes, we
2396 are carbon-starved. If we go back to the Cambrian Era, 7,000
2397 parts per million to compare with less than 400 parts per
2398 million today. Go back to the Triassic Era, 175 million
2399 years ago. At the time when the Aragonite corals, the most
2400 fragile of all the corals, came into being by algosymbiosis
2401 for the first time. Again around 6,500 to 7,000 parts per
2402 million of carbon dioxide.

2403 Carbon dioxide is a plant food. It is necessary.

2404 Mr. {Shimkus.} Say that again. Carbon dioxide is what?

2405 Mr. {Monckton.} Is plant food.

2406 Mr. {Shimkus.} It is plant food?

2407 Mr. {Monckton.} Yeah, without it, all plant life and
2408 therefore all life that depends on plant life--

2409 Mr. {Shimkus.} So if we were to decrease the use of
2410 carbon dioxide, are we not taking away plant food from the
2411 atmosphere?

2412 Mr. {Monckton.} Yes, indeed you are. The U.S. Forest
2413 Service has very good figures, showing the enormous growth in
2414 the cubic--

2415 Mr. {Shimkus.} So all our good intentions could be for
2416 vain? In fact, we could be doing just the opposite of what
2417 the people who want to save the world are saying?

2418 Mr. {Monckton.} You could indeed. You are quite right.

2419 Mr. {Shimkus.} The basic finish with this comment is
2420 the earth will not be destroyed by a flood. And I yield back
2421 my time.

2422 Mr. {Inslee.} Thank you. We have, I believe four,
2423 maybe five more members. We could go with a lightning round
2424 of 2 minute apiece and vote, or we could continue and then
2425 come back. The chair would suggest we do a lightning round
2426 of 2 minutes a piece, and I just wonder if anyone would have
2427 objections to that. Vote is going to start just briefly. I
2428 would suggest--the chair is sacrificing his time in order to
2429 move forward. If there is no objection to that, let me
2430 suggest that we do that.

2431 Mr. {Shimkus.} I would object and just make that
2432 decision once the time comes for the call of vote.

2433 Mr. {Inslee.} We will always respect Mr. Shimkus's
2434 views, at least on this very small issue. Mr. McNerney.

2435 Mr. {McNerney.} Thank you, Mr. Chairman. I want to
2436 thank the panel for coming here. I think--good call--your
2437 testimony is excellent, and I want to congratulate the
2438 Chairman Markey for pulling together this hearing.

2439 You know when we discuss adaptation, I can't help
2440 thinking about my home district in California for two
2441 reasons. One is by analogy to climate change, and the other

2442 by an already in progress impact of climate change.

2443 The first that I want to discuss is earthquakes.

2444 California is earthquake country, and we have learned a lot
2445 about how to adapt to earthquakes. We build our buildings
2446 better, and the results are pretty dramatic; although, we
2447 still have a lot to learn and a lot to do to make our city
2448 safer.

2449 The second is water. You know many glaciers are
2450 receding around the world, and California depends on its snow
2451 packs. So we are deeply engaged in planning and preparing for
2452 this, and I think that is an adaptation to global warming.
2453 So building buildings better and more resilient and building
2454 better waterways is good sense. The threat of global warming
2455 just adds urgency to this whole issue.

2456 So, Mr. Monckton, I have a question. Do you think we
2457 should stop planning for earthquakes and stop adapting for
2458 water changes, or what should we do in this case?

2459 Mr. {Monckton.} Sir, as far as earthquakes are
2460 concerned, there is no connection between earthquakes and
2461 global warming.

2462 Mr. {McNerney.} No, but it is adapting to--

2463 Mr. {Monckton.} Yes, of course, you should always adapt
2464 to natural change.

2465 Mr. {McNerney.} So should we adapt to water coming down

2466 from the Sierras?

2467 Mr. {Monckton.} If, as California is a very heavy user
2468 of water, you will need to make sure there are continuing
2469 water supplies.

2470 Mr. {McNerney.} So adapting--

2471 Mr. {Monckton.} However--

2472 Mr. {McNerney.} --to change in progress is a good idea?

2473 Mr. {Monckton.} So of course adaptation to natural
2474 changes that occur is very sensible.

2475 Mr. {McNerney.} Thank you.

2476 Mr. {Monckton.} If there were any--

2477 Mr. {McNerney.} Mr. Karl. May I ask you, Mr. Karl,
2478 could you just give me a little bit of detail about some of
2479 the models of the resolution that you have, the accuracy that
2480 you have? I am a scientist, a mathematician, and I did spend
2481 career in modeling, so I am interested technically in where
2482 we are with this stuff.

2483 Mr. {Karl.} Yeah, one of the things we can tell you is
2484 that the models today are good enough to be able to identify
2485 some of the causes for some of the water issues out west with
2486 respect to changes in the snow melt season. Snow melt, from
2487 the observations we already see, it is melting earlier, more
2488 frequently, that runoff occurs more earlier. It means there
2489 is less water available later in the summer for use. That

2490 kind of an activity--that kind of process is expected to
2491 continue and accelerate and global warming continues on into
2492 the future. So that is one example from the point of water.

2493 Another one has to do with changes in heavy
2494 precipitation events. We are seeing a change in the
2495 frequency of heavy precipitation.

2496 Mr. {McNerney.} So you have confidence in the
2497 resolution of these models and the accuracy of these models?

2498 Mr. {Karl.} Yes.

2499 Mr. {McNerney.} In sort of an average sense?

2500 Mr. {Karl.} In a broad sense, yes.

2501 Mr. {McNerney.} Okay, we will have to talk more about
2502 that on a different time. I am going to yield back to my
2503 courteous to my other--

2504 Mr. {Inslee.} Thank you. I appreciate that. Mr.
2505 Burgess.

2506 Mr. {Burgess.} Thank you, Mr. Chairman. Mr. Karl, in a
2507 way, your federal agency is an adaptation, is it not? Isaac
2508 Klein, the famed meteorologist in Galveston with the storm
2509 that Gene Green mentioned of 106 or 107 years ago. I mean
2510 your federal agency came into existence as a consequence of
2511 the troubles that Mr. Klein encountered at that point with
2512 not being able to predict what was fixing to happen to them.
2513 And, of course, the large loss of life that then ensued.

