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Committee on Environment
and Public Works Washington, D.C.

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HEARING ON EXAMINING THE INTERNATIONAL CLIMATE NEGOTIATIONS

Wednesday, November 18, 2015

United States Senate

Committee on Environment and Public Works

Washington, D.C.

The committee met, pursuant to notice, at 9:33 a.m. in room 406, Dirksen Senate Office Building, the Honorable Shelley Moore Capito [chairwoman of the committee] presiding.

Present: Senators Capito, Inhofe, Barrasso, Crapo, Boozman, Sessions, Wicker, Rounds, Carper, Cardin, Whitehouse, Merkley, Gillibrand, Booker, and Markey.

Senator Capito. The hearing will come to order.

We have some unusual circumstances. I am not the chairman of the full committee; the chairman is sitting to my right, as you know, Chairman Inhofe. He is on the conference committee for the highway reauthorization, so he has asked to make some statements and then he is going to go to his meeting. So, with that, I will recognize Chairman Inhofe.

STATEMENT OF THE HONORABLE JAMES M. INHOFE, A UNITED STATES
SENATOR FROM THE STATE OF OKLAHOMA

Senator Inhofe. I thank you, Madam Chairman. We actually have three members of the conference, the highway conference. I already talked to the witnesses and explained to them. It is very significant what is going on. We are actually going to have a formal conference on the highway reauthorization bill. That hasn't happened since 2005, so we are very excited about it. And I am sure that another conferee is Senator Fischer, so I am sure we will all be wanting to go over there.

But she has graciously allowed me to make a brief opening statement, which I will do now, and I am sure that Senator Carper won't mind if I go ahead and make my statement.

Senator Carper. I object.

[Laughter.]

Senator Inhofe. All right, good.

Well, let me start by saying that all of our prayers are with the people and what has been happening in Paris. It is so regrettable.

I thank the witnesses for being here today to discuss the international climate negotiations. Despite President Obama's constant rhetoric about transparency, we are a week and a half away from the start of the United Nation's twenty-first session

of the Conference of Parties. This is the twenty-first year that we have had this, and several of us on this panel up here have had different ideas about what is to be accomplished there. My idea is nothing.

I just sent a letter in July seeking information relating to the President's intended nationally determined contribution. Now, that is where he is supposed to be able to document what he wants, and he did send information in that he is going to be reaching between a 26 and 28 percent reduction in emissions, but failed to say how he is going to do this. So we tried to have a conference. We tried to have a meeting in this committee and asked the EPA to attend, and they refused to attend.

Now, this is the first time in my experience in the years that I have been here, eight years in the House and 20 years in the Senate, that the committee of jurisdiction making a request that someone appear and they don't appear. So I think there is a reason: because they don't know how the calculation of 26 to 28 percent was working.

Together we are especially here to discuss the potential legal form of the COP 21 agreement. I think that goes without saying. There have been a lot of things published about is it legal, is it binding. Until yesterday, when we had, in the Financial Times, Secretary Kerry announced that there would be

no binding agreement from COP 21. No binding agreement from COP 21. Now, that incurred the wrath of President Hollande of France, along with several other people. Anyway, that was an honest statement because there won't be any.

When it comes to the financing, I know that a lot of people over there, the 192 countries would assume the Americans are going to line up and joyfully pay \$3 billion into this fund, but that is not going to happen either.

So, anyway, this is going to be very similar to the other 20, so I am sure there will be many on this panel who will be attending. I don't plan to attend.

Thank you, Madam Chairman.

[The prepared statement of Senator Inhofe follows:]

STATEMENT OF THE HONORABLE SHELLEY MOORE CAPITO, A UNITED STATES
SENATOR FROM THE STATE OF WEST VIRGINIA

Senator Capito. I thank the chair and we wish good luck and quick work on the conference committee, because I think we are all anxious to have that piece of legislation before us. So I will go ahead and open, if that is okay with you, for my opening statements.

I want to welcome the panelists, first of all, and the members, the senators here. Much of what Senator Inhofe has said is contained in my opening statement, but I think some of it bears repeating.

Just yesterday we passed two bipartisan resolutions under the Congressional Review Act, one of which I sponsored. And I brought those up because, in my opinion, they are inextricably tied to the upcoming climate negotiations. President Obama cannot meet his goal of 26 to 28 percent reduction of CO2 emissions without the full implementation of this regulation, and we believe that that stands on shaky legal and political ground. The Senate has now formally rejected these rules and we expect the House to do the same, and then the President will have a chance to make his opinion known. But over half our States, 27 to be precise, have now sued the EPA to block these rules.

Last week, as Chairman Inhofe said, it was reported that Secretary of State insisted that the international climate agreement expected to be reached in Paris was "definitely not going to be a treaty," and Chairman Inhofe mentioned that he said there would be no binding agreement.

This prompted French Foreign Minister Laurent Fabius to suggest that Secretary Kerry was "confused." The French president then weighed in: "If the agreement is not legally binding, there won't be agreement," as did the European Union, whose spokesperson was quoted as saying, "We work on the basis that the Paris agreement must be an internationally binding agreement."

If major participants in the upcoming COP 21 negotiations cannot agree on the legal status of any forthcoming agreement, no wonder those of us here today have questions. Will this agreement be legally binding or not? If so, will it be submitted to the Senate for ratification, as required by the Constitution?

Chairman Inhofe, as he mentioned, too, invited the EPA, the CEQ, and State Department to testify before the committee and provide missing information related to the President's 26 to 28 percent greenhouse gas emissions target. EPA and CEQ have thus far demurred, saying they lack involvement and relative

expertise.

I share the chairman's hope that the Administration will reconsider and allow witnesses to come before this committee in the coming year, particularly given press reports such as last week when Climate Wire reported that EPA Administrator McCarthy meets regularly with White House staff, alongside Secretary of State Kerry and Secretary of Energy Munez to prepare for Paris and is likely going herself.

The legal status of an agreement is one issue that negotiators must resolve. Financial payments demanded by developing countries from the United States and other countries are another, and I hope we will touch on those today.

The President has pledged to send \$3 billion to the Green Climate Fund. He included a \$500 million request in his fiscal year 2016 budget. The House and the Senate, State and foreign appropriators, I am on the appropriation committee, have allocated zero dollars. It is important to make clear, I think, to the rest of the world, as climate talks approach, that Congress has the power of the purse.

I look forward to hearing from our distinguished panel of witnesses. Again, I thank them for coming and that we have a robust discussion, as we always do on this committee. I have learned that in the short time I have been here.

And I would like to recognize Senator Carper for an opening statement.

[The prepared statement of Senator Capito follows:]

STATEMENT OF THE HONORABLE THOMAS R. CARPER, A UNITED STATES
SENATOR FROM THE STATE OF DELAWARE

Senator Carper. Thanks, Madam Chair. It is a pleasure to have a couple of West Virginia kids up here leading the charge on this important day. Thanks for pulling this together and thanks to all of our witnesses for joining us on what is a much welcomed hearing.

Today we are here to discuss, as we know, our Country's efforts to fulfill a promise that was made some 23 years ago, in 1992, to address global climate change. George Herbert Walker Bush was our president at that time, as you will recall. But in 1992, the United States and other countries around the world agreed to a treaty that established the United Nations Framework Convention on Climate Change. The goal, to find a way to limit global climate pollution and limit the impacts of climate change to preserve and protect our environment for future generations.

In 1992, President Bush signed the treaty and the Senate subsequently ratified it. Today, there are 196 countries that are part of that treaty.

Over the past 23 years, the United States and our treaty partners have held meetings, usually each year, to address these goals, and later this month the twenty-first meeting will take place in Paris. These negotiations are critical because to

effectively address climate change we cannot act alone. We cannot do this alone. We have to work cooperatively with our neighbors around the world.

There are a host of scientific studies that underscore the urgent need for action, but, for me, the most compelling factor in supporting efforts to address climate change is more personal. I live in the lowest lying State in America. We see every day the ravages of climate change and sea level rise. I have children, someday I hope to have grandchildren, and I want to make sure they have a real bright future in Delaware and other places throughout our Country and, frankly, around the world.

The science is clear. Our future generations face no greater environmental threat. We face a lot of threats, but no greater environmental threat than the threat of climate change. We know the price of action pales in comparison to the cost of doing nothing. This is why I believe we have an absolute duty to fight to change our behavior, continue to change our behavior not only in Delaware and across the Country, but also around the world, to help stem the tide of climate change.

When it comes to global challenges, the United States doesn't just sit back and wait for someone else to lead. We lead. This should be no different. When the challenge was

fascism, when the challenge was communism, today terrorism, cyberattacks, the U.S. has led as the world has risen to face those challenges.

Climate change is real. Global warming is real. Sea level rise is real. We see it, again, happening every day in my own State. We see it every day happening in Ben's State, over here, my neighbor to the east and to the south. The U.S. cannot do it alone, but we can provide leadership, and somebody needs to do that, and that should be us.

Since the current Administration has retaken a leadership role on this issue, others have followed. Countries like China and Brazil, that have been hesitant before to make carbon reductions, have changed their tune. I think largely because we have acted.

As someone, again, who was born in coal country, Beckley, West Virginia, but spent his entire adult life, most of his adult life in the lowest lying State in the Nation, I know this issue is complicated and I know compromises have to be made for all of us to survive in a low carbon world. However, let me conclude by saying I have confidence that this Administration, working in conjunction with 50 laboratories of democracies, our States across America, using common sense, using sound science, will find the right recipe.

In closing, I encourage our Administration to continue its work to drive the international community toward a broader global agreement in Paris so that together we can successfully meet the challenges facing our planet and ensure a brighter future for our grandchildren and for their grandchildren.

Thank you, Madam Chair.

[The prepared statement of Senator Carper follows:]

Senator Capito. Thank you, Senator.

We will begin to hear testimony from our witnesses. I am going to introduce everybody briefly and then we will begin with Mr. Ku.

Mr. Julian Ku, who is the Maurice A. Deane Distinguished Professor of Constitutional Law & Faculty Director of International Programs, that is one long title, at the Maurice A. Deane School of Law at Hofstra University. Next we will hear from Mr. Oren Cass, who is Senior Fellow at the Manhattan Institute for Policy Research, Incorporated. Next we have Mr. Steven Eule, Vice President of Climate and Technology, U.S. Chamber of Commerce Institute for 21st Century Energy. We have Mr. David Waskow, Director, International Climate Initiative, World Resources Institute. And then we have Ms. Lisa Jacobson, President, Business Council for Sustainable Energy.

Again, thank you all. We will have five minute statements. Your full statements have been submitted to the record.

Mr. Ku?

STATEMENT OF JULIAN KU, MAURICE A. DEANE DISTINGUISHED PROFESSOR
OF CONGRESSIONAL LAW & FACULTY DIRECTOR OF INTERNATIONAL
PROGRAMS, MAURICE A. DEANE SCHOOL OF LAW AT HOFSTRA UNIVERSITY

Mr. Ku. Thank you, Madam Chairman. I want to thank the
chairman, the ranking member, the members of this committee for
inviting me to participate in today's hearing.

As you just noted, my name is Julian Ku. I am Professor of
Law at Hofstra University in New York, and my academic research
focuses on the relationship between international law,
international agreements, and the United Constitution. My
testimony today will consider the requirements and limitations
under the Constitution for an agreement relating to climate
change.

In my written testimony I review the legal status of each
kind of international agreement; a treaty, a congressional
executive agreement, a sole executive agreement. And I also
explain my written testimony why I believe the Paris agreement
should be submitted to the Senate for its approval if that
agreement contains legally binding emissions reduction targets
and timetables. And I am happy to take questions on that issue
particularly if members of the committee are interested.

But for the purposes of my oral remarks, I want to focus on
the possibility that the Paris agreement will contain non-

legally binding political commitments. I think this is the direction that the Administration is heading.

In response to a letter from Senator Bob Corker, the State Department has indicated that the United States is not seeking an agreement in which the parties take on legally binding emissions targets, and this response means that, at the heart of the Paris agreement, the emissions targets will not be legally binding if the United States gets it way in Paris.

Now, I do not have any constitutional objection to the use of a political commitment in the manner described by the State Department as long as all parties understand what a political commitment, as opposed to a legally binding commitment, is.

By making a political commitment, the United States would not owe any legal obligations to foreign countries under international law to reach any particular emissions reductions target. And as a political commitment, no future president or Congress would be bound under U.S. law to reach these emissions targets.

So, as a matter of law, a non-legally binding Paris agreement would be no different than the President giving a speech saying I promise to reduce emissions or reach certain emissions targets in future years. However, as Madam Chairman noted, press reports indicate that other countries in Paris are

expect the agreement to be a legally binding agreement. I also will quote again the statements from France's President, Francois Hollande, in which he said if the agreement is not legally binding, there won't be agreement, because that would mean it would be impossible to verify or control the undertakings that are made.

So statements like this by our treaty partners, or potential treaty partners, will make it tempting for U.S. negotiators to call the Paris agreement legally binding while they are in Paris, while at the same time assuring Congress it is not legally binding. And I think this kind of deception, or at least some confusion, is troubling because it either results in misleading foreign governments as to what the United States is promising or it results in the President violating the Constitution by concluding an agreement on his own authority as a sole executive agreement.

So as I explained in my written testimony, I don't believe the Constitution allows the President to use a sole executive agreement without any approval from Congress to legally bind the United States to particular greenhouse gas emissions targets. And a lack of clarity on the legal nature of the Paris agreement could spur future litigation where a plaintiff might sue, for

instance, to demand U.S. compliance with a legally binding Paris agreement.

So, for this reason, if the Paris agreement is finalized with political commitments, as Secretary Kerry and the Department of State seem to indicate, I recommend that the Senate request that the Administration identify publicly which particular provisions of the Paris agreement, if any, are legally binding and which particular provisions are just political commitments. Such an explanation ideally should take the form of a public statement by a senior member of the Administration, ideally Secretary of State Kerry himself, that reviews each provision of the Paris agreement and explains what is binding and what is not.

Such a statement would make it clear that the Paris agreement is or is not binding under domestic or international law and such a statement would also make clear, if it is not binding, that no future U.S. president or Congress is bound to fulfill the substantive obligations in the Paris agreement, and also shield a future president from litigation on this question.

So thank you. I would be happy to take questions on other issues, if you are interested.

[The prepared statement of Mr. Ku follows:]

Senator Capito. Thank you, Mr. Ku.

Mr. Cass.

STATEMENT OF OREN CASS, SENIOR FELLOW, MANHATTAN INSTITUTE FOR POLICY RESEARCH, INC.

Mr. Cass. Thank you for inviting me today. My name is Oren Cass. I am a Senior Fellow at the Manhattan Institute for Policy Research.

My primary message to the committee is this: climate negotiations no longer bear a substantial relationship to the goal of sharply reducing greenhouse gas emissions. Rather, the upcoming Paris conference will focus on a commitment by developed nations, including the United States, to transfer enormous sums of wealth to poorer countries.

This outcome is not surprising to those skeptical that U.S. so-called leadership on climate policy could persuade the developing world to forgo economic growth for the sake of emissions reductions. However, it differs dramatically from the popular narrative in which Paris represents the historic culmination of a worldwide process to bring countries together and act on climate.

My written testimony makes three points which I will summarize here.

First, the negotiating process is specifically designed to produce an easy consensus and excuse inaction. It relies upon each country announcing an intended nationally determined

contribution, or INDC, that represents its proposed actions and emissions reductions. However, the contents of the INDC itself are entirely discretionary. There is no requirement that cuts achieve certain levels or that the INDC even use consistent formats, metrics, or baseline. There is also no consequence for missing a plan's goals.

Boosters are highlighting the INDC-driven structure and the parade of submitted plans as proof that the world can take meaningful action on climate. That is exactly backwards. Negotiations have followed this course of discretionary, unenforceable pledges only because the positions of the countries are so irreconcilable that no substantive agreement is possible.

And that brings to me to my second point, which is that attempts at so-called leadership, as Senator Carper described in his introduction, have not spurred others to action. My written testimony details the various manipulations that have produced impressive estimates for INDC impact. However, these use a century's worth of escalating efforts, not the actual commitments made, or else they compare the actual commitments to plainly incorrect baselines that the UNIPCC does not recommend. And this is precisely the basis for positive-seeming estimates cited in Mr. Waskow's testimony as well.

A more realistic interpretation of the analyses suggest total impact of all the INDCs is less than 0.2 degrees Celsius, and using the U.N.'s own A1B baseline for longtime standard, there is no improvement at all. Country-by-country analysis tells the same story. China has committed to reaching peak emissions around 2030, but studies consistently show they were already on this trajectory.

India's commitment manages to be even weaker. The most obvious reference point is in the INDC itself. India reports that energy efficiency improved more than 17 percent in that country between 2005 and 2012. India could improve only half as fast going forward and still meet the goal that it set for itself.

Now, such efforts have received loud applause from the White House, from the media, and by NGOs demanding climate action. But if the INDC process relies on peer pressure and so-called naming and shaming those who drag their feet, then cheerleading for empty non-commitments destroys the premise of the entire enterprise. One might even conclude that political point-scoring has taken precedence over actually addressing climate change, which brings me to my third point.

The Paris negotiations are not about emissions reduction; they are about cash. The developing world expects developed

countries to offer more than \$100 billion per year in what is called climate finance. The rationale for the money, the source of the money, and the use of the money are all unclear. Developing nations believe they are owed a "ecological debt" for past developed world emissions and also owed "reparations" for the damage from storms they link to climate change.

Now, these are plainly non-starters for the United States. But the developing world is also asking to be reimbursed the cost of mitigation measures they take. India alone says in its INDC it needs \$2.5 trillion between now and 2030. But if the INDCs represent business as usual, funding is clearly inappropriately.

Realistically, developed world leaders are pursuing a transaction in which, having staked their political capital and their legacies on achieving an agreement, any agreement, they will now pay developing nations to sign on the dotted line.

To conclude, we should worry that U.S. negotiators and their colleagues desperate to produce an agreement will commit dollars from taxpayers that they cannot actually develop and get nothing in return. The Senate should preempt any purchase of a piece of paper. A clear, simple resolution rejecting enormous transfers of wealth from the United States to other countries would highlight the issue for the American public, it would tie

negotiators' hands, and it would ensure that any future climate change negotiations actually focus on climate change.

Thank you again for the opportunity to appear before the committee, and I look forward to answering your questions.

[The prepared statement of Mr. Cass follows:]

Senator Capito. Thank you.

Mr. Eule.

STATEMENT OF STEPHEN EULE, VICE PRESIDENT OF CLIMATE AND
TECHNOLOGY, U.S. CHAMBER OF COMMERCE INSTITUTE OF 21ST CENTURY
ENERGY

Mr. Eule. Thank you, Senator Capito, Senator Carper, and members of the committee. This hearing could not be timelier. As the Framework Convention on Climate Change meeting in Paris draws closer, it is important for policymakers to take a clear-eyed view of what a new post-2020 agreement might hold.

The main points I would like to make, which are detailed in my written testimony, are as follows.

First, the Obama Administration's unilateral emissions reductions commitment for Paris is unrealistic and doesn't add up. We estimate that 41 to 45 percent of the Administration's emission target remains unaccounted for; and that is assuming EPA's Clean Power Plan survives court scrutiny, a big if. Selling such an uncertain plan internationally may prove very difficult.

Second, the emission goal nations have offered are hugely unequal and will not change appreciably the rising trajectory of global emissions. While the United States, Europe, Japan, and a few others have offered large emission cuts, nearly all developing countries, particularly the large emerging economies, have offered little beyond business as usual. A recent report

from the Framework Convention estimates that even in the unlikely event all country pledges are implemented to the letter, global emissions will still rise about 18 percent between 2010 and 2030, within or close to the range of where emissions were headed anyway. Given how the Framework Convention is structured, this should surprise no one.

Third, the disparity in national commitments results from the fact that most countries place a greater priority on economic development than they do on cutting emissions of greenhouse gases. More than a billion people worldwide lack access to the modern energy services that could lift them out of poverty. Coal will remain for some time the fuel of choice for electrification in developing countries. Using data from plants, we estimate that on the eve of the Paris climate talks, 1.2 trillion watts of new coal-fired power plants are under construction or planned throughout the world. That is about 3.5 times the capacity of the entire U.S. coal fleet. A carbon constrained world this is not.

Fourth, the Administration's plan will likely result in emissions from the U.S. leaking to other countries, merely moving, not reducing them. The United States has a tremendous energy price advantage over many of its competitors. Overregulation from EPA, however, could force energy-intensive

industries to flee to other countries, similar to what we are seeing in Europe, where energy costs to industry are two to four times higher than here in the United States.

Fifth, developing countries will not undertake any meaningful commitments without large doses of financial aid. China, for example, has proposed that developed countries kick in one percent of their annual GDP from 2020 on, which in 2014 would have implied a U.S. contribution of \$170 billion. Other suggestions are equally extravagant. Whatever the final finance provisions look like, a great deal of the U.S. share of this funding will have to be appropriated by the Congress.

Sixth, technology is the key. At its most fundamental level, reducing greenhouse gas emissions is a technology challenge. Existing technologies can make a start, but, as we have seen, they are not capable of significantly cutting emissions on a global scale and at an acceptable cost. That is why the chamber will continue to emphasize energy efficiency and policies designed to lower the cost of alternative energy rather than raising the cost of traditional energy.

Finally, there is the larger question about the real goal of the Framework Convention. The organization's Executive Secretary, Christiana Figueres, recently had this to say about the Paris deal: "This is the first time in the history of

mankind that we are setting ourselves the task of intentionally, within a defined period of time, to change the economic development model that has been reigning for at least 150 years, since the industrial revolution." The same free enterprise economic model Secretary Figueres wants to discard is the same model that has produced the largest flourishing of human health and welfare in all of history. The rest of the world understands that affordable, available, and scalable energy is not the problem, it is the solution.

Given all this, it seems clear that the Paris agreement, whether it has legal force or not, should be submitted to the Congress for its approval; otherwise, it is hard to see how anything agreed to in Paris will be binding on any future administrations or congresses.

Back in 1997, the Clinton Administration offered up an unrealistic U.S. goal and, disregarding clear guidance from the Senate, signed the Kyoto Protocol, a treaty it knew was political poison and therefore never bothered to submit to the Senate for its advice and consent. It now looks like the Obama Administration is set to repeat the mistake of signing onto a lopsided deal and making promises future presidents and congresses may be neither willing nor able to keep.

As the late, great Yogi Berra might have said, it's déjà vu all over again. Thank you.

[The prepared statement of Mr. Eule follows:]

Senator Capito. Thank you.

Mr. Waskow.

STATEMENT OF DAVID WASKOW, DIRECTOR, INTERNATIONAL CLIMATE
INITIATIVE, WORLD RESOURCES INSTITUTE

Mr. Waskow. Good morning and thank you, Senator Capito and Senator Carper. My name is David Waskow and I am the Director of the International Climate Action Initiative at the World Resources Institute, a non-partisan, nonprofit environmental think tank.

My testimony this morning makes three main points. First, taking action on climate change can bring substantial economic benefits and is in the national interest of the United States. A growing body of evidence shows that economic growth can in fact go hand-in-hand with efforts to reduce emissions of greenhouse gases, and recent experience of the national and State levels demonstrates that we can achieve both, a prosperous, low carbon future by harnessing key drivers of economic growth such as more efficient use of energy and natural resources, smart infrastructure investments, and technological innovation.

Businesses have recognized the economic value of action as well. More than 80 major global companies, including a number of U.S. companies such as Dell, Coca-Cola, General Mills, and Procter & Gamble, have recently committed to set emission reduction targets in their own supply chains that are in line

with science.

Taking this action is also essential because, if nations fail to come together to combat climate change, the U.S. will suffer billions of dollars of damage to agriculture, forestry, fisheries, and coastal areas; and a recent report from the CAN Military Advisory Board of retired, high-ranking military officers, highlighted the growing threats to national security from the effects of climate change as well. It is thus in our national interest to act at home and to work with other countries to achieve an international agreement where all countries act together and where the most severe impacts in the United States can be avoided.

My second theme: the U.S. emissions reduction target announced this past March is in fact achievable; ambitious, but achievable. We can meet this target using existing Federal laws combined with action by the States. Well-designed policies can accelerate recent market and technology trends in renewable energy, energy efficiency, alternative vehicles, and in other areas to meet the 26 to 28 percent below 2005 pledge by 2025. WRI's recent report, "Delivering on the U.S. Climate Commitment," shows several pathways to get there.

We can achieve this target while generating multiple co-benefits and maintaining economic growth. For example, the

Clean Power Plan will result in reduced exposure to particulate pollution and ozone, and EPA estimates that these health and other benefits are worth \$32 billion to \$54 billion.

And then, third, leadership by the United States is paying significant dividends, helping to spur greater action by all countries around the world. In the lead-up to the Paris agreement, more than 160 countries, 119 of them developing countries, have submitted national climate plans, representing over 90 percent of global emissions. Countries like China, where reductions in coal use are already taking place, are taking unprecedented action.

These national climate plans will deliver significant reductions in emissions. The International Energy Agency estimates a shift in global average temperature rise to 2.7 degrees Celsius, down from almost 4 degrees given business as usual policies. It is not enough yet, but it is a significant step.

Moreover, