Reed	Shaheen	Walsh
Reid	Stabenow	Warner
Rockefeller	Tester	Warren
Sanders	Toomey	Whitehouse
Schatz	Udall (CO)	Wyden
Schumer	Udall (NM)	

NAYS—34

Alexander	Cruz	Portman
Barrasso	Enzi	Risch
Blunt	Fischer	Roberts
Boozman	Grassley	Rubio
Burr	Hoeven	Scott
Chambliss	Inhofe	Sessions
Coats	Isakson	Shelby
Coburn	Johanns	Thune
Cochran	Johnson (WI)	Vitter
Corker	McConnell	Wicker
Cornyn	Moran	
Crapo	Paul	

NOT VOTING—4

Begich	Kirk
Harkin	McCain

The PRESIDING OFFICER. On this vote, the yeas are 62 and the nays are 34.

The motion is agreed to.

LEGISLATIVE SESSION

The PRESIDING OFFICER. Under the previous order, the Senate will resume legislative session.

VICTIMS PROTECTION ACT OF 2014

The PRESIDING OFFICER. The clerk will report the pending business.

The assistant legislative clerk read as follows:

A bill (S. 1917) to provide for additional enhancements of the sexual assault prevention and response activities of the Armed Forces.

The bill was ordered to be engrossed for a third reading and was read the third time.

Mr. COATS. Mr. President, I ask for the yeas and nays. Is there a sufficient second? There appears to be a sufficient second.

The PRESIDING OFFICER. The bill having been read the third time, the question is on the passage of the bill.

The yeas and nays are ordered.

The clerk will call the roll.

The legislative clerk called the roll.

Mr. DURBIN. I announce that the Senator from Iowa (Mr. HARKIN) is necessarily absent.

Mr. CORNYN. The following Senators are necessarily absent: the Senator from Illinois (Mr. KIRK) and the Senator from Arizona (Mr. MCCAIN).

The PRESIDING OFFICER. Are there any other Senators in the Chamber desiring to vote?

The result was announced—yeas 97, nays 0, as follows:

[Rollcall Vote No. 62 Leg.]

YEAS—97

Alexander	Cantwell	Cruz
Ayotte	Cardin	Donnelly
Baldwin	Carper	Durbin
Barrasso	Casey	Enzi
Begich	Chambliss	Feinstein
Bennet	Coats	Fischer
Blumenthal	Coburn	Flake
Blunt	Cochran	Franken
Booker	Collins	Gillibrand
Boozman	Coons	Graham
Boxer	Corker	Grassley
Brown	Cornyn	Hagan
Burr	Crapo	Hatch
Heinrich	McConnell	Schumer
Heitkamp	Menendez	Scott
Heller	Merkley	Sessions
Hirono	Mikulski	Shaheen
Hoeven	Moran	Shelby
Inhofe	Murkowski	Stabenow
Isakson	Murphy	Tester
Johanns	Murray	Thune
Johnson (SD)	Nelson	Toomey
Johnson (WI)	Paul	Udall (CO)
Kaine	Portman	Udall (NM)
King	Pryor	Vitter
Klobuchar	Reed	Walsh
Landrieu	Reid	Warner
Leahy	Risch	Warren
Lee	Roberts	Whitehouse
Levin	Rockefeller	Wicker
Manchin	Rubio	Wyden
Markey	Sanders	
McCaskill	Schatz	

NOT VOTING—3

Harkin	Kirk	McCain

The bill (S. 1917) was passed.

The PRESIDING OFFICER. The majority leader.

UNANIMOUS CONSENT AGREEMENT—EXECUTIVE CALENDAR

Mr. REID. Mr. President, I ask unanimous consent that notwithstanding rule XXII, all postcloture time be expired and the vote on confirmation of Calendar No. 563 occur at 10:30 a.m. on Wednesday, March 12, 2014; further, that on Tuesday, March 11, 2014, at 11:30 a.m., the Senate proceed to vote on cloture on Executive Calendar Nos. 577, 578, 579, and 580; further, that if cloture is invoked on any of these nominations, notwithstanding rule XXII, all postcloture time be expired and the votes on confirmation of the nominations occur on Wednesday, March 12, following disposition of the McHugh nomination, in the order upon which cloture was invoked; further, that following Senate action on these nominations, the Senate proceed to vote on confirmation of Calendar No. 512; further, that there be 2 minutes for debate prior to each vote and all rollcall votes after the first vote in each sequence be 10 minutes in length; further, that following disposition of Calendar No. 512, the Senate resume legislative session and proceed to consideration of Calendar No. 309, S. 1086, the childcare and development block grant bill.

The PRESIDING OFFICER. Is there objection?

Without objection, it is so ordered.

ORDER OF PROCEDURE

Mr. REID. I ask unanimous consent that Senator AYOTTE be recognized for up to 3 minutes to comment on the passage of S. 1917; further, that following her remarks, the Senate proceed to a period of morning business; that the time be controlled in alternating 45-minute blocks, with the majority controlling the first 45 minutes.

The PRESIDING OFFICER. Is there objection?

Without objection, it is so ordered.

The PRESIDING OFFICER. The Senator from New Hampshire.

VICTIMS PROTECTION ACT

Ms. AYOTTE. Mr. President, I thank my colleague Senator MCCASKILL, as well as Senator FISCHER. The Senate voted 97–0—unanimously—to support the Victims Protection Act. This act builds on important work that was done in the Defense authorization bill to ensure that victims of sexual assault in the military will be treated with dignity and respect; that there will be full accountability for commanders to ensure the climate within their unit is one of zero tolerance toward sexual assaults; and that when a victim comes forward, that victim—male or female—is supported within this system.

The Victims Protection Act, passed today by a vote of 97–0—and few things in the Senate pass with a 97–0 vote—will ensure there is another level of review when a commander disagrees with the recommendation of a prosecutor to prosecute a sexual assault case. It will then go up to the civilian secretary for another level of review.

The bill also ensures commanders are judged in their evaluations on the climate within their unit for addressing sexual assault and how they handle these types of cases.

It also eliminates the so-called good soldier defense. Because even if you have been a good soldier, if you have committed sexual assault, you need to be held accountable for your actions. So this bill will ensure people who are perpetrators are held accountable for their actions.

The bill also allows important input from the victims so they can have a say as to whether they believe a case should be brought in a military or a civilian system for prosecution.

This act adds on the important work we have done together in the Defense authorization bill but it is not the end. We will continue in the Armed Services Committee to make sure the reforms that have been passed are implemented, that commanders are held accountable for a climate of zero tolerance within their units, and that victims of sexual assault are treated with dignity and respect and know they will be supported if they come forward to report.

So I thank the Chair, and I again thank Senator MCCASKILL for her leadership on this bill. So few things pass in this body unanimously, but this shows the bipartisan commitment we have to stopping this scourge of sexual assault in the military.

I yield the floor.

MORNING BUSINESS

CLIMATE CHANGE

The PRESIDING OFFICER. The majority leader.

Mr. REID. Mr. President, just last week one of the world's most well-known spiritual leaders, His Holiness the 14th Dalai Lama of Tibet, visited the Capitol. He talked about the moral

imperative to protect the planet we call home. The Dalai Lama spoke with passion and longing of his native Tibet, where mountain snows melt in spring to feed the rivers to provide Bangladesh, China, India, Nepal, and Pakistan with water.

The Himalayas are sometimes called the ''third pole'' because they contain nearly a third of the world's nonpolar ice. But in recent years, manmade climate change has caused milder winters, less snow, and less water for 1.3 billion people living downstream from Tibet.

In the Western United States we face a similar problem. For more than a decade drought has plagued the Colorado River, both upstream and downstream—the lifeblood of a number of Western States, including Nevada, California, Arizona, and other States.

During this period of time, we have had some so-called average snows in the Upper Colorado but none of it reaches the river. The climate has changed. Milder winters have meant less Rocky Mountain snowpack and less spring runoff to feed the river. Combined with more extreme summer heat and other issues connected with climate change, the shrinking western snowpack threatens the water source for more than 30 million people. Far more than 30 million people, because 38 million people in California are affected very adversely because of what is going on with the Colorado River.

The seriousness of this climate problem is not lost on the average American. The vast majority of Americans believe climate change is real. They believe it is here.

A quarter century ago the first President Bush promised to use ''the White House effect'' to combat the ''greenhouse effect.'' That is what President Bush said, but not much has happened, I am sorry to say.

Despite overwhelming scientific evidence and overwhelming public opinion, climate change deniers still exist. There are lots of them. They exist in this country. They exist, I am sorry to say, in this Congress—in the House and in the Senate.

So I am very grateful to Senator SCHATZ, Senator WHITEHOUSE, and the chairman of the very important environmental committee, Senator BOXER, and many other Senators who will join this climate change debate and presentation tonight for standing up against the deniers.

Climate change is real. It is here. It is time to stop acting as though those who ignore this crisis—for example, the oil baron Koch brothers and their allies in Congress—have a valid point. They don't. Climate change is here. Climate change has brought harsh and drastic situations all over our country.

In the last few years alone, the Midwest has experienced the most punishing drought since the Great Depression. Wildfires have ravaged the West, with places burning which have never burned before. The mighty Mississippi nearly ran dry, and barge traffic had to be brought to a stop because the river wasn't deep enough for them to travel.

While record droughts affected some parts of the United States, torrential rains and extreme thunderstorms struck others. Temperatures topped 60 degrees in Alaska in January. February brought a blanket of snow and ice to Atlanta, GA—the South.

In other parts of the world, glaciers and ice sheets which have been frozen for tens of thousands of years are melting and melting quickly. Fires have consumed vast forests and monsoons and superfloods left millions homeless all over the world. Since this new year, the United Kingdom has had its wettest winter perhaps ever but far more than in the last 100 years. Tokyo, Japan, in a period of a little over 2 weeks, got 4 years' worth of snow. Australia experienced its hottest summer in the history of Australia.

The vast majority of scientists say this is just the beginning of the ravages of our world changing. Dozens of reports from scientists around the globe link extreme weather to climate change, and the more extreme climate change gets, the more extreme the weather is going to get. Everyone has to understand that. It is easy to see the urgency to confront climate change, but this challenge is also an opportunity—and it truly is.

We have the ability now to reduce our reliance on oil and other fossil fuels, increase our production of clean energy, and create good-paying jobs which can never be outsourced. We have the ability to choose the kind of world in which we live. We have that choice.

In Nevada we have done some good things. We have chosen clean renewable energy as we retire older polluting powerplants. We only have one left. We imported millions of tons of coal.

I remember I was in the House of Representatives and one powerplant was on its way out. Al Matteucci, attorney for Nevada Power, was telling me that little powerplant was importing 2 million tons of coal a year. I said: What are you talking about? I thought, 2 million tons of coal? But that is the way it was, just one relatively small powerplant. We are no longer doing that in Nevada. We have only one coal-fired plant left, and we have done this by going of course to some natural gas, but we have done so many good things with renewable energy. With geothermal we finally passed California. We are the most productive State in the Union with geothermal energy.

We have done other things with renewable energy. This old plant I just talked about, where millions of tons of coal came in every year, why are we getting rid of that? For lots of reasons. But one reason is this polluting powerplant, built on Paiute Indian land in Moapa, NV, about 35 miles outside of Las Vegas, during the Johnson administration was closed.

Next week, a week from this coming Friday, we are going to have a groundbreaking on the Moapa land, where they are going to have hundreds and hundreds of jobs because they are going to produce huge amounts of energy through solar, and that energy is going to go to California. We have huge amounts of solar energy all over the State of Nevada and we are shipping it to California because California did the right thing. They passed a law saying by a certain period of time one-third of all their power must come from renewable sources. This is a progressive State. It is important, and we are helping them meet those demands, but we are also doing a lot to produce our own energy.

I talked about this powerplant. The powerplant, Moapa, at this Indian reservation, is the first solar project to be built on tribal lands—certainly in Nevada and likely in the whole country.

The largest solar plant in the world opened last month on the Nevada-California border, the largest one in the world. Dozens of geothermal wells on public lands power the cities of Reno and Sparks in northern Nevada. Because some of Nevada's best renewable energy resources are located in the rural areas, we recently completed a power line connecting renewable energy sources. It was part of the Obama program to help stimulate the economy, which certainly has done that all over the country, but it certainly has done it in Nevada. We have this power line connecting the northern part of the State and the southern State for the first time ever.

What is being put into that power line? Renewable energy. Solar, wind, geothermal. This power line connecting renewable energy resources with the people and businesses that need them and making the electric grid more efficient is a part of what we used to talk about all the time, a smart grid. It is actually here. Nevada is the first place where we actually have Federal programs which got us the smart grid. We have permission to take this power line from northern Nevada to southern Nevada, now into the great Northwest.

So we are doing some good work. This is what the smart grid is all about. Nevada has proven it is very easy to reduce our reliance on fossil fuels, which is good for the economy and good for the environment.

But as the Dalai Lama said:

> We have the capability and the responsibility to act. But we must do so before it is too late.

He went on further to say:

> This . . . is not just a question of morality or ethics, but a question of our own survival.

I believe him.

I ask unanimous consent that following my opening remarks the following Senators be recognized for up to 90 seconds in the order listed: DURBIN, SCHUMER, MURRAY, BOXER, WHITEHOUSE, SCHATZ, FEINSTEIN, WYDEN, NELSON, CANTWELL, CARDIN, KLOBUCHAR, UDALL of Colorado, UDALL of New Mexico, SHAHEEN, MERKLEY, BENNET, FRANKEN, COONS, BLUMENTHAL,

HEINRICH, KING, KAINE, WARREN, MARKEY, BOOKER, and GILLIBRAND.

The PRESIDING OFFICER. Without objection, it is so ordered.

The assistant majority leader.

Mr. DURBIN. Mr. President, in this Chamber we spend a lot of time debating how our actions will affect future generations and the obligations we have to leave future generations a better nation and a better world.

Nowhere is this responsibility more apparent than when it comes to the issue of climate change. It is critical we leave our children and grandchildren a sustainable planet with a promising, bright future.

We can no longer shy away from the fact that over 98 percent of all working climate scientists believe that human activities have led to climate change. The Intergovernmental Panel on Climate Change has found it to be unequivocal that the world is warming due to human activities. The existence of manmade climate change is not a debatable issue, nor is it a vague or distant threat. It is a situation which requires serious attention immediately.

I have heard it said there is only one major political party in the world which denies what I just said: the scientific evidence which points to climate change and the fact the world we are living in is changing with extreme weather patterns the life we lead and the future for many generations.

I hope, during the course of this debate, if the Republican Party comes to the floor, they will dispute what I just said. I am calling on them to name any other major political party in the world which agrees with the proposition that they stand for, questioning whether there is scientific evidence supporting climate change. I believe there is, and I believe we should act now.

The PRESIDING OFFICER. The Senator's time has expired.

The Senator from New York.

Mr. SCHUMER. Mr. President, I thank my colleagues. They did an amazing job on the Climate Action Task Force, particularly Senators BOXER and WHITEHOUSE, who led the task force, and the indefatigable new Member Senator SCHATZ for organizing and coordinating this effort.

The overwhelming majority of the world's scientists believe humans are changing the Earth's climate. Climate deniers like to claim there are competing stories about whether this is true, usually pushing polluter talking points that there is not a scientific consensus on climate change. We know this is utterly false, and I would pose the following question to my colleagues who think ''the jury is still out'' on climate change: If you went to 100 doctors and 98 of them said you were sick and should take medicine, but two told you that you were fine and should do nothing, what would you do?

Climate change deniers need to wake up and realize the scientific diagnosis about warming the planet is real. We need to take action, much of which will be outlined tonight. I hope my colleagues and the American people are listening.

I yield the floor.

The PRESIDING OFFICER. The Senator from Washington.

Mrs. MURRAY. Mr. President, as a member of the Senate Climate Action Task Force, I am very proud to join with all of our colleagues to talk about an action which is needed.

Climate change is real. We have seen it in the overwhelming scientific evidence which is occurring today. It is not just about science. It is impacting all of us. We see the rise in asthma attacks. We see the impacts in my home State of Washington. I hear this concern from my constituents, and we know rising sea levels are threatening all of us. We see it in our rural communities where we are seeing drought. We are seeing it in our forests where the dry weather is turning our woods into kindling. We see it in our local fishing communities where ocean acidification is hindering our shellfish development. These impacts have enormous costs. They are devastating to our families and communities who are suffering from droughts, superstorms, and wildfires.

But it is not just an environmental issue; it is not just a health issue. It is a budget issue. It is not just about rising temperatures; it is about rising costs. As chair of the Budget Committee, I can tell you this issue is a burden to our taxpayers. Federal disaster recovery spending alone has increased year after year as the number and size of weather-related disasters rise. These costs will continue if we don't act.

The PRESIDING OFFICER. The Senator's time has expired.

Mrs. MURRAY. We know the jobs we can create with new economic opportunities of climate change will help bring us out of the budget deficits we face.

I congratulate all of our colleagues who are here tonight to talk, and I yield the floor.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. Mr. President, we know all Senators care deeply about their constituents and their families. If any one of us saw danger looming, we would do everything in our power to save them. Yet in the face of irrefutable scientific agreement, the Senate does nothing to make sure polluters pay for the carbon they emit, which would move us toward a clean energy economy and away from catastrophic climate change.

Yes, there is money, big money, behind the polluters. Yes, those polluters are raging against us with layers of lies. Yet and still the environment which used to be a bipartisan issue has turned truly bitterly partisan, but we cannot and we must not and we will not give in because it is our job. We must preserve our environment for our people, which is pretty basic.

The deniers have given in to the power of wishful thinking, just as those defending cigarette addiction did.

To those who would say let China lead, I say this is shameful. In China 1.2 million people died in 2010 from air pollution. That is a fact, not a fantasy. America doesn't sit around and wait for someone else to protect the health and safety and the quality of life of our people. It is wrong. So I am so proud tonight to stand with my resolute colleagues as we fight back against those polluters who would put their self-interests ahead of the salmon we have sworn to protect.

Thank you.

The PRESIDING OFFICER. The Senator from Rhode Island.

Mr. WHITEHOUSE. Thank you, Mr. Presiding Officer.

The problem of carbon pollution could not be more real for my home State of Rhode Island. It is real for our country's future. I will be here in the wee hours and I will yield my time so we can compress this. We have a lot of Senators who want to speak in a short period of time.

I want to yield my time and express my gratitude to Senator SCHATZ of Hawaii who has coordinated tonight's event.

The PRESIDING OFFICER. The Senator from Hawaii.

Mr. SCHATZ. I rise with 29 of my colleagues with a simple message for Congress and for our Nation: Climate change is real; climate change is caused by humans; and climate change is solvable. We will not rest until Congress wakes up and acts on the most pressing issue of our time.

Why are we doing this? Why are we taking this particular action to take the floor tonight and into the morning right now? The answer is simple: This is the floor of the U.S. Senate, the greatest deliberative body in the world. This is where historically America has addressed some of its toughest challenges. Tonight has to be the historic beginning of us facing the challenge of our generation. The real question ought to be: Why haven't we done this sooner and, perhaps more pointedly, why isn't every single Member of this body down here with us?

Tonight is just the beginning. We are going to continue to push throughout the year, and the public is with us—Independents, Democrats, and Republicans. Americans are calling for action. The only place where climate change is still an open debate is within the four corners of this Capitol.

I have seen what can happen when there is a real commitment to clean energy and clear goals laid out. In my home State of Hawaii we set aggressive goals and doubled our use of clean energy in just 3 years. Tackling climate change is going to require the entire country working together.

The PRESIDING OFFICER. The time of the Senator from Hawaii has expired.

Mr. SCHATZ. I yield the floor.

The PRESIDING OFFICER. The Senator from Oregon.

Mr. WYDEN. Thank you, Mr. President.

I thank Senator SCHATZ for all the work he did to put together this effort tonight.

I simply want to say that when you look at the data from the National Oceanic and Atmospheric Administration and the National Academy of Sciences, I believe you reach a blunt judgment: Climate change is the scientific equivalent of a speeding Mack truck. So tonight it is appropriate that Senators start getting into these issues with practical approaches. We have done our part in a bipartisan effort to promote hydropower. I am very pleased the President has a new approach in terms of dealing with wildfire, which is also bipartisan, because fires we are seeing are getting bigger and hotter, and there are steps we can take to deal with those urgent problems. This evening is all about sensible action.

I yield the floor.

The PRESIDING OFFICER. The Senator from Florida.

Mr. NELSON. Mr. President, one of the places that is threatened most is a low-lying area such as Bangladesh, but do you know what area is threatened most in the Continental United States? The Miami area. I am going to be taking the commerce committee during the April recess to have a hearing on climate change and sea level rise particularly right in the heart of a city that has been experiencing flooding over and over because of this climate change.

Florida is ground zero for sea level rise. We have a compelling story to tell. Our leaders are making key decisions and investments today so that our coastal economy will thrive. We are going to pull all this together in the hearing. There are several members of the commerce committee here tonight. I invite Senators during the April recess to come to this hearing. Thank you all for organizing this all-night event, and I look forward to the material that will be coming out this evening.

Thank you.

The PRESIDING OFFICER. The Senator from Washington.

Ms. CANTWELL. Mr. President, climate change is not a problem of the future. Climate change is drastically impacting our oceans today. Acidification is increasing at astonishing rates, and our oceans take up 25 percent of our carbon emissions. Carbon and ocean acidification kill our oysters, crabs, and other shellfish, and impact the shellfish that other sea life depends on, such as our salmon, so the impact to an industry in our State that is worth $30 billion and supports 148,000 jobs is serious.

Just last week there was a huge die-off of scallops in British Columbia, resulting in 30 percent of employees in that region being laid off. So climate change is not only killing oysters and scallops, but it is killing our fishing jobs. That is why we are here tonight, because we know we need to act to save jobs and help our economy.

I yield the floor.

The PRESIDING OFFICER. The Senator from Maryland.

Mr. CARDIN. Mr. President, as a member of the Climate Action Task Force, I couldn't be more proud of my colleagues on the floor tonight. I thank Senator BOXER, Senator SCHATZ, and Senator WHITEHOUSE for organizing this evening.

The information we want to present is clear. The facts are clear. Science indicates what we do here on Earth is affecting the livability of our planet, and we can do something about it. This is an urgent issue, from climate refugees around the world, the visible signs we see in China, to each of our individual States.

I am honored to represent the people of Maryland, where 70 percent of citizens live in coastal zones. The Chesapeake Bay is iconic to the survival of Maryland as we know it today and yet it is at risk.

But here is the good news: We can do something about it. We can reduce our carbon footprint. We can reduce our carbon pollution, and in doing so we not only help our environment, we also help our economy and job growth, help make America more energy secure, which helps our national security. So let's take the reasonable steps necessary to help our future generations, help our economy, and help our environment.

I yield the floor.

The PRESIDING OFFICER. The Senator from Colorado.

Mr. UDALL of Colorado. I am also very pleased to talk about one of the most pressing challenges confronting our Nation and my State of Colorado, and that is climate change. We have seen in my State this is not an obscure threat or distant problem. We have had catastrophic floods and mega wildfires that have been the result of drought, of a whole series of changes in a way we see climate systems operating in Colorado. It is threatening our way of life.

I have a powerful photograph here. We have had in the past 2 years three successive mega fires. Last year's Black Forest fire brought destruction to Colorado Springs. Over 500 homes burned and we lost 2 lives. This fire quickly surpassed the Waldo Canyon fire which was the most destructive fire in Colorado history.

Now is the time to act. Now is the time to grab the opportunity to create new emergency technologies, to enhance our national security and, by the way, to keep faith with our children. We do not inherit this Earth from our parents. We are borrowing it from our children. If we do not act on climate change, we will leave them a less bright future. If we do act, we can create jobs and protect the environment.

As a member of the Armed Services Committee, along with the Presiding Officer, we can enhance our Nation's security with these new technologies. Let's act now. I am here in this Congress and this Senate to protect our way of life. If we act now, we can protect that special way of life.

The PRESIDING OFFICER. The Senator from New Mexico.

Mr. UDALL of New Mexico. Mr. President, thank you very much, and let me first of all congratulate my chairman, Chairman BOXER, Senator WHITEHOUSE, and Senator SCHATZ for organizing this effort and what we are calling an up-all-night conversation.

New Mexico is in the bull's-eye when it comes to climate change. Everyplace else, if it goes up 1 degree, New Mexico and the Southwest go up 2 degrees, so we know we are hit really hard. I am going to talk later in this conversation about all of the impacts.

It is clear, forest fires, as my cousin talked about, droughts, huge die-off in terms of trees, extreme rain events after fires, and flooding are devastating. But New Mexico has been at the forefront of the solution. When it comes to renewable energy, we are out there—solar energy, wind, bio, advanced biofuels such as algae. We are working in the direction we need all of us to be working in together in this country, to make sure we orient toward renewables and tackle this problem. I will be able to expand on this later.

I would yield the floor.

The PRESIDING OFFICER. The Senator from New Hampshire.

Ms. CANTWELL. Thank you, Mr. President.

I am pleased to join my colleagues tonight in talking about the economic and environmental imperative of addressing climate change. I thank all of the members of the climate task force, all my colleagues who are here, and particularly Senator SCHATZ from Hawaii, for organizing tonight.

The fact is, as we have heard, climate change is real and it is happening. According to the U.N. Intergovernmental Panel on Climate Change, a group of 3,000 scientists from over 130 countries who have studied climate change for over 20 years, global emissions must be stabilized by midcentury in order to avoid the most catastrophic and irreversible consequences of climate change.

Studies from the National Research Council and the U.S. Global Climate Research Program reinforce that global temperatures are steadily rising and contributing to more extreme weather events and rising sea levels. Scientists from the University of New Hampshire have found that humans are responsible for releasing large amounts of carbon dioxide and other greenhouse gases into the atmosphere that are causing rapid climate change. I only need to look at New Hampshire to see the real economic and health implications.

In New Hampshire, climate change is contributing to sea level rise, which

imperils businesses, homes, and coastal communities such as Portsmouth.

The PRESIDING OFFICER. The time of the Senator from New Hampshire has expired.

Mrs. SHAHEEN. The outdoor recreation community has less snow, resulting in fewer tourism dollars. Wildlife health is becoming increasingly vulnerable to disease. What is happening in New Hampshire is happening around the world. We must take action now.

I look forward to coming back later this evening to talk more about what we are seeing in New Hampshire.

The PRESIDING OFFICER. The Senator from Oregon.

Mr. MERKLEY. Mr. President, Theodore Roosevelt said:

> Of all the questions which can come before this Nation, short of the actual preservation of its existence in a great war, there is none which compares in importance with the great central task of leaving this land even a better land for our descendants than it is for us.

We should reconsider those words now in the context of carbon pollution—carbon pollution which is a direct assault to our rural resources, on our farming, fishing, and forestry. In Oregon we had three worst-ever droughts we have faced over a 13-year period, devastating to the farmers, their families, and the farm economy.

In fishing, everyone who goes to their favorite trout stream knows that if there is no snowpack, the stream is warmer and smaller in summer and a poor place to fish, and certainly worse for iconic salmon and steelhead.

The forests are burning, from pine beetles, which spread throughout the land in the context of not having those cold snaps in the winter, and in the context of tinderbox conditions on the forest floor. Those forest fires have been some of the worst we have seen in a century, and more is yet to come. We cannot wait for 20 or 30 or 40 years to act.

The PRESIDING OFFICER. The Senator's time has expired.

Mr. MERKLEY. We cannot wait for 2 or 3 or 4 years to act. The carbon pollution is real and the damage is real. It is time for this Chamber to act.

The PRESIDING OFFICER. The Senator from Connecticut.

Mr. BLUMENTHAL. Why are we here tonight. We are here because if we fail to act, our planet will be destroyed. As exaggerated as that claim sounds, it is strikingly, irrefutably true. We are here because our future is at stake, and not only ours but our children's. We are here because of climate change, which is really climate disruption and planet destruction. It is real and it is urgent.

Anyone who lives in Connecticut knows about the snowstorms and hurricanes, Superstorm Sandy, the rising tide that will eventually destroy our coastline, the rising temperatures that will emaciate our vegetation and our produce. There are real human effects but also economic effects. There are immense economic perils but also tremendous economic promise. There are immense economic perils but also tremendous economic promise if we invest in the steps that have to be taken to stop climate disruption.

We can take advantage of the immense opportunity and obligation we face by acknowledging the reality that our planet is at stake and defeating and discrediting the climate change deniers, who are as much a part of the problem as any of the natural forces or elements at stake.

The PRESIDING OFFICER. The Senator's time has expired.

Mr. BLUMENTHAL. That is why we are here tonight, and that is why we will stay the course.

I yield the floor.

The Senator from New Mexico.

Mr. HEINRICH. Mr. President, as a member of the climate change task force, I am pleased to join my colleagues in calling for action on tackling one of our Nation's greatest challenges. I wish to start by thanking Senator WHITEHOUSE, Senator SCHATZ, and Senator BOXER for their leadership on this issue.

Tonight we will illustrate that climate change is not theoretical and cannot be ignored. We will discuss how sound science can be used to better understand and manage climate impacts. We will highlight the moral imperative that we have in Congress to implement real solutions.

In my home State of New Mexico we are seeing bigger fires, dryer summers, more severe floods when it finally does rain, and less snowpack in the winter. Our Nation's second most extreme year for weather on record was in 2012, but in New Mexico we experienced the hottest year on record. Over the last 4 years alone, we have seen the two largest fires in New Mexico's history.

The reality is that things are only going to get worse if we don't act. If we have any hope of reversing the effects of climate change—and we truly must—it is critical that we embrace this challenge now and lead the world in innovation, efficiency, and clean energy.

The PRESIDING OFFICER. The Senator from Maine.

Mr. KING. Mr. President, Joe Sewall, David Huber, Harry Richardson, Hoddy Hildreth, and Sherry Huber—those names mean nothing in this Chamber, but they meant everything in Maine in the 1970s. They were the parents of the environmental movement in our State. What do they all have in common? They are all Republicans.

I rise tonight in puzzlement as to how this issue became a partisan one. It is a scientific issue. Light travels at 186,000 miles per second. That is science. That is not a partisan or debatable issue. The science on this question is definitive.

I would not call myself a denier, but I was a skeptic until several years when I encountered a chart, which I will show in a large version later this evening, that talks about CO_2 in the atmosphere for the last million years. Yes, it varied over time between 150 and 250 parts per million, but in the 1860s, at the dawn of the fossil fuel age, it started to go up, and now it is at 400 parts per million. That number has not been seen in this world for 3 million years. The last time we were at that figure, the sea level was 80 feet higher.

We are playing with the future of this planet. We have to do something, and that is why we are here.

The PRESIDING OFFICER. The Senator from Massachusetts.

Ms. WARREN. Mr. President, as a member of the climate change task force, I am proud to join my colleagues today. I particularly wish to thank Senators SCHATZ, WHITEHOUSE, and BOXER for getting us organized and bringing attention to the urgent need to address climate change. We are on the cusp of a climate crisis. We are at a point of no return that will threaten our health, our economy, and our planet.

For the next several hours and all through the night and into tomorrow, dozens of Senators will add their voices to the millions of voices around the country of people who are committed in the fight against climate change.

I got ready for this event by asking people for help. I sent out an email asking a simple question: What do people think the world will look like 25 years from now if we don't do anything at all to stop climate change? Nearly 5,000 emails have already poured in from workers, teachers, grandparents, and students. These Americans see what is happening to our environment. They see the paralysis of our politics. They see that we are headed down a dangerous path. They see that we—our country and our Congress—must change.

This is where we start—a moment of great peril for Massachusetts, for America, and for the world, but also a moment of great opportunity. This is a time for us to come together.

During my time on the floor, I plan to read letters from some of the people who have emailed me.

The PRESIDING OFFICER. The Senator's time has expired.

Ms. WARREN. I yield the floor.

The Senator from Massachusetts.

Mr. MARKEY. Mr. President, the science proves there is a danger, the economics prove there is a solution, and the politics tonight begin the process of saying there is a way to deal with this issue.

The planet is running a fever, but there are no emergency rooms for planets. We have to engage in the preventive care so that we deploy the strategies which make it possible for our planet to avoid the worst, most catastrophic effects of climate change. We can do it and do it in a way that helps our economy.

There are now 80,000 people working in the wind industry in the United States. There are 142,000 people in the

solar industry. That is 220,000 people. There are 80,000 people in the coal industry. Most of the wind and solar jobs have been created in the last 5 years. This is a job-creating revolution which is taking off.

Tonight we are going to stay up all night to talk about this climate change issue in the hopes that tomorrow will be the dawn of a new era where the Congress begins to do something about this issue and where it responds to its historic duty to the next generation to end this crisis.

The PRESIDING OFFICER. The Senator from New York.

Mrs. GILLIBRAND. Mr. President, climate change is real and it is here. Rising sea levels, disappearing coastlines, longer droughts, colder winters, hotter summers, and massive so-called storms of the century are occurring routinely, such as Hurricanes Irene and Lee and, of course, Superstorm Sandy that devastated the Northeast. But powerful special interests and too many politicians who should simply know better would have us believe that it is a hoax or that any reasonable action would kill jobs.

I, for one, refuse to believe that somehow harmful pollution is the only way to grow and sustain our economy. I, for one, know for a fact that what is good for our environment can be good for business when we act responsibly.

It is time to invest in clean energy with wind, solar, biofuel, and other sources of energy that do not pollute our environment and contribute to climate change. We have everything it takes from sustainable resources, American innovation, and manufacturing know-how to produce new sources of clean energy that are made here in America. That is how we can cut our dependence on costly foreign oil and make us more secure; that is how we can spark new businesses, new jobs, and a stronger middle class, all while protecting the air we breathe and the water we drink and preserving all the beauty of our most cherished places for the next generation.

The PRESIDING OFFICER. The Senator from Rhode Island.

Mr. WHITEHOUSE. Mr. President, how much time remains under the control of our side?

The PRESIDING OFFICER. There is 3 minutes 30 seconds.

Mr. INHOFE. If the Senator needs more time, I will not object.

Mr. WHITEHOUSE. That is kind of the distinguished Senator, but I think we have managed to come within our time.

As we close, I wish to thank so many colleagues who have participated in this early lightning round of statements by Senators. We expect to have 30 Democratic Senators speaking on this issue during the course of the night, through the night, and into tomorrow morning.

It is a matter we are overdue in addressing. It is a matter that is really beyond legitimate scientific dispute—at least as to the fundamental truth of the planet warming and why. Indeed, Abraham Lincoln was the President when a scientist named Tyndall—over in England—first presented to the Royal Academy of Sciences his work showing that carbon dioxide in the atmosphere warms the Earth as it increases its density. We are now more carbon dense.

As Senator KING said, we spent about 800,000 to 3 million years in a zone of 150 to 300 parts per million. We had never been at 400 parts per million in the history of human habitation on the face of this planet until just a few months ago when the first 400-parts-per-million reading was recorded. We have to pay attention to this.

I will close by saying that not only is this a vital point for our home States, it is vital for California, which is riven by drought. It is vital for New Mexico and Colorado, which have also seen drought and wildfires. It is also vital for New York, which was clobbered by Superstorm Sandy. It is vital for Hawaii, which is seeing sea level rise and acidification. It is vital for Massachusetts, where the sea level is up 10 inches, and we are beginning to see fisheries move north and away from our waters to avoid the warming seas. It is vital for Connecticut, which has virtually lost its lobster fishery because of its warming season. And, of course, it is vital for Rhode Island. My Narragansett Bay is 3 to 4 degrees warmer in the winter, and that means that fisheries, such as the winter flounder fishery, are simply gone—90-plus percent crashed.

We have to face this as States, we have to face this as a nation, and if we fail, we will have failed the fundamental test of every American generation. The fundamental test of every American generation is, will you bring the reputation of this country and the integrity of this democracy forward through your time so the next American generation can carry it forward with honor?

We received our democracy from the ''greatest generation.'' They fought world wars to make it safe for us. If we fail now, we will not be the greatest generation; we will be a disgraced generation. I intend to do everything I can to make sure we do not get there.

I yield back the rest of the Democrats' time

The PRESIDING OFFICER. The Senator from Oklahoma.

Mr. INHOFE. Mr. President, all night long? Well, that is going to be fun.

By the way, the Oklahoma City Thunders are not playing tonight, so we may get a few more viewers.

It is nice to look over and see probably the most articulate and knowledgeable of all of the alarmists historically as our newest Senator from Massachusetts, ED MARKEY.

You can be good friends and still disagree. The Senator from Rhode Island certainly knows that because we had a little disagreement last week. The Senator from California certainly knows this as well.

We have been working on this for a long time. This started with the Kyoto Treaty. I think most people have forgotten about that. During the Clinton-Gore administration, Gore came back from Rio de Janeiro and said we are all going to die from global warming. I will say that he knows what he is doing. The New York Times speculated that Al Gore is very likely the first environmental billionaire in existence, so I guess he knows what he is doing there.

In spite of the fact of what has happened recently, I think it is probably necessary to have something all night, something to get the attention of the American people, because they keep saying—and I hear it over and over—climate change is real, global warming is real; it is real; it is real; it is real. If you say it enough times, then people are going to think it is real.

Tonight, all night long, you can say ''it is real, it is real, it is real,'' but I think people have heard that before and times have changed. A couple of things have happened, and I know a lot of you regret this.

I remember so well when Lisa Jackson was the Administrator of the EPA.

I have often said some very good things about her, even though she is very liberal and I am ranked most of the time as the most conservative Member of the Senate. Yet when she is asked a direct question, she always comes out with an honest answer.

I asked my good friend Senator MARKEY just a few minutes ago, who was there—first of all, let me say the United Nations started all this stuff. They have one big annual party, and it is usually in very nice places. I think at last count 190 countries were there. I remember talking to one of my good friends from one of the sub-Saharan African countries who was there with his administration. I said: You don't believe this stuff, do you?

He said: No, but this is one of the biggest parties of the year.

One of the big parties in 2009 was Copenhagen. They set a record of how cold it was in Copenhagen. I remember that very well. I remember at that time—and I hope I get this right because we had several people from the administration. We had at that time Senator John Kerry, of course, Congressman ED MARKEY, NANCY PELOSI, and President Obama, who was Senator Obama at that time—no, he was already President at that time. Their job was to convince the 191 other countries that were in Copenhagen that we in the United States were going to pass some type of real cap and trade legislation.

So we had a hearing. At that time I think the Republicans were in control. But I said to Lisa Jackson: I am going to go to Copenhagen tomorrow to be a one-man truth squad. Everybody has been there talking about what we are going to do here in the United States and somebody has to tell them the

truth. So I said: I have a feeling when I leave tomorrow, you are going to have a declaration and when you do, it has to be based on some type of science. I could tell by looking at her that they were going to have the endangerment finding.

I ask my friend if he remembers that, the endangerment finding.

Anyway, I left the next morning for Copenhagen, and that afternoon they had the endangerment finding. Before I left I said: When you have the endangerment finding, it has to be based on some type of science. What science are you going to use?

She said: Well, mostly the IPCC, the Intergovernmental Panel on Climate Change.

So that is the kind of science they have been using for a long period of time.

But, ironically, the timing couldn't be better. It wasn't a matter of weeks after that; it was a matter of hours after that, that climategate was exposed. Climategate was the—it all started with East Anglia University's Climate Research Unit—the CRU—one of the main universities that helps put together the information about global warming for the IPCC. There it was disclosed that the IPCC was systematically distorting the facts, cooking the science of global warming to either cover up data that didn't tell the story they wanted everyone to hear and exaggerating the impacts of changing climate to help drive people out of fear into action.

There are three things one needs to know about the IPCC. First of all, the Obama administration has referred to the IPCC as the gold standard of climate change science and global warming. Some say its reports on climate change and global warming represent the so-called consensus of the science opinion about global warming. IPCC and Al Gore were awarded the Nobel Peace Prize in 2007 for their efforts to build and disseminate greater knowledge and doing so through the IPCC. Simply put, what this means is that in the elite circles, the IPCC is a big deal.

So as a result of climategate—when they found they had been lying all this time—when ABC News, when The Economist, when Time Magazine, when The Times of London, among many others, report that the IPCC's research contains embarrassing flaws and that the IPCC chairman and scientists knew of the flaws but published them anyway, we have the makings of a major scientific scandal. There are two examples of how the IPCC was cooking the science.

The IPCC claimed that the Himalayan glaciers would melt by 2035. Of course, this is not true. It is simply false. Yet it was put into the IPCC's fourth assessment report. According to The Sunday Times, the claim about the Himalayas was based on a 1999 story in a news magazine which, in turn, was based on a short telephone interview with someone named Seyed Hasnain, who is a very little-known Indian scientist.

Next, in 2005, the activist group World Wildlife Fund cited the story in one of its climate change reports. Yet despite the fact that the World Wildlife Fund report was not scientifically peer reviewed, it was still referenced by the IPCC. Next, according to The Times, the Himalayan glaciers are so thick at such high altitude that most glaciologists believe it would take several hundred years to melt at the present rate.

Anyway, all of that was taking place. It has to be really disturbing to a lot of those individuals who are alarmists, that all of a sudden this backbone of the science they have been referring to of the IPCC was exposed.

I remember one of the emails in 1999. These were the emails that were exposed. These are the ones that are behind—giving the information to the IPCC:

> I've just completed Mike's Nature trick of adding in the real temps to each series for the last 20 years, i.e., from 1981 onwards, and from 1961 for Keith's to hide the decline.

So they were actually adding higher temperatures to give the trends they wanted.

In 2009:

> The fact is that we can't account for the lack of warming at the moment, and it is a travesty that we can't.

These are the people who were supplying the information to the IPCC.

I could go on and on; there is not time to get to all of them.

Christopher Booker of the U.K. said: ''This is the worst scientific scandal of our generation.'' He was talking about the IPCC. That is the basis of all of this.

> Clive Crook, Financial Times: The closed mindedness of these supposed men of science . . . is surprising, even to me. The stink of intellectual corruption is overpowering.
>
> IPCC Prominent Physicist Resigns: Climategate was a fraud on a scale I've never seen.
>
> U.N. Scientist Dr. Phillip Lloyd calls out IPCC ''fraud''—''The result is NOT scientific.''
>
> Newsweek: Once celebrated climate researchers feeling the used car salesman.
>
> Some of the IPCC's most quoted data and recommendations were taken straight out of unchecked activist brochures . . .

Now, I am quoting right now. This was in Newsweek.

George Monbiot—I probably mispronounced that. He is a columnist who is on the other side of this issue from me. He said:

> It's no use pretending that this isn't a major blow. The emails extracted by a hacker from the climatic unit at the University of East Anglia could scarcely be more damaging . . . I'm dismayed and deeply shaken by them . . . I was too trusting of some of those who provided the evidence I championed. I would have been a better journalist if I had investigated the claims more closely.

We have the other problem, and that is that instead of increasing, we are going through now some cold spells that are just shocking and setting new records. In January of 2014, 4,406 cold temperature records were set around the country. In January of 2014, in my city of Tulsa, it got down to minus 2 degrees, breaking a record that was held since 1912—over 100 years; in Enid, OK, minus 3 degrees. In Bartlesville, it went down to minus 14 degrees—colder than the South Pole, where it was only minus 11 on that same day.

February 2014: 5,836 cold temperature records set around the country. March 2014: Snow cover at third highest level on record; 1969, 1978 were higher. The Great Lakes, second highest ice cover on record—91 percent; 1979 is highest at 94 percent.

This is not surprising given the 15-year pause in global warming. Nature magazine stated that over the last 15 years ''the observed [temperature] trend is . . . not significantly different from zero [and] suggests a temporary 'hiatus' in global warming.''

The Economist magazine said the same thing.

The President hasn't acknowledged this. On multiple occasions he has said—this is a quote from the President: ''The temperature around the globe is increasing faster than was predicted even 10 years ago.''

Unfortunately for his talking point, the data that has been reported in Nature, The Economist, and even in the United Nations IPCC report shows that this simply is not true. Increases in global temperature have stalled over the last 15 years.

This has to be really shocking to an awful lot of advocates who put their reputation and their lives on the idea that this world is coming to an end and global warming is a reality.

Several weeks ago, in a hearing held in the EPW Committee, Gina McCarthy—she is the one who is the current EPA Administrator—was pressed on this point. Asked whether or not President Obama's statement was true, she responded: ''I can't answer that.''

With all this in mind—climategate, recent cold temperatures, and a 15-year hiatus—how could Congress, in good conscience, move forward with legislation that gives EPA the authority to regulate greenhouse gases? How could EPA, more importantly, move forward with regulations based off of this cooked science?

There have been several votes on global warming-related legislation over the past decade since we first started debating it here in the late 1990s, but they have all failed to show that there have even been the 60 votes required to pass cap and trade.

In 1997 the Byrd-Hagel legislation, 95 to 0, the United States should not be a signator to the Kyoto Treaty. The Kyoto Treaty was a treaty that was negotiated with Al Gore down in South America.

In 2003 we had the McCain-Lieberman bill. It failed 43 to 55. Then we had the McCain-Lieberman bill again in 2005, and it failed 38 to 60. The trend is going in the wrong direction for them.

In 2008 the Lieberman-Warner bill failed 48 to 36.

In 2010, a resolution of disapproval on EPA's greenhouse gas rule was 47 to 53.

In 2011, the Inhofe-Upton prohibition on greenhouse gas regulation was 50–50. In 2013, the Inhofe-Upton prohibition on greenhouse gas regulations as a budget amendment was 47 to 52.

What I am saying here is the sentiment of the House and the Senate is going in the reverse direction. So it has been virtually impossible to try to pass a cap-and-trade bill.

I know there are a lot of people who at one time were looking at this and feeling as though this was something that was going to be a reality. But I have to say this. One of the reasons—this is kind of interesting. I am sorry my good friend from Massachusetts is not on the floor right now. But I can remember back when Republicans were in the majority in the Senate, and I was the chairman of a subcommittee of the Environment and Public Works Committee that was addressing this item. At that time everyone was talking as though global warming was here and it must be true, and I believed it probably was true, until they came out with the financial analysis. What would it cost if we passed cap and trade as a law?

At that time the scientists and the economists from the Wharton School of Economics and from MIT who participated—all of the estimates were between $300 billion and $400 billion a year. That is something we want to be very careful about. I know every time we hear ''billion dollars'' it doesn't really register how much that is. In my State of Oklahoma, what I do at the end of each year is I get the total number of people who filed a Federal tax return, and then I do my math as to what it is going to cost. For $300 billion to $400 billion a year, it would cost each taxpayer in the State of Oklahoma some $3,000 a year. That could be really significant, but not if there is a problem they are addressing out there. Getting back to Lisa Jackson, who is the Obama appointee to be Administrator of the EPA, I asked the question—and this was at a hearing, and I am sure the Senator from California remembers this as well because it was in one of the hearings of that committee, live on TV.

I said: Right now we are looking at different bills. We are looking at the Waxman bill and several others. The cap and trades are pretty much cap and trades. If we were to pass this, any of this legislation, would this have the effect of lowering the release of CO_2?

Her answer was: No. The reason is this is not where the problem is. The problem is in China, in India, in Mexico, and in places where they do not have any regulations.

In fact, you can carry it one step further. If we were to pass that either by regulation or by legislation, and go ahead and incur this huge tax increase—the largest tax increase in the history of America—if we were to do this, as she said, it would not lower greenhouse gases. It could increase them because we would have to be chasing our manufacturing base where they could find the generation of electricity; and that would be in countries I just mentioned where they have no restrictions at all. So it could increase, not decrease, the greenhouse gases.

This is very significant, but it is in the weeds to the point where it is rather difficult to understand. Under the Clean Air Act, the EPA—well, I want to talk about the timing just for a minute because we are going through this. Under the Clean Air Act, the EPA must finalize new rules within 1 year of its publication in the Federal Register.

What I am saying now is, what they could not get done through legislation they are trying to do through regulation. One of the things they are trying to do is have the greenhouse gas legislation come under the EPA.

Anytime you have a new EPA rule, it has to be finalized within 1 year of its publication in the Federal Register. So the rule was released on September 20, 2013, but it was not published until January 8, 2014. Why do you suppose that was? Had the new rule been published on September 30, the rule would have gone into effect 6 weeks prior to the midterm elections and people would have known how much it was going to cost them.

If there is any doubt in anyone's mind, I have an article that was published on December 14 in the Washington Post that goes through the details as to why they did this so people would not know when they were voting how much all these regulations were going to cost. I ask unanimous consent this article be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

[From the Washington Post, Dec. 14, 2013]

ICYMI: WHITE HOUSE DELAYED ENACTING RULES AHEAD OF 2012 ELECTION TO AVOID CONTROVERSY

(By Juliet Eilperin)

The White House systematically delayed enacting a series of rules on the environment, worker safety and health care to prevent them from becoming points of contention before the 2012 election, according to documents and interviews with current and former administration officials.

Some agency officials were instructed to hold off submitting proposals to the White House for up to a year to ensure that they would not be issued before voters went to the polls, the current and former officials said.

The delays meant that rules were postponed or never issued. The stalled regulations included crucial elements of the Affordable Care Act, what bodies of water deserved federal protection, pollution controls for industrial boilers and limits on dangerous silica exposure in the workplace.

The Obama administration has repeatedly said that any delays until after the election were coincidental and that such decisions were made without regard to politics. But seven current and former administration officials told The Washington Post that the motives behind many of the delays were clearly political, as Obama's top aides focused on avoiding controversy before his reelection.

The number and scope of delays under Obama went well beyond those of his predecessors, who helped shape rules but did not have the same formalized controls, said current and former officials who spoke on the condition of anonymity because of the sensitivity of the topic.

Those findings are bolstered by a new report from the Administrative Conference of the United States (ACUS), an independent agency that advises the federal government on regulatory issues. The report is based on anonymous interviews with more than a dozen senior agency officials who worked with the Office of Information and Regulatory Affairs (OIRA), which oversees the implementation of federal rules.

The report said internal reviews of proposed regulatory changes ''took longer in 2011 and 2012 because of concerns about the agencies issuing costly or controversial rules prior to the November 2012 election.''

Emily Cain, spokeswoman for the Office of Management and Budget, said in a statement that the administration's ''approach to regulatory review is consistent with long-standing precedent across previous administrations and fully adheres'' to federal rules.

Administration officials noted that they issued a number of controversial rules during Obama's first term, including limits on mercury emissions for power plants and Medicaid eligibility criteria under the Affordable Care Act.

''OMB works as expeditiously as possible to review rules, but when it comes to complex rules with significant potential impact, we take the time needed to get them right,'' Cain said.

But Ronald White, who directs regulatory policy at the advocacy group Center for Effective Government, said the ''overt manipulation of the regulatory review process by a small White House office'' raises questions about how the government writes regulations. He said the amount of time it took the White House to review proposed rules was ''particularly egregious over the past two years.''

Previous White House operations have weighed in on major rules before they were officially submitted for review. But Jeffrey Holmstead, who headed the EPA's Office of Air and Radiation in the George W. Bush administration, said the effort was not as extensive as the Obama administration's approach.

''There was no formalized process by which you had to get permission to send them over,'' Holmstead said, referring to rules being submitted to the White House.

The recent decision to bring on Democratic strategist John Podesta as a senior White House adviser is likely to accelerate the number of new rules and executive orders, given Podesta's long-standing support for using executive action to achieve the president's goals despite congressional opposition.

Sen. Richard Blumenthal (D–Conn.), who chairs the Judiciary Subcommittee on Oversight, Federal Rights and Agency Action, said he's concerned about the real-world impact of the postponements in the first term.

''Legal protection delayed is protection denied,'' Blumenthal said. ''I've spoken to officials at the top rungs of the White House power structure and at OIRA and we're going to hold their feet to the fire, and we're going to make sure they're held accountable in a series of hearings.''

The officials interviewed for the ACUS report, whose names were withheld from publication by the study authors, said that starting in 2012 they had to meet with an OIRA desk officer before submitting each significant rule for formal review. They called the sessions ''Mother-may-I'' meetings, according to the study.

The accounts were echoed by four Obama administration political appointees and three career officials interviewed by The Post.

At the Environmental Protection Agency, for example, a former official said that only two managers had the authority to request a major rule in 2012: then-administrator Lisa P. Jackson and deputy administrator Bob Perciasepe. Perciasepe and OIRA's director at the time, Cass Sunstein, would have ''weekly and sometimes semi-weekly discussions'' to discuss rules that affected the economy, one said, because they had political consequences, the person said.

''As we entered the run-up to the election, the word went out the White House was not anxious to review new rules,'' the former official said.

Sunstein, who has returned to his post as a Harvard Law School professor, declined to comment.

Several significant EPA proposals were withheld as a result of those meetings, officials said, including a proposal requiring cleaner gasoline and lower-pollution vehicles that had won the support of automakers but angered the oil industry.

That regulation, which would reduce the amount of sulfur in U.S. gasoline by two-thirds and impose fleetwide pollution limits on new vehicles by 2017, was ready in December 2011, said three officials familiar with the proposal. But agency officials were told to wait a year to submit it for review because critics could use it to suggest that the administration was raising gas prices, they said. The EPA issued the proposed rule in March.

Other EPA regulations that were delayed beyond the 2012 election included rules on coal ash disposal, water pollution rules for streams and wetlands, air emissions from industrial boilers and cement kilns, and carbon dioxide limits for existing power plants.

Ross Eisenberg, who serves as vice president of energy and resources policy at the National Association for Manufacturers and has criticized several EPA regulations, noted that in the past year the administration moved ahead with proposals such as the rules on greenhouse gas emissions and boilers.

''The agenda certainly did slow down, but it doesn't change,'' he said.

The administration also was slow to handle rules pertaining to its health-care law. Several key regulations did not come out until after the 2012 election, including one defining what constitutes ''essential health benefits'' under a health plan and which Americans could qualify for federal subsidies if they opted to enroll in a state or a federal marketplace plan.

The latter focused on what constitutes ''affordable.'' Treasury proposed a regulation in August 2011 saying an employer plan was affordable as long as the premium for an individual was no more than 9.5 percent of the taxpayer's household income. Several groups—including labor unions—argued that the proposal did not take into account that the premium for a family plan might be much higher than that standard.

Unions represent a vital part of the Democratic coalition, in part because they help mobilize voters during elections.

The Treasury Department held the proposal back while finalizing all the other tax-credit rules on May 23, 2012. Treasury officials later told those working on the regulation that it could not be published before the election, according to a government official familiar with the decision who spoke on the condition of anonymity because of its sensitive nature. The department made the rule on Feb. 1.

OMB has reduced the length of time that rules are pending this year. The agency has cut the number of rules that were under review for more than 200 days by more than half.

But while the administration is pressing ahead, activists say the delays took a toll. Peg Seminario, director of safety and health for the AFL-CIO, points to an update of the nation's silica standards proposed Sept. 12 after a long delay. The rule, which would prevent an estimated 688 deaths and 1,585 silica-related illnesses each year, won't be finalized until 2016.

Jon Devine, a senior lawyer in the Natural Resources Defense Council's water program, said small streams and wetlands remain vulnerable because of the administration's foot-dragging. The EPA recently withdrew a proposal to outline what kind of water bodies deserve federal protection that had been pending since February 2012 and announced it would issue a legally binding rule instead.

''What's disappointing is it leaves waters subject to the existing, weak state of affairs until they get the rule over the final hurdle,'' Devine said.

Mr. INHOFE. There are more impacts that are taking place. The greenhouse gas regulations for existing powerplants are expected to be released in June of 2014.

The other regulations that are out there—and I am not going to spend any time on this because there are too many. But on the greenhouse gas legislation—even though when it started, it was Charles Rivers and the Wharton School and MIT—they came out with the approximation of $300 to $400 billion a year; and that is every year. The greenhouse gas regulatory costs under the Clean Air Act are totally different. No one has even calculated this yet.

I would like to make sure we understand that under the bill my good friend ED MARKEY and WAXMAN put forth, it would regulate the emissions of those organizations that emit 25,000 tons or more. However, if you do it through the Clean Air Act, it would be 250 tons. So you are talking about instead of 25,000 tons—which might be only the very large organizations; refineries and that type of thing—under the Clean Air Act, which is what they are attempting to do today as we speak, it would be just 250 tons, which would be every school, every hospital, every shop, and many residences.

So the greenhouse gas regulatory costs—if it costs $300 to $400 billion to regulate organizations that emit 25,000 tons, how much would it be if they emitted 250 tons? It is something that has not even been calculated yet.

So we have all of these impacts of the regulations that take place. But the greatest of all would be, if you think about the cumulative impact study back—I have introduced legislation, along with several others. I know JOHN BARRASSO and several others have cosponsored legislation that would tell the public the cumulative effect of all these regulations.

For example, as to the ozone regulations: 77 Oklahoma counties would be out of attainment; 7 million jobs would be lost.

As to Utility MACT—that is something that did pass—a $100 billion cost—1.65 million jobs lost. It has already been implemented.

Boiler MACT—and every manufacturing company has a boiler; and ''MACT'' means ''maximum achievable control technology''—Boiler MACT is costing $63 billion, and 800,000 jobs have already been lost.

The BLM fracking regulations would be $100,000 per well—duplicative of effective State regulations, which have been doing very well now since 1948.

And there are greenhouse gas costs of $300 to $400 billion.

So I guess what I am saying here—and I know I am using up quite a bit of time, but it is important to look and see what has happened since the time they were all talking about global warming. Everybody was talking about it, and how they are going to have an all-night thing to try to revive it because the public has gone in the other direction.

George Mason University had a study where they actually interviewed several hundred of the TV meteorological people. Mr. President, 63 percent of them said that if global warming is taking place, it is from natural causes, not from global warming.

Polar bears. Everyone is concerned about polar bears. I know my good friend from California gave me a polar bear. It is my favorite coffee cup and I use it all the time. But between the 1950s and 1960s, the number of polar bears that were wandering around out there was between 5,000 and 10,000. Today, it is between 15,000 and 25,000.

The threats. A lot of times when people cannot win an argument, then they threaten. NASA's James Hansen said this is ''high crimes against humanity.'' Robert Kennedy, Jr., called me a ''call girl,'' a ''prostitute.'' Robert Kennedy, Jr., also said: ''This is treason. And we need to start treating them as traitors.'' In other words, we need to start killing people.

In 2006, the eco-magazine Grist called for Nuremberg-style trials for skeptics. September 29, 2007: Virginia State climatologist skeptical of global warming loses his job after a clash with the Governor. ''I was told that I could not speak in public.''

Barone: Warmists have a ''desire to kill heretics.''

The Weather Channel—Heidi Cullen, by the way, is a meteorologist on the Weather Channel. She is off with an environmental group right now, so she is not around anymore.

Polling—where the American people are going; I think it is important to understand—this is a Gallup poll that is a current one right now. According to a Gallup poll, climate change is the least important environmental issue among the voters.

In March of 2010, the same Gallup poll: Americans rank global warming dead last, 8 out of 8 environmental issues.

In March 2010, Rasmussen: 72 percent of American voters do not believe global warming is a ''very serious problem.''

The global warmist Robert Socolow laments:

We are losing the argument with the public, big time. . . . I think the climate change activists, myself included, have lost the American Middle.

So there are definitely some things going on here that are not in their favor.

I would like to mention this, though. I think a lot of people have talked about the various scientists. On my Web site you can look up several thousand—this is a long time ago—I think we passed through 1,000 qualified scientists way back in 2006, and it has gone up since that time to many, many, so it is something where there are a lot of scientists. One of my favorite scientists is one because he is a Nobel prize-winning Stanford University physicist. He said:

Please remain calm. The earth will heal itself—climate is beyond our power to control. The earth doesn't care about governments and legislation. Climate change is a matter of geologic time . . . something the earth does on its own without asking anyone's permission or explaining itself.

Richard Lindzen of MIT was a former U.N. IPCC receiver. He said: If the government wants carbon control, that is the answer the NAS will provide. He is the one who also said: The ultimate controlling factor is once you control CO_2, you control people.

The Harvard Smithsonian Study. The study examined the results of more than 240 peer-reviewed papers published by thousands of researchers over the past four decades. The study covers a multitude of geophysical and biological climate indicators. They came to the conclusion that climate change is not real and that the science is not accurate.

Dr. Fred Seitz—he is the former president of the National Academy of Sciences—said: ''There is no convincing evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate.''

So we have a lot of scientists on both sides of this issue. I think the American people have woken up. I use something quite often because it is a little bit comical—and this is just kind of from memory, but this is something that actually did happen. Mr. President, 1895 was the first time we had, in recent history—we have had cold spells before, and we had the medieval warm period and all of that stuff; that was a long time ago—but in 1895—starting with current, more modern history—they had a cold spell that came in. That is where, I say to my friend from New Hampshire, they first came up with a new ice age that was coming. That was in 1895. That lasted from 1895 to 1918. Then, in 1918, they came along with a warming period. That was the first time we heard the term ''global warming.'' That was in 1918, and that lasted until 1948.

And get this. These are about 30-year cycles. That lasted until about 1945. In 1945, all of a sudden it changed from this warming period to a cooling period. That lasted until 1975. Then it changed to a warming period. Now, since 2000, it has leveled off, and we are going into another cycle. You can almost set your watch by these cycles.

Here is an interesting thing about that. In 1948, when it changed from a warming period to a cooling period, that coincided with the greatest single release of CO_2 in history. That was right after World War II.

So these are the things that are happening. I know they are going to enjoy staying up all night. They will have an audience of themselves, and I hope they enjoy it.

But I have to say this in all sincerity. When you see something, and instead of going right along with the public and saying, it must be true because everybody is saying it—and everybody goes over and over again and talks about the climate is real and the science is real, and all that—well, that happens when it is not real, and that is what we have been going through.

Right now I know President Obama is going through all kinds of efforts to try to do through regulations what the elected people would not do in the House, as well as in the Senate. When people realize—and they will be reminded again, even though it has been a while—now, I think it might be clever that after several years now where people have been talking about global warming that now they are trying to revive it, and that is what you are going to hear all night long here tonight.

It is kind of interesting that this is happening at a time that we are going through this cold spell. It certainly has not been much fun in Oklahoma.

So I think the American people are not ready to pass the largest tax increase in the history of America, and we will have to wait and see.

With that, I yield the floor.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. Mr. President, it was with great interest that I listened to my friend. I suppose we are making progress. He used to call climate change a hoax, and he did not say that. So maybe he is moving in our direction.

But I also want to point out, he says we are going to be talking to ourselves. I am happy to report that I just learned of two petitions, one that has 65,000 signatures calling on us to act and another that has 30,000 signatures calling on us to act, and the night is young.

Now, my friend from Oklahoma——

Mr. INHOFE. Will the Senator yield for an observation, since the Senator mentioned my name?

Mrs. BOXER. Mr. President, if the time is taken off their time, I am happy to yield.

Mr. INHOFE. The reason I did not use the word ''hoax'' is because then I might be guilty of advertising my book, and I certainly did not want to do that.

Mrs. BOXER. That is wonderful. I am so happy you did not use hoaxes, and maybe there is a way for us to come closer together on this issue. But let my say this: People are listening. People care. Because when 97 to 98 percent of the scientists say something is real, they do not have anything pressing them to say that other than the truth. They do not have any other agenda. They do not work for the oil companies.

I will tell you, as chairman of the environment committee, every time the Republicans choose a so-called expert on climate, we have tracked them to special interest funding, those 3 percent. They know where their bread is buttered. I am sorry my friend left. I guess he could not stand to hear the truth. So I will put that truth into the RECORD.

I do not know how my Republican colleagues can continue to deny that climate change is happening. One would think they could see it out their window, because as my colleague says: Oh, there was such cold weather. That has been predicted by the scientists, extreme weather. Here is the U.S. Global Change Research Program, their National Climate Assessment draft: Some extreme weather and climate events have increased in recent decades. We have seen heavy downpours, more severe droughts, and some extremes.

At the Senate Committee on Environment and Public Works climate change briefing, Dr. Marshall Shepherd, president of the American Meteorological Society, and a director of the Atmospheric Sciences Program at the University of Georgia, said:

Climate change is increasing the probability of extreme events, and in some cases maybe strengthening their intensity or increasing their frequency. We are loading the dice towards more Sandy or blizzard-type storms.

So when my friend says: The planet is not warming; it is cold, we all know it is not about the weather. It is about the climate. It is about the long term—and, yes, we are going to see these extreme weather conditions.

I would say that when my friends call us alarmists, that is ridiculous. We are trying to do our job. We are not scientists. We are not doctors either, for the most part, but we want to make sure people have health care coverage. We are not scientists, but we want to protect our people from the ravages of climate.

I would ask my colleague Senator SCHATZ would he like me to go another 5 minutes, 10 minutes or 2 minutes? It is up to him. I can withhold. I am going to be here for quite a few hours.

The PRESIDING OFFICER. The Senator from Hawaii.

Mr. SCHATZ. If the Senator from California wanted to go for another 2 or 3 minutes, I could give remarks for about 10, and then the senior Senator from Oregon has remarks to give as well.

The PRESIDING OFFICER. The Senator from California.

Mrs. BOXER. Absolutely. Will the Presiding Officer tell me when I have used 3 minutes and then I will yield the floor at that time.

The PRESIDING OFFICER. The Senator will be so notified.

Mrs. BOXER. We just heard 45 minutes from my friend JIM INHOFE, whom I have a very friendly relationship with but who I think is a dangerous denier, a dangerous denier in the face of 97 percent agreement among scientists.

He talks about international groups. I wish to talk about the National Academy of Sciences. Here is what they said: ''Levels of carbon dioxide and other greenhouse gasses in earth's atmosphere are exceeding levels recorded in the past millions of years.''

That is our own National Academy of Sciences. I guess if we went out and asked the public do they support the National Academy of Sciences, I think it would come in at 90 percent, and the other 10 percent would say, I will get back to you.

Then we have more from the National Academy:

Climate change is occurring. It is very likely caused primarily by the emission of greenhouse gasses from human activity.

They go on:

Human activities have increased greenhouse gas concentrations in the atmosphere. Carbon dioxide, the main greenhouse gas, is emitted by human activities and it has risen almost 40 percent over the past 150 years.

So when you hear my colleagues on the other side of the aisle stand and deny this, how about the U.S. National Climate Assessment? This is the United States of America, our experts:

Global sea level has risen by about 8 inches since reliable recordkeeping began. It is projected to rise another 1 to 4 feet by 2100.

That is dangerous. We have already seen it happening. I could go on, and I will come back, but I will conclude with this. I am, in my concluding remarks, going to tell you about every incredibly prestigious scientific group that has warned us about climate change: The joint world science academies' statement, the American Association for the Advancement of Science, the American Chemical Society, the American Geophysical Union, the American Institute of Biological Scientists, the American Society of Plant Biologists, the Association of Ecosystem Research Centers, the Botanical Society of America, the Crop Science Society of America, the Natural Science Collections Alliance, the Society for Industrial and Applied Mathematics, the Soil Science Society of America, the American Medical Association, the American Meteorological Society, the American Geophysical Union——

The PRESIDING OFFICER. The Senator has used 3 minutes.

Mrs. BOXER. I ask unanimous consent for 30 additional seconds.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mrs. BOXER. The Geological Society of America. All I can say is, to come down here and accuse the Democrats of being alarmist, when all we are trying to do is protect the health and safety of the American people, of their families and future generations, is extreme while we are in the mainstream.

I yield the floor.

The PRESIDING OFFICER. The Senator from Hawaii.

Mr. SCHATZ. Mr. President, I would like to address some of the tropes that our climate deniers tend to use. I will go through a couple of those before our great senior Senator from the great State of Oregon gives his remarks.

The first trope is: It is not warming. The ''it is not warming'' crowd will not even admit that the Earth is warming. Their favorite tactic is to point out the window during winter and say: Look at the snow on the ground. Climate change is bunk.

That is not an adult argument. Under that theory, winter weather anywhere disproves climate change. Snowstorms are weather. Weather is not climate. Weather is a local phenomenon over extremely short timespans. Weather is what it is going to be like tomorrow. Weather is not climate. Climate is long-term weather trends over vast regions. This is not difficult to distinguish among adults. It is easy to make a joke about how cold it is and therefore climate change is bunk.

But the vast majority of science disproves that assertion. Pointing out the window on a cold day and laughing about climate change is one of the most profoundly unserious things that otherwise good and responsible leaders in this Chamber do. Part of this country's greatness is our pragmatism. We see the world as it is and fix the things we can. For that, we need reliable information. When it comes to climate change, we have reliable information. We ignore it at our peril.

For those who say the Earth is not warming, I would like to talk about thermometers. They measure temperature. We have them all over the world, very sophisticated ones run by very smart people. They provide a lot of data that has proven beyond a doubt that the atmosphere and that the oceans are warming. Even prominent climate skeptics such as American scientist Richard Muller can no longer argue.

After exhaustive research, Dr. Muller said in 2012:

Our results show that the average temperature of the earth's land has risen by two and a half degrees Fahrenheit over the last 250 years, including an increase of one and a half degrees over the most recent 50 years. Moreover, it appears likely that essentially all of this increase results from the human emission of greenhouse gases.

This was a prominent climate denier previously.

Two, relying on anecdotes to disprove what is actually happening. A research vessel got stuck in summer ice in Antarctica. More and more deniers are being forced to rely on out-of-context anecdotes to support their false claims. In December, they got very excited about a research vessel that was stuck in the summer sea ice in Antarctica, claiming it as proof that the Earth is not warming. Here is the thing. It is an Antarctica. It is at the bottom of the Earth. It is one of the coldest places in the world. One summer's ice in Antarctica does not suddenly invalidate millions of worldwide temperature measurements from all over the planet.

They do this whether glaciers are growing or melting. Even though 90 percent of the world's glaciers are melting, they pick off one and use it as proof that climate change is somehow not an established scientific fact, even though it is.

The fourth trope we hear, and this is a pivot, we are starting to hear it more and more: It may be warming, but maybe we did not cause it. They begrudgingly admit that the Earth is warming but say: Hey, this is part of a natural cycle. Natural cycles have happened before and they will happen again.

Recently, Dr. James Powell, a geochemist, former college president and National Science Board member, studied all peer-reviewed articles on climate change—all peer-reviewed articles on climate change from 1991 to 2013. He found just over 25,000 articles written since 1991. Of 25,000 articles, only 26—only 26 rejected the premise of human-caused climate change. This is no longer a real debate. It is only a debate in the four corners of this Capitol. People across the Nation, insurance companies, the Department of Defense, most governments across the planet, our biggest corporations, regular people of all political stripes and in every State understand that this is what is happening to us.

Some deniers also like to use responsible scientists' methods against them. The truth about scientists is that they are scientists, which is to say they entertain doubt; they ask questions; they are not afraid to express their doubts; they observe and refine their theories. So deniers cannot in good conscience use the scientific process as evidence that doubt still exists. Sure, there is uncertainty among scientists, but it is pretty much just about whether future impacts of climate change will be really bad or extremely bad.

The sixth trope is: It is not a big deal. Maybe it is even good. As deniers paint themselves even further into a corner, they become desperate. We now come to the category of those who admit the Earth is warming, admit it is caused by humans but claim the effects are negligible or, even more preposterously, they might be good for us.

My colleagues and I have presented evidence from study after study after study showing that while the changes so far are manageable in some places, if we do not change our ways, the bad news will start coming faster and faster. Absent major reforms, the rate of

change will increase. We may not notice half a degree of average temperature increase here and there, but on a geological timescale, these changes are occurring at recordbreaking speed.

In many cases, they may be happening too quickly for nature or humanity to adapt. A 2012 study commissioned by 20 governments, which was written by more than 50 scientists, economists, and other experts, found that by 2030 the cost of climate change and air pollution combined will rise to 3.2 percent of global GDP, with the world's least-developed countries most impacted, possibly suffering losses of up to 11 percent of their GDP.

Developed countries will not be exempt from these impacts. The study finds that climate change could wipe out 2 percent of our GDP by the year 2030. That is a big deal.

Finally, the trope that China is doing nothing so our actions do not matter. This category of deniers accepts the reality, causes, and seriousness of climate change, but then they say it is hopeless because countries such as China and others are doing nothing to reduce their image.

That is flat wrong. Here is the evidence. In September, the Chinese State Council released its atmospheric pollution action plan, which called for a reduction in the construction of new coal-fired powerplants and a goal of generating 13 percent of its electricity from clean energy from renewable sources by 2017.

Chinese officials have announced they plan to institute a tax on carbon pollution in 2015 or 2016. Certain regions have also begun to implement pilot cap-and-trade programs, and they have plans to create a national carbon market by 2020.

How about current investments? In 2012, the United States spent about $35 billion on renewables, while China spent $64 billion.

Finally, there is the nothing-we-can-do denial trope. Let's throw in the towel. This crowd accepts the science, accepts the impacts but seems to have just given up.

When did we start thinking we couldn't solve America's big problems? When did we start thinking we were too small or not important enough to make a difference?

I don't believe that. I believe that when America leads, the world follows. For this country to lead, this Congress needs to act.

I yield the floor.

The PRESIDING OFFICER (Ms. WARREN). The Senator from Oregon.

Mr. WYDEN. Madam President, earlier this evening I touched on the numbers that underlie this debate—the numbers from the National Oceanic and Atmospheric Administration, the numbers from the National Academy of Sciences—and said they really drive me to the judgment that climate change is the scientific equivalent of a speeding Mack truck. But I believe numbers don't really capture this discussion fully because what people want to know is the impact of climate change in their community, what it truly means for them in their part of the country.

To get into those impacts, I will start with one that is shellacking my home State; that is, the wildfires that are burning longer, getting hotter, and starting earlier. Drought and high temperatures from climate change are driving all of this. During the early part of this past year's fire season, intense wildfires once again burned across the Western United States, threatening population centers and destroying hundreds of homes. This winter, fires have already burned in western Oregon—something that used to be very rare. The number of houses that have burned in our country from wildfires has increased a staggering 400 percent in only the past couple of years and is projected to get far worse. In 2012, 2 percent of my home State of Oregon burned in just one summer and nearly 1.5 million acres burned across the Pacific Northwest. Wildfires, of course, have always been part of life in my home State, but the fires of recent years are getting hotter and are significantly more threatening to homes.

Our country's top scientists say the conditions that caused these recent fire seasons to become more severe, including drought accompanied by above-average temperatures, are more common now due to human-induced climate change. Over the past 30 years the fire season has become 2½ months longer and both the number and severity of forest fires in the American West have increased several-fold. Scientists who have examined this issue say climate change is a significant factor behind it.

To their credit, the Obama administration has indicated that they want to work with Senators of both political parties to tackle this issue. In particular, what they have suggested—and Senator CRAPO, the Republican Senator from Idaho, and I have pushed this strongly—is that instead of shorting the prevention fund, which is the heart of the problem—we have to go in and thin out these overstocked stands—instead of shorting the prevention fund, which is what happens every year now, because these fires are so big and so hot, what happens is the bureaucracy comes in and takes money from the prevention fund in order to suppress the fires, and the problem, of course, gets worse because we don't have the funds for prevention.

The administration wants to work with Democrats and Republicans in the Senate and in the other body so that the most serious fires—only the most serious ones—get handled from the disaster fund. We believe this is going to free up additional support for efforts to prevent these fires, and that will be beneficial to our communities.

Second, I would like to focus on power sector vulnerability. The drought and high temperatures that can lead to the wildfires and make our power grid more vulnerable also raise the question of the implications for our grid and for taxpayers.

Much of that vulnerability comes from changes in water supply and water temperature. Water plays two critical roles in generating electricity. Water is needed for generating hydropower—something we do a lot of in the Pacific Northwest. It is also needed for cooling in many other types of generation, such as nuclear, biomass, and coal. For those generators, water must not only be available in sufficient quantities, but it has to be cool enough to allow the plants to run safely and efficiently. That means climate change poses a double threat to some of these facilities.

This is not a hypothetical situation; recent history has already shown the power sector's vulnerability to both drought and high temperatures. In 2001, for example, severe drought in the Pacific Northwest and California significantly reduced hydroelectric generation, causing tight electricity supplies and high prices throughout the West. That drought was estimated to have an economic impact of between $2.5 billion and $6 billion.

High temperatures have also made water too hot to actually be able to cool some powerplants. In 2007 the Tennessee Valley Authority had to temporarily shut down its Browns Ferry Nuclear Plant because the intake water temperatures were too high. In 2012 the Millstone nuclear plant that powers half of Connecticut had to take 40 percent of its capacity offline for almost 2 weeks because the cooling water it was getting from Long Island Sound was too warm. In that same year the Braidwood nuclear facility in Illinois had to get an exemption to use intake water that was 102 degrees instead of shutting down during a heat wave. When somebody has their air-conditioning on high because it is over 100 degrees, that is not a time that we can afford to be taking a base load powerplant offline.

So far it has been possible to get through the heat- and drought-related shutdowns of these powerplants without major outages, but let's make no mistake about it—the ratepayers have definitely felt them in their power bills. In Texas during the summer of 2011, for example, electricity was selling on the spot market for $3,000 per megawatt hour—well over 100 times the normal rate.

Next I would like to talk about the effects of climate on energy infrastructure. The power sector isn't the only bit of energy infrastructure that is vulnerable to climate change. Recently, I—along with the majority leader, Senator REID, Senator FRANKEN, Senator HARKIN, and Senator MARK UDALL—asked the Government Accountability Office to look into the effects of climate change on energy infrastructure.

That report was just released. What the Government Accountability Office

found is that climate changes are projected to affect infrastructure throughout all major stages of the energy supply chain—of course, once again increasing the risk of energy disruption.

In addition to power sector vulnerabilities, the GAO also found vulnerabilities among the infrastructure for producing and extracting natural resources, including oil and gas platforms, refineries, and processing plants. This infrastructure is often located near the coast, making it vulnerable to severe weather and sea level rise.

Fuel transportation and storage infrastructure, including pipelines, barges, railways, and storage tanks, are also susceptible to damage from severe weather, melting permafrost, and increased precipitation.

I close by outlining some of the steps that can actually be taken to deal with these issues. I am sure people who are following this discussion tonight are saying: All right, they are making a good case about the nature of the problem. So what else. What comes next in terms of our ability to take action to deal with this.

I have said before that there are a host of areas where we are going to have to work in a global kind of manner to build support with other countries for tackling climate change, but there is no question that this Senate can put points on the board this year in the fight against climate change.

I am very pleased to have been able to work with our colleague Senator MURKOWSKI, the ranking Republican on the Energy and Natural Resources Committee, over this past year. Until recently I served as chairman of the Energy and Natural Resources Committee, and we were able to pass a major law to spur development of hydropower, which is one of America's forgotten renewables. Hydropower already makes up two-thirds of our country's renewable power, so this is obviously a vital renewable source of energy. Our legislation makes it easier to put hydro on existing dams, irrigation canals, and conduits, and we believe it is going to spark big investments in clean renewable power. The National Hydropower Association estimates that there are 60,000 megawatts of potential new hydropower in our country yet to be harnessed.

In addition, our committee passed an important bill to cut redtape associated with developing geothermal power on public lands.

My colleagues and I urge the administration to take steps to have tools at their disposal to invest in energy efficiency and use the savings to pay for those upgrades.

I look forward, here on the floor of the Senate, to being able to pass what I would call the platonic ideal of consensus energy legislation; that is, the bill that has been sponsored by our colleagues, Senator SHAHEEN and Senator PORTMAN. I am very pleased that we had a promising development over the past few weeks where we brought together those who care about trying to promote clean and renewable energy in Federal buildings. We have been able to get common ground between Senators of differing views. I look forward to seeing that bill, the Shaheen-Portman bill, on the floor of the Senate.

The fact is a number of our renewable energy sources have been on a roll over the past several years, demonstrating their potential.

For example, onshore wind has installed tens of thousands of megawatts of capacity in recent years when the policy support has been in place. As expected, the costs have come down with technology improvements, experience, economies of scale, and as a deep domestic supply chain has built up to manufacture all of the components of the wind turbines and towers. The policy support has been working, and wind is now knocking at the door of competitiveness with fossil technologies.

Offshore wind is also picking up steam, even off the coast of my home State, where the waters have always been too deep for offshore wind to be possible. A company called Principle Power is trying to solve that problem by demonstrating floating offshore wind turbines just off the coast of Coos Bay in my home State. Putting a turbine on a floating platform instead of mounting it on a tower on the ocean floor has the potential to dramatically change the potential for offshore wind. It would let developers tap into the huge windy resource above the deep waters off the coast of Oregon and elsewhere but without the footprints on the ocean floor and without affecting views from the coast. It is a promising technology, but, like all first-of-a-kind technology, it is going to cost a bit more. That is why we ought to get policy support—so we can realize the potential of commercial-scale energy.

Finally, the costs of solar power have also been dropping like a rock. The potential for sustainable biomass to provide a quadruple win of low-carbon energy, increased forest health, reduced danger of forest fires, and economic growth is still there waiting to be fully developed.

I wish to touch on two remaining issues, and one is before the Senate Finance Committee. It is my strong view that the tax treatment of all energy production in the United States ought to be modified so that all energy sources compete on a technology-neutral level playing field. That ought to be one of the major goals of comprehensive tax reform, which, in my view, is really the grand bipartisan prize for Senate Finance Committee members.

In the short-term, we have another challenge. We shouldn't let the renewable energy industries that are so important simply fall off the cliff just when the supply chains have been developed and just when they are reaching a level of competitiveness where they can really take off.

It is my hope that it is possible to work in a bipartisan way. I intend to talk to Senator HATCH, the ranking Republican on the Finance Committee, and colleagues on both sides of the aisle to work on a tax extenders package that includes a variety of clean energy and efficiency credits. Senator HATCH and I have been interested in moving forward this spring through the regular order and markup of this kind of energy package in the Finance Committee.

I will close by talking about natural gas because to capture all of the climate benefits we also have to factor in the dramatic shale gas revolution. We understand that natural gas has turned the energy equation upside down over the past few years. Along the way, it has provided a low-cost way to reduce greenhouse gas emissions at the same time. Increased usage of natural gas has helped our country to reach its lowest level of greenhouse gas emissions since 1994, even as the economy has been picking up steam. Manufacturing and industrial operations have been moving back to the United States to take advantage of cheap reliable gas.

This is good news that was almost unimaginable just a few years ago, but we have some major challenges as well. I am concerned that methane emissions from leaky compressors and leaky pipes could undermine the emission benefits of natural gas in a way that isn't being accounted for. A recent report which showed a leakage rate of just 3 percent through the entire natural gas supply chain can make burning natural gas the same as burning coal from a climate perspective. So I have been pushing hard with colleagues here in the Senate to keep that leakage rate below 1 percent from production to usage to make sure that climate benefits come to reality.

There are technologies that can address the issue of leakage, and they already exist. They can be put in place at almost no net cost, with many of the measures paying for themselves. There has been a comprehensive survey of the measures for reducing methane leaks through the natural gas supply and usage chain, and it found emissions could be reduced by 40 percent with technologies that already exist and are practical today.

The scale of this problem is, of course, immense, and it is what Senators are talking about here tonight. It is going to take everyone pulling together at every level to make the meaningful changes actually happen. We are going to need continued leadership from our entrepreneurs, who aren't sitting idly by but are innovating to come up with solutions to climate change. We are going to need savvy consumers demanding lower carbon and more efficient goods and services. We will need leadership from retailers who are going to ask more of their suppliers and supply chains to

give them products to sell to those consumers. Of course, the key is always innovation in the private sector—the private-sector leaders working with our national labs and universities.

I am especially proud that my home State of Oregon is going to lead the State efforts in trying to promote sustainability, renewables, and efficiency at the local level.

To wrap up my remarks, let me state the obvious. It is going to take new leadership from the Congress. The Congress is going to have to lead if we are going to get a long-term framework for a low-carbon economy that innovators, entrepreneurs, and others can use in the days ahead to address the global nature of this problem, and I think we are up to it here in the Senate. I think we are up to doing it in a bipartisan way, and that is what I look forward to being part of in the days ahead.

I yield the floor.

Mr. WHITEHOUSE. Madam President, Senator FEINSTEIN is scheduled to speak next, and we are delighted that she is.

DINNER INVITATION

I just wanted to make a public service announcement at this point in the evening. Any staff, Senators who are here through the night, any floor staff, Republican floor staff as well, all are invited; and for any of the parliamentary staff who are interested, there is dinner available in Room S. 219, and better to get it while it is hot.

That is the end of the public service announcement.

The PRESIDING OFFICER. The Senator from California.

ORDER OF PROCEDURE

Mrs. FEINSTEIN. I ask unanimous consent that the order with respect to alternating blocks of time be vitiated and that the Senate remain in a period of morning business until 8:45 a.m., Tuesday, March 11, with Senators permitted to speak for up to 10 minutes each.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mrs. FEINSTEIN. Madam President, I ask unanimous consent to speak for between 20 and 30 minutes.

The PRESIDING OFFICER. Without objection, it is so ordered.

Mrs. FEINSTEIN. I want to begin by thanking my friend and colleague, Senator BOXER, for her leadership. It was 2 years ago that she began a climate action task force that took place at noon, when all our stomachs were grumbling for food, but it provided some very interesting advice, very interesting knowledge, from interesting scholars who came to speak. She was then joined by Senator WHITEHOUSE, when he came. Now there is Senator MARKEY, and there is quite a large number—certainly of Democratic Senators—who attend these Tuesday meetings at noon. So I want to thank them very much for this leadership.

As we have heard already, debate over climate change has raged for years here on Capitol Hill, but the scientific facts actually have been conclusive for some time now. Most people I have found don't realize that the greenhouse gases we put into the atmosphere just don't go away. They do not dissipate. These gases can stay for decades. Our actions—the greenhouse gas pollution we put into the air and the forests we cut down—are changing the composition of Earth's atmosphere, increasing the concentration of carbon dioxide in the atmosphere to above 400 parts per million.

Just look at this chart. As this chart shows, these are global warming gases. This is carbon dioxide. You can see how it has run quite along at this level, and then in the last few years it has begun to jump up, so much that the average in 2013 was 396 parts per million. People don't know this—that all these gases remain in our atmosphere year after year, decade after decade, and century after century.

This change is altering how our atmosphere interacts, with massive amounts of solar energy radiating out from the center of our solar system. It is well known within the scientific community that the Earth's blanket—our atmosphere—is getting more effective at trapping heat. The full effects of this stronger blanket—or shield or whatever you want to call it—must be projected into the future. Different projections show different effects, but we know this. Change is coming, and it has already begun.

A lot of people also believe our Earth is immutable, that we can't destroy it and that it can't change. They assume our planet has always been pretty much the same. But the last time the Earth's atmosphere contained 400 parts per million of carbon dioxide was more than 3 million years ago when horses and camels lived in the high Arctic in conditions that averaged 18 degrees warmer than today. Seas were at least 30 feet higher, at a level that today would inundate major cities around the world and flood the homes of a quarter of the United States population.

Concentrations of carbon dioxide have risen, as I said, from the 280 parts per million to more than 400 parts per million in just the last 150 years. Scientists tell us there is no known geologic period in which concentrations of carbon dioxide in the atmosphere have increased as quickly. Bottom line: Never has our planet faced a faster or more ecologically devastating change.

To settle the scientific debate over climate change, the Bush administration appointed a National Academy of Sciences Blue Ribbon Panel. The group, which included former climate change deniers, reported to Congress in 2001 that greenhouse gases are ''causing surface air temperatures and subsurface ocean temperatures to rise.'' They said: ''Temperatures are, in fact, rising.''

The United Nations created its Intergovernmental Panel on Climate Change, a group of more than 600 leading scientific experts; and what did they say? They said the ''warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.''

Average temperatures over lands and ocean surfaces globally have increased 1.53 degrees Fahrenheit from 1880 to 2012, with the highest rate of increase in the past 3 decades.

Just look at this. See the line indicating carbon dioxide concentration. Start from here. Now notice that the temperatures are still down. Watch the line start to go up and notice the climate warm up to where it is today.

The IPCC report continued: ''The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.''

This makes that clear. If we don't reduce the greenhouse gas emissions, the National Research Council predicts the average global temperatures will increase by as much as 11.5 degrees—11.5 degrees by 2100. Such a dramatic and rapid increase would be catastrophic to our planet Earth. It would change our world permanently.

As temperatures have increased, we have seen that ice sheets that cover the North and South Poles have begun melting. The average annual Arctic sea ice area has decreased more than 20 percent since 1979. That is when satellite records first became available. The Greenland ice sheet has melted by nearly 30 percent.

Here we can see the Arctic, the red line shows what it was in 1979, and current picture shows what has been lost and what is left.

The melting of glaciers and ice caps, along with expansion of ocean water due to the increase in temperature have caused the global sea level to rise by 8 inches since 1870, with over 2 inches just in the past 20 years. If we do nothing to stop climate change, scientific models project that there is a real possibility of sea level increasing by as much as 4 feet by the end of this century—4 feet.

Now, what would 4 feet do? At risk are nearly 2.6 million homes located less than 4 feet above high tide nationwide.

Let me speak about my home State of California. We have, within those 4 feet, the homes of 450,000 people, 30 coastal power plants with generating capacity of 10 gigawatts, 22 wastewater treatment plants with capacity of 325 million gallons per day, 3,500 miles of roadway, 280 miles of railway, 140 schools, and 55 hospitals and other health care facilities. These could all be inundated by the end of the century.

Oakland and San Francisco International Airports are susceptible to flooding, and both are today studying expensive new levy systems to hold back the tides.

Sea level rise in California would also cause flooding of low-lying areas, loss of coastal wetlands, such as portions of the San Francisco Bay Delta,

erosion of cliffs and beaches, and saltwater contamination of drinking water. Bottom line: Rising seas put California's homes, public facilities, and environmental resources in great peril, and adapting to this change will impose great cost.

Temperatures in California have increased 1.26 degrees Fahrenheit over the past 4 decades. The warmer climate could be particularly devastating to us where threats from catastrophic wildfire and reduction in water resources will likely make sunny California a desert State. The Sierra Nevada snowpack—and we are hearing a lot about that now—which includes Lake Tahoe—is the State's largest source of water. It equals about half the storage capacity of all of California's manmade reservoirs. If we do nothing, the Sierra Nevada spring snowpack could drop by as much as 60 to 80 percent by the end of the century, eliminating the water source for nearly 16 million people.

Only four States have populations as large as 16 million people, and the largest agricultural State in the United States—California—needs water resources to farm and grow crops. The 38 million people living in California also need water to drink, to bathe, to water flowers, for businesses to flourish.

Major fire is another danger because the size, severity, duration, and frequency of fires are greatly influenced by climate. This is the Rim Fire, from not too long ago. It gives us an idea of how things burn. Fire seasons in the West are starting sooner and lasting longer. The average length has increased by 78 days since 1970, a 64-percent increase. This isn't a coincidence, and climate change is suspected as a key mechanism for that change. The change is apparent.

During a recent Senate hearing, U.S. Forest Service Chief Tidwell testified:

> On average, wildfires burn twice as many acres each year as compared to 40 years ago, and there are on average seven times as many fires over 10,000 acres per year.

I believe this: We cannot stop climate change from happening. We do not have a silver bullet. There is no action we can take to stem the tide. But if we can hold the warming to less than 2 degrees Celsius, we can accommodate for it. But if the warming reaches 5 degrees to 9 degrees Celsius, the effects are catastrophic for our planet Earth. Dramatic and catastrophic effects are far more likely. Through a series of incremental but somewhat aggressive policy steps, we can slow the change.

The combustion of fossil fuel—coal, oil, and natural gas—accounts for 78 percent of greenhouse gas emissions in our country. Most of the fossil fuel emissions come from the smokestacks of our power plants and the tailpipes of our vehicles.

The bottom line: To address climate change, we must take steps to use fossil fuels more efficiently, and we must initiate a shift away from fossil fuels where we can and toward cleaner alternatives.

I believe we can attack this problem by: establishing aggressive fuel economy standards to reduce emissions from the transportation sector; enabling a shift to renewable sources of power; limiting the emissions from stationary sources, especially power plants; and, most important, putting a price on heat-trapping carbon pollution.

Let me mention some steps we have taken because we have begun a transition to a cleaner energy economy. The good news is that carbon dioxide emissions have dropped 12 percent since 2005, due in part to the policies we have adopted.

One of my proudest achievements was working with Senators Snowe, Inouye, Stevens, CANTWELL, Lott, Dorgan, CORKER, CARPER, and many others in the 2007 Ten-in-Ten Fuel Economy Act, raising the corporate average fuel economy known as CAFE at the maximum achievable rate.

Let me say what these new standards mean. They mean we will have a fleetwide average of 54.5 miles per gallon in 2025. These standards will cut greenhouse gas emissions from cars and light trucks in half by 2025, reducing emissions by 6 billion metric tons over the life of the program, more than the total amount of carbon dioxide emitted by the United States in 2010. Better yet, these standards will save American families more than $1.7 trillion in fuel costs, resulting in average fuel savings of more than $8,000 per vehicle.

Our legislation also directed the administration to establish the first ever fuel economy standards for buses, delivery trucks, and long-haul 18 wheelers. The first standards, which apply to trucks and buses built from 2014 to 2018, will reduce greenhouse gas pollution by approximately 270 million metric tons.

I am very sorry Senator Snowe from Maine isn't here today because I began this effort with a simple sense of the Senate resolution in 1993 with Senator Slade Gorton from Washington, Senator Bryan from Nevada, and myself, and we couldn't get a simple statement passed. We then tried an SUV loophole closer, which was to bring SUVs down to the mileage of sedans and we couldn't do this.

We then did the Ten-in-Ten and we didn't think it was going to go anywhere. Senator Stevens and Senator Inouye put it in a commerce committee bill. Senator Stevens changed his view on it, put it in a commerce committee bill, and it swept through the Senate and through the House, was signed by the President, and is now the law. Today President Obama has made completing CAFE standards for trucks built after 2018—which are required by our 2007 law—a key part of his Climate Action Plan.

Power plants are our largest single source of greenhouse gas emissions. It is fair to say Federal tax incentives and financing, State mandates, federally funded research, and a dramatically improving permitting process have led to a recent shift away from coal-fired power plants and toward renewable energy and lower emission natural gas.

Additionally, renewable energy production has more than doubled since 2008, and it continues to boom. Last year 4,751 megawatts of solar were installed nationwide. This is a 41-percent increase over the previous year. Power plant carbon dioxide emissions have dropped 17 percent since 2005.

The lesson is clear: We must continue the policies which are working, such as the wind and geothermal production tax credits, the solar investment tax credit, and a project-permitting process which advances projects on disturbed and less sensitive lands expeditiously, but we must also take longer term steps to ensure that power plant emissions continue to drop.

I support the President's plan to use Clean Air Act authorities to limit greenhouse gas emissions. The Supreme Court's landmark global warming case, Massachusetts v. EPA, found greenhouse gases are pollutants with the potential to endanger human health and welfare. President Obama and EPA have an obligation to comply with these directives to limit such emissions. So I very much look forward to the President advancing a strong rule which will use market-based mechanisms.

I also believe Congress could act to reduce greenhouse gas emissions from power plants by putting an explicit price on pollution. It has taken me a long time to get there—approximately 20 years. I supported various other mechanisms—and will continue to support—but I am convinced, based on information by the Energy Information Administration, a fee on greenhouse gas emissions from power plants starting at only $10 per ton could reduce emissions 70 percent to 80 percent by 2050, if the fee steadily increases over time. This is the emissions reduction level experts say is necessary to stabilize the climate at less than 2 degrees Celsius warmer than today. If we can do this, we save planet Earth. If the climate goes 5 degrees to 9 degrees warmer by the end of the century, we have lost.

Such a fee could be responsive to emissions performance. If emissions were falling consistent with science-based emissions targets, the fee would not have to go up every year. It is estimated a fee on power plant emissions would be nearly as effective in reducing heat-trapping emissions as an economy-wide fee. The difference is 2 percent. So both policies deserve consideration.

Such a fee would provide industry with cost certainty, and the revenues—exceeding $20 billion annually—could help address our Nation's debt. They should go back to the general fund. The revenue could finance other important national priorities, such as tax reform,

income inequality, energy research development.

An MIT study found that if the fee revenues were used to cut other taxes or maintain spending for social programs, ''the economy will be better off with the carbon (fee) than if we have to keep other taxes high or cut programs to rein in the deficit.''

Science has clearly shown the planet is warming and now at a faster rate than ever. We know this. Now we as leaders must make a choice: Do we act, do we lead, do we tackle the problem or do we wait until it is too late? Do we continue the progress we have made on fuel economy by taking on other large emitters or do we simply claim it is impossible, it is intractable, we can't do anything about it? Do we blame the problem on China? And China has a big problem. Do we deny undeniable facts due to current politics?

I believe we have an obligation to lead. There is no question it is difficult and there is no question there are hard choices, but we have an obligation to control our own pollution. Our Nation has the opportunity to demonstrate to the rest of the world it can be done, and tonight shows there are some leaders.

I thank Senator BOXER, Senator WHITEHOUSE, Senator MARKEY, and Senator SCHATZ for their leadership, not only on this evening but for the years they have led on this issue. So let's get it done.

Before I end, I would note that my legislative assistant, the young man sitting next to me, is leaving to work for the Department of Energy. He has worked on fuel efficiency standards, climate change, energy, transportation, and a number of other issues.

Matthew Nelson, I want you to know your expertise, your unique creativity and capacity, and your dedication will be missed.

The PRESIDING OFFICER. The Senator from Rhode Island.

Mr. WHITEHOUSE. Madam President, may I thank the distinguished Senator from California for her speech. For those who know of her history with this issue and her leadership on pollution issues over many years, this was an important speech, and I thank the Senator very much.

Before we turn to Senator BOXER, I wish to say a few things about the comments the Senator from Oklahoma made earlier, I suppose in an effort to suggest climate change is not all that we shake it up to be. The first point he made was about a group of emails that came out of East Anglia University, which the climate denier community seized on and nicknamed climategate, as if like Watergate there was a big scandal in those emails. There were some probably not entirely appropriate comments that were said in the emails, but the question is, Was the science underlying it affected or compromised in any way?

So-called climategate was actually looked at over and over again. Because it was at the University of East Anglia, the University of East Anglia did an investigation. Because it involved scientists at Penn State, Penn State did an investigation. Both of those universities gave a complete clean bill of health to the underlying science that was at the base of this.

The House of Commons—the British House of Commons did its investigation. That is how much fuss the deniers kicked up about this. They came back and they said: Nothing wrong with the science there. Nothing wrong with the science. The U.S. Environmental Protection Agency and National Science Foundation also did investigations, as did the inspector general of the Department of Commerce. Three for three, those investigations came back as well, saying: If they did say anything inappropriate, nothing wrong with the science.

After all that, after six published reviews whose results confirmed that there was nothing wrong with the science as a result of these emails, for people to continue to come to the floor and to suggest that the email chain revealed some flaw in the data or some flaw in the science, it is untrue. It is as simple as that. It is just not true.

In fact, if you wanted to nickname this properly, you would actually call it climategate-gate because the real scandal is the phony scandal that was whipped up about these emails when the underlying science had been confirmed by every single investigation that followed. So much for climategate or climategate-gate, more properly said.

He also indicated that because the IPCC report had said the Himalayan glaciers were retreating, but they weren't, that there was something obviously wrong with the science. Let us start with some glaciers closer to home. This is Grinell Glacier in Montana. Here is what it looked like in 1940. That is all snow. Here is what it looks like in 2004. It is melted down to this little puddle of snow and ice.

We are indeed losing our glaciers. Have a look in Washington at Lillian Glacier in Washington's Olympic National Park. This is in 1905. Look at the size of that glacier. Here it is, the same bowl, virtually dried of snow—glacier gone.

The fact that glaciers are disappearing is something people see in front of them all around the world. All you have to do is go to mountains with glaciers and look. I went with Senator BOXER to the glaciers in Greenland. You could see the glaciers retreat. You could see the increased speed as the ice moved more rapidly down and out to sea because of the melt.

Now the question of the Himalayan glaciers has also been reviewed. A recent article in Nature said:

> The Tibetan plateau and surroundings contain the largest number of glaciers outside polar regions. These glaciers are at the headwaters of many prominent Asian rivers and are largely experiencing shrinkage. . . .

Which is exactly what one would expect from the science of climate change.

Now the National Academy of Sciences recently did a report on this very subject about 6 months ago, and a quote on that report says:

> The report examines how changes to glaciers in the Hindu Kush-Himalayan region, which covers eight countries across Asia, could affect the area's river systems, water supplies, and the South Asian population. The mountains in the region form the headwaters of several major river systems—including the Ganges, Mekong, Yangtze, and Yellow rivers—which serve as sources of drinking water and irrigation supplies for roughly 1.5 billion people. So the irrigation and drinking water for 1.5 billion people is nothing to laugh about.

Here is the conclusion:

> The entire Himalayan climate is changing, but how climate change will impact specific places remains unclear. . . . The eastern Himalayas and Tibetan Plateau are warming, and the trend is more pronounced at higher elevations. Models suggest that desert dust and black carbon, a component of soot, could contribute to the rapid atmospheric warming, accelerated snowpack melting, and glacier retreat.

The Senator also mentioned the cost of a carbon fee. Just to make the record completely clear, I would propose a carbon fee whose every dollar of revenue was returned to the American people if as a result of a carbon fee they end up paying more in their energy bill somewhere.

Every dollar of that should come back to the American people. It could come back in the form of a check to the head of a family. It could come back in the form of lower tax rates. It could come back in a variety of ways, and I hope soon we are actually having that discussion. But do not think there is any need for this to be a net cost to the economy. Every dollar can go back to the American people. Because of the nature of this tax, it is actually probably more efficient than others, so it should create economic lift for a net economic gain if you are truly offsetting the revenues. So I reject the proposition that this would create a cost. It would be easy to design it in such a way that it is actually net improvement.

Finally, I will agree with something Senator INHOFE said. He said this has to be international; and indeed it does have to be international. India has a vote. They have a lot of powerplants. China has a lot of powerplants. They have to work together. We can do that.

America can lead in the world. If the others are slow to come, we can erect tax adjustments at our border that protect us and our products. We can make this happen, and we should.

The last is job loss claims. If you go back through the history of regulation of big industries, every time you roll something out they say it is going to be a huge economic disaster. They said this about the ozone layer; the Clean Air Act; the Clean Water Act. In fact, in some cases such as in the Clean Air Act, subsequent review showed the

amount that is saved from not being polluted exceeds the cost of compliance by as much as 30-to-1. Why would we not want a deal like that, particularly where the costs of climate change are going to be so severe?

The Senator said it is important to look at what has happened since the original IPCC report. Here is what happened since the original IPCC report. They doubled down. They are even more sure than they were of their findings on climate change. Other scientific organizations such as NASA have chimed in in unflinching language. I happen to have a lot of respect for NASA. If you can put a vehicle the size of an SUV up and out of our atmosphere, into orbit, send it to Mars, land it safely on Mars, and then drive it around, I think there is a pretty safe bet that you have some good scientists who know what they are talking about. I will put them up against the scientists paid for by the polluters every day.

I will yield the floor first to Chairman BOXER.

The PRESIDING OFFICER. The Senator from California.

Ms. BOXER. I wish to thank Senator WHITEHOUSE for his leadership. We are now 30 minutes behind, so I would take up to 30 minutes, and then I will be followed by Senator FRANKEN.

The PRESIDING OFFICER. Without objection.

Ms. BOXER. Madam President, I have been on this floor since early this evening and it is very clear that deniers are standing with 3 percent of the scientists while we Democrats who are here tonight calling for action are standing with 97 percent of the scientists.

As I mentioned before, every time the Republicans call a so-called expert to the Committee on Environment and Public Works, I track their path and they seem to be tied to the oil industry or to major polluters. That is just a fact. I am going to talk a little bit later about what has happened and why this suddenly has become a bitter partisan fight. It never used to be. It never used to be, but it is and it is wrong.

No one party can put together the votes needed. We have to share responsibility and that is critical. People have said to me, the press: What is the point of this all-nighter? I said, very simply: The Senate Climate Action Task Force, which has membership of getting toward 30 percent of the Senate, we want to wake up the Congress to the fact that time is running out. We have to act now. We have to do everything we can legislatively in every way.

The good news—and there is some good news which has nothing to do with the Senate. It is all bad news for the Senate, frankly. But the good news is that we have a President who gets this and who is moving forward with a climate action plan. I am sorry to say every step he takes we have people trying to repeal what he is doing. So far we have beat back those naysayers and those voices of the polluters.

One of the major functions of the Senate Climate Action Task Force is not just rallying around the scientists and calling attention to climate change, but it is clearly to play defense when we see attempts to roll back the President's plan.

We have already seen a CRA, which stands for congressional review act, that is in the works to overturn what the President is trying to do to clean up coal-fired plants before they even finish the rules. Senator MCCONNELL is talking about a race to repeal it before it is even put into place. I do not understand this—well, I understand it, but it is wrong.

We have to stand up for our families. As I said in my earlier remarks, if you saw any member of your family or any one of your constituents standing in the wake of a disaster, say an oncoming car, you would do everything in your power—everything in your power—to save that constituent or that family member.

We are facing an out-of-control problem here with our climate. It is out of control. If we do not wrap our arms around it, we will have catastrophic warming. It has already started and it will lead to horrible pain and suffering whether it is heat waves and deaths. We have already seen it in Europe. Colleagues from New Mexico and Colorado have already talked about horrible floods and fires. I can tell you more about fires in my State.

I have never seen anything like it. We have seen drought. All of this was predicted by the scientists back in the early nineties. I cannot believe that is 20 years ago that they told us. I think we have proven the point that deniers are standing with 3 percent of the scientists and every major scientific organization has warned us to act.

One of my colleagues, Senator INHOFE, came down and said: Oh, it is snowing. It is cold. It is called extreme weather, and it is what was predicted. The vortex up in the Arctic, we are feeling the impacts of a weakened jet stream. We are seeing these terrible temperatures in an extreme fashion hit the lower 48 States, some of which have never had it before. We have seen with our very own eyes snow in places such as Atlanta, people stuck on highways. No one knew what to do because it has never happened before. I think we have made the clear case.

I say to my colleague Senator SCHATZ, who has worked so hard with Senator WHITEHOUSE to put this together, we have proven the point. I believe that we stand with science in the mainstream, and our colleagues—most of whom have not come to the floor to debate us—are standing with the extreme and, frankly, the special polluting interests. Now, after they get done with denying, they have a fallback position, and they say: Well, even if you believe there is climate change, we should not act until China acts. Since when does the greatest country on Earth sit back and allow China to lead us out of a climate change impending disaster? Since when do we cede that authority?

I want to talk about that. All you have to do is take a look at China to see what happens to a country that throws the environment under a bus. Let's take a look at some of the people in China and what it looks like. These are people on their bicycles. You can't see anything around them. They have masks on. We are going to wait for China to lead us out of the climate change problem? I don't think so.

I went to China on a very interesting trip with Leader REID a couple of years ago. We were there for a good 10 days. We really saw the country. It is fascinating. There are a lot of interesting things going on there with transportation and so on. We never saw the Sun—never.

One day the Sun was behind the smog, and the guy who was with us said: What a beautiful day.

I said: No, it is not. This is terrible.

We went to the American Embassy. They have a measuring tool that tells them how dirty the air is in China. It is a hazardous duty post. People who were there with their kids were told not to go out because it was too dangerous. China has hazardous levels of pollution and toxic emissions which have had very harmful effects on the Chinese people.

We are supposed to wait for China to clean up carbon pollution? I don't think so. According to a scientific study from the Health Effects Institute, outdoor air pollution contributed to 1.2 million premature deaths in China in 2010 alone. This is not fiction; this is fact.

We have voices on the Republican side of the aisle who are begging us: Don't do anything on carbon pollution until China acts. Air pollution was the fourth leading risk factor for deaths in China. The threat is expected to get worse.

Urban air pollution is set to become the top environmental cause of mortality worldwide by 2050—ahead of dirty water and lack of sanitation. It is estimated that up to 3.6 million people could end up dying prematurely from air pollution each year, mostly in China and India. Think about that. Yes, we will hear our colleagues say China and India too.

I represent a very large and great State with a population of 38 million people. We are on the cutting edge of a clean environment. We are tackling carbon pollution. We are seeing great jobs being developed in solar, wind, and geothermal. We are going to have one-third of our electricity generation come from clean sources by 2020. I am so proud of my State. The special interests came in there and they tried to repeal all of our laws that had to do with cleaning up carbon pollution, and the people—even though they were faced with millions of dollars in oil company ads—said no.

So the people who say this isn't real, we have already disproved that. I put out the names of every possible organization. If you ask the American people about those organizations, they would say: We respect those organizations. So that is out.

Then they say: Wait for China. That is out. In January the U.S. Embassy issued warnings to China's citizens that the air quality in Beijing was so bad it exceeded the upper limits of its measurements, and the exposure to fine soot was many times above what the World Health Organization considers hazardous. They call it an ''airpocalyse.'' It forced the Chinese Government to close highways because the visibility was so bad.

This goes on in cities across China. A woman looked out her window in Harbin and said: ''I couldn't see anything outside the window, and I thought it was snowing.'' Then she realized it wasn't snow; it was dangerous toxic smog. That is what the people are living with. They are beside themselves. They walk around with masks. They can't go out. They are suffering and dying. And this is the country that my colleagues say we ought to wait for before we tackle climate change? You have to be kidding me. This is an embarrassment. Citizens of Harbin can see only 10 yards in front of them because small particle pollution soared to a record 40 times higher than international standards.

By the way, the cost of environmental degradation in China was about $230 billion in 2010 or 3.5 percent of the Nation's gross domestic product.

We know that Superstorm Sandy cost us about $60 billion. One storm cost $60 billion. So when you talk about the economic impact of putting a price on carbon polluters who are polluting this country, put that into the context of what happens if you let them continue polluting. Superstorm Sandy—we all lived through it. We all saw what happened.

I have seen the fires in California. We have seen them in New Mexico and Colorado. We know the costs that come from those fires. We have seen the drought. The President was out there. Thank God he came out there to give some money. Do you know that our ranchers were destroying their cattle, killing their cattle because there was no feed? The President went out there and made sure that emergency help was delivered so they could buy feed for those cattle.

When people say it is going to cost a lot to solve climate change, I beg them to think about the costs if we do nothing. Look at China. They did nothing about clean air, and they are paying the price with premature deaths, lost productivity, and people who are miserable.

Here is the thing: We learned a long time ago that stepping up to an environmental challenge pays off. Decades ago, the United States experienced damage and degradation—tremendous damage—to our environment. The Cuyahoga River in Ohio was on fire, massive air pollution hung over our cities, and lakes were dying from pollution. The American people demanded action. Guess what. We didn't wait for China or India or anybody else to act. We came together as Democrats and Republicans and said: This isn't appropriate.

President Nixon helped on the environment, President George Herbert Walker Bush helped on the environment, Jimmy Carter helped on the environment, Bill Clinton helped on the environment, and Barack Obama is helping on the environment. But now it has become a partisan issue.

The Clean Air Act goes back to 1970, and it was strengthened in 1990. Since 1990, the United States has cut fine particulate emissions. Those are the emissions that get into your lungs and cause all of our problems. Since 1990 we have cut those particulates by 57 percent because Democrats and Republicans came together. Now Republicans want to repeal all of that, but we won't let them. Fine particulate emissions is what is making the Chinese people sick.

In 1976 there were 166 days when health advisories were issued in southern California to urge people with asthma and other people with lung sensitivities to stay indoors. That was in 1976. The American people said: No, no, no; this isn't right. The people of California said: This is terrible. There were 166 days where I couldn't go out and breathe the air and take a walk and take my kids out.

Thanks to the action taken by Democrats and Republicans who worked together to pass the Clean Air Act and carry it out, the number of smog-related health advisories in 2010 in southern California dropped to—drum roll—zero days. So anyone who stands here and says, ''Oh, this problem is too big. I can't wrap my arms around it. China and India have to act,'' no, no, no, that is not America.

We have brilliant people in this country with great technological skills. Many of our States—and I am so proud of my State—have the latest technologies to clean up the air and water, make cars fuel efficient. My friend Senator FEINSTEIN spoke about fuel efficiency in cars, and I am so pleased we have done that. President Obama is now applying it to trucks.

We are literally saving lives because we know outdoor air pollution causes cancer. We know that. Let me tell you what the National Climate Assessment—that is our country—is saying about climate change:

> Climate change threatens human health and well-being in many ways, including impacts from increased extreme weather events, wildfire, decreased air quality, diseases transmitted by insects, food and water . . . Some of these health impacts are already underway in the U.S.

Clearly we have proven tonight that we stand with science. We are not scientists, but we are humbled before the science.

We know our Nation has shown great leadership in the environmental movement for years. We started this back in the 1970s when that river caught on fire and we said: What are we doing to our planet?

We should not and we must not wait for other countries to act. We must take action now, and that is the purpose of the Senate Climate Action Task Force. I am so proud of my colleagues who are here tonight and who go to those meetings every Thursday. ED MARKEY is leading us in meetings on Tuesdays, which is the clearinghouse. The clearinghouse is more of a think tank where we bring in the experts. We listen and question them. On Thursdays we meet with the task force. Members of the task force speak to the Democratic caucus.

I say to HARRY REID, if he is listening, how much I appreciate his leadership on this issue. He has seen some of the horrible impacts of climate change in his great State. His State has leaders in alternative clean energy. They are moving away from coal and toward clean energy. They are creating good-paying jobs.

When we put a price on carbon, the dirty industries start to pay for the pollution they are causing, and that will move us toward clean energy. When we move to clean energy, we will see a tremendous difference in the amount of carbon pollution in the air, and we will be able to avert the most dire predictions for climate, which is 7 degrees Fahrenheit. We don't want to see that for our children and our grandchildren and our great grandchildren because that will literally change the face of the way America lives.

We have it in our hands. Tonight we are saying: Wake up, Congress. Please, wake up. To my colleague from Oklahoma, Senator INHOFE, who is my friend, who said: You guys are just talking to each other; good luck, good night, I respond: I am proud to say more than 100,000 people have so far signed petitions calling on Congress to act, and this is just early in the evening. We are going to be going another almost 11 hours.

To Senator WHITEHOUSE and Senator SCHATZ I say thank you for organizing this. It is a little like herding cats, getting us all here, but it is working. It is working because Senators here get it. They know they are going to be here for a finite time, and when we get a challenge such as this, we stand up to it. We find the solutions and we fight for them, and we fight for the people of this great Nation.

Thank you so much, Mr. President. I yield the floor.

The PRESIDING OFFICER (Mr. KAINE). The Senator from Minnesota.

Mr. FRANKEN. Thank you, Mr. President. I thank Senator BOXER and Senator SCHATZ and Senator WHITEHOUSE for organizing this.

I rise tonight to talk about climate change, along with 25 to 30 of my colleagues who will be speaking through the night.

The recent extreme weather events we have experienced across the United States are our call to action. We in this body need not just to talk about climate change but to take action to address it. If we fail to act, the extreme weather events we have seen will only grow more extreme in the future.

This winter has been exceptionally cold in many areas of the United States, including Minnesota. Some deniers have taken this as a sign that climate change isn't happening. They have pointed to the cold weather as evidence that global warming is not occurring. But they are missing the point. We already know that on average the Earth is warming. This isn't complicated. We have been using thermometers to make measurements around the globe for a long time. We know average temperatures have gone up significantly in recent years.

But climate change isn't just about the average temperature. As the average temperature continues to rise, most experts agree we will see ever more frequent extreme weather events, including drought, storms, floods, and other extreme events. It is important to remember that we are not attributing any one event to climate change, but we can say there will be more extreme weather events as the Earth grows warmer.

As the Presiding Officer knows, we have seen the polar vortex bring Arctic weather to much of the United States during this winter. According to White House Science Adviser Dr. John Holdren, we can expect to see more of this kind of extreme cold as global warming continues. This is going to have serious consequences—it already has.

In my home State of Minnesota, the extreme cold has contributed to very serious propane shortages. Many rural residents are unable to properly heat their homes. Turkey growers are finding it difficult to heat their barns and, therefore, their turkeys. This is not just a problem in Minnesota. Other areas of the country have been affected. We in the Senate have to talk about what is happening and start taking action in the face of climate change threats.

The ongoing drought in California and other States is another example. The situation is particularly grave in California where vast regions have been classified as D4, which is the most severe drought category. This has cost farmers their crops and livestock and created severe water shortages for residents and businesses. Farmers have had to stop farming half a million acres of what normally is irrigated land. That is about 6 percent of the entire State of California. According to the California Farm Water Coalition, it is already costing that State $5 billion. These costs get passed on to every American. As a result of this drought, Americans have to pay more and will continue to pay more for groceries this winter.

Unfortunately, droughts such as this are becoming commonplace. In 2012, drought caused more than 70 percent of U.S. counties to be declared disaster areas. The National Oceanic and Atmospheric Administration estimated the economic impact of droughts to be $30 billion. The droughts destroyed or damaged major crops all over this country, making corn and soybeans more expensive and increasing animal feed costs. Again, Americans pay more for meats and other animal-based products because of drought.

In the Midwest, the 2012 drought dramatically lowered water levels in the Mississippi River, seriously interfering with our ability to transport our agricultural goods to market to compete with those from other countries. So that barges wouldn't run aground, shippers sent them down the Mississippi only half full with, say, soybeans. This made Minnesota soybeans less competitive with Brazilian soybeans.

Climate change is also exacerbating our Nation's wildfires, as we heard Senator WYDEN from Oregon describe about his State. When Forest Service Chief Tom Tidwell testified in 2012 before the Senate Energy Committee, I asked him about the link between climate change and forest fires. He told us that throughout the country we are seeing longer fire seasons—more than 2 months longer—compared to fire seasons in the 1970s. Wildfires are also larger and more intense. I asked Chief Tidwell whether scientists at the Forest Service thought climate change was causing this increase in the size and intensity of wildfires and extending their season, and without hesitation he said yes. The Forest Service is spending more and more fighting wildfires—now about half of its entire budget.

Longer fires and larger, more intense fires are going to eat up more and more of that budget. In addition, these wildfires—especially ones that occur at the wildland-urban interface—are increasingly threatening homes and property. Most importantly, more intense fires are costing lives. The 19 brave firefighters who perished in Arizona last June should be a reminder of the gravity of this issue.

Of course, we cannot talk about climate change without talking about sea level rise. As I said, I serve on the Committee on Energy and Natural Resources. In 2012, I attended a hearing on sea level rise and heard testimony about how rising sea levels are increasing the size of flood zones and increasing damage from storm surges. One example they used—they said this is a possibility—is that a few inches of sea level rise could result in a storm surge that could flood the New York City subway system. It sounded like something out of science fiction. Yet 6 months later, that is exactly what happened when Hurricane Sandy hit New York City and flooded the subways. My colleagues do not need to be reminded of the cost of Hurricane Sandy. It cost taxpayers a staggering $60 billion.

So when people talk about the harmful consequences of climate change and its costs in terms of homes and dollars and lives, they are not talking about some far-off future problem. Climate change is already hurting us.

Unfortunately, only one of my colleagues from the other side of the aisle—the ranking member of the Energy and Natural Resources Committee, Senator MURKOWSKI from Alaska—attended that hearing. This has been pretty much the case whenever we have a hearing that even tangentially relates to climate change.

A number of my colleagues in Congress don't believe human activity is contributing to climate change. Many others, I suspect, don't talk about climate change because addressing it requires that we make some difficult choices.

This is despite the fact that even some of the major fossil fuel companies that previously funded anti-climate change efforts have turned the page on this issue. ExxonMobil used to fund the Heartland Institute, one of the leading organizations spreading climate change denial propaganda. But if we go to ExxonMobil's Web site today, it states: ''Rising greenhouse gas emissions pose significant risks to society and ecosystems.'' That is ExxonMobil.

Shell Oil states on its Web site: ''CO_2 emissions must be reduced to avoid serious climate change.'' That is Shell Oil.

So even the major oil and gas companies have begun to acknowledge that climate change is real. I would respectfully suggest that my colleagues on the other side of the aisle here in Congress also need to engage in a serious conversation on climate change.

At a time when Americans are dealing with record droughts and other extreme weather events, the Senate cannot afford to simply ignore climate change. Ultimately, we have to come together to start addressing climate change before its damage and costs to society get out of control.

I know this is not going to be easy. Some will point out that climate change is a global problem—sometimes called global climate change—and that we can't solve it alone. They are right. Emissions in the developing world are on the rise. China now surpasses the U.S. in total greenhouse gas emissions. But China is also starting to wake up to its serious pollution problem. In fact, at the opening of the annual meeting of its parliament last week, the Chinese Premier stated that his country is declaring a war on pollution. Overcoming pollution challenges will require China to invest heavily in renewable and other environmentally friendly technologies. It is going to make the global clean energy race even more competitive. If we are going to

win this race and create good-paying jobs for Americans, we have to invest in clean energy.

We know that government investment in energy can pay off. Take the example of natural gas. We are currently experiencing a natural gas boom in this country. Sometimes my colleagues forget that this boom happened in large part because of years of Federal support to develop hydraulic fracturing technology. The Eastern Gas Shales Project was an initiative the Federal Government began back in 1976, before hydraulic fracturing was a mature industry. The project set up and funded dozens of pilot demonstration projects with universities and private gas companies that tested drilling and fracturing methods. This investment by the Federal Government was instrumental in the development of the commercial extraction of natural gas from shale. In fact, microseismic imaging—a critical tool used in fracking—was originally developed by Sandia National Laboratory, a Federal energy laboratory.

The industry was also supported through tax breaks and subsidies. In fact, Mitchell Energy Vice President Dan Stewart said in an interview that Mitchell Energy's first horizontal well was subsidized by the Federal Government. Mr. Mitchell said:

DOE—

That is the Department of Energy—

DOE started it, and other people took the ball and ran with it. You cannot diminish DOE's involvement.

This is from one of the pioneers of horizontal drilling: ''You cannot diminish DOE's involvement.''

So the basis of the natural gas revolution that is helping make America more energy independent can be traced back to Federal research and Federal support.

In the same way, we have to support the renewable energy sector now. We have to be the ones who will develop these technologies and the ones who sell them to other nations. We need to lead the world in clean energy innovation.

(Mr. MERKLEY assumed the Chair.)

At the moment, we are not doing enough. Last year the Senate Energy Committee heard testimony regarding a report from the American Energy Innovation Council entitled ''Catalyzing Ingenuity.'' The report, authored by Bill Gates, Microsoft; former Lockheed Martin CEO Norman Augustine; and other business leaders, states:

The country has yet to embark on a clean energy innovation program commensurate with the scale of the national priorities that are at stake. In fact, rather than improve the country's energy innovation program and invest in strategic national interests, the current political environment is creating strong pressure to pull back from such efforts.

The report is a wakeup call and makes a convincing case for why government needs to support innovation in the energy sector.

Unfortunately, it has been difficult for Congress to pass comprehensive clean energy legislation, even though this is an essential prerequisite if we are going to win the global clean energy race. The good news is that many individual States, which really are the laboratories of our democracy, have gone forward with their own clean energy programs.

As chair of the Energy Subcommittee on the Energy and Natural Resources Committee, I recently held a hearing on lessons from State energy programs. Among the innovative programs developed by many States are goals and mandates for renewable energy production as well as for increased energy efficiency of government and commercial buildings.

I say to the Presiding Officer, you probably know this because you are Senator MERKLEY and you know a lot. You probably know this. But over half the States have renewable portfolio standards. These standards are improving the air, creating jobs, and growing the economy.

My home State of Minnesota is one of the leaders in this area. We have a 25-by-25 renewable portfolio standard in place, which means that 25 percent of the State's electricity must come from renewable sources by the year 2025. Excel Energy, Minnesota's largest utility, is following an even more ambitious plan of generating over 30 percent renewable energy by the year 2020, and they are on track to do that.

I believe the Federal Government should follow what the States are already doing and put a comprehensive and long-term clean energy plan in place.

One of the issues we discussed in my subcommittee was the upcoming EPA rules to reduce greenhouse gas emissions from existing coal-fired powerplants. I know that a number of my colleagues are concerned about these regulations and have argued that they will increase the cost of electricity, especially in areas that are heavily dependent on coal and coal-fired plants.

I understand these concerns. I believe these regulations should be crafted using common sense. For example, if you give flexibility to States to implement these regulations, you can allow powerplant operators to offset their emissions by investing in energy efficiency in homes and buildings. Buildings consume about 36 percent, 37 percent of the energy in this country. If you retrofit our buildings, you will get the same environmental result at a lower cost to powerplant owners. And just as important, you will unleash energy efficiency manufacturing and installation jobs throughout the country. It will reduce our energy use. It will benefit the environment and send a signal throughout the business sector that we are serious about deploying long-term energy-efficient solutions. That is why NORESCO, a major energy service company that testified at my hearing, was a strong proponent of this proposal.

In fact, we learned during my hearing that there was universal agreement among witnesses—both Democratic and Republican witnesses—that giving States more flexibility to implement these regulations would be good.

So when we talk about taking on climate change, let's start with what we can all agree on. Let's do that stuff first. Let's do Shaheen-Portman.

The stakes are simply too high to ignore this issue. We cannot leave it to future generations. Last year my first grandchild Joe was born, and I do not want to look back in 20 years and tell Joe that when we were in a position to do something about climate change we chose not to because it involved some difficult choices.

Now, Joe is going to live through this century and, God willing, into the next. Unless we act now, his generation will pay a very high price for our inaction. Tonight, throughout the night, you are going to be hearing about that. You are going to be hearing about the Department of Defense research into this and the costs that we will pay when we have to address this.

I do not want to have to have my grandson think of me long after I am gone and ask: Why didn't we do anything to address climate change while we could.

So I invite my colleagues from both sides of the aisle—both sides—to join in this endeavor. We really owe it to the Nation, and we owe it to future generations.

Thank you, Mr. President.

I yield the floor.

The PRESIDING OFFICER. The Senator from Vermont.

Mr. SANDERS. Mr. President, as I begin, I thank Senator BOXER for her wonderful leadership of the Environment Committee and for her strong activism regarding climate change. I thank Senator WHITEHOUSE and Senator SCHATZ, as well, for organizing this important discussion tonight.

The scientific community has been extremely clear—no debate—climate change is real, climate change is manmade, and climate change is already causing severe damage in terms of drought, floods, forest fires, rising sea levels, and extreme weather disturbances. Given that reality, I find it extremely disturbing that virtually all—not all but virtually all—of my Republican colleagues continue to ignore the scientific evidence and refuse to support serious legislation which will address this planetary crisis. My hope is that my small State of Vermont will be a national leader, will be a model for the rest of the country in transforming our energy system, moving us away from fossil fuels and into energy efficiency and sustainable energy. And doing that, by the way, will not only help the United States become a leader in reversing climate change but can, over a period of years, create millions of good-paying jobs in this country. And that has to be the goal.

Some people ask—many people ask—they say: Well, why aren't you guys

doing anything on this issue? The scientific community is almost unanimous about the causation of climate change or about its severity. What are you doing?

Let me answer that by just very briefly reading an exchange that took place in the Senate Environmental and Public Works Committee on April 11, 2013. Let me preface my remarks by saying Senator JIM INHOFE of Oklahoma is a friend of mine. I like JIM INHOFE. He is an honest person, a straightforward person. But on this issue, he is dead, dead wrong. This is the exchange that took place on April 11, 2013. I was in a committee hearing, and this is what I said:

What Senator Inhofe has written—

And he has published a book on this issue—

What Senator Inhofe has written and talked about is his belief that global warming is one of the major hoaxes ever perpetrated on the American people. That it's a hoax pushed by people like Al Gore, the United Nations and the Hollywood elite.

Senator INHOFE was also in this committee hearing, and I said:

I think that is a fair quote from Senator Inhofe. Is that roughly right, Senator Inhofe?

He was right here, and Mr. INHOFE said:

Yes, I would add to that list: Moveon.org, George Soros, Michael Moore and a few others.

So that is where we are. We have a gentleman—again, a very honest, decent man whom I like—a former chair of the Environment Committee, a former ranking member of the environment committee, who believes that global warming is a hoax pushed by people like Al Gore, the United Nations, and the Hollywood elite. So when people ask me why we are not doing anything, I would say that is pretty much the reason.

But let me respond to that, to Mr. INHOFE's views, by saying the following: Climate change is real, and there is no longer a scientific debate about that. In the words of the U.S. Global Change Research Program, which includes EPA, NASA, the National Science Foundation, and the Departments of Defense, Energy, State, Health, Interior, Transportation, and Commerce: ''global warming is unequivocal and primarily human-induced.''

It is not my view. It is not Senator BOXER's view, not Senator SCHATZ's view. That is the view of the U.S. Global Change Research Program, which includes some of the major agencies of the U.S. Government. By the way, clearly it is not just the U.S. Government or agencies that believe that. There are agencies representing virtually every country on Earth that have come to the same conclusion.

Now, when some people say: Well, there is a debate; the evidence is not yet clear; the scientific community is not quite sure, let me clear the air on that one. According to a study published in the journal Environmental Research Letters in May of last year, more than 97 percent of the peer-reviewed scientific literature on climate supports the view that human activity is a primary cause of global warming.

I believe I read yesterday that the minority leader, Senator McConnell of Kentucky, was saying: Well, for every person who believes that climate change is real, there is another person who disagrees. Well, the polling indicates that is not quite accurate. But what is really important is not what this person feels or what that person feels, it is what those people who have studied the issue extensively believe. That is really what matters. And for those people—the 97 percent of the peer-reviewed scientific literature on this issue—they say very clearly that climate change is real and that human activity is a primary cause of global warming.

I am reminded—I think Senator BOXER made this point a while ago—that the debate we are having now is very reminiscent of the debate we had 30 or 40 years ago about the role tobacco plays in cancer, emphysema, heart conditions, and so forth. We had people, well-funded by the Tobacco Institute, coming before the American people, putting ads on television, saying: You know smoking is okay; there is no evidence linking smoking to cancer.

Well, they were lying, as a matter of fact. Many of these people were being funded by the Tobacco Institute. I think we are in the same position now. A lot of the information—misinformation—which is coming forward is funded by the fossil fuel industry. We should be clear about that.

Is there still a scientific debate about anything related to climate? What is the debate? Well, the only remaining scientific debates are about just how devastating climate change will be. Of that, the scientists are not exactly sure. There is a disagreement. Are we on track for a 2-degree change by the end of the century? Will the planet warm by 2 degrees? Will it warm by 4 degrees? Will it warm by 6 degrees? People are not exactly sure. But they are certainly sure that it will warm. Will sea levels rise by 1 foot? Will they rise by 3 feet? By 4 feet? Again, scientists are not clear. But they are absolutely clear that sea levels will rise.

As a result of industrial greenhouse gas emissions, Earth's climate warmed more between 1971 and 2000 than during any other 3-decade interval in the last 1,400 years, reports a paper in the journal Nature Geoscience, based on research conducted by 78 scientists from 24 nations, analyzing climate data from tree rings, pollen, cave formations, ice cores, lake and ocean sediment, and historical records from around the sea.

The globe has already warmed 1.5 degrees Fahrenheit from 1880 to 2012, and the vast majority of that warming, 1.1 degrees Fahrenheit, has happened since 1950. According to NOAA, November 2013 was the hottest November on record, and 2012 was the warmest year on record in the contiguous United States, and saw at least 69,000 local heat records set.

2013 was the fourth warmest year ever recorded since 1880. The World Bank, no bastion of left-leaning environmental thinking, is among those expressing grave concern about the trend. The World Bank concluded that limiting the global temperature increase to 2 degrees centigrade might allow us to keep sea level rise by 2100 to less than 2.3 feet.

Unfortunately, the World Bank also acknowledges we are on track for a 4-degree centigrade increase, which would result in extreme heat waves and life-threatening sea level rise. Since 1901, the global sea level has risen about 7.5 inches and it is getting worse; over the last 20 years seas have been rising nearly twice as fast.

All over the world glaciers and icepacks are melting. Glaciers in the Mount Everest region have shrunk by 13 percent in the last 50 years. Glaciers on Mount Kilimanjaro in Tanzania have already shrunk by 80 percent and are expected to be completely gone by 2020. Greenland's ice sheets lost ice at a rate of about 60 cubic miles per year between 2002 and 2011. This is six times faster than the ice was melting during the decades before that. All of these impacts and more can be traced directly to carbon emissions and their effect on the atmosphere.

In 2013, as the Presiding Officer knows, we witnessed an ominous milestone: The daily mean concentration of carbon dioxide in the atmosphere surpassed 400 parts per million. The last time CO_2 levels were this high was probably between 2.2 million and 3.6 million years ago, when it was so warm there were forests in Greenland.

What does climate change mean? What are the consequences of global warming? How is climate change already impacting our lives—not in 5 years, not in 50 years, but right now? For one thing, climate change is making droughts in the Western United States and in other parts of the world more severe, longer lasting, and more frequent. Scientists expect the precipitation pattern will continue shifting, expanding the geographic extent of the dry subtropics, leading to warmer and drier weather, which then causes air temperatures to increase even more.

This helps explain why drought-stricken Texas saw the hottest summer ever recorded for a U.S. State in 2011, leading to a combination of drought and wildfires, costing $10 billion in damage, and the drought continues. As of last month, Texas had only received 68 percent of its normal rainfall between 2011 and 2013, and reservoirs are at their lowest levels since 1990.

We should be very clear about this: When we talk about global warming, we are talking about the globe, the global community, not just the United States, not just Texas, not just California. Australia last year endured an ''angry summer,'' which is what it was called, which brought both the hottest month and the hottest day the country had ever witnessed, and a 4-month heat

wave, severe wildfires, and torrential rains and flooding, causing $2.4 billion in damage.

Last year's heat wave in China was the worst in at least 140 years. These droughts have very real consequences for water availability. Many regions in Southeast Asia, South Asia, and Sub-Saharan Africa, for example, are expected to experience a decline of 20 percent in water availability if the climate warms 2 degrees centigrade and a 50-percent decline if the climate warms by 4 degrees centigrade. What we are talking about here is the inability of people to get water to drink, the inability of people to get water to farm. This then leads to other problems, including mass migrations and struggles of limited natural resources.

With sustained drought and heat waves comes wildfire. As Thomas Tidwell, Chief of the US Forest Service, explained to Congress last year: America's wildfire season now lasts 2 months longer than it did 40 years ago—2 months longer than just 40 years ago—and burns up twice as much land as it did then because of the hotter, drier conditions from climate change.

We are seeing this very horrendous and expensive situation of wildfires in the southwest of this country. The wildfires, in fact, are expected to increase 50 percent across the United States under a changing climate, while some studies predict increases of more than 100 percent in parts of areas of the Western United States by 2050. When you think about climate change and you think about drier forests, we are looking at very serious problems regarding wildfires.

Rising sea levels, another great concern and impact of climate change, also lead to more destructive storm surges. According to NOAA, Hurricane Sandy's storm surge exceeded 14 feet in places, which was a record for New York City. The National Academy of Sciences estimated every 1.8 degrees Fahrenheit increase in global average surface temperature could be a twofold to sevenfold increase in the risk of extreme storm surge events similar to Hurricanes Katrina and Sandy.

When some people tell us: Well, gee, we cannot afford to address the problems of climate change, I would suggest we cannot afford not to address this crisis, if only for the kinds of money we are going to have to be spending repairing the damage of hurricanes like Sandy, and maybe hurricanes that are even worse.

We heard during a recent Senate environment committee hearing that the State of Florida has already seen 5 to 8 inches of sea level rise in the past 50 years, with no end in sight. In the Florida Keys we expect that nearly 90 percent of Monroe County would be completely inundated at high tide, with just 3 feet of sea level rise, and New Orleans can expect to see an ocean level increase of well over 4 feet by the end of the century.

In other words, what we are looking at here, in Florida, Miami, Louisiana, New Orleans, Massachusetts, Boston, New York City, what we are looking at is seas rising, which actually threatens the very existence of parts of those cities.

Experts are predicting that cities such as Miami, Fort Lauderdale, New York, and New Orleans will face a growing threat of partial submersion within just a few decades as sea levels and storm surge levels continue to climb. What will it mean if the seas continue to rise and extreme weather events—severe drought, wildfires, storms, flooding—become much more common? One of the most important consequences will be massive human dislocation all over the world.

More than 32 million people fled their homes in 2012 because of disasters such as floods and storms. An estimated 98 percent of this displacement was related to climate change. So when you look into the future—and one of the reasons that agencies such as the CIA and the Department of Defense and other security agencies worry very much about climate change is they see the national security implications of massive dislocations of people in different States or regions of the country fighting over limited resources, water, land, in order to survive.

The Department of Defense, in its 2010 Quadrennial Review, called climate change a potential ''accelerant of instability or conflict.'' The potential economic impact of climate change on agriculture, for example, is huge. Water scarcity will make it harder to irrigate fields, and higher temperatures will make some areas unsuitable for growing crops. A study from the International Food Policy Research Institute found that globally climate change will greatly increase prices for staple crops such as corn, wheat, rice, and soybeans, including an approximately 100-percent increase in the price of wheat.

What this means for Americans, for people all over the world who are already struggling economically, is that climate change will mean less areas being farmed and higher food prices, something we cannot afford right now.

I think the question some viewers may have is, if the science is so clear—and it really is quite clear here in the United States and around the world—why do we not fix it? Why do we not come up with the bold strategy we need so America is a leader in the world in cutting greenhouse gas emissions and transforming our energy system? The good news here is the transformation of our energy system is going to be less expensive, if you like, than doing nothing.

Doing nothing means that we will see higher food prices, we will see wildfires, we will see scarcities of food, and we will see weather disturbances wreaking havoc on communities all over America and around the world, requiring huge amounts of monies to address those problems. What is the alternative? What do we begin to do?

The answer and the good news is that we—right now, today—have the technology to begin the process of significantly transforming our energy system. We know how to do it with today's technology, and that technology will only be improved in months and years to come.

I will give a few examples of some of the good news that is happening in terms of the ability that we now have to move to sustainable energy.

The cost of solar—which certainly will be one of the major sustainable energy technologies that we look to in the future—continues to plummet.

The Solar Energy Industries Association, in a report issued only last week, reported that the average weighted cost of a solar PV system was $2.59 per watt, a 15-percent drop from the year before.

According to the Solar Energy Industries Association, utility-scale solar—perhaps the best comparison to utility-scale conventional electricity generation—now costs on average 7.7 cents per kilowatt hour compared to about 10 cents per kilowatt hour on average for power plants now operating across the United States.

The cost of wind energy is also comparable to or even less than the cost of other more traditional energy sources. The average cost of wind power coming online between now and 2018 is estimated to be 8.6 cents per kilowatt hour, even without including the value of the production tax credit.

Moving to sustainable energies such as solar, wind, geothermal, biomass, and hydropower clearly is something that we should be doing very aggressively.

When we do that, we not only cut greenhouse gas emissions, we not only significantly cut air pollution but in the process we create many jobs as we transform our energy system. But sustainable energy is only one part of the equation. What we must also do is invest very significantly in energy efficiency and in sustainable energy. Every dollar invested in efficiency and low-income households through the Weatherization Assistance Program results in $2.53 in energy and nonenergy benefits for a community.

I suspect the story is the same in Maine as it is in Vermont, but I can remember meeting with two older women who were sisters. They lived in Barre, VT, and they were able to get their homes weatherized. Their home, as many of the homes in Vermont, was old, leaking energy, not well insulated, did not have good windows, did not have good roofing, and the heat was just going right through the walls. As a result of a weatherization project in their home, their fuel bill went down by 50 percent.

These were seniors and low-income citizens. When we move in this direction, we can save Americans substantial sums on their fuel bills. We create local jobs. We cut greenhouse gas emissions. If that is not a win-win-win situation, then I don't know what is.

It seems to me that we should be investing substantially in subsidies such as the Investment Tax Credit and the Production Tax Credit. Every dollar we invest in these efforts yields many more in savings.

It is also true that when some of my friends object to the government helping to assist sustainable energies or putting money into energy efficiency, they seem to forget that the very mature and very profitable fossil fuel industry benefits very substantially from the subsidies that we have provided them. In fact, American taxpayers are set to give away over $100 billion to the oil, gas, and coal industries over the next decade through a wide range of subsidies, tax breaks, and loopholes.

If we can subsidize the coal industry, if we can subsidize ExxonMobil and the oil industry, if we can subsidize the gas industry, we sure as heck can subsidize and provide support for wind, solar, and other sustainable energies.

I come to the end of my remarks and suggest the following: The time is now for us to take bold and decisive action. As my colleague Senator FRANKEN mentioned, those of us who have kids—and I have four—and those of us who have grandchildren—I have seven beautiful grandchildren—they will look us in the eye 20 years from now and say: Why did you let this happen? Didn't you know what was happening? Didn't you understand what lack of action would do for our country and the planet?

That is the issue we face. We need to have the courage now to stand up to extremely wealthy and powerful forces in big energy—and that is the coal companies, the oil companies, the gas companies—and come up with an alternative vision for energy in America.

In that regard, I am proud to have joined with my colleague, the chair of the environmental committee, Senator BARBARA BOXER, to introduce last year the Climate Protection Act.

Our bill does what, at the end of the day, every serious person understands must be done, and that is to establish a fee on carbon pollution emissions—an approach, by the way, endorsed not only by progressives but also by moderates and even prominent conservatives such as George Shultz, Nobel laureate economist Gary Becker, Mitt Romney's former economic adviser Gregory Mankiw, former Reagan adviser Art Laffer, and former Republican Congressman Bob Inglis.

In other words, there is an understanding that if we are to be serious about addressing the need to cut carbon emissions, there has to be a tax on those emissions.

Our legislation, which has been endorsed by, I believe, almost every major environmental organization, does several things. What we do in a very significant way is to invest in energy efficiency and weatherization because that is the low-hanging fruit. What we also do is invest, very significantly, in sustainable energy. Also, importantly, in the event that folks are paying increased costs for electricity or for other areas, much of the money is returned directly to taxpayers.

Let me conclude by saying we can have an honest debate about the best path forward to transform our energy system. This is complicated stuff, and I don't think anyone has the magic answer, but we can debate that. What we can no longer debate is whether climate change is real, whether it is caused by human activity or whether it is today causing serious harm to our country and serious damage all over this planet or whether that devastation will only get worse in years to come.

Right now we have to summon up the courage to acknowledge that we are in a crisis situation and that bold action is needed now. I happen to believe that with the United States playing a leadership role, China, India, Russia, and other major consumers of fossil fuels will follow our leadership. Our credibility is not much if we are not what we are talking about. If we want to lead the world, we have to act. This is something our children, and our grandchildren expect of us and something I hope we can, in fact, do.

With that, I yield the floor.

The PRESIDING OFFICER (Mr. KING). The Senator from Virginia.

Mr. KAINE. I thank my colleagues for drawing attention to this critical issue and problem.

I want to start with the solution. The solution to climate change is American innovation. The solution to climate change is American innovation.

We have to get beyond the idea first that we need to choose between a clean environment and a strong economy. We all want cleaner air and water. We all want jobs. They don't have to contradict each other.

When we frame the debate as a conflict between an economy and the environment, we talk past one another and we are not realistic about our own history. This is, at the beginning, kind of a math problem. According to the EPA's annual inventory of greenhouse gas emissions, the U.S. pumped about 6 billion tons of greenhouse gases into the atmosphere in 2005—6 billion tons.

The overwhelming scientific consensus is that putting this much pollution into the air is bad for the planet, bad for our kids, and bad for our grandkids. Most scientists tell us we need to reduce emissions about 17 percent from that peak by 2020 and over 80 percent by about 2050 in order to contain climate change to manageable levels.

So the question is this. How do we establish the appropriate incentives to get that number lower to produce energy more cleanly, at prices we can afford, in quantities that support modern life.

We have to reduce pollution. We need to create jobs. Instead of arguing which is more important, let's figure out how we can use American innovation to do both.

My colleague from Vermont has talked a lot about some of the evidence. It is important to pay attention to patterns. In Virginia, we have huge areas of risk of the negative impacts of climate change, especially sea-level rise, all effects that can be traced to carbon pollution.

The Hampton Roads area of Virginia is the second-most populous part of our State, 1.6 million people, and it is the second-most vulnerable community on the east coast after New Orleans, the eastern half of the United States, to sea-level rise.

Our second-largest area, which is the home of the largest concentration of naval power in the world, and critical to our defense, is deeply vulnerable to climate change.

In fact, I have friends who live in Hampton Roads in a historic neighborhood where homes have been occupied for 150 years. In the last 15 years, their home has become completely unable to be occupied. They cannot sell it. There is no way the bank will take it back, and there is no way anyone will issue insurance to them.

In addition to being vulnerable because of our coast, our largest industry in Virginia is agriculture and forestry. If we want to talk about an industry that is affected by climate, that is our industry, $70-plus billion a year of economic activity in our State—our largest industry affected by climate.

Tourism is big in Virginia industry—outdoor tourism. That is $20-plus billion a year. We are directly affected by climate, and we see extreme weather patterns. It is not only a Katrina, a Sandy or an Ike. It is the pattern of one after the next, droughts one after the next, fire damage one after the next.

To use a recent example, we are having to deal with this in these halls. We passed a flood insurance bill to delay sharp premium increases for flood insurance policies that are subsidized by the National Flood Insurance Program.

For those who weren't around when we had that debate, these increases in premiums were not because of new beach homes that millionaires are building on the flood plain out on the beach. No, these were policies for homes whose owners had lived in them for decades. They were never in flood plains before, but they are now in flood plains because of sea-level rise.

My Portsmouth friends are people who fit into that category, with a home that never had these challenges—that is now a home that they cannot sell because of the sea-level rise in that area.

The debate in the Chamber focused on what it would cost to delay premiums, how many people would be affected and impacted by the solvency of this national program. The larger point is this: Premiums are higher because flood risk is higher. When we see flood risk getting higher in every coastal area of the country, we have to pay attention to what the pattern tells us. If we don't, we are foolish.

Now, we have naysayers. There are two kinds of naysayers. There are science deniers and leadership deniers, and I want to talk for a minute about both. The first are a group of people who, despite the overwhelming scientific consensus, say: Oh no, there is no scientific evidence that humans affect climate change or that there is even any change in the climate going on at all, despite this overwhelming scientific consensus. The Senator from Vermont mentioned some quotes from Members in this body who deny science exists.

To science deniers, I am happy to say that Virginians are pro-science. We are pro-science. The quintessential Virginian, Thomas Jefferson, was the preeminent scientist of his day. You cannot be a proud Virginian and be anti-science. We accept the science in Virginia. In fact, the polling overwhelmingly, among the Virginia public—and we are not the bluest State in the country; we are a coal-producing State, which I will get to in a minute—even in coal-producing Virginia, the polling shows overwhelmingly that the Virginia public accepts that humans are affecting climate, causing bad things to our economy, and we have to do something about it.

Now, there is a second argument. It is not science denial; it is leadership denial. These folks may not deny the climate science, but they deny that the United States can or should be a leader in taking steps. They say: Look, even if we reduce U.S. emissions to zero, it wouldn't offset world emissions unless China or India did something, so let's just not do anything.

It is just not the American way, folks, for us not to lead on something as important as this. It is true that we need every country to reduce emissions in the long run, but that is not an argument for the United States to do nothing; that is an argument for the United States to step up and be leaders.

Part of leadership is sending the right signals into the market at the right time. That is one of the reasons I think it would be very good if the President rejected the proposal to expand use of tar sands oil in the Keystone Pipeline program. We ought to send the right message right now. That is one of the most powerful things we could do in our country and beyond to show we are going to be leaders.

It is very difficult to lead and impossible to get people to follow if you are not willing to take a step as the most powerful and innovative economy in the world. We are the largest economy in the world, and we have been since 1890. We are the global economic leader. We have a burden of leadership. And if we lead, we will succeed.

It is not too hard to reduce emissions. We can reduce them. In fact, we are already starting. The Senator from Vermont mentioned this. I mentioned that in 2005 the United States was putting 6 billion tons of CO_2 into the atmosphere. That was our base year. We have now actually dipped down to 5.6 billion tons. We have reduced it since 2005 thanks to greater energy efficiency, natural gas, uptick in renewables, and better fuel standards in our vehicles. So we are already on a positive path. We are actually on the way to meeting our goal of reducing emissions 17 percent by the year 2020. We are on the right track; we just have to take more steps forward.

So what is the strategy we need? I hear the President sometimes and others—and I may even use these words on occasion—talk about an ''all of the above'' energy strategy, and I have decided I really don't like that phrase. When I hear somebody say ''all of the above,'' it is like when I ask one of my teenagers something and he says: ''Whatever.'' I don't like ''whatever'' as an answer because it kind of sounds indifferent and anything goes and who cares and what difference does it make. ''All of the above'' kind of has that attitude a little bit.

Now, sure, we should use all of our energy resources—I get that—in a comprehensive strategy, but what we really need is a comprehensive strategy that reduces CO_2 emissions—that reduces CO_2 emissions. Such a strategy to reduce emissions does mean everything: wind, solar, geothermal, tidal, and advanced biofuels. I think it also means natural gas as bridge fuel to reduce our carbon footprint; nuclear, if we can reduce costs and resolve disposal issues; and, yes, coal, so long as we always work to make it burn cleaner.

This is my punch line of what we have to do: We have to do everything cleaner tomorrow than we are doing it today—everything cleaner tomorrow than we are doing it today.

We will have fossil fuels with us for some time, and we won't bring emissions to zero anytime soon. But just because we can't immediately go from 6 billion to zero tons of CO_2, we can't rest in our effort to reduce our CO_2 every day a little bit more. On fossil fuels, we have to take any progress we can that replaces dirty with less dirty even if it doesn't get us the whole way. Over time, the portion of our total energy footprint that is carbon based will get smaller as we develop more noncarbon alternatives, and it will also get cleaner as we reduce carbon-based energy emissions with better technology.

This is why I am against dirty fossil fuels, such as tar sands, which make us dirtier tomorrow than today. I want to be cleaner tomorrow than today. Tar sands oil is about 15 to 20 percent dirtier than conventional oil. Let's not be dirtier tomorrow than today. We have the trendline moving in the right direction. We are reducing CO_2 emissions. Let's be cleaner tomorrow than today. Why would we embrace tar sands oil and backslide to be dirtier tomorrow? The bottom line is that we have to create energy cleaner tomorrow than today.

Remember, it is a math problem—6 billion tons a year. We have 6 more years to reduce it 17 percent, 36 years to reduce it by more than 80 percent. So we have our goal. We have our goal. We have to give innovators the tools they need to meet it. Since innovators will solve this problem, here is the really fundamental challenge. This is the fundamental challenge. Will Americans be the innovators? See, innovation will solve this problem. Will Americans be the innovators or will we bury our heads in the tar sands and let other nations' innovators be the ones who grab leadership in this new energy economy. I don't want to bury my head in the tar sands. I want us to be the leader. Will we create the new technologies and sell them to other nations or will we be late to the game and have to buy all the technologies from other nations?

The good news is, as I said, we are already on our way to the 2020 goal, so we don't have to make it all dire. Let's celebrate a little success and then figure out how to accelerate our success.

The transportation sector, the fuel economy standards for cars, changing to natural gas in power production—all these things have helped us move toward lesser emissions. Wind is the fastest growing source of new electricity capacity in the world and in the United States, even above natural gas, which is growing rapidly. In a few years Virginia will be contributing, with some of the first offshore wind turbines near Virginia Beach.

I would like to talk now for a second about a specific Virginia issue because I am not sure how many folks who are in this all-nighter speaking on this come from States that have coal and have produced coal, and Virginia does. I want to talk about coal for a second.

EPA is expected to issue standards later this year on reducing pollution from coal-fired powerplants, and, in fact, there is already talk on the other side of introducing a bill to repeal the regulation before the regulation has even come out. I am not exactly sure that is kosher, but I suspect we will be having that debate later.

There is a natural anxiety in a coal-producing region such as southwest Virginia. That is where my wife's family is from. It is five counties in southwest Virginia. They are hard-hit counties. Coal is a big part of their economy, and traditionally it has been. We mine as much coal today in Virginia as we did 50 years ago with one-tenth of the workers because it is a heavily mechanized industry, but there are jobs at stake. And it is not just jobs; coal has been traditionally low priced, and so the issue that is important—and even States that don't have any coal often use a lot of coal to produce power, and the low price has been helpful to consumers who rely on cheap and abundant electricity made possible by coal.

Coal has been hit hard in some recent years, but I disagree fundamentally

with the cynical argument that is made by some—mostly in the coal industry—who blame coal's woes on a regulatory ''war on coal.'' When I talk to folks in the industry, they are always talking about there is a Federal ''war on coal.''

I am going to tell you what is hurting coal. What is hurting coal is innovation and natural gas. Innovation in the natural gas industry has brought natural gas prices down, and utilities are deciding to use natural gas rather than coal. That is what is hurting coal these days, and we ought to take a lesson from that. Innovation is driving environmental cleanliness. Innovation is driving lower cost. The solution is not to stop innovation. The solution is not to shake your fist and blame regulation. The solution is to innovate.

Coal currently accounts for 37 percent of U.S. electricity generation and about the same percentage in Virginia. Today we don't have 37 percent of anything else that can step right in and replace coal, which means we need coal and we are going to be using it for a while.

Since we need to reduce emissions—do it cleaner tomorrow than today—and we are going to need coal for a while, the challenge is to convert coal to electricity more efficiently and with less pollution than we do today. We have to innovate to make coal cleaner for that portion of the pie chart. I learned this as Governor working to permit a state-of-the-art coal plant in Wise County, VA. It opened in 2012. It is designed in a way that dramatically reduces sulfur dioxide, nitrous oxide, mercury emissions, and water use. It was also a plant that was only permitted when the company that wanted it agreed to take a dirty coal plant—one that preexisted the Clean Air Act and was grandfathered in for all of its pollution—and to convert that to natural gas. That was innovative. The fuel mix of this plant needed to run the burners accommodates biomass and waste coal as well.

If we can use innovative practices to reduce these emissions, we can do the same with carbon emissions. But coal cannot stand still, let others innovate, and then complain if it is not competitive. Coal has to be as innovative as everything else, and we have to figure out ways to assist.

That is why I support Federal investments in advanced fossil energy research and development. Last fall the Energy Department made available $8 billion in advanced fossil energy loan guarantee authority for low carbon fossil technologies. I advocated for appropriations for fossil energy R&D, and there is a strong boost for those programs in the omnibus budget bill. There is a great Center for Coal & Energy Research at Virginia Tech that is doing some of this research that can help us take that portion of the pie chart, make it cleaner, and over time make it smaller as we expand noncarbon energy.

We have to make sure the upcoming standards the EPA will put out are ambitious and appropriate incentives to get cleaner and disincentives to get dirtier and at the same time avoid catastrophic disruptions in reliability or affordability.

I am going to come back and conclude where I started. Remember, when I started I said I am going to give a solution. The solution to climate change is American innovation, and I want to finish there.

Reducing CO_2 emissions is a hard problem, maybe harder than any pollution problem we face because most pollutants tend to come from a particular economic sector, but CO_2 comes from transportation and buildings and manufacturing and power production—all sectors. So the solution won't be simple. But we do not have to accept the false choice of an environment against the economy. Instead, we just need to innovate to find the solution. That is the innovation challenge we have.

I make it a habit—apparently unlike some of my colleagues here—to never bet against American innovation. We are the Nation that said we would put a man on the Moon in a decade with computers that had less in them than your cell phones do, and we did it. We are the Nation that harnessed the power of the atom. We are the Nation that unwrapped the riddle of DNA and are now using that knowledge to cure disease. Nobody should ever bet against American innovation.

In fact, we have already shown it again and again, that innovation and regulation—smart regulation—can help us tackle pressing environmental problems.

When we were kids and my wife was growing up in Richmond, where we now live, nobody—and I mean nobody—fished or swam in the James River in downtown Richmond. You would be taking your life into your hands if you swam or if you ate fish you caught in that river because of ketone pollution, other industrial pollution, and poor treatment of municipal solid waste. But the Nation passed the Clean Water Act and we got serious about cleaning up our rivers.

Naysayers said: It will damage the economy. It will bring our economy to its knees.

But come and see what the Clean Water Act has meant to my hometown. You can swim or fish in the James River today, and you can eat the fish you catch. You can see herons and bald eagles there that were never there before. You can see residents and tourists who flock to the James River because they enjoy it.

It took a law, it took some tough regulations, it took American ingenuity in finding new ways to clean up industrial and municipal waste, but we did it, and our environment and economy are better off as a result.

When we needed to reduce nitrous oxide and sulfur dioxide emissions because of acid rain, industry said that any new law would be a burdensome job killer, just as they are saying today. But President George H.W. Bush worked with Congress to pass a cap-and-trade law to bring down these emissions. After the new law, somebody invented the catalytic converter. After the new law, somebody invented the sulfur scrubber. Not only weren't they burdensome job killers, they improved air quality, and they created jobs for American companies that manufacture catalytic converters and sulfur scrubbers, and our economy and environment are better off as a result.

Not long ago we heard requiring automakers to make cars which got better gas mileage would be devastating to the American auto industry. But President Obama struck a deal with the industry, and guess what. The quest to build more fuel-efficient vehicles helped revitalize an American auto industry which was on its back. Plants operating with skeleton crews just sweeping the floors at night now have multiple shifts making better vehicles which save drivers more money every day. The skeptics were loud, but we moved ahead with smart regulation and American innovation, and our environment and economy are better off as a result.

It is the skeptics and the deniers who fight against these strategies who are actually naive, because again and again they always claim that taking steps to help the environment will hurt the economy, and again and again they have been proven wrong. Protecting the environment is good for the economy and good for the planet.

So I say to the skeptics of whatever variety, climate denier or leadership denier, don't underestimate American innovation. We can solve the problem of climate change for the good of the economy and the good of the planet. The story of American innovation is a story of solving the hard problems, and I know we can solve this one.

I yield the floor.

The PRESIDING OFFICER. The Senator from Minnesota.

Ms. KLOBUCHAR. Mr. President, I appreciate the words of my colleague from Virginia, especially his focus on innovation and how it must be a major part of the solution to our climate change problem.

As I look around the Chamber and see Senators from Vermont, Virginia, Hawaii, California, we may be 5,000 miles apart, but what unites us today—including the Presiding Officer's home State of Maine—is the focus on climate change and the recognition we are connected by the impact of global climate change. It is time for Congress to wake up and tackle this issue. This is why we are staying up all night tonight to make that major point.

The consequences of climate change include rising seas and larger tidal surges for seaside communities, the devastating drought and water shortage we are seeing in California, extreme weather harming the habitat for

native animals in Hawaii, but it also impacts the Midwest, which I don't think is the first area of the country people think about where we are seeing climate change problems.

We have seen increased potential in my home State of Minnesota for extreme weather wreaking havoc on our local economies, particularly those anchored in forestry and farming. In Minnesota we export about one-third of our agricultural production which contributes significantly to our country's record high agricultural trade surplus of $38 billion. This is a major part of our economy and the second biggest industry in my State.

The 2012 drought in Minnesota threatened our ability to produce the food needed to feed a growing world. Look at our lakes and our rivers. For many years our snowmobilers, the tourism industry, and ice fishers couldn't even get out. They had to cancel many activities because—not this year but many years before—we had issues with the heat in the middle of the winter. We certainly have issues with the heat in the summer.

What is this industry? Every year nearly 2 million people fish in our lakes and streams, and close to 700,000 people hunt our fields and forests nationwide. The hunting and fishing industry is valued at $95.5 billion a year and brings in $14 billion in direct tax revenue. This is why, as a member of the farm bill conference committee, we worked very hard with conservation groups such as Ducks Unlimited and Pheasants Forever to make sure we had strong conservation protection in the bill and new ideas, such as the sod saver provision Senator THUNE and I introduced and got signed into law.

For the people of our State, the economic impact of climate change is about their livelihood. It is about a way of life. I mentioned the 2012 drought. It was the worst drought since 1956 and cost over $30 billion in damage nationwide. The drought was uneven in our State. For one farmer their crops were fine; in the next county crops would be devastated. At the same time, as some farmers were experiencing not enough rain, farmers in other parts of our State actually lost their crops due to flash floods.

Research which looks at weather changes in Minnesota indicates that extreme weather events, which include heavy rainfall, are becoming more and more frequent. These are costs borne heavily by farmers, ranchers, and consumers. These production costs lose revenue, they lose supply, and they drive up costs at the grocery store for everyone.

One of the things I don't think people always think about when they think about the economic connection with climate change—in the Midwest we think about our crops; we think about extreme weather, with tornadoes, flash floods, and extreme heat and drought. But it actually affects the transportation of goods to market.

In 2012 Lake Superior was near its lowest level in the last 80 years, impacting our ability to transport cargo. It is simple: The heat was there, the water wasn't. The barges couldn't be filled all the way because the water was simply too shallow. Why is this happening? In the years when we don't have solid ice cover, the ice is melting more quickly so the water evaporates and you see lower water levels in places such as Lake Superior.

This isn't just a problem for Lake Superior; it is also a critical issue impacting the shipping industry on the Mississippi River. The Mississippi moves hundreds of millions of tons of goods, such as corn, grain, coal, and petroleum. The Mississippi River starts in Minnesota. In Minnesota one can actually walk over the Mississippi at Itasca State Park. The 2012 drought led to low water conditions which made barge travel down the Mississippi very difficult. If shipping were completely cut off, as was possible, the economic repercussions would be severe. If barge traffic is disrupted, cargo valued at over $7 billion could experience shipping delays, including 300 million bushels of farm products, 3.8 million tons of coal, and 5 million barrels of domestically produced crude oil. A prolonged shipping delay would be devastating to the bottom lines of farmers, businesses, and common citizens. These are just a few examples of the economic costs of climate change.

Global climate change is a challenge with so many dimensions, some moral, some economic, some scientific, and I will spend a few minutes talking about the science. My colleague from Virginia talked about Virginia being the home of science. I kind of wanted to break in and say we have the Mayo Clinic. Minnesota is truly a home of science. We are the home of great medical institutions. We helped launch the green revolution in agriculture with University of Minnesota alumni Norman Borlaug one-half century ago. We have brought the world everything from the pacemaker to the Post-it note. We believe in science.

As we know, climate change doesn't mean every day we will have a hurricane in the Gulf of Mexico or every day will be as hot and sticky as a 100-degree, humid Minnesota afternoon. But scientists say we are sure to see more days outside the range of normal, which includes extremes of all kinds.

In fact, scientists at NASA found that at 2013, factoring all the cold temperatures Minnesotans bravely endured last year, the United States was still warmer by 1.1 degrees Fahrenheit than the mid-20th century average.

The last time the United States had a below-average annual temperature was 1976. Climate change means simply, over time, the average temperature is getting warmer and weather patterns are changing and becoming less predictable. How many times have we heard in our States: This is the hottest summer I can remember. I can't believe it warmed up this quickly. I can't believe the ice is melting this quickly.

The debate on whether climate change is happening should be over. The facts are in and the science is clear.

The National Academy of Sciences finds climate change is occurring, is very likely caused primarily by the emission of greenhouse gases from human activities, and poses significant risk for a range of human and natural systems. We know certain kinds of gases, including carbon dioxide, methane, and nitrous oxide, absorb or trap the Sun's heat as it bounces off the Earth's surface.

This wouldn't be such a big problem except that carbon dioxide doesn't dissipate quickly. It stays in the atmosphere for five decades or more, causing Earth's temperatures to rise. This means most of the carbon dioxide produced in the 1950s, 1960s, 1970s, and 1980s is still in the atmosphere. It means carbon dioxide produced today will still be in the atmosphere in 2050 and beyond. This carbon dioxide-trapping heat is in our atmosphere. Over time, it means global temperatures rise; in turn, sea levels rise, both because water expands and glaciers melt.

The 2013 draft National Climate Assessment found human-induced climate change is projected to continue and accelerate significantly if emissions of these heat-trapping gases continue to increase.

In short, there is robust scientific evidence that human climate change is occurring. Climate change is impacting our Nation's systems in significant ways, and that is likely to accelerate in the future. The result is ocean levels are rising, glaciers are melting, violent weather events are increasing, and certainly we have seen them in my State.

When it comes to climate and environmental policy, I think we all know we have seen gridlock in this country, just as we have seen in so many ways—despite the Presiding Officer's good efforts as the Senator from Maine in trying to break through and mine as someone who came out of a background which wasn't at all partisan. I was involved early on in Kent Conrad's bipartisan energy group during my first few years in the Senate, where we were trying to forge some kind of a compromise on a policy approach to energy and the environment which brought people together. We were stymied in our effort. I served on the environmental committee for many years under Senator BOXER's leadership. We were again stymied in our efforts.

As I look back at the moments where we could actually move on the issue, where the Nation was captivated, I think we blew it.

We blew it when President Bush stood before the American people after 9/11; and if he had truly sold the Nation on energy independence from the countries involved in that tragic historic moment, if he had made the case for a

new American energy agenda, I believe 80 percent of Americans then would have said sign me up. That didn't happen.

The second moment we lost was during the summer of 2008. The Presiding Officer wasn't a Senator then; I was a brandnew Senator. We actually took action. We raised gas mileage standards for the first time since I was in junior high. We also made some energy efficiency improvements. I called them ''building a bridge to the next century.'' But we fell short of one important thing, and we didn't just fall short. We fell one vote short of beating the filibuster to get a national renewable electricity standard like we have in Minnesota. That was a lost moment by one vote.

The third moment we lost was when President Obama first came into office. We had some new Senators. We were in the middle of a downturn. It was an incredibly tough time. But I still believe, as I have said many times, if we had moved forward on a renewable electricity standard at that time in those first 6 months with those new Senators, we would have passed it with the House of Representatives. We chose to do some other things with the environmental committees. We passed a bill, but we were, unfortunately, unable to get it done on the Senate floor. That is where we are.

So when is the next opportunity? The next opportunity is now. We have the potential for leadership on energy. We have the potential because of the people in this country—the innovators Senator KAINE so eloquently talked about. I continue to be optimistic. I wouldn't be standing here late at night if I wasn't. This desk is the desk of Hubert Humphrey, who was known as the Happy Warrior. He was willing to tackle anything which came his way.

Why am I optimistic? The first is the leadership of Gina McCarthy at the EPA. Her background working with Republican Governors, her reputation among business leaders as being tough but fair, and her experience navigating the ways of Washington make her well suited to look at the bigger picture issues.

As someone who comes from an agricultural state, I understand full well how the EPA can sometimes get bogged down in minor issues from my perspective, taking on things that create a huge firestorm that actually do not solve the problem. I believe this Administrator, Gina McCarthy, is going to look at the larger mission of the EPA, especially when it comes to climate change.

Secondly, I am optimistic because we still have some good happening here. There is some realism going on in Congress. The Washington Post ran an editorial last fall where the editorial board wrote:

> The overriding problem is that Congress hasn't faced up to the global warming threat. Instead of updating clean air rules and building a policy that addresses the unique challenge of greenhouse emissions, it has left the EPA and the courts with a strong but sometimes ambiguous law that applies imperfectly to greenhouse gas emissions.

That is true, and that is why we have something to do here.

Given the current mix right now, given what we are facing on this issue, I still believe.

What can we do this year? This year we can be pragmatic. We can foster leadership. We passed the farm bill. It had good measures in it for conservation and the environment.

Another example is the Shaheen-Portman energy efficiency bill which contains a range of policies that would reduce residential, commercial, and industrial use. Not every bill is supported with everyone from the Chamber and NAM to many environmental groups. This bill is.

This leads to my third reason for hope. There are a lot of businesses out there that realize they cannot afford the pure cost of the old way of doing things. More and more businesses are seeing the good in going green, whether it is Walmart in its push toward energy efficiency or Apple which is working toward a goal of getting 100 percent of its energy from renewables.

The fourth reason to be positive is because there are some current economic positives and market changes out there that are actually moving in the right direction. We have reduced our dependency on foreign oil in just the last 7 years from 60 percent to 40 percent. It is a combination of things. Yes, some of the natural gas and drilling in North Dakota is a major force, but we also have stronger vehicle gas mileage standards. We have biofuel. We have cleaner fuel. We are moving on a number of fronts.

Look at the efforts on the State level ranging from the rules in Texas that are helping to encourage the construction of transmission lines bringing wind energy from the plains to the homes and businesses, to Colorado's strong renewable portfolio standard and the use of woody biomass for power.

I would add my own State of Minnesota where we have a renewable electricity standard requiring 25 percent of electricity coming from renewable sources by 2025. Xcel Energy, our largest utility, is on its way to meet their even more ambitious standard. By law they will get 30 percent of their electricity from renewable sources by 2020. I have met with their CEO. They are more than on their way to meeting that standard. They believe in wind. They believe in renewable.

The bill we passed in Minnesota, which could be a model for the Nation, has overwhelming bipartisan support. It had bipartisan support, and when it passed, nearly every legislator voted for it and it was signed into law by former Governor Tim Pawlenty.

What does this mean? The investment in renewable energy and energy efficiency technology means that Xcel is actually on its path to reduce its greenhouse emissions by 31 percent. Xcel will cut its emissions a full 11 percentage points by 2020, more than the standards proposed by the passed cap-and-trade law that came out of the environment committee.

Minnesota Power is another utility in our State that is working to meet the State's renewable portfolio standard by bringing more wind energy onto the grid. They are looking to keep costs low to their consumers by using Canadian hydropower to back up their wind resources. Because the wind doesn't always blow in Minnesota, the hydropower will act as a battery, storing energy when there is too much on the grid, and providing electricity when it is needed. By working together we can get more wind and solar energy on the grid in a way that provides reliable service and keeps prices low for our consumers.

The Rural Electric Co-op also implemented another way to make better use of wind energy in Minnesota, to make our goal of 25 percent by 2025. They installed large capacity hot water heaters in people's basements. How can something as basic and boring as a hot water heater play a role in reducing energy consumption and climate change? The hot water heaters are only turned on at night when the wind blows the strongest and the demand for energy is the lowest. In the morning when people wake up and turn on their lights, the heater is already off. The wind energy is stored in the form of hot water that can be used throughout the day. Heating water is a major source of energy consumption and our co-op could find a way to provide an important service in a way that incentivizes wind development and saves consumers money.

It was the Supreme Court Justice Louis Brandeis who said that ''the states are the laboratories of democracy.'' We are certainly seeing that right now with energy and environmental policy.

I would like to see a major Federal policy back at those moments that I went through back when Bush was President and the tragedy of 9/11 occurred, back when we had that vote in the summer, when we missed the renewable electricity standard by just one vote. But I am hopeful that we are going to get back to a point where compromise is possible in Washington, and we will get there just as the American people have demanded. And when we get there, we know that the States are useful models for how to get this done.

Before we can act on a comprehensive national blueprint for climate policy in this country, we need to bring together Americans who share these values and speak with a common voice. We are starting that discussion tonight. The message is to get Congress to wake up and get this job done.

As I close, I think about this challenge and I recall a prayer from the

Ojibwe people in Minnesota. Their philosophy told them that the decisions of great leaders are not made for today, not made for this generation, but leaders must make decisions for those who are seven generations from them. That would be an Ojibwe philosophy, that led them to take care of their land. This is now a part of our burden and our challenge as we approach this issue. I have always believed we should be stewards of the land.

In the past, leaders from both parties—you know this so well from me—have worked to protect our land, keep our air and water clean. President Theodore Roosevelt took executive action to create the National Parks System which Ken Burns famously called ''America's best idea.''

Congress has come together to make great progress to protect our natural resources. The 1970 Clean Air Act passed in the Senate 73–0 and the House by a vote of 371–1. The Clean Water Act in the House, the final vote was over 10–1 in favor of this landmark legislation to protect our water.

Global climate change is our generation's challenge to solve. It is our generation's challenge. I believe if we work together constructively, we can address this threat. We can be stewards of our world.

Thank you, Mr. President.

I yield the floor.

The PRESIDING OFFICER. The Senator from Massachusetts.

Mr. MARKEY. Mr. President, I am honored to be joining Senator SCHATZ who has been working with Senator WHITEHOUSE and with Senator BOXER to put together this very important discussion, very important evening.

While we are discussing climate change, I thought I would first talk a little bit about baseball. Something very funny happened in baseball. From 1920 all the way through the entire modern baseball history, the average number of players who hit more than 40 homeruns in a season was 3. That is all—Babe Ruth, Hank Greenberg, Willie Mays, Mickey Mantle, Ted Williams, Joe DiMaggio. No matter who was playing in the United States, the average number of players was 3.3 who made it over 40 homeruns in a season.

Then something very strange started to happen. All of a sudden there was a dramatic spike in the number of players who could hit more than 40 homeruns. In 1996 it went up to 17 players all of a sudden, with an average of only 3.3 who hit more than 40 homeruns. Year after year the same thing was occurring.

Then it occurred to someone, maybe they are injecting these players with steroids. Now some people said, no, the ballparks are getting smaller, maybe they are corking the bats, maybe they are juicing the baseball. But, no, it turned out that they were injecting steroids into baseball players. And all of a sudden the average of 3.3 players averaging more than 40 homeruns in a season had spiked to three and four times that, until Major League Baseball decided that they were going to test for steroids. A very strange thing started to happen. The average number of players hitting more than 40 homeruns went right back down to the traditional average.

Well, ladies and gentlemen, NOAA has the same kind of chart for our climate. NOAA has been able to do the calculation going back to 1880 of what the average temperature is on the planet. As you can see, it stayed at a pretty current level until all of a sudden, especially beginning in the 1970s, there is a dramatic spike. As we all know, 20 of the warmest 30 years ever registered have occurred in the last 30 years. As we all know, the fourth warmest year of all time ever recorded occurred just last year, 2013. But we haven't applied the same steroids equivalent test for this change in temperature. We have a pretty good idea of what has happened because scientists all across the United States agree on this issue: It is manmade. The chemicals we are putting into the atmosphere are causing the same kind of chemicals ballplayers were putting into their bodies were causing in the dramatic rise in the number of homeruns that were being hit in Major League Baseball.

(Ms. KLOBUCHAR assumes the Chair.)

This is basically an obvious correlation between what we are doing as human beings and impact on the world in which we live. And just as those homeruns went up when the players used chemicals, so too has the temperature on the planet. And the same distortions that occurred in our national pastime are now occurring on our planet.

Ladies and gentlemen, the planet is running a fever, but there are no emergency rooms for planets. There are no hospitals to go to. We have to engage in preventive care. We have to put in place the measures that reduce dramatically the likelihood that we are going to see the worst catastrophic effects of this dangerous warming of our planet.

If you are still skeptical, perhaps the findings of another skeptic, Dr. Richard Muller and his colleagues at the Berkeley Earth Surface Temperature Project, will reassure you. Let me quote from Dr. Muller's July 2012 New York Times column entitled ''The Conversion of a Climate Change Skeptic.'' Here is what he said:

> Our results show that the average temperature of the earth's land has risen by two and a half degrees Fahrenheit over the last 250 years, including an increase of one and a half degrees over the most recent 50 years. Moreover, it appears likely that essentially all of this increase results from the human emissions of greenhouse gases.

Our current understanding of human influence on climate change rests on 150 years of wide-ranging scientific observations and research. It is informed by what we see today with our own eyes measured by our own hands. Global temperatures are warming, glaciers are melting, sea levels are rising, extreme downpours are increasing. The ocean is becoming more acidic.

But climate change is more than just numbers in a scientist's book. In my home State of Massachusetts it is having tangible impacts now. My State, Massachusetts, loses an average of 49 football fields of land to rising sea levels each and every year. Rates of sea level rise from North Carolina to Massachusetts are two to four times faster than the global average. Extreme downpours and snowfall in New England have increased by 85 percent since 1948.

According to scientists at the University of New Hampshire, New England winters have become 4 degrees warmer on average since 1965. In other words, we now have in New England the same weather that Philadelphia had in 1965. We are 4 degrees warmer than we were in New England in 1965. We have Philadelphia's weather. Thank God in Boston we do not have their athletic teams, but we do have their weather and it is getting warmer.

In Massachusetts and most of New England, spring has sprung 5 days earlier on average than it did in the latter part of the 20th century.

Around the iconic Walden Pond, plants now flower 10 days earlier on average than they did in the 1850s, according to the careful records kept by Henry David Thoreau. Our iconic cod have been moving north as ocean temperatures warm. Cod need cold water. As the ocean warms, they are moving farther and farther north. In Massachusetts, Cape Cod is our iconic beach front, ocean front, and fishing front. The cod are moving north and away from our State because they need cold water.

The coastal communities that depend upon them are being affected negatively by the absence of these fish. Scientists are just beginning to understand the consequences of the increasingly acidic ocean on scallops, lobsters, and plankton, which are the base of the food chain in the gulf of Maine.

As Dr. Aaron Bernstein, from the Harvard School of Public Health, has written, climate change is a health threat, no less consequential than cigarette smoking. Increasing temperatures increase the risk for bad air days, and in turn it increases the risk of asthma attacks. It is worse for people with lung disease.

I have two stories. Rachel is from Cambridge and Sylvia is from Amherst. Their moms talked about the impact of pollution on the health of their children. I think it is important for us to understand that asthma and other illnesses that are created by pollution are preventable but only if we here in the Senate put in place the policies that make it possible for us to reduce the risk to these young people all across our country.

I strongly support all of the efforts the Members are putting together tonight to focus on this issue. It is not

just the planet, it is the children of the planet who are negatively impacted by all of this additional pollution. Left unchecked, the impacts of climate change will only become worse in the future.

An analysis by the Sandia National Lab found that changes in rainfall alone could cost Massachusetts $8 billion in GDP and nearly 38,000 jobs between 2010 and 2050. That is Massachusetts alone. New England could see a $22 billion hit to our GDP and almost 100,000 jobs lost from changing precipitation patterns. Sea-level rise will also threaten coastal communities where one-third of the Massachusetts population lives.

The seas are getting hotter and they are getting higher. Those hotter, higher seas are making storms more damaging. Storm surges on top of sea-level rise could cause hundreds of billions in damages to cities on the Massachusetts coast during the next decade.

In 1775 Paul Revere warned Massachusetts revolutionaries of an invasion coming from the sea. With climate change, Boston and the Bay State could face an invasion of the sea itself in Massachusetts and all across New England.

As sea levels rise and storms become more severe, many of Boston's best known landmarks will be threatened, including Faneuil Hall, Quincy Market, North Station, Fan Pier, Copley Church, John Hancock Tower, the Public Garden. The Back Bay will revert to its original personality as a bay.

We have to be realistic about this. The threats are there. The scientists are warning us. This can happen. There but for the grace of God and a few degrees, Hurricane Sandy would have damaged the city of Boston. We have been warned. Anyone who hasn't been hit by a Hurricane Sandy yet has been warned. It is coming, and it will be worse than Hurricane Sandy.

By the end of this century, Massachusetts summers could feel like North Carolina's summer—not Philadelphia. By the end of the century, the temperatures are going to keep warming. By 2100, Maine could be the only State in New England that still has a skiing industry. That is how rapidly the snows are disappearing. The economic impact of climate change isn't confined to New England because we already feel the cost of climate disruption. The GAO added climate change to its 2013 high-risk list based in large part on two reports they did at my request. GAO found that climate change presents a significant financial risk to the Federal Government. GAO could just as easily say it presents a significant financial risk for all of America.

As daunting as the impacts of climate change are, the good news is we have the solutions to address it. We can generate good jobs in America that are also good for saving all of creation.

With wind and solar, we have a tale of two tax policies. Here is the solar industry in the United States. Back in 2007, there was a production of perhaps 200 megawatts of electricity from solar. It was at the dawn of the solar industry. It wasn't as though the Sun had not been up there or that the technologies did not exist or could not have been created in order to capture it, but the tax policies were not there.

In 2008, Congress passed a law which added an 8-year tax incentive for the solar industry. We can see what happened to this industry. It had been denigrated for years—up until last year when there was 5,000 new megawatts. Think of five Seabrook nuclear powerplants of electricity generated by solar in 1 year. That tax break stays on the books until the end of 2016, and by the end of 2016, there is an expectation that 10,000 new megawatts of solar will be installed in the United States in 1 year, ladies and gentlemen, if we keep those tax breaks on the books. We can see what happens when there is a consistent, predictable tax policy on the books.

Let me show you another tax policy. This is the tax policy for the wind industry. The wind industry has not had the same good fortune which the solar industry has had. Every time there is a tax policy that is put on the books, wind starts to build upwards of 2,000 megawatts in 2001, but then the tax policy evaporated and it collapsed as an industry. When we put it back on the books, it went back up to 2,000 megawatts. It expired at the end of that year and collapsed again.

In 2005, we put a policy on the books that began to see the kind of installation of wind that we knew was possible from the beginning of time. We all knew it. We all knew the Dutch were right with those windmills. We all knew there was something to it, but there was no tax policy that was consistent, until we reached 2012 when, unbelievably, 13,000 new megawatts of wind was installed in the United States—13 nuclear powerplants. There is only 100,000 megawatts of nuclear power in the United States after 70 years of tax subsidies. Look at what happened with wind in 1 year—13,000 megawatts. But then it expired, and it collapsed down to only 2,000 megawatts in the year 2013.

That is our challenge, ladies and gentlemen. If we give the same kind of predictable tax and policy treatment to these renewable energy resources that were given to the oil industry over the last century, they have a lot to worry about. By the way, you don't have to worry about the oil or the gas industry. Their tax policies stay the same. Through the good times and the bad times, the oil industry keeps the same tax breaks on the books. They know they can rely upon that. Those two industries know the $7 billion in tax breaks they rely upon are going to be there year after year after year.

Let's talk about what else can happen in other industries. Let's talk about the automotive industry. The Senator from Minnesota just talked about the fuel economy standards we put on the books. Look what happened since the fuel economy standards were put on the books and implemented by Barack Obama. George Bush did not implement them. I am proud to be the host author of those fuel economy standards, but it took Barack Obama to put them on the books—54.5 miles per gallon by the year 2026. Look what has happened. We are now nearing 600,000 hybrids, plug-in vehicles, and all-electric vehicles per year. It is skyrocketing. Ford, General Motors, and Chrysler are reporting record profits and record sales. People will buy them, but you have to create the policy in the country.

By the way, that one policy—the fuel economy standards that were put on the books in 2007 in this body, and over in the House of Representatives—backs out 4 million barrels of oil per day that we import into our country by the year 2040 when all of these standards that we put on the books are finally implemented.

How much is that? The United States imports 3 million barrels of oil a day from the Persian Gulf. We are backing out 4 million barrels just by putting together a policy that incentivizes the industry to invest in the kinds of technologies that Americans want to buy and citizens around this planet want to buy. Wind, solar, hybrids, all-electric vehicles—it is all there. It is what we can do in order to create jobs and at the same time save the planet.

I will talk about some other numbers that I believe are really relevant. The coal industry now has 80,000 employees. The wind industry has 80,000 employees in the United States. We saw how low it was in 2007. Well, they now have 80,000 employees. The solar industry has 142,000 employees. Coal only has 80,000 employees. We saw what happened from the moment that predictable tax policy went on the books until today, and it is continuing to go off the charts, but we know there will be people who are going to be out here fighting to take away those tax breaks and will compromise the ability of the EPA or the Department of Transportation to keep those standards on the books.

Back in the 1990s, I was the chairman of the Telecommunications Committee in the House of Representatives, and I was able to put three bills on the books. One bill created the 18-inch satellite dish, another one created the third, fourth, fifth, and sixth cell phone license. That is what drove the price of a phone call from 50 cents a minute down to 10 cents a minute. It was 1996 when you started to have one of these devices in your pocket. At 50 cents a minute, you didn't have one. By the way, it was the size of a brick before that bill passed.

Finally, the 1996 Telecommunications Act moved us from analog to digital. It moved us from narrow band to broadband. It created this revolution of Google, eBay, Amazon, YouTube, and Facebook. All of that

happened because of the policies created by the House and Senate and signed by the President, and it unleashed $1 trillion worth of private sector investment. It revolutionized villages in Africa and Asia. We invented those technologies and sold them around the world.

We have the same kind of economic possibility for renewable energy and new energy technologies as we had in the telecommunication sector, and we have a chance to cap another $1 trillion to $2 trillion worth of investment in the private sector.

Let's move on to our Nation's carbon emissions from energy due to fossil fuels. The total amount of greenhouse gases in our country from energy sources fell from 2005 to 2012 by 12 percent. We installed more wind, solar, and fuel-efficient vehicles. We got more efficient and we reduced our coal use from 2005 to 2012, but in 2013 that reversed, and the U.S. carbon dioxide emissions from energy sources increased by 2 percent in 2013. What happened? The price of natural gas increased in 2013 by 27 percent. As a result, U.S. electric utilities returned to burning more coal and using less natural gas. U.S. energy-related carbon emissions are still 10 percent below 2005 levels, but to keep driving them down, we need to keep the price of natural gas low and continue to drive the deployment of wind and solar up.

For the oil and gas industry, the crisis in the Ukraine is an opportunity to throw open the doors to unrestrained exports of American natural gas. But the notion that gas exports will help Ukraine is an illusion. It is a talisman, some lucky charm. This is a simple matter of geo-economics, geology, and geopolitics. We have already approved five export terminals that could send 4 trillion cubic feet of natural gas abroad every year. That is nearly equal to all the gas consumed by every home in America. Just take that slice of the pie, and we are going to export all that natural gas. That is twice as much as Ukraine consumes every year.

Exporting natural gas could raise U.S. prices upwards of 50 percent and create an energy tax of $62 billion each year on American consumers and businesses, and it will put the coal industry back in business because coal will then be less expensive than natural gas. Then our ability to meet this goal of reducing greenhouse gases will be replaced by a policy to export all the natural gas we can get to the ports of the United States, and the lower our supply is, the higher the price is going to be for the remaining natural gas within our boundaries. The Energy Information Agency says that just with the terminals that are now being proposed, it is a 52-percent increase in the price of gas here. We saw it last year. When gas went up 27 percent, coal replaced natural gas, and our emissions went up, not down. So we just have to be realistic about this whole debate in Ukraine about what it means for us in handling this issue.

By the way, it is what has been leading to manufacturers returning to the United States. It is what is a big part of why there is a move towards natural gas vehicles, which also backed out imported oil. But the higher natural gas prices are the more we undermine our ability to make real progress on climate change, on manufacturing, on natural gas vehicles, on utilities moving from coal over to natural gas. That is our challenge as a people.

Then, finally, we are the leader, not the laggers. The whole world is looking at us. So much of that CO_2 is red, white, and blue, and they look to us to be the leader. You started your industrial revolution in the 19th century, they say to us. If you want us to reduce our greenhouse gases, you reduce yours. So we cannot abdicate this responsibility.

Last week I attended a conference here in Washington called Globe. There were 100 legislators from around the world who came here—the key players on energy and the environment in each country in the world. We had a conference over in the Russell Building. Each of these legislators said they are looking to us for leadership. Five hundred new laws have been put on the books over the last 15 years in these countries on climate change. But the question comes to us. What are you going to do this year, next year, the year after on these issues? Their countries are even more vulnerable than our country. They do not have the resources which our country has. So that is our opportunity.

HENRY WAXMAN and I built a coalition of utilities, of businesses, of labor, of faith and environmental groups, and concerned citizens in 2009. The pieces are still out there, I say to my colleagues. We can do it again, but we are going to need everyone's help.

Recently, the books of Massachusetts author and national treasure Doctor Seuss have been popular and read on the Senate floor. I wish I had time to read the entirety of his environmental classic ''The Lorax.'' But since there are so many Senators who want to talk about the impacts of climate change and the benefits addressing it will bring our country, I will just have to close with this short portion. Here is what it says:

> But now says the Once-ler, now that you're here, the word of the Lorax seems perfectly clear. Unless someone like you cares a whole awful lot, nothing is going to get better. It's not.

So to my colleagues in the Senate and to everyone watching and following tonight, thank you for caring a whole awful lot. This is not for us; it is for all the subsequent generations of this country and this planet who are looking to this Chamber for leadership. We are going to make things better from tonight onward. This is a moment. The science is clear; the economics are clear; and now the politics is clear. We are going to have a big fight about this in 2014 because future generations are going to look back and know that this Senate stood up and we had the debate on the most important issue facing this planet.

Madam President, I yield the floor.

The PRESIDING OFFICER (Mr. MARKEY). The Senator from Maine.

Mr. KING. Facing challenges is hard. The bigger the challenge, the harder it is to face it because facing a significant challenge always involves risk, always involves a little uncertainty, always involves effort, always involves cost, always involves inconvenience, and always involves change. The most profound observation I ever heard about change is that everybody is for progress and nobody is for change.

In the 1930s, Europe and particularly England faced a challenge. They faced a challenge that was to their very survival. But for almost the entire decade of the 1930s, England didn't face that challenge. They did not act, even though the data was overwhelming, even though the facts were compelling, even though their greatest parliamentarian, the greatest parliamentarian in English history—at least recent English history—continuously warned them. Winston Churchill spent a good part of the 1930s warning his country about the dangers of the rise of Nazi Germany. But people didn't listen, and they didn't listen for much the same reason I think people aren't listening now—because it is hard to take on a new challenge. It is hard to take on something that will have a cost. It is hard to take on something that will entail risk. But ignoring warnings has consequences. In the case of the 1930s in England and ignoring Winston Churchill's warnings, the consequences were 55 million people dead. Most historians believe Hitler could have been stopped in 1938, 1939, but instead of facing the challenge, people said it was too expensive; it was too inconvenient; it was too much of a change. They were exhausted from World War I.

That was perfectly understandable, but the consequences were catastrophic.

That is where we are today. We are facing a daunting challenge. For all of us speaking tonight, this isn't easy. We can outline the problems, but the solutions aren't easy, and the solutions aren't going to be free. The solutions are going to involve change; they are going to involve investment; they are going to involve innovation; and they are going to involve facing up to a challenge that is very serious.

There are lots of ways to think about this. One way is this example: All of us have health insurance. We all have homeowners insurance—even simpler than health insurance. Homeowners insurance means basically we are insuring our home against burning down. What is the risk of our house catching fire? One in two? No. One in 365. Will your house burn down once a year. No. One in 3,650? I suspect the risk is somewhere around 1 in 10,000 or 20,000. But every family in America is paying an

average of $800 or $900 a year to insure against a 1 in 10,000 risk. But we are being told in this body—in this country—that we can't take steps to insure ourselves against a risk which 98 percent of the scientific evidence says is a dead certainty. I don't want to take that risk.

People say: You are wrong, Angus. This isn't true. It isn't going to happen. Maybe I am. Maybe we are. Maybe that 98 percent of climate scientists who have spent their lives studying this issue is wrong. I hope they are. I hope I am. But what if we are not wrong? The consequences are almost unimaginable.

Although I have a long history of involvement in environmental matters in Maine, I was a climate skeptic. I heard all the arguments about it, and I said, I don't know whether this is really true. We can argue it both ways. Then, about 5 years ago, I ran across a little chart and the chart to me answered the whole question. Here is the chart.

This chart shows a million years of carbon dioxide in the atmosphere. We often hear carbon dioxide naturally goes up and down in the atmosphere. Well, yes, it does. That is what these figures show. But for 900,000-plus years, it ranged between 160 parts per million to about 250 or 275. That is the range. Then all of a sudden, we get up to the year 1,000, and it is still in the same higher range. Then right here, 1860, when we started to burn fossil fuels in large quantities, and there it goes. It goes to levels that we haven't seen on this planet for 3 million years. The last time we saw 400 parts per million of CO_2 in the atmosphere, the temperatures were 12 to 14 degrees warmer and the oceans were 60 to 80 feet higher.

This isn't politics. This isn't speculation. These are actual measurements based on the Greenland ice cores. This is what the CO_2 concentrations were, and here we are at the beginning of the industrial revolution.

This chart, it seems to me, answers two of the three basic questions on the subject. The first question is: Is something happening? Yes, inevitably. We just can't look at this and say this point and this point are so different, and this is a million years. Something is happening.

The second question about this whole issue is this. Do people have anything to do with it? This is when we started burning stuff. This answers that question. Of course, people have something to do with it. It is just too weird a coincidence to say all of a sudden, when we started to burn fossil fuels in large quantities and release them into the atmosphere and increase the CO_2, it just happened to happen at the same time. One fellow I know said it is volcanoes. I am sorry. We didn't have an outburst of volcanoes in the 1850s and 1860s. We had little fires all over Europe, all over America. We had steel mills. We had the beginnings of the industrial revolution. We started to burn coal and later oil. This is what happened.

I mentioned there were three questions. No. 1, is something happening? Yes. No. 2, do people have anything to do with it? Yes.

The third question is, So what. CO_2 is going up in the atmosphere. So what. What does that mean? This answers that question. This is the relationship between CO_2 and temperature. The red line is carbon dioxide and the black line is temperature, an almost exact correlation. If the CO_2 goes up in the atmosphere, and we are at about 500,000 years, we can see CO_2 goes up, temperature goes up; CO_2 goes down, temperature goes down. So this is the answer to the third question, so what. The answer is temperature.

One of the things that worries me, and the reason I am here tonight, is some research that has been done at the University of Maine. We have a climate study center at the University of Maine. I was there a year or so ago, and I was meeting with them. It was one of these meetings where we are going around and we go to the university, factories, and schools and meet with people and they give us briefings, and I was listening to a briefing on climate change when a word crept into that discussion that I had not heard before, and the word was ''abrupt.''

Climate change, I always assumed, happened in a very slow, long, historic, geological time kind of way. That is not the case.

These are two lines on this chart. The yellow line is temperature; the red is the extent of the ice in the Arctic. The point of the chart is, look at these vertical lines. That is in a matter of a few years. It is not a matter of 1,000 years or 10,000 years; it is a matter of a few years. It is as if someone throws a switch, and I do not want to be around when that switch is thrown, and I certainly do not want to be the cause of the switch being thrown.

Abrupt climate change, that is what keeps me awake at night; that this is something we are sort of assuming is going to be the next generation's problem or the generation after that or by 2100. Who knows about 2100? Who thinks about 2100? Well, it could be a lot sooner than that.

If things such as this cause a melt-off in the Arctic ice and the Greenland ice sheet, and it changes the currents in the Atlantic or anywhere else in the world, for that matter, everything changes.

Without the Gulf Stream, England, Scotland, Ireland, and Scandinavia are essentially uninhabitable. I do not know about the Presiding Officer, but I have always thought of England as a being to the east. It is not to the east; it is way to the northeast. England is on the same latitude as Hudson Bay. The only reason it is of temperate climate is because of the Gulf Stream. If something happens to the Gulf Stream, Northern Europe is almost uninhabitable.

These changes can happen abruptly. Again, maybe I am wrong. I hope I am wrong. But what if I am right? What if the science is right. Are we willing to take that risk? Do you want to be the person who says to your grandchildren: We saw this coming. All these people talked. They talked all night in the Senate. But we decided not to do anything because it would be expensive and it would disrupt some of our industries and might cost us a few jobs, which, by the way, would be replaced in other industries.

Do you want to be the person who says: Well, we had this warning but, no, we didn't feel we had to do anything. I do not want to be that person.

Does it have practical effects? It does have practical effects. There is not a theoretical discussion. This is not just a science lesson. This has effects in all of our States. We have heard them here tonight—about the water temperature in the streams in Minnesota, the forest fires in Colorado, the drought in the West, in California, that is rendering millions of acres potentially unproductive that have been the breadbasket of America.

In Maine, it is the lobster, the iconic product of the coast of Maine. What is happening is the ocean is getting warmer. As the ocean is getting warmer, the lobsters do not necessarily—they are not too unhappy about it getting warmer, but the center of gravity of lobsters is going to go where the water is colder, and that is what is happening. That is what the lobstermen have told me.

The center of gravity of lobstering in Maine used to be right off of Portland in what is called Casco Bay, where I live. But over the last 10 or 15 years, it has slowly moved northward. Now the lobsters themselves have not moved northward, but the heavy catch has moved northward.

Here is a dramatic picture of what has happened. In 1970, here was the hotspot for lobster: south of Massachusetts, south of Rhode Island, off the end of Long Island. This is where they were catching the most lobster. Here is where they are in 2008. They are up along the coast of Maine, headed for Nova Scotia. This is the center of gravity of the lobster industry.

People around here may not know what is happening in the climate, but the lobsters of Maine know it, and the green crabs and the shellfish and the moose and the deer and the trees, they know it because that is what is changing in my State.

There is another thing that is happening that I do not think has been discussed tonight; that is, that the ocean is becoming a giant sink for all this carbon that is in the atmosphere. When the atmospheric carbon dioxide goes into the water and is dissolved in the water, it turns into something called H2CO3—carbonic acid. Carbonic acid attacks shellfish. Shellfish cannot form their shells because the ocean is becoming acidic. This is a recent observation, and it is the result of the massive load of carbon that we have been putting into the atmosphere.

Here is another practical result, and the Presiding Officer talked about this in terms of Boston. These are charts that show what happens if the sea goes up varying levels—6 meters, 1 meter. One meter is shown in dark red on the chart. Look what happens to Virginia Beach in North Carolina at just 1 meter, and that is predicted in the next 100 years as the sea level goes up. Then we look at all these communities: New York, Boston, Savannah, and Charleston, Virginia Beach, Miami, Louisiana. Then we can multiply this all around the world. I do not know the percentage, but a very significant percentage of the world's population lives within about 40 miles of the coast—everywhere in the world.

These are real consequences, and these are the kinds of consequences that are unbelievably expensive and unbelievably destructive.

There is another piece of evidence, which is the sea ice extent. We are now talking about the famous Northwest Passage actually existing. Ships can now go from the Atlantic to the Pacific across the Arctic because the ice is disappearing.

Here it is, as shown here, just from 1979 to the present. This is evidence. This is data. This is irrefutable.

Here is essentially a chart of the Arctic sea ice. The red line was the extent of the ice, the average place the ice was in 1979 through the year 2000, and here is where we are in 2012. As it continues to shrink, several things happen: the ocean levels rise, the acidification of the ocean continues, and there is a threat of a change in the ocean's currents, which would be catastrophic for many parts of the world.

Another example is the Muir Glacier in Alaska. These two photographs I have in the Chamber were taken from exactly the same spot. In 1941, here is the glacier. In 2004, here is the lake. The glacier is gone. That has changed, and that is a change that is the canary in the coal mine. That is the change that tells us something is happening and we ignore it at our peril.

What are the consequences? What are the consequences? I have talked about the economic consequences: forest fires, floods, lobsters, agriculture, all of those people living in low-lying areas. Multiply Superstorm Sandy by two, three, four, five, and we are talking billions of dollars of economic costs; we are talking about lost jobs. Something like 30 percent of the businesses that were wiped out by Superstorm Sandy never came back. They never came back. To each one of those businesspeople, to each one of those insurers that insured those businesses, to those families it is gone forever. That is the result of these superstorms we are seeing more and more frequently.

An enormous economic risk, an enormous cost. Yes, it is going to cost something to prevent this, but it is going to cost us either way. The old ad I remember when I was a kid: Pay me now or pay me later. In this case, it is pay me now or pay me more later.

But there is a second level of risk that is almost as significant as the economic risk; that is, the national security risk. We have had panels of retired judges and admirals who have looked at this issue. Global climate change is a major national security risk. Why? Because it is going to lead to friction, to riots, to famine, to loss of agricultural land, to loss of homes, to territorial disputes about water, and that increases our risk.

I am on the Armed Services Committee and Intelligence Committee. I have spent the last year and a half listening to testimony about Al Qaeda and what we are doing to confront Al Qaeda. Part of our strategy is to fight them and to kill them, but we cannot kill them all. It is like the Hydra. You cut off one head and two come back. What we have to do is get at the basis of why young people are joining an organization such as that and change their lives. This climate change, which threatens people's livelihoods, particularly in the developing world, is a grave threat to our national security because it generates the very people who are dangerous. The most dangerous weapons of mass destruction in the world today are large numbers of unemployed 20-year-olds who are angry and dispossessed and have no hope and are willing to take up arms against any authority they can find, and unfortunately that may be us.

This is a national security risk. Water, I predict, will be one of the most valuable commodities of the 21st century. It is going to be something people fight about. It is going to be something people get into wars about. Water is an enormously valuable commodity that global climate change threatens.

Finally, on the question of what are the consequences, it is an ethical risk. It is an economic risk, a national security risk, but it is also an ethical risk. Another aspect of this that has struck me that is not strictly related to climate change but is related to our consumption of fossil fuels is what right do we have in two or three generations to consume the entire production of fossil fuels that the world has produced in the last 3 or 4 or 5 or 10 million years.

It reminds me of a dad sitting down at Thanksgiving dinner, where all of his children are sitting around the table, mom brings in the turkey, puts it in front of him, and he says: This is all mine. None of you get any. I am going to take it.

None of us would do that, but that is exactly what we are doing. We are saying this oil, this precious oil that is an amazing commodity, can do all kinds of different things, we are going to burn it up in about 200 years. It takes millions of years to make it, and we are going to burn it all up. I think that is an ethical risk.

OK. I hate talking about problems and not talking about a solution. What are the solutions?

I believe in markets. I believe in free markets as the best way to allocate goods and services. But the market, in order to be efficient, has to be accurate, and it has to accurately reflect the true costs and price of the commodity. Right now we are not paying those costs. The cost of climate change is not factored into the cost of consuming fossil fuels. If you factor it in, then you have a free market and people will make their decisions based upon their economic situation and also their commitment to the environment, but the real costs are not factored in.

I am old enough to remember when this debate took place in the 1970s, when I worked here. But the debate then was about environmental law itself, and the debate was characterized as payrolls versus pickerel. I can remember that term, ''payrolls versus pickerel.''

The idea was that if you clean up the water and clean up the air, it is going to put people out of business, we are going to lose jobs, industry is going to run away, we can't possibly do it. Well, a man named Edmund Sixtus Muskie from the State of Maine did not believe that. He was raised in a paper mill town on the Androscoggin River—one of the most polluted rivers in America. They used to say it was too thick to drink, too thin to plow. Muskie did not believe it, and Muskie stood in this body and fought for the Clean Air Act and the Clean Water Act.

Here is the amazing thing. I was asked to do some research and to do a presentation about Muskie's environmental leadership. I went back and looked at the record. I could not believe my eyes, particularly in light of where we are here today—tonight—in this body and in this city. The Clean Air Act passed the Senate unanimously. In the midst of the debate, Howard Baker, the minority leader, the Republican leader, gave his proxy to Muskie. Can you imagine that happening today? It passed unanimously. We could not pass the time of day unanimously in this body. Yet it happened.

That brings me to a question that really puzzles me. How did this become a partisan issue? How did it come to divide us so cleanly along environmental lines? This discussion tonight is important, but it is all Democrats and people—BERNIE and I, the two Independents—Senator SANDERS, the Senator from Vermont, and I, the two Independents—no people from the other party. I do not understand that. The leaders, the giants of the environmental movement in Maine when I was a young man were all Republicans.

When Ed Muskie got the Clean Air Act and the Clean Water Act passed through this body, it was with the support of the overwhelming majority—in the case of the Clean Air Act, all of the Republicans, including very conservative Republicans. Senator Buckley

from New York supported the Clean Air Act. I do not know how or why this became a partisan issue. Maybe it was because it was invented by Al Gore. I do not know. But somehow it has become this divisive partisan issue. It should not be. This is our future that is at stake. This is our children and grandchildren's future. This should not be a partisan issue.

In my experience, if we can develop a common understanding of the facts, we can find solutions. They will not be easy, but they are there. Right now the problem is that we do not have a common, shared understanding of the facts.

So what are the solutions? The market is one. Innovation, as Senator KAINE from Virginia said, is another. There are ways to use electricity and generate electricity through innovation that will be much cleaner, support just as many if not more jobs, and help prevent this tragedy from befalling us.

By the way, it does not mean we cannot burn coal. Coal is an abundant resource that we have in this country that is loaded with energy, but unfortunately it is also loaded with CO_2 and other pollutants. So I think part of our commitment should be intense research on how to use coal efficiently, effectively, and cleanly. That should be part of the deal. We are not trying to put any region of the country out of business or control people's use of valuable resources, but let's use them in the most efficient and effective and environmentally safe way. That can be done in part through innovation.

I was a lobbyist in Maine 30 years ago. One of the things I lobbied for was to get rid of pop-top beer cans. The Presiding Officer probably remembers the first ones. You grabbed the ring, pulled it off, and it became a little razor. People threw them on the ground. You would step on them. They were dangerous.

I remember going to the lobbyist for the bottlers and I said: We want to get rid of those things.

He said: There is no way. Our engineers have looked at it. It is impossible to make one that you do not have to tear off.

Well, lo and behold we passed a law banning those pull-off tabs, and the industry found a way to do it safely and in an environmentally sound manner. Sometimes you have to help people find a way.

The final piece when it comes to solutions is that this has to be international. I agree with my colleagues who say we cannot just do it here. We cannot just do it here. If we just do it here and nobody else in the world does it, if China and India do not do it, then it is not going to be effective. We will have imposed costs on our society that will simply make their businesses more competitive if they are ignoring these externalities, these realities of price. It has to be done through international cooperation.

I think the moment may be right. From everything I understand about the air quality in China, they may be ready to discuss this. They may be ready to take steps along with us. But we are going to have to be the leaders. We are going to have to show what can be done and how it can be done. We are going to have to innovate our way out of this. But we have to do it with our international partners. Movement of air does not respect boundaries.

When Ed Muskie was promoting the Clean Air Act, he would take a globe—I do not think we are allowed to take props onto the floor of the Senate—he would take a standard globe—imagine I have it here—and everybody used to have these in their library. On a globe is a coating of shellac to make it shine. That coating of shellac is the same thickness in proportion to the globe as our atmosphere is to our real globe. In other words, it is very thin and very fragile. We destroy it and threaten it at our extreme peril.

I can boil it all down to one simple concept. This is a Maine concept. It is the Maine rototiller rule.

For those of you from urban States, a rototiller is a device that you use to turn the ground in your garden. I guess it is a homeowner's plow. It turns the dirt. Not too many people own rototillers, but enough do so that you can borrow one when you need it for that one day in the spring when you are going to put in your garden.

The Maine rototiller rule is very straightforward: When you borrow your neighbor's rototiller, you always return it to them in as good shape as you got it with a full tank of gas. That is all you need to know about environmental policy. We do not own this planet. We have it on loan. We have it on loan from our children, our grandchildren, and their grandchildren. We are borrowing it from them. We have a moral, ethical, economic, and security obligation to pass it on to those people in as good or better shape than we got it. That is what this issue is all about.

I deeply hope we can put aside the partisanship and the arguments, agree on the facts, and then have a robust and vigorous discussion of solutions. It is not going to be easy. It is not going to be free. But it will make all the difference in the world to the people to whom we owe our best work—the future of America and the world.

The PRESIDING OFFICER. The Senator from Oregon.

Mr. MERKLEY. Mr. President, I appreciate so much the comments of my colleague from Maine, bringing his insights and his expertise through the years and his stories about how the land and waters of his home State are being impacted and our responsibilities to the broader planet.

I am reminded of the comment that Henry David Thoreau said, which is, ''What is the use of a house if you haven't got a tolerable planet to put it on?'' His comment now seems very much ahead of the time and the context of the issue we are discussing tonight.

Then we have the insight from Theodore Roosevelt, who said, in terms of our responsibility, ''Of all the questions which can come before this Nation, short of the actual preservation of its existence in a great war, there is none which compares in importance with the great central task of leaving this land even a better land for our descendents than it is for us.''

But right now we are failing that challenge. Carbon pollution is a direct threat to our resources on this planet, a direct threat to our forests, to our fishing, and to our farming. So I am going to take a little bit of time tonight to talk about those aspects.

I would like to start by taking a look at our forests. Indeed, if there is something that symbolizes some of the dramatic impacts carbon pollution is making, it is the spread of the pine beetle.

This is a picture of a forest devastated not by fire, not by drought, but by the spread of the pine beetle. I have gone up in a plane and flown over a vast zone of the Cascades known as the red zone, where the pine beetle has killed thousands of acres in my home State. They start out looking red because the needles turn red. That is why it is called the red zone. Then the needles fall off, and you have essentially this brown desolate remainder of what was once a thriving forest.

Timber is something that is very close to our hearts in the State of Oregon. So many of us—myself included—are children of the timber industry. My father was a millwright—that is the mechanic who keeps the sawmill operating—a job he absolutely loved. He used to say that if he did his job right, then everyone had a job to come to, and the mill made money and everyone was happy as long as the machinery ran. Oregon is still the top American producer of plywood and softwood lumber. The industry certainly is a big component of our gross domestic product in my State.

When this happens, then not only do we have zones that are not good environmental zones, but they are not good timber zones either. It is a lose-lose situation. It happens, and it is spreading for one reason: The winters are not as cold as they used to be, and the pine beetle is very happy about that because it is not knocked back and largely wiped out with cold snaps each winter, and it is easy to spread much more quickly, and it is able to spread to much higher elevations.

Then these dead forests become a component in another huge problem, which is forest fires.

This picture you will see in a moment is a picture of the Biscuit Fire in 2002—a wall of flames.

The summer before last, I went down and flew about the State of Oregon to look at the innumerable forest fires that were burning. One of the reasons we had so many forest fires—10 years after this fire—was because the floor of the forest was so dry. It is estimated

that a 2-by-4 that you see in a Home Depot has about a 6-percent moisture content. The material on the floor of the forest was even drier than that. Then you throw in far more lightning strikes due to the pattern of the weather, and you have this magic combination, this combination of tinderbox dryness, pine beetle devastation, and then lightning strikes. What you have are some of the largest fires we have ever seen. Indeed, the Biscuit Fire in 2002—500,000 acres. Half a million acres. Fast-forward 10 years. In 2012, 750,000 acres burned in my State. With the combination of the ongoing effects of carbon pollution—that being pine beetle damage, more lighting strikes, and far drier, drought-driven fire seasons—it is going to get worse and worse.

The seven largest fire years since 1960 have all happened in the last 13 summers. It is pretty amazing to recognize how that transition is occurring. If we think about projecting into the future, the National Research Council predicts that for every 1.8 degrees Fahrenheit temperature increase, the area burned in the western forests will quadruple.

This led our Energy Secretary to tell me a few weeks ago about a draft of a study that says the western forests will be dramatically impacted, devastated in the course of this century due to these factors.

We have a triple threat, that of drought and bark beetles, increased temperatures, and the result is decimation of an incredibly important world resource, our forests.

But carbon pollution is not only an attack on our forests, it is also an attack on our farming. Indeed, drought across the U.S. is a huge and growing threat to agriculture.

In the State of Oregon, we have had the three worst-ever droughts in the Klamath Basin in a 13-year period. It was 2001, then the worst-ever drought of 2010, then the worst-ever drought of 2013—and now we are looking at the possibility of a drought even worse than any of those—the worst-ever drought of 2014. Hopefully, we will have a lot of precipitation and a lot of snow in the coming weeks and that won't be the case, but if we are looking at the snowpack, it is possible that we will have the fourth worst ever in a 14-year period. It is absolutely devastating to our rural economy, absolutely devastating.

Let's look at the impact coming from smaller snowpacks. Snowpacks are a significant piece of this puzzle. If we were to look at the Pacific Northwest, we would basically draw a circle like this. What we see are these zones where there is a huge percentage decrease in those snowpacks. The snowpacks then provide far less irrigation and water available, and therefore dry their foundation for the summer drought, which then has a devastating impact on agriculture. This is not good for our farming families, and it is certainly not good for our farm economy.

Those snowpacks have another impact. I am going to skip forward to the impact on our streams and our fish.

Folks who like to fish for trout and go to their summer streams know that it is going to be better if the stream is large and cold than if it is small and warm. But the last of those snowpacks means that the summer streams are smaller and warmer, and they are very bad for trout. That is what we are seeing in this particular picture: dead trout from the Deschutes River. Last fall thousands of fish died in the river from low flows attributed to drought.

Clearly, not only is it bad for trout, it is bad for salmon; it is bad for steelhead. It is certainly bad for our fishing industries.

Let's turn to another part of our fishing industry, and this is an impact that we see over on the coast of Oregon.

I specifically want to take a look at the impact that we see on our oysters. Oysters have to fixate a shell at the beginning of their life. They are called oyster seed, the baby oyster. We have hatcheries, and those hatcheries have been having challenges. The Whiskey Creek oyster hatchery in Oregon has had a big problem. Indeed, at one point it had a huge impact.

I will read part of an article:

> Peering into the microscope, Alan Barton thought the baby oysters looked normal, except for one thing: They were dead. Slide after slide, the results were the same. The entire batch of 100 million larvae at the Whiskey Creek Shellfish Hatchery had perished.
>
> It took several years for the Oregon oyster breeder and a team of scientists to find the culprit: a radical change in ocean acidity.

This is why, because when we have greater carbon pollution in the air, that carbon then is absorbed by the ocean, a significant portion of it. That dissolved carbon dioxide combines with water and becomes H2CO3, otherwise known as carbonic acid.

That carbonic acid is preventing the baby oysters from forming their shells. We can think of this as the canary in the coal mine for our world's oceans because if baby oysters are having a challenge forming their shells because of a 30-percent increase in acidity since the start of the Industrial Revolution, what other impacts are there going to be along in the shellfish world and the food chains that depend on those shellfish, not to mention the impact on our shellfish farmers.

I was noting this in Washington State and I was told: You know, our oyster farmers are experiencing a similar problem, and they are going to Hawaii and to Asia. This is not only an Oregon problem.

The manager of the hatchery in Oregon, David Stick, said in an article:

> I do not think people understand the seriousness of the problem. Ocean acidification is going to be a game-changer. It has the potential to be a real catastrophe.

Let's recognize another part of the planet that is having a problem with warmer waters and ocean acidification; that is, our coral reefs. We have, in Oregon, a researcher at Oregon State university. His name is Professor Hixon. Professor Hixon is recognizing that the coral reefs around the world are in trouble. As he said in a presentation, he studied dozens of reefs. They are his children. Then he said: My children are dying. One of the key reasons is acidification, but another is the oceans are getting warmer.

I have a chart showing the warming of the ocean. The oceans are absorbing carbon dioxide, and they are also absorbing heat. As they become warmer, they create a real problem for coral reefs. Coral is an animal. We may think of it as a plant, but it actually is an animal, and it lives in a symbiotic relationship with a type of algae.

They depend on each other. What happens when the water gets warmer around a coral reef is that the algae start to multiply in a fashion that overwhelms the coral.

The coral, in an effort to survive, ejects the algae, throws them out of the host. Then the coral, having ejected the algae, dies. This is called bleaching, and it is something we are seeing in coral reefs around the world. That is why Professor Hixon noted: My children are dying.

I will state something else about the warming that is occurring, and this is more about warming that is occurring in terms of the temperature of our planet. It is affecting our recreation industry and our snow industry.

I am going to start by taking a look at what is driving that in terms of a chart related to carbon dioxide. Specifically, this chart shows the dramatic change that has gone on. We see the fluctuations in carbon dioxide over hundreds of thousands of years, into the modern time and then, boom, 400 parts per million of carbon pollution.

What does this come from? It comes from burning fossil fuels.

This carbon—carbon dioxide, as a component of the atmosphere, traps heat. To summarize, our planet has a fever. The temperature is going up. Let's take a look at how that carbon dioxide correlates with temperatures.

We have, in this case, showing since 1880—basically, the start of the Industrial Revolution—the increase in temperature on our planet, the global surface mean temperature. We have seen a significant increase.

If we want to find a way that this impacts our economy, let's take a look at how it impacts our recreation industry. This is an article that I grabbed from the New York Times. It is a lengthy article, but it is the title and the picture that I really wanted to show. It is from the Sunday Review and it is called ''The End Of Snow.''

This article basically documents how our ski resorts around our planet are suffering because they don't have as much snow as they used to have. There is a picture of artificial snow being created and put on the slope. It notes how much energy this requires, how many dollars it costs to provide that energy,

how this is making many of our resorts not feasible, and how many of them will go out of the business. This is just another angle on the impact that carbon dioxide is having, in this case, on our recreation industry.

Of course, it is having other impact on our recreation industry. When we think of those smaller streams, we can think of fewer kayaks, for example, and rafting companies operating.

Let's turn from these multitudinous impacts. First, before we return to recognizing that we have the power to take on carbon pollution, let's recognize when folks say isn't that global warming issue about some computer programmer using some assumption and some model. Isn't there some dispute about it; is it real.

Put all of that aside. We don't need a computer model to show us the impact from the pine beetle. We don't need a computer model to show us the impact on our trout streams. We don't need a computer model to show us the impact today on droughts. We don't need a computer model to show us impact on forest burning. We don't need a computer model to show us the impact on our coral. We don't need a computer model to show us the impact on the oyster industry, and we don't need a computer model to show us the impact on our snow-based recreational activities and the industries that are associated with it.

In other words, carbon pollution is here and now. Global warming is here and now. It is making an impact wherever we look. We can feel it, we can touch it, we can see it, and we can smell it. It is here, and it is our responsibility, our responsibility as American citizens, our responsibility as policy leaders in this esteemed Chamber of the Senate to take on this issue.

There is so much we can do because it boils down to this. We have to replace our appetite for fossil fuels with renewable fuels, renewable energy. We can do that. We can do that in a host of ways.

I will start. Let me start by noting a little bit about the growth of solar energy. When one realizes this chart is just from 2001 to 2013, it is phenomenal the deployed amount of installed capacity in megawatts in solar energy. From 2012 to 2013, we have more than 3,000 additional megawatts of energy, solar energy, solar potential, deployed.

A similar explosion of renewable energy is happening in the source of wind. Let's take a look at that.

We have deployed capacity in wind energy. If we were to recognize that, again, from 2001 to 2013 there was a huge growth in the industry—and I want to point out a particular factor here going from 2011 to 2012. This large bump on the chart was 13,000 megawatts of installed capacity and wind energy in 1 year. The next year there was only 1,000.

The difference, as pointed out by one of my colleagues earlier on this floor, is the difference in tax credits, of consistently available production tax credits that the wind industry can depend on.

We give all kinds of subsidies to the fossil fuel industry. Why can't we create a steady, reliable source to promote renewable energy to help replace those fossil fuels. We have this policy potential in our hands, and we need to exercise it. There are many other forms of renewable energy. There is offshore wind, there is geothermal energy, and there is wave energy. Oregon has some of the best winds for offshore wind energy and waves for wave energy, but we already have the ability through the technologies we have today to dramatically reduce our consumption of fossil fuels.

What this chart shows is that in different parts of the country the mix between biomass and geothermal and wind onshore, wind offshore, wave energy and solar energy, concentrated solar power energy would be different in different parts of the country, but everywhere around the country there is the potential to essentially replace our appetite for fossil fuels.

Then there is the conservation side. We can certainly do a tremendous amount in our fuel standards for cars, a tremendous amount in our fuel standards for trucks, and a significant amount in terms of energy-saving retrofits to our buildings.

In the farm bill we just passed, we have a program for low-cost loans for energy-saving retrofits, and that program—the Rural Energy Savings Program—will help retrofits occur in commercial buildings and residential buildings, and it will allow people to pay back the loan on their electric bill. Often, they will be able to pay back that loan simply with the savings in energy—electricity consumption—from the changes they make to their building. So it is a win-win—creating jobs, saving energy, yet being paid for without much additional expense for the consumer.

All of these possibilities exist and more. It is our challenge as policymakers to take on this issue, to work on how we can generate electricity with far fewer fossil fuels, how we can conserve electricity in transportation. How do we conserve electricity and other fuels? In fact, in both cases—transportation and heating our homes, energy consumed in our buildings—how do we do this with far fewer fossil fuels and do it with renewable energy?

I applaud my colleagues for coming here tonight to raise this issue and say we must come together and take on these challenges. My colleague from Delaware is about to speak and share some stories from his experiences that bear on this, but every Senator in this Chamber can talk about issues from their home State and where they see the impact of carbon pollution and call upon us, call upon our moral responsibility to tackle this issue.

With that, I yield the floor to my colleague.

The PRESIDING OFFICER (Mr. HEINRICH). The Senator from Delaware.

Mr. COONS. Mr. President, I would like to thank my colleague from Oregon, Senator MERKLEY, who has done a tremendous job laying out the scientific case, the compelling economic case, the cultural case, and the global case for why we here in the Senate need to wake up, need to listen to the indisputable evidence of what climate change is doing in our home States, to our country, and around the world.

Mr. President, even now as we speak in this Chamber, my own three children—Maggie, Michael, and Jack—are asleep at home. And as I reflected on this past summer, I was struck by something—an experience we had—that was a simple and telling reminder of the steady changes wrought by climate change in our Nation.

Last summer we took a family vacation—a trip—to Glacier National Park. For those who have had the opportunity to hike in this majestic national park in Montana, it is the site of many striking and beautiful scenes, but there was one hike we took in particular that stayed with me. It was a hike to historic Grinnell Glacier—a glacier that is by many photographs over decades documented in its steady receding. In fact, since 1966 it has lost nearly half of its total acreage. We took a long and winding hike up the trail that takes you to Grinnell Glacier. You can't quite see until you come up over the last rise that most of what is left of Grinnell Glacier in the summers today is a chilly pool of water.

For my daughter Maggie and for my sons Mike and Jack, as I look ahead to the long-term future, I think we all have to ask ourselves this question: How many more changes are we willing to accept being wrought on creation, on this Nation, and on the world by the steady advance of climate change?

I know we can't simply take the examples of things such as Grinnell Glacier or what to me seemed a striking change in the cap of Mount Kilimanjaro. I first climbed it in 1984 and visited it again last year. There is a striking change, a visually powerful change. These aren't scientific.

There are lots of other arguments, perhaps, as to why these two particular glaciers have retreated, but I still remember hearing a presentation at the University of Delaware by Dr. Lonnie Thompson of Ohio State University, a glaciologist who presented a very broad and I thought very compelling case based on ice cores for the actual advance of climate change over many decades.

In fact, I see my colleague from Rhode Island has a photographic history of Grinnell Glacier in Montana's Glacier National Park, so the point I was just making in passing he is able to illustrate here. That is as of 10 years ago. The glacier has retreated even further from that. But this striking glacier from 1940 is now almost completely gone in just one generation.

This and so many other glaciers that were monuments in our national parks are today receded or altogether gone.

Well, I think we have to ask ourselves fundamentally, what is our path forward? We have heard from other Senators. TIM KAINE of Virginia spoke about the importance of innovation, and ANGUS KING, the Senator from Maine, spoke about the importance of markets and of making sure our inventions and innovations in trying to solve these problems are also shared internationally. I think these are great and important insights.

One of the things I wanted to bring to the floor today first was insights from my own home State of Delaware, where our Governor, Jack Markell, impaneled a sea level rise advisory committee starting in 2010 that looked hard at how climate change might affect my home State.

At just 60 feet, Delaware has the lowest mean elevation of any State in the country, and that already makes it more susceptible to sea level rise than almost any State in the country. In my State of Delaware, we have seen and will continue to see the impact of climate change on our businesses, our communities, and our local environment. As the sea level rises, we are seeing the effects more and more.

Sea level rises essentially for two reasons. First, as the planet's ice sheets melt—the much larger sheets than Grinnell Glacier—they add to the amount of water in the ocean. Second, saltwater actually expands as it warms as well. So as the planet's average temperature has steadily risen, so too has the level of its saltwater seas.

The fact that the Earth's oceans are rising each year isn't new information. It has been rising as long as we have been keeping track. But what is really jarring is that rate of rise is increasing and increasing significantly. When the data was tracked from 1870 to 1930, the sea level was rising at a rate of 4 inches per 100 years. Over the next 60 years it rose at a rate of 8 inches per 100 years—more than double. In just the last 20 years the sea level has been rising at a strikingly more rapid rate of 12.5 inches per 100 years. The water is rising, and in Delaware it is rising fast.

The land itself in my State is also actually sinking. There is actually a documented vertical movement of the Earth's crust under the mid-Atlantic coast. It is called subsidence. It has been happening in Delaware slowly but gradually since the ice age at a pace of just 2 millimeters of elevation every year. I know that doesn't sound like a lot, but it adds up to another 4 inches over the century.

So we have the water rising and the land sinking, making climate change and sea level rise—specifically for my home State—a very real issue.

A wide array of scientists have studied this and its impact on Delaware, and they have developed three models for a future scenario. In the conservative model, by the year 2100 the sea level in Delaware will have risen about 1.5 feet. In another model, the water off Delaware rises another full meter. In another and the most disconcerting model, it is 1.5 meters or about 5 feet. Unfortunately, at present, this broad group of scientists—inside and outside of government—are estimating that is the most likely scenario.

Let's make this real. Here is a projection of these three different scenarios in one area of Delaware. This is Bowers Beach. This shows how now this is a well-established beach community. The most conservative model, we still have something of the land; in the middle, it is completely cut off here from the mainland; and then in the most likely, sadly, given the most current evidence, there is literally nothing left except a little sandbar out by itself in the Delaware Bay. That gives one example of why the difference between these three scenarios matters so much. Unfortunately, there is no scenario in which Bowers Beach is still a viable beachfront community by the end of this century. This beach community of Bowers Beach is very close to Dover Air Force Base and ends up underwater.

Now let's take a look at South Wilmington. The city in which I live is Wilmington, DE, and South Wilmington is a neighborhood in the largest city in our State. As the water rises in the Atlantic Ocean, it also rises up the Delaware Bay, the Delaware River, and the Christina River, which runs right through most of my home county, Newcastle County, and rises in the Peterson Wildlife Refuge too.

The impacts here are potentially devastating. We are talking about water 1.5 feet higher than what Delaware experienced during Superstorm Sandy—not for a brief storm surge but each and every day. Again, take a look at today the conservative, the middle, and the most likely, most aggressive scenario in which virtually all of South Wilmington is underwater by the end of this century. The calculation of whether we are hit with a half a meter, a full meter, or 1.5 meters of sea rise comes down to the rate of acceleration of climate change globally, and it leaves for us a central and so far unanswered question: whether we try to slow the rate at which climate change is affecting our planet and maybe somehow turn the tide. This is the part of climate change policy called mitigation.

Priority one in this strategy is cutting the emissions we are pumping into our atmosphere. To do that, we can and must diversify our energy sources and reduce our dependence on polluting fossil fuels. Clean energy technology, energy efficiency programs, public transportation, and more will help cut down on these emissions, but it will require a global effort in order to avoid or minimize local impacts.

The second part of climate change policy is adaptation based on an acceptance of the reality that our climate is changing and will have real effects on our planet and all of our communities. The truth is that even if we stopped all greenhouse gas emissions today—if we shut down powerplants, stopped driving cars, stopped using gas-powered farm equipment, trains, and ships, and all the rest—the amount of greenhouse gases, of CO_2 and others already in the atmosphere would still take many years to dissipate. Changes in the world's climate are at this point inevitable. It is already happening and affecting communities, and we can expect these impacts to intensify as the rate of climate change continues to accelerate. We can modify our behavior to prevent those effects from being catastrophic. We can and should make better choices now to prevent disaster later.

In Delaware, for example, we have had two laws on the books for now 40 years that have helped us adapt. The first was championed in the 1970s by a Republican Governor, Russ Peterson, a hero of mine and of our Governor's and others. It is called the Coastal Zone Act, and passing it cost him his career in politics. It prohibited future industrial development on a long strip of coastal land, allowing the State and Federal government to preserve it and reduce the impacts of flooding and coastal erosion. Ultimately, in the long run, Governor Peterson has been proven a visionary in preserving this vital barrier all along Delaware's coast.

The second law empowered the State to protect and replenish the State's beaches, including the beaches on Delaware Bay, which are often overlooked. This has allowed our State to build a berm and dune system that protects infrastructure and protects property from being washed away.

More important than these significant landmark laws of 40 years ago, today, instead of running away from the science, Delaware's leaders have embraced it. The State agency that manages environmental issues for Delaware—known as DNREC and ably led by secretary Collin O'Mara—has taken the lead on a governmentwide project to assess the State's vulnerability to sea level rise and, as I mentioned, recommend options for adaptation.

Delaware's Sea Level Rise Committee spent 18 months looking at 79 different statewide resources—roads, bridges, schools, fire stations, railroads, wetlands, people and their homes and businesses—and layered all of this onto maps to show just how far the water would reach at different models for sea level rise.

If the sea level does get to 1.5 meters, we lose more than 10 percent of our State. The water claims 20,000 residential properties, significant percentages of wetlands, farms, highways, and industrial sites. We would lose 21 miles of our Northeast corridor rail lines to flooding, shutting down the vital Northeast corridor that transports so many millions every year.

The Port of Wilmington would be rendered useless, nearly all the State's acreage of protected wetlands could be inundated, nearly three-quarters of our dams, dikes, and levees flooded out. In short, this scenario for our lowest-lying State would be devastating.

As Secretary O'Mara said:

> We're looking at big risks for human health and safety, and not just at the Delaware Bay beaches. We have big concerns about [communities in Delaware]. It's much more complex than just the bay beaches or a community here or there.

He is right. So once again, remember, we have two basic approaches to climate change policy: adaptation and mitigation.

Once Delaware compiled its 200-page vulnerability assessment on sea level rise, the committee got to work on an adaptation strategy to protect our State and came up with slightly more than 60 options and hosted a whole series of public meetings and townhalls to discuss it. We are now working on a broader vulnerability assessment to examine the full range of impacts from climate change, even beyond sea level rise—changing temperatures, extreme weather, changes in precipitation—impacts which will affect us and our neighbors.

Climate change will affect the distribution, abundance, and behavior of wildlife, as well as the diversity, structure, and function of our ecosystem. We are already seeing changes in natural patterns. As Senator MARKEY of Massachusetts commented earlier this evening, many commercial and recreational fish stocks along our east coast have moved northward by 20 to 200 miles over the past 40 years as ocean temperatures have increased. Scientists expect migratory species to be strongly affected by climate change, since animal migration is closely connected to climate factors, and migratory species use multiple habitats and resources during their migrations. These changes are impacting our own multimillion bird watching and waterfowl hunting, an important economic driver for us and critical parts of our heritage.

According to the draft National Climate Assessment released in 2013, our farmers are expected to initially adapt relatively well to the changing climate over the next 25 years. But later, as temperature increases and precipitation extremes get more intense, crop yields and production of poultry and livestock are expected to decline. More extreme weather events—drought and heavy downpours—will further reduce yields, damage soil, stress irrigation water supplies, and increase production costs. All in all, this is a fairly grim long-term outlook in the absence of decisive action.

I am proud of my State. Delaware was the first State to thoroughly assess the vulnerability of specific resources in as comprehensive a way as they have, and we are determined to confront these changes to our planet head on and to protect our communities and the way of life we have built.

I will briefly review. There is so much we can and should do here in Congress in a bipartisan way to lay the groundwork for the actions we have to take. We can improve our energy efficiency. We could take up and pass the bipartisan bill recently reintroduced by Senators SHAHEEN and PORTMAN to increase the use of energy-efficient technology across all sectors in our society. The new version of the bill has 12 cosponsors—six Democrats and six Republicans—and includes 10 new commonsense amendments which would save consumers electricity and money, a small but meaningful start on a journey toward changing our direction on climate change. Or we could level the playing field and help new clean energy technologies get off the ground by giving them the same tax advantages currently utilized by fossil fuel projects. The bipartisan Master Limited Partnerships Parity Act—which I am proud to cosponsor with my colleagues Senators MORAN, STABENOW, MURKOWSKI, LANDRIEU, and COLLINS, Democrats and Republicans working together—would level the playing field for renewables and give them and other new technologies a fighting chance in our energy market.

There are so many other steps we could do in combination, if we would but get past this endless, pointless debate which has long been resolved in the halls of science, and move forward in a way which better serves our country and our world.

The bottom line is that our climate is changing. We know this. With this knowledge comes the responsibility to reduce our emissions, to mitigate the impacts, and prepare for and take action to deal with the coming changes.

As I reflect on our own responsibilities as Senators, I am in part moved to respond to the challenge of climate change—not just because it is an environmental issue, an economic issue, a regional issue or global issue, but it is also for me and for many others a faith issue. It is a question of how we carry out our responsibility to be good stewards of God's creation, to be those Senators we are called to be each from our own traditions who stand up and do what is right, not just for the short term, not just for the concerns of the day, but for the long term.

As I move toward my close, I will share with those in the Chamber and watching one of the things most encouraging to me as I have reflected on the change in the climate change movement over recent years is it has begun to draw support from all across the theological spectrum. There was last year, July of 2013, a letter sent to Speaker BOEHNER, Majority Leader REID, and all Members of Congress by 200 self-identified Christian evangelical scientists from both religious and secular universities all across the United States, a powerful and incisive letter which says:

> As evangelical scientists and academics, we understand climate change is real and action is urgently needed. All of God's Creation—human and our environment—is groaning under the weight of our uncontrolled use of fossil fuels, bringing on a warming planet, melting ice, and rising seas.

I urge any watching to consider reading it. It is posted on line. It goes on to quote Christian Scripture at length in making the case we have an obligation, if we are concerned about our neighbors and about the least of these in this world, to take on the challenge of making sure we are good stewards.

Those of the Roman Catholic faith might be inspired by Pope Francis, who has taken the name of the patron saint of animals and the environment, and recently issued a call for all people to be protectors of creation.

Last, I might read from a letter issued by the president of the National Association of Evangelicals, a group not commonly known for their close alignment with my party. Leith Anderson wrote in a letter in 2011:

> While others debate the science and politics of climate change, my thoughts go to the poor people who are neither scientists nor politicians. They will never study carbon dioxide in the air or acidification of the ocean. But they will suffer from dry wells in the Sahel of Africa and floods along the coasts of Bangladesh. Their crops will fail while our supermarkets remain full. They will suffer while we study.

This couldn't be more true. I urge all of us in this Chamber to reflect on whatever traditions sustain and bring us here that we have an obligation to those who sleep soundly in our homes now, to those from our home States around the country, to stand up and take action, to look clearly at the challenge which lies in front of us and to act in the best traditions of this body and of this Nation, to be good stewards of creation and to stand up to the challenges of this time.

Mr. MENENDEZ. Mr. President, I thank all of my friends who are speaking on the floor tonight for their continued commitment to not just bring attention to climate change, but to push for decisive action on the issue.

As experts from around the world show us beyond a reasonable doubt that we, as a global community, are contributing to rising temperatures, there are those that would deny that human actions can have any effect on our climate and environment. Too often, lawmakers try to legislate their own ''science'' rather than properly utilizing the conclusions and recommendations made by skilled experts—yet nature does not conform to our laws. That is why the United States must be an innovator in reducing our greenhouse gas emissions, and a leading light in the clean energy sector.

My own home State of New Jersey has shown strong leadership in moving our country towards a sustainable energy future. We have developed and implemented an aggressive Renewable Portfolio Standard that requires over

20 percent of New Jersey's electricity to come from renewable sources by 2021. We have put in place strong incentives for energy customers of all sizes, from single families to the many businesses that call New Jersey home, to become energy efficient and even clean energy producers, by installing solar panels on their homes and buildings. New Jersey is also beginning to realize some of its extraordinary potential to harness wind power off our coast, with multiple offshore wind projects currently in development. I am encouraged by some of the progress that I have seen in the renewable energy sector in New Jersey and other leading States, and hope that others will follow suit.

New Jersey's many exemplary institutions of higher learning have also been at the forefront of the vital research that has helped us to understand the causes and consequences of global climate change. Important work is being done at the Institute of Marine and Coastal Sciences at Rutgers University into how climatic changes in the Arctic impact weather in the U.S., and Princeton University's Cooperative Institute for Climate Science is at the forefront of climate change mitigation options and response strategies.

Some of my Senate colleagues from fossil fuel producing States have been hesitant to act, they say, because oil and coal production are home State issues for them. Well, for me, climate change is a home State issue. Not just because of the excellent work being done in New Jersey, but because my State has seen firsthand the devastating effects of a warmer climate that brings with it powerful storms, rising seas, and destructive flooding.

Not 18 months ago, New Jersey and much of the eastern seaboard was battered by an unprecedented superstorm that washed away much of the New Jersey coastline. Superstorm Sandy caused an estimated $65 billion in economic losses. 159 people lost their lives, 650,000 homes were damaged or destroyed, and 8.5 million households and businesses lost power, many of them for weeks. Power outages caused severe gas shortages, with traffic backed up for miles, and people waiting for hours to obtain fuel to feed the generators that were keeping their families warm and their food from spoiling.

Now, New Jersey has persevered. We worked together and helped each other rebuild lives, businesses, homes, and our famous beaches and boardwalks. Efforts have been undertaken to make our coastal communities and critical infrastructure more resilient to future storms of this magnitude. But unless we act to implement responsible energy policies that cut our greenhouse gas emissions and incentivize investment in renewable energy infrastructure, these damaging superstorms will only become more powerful and frequent. Those who deny the reality of climate change tend to emphasize the economic costs of regulating carbon emissions, but these costs pale next to the economic and social costs of doing nothing.

I am proud to join my colleagues tonight, and for the duration of my time serving the people of New Jersey in the Senate, to call for real solutions to our climate challenges. The decisions that we make in this body now will shape the future for our children and grandchildren. Years from now, I hope to humbly reflect on my time in the Senate, and be able to say I was a part of the Congress that finally reigned in big oil and coal, and put the United States on a path towards sustainability and environmental responsibility. Future generations of Americans deserve no less, and our planet demands it.

Mr. LEAHY. Mr. President, nearly 30 years ago, I joined a good friend, the late Hub Vogelmann, along with a Republican Congressman, a Democratic Governor, and President Reagan's EPA Administrator, on a hike to the summit of Vermont's iconic peak, Camel's Hump. We had a goal in mind. We wanted to observe first-hand the effects of acid raid. When we arrived at the summit, we saw the evidence we feared. You did not have to be a scientist to see it: a scar burned across the peak of Camel's Hump and across all of the peaks of the Green Mountains and the Adirondacks. Due to human action, weather patterns had changed, altering the very chemistry of rainfall on a grand scale. As a result, we caused profound and large-scale damage to life sustaining ecosystems.

There were Democrats and Republicans, scientists and bureaucrats on that mountain. We returned to Washington, united and eager to address the problem. It was not easy. We had to overcome strong objections from industry and develop an entirely new cap-and-trade regulatory framework. In the end, a Democratic majority in Congress passed, and Republican President George H.W. Bush signed into law, the Clean Air Act amendments.

Once again, we are confronted with irrefutable evidence that humans have altered not just the weather of a region, but the climate of the entire planet. This time, we do not need to climb mountains to see the damage. We see it in New England's flood ravaged river valleys, California's scorched farmland, Alaska's retreating glaciers, Wyoming's burnt forests, and super-storm ravaged coastlines.

Before we even get to the accumulated—and accumulating—scientific evidence for climate change and the carbonization of our fragile envelope of atmosphere, we only need to apply common sense. As we look around us, anywhere, everywhere, and at any time, doesn't it just stand to reason that human activity is contributing to documented changes in our atmosphere, and to climate change? I certainly have seen it in my lifetime. But I have also seen people try to deny all reason and the evidence all around us.

The scientists have done their work. We now better understand the human causes of climate change and we understand its profound and accelerating impact. Unfortunately, too many policy makers deny the evidence, or refuse to cross political lines to solve the problem. I say it is time we wake up and act on climate change.

We have taken some steps in the right direction. This past summer, President Obama announced his Climate Action Plan to cut carbon pollution. The Environmental Protection Agency has begun creating new carbon emission standards for future power plants. The Department of Energy is working on ground-breaking energy technologies, and the Department of Transportation is studying transportation planning to address future risks and vulnerabilities from extreme weather and climate change. The Transportation Department is also addressing vehicle fuel efficiency which is saving vehicle owners and operators billions of dollars a year. These are all positive changes, but before we rest on our laurels, we have to understand that there are not nearly enough to address the problem at hand. Congress needs to cast aside partisan blinders by enacting legislation that prioritizes renewable energy development, supports energy efficient technologies, and taxes carbon pollution.

It is time to take a stand against misguided policies and projects that put future generations at risk, and in my State, we believe that includes the Keystone XL pipeline. The State Department recently released its long-awaited environmental impact statement on the Keystone XL pipeline. I am deeply troubled that the State Department's analysis did not take into account the overwhelming evidence that this project will further accelerate the release of greenhouse gas pollution, which will intensify climate change. There is a mountain of evidence that the carbon pollution, drinking water threats, public health threats, and safety threats from this pipeline are so great that it is not in our national interest, and its permit should be denied. I realize this goes against some public opinion polls, but I believe we must stamp out our addiction to fossil fuels and fight back against these threats to our land, water, air, and healthy communities around the world.

We have to understand that climate change is not simply an environmental challenge. Creating a green energy sector is not just about cutting greenhouse gas emissions. It is about providing jobs for Americans in the renewable energy and energy efficiency fields. It is about strengthening national security in America by having greater control over our energy sources and breaking the stranglehold of oil on the transportation system. What should unite all of us, Republicans and Democrats alike, is assuring that our children and grandchildren have clean air to breathe.

We have come together before. We did it back in the time of President

George H.W. Bush. We joined hands across the aisle and across regions of this great country to solve problems. Why can't we do it again? Isn't that the least we owe to our planet? Isn't that the least we owe to our children and grandchildren?

Mr. President, I yield the floor.

MESSAGES FROM THE PRESIDENT

Messages from the President of the United States were communicated to the Senate by Mr. Pate, one of his secretaries.

EXECUTIVE MESSAGES REFERRED

As in executive session the Presiding Officer laid before the Senate messages from the President of the United States submitting sundry nominations and a withdrawal which were referred to the appropriate committees.

(The messages received today are printed at the end of the Senate proceedings.)

FISCAL YEAR 2015 BUDGET: APPENDIX, ANALYTICAL PERSPECTIVES, AND HISTORICAL TABLES, RECEIVED DURING ADJOURNMENT OF THE SENATE ON MARCH 10, 2014—PM 34

The PRESIDING OFFICER laid before the Senate the following message from the President of the United States, together with accompanying reports and papers; which was referred jointly, pursuant to the order of January 30, 1975 as modified by the order of April 11, 1986; to the Committees on Appropriations; and the Budget:

Hon. JOSEPH R. BIDEN, JR.,
President of the Senate,
Washington, DC.

Dear Mr. President:

I transmit herewith the following hard copy volumes of the Fiscal Year 2015 Budget: Appendix, Analytical Perspectives, and Historical Tables.

BARACK OBAMA.

THE WHITE HOUSE, *March 10, 2014.*

MESSAGE FROM THE HOUSE

At 4:07 p.m., a message from the House of Representatives, delivered by Mrs. Cole, one of its reading clerks, announced that the House has passed the following bills, in which it requests the concurrence of the Senate:

H.R. 2641. An act to provide for improved coordination of agency actions in the preparation and adoption of environmental documents for permitting determinations, and for other purposes.

H.R. 3826. An act to provide direction to the Administrator of the Environmental Protection Agency regarding the establishment of standards for emissions of any greenhouse gas from fossil fuel-fired electric utility generating units, and for other purposes.

H.R. 4152. An act to provide for the costs of loan guarantees for Ukraine.

MEASURES PLACED ON THE CALENDAR

The following bills were read the second time, and placed on the calendar:

S. 2097. A bill to provide for the extension of certain unemployment benefits, and for other purposes.

H.R. 4118. An act to amend the Internal Revenue Code of 1986 to delay the implementation of the penalty for failure to comply with the individual health insurance mandate.

EXECUTIVE AND OTHER COMMUNICATIONS

The following communications were laid before the Senate, together with accompanying papers, reports, and documents, and were referred as indicated:

EC–4830. A communication from the Chief of the Policy and Rules Division, Office of Engineering and Technology, Federal Communications Commission, transmitting, pursuant to law, the report of a rule entitled ''Amendment of Part 15 of the Commission's Rules to Establish Regulations for Tank Level Probing Radars in the Frequency Band 77–81 GHz'' ((ET Docket No. 10–23) (FCC 14–2)) received in the Office of the President of the Senate on February 26, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4831. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Use of Additional Portable Oxygen Concentrators on Board Aircraft'' ((RIN2120–AK35) (Docket No. FAA–2013–1013)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4832. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Prohibition on Personal Use of Electronic Devices on the Flight Deck'' ((RIN2120–AJ17) (Docket No. FAA–2012–0929)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4833. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Minimum Altitudes for Use of Autopilots'' ((RIN2120–AK11) (Docket No. FAA–2012–1059)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4834. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Standard Instrument Approach Procedures, and Takeoff Minimums and Obstacle Departure Procedures; Miscellaneous Amendments (50); Amdt. No. 3573'' (RIN2120–AA65) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4835. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Standard Instrument Approach Procedures, and Takeoff Minimums and Obstacle Departure Procedures; Miscellaneous Amendments (63); Amdt. No. 3574'' (RIN2120–AA65) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4836. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Amendment to Class D and E Airspace; Christiansted, St. Croix, VI'' ((RIN2120–AA66) (Docket No. FAA–2013–0757)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4837. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Amendment to Class D and E Airspace; Grand Forks, ND'' ((RIN2120–AA66) (Docket No. FAA–2013–0950)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4838. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Amendment to Class E Airspace; Morrisville, VT'' ((RIN2120–AA66) (Docket No. FAA–2013–0683)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4839. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Amendment to Class E Airspace; McMinnville, TN'' ((RIN2120–AA66) (Docket No. FAA–2013–0682)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4840. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Modification of Class D and E Airspace; Kailua-Kona, HI'' ((RIN2120–AA66) (Docket No. FAA–2013–0622)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4841. A communication from the Paralegal Specialist, Federal Aviation Administration, Department of Transportation, transmitting, pursuant to law, the report of a rule entitled ''Establishment of Class E Airspace, Amendment of Class D and E Airspace, and Revocation of Class E Airspace; Salinas, CA'' ((RIN2120–AA66) (Docket No. FAA–2013–0708)) received in the Office of the President of the Senate on February 25, 2014; to the Committee on Commerce, Science, and Transportation.

EC–4842. A communication from the Director of the Regulatory Management Division, Environmental Protection Agency, transmitting, pursuant to law, the report of a rule entitled ''Metconazole; Pesticide Tolerances'' (FRL No. 9906–13) received in the Office of the President of the Senate on March 4, 2014; to the Committee on Agriculture, Nutrition, and Forestry.

EC–4843. A communication from the Director of the Regulatory Management Division, Environmental Protection Agency, transmitting, pursuant to law, the report of a rule entitled ''Fluopicolide; Pesticide Tolerances'' (FRL No. 9906–19) received in the Office of the President of the Senate on March 4, 2014; to the Committee on Agriculture, Nutrition, and Forestry.

EC–4844. A communication from the Director of the Regulatory Management Division, Environmental Protection Agency, transmitting, pursuant to law, the report of a rule entitled ''Triflumizole; Pesticide Tolerances''