2514 So in many ways, what we are seeing today with your
2515 federal agency is an adaptation to the fact that if you
2516 develop coastal areas from time to time, you will be visited
2517 by hurricanes. Is that not correct?

2518 Mr. {Karl.} There is no question.

2519 Mr. {Burgess.} Now, on the issue of hurricanes--I
2520 apologize for not having the data in front of me, but it
2521 seems like in a newspaper report from just a few days ago, we
2522 are--we have entered into a period of a relative lull in
2523 hurricanes. Am I correct in that?

2524 Mr. {Karl.} All I can tell you is that we have, over
2525 the past several decades, seen an increase in hurricane
2526 activity. And in fact, the most recent paper, looking at
2527 the--all the global oceans have identified fairly
2528 conclusively that since the early '80s, the intensity of the
2529 strongest storms has actually increased.

2530 Now, one has to recognize when we get down to smaller
2531 and smaller scales, because we have fewer hurricanes, it is
2532 more difficult to say, for example, yes we are seeing a
2533 change in intensity of storms--

2534 Mr. {Burgess.} Well--

2535 Mr. {Karl.} --affecting a particular part of the
2536 coastline.

2537 Mr. {Burgess.} And I don't mean to be disrespectful,

2538 but the chairman has limited my time. We see cycles. We are
2539 in a bad recession right now. We are told that it is
2540 equivalent to the Great Depression of the 1930s, but we don't
2541 have the adverse weather phenomena that they encountered in
2542 the 1930s in the form of the Dust Bowl.

2543 But having moved to the state of Texas as a very, very
2544 young child back in the early '50s, I remember very well the
2545 seven years that it didn't rain. As I recall, the newspapers
2546 attributed that to the fact that the Russians were testing
2547 nuclear weapons in the atmosphere and it was the Russian
2548 fallout that was responsible for no rain. I guess our
2549 fallout was exempt.

2550 But nevertheless, there always seems to be a reason that
2551 we will look for when we encounter these odd weather cycles.
2552 So how do we know, as we are sitting here and we are going to
2553 make policy, significant policy that is going to affect the
2554 next three generations of Americans, how do we know that we
2555 are just simply sitting here observing what our naturally
2556 occurring cycles in our climate, what would be the
2557 fingerprint? What would be the signature for evidence that
2558 this is a manmade phenomenon?

2559 Mr. {Karl.} That is an excellent question, and I can
2560 tell you what NOAA is doing is what we actually do is go back
2561 in time and actually simulate in our computers the kinds of

2562 conditions that have occurred that actually lead to various
2563 intensities and frequencies of hurricanes each season. And
2564 one of the things I can say with the American Recovery Act,
2565 we actually now will have access to supercomputing pedaflops
2566 that our computers will be running these models in much
2567 higher resolution mode to be able to pinpoint with greater
2568 accuracy and greater understanding.

2569 Mr. {Burgess.} So right now, we just simply do not
2570 know. We don't have the data that we are required to have.

2571 Mr. {Karl.} We want now. Right now, our--

2572 Mr. {Burgess.} And I don't disagree, and I don't mean
2573 to be disrespectful. I only have a limited amount of time
2574 and Lord Monckton.

2575 Mr. {Karl.} All I can tell you is that the projections
2576 in the future of the models show more intense hurricanes.
2577 Right now, the linkage in terms of a specific attribution
2578 between what we have seen and intense hurricanes still awaits
2579 more scientific study.

2580 Mr. {Burgess.} Lord Monckton, you were wanting to tell
2581 me something.

2582 Mr. {Monckton.} Yes, sir. You wanted to know what the
2583 current state of play is about hurricanes. Over the last 30
2584 years, satellites have monitoring the frequency and intensity
2585 of hurricanes and accumulated cyclone energy index is

2586 compiled, which is a two-year running sum of the frequency
2587 and intensity of all hurricanes, tropical storms around the
2588 equator, and the current value of that accumulated cyclone
2589 energy index is the lowest it has been in the 30 years
2590 globally that has been recorded. So you are quite right.

2591 Mr. {Burgess.} So you will make that data available to
2592 Mr. Karl to plug into the supercomputer?

2593 Mr. {Monckton.} I will give him the graph. It has been
2594 published recently.

2595 Mr. {Burgess.} Wonderful. Look forward to that. Mr.
2596 Chairman, I am going to yield back in the interest of time.

2597 Mr. {Inslee.} Thank you. Appreciate that. Mr. Welch.

2598 Mr. {Welch.} Thank you, Mr. Chairman. Dr. Karl, you
2599 are having this debate here about CO2 concentrations in the
2600 atmosphere, a lot of evidence that they are actually rising,
2601 and whether they are doing so in line with the projections of
2602 the Intergovernmental Panel on Climate Change. My question
2603 is the level of CO2 in the atmosphere easily determined? I
2604 mean is that really a scientific debate about whether we can
2605 measure it? And is it not the case that the level, in fact,
2606 is higher than in the past IPCC projections?

2607 Mr. {Karl.} To answer your question, it is probably the
2608 most confident measurement we can make, and that is the level
2609 of carbon dioxide in the atmosphere. And indeed it is

2610 increasing, and it is due to human causes.

2611 In related to comparison to IPCC, again what IPCC uses
2612 are scenarios, and there are a number of scenarios they use
2613 in terms of how carbon dioxide concentrations would change in
2614 the future without any policy options but with considerations
2615 of economic growth, technology intervention. And if you look
2616 at those scenarios, the current levels of carbon dioxide
2617 concentration are very consistent with those models, in some
2618 respects, might even be a little bit low.

2619 Mr. {Welch.} Thank you. I yield back, Mr. Chairman.

2620 Mr. {Inslee.} Thank you. At this time, the committee
2621 will be in recess. I think about 12:30. Can the panel all
2622 stay with us? Is that acceptable? Thank you for your
2623 courtesy. Mr. Schweiger may not be able to do, but we
2624 appreciate it, and we will be back by about 12:30. Thank
2625 you.

2626 [Recess.]

2627 Mr. {Inslee.} The hearing will convene, and we will
2628 hear from Mr. Stearns--excuse me, Mr. Scalise.

2629 Mr. {Scalise.} Thank you, Mr. Chair. Looks like Mr.
2630 Schweiger has left. Is this gentleman Mr. Kostyack? Can you
2631 answer questions on--there was part of Mr. Schweiger's
2632 written testimony that I have a big issue with is in relation
2633 to his claim that the depths attributed to Hurricane Katrina

2634 are--well the deaths from Hurricane Katrina are attributed to
2635 global warming. He actually attributes 1,800 deaths from
2636 Katrina to global warming, and I understand that he has left.
2637 I am sorry that he has left because I represent a district
2638 that includes many of those areas that were hit by Hurricane
2639 Katrina and in fact incurred some of those deaths. And I
2640 take strong issue with the fact that he would attribute those
2641 deaths to global warming when, in fact, there is substantial
2642 record of documentation that both points out that global
2643 warming had nothing to do with Katrina's deaths but, in fact,
2644 it was the failure of federal levees as well as the problems
2645 caused from coastal erosion.

2646 Now, what documentation, if can speak for Mr. Schweiger,
2647 what documentation did he base his assertion on?

2648 Mr. {Kostyack.} I would be happy to speak for Mr.
2649 Schweiger. We didn't, in our testimony, state that global
2650 warming was directly responsible for that particular--

2651 Mr. {Scalise.} In written testimony--it is in his
2652 written testimony that he submitted right here on page nine.

2653 Mr. {Kostyack.} There is certainly, and we made the
2654 link in the testimony between global warming and that storm
2655 because of the fact that there is extensive scientific data
2656 showing a linkage between the intensification of coastal
2657 storms and global warming. And so, although you can never

2658 pinpoint one particular storm in saying that storm was caused
2659 by global warming, you could certainly say, as we did in the
2660 testimony, that a storm of that nature is becoming more
2661 prevalent in this era of warming. And I would defer to my
2662 colleague from NOAA to give you the citations to the papers.
2663 But there is extensive literature in this area.

2664 Mr. {Scalise.} And I will read his quote. ``Increases
2665 in weather-related disasters associated with global warming
2666 carry more than an economic cost. The perils of weather-
2667 related disasters are exemplified by Hurricane Katrina, which
2668 caused one million evacuees to flee and more than 1,800
2669 deaths.''

2670 Now, I would urge you to go and read the report by the
2671 Army Corps of Engineers who acknowledges that the failure of
2672 federal levees is what lead to the deaths from Hurricane
2673 Katrina as well as the increased damage done by storms over
2674 the years due to coastal erosion, which at the state level,
2675 the state is working on restoring the coast, which is a very
2676 important issue for blocking future storms.

2677 But I would just urge you to spread that word back to
2678 Mr. Schweiger that I think it diminishes his credibility when
2679 he makes statements attributing deaths from Katrina to global
2680 warming to try to further his cause because that had nothing
2681 to do with it. And if he has some proof that carbon

2682 emissions had anything to do with the failure of those
2683 levees, tell him to get that information to the Corps of
2684 Engineers because no one has ever asserted that up until this
2685 point.

2686 I see Lord Monckton nodding. If you had anything you
2687 wanted to add to that, Lord Monckton.

2688 Mr. {Monckton.} Certainly, sir, with pleasure. Mr.
2689 Justice Burton in the high court considered this matter
2690 because, of course, Al Gore has also in his sci-fi comedy
2691 horror movie attributed the Hurricane Katrina to global
2692 warming. And Mr. Justice Burton, after hearing very careful
2693 evidence from both sides, including our own meteorological
2694 office, which tends to share the views of your NOAA over
2695 here, came to the very firm conclusion that that link cannot
2696 be established.

2697 And it is also worth recording that Hurricane Katrina
2698 was only a category three at the point where it made
2699 landfall. And as you have rightly said, sir, the real
2700 failure here was the failure of the local administration--I
2701 cannot for the moment remember which party it is--to make
2702 sure that the levees were adequately maintained.

2703 Mr. {Scalise.} The Army Corps of Engineers, which
2704 actually issued a report acknowledging that those levees
2705 failed in a way that they should not have failed for a

2706 category three.

2707 Following up on a point you made about Al Gore, because
2708 Al Gore has said on record that the UN is wrong and sea
2709 levels may rise upwards of 20 feet by the end of the 20th
2710 Century. Do you prescribe to that view that Al Gore has--

2711 Mr. {Monckton.} I have recently consulted the world's
2712 foremost expert on sea level, Professor Neals Axcel Murner,
2713 who has written 520 papers on the subject. He tells me that
2714 sea level in the last century rose eight inches compared with
2715 an average centennial rate of rise over the past 10,000 years
2716 of four feet per century. And his best estimate is that it
2717 will be another eight inches. Now, the UN says perhaps 1.5
2718 as its central estimate in the whole of the next century.

2719 Mr. {Scalise.} And I am about to run out of time. One
2720 last question, Lord Monckton. Over the past decade or so,
2721 have temperature observations verified the model predictions
2722 that we keep hearing about?

2723 Mr. {Monckton.} No.

2724 Mr. {Scalise.} Thank you. I yield back.

2725 Mr. {Inslee.} Thank you. Chair will recognize myself.
2726 Mr. Karl, the Right Honorable Lord Third Viscount Monckton of
2727 Brenchley had told us that the earth is cooling, which is an
2728 extraordinary statement giving the unprecedented amount of
2729 scientific consensus to the contrary.

2730 I want to refer you to a slide showing five-year
2731 averages. The NIS GISS data and CRU Hadley data. You have
2732 to look behind you to see it. I am sorry, Mr. Karl. It is
2733 over to your right. These are five-year averages that
2734 basically show temperature in five-year periods. Is it
2735 helpful to look at five-year averages when we are looking at
2736 climate trends?

2737 Mr. {Karl.} It is certainly helpful to average over
2738 longer periods than a few years. And in fact, I just want to
2739 point out that in the IPCC report, the reference to linkage
2740 between human contributions to changes in atmosphere
2741 composition and global warming was over the last 50 years.
2742 And there is a lot of danger in taking that record and
2743 looking at year-to-year variations and talking about cooling
2744 or warming.

2745 Mr. {Inslee.} Thank you. And my next chart, if we can
2746 put the next chart up, I think shows the wisdom of that, that
2747 basically shows annual temperatures which does show the
2748 temperatures in '08 somewhat less than '04. But the trends
2749 are obviously disturbing. And I would trust the 2000 IPCC
2750 scientists.

2751 The next slide please showing observed monthly carbon
2752 dioxide trends as measured at Mauna Loa since 1973 compared
2753 with the emissions scenarios of the IPCC. Will show that in

2754 fact the emissions, actually the concentrations in the last
2755 several years have been higher actually than even the models.
2756 Is that correct?

2757 Mr. {Karl.} Yes.

2758 Mr. {Inslee.} Okay, next slide please. You can help
2759 me. The other slide, it was the first slide of Lord Viscount
2760 Monckton. Yes, I was looking at this. I was intrigued by
2761 your testimony, Lord Monckton, and I was just wondering what
2762 this graph was.

2763 Mr. {Monckton.} That is merely the header sheet so I
2764 know that the slides are up there. In fact, it is the view
2765 from my library in Renneck.

2766 Mr. {Inslee.} Is this a coat of arms? Is that what
2767 they call this in England or--

2768 Mr. {Monckton.} No, sir, that is the four colors, which
2769 is the symbol of the House of Lords, and superimpressed upon
2770 it is the Visacomital Coronet.

2771 Mr. {Inslee.} Thank you. I appreciate that. Lord
2772 Monckton, how much have the seas acidified since industrial
2773 times? By what percentage are there higher concentrations of
2774 the ions contributing to acidic oceans compared to pre-
2775 industrial times? I will just take a number if you can give
2776 it to me.

2777 Mr. {Monckton.} Certainly. There has been no

2778 satisfactory measurement to establish it, but modeling
2779 suggests--and I don't know how reliable the modeling is--that
2780 the pH has reduced by 0.1.

2781 Mr. {Inslee.} And what percentage increase in ions--the
2782 scientists tell me that is a 30 percent increase in the ions
2783 concentration compared to pre-industrial times. And I am a
2784 little stunned by your statement that there is no evidence in
2785 this. In fact, there is overwhelming evidence from multiple
2786 sources that our oceans are becoming more acidic. Most
2787 recently off the coast of Washington State and Tatoosh
2788 Island, which showed the acidification caused by
2789 anthropomorphic, meaning us putting carbon dioxide in the
2790 atmosphere, going into solution and then making the oceans
2791 more acidic is actually accelerating even beyond the models
2792 that it clearly is at extraordinarily high levels compared to
2793 pre-industrial times.

2794 Now, do you think that given the value set that you
2795 bring to this testimony, considering that that can adversely
2796 impact living creatures including coral and phytoplankton at
2797 certain levels, that that is something that we should make an
2798 effort to arrest?

2799 Mr. {Monckton.} No, sir, I don't think you need to
2800 because if we go back a little bit further than the period
2801 you are looking at, and we go back to the Triassic Era where

2802 the most fragile of the corals first evolved, they were the
2803 Aragonite corals, at that time there 6,500 parts per million
2804 of CO₂ in the atmosphere. One can presume therefore that
2805 there would be more CO₂ in the oceans at that time as well.
2806 And the corals did just find. Indeed, that is when they
2807 evolved. So we know from these geological records that the
2808 fears over ocean acidification have been much exaggerated.

2809 Mr. {Inslee.} Well, your testimony is in stark contrast
2810 with the entire rest of the biological and botanical
2811 testimony because you are talking about corals that were
2812 adapted to those conditions. We are talking about corals
2813 that are adapted to our conditions of acidity in the ocean.
2814 They are entirely different species.

2815 In fact, it is shown by new research, so when you go
2816 back home, you can notify them in your country of what we
2817 found in this country, which is acidification at certain
2818 levels, which we will approach in this century, retards the
2819 calcification and the deposition of calcium carbonate. That
2820 is a message from America just so you will know, and we have
2821 lots of literature about this I would be happy to provide
2822 you. Thank you.

2823 Mr. {Monckton.} Without objection, sir, may I introduce
2824 into the record a recent book on the subject by Dr. Craig
2825 Itso, which is a comprehensive review of literature on

2826 precisely this subject? And I think you will find that it
2827 does show a rather different picture.

2828 Mr. {Inslee.} Thank you. We enjoyed--

2829 Mr. {Monckton.} Thank you, sir.

2830 Mr. {Inslee.} Sure, we will insert that in the record.

2831 Mr. Karl, do you have any comments on ocean acidification,
2832 what NOAA's findings have been?

2833 Mr. {Karl.} It is a very important issue that our
2834 agency is looking at, and I am happy to report that we have
2835 some leading researchers in the world. Dr. Richard Feely,
2836 who just recently published a paper pointing out some of the
2837 observations that indicate that the oceans indeed are
2838 acidifying and the projections with continued increase in
2839 carbon dioxide in the atmosphere are for those increases to
2840 have gone up about a tenth in pH, another--not a tenth, a
2841 tenth of a unit. Another one-tenth to two-tenths of a units
2842 with the kinds of concentrations as projected by IPCC.

2843 Mr. {Inslee.} Thank you. Well, I turn to Mr. Stearns
2844 of Florida.

2845 Mr. {Stearns.} Thank you, Mr. Chairman. Lord Monckton,
2846 let me just give you a hypothetical question here that you
2847 might help me with. In mitigation that is the elimination of
2848 CO₂, let us say, for example, the United States adopted cap-
2849 and-trade as well as all the other methods to totally

2850 eliminate energy-producing components that have CO2 emissions
2851 in this country. We totally eliminate it. How long would it
2852 take theoretically to bring back the level of CO2 that we
2853 have in this country today if we were successful in
2854 eliminating it? Is there any studies, or anybody that has
2855 done state-by-state in the United States, for example, my
2856 home state? Or is there any way to evaluate what the
2857 repercussions would be?

2858 Mr. {Monckton.} Let me start state by state. Yes, sir.
2859 The Science and Public Policy Institute publishes state-by-
2860 state surveys of what would happen to global temperatures if
2861 that state were to close down its emissions all together and
2862 go back to the Stone Age without even the right to light a
2863 fire in your caves. And the effect on temperatures is fair
2864 to say on an individual state-by-state basis is negligible.

2865 If you were to close down the entire United States
2866 economy and go back to the Stone Age, then what would happen
2867 is that is going to take you a certain amount of time to do.
2868 As you reduce your production here, since your citizens will
2869 still require much the same in the way of goods and services
2870 they had before, they will have to get them from overseas,
2871 from places like China and India where, alas, the emissions
2872 per unit of production are considerable higher, in some cases
2873 three or four times higher, than they are here.

2874 And therefore the net effect of the United States
2875 shutting down her economy would be to increase carbon
2876 emissions worldwide, achieving the very reverse of the
2877 objective which was however piously intended.

2878 Mr. {Stearns.} Are there any timeframes you could say
2879 this study was done on so you could say theoretically if we
2880 shut down like say over the next seven years before we would
2881 see the CO2 emissions come up to what they are?

2882 Mr. {Monckton.} You would see virtually no decline at
2883 all because so quickly would other countries take up the
2884 production that you forego. If you transfer your jobs and
2885 your industries and your wealth to other countries and get
2886 them to do the work that was once done here, then the uptake,
2887 and therefore the increase in CO2 emissions, will be more or
2888 less immediate.

2889 All you will be doing is shooting yourselves
2890 economically in the foot. Not only for no climatic benefit
2891 whatsoever, but actually you would end up making things
2892 worse. And you would end up making things worse more or less
2893 immediately.

2894 Mr. {Stearns.} You have used that term shooting
2895 ourselves in the foot. I think I will use one of your
2896 assistance, sort of call this kneecap-and-tax which would be
2897 shooting ourselves in the kneecap and then coming back in

2898 taxes and putting us in perilous condition.

2899 Mr. Waskow, I have an article here that says ``Biofuels
2900 pushing up food prices and poverty'' Oxfam that indicates.
2901 And so, you know, we had these well-intended mandates from
2902 ethanol. They were enacted supposedly to help the
2903 environment, and yet there seems to be consequences reading
2904 this article. Shouldn't we be cautious in implementing any
2905 new policy which would have far-reaching effects, such as a
2906 policy that would change the entire energy base of our
2907 country like kneecap-and-tax.

2908 Mr. {Waskow.} Well, I would say that it is absolutely
2909 the case that we need to be careful in designing a policy of
2910 this magnitude. I think that the consequences of climate
2911 charge are so grave, particularly for poor people around the
2912 world and also in this country, that a lot of the care that
2913 must go into it is, in fact, making sure that emissions do
2914 not continue rising in a way that is going to lead to even
2915 greater harm down the road.

2916 And in the near term, since this hearing is focused on
2917 adaptation, I would just note that part of the care that we
2918 must take in designing climate policy is, in fact, to make
2919 sure that those who are being affected now by the current
2920 impacts of climate change are, in fact, having their needs
2921 met and that the adaptation responses and resilience

2922 responses that are necessary are, in fact, being put in
2923 place.

2924 Mr. {Stearns.} Would you state then that you think that
2925 we should scrap all biofuel targets in the world?

2926 Mr. {Waskow.} Well, I mean if the question goes to
2927 whether to entirely remove any policy supporting any kind of
2928 biofuels, that would not be our position. However, we do
2929 think that in the case of biofuels, because of the food
2930 consequences, that targets need to be looked at very closely
2931 in terms of how they may affect food supplies.

2932 And so corn ethanol is an excellent example where we
2933 have serious concerns about what it means to ramp up
2934 production of that because of the food consequences
2935 worldwide.

2936 Mr. {Stearns.} Do you have any percentages that you
2937 could use it ramped it up by? In other words, you talk about
2938 these biofuel mandates. Have they increased global food
2939 prices by any percentage?

2940 Mr. {Waskow.} I am not aware that we have a specific
2941 number that one can attribute to the increase but --

2942 Mr. {Stearns.} The article says biofuels are
2943 responsible for 30 percent of the increase in global food
2944 prices, pushing 30 million people worldwide into poverty, the
2945 aid agency Oxfam said in a report Wednesday.

2946 Mr. {Waskow.} Yeah, I believe that that is--I will
2947 check and happy to get back to you in writing. I believe
2948 that that data reflects World Bank analysis of--in their
2949 annual economic report last year.

2950 Mr. {Stearns.} All right. Thank you, Mr. Chairman.

2951 Mr. {Inslee.} Thank you. Mr. Walden of Oregon.

2952 Mr. {Walden.} Thank you, Mr. Chairman. Mr. Kostyack,
2953 your predecessor at the hearing, Mr. Schweiger, made a
2954 comment that the Boreal Forests are either now or soon to be
2955 giving off more carbon than they are sequestering. And I
2956 wonder if you could speak to why that is.

2957 Mr. {Kostyack.} We are currently seeing a die-off of
2958 forests all around the globe, and it is due to the increased
2959 stress, rising of average surface temperatures around the
2960 globe.

2961 Mr. {Walden.} And would part of the effect of that be
2962 then additional drought conditions and stress on the trees
2963 themselves?

2964 Mr. {Kostyack.} That is correct.

2965 Mr. {Walden.} And so what is the proper intervention,
2966 if you are a forester, to help ameliorate that problem?

2967 Mr. {Kostyack.} Well, a number of ideas have been
2968 suggested. There is no easy answer. Much more research will
2969 be needed to manage our way through this problem. Obviously

2970 the first step is we need to cut global carbon emissions
2971 because we are not going to be able to adapt our way out of
2972 this problem.

2973 Mr. {Walden.} So you don't think managing the forests
2974 back to a more balanced system is an answer?

2975 Mr. {Kostyack.} No, that is where I was heading next.
2976 My point is--

2977 Mr. {Walden.} I am sorry.

2978 Mr. {Kostyack.} --that forest management by itself will
2979 not solve this problem. That the first step will be to cut
2980 carbon emissions. We will not be able to address massive
2981 die-offs of forests we are seeing around the globe, unless we
2982 start there.

2983 The second will be to look at natural resources
2984 adaptation efforts, and that involves more scientific
2985 research. It involves storing as much ground water as
2986 possible. It means forest management to reduce some of the
2987 fuel load to avoid unnecessary catastrophic fires.

2988 Mr. {Walden.} I appreciate especially that last point.
2989 I represent a district of 70,000 square miles, 10 or 11
2990 national forests. We have forests there that are completely
2991 overstressed right now today. 500 of the Wynema National
2992 Forest. There is about 500 square miles the bugs have been
2993 eating away at for a decade. It is ready to explode, and yet

2994 there are many organizations who care passionately about
2995 global climate change and CO2 emission reductions that
2996 consistently, repeatedly, and aggressively appeal every
2997 proposal to go in and do thinning operations on these forests
2998 to get them back into balance with nature frankly because
2999 they--you can let them get back in balance a couple ways.

3000 You can let catastrophic fire just wipe out the stand.
3001 Or we can go in and using--and I think there is a pretty good
3002 basis of scientific knowledge on the number of trees per acre
3003 that would be historically correct. And yet the same
3004 organizations are opposing it. So I guess my question is--
3005 and, Mr. Monckton, maybe you want to--Lord Monckton, I am
3006 sorry. Maybe you want to speak to this as well.

3007 I know we sort of have this existing exchange policy in
3008 the world where we don't manage our federal forests in
3009 America. We would rather rape and pillage forests around the
3010 globe for our wood. And I am not exaggerating here. I mean
3011 60 percent, I think, of Oregon's forest land is federal, and
3012 it represents 6 percent of the trees that are actually
3013 harvested.

3014 I have counties that are at 19.7 percent unemployment.
3015 These folks--I was just out there. They don't understand why
3016 the forests are allowed to burn up around them, and they
3017 can't even cut burned dead trees while they still have value.

3018 And what they further don't understand is that their
3019 heating bills are going to go up dramatically under cap-and-
3020 trade. And the one manufacturer that is kind of left in
3021 eastern Oregon makes cement, the Ashcome Cement Plant, and
3022 they figure they will probably have to close. Now, I don't
3023 know how this helps people in poverty.

3024 Mr. {Monckton.} Sir, I sympathize with you entirely.
3025 The one thing you don't want to do in the present economic
3026 circumstances is start closing down the few industries that
3027 still remain in the name of the Chimera of global warming,
3028 which visibly hasn't been happening for the last seven years,
3029 though it has been happening for the last 300. During at
3030 least 270, we could not have had anything to do about it.

3031 As for the management of trees, you are quite right. It
3032 is essential that proper fire breaks be cleared and
3033 maintained so as to prevent forest fires. Forest fires are
3034 not new. They are not a consequence of global warming. They
3035 occur naturally. They are, in fact, a part of the natural
3036 process by which forest manage themselves. But if one wishes
3037 to minimize that, you must have fire breaks. And that is
3038 what we do in the U.K.

3039 Mr. {Walden.} Plus we are finding that even the old
3040 growth trees now are getting stressed because some years of
3041 drought. When they get stressed, then they bugs come in, and

3042 they kill the old growth trees, which many people would like
3043 to preserve. So it really is a problem.

3044 Let me shift gears because I only have 30 seconds left.
3045 My district also is home to some of the most active wind
3046 energy development out there, and our grid in the Northwest
3047 will soon have more wind on it than any other grid by
3048 percentage in the country.

3049 The question has recently come up by some groups that--
3050 and I thought this had been resolved--that wind energy and
3051 the wind turbines are killing raptors and birds. And so I
3052 would go to the Wildlife Federation. Is that the view of
3053 your organization that the wind energy we are putting in is--
3054 I thought they had designed around this problem.

3055 Mr. {Kostyack.} There are some negative impacts on
3056 wildlife from wind energy development. That being said,
3057 these problems can be worked out. There are technical
3058 solutions. I mean let us recognize, first of all, just
3059 installing the wind power by itself will take out some
3060 habitat. And then there are some collisions we would need to
3061 address both with birds and bats.

3062 We are very much supportive of building out a massive
3063 wind energy--

3064 Mr. {Walden.} That is what I thought.

3065 Mr. {Kostyack.} And it is fundamental to the solution

3066 of global warming. This goes through our overall message
3067 here today. We are going to need to have a major investment
3068 in natural resources adaptation. And that means a lot of
3069 public outreach for people to understand some of these
3070 tradeoffs. There is no free energy source, and so we are
3071 going to have to find ways to minimize wind impacts. There
3072 are ways to place these renewable energy systems in the most
3073 degraded areas or areas where there is also essentially a
3074 human footprint and trying to protect those pristine areas.

3075 But at the same time, we have to get this wind energy
3076 complex built.

3077 Mr. {Walden.} But at the end of the day, you kind of
3078 have to put it where the wind is.

3079 Mr. {Kostyack.} That is one of the key factors to look
3080 at, yes.

3081 Mr. {Walden.} Yeah, all right. Thank you. My time has
3082 run out, Mr. Chairman. Thank you all. I appreciate your
3083 testimony from all of you.

3084 Mr. {Inslee.} Thank you. With unanimous consent, the
3085 chair will put into the record a letter dated March 24, 2009
3086 from the Outdoor Industry Association and another one from a
3087 group of organizations including the League of Women Voters,
3088 dated March 25, 2009.

3089 I would extend an opportunity to any of you who feel a

3090 burning passion to make another one-minute statement on
3091 anything you didn't have a chance to say. We want to make
3092 sure the witnesses have a chance to respond to any of the
3093 questions you asked. If any of you would like to take a
3094 minute to extend your comments, feel free to do so. Mr.
3095 Karl, if you would like to. Don't feel compelled by the way.

3096 Mr. {Karl.} No, I don't. I just want to--

3097 Mr. {Shimkus.} Mr. Chairman, may I ask a question?

3098 Mr. {Inslee.} Certainly.

3099 Mr. {Shimkus.} Does that mean we get a chance for a 1-
3100 minute response to their 1-minute question?

3101 Mr. {Inslee.} If Mr. Shimkus would like, I would
3102 certainly--

3103 Mr. {Shimkus.} I mean I am just trying to find out the
3104 rules here.

3105 Mr. {Inslee.} I would be happy to extend a minute to
3106 Mr. Shimkus for sure if that is so ordered by the two
3107 consensus builders of Shimkus and Inslee. Mr. Karl?

3108 Mr. {Karl.} Yeah, I just wanted to thank the committee
3109 for addressing this extremely important issue and note that
3110 there is enormous amount of climate change science that is
3111 available today. The major challenge for our agency, which
3112 we hope to be able to address in the short few years ahead is
3113 to take that science and be--make it available to help make

3114 decisions, practical decisions, that are required from a
3115 local scale all the way up to national and international
3116 scales. Thanks.

3117 Mr. {Inslee.} Thank you. Mr. Stephenson?

3118 Mr. {Stephenson.} I would parrot that, but I think we
3119 have an information shortage here, especially at the local
3120 level such that we are not prepared to make economic
3121 decisions yet. We need the data first before we can do the
3122 cost/benefit tradeoffs on what is going to be worth the
3123 investment and what is not.

3124 And the same is true with the cap-and-trade bill, from
3125 the way you design it, how expensive or not it is going to be
3126 and whether the benefits are worth the cost. So I just don't
3127 think we are there yet. I think we need to negotiate the
3128 specific details of any legislation and see what that means
3129 before we can say universally that it is going to cost jobs
3130 and tank the economy.

3131 Mr. {Inslee.} Mr. Waskow.

3132 Mr. {Kostyack.} Mr. Inslee, thank you, Chairman, for
3133 the opportunity. Very much want to associate myself with my
3134 colleague's remarks about the need for more additional
3135 scientific research. If you look at the overall agenda for
3136 natural resources adaptation, we have to recognize, first of
3137 all, we are playing major catch-up on the scientific research

3138 here.

3139 There have been a lot of investment on the mitigation
3140 side. We are really just getting going on adaptation. That
3141 being said, there are many, many things that the scientists
3142 already agree on that are essentially no-regrets strategies
3143 for making our natural systems more resilient to harmful
3144 impacts of climate change. And we have heard some of them
3145 today, whether it is buffering people and wildlife from
3146 coastal storms by rebuilding wetlands complex, we should be
3147 doing those now. The longer we wait, the more difficult and
3148 expensive it gets.

3149 And so when we came here today and advocated for a very
3150 substantial large-scale investment in natural resources
3151 adaptation as part of climate change, this is something we
3152 can demonstrate today has far greater economic benefits than
3153 the cost. And there is no reason to hesitate.

3154 Mr. {Inslee.} Thank you. Dr. Beisner.

3155 Mr. {Beisner.} I would just simply ask the members of
3156 the committee to study very carefully the results of the
3157 findings of the Copenhagen consensus, which attempts to rank
3158 a variety of different responses to climate change, assuming
3159 the IPCC's scenarios to be accurate, ranks the variety of
3160 different responses, and responses to other problems pressing
3161 upon mankind.

3162 We don't have infinite resources. There are opportunity
3163 costs, and I think there are things that need to take much
3164 higher priority than anything we can do in either mitigation
3165 or adaptation in response to climate.

3166 Mr. {Inslee.} Lord Monckton.

3167 Mr. {Monckton.} Thank you, sir. Don't do cap-and-
3168 trade. Remember the poor. Remember your taxpayers. Beware
3169 rent seekers, particularly from the scientific community.
3170 Remember the warning of Eisenhower against the technocrats
3171 who would eventually take over and try to push you in various
3172 directions. Pay no attention. Keep your spending down as a
3173 state and as a nation, and God bless you all.

3174 Mr. {Inslee.} Mr. Waskow.

3175 Mr. {Waskow.} Thank you, Mr. Chairman. I would like to
3176 address two things quickly. First of all on the Katrina
3177 issue. I would agree that there was a massive failure of the
3178 levees. There was also a failure of the emergency response
3179 system, but I think the lesson that we should draw from this
3180 is what is necessary in the context of increasing risk from
3181 climate change. And as we have increasing risk on the one
3182 hand, we also have to have resilience and adaptive strategies
3183 on the other hand going together.

3184 And so dealing with the levees is not--or our emergency
3185 response system is not something separate and apart from

3186 addressing climate change. It should be integrated and
3187 should be integrated as well with a dramatic reduction in
3188 emissions.

3189 The second thing I just wanted to quickly address is the
3190 question of renewable energy in developing countries. And
3191 without getting into detail, just to say that our view is
3192 that renewable energy does, in fact, have many benefits in
3193 the development context. And often, in fact, renewable
3194 energy is what is going to be necessary for the poorest
3195 around the world to be able to have access to modern energy
3196 sources.

3197 Mr. {Inslee.} Thank you. Bishop?

3198 Bishop {Holloway.} Thank you very much. I thought it
3199 was very aptly put earlier by Mr. Shimkus that God has no
3200 intention of destroying what He has created. He has placed
3201 upon us, in addition to that, a covenant that we must honor
3202 with Him, but also with one another in the care of the earth.
3203 This is part of our responsibility as good stewards.

3204 It is also part of our responsibility to care for one
3205 another as we do this. There are others who are affected by
3206 what is going on with the changes in the climate and have no
3207 way of dealing with it in a way that is life sustaining or
3208 capacity building.

3209 We are committed to do that and continuing that work and

3210 call upon Congress at this time, not only to carry out its
3211 traditional responsibilities as well as it has in the past,
3212 but also to take leadership in thinking for those of us and
3213 to advocate for those of us who cannot speak for ourselves.
3214 Thank you very much.

3215 Mr. {Inslee.} Thank you. Mr. Shimkus, would you like
3216 to make a comment?

3217 Mr. {Shimkus.} Yeah. Thank you, Mr. Chairman. You
3218 know to assume that man can control the world's climate is a
3219 very dangerous and a very arrogant position. It reminds me
3220 of the biblical story of the Tower of Babel when man thought
3221 they could build a tower to reach God. It was in their
3222 arrogance that they thought they could do things that only
3223 God can do.

3224 What hasn't been talked about a lot--I think the impact
3225 on the poor has been talked about, the rural areas, the job
3226 dislocation. I think we have ferreted that out. What I
3227 would ask you all to look at is especially the climate cap-
3228 and-trade, cap and tax, this trading floor. Numerous times,
3229 my colleagues on the other side have attacked the New York
3230 Mercantile Exchange. Farmers have always attacked the
3231 Chicago Board of Trade because big money interests go into
3232 these, and it is an area for big money to make big money by
3233 setting the price for carbon on a trading floor. They will

3234 be held accountable when they attack the trading floor venue,
3235 as they always do, in this failed policy. Thank you, Mr.
3236 Chairman.

3237 Mr. {Inslee.} Thank you. Mr. Scalise, would you like
3238 to make a comment?

3239 Mr. {Scalise.} Thank you, Mr. Chairman. I would point
3240 out that the National Hurricane Center actually tracks
3241 hurricanes over the last 150 or so years, and you might not
3242 be able to see this where you are sitting, but there have
3243 actually been periods going back over 100 years where there
3244 were higher numbers of hurricanes and bigger hurricanes than
3245 Hurricane Katrina. But clearly the devastation that was
3246 caused from Katrina and the deaths related to it were caused
3247 by, number one, failure of federal levees, but also the
3248 erosion of the coast, none of which has anything to do with
3249 changing and climate temperatures.

3250 And clearly I think the science on global change is not
3251 settled. One thing that is settled is the cost, the cost to
3252 this country. Peter Orszag, President Obama's own budget
3253 director stated before this committee that this type of
3254 policy, cap-and-trade policy and energy tax, would actually
3255 cost every American family over \$1,300 a year in increased
3256 energy costs that they would be paying.

3257 For those people that think people making below \$250,000

3258 a year won't pay a dime, you give them that \$1,300 bill, you
3259 are going to have a hard time explaining it to them. That
3260 one area is settled as a result of this policy that we should
3261 defeat, and I yield back.

3262 Mr. {Inslee.} Thank you. I just would like to point
3263 out we have one of our witnesses from the Cornwall Alliance
3264 for the Stewardship of Creation, and I would just suggest
3265 that fulfilling our stewardship responsibility does not
3266 involve destroying all creatures great and small, the Lord
3267 God made them all. And in fact, that is what is going on
3268 right now.

3269 And I don't think we can help the polar bear adopt.
3270 They are gone unless something changes in our climate policy.
3271 I don't think the people of Shishmaref are going to have a
3272 problem there. Their city in Alaska is melting in the sea.
3273 We can't just tell them they are just going to have to pick
3274 up and move to Florida. It is just not their cup of tea, and
3275 it is not all right to make them move.

3276 And I would suggest that we appreciate wisdom from all
3277 over the country, but the Englishman I will be listening to
3278 is Sir Isaac Newton, whose physical laws are quite well
3279 accepted as is the science on everything we have been talking
3280 about here today. Thank you very much.

3281 Mr. {Monckton.} Until Einstein.

3282 [Whereupon, at 1:10 p.m., the subcommittee was
3283 adjourned.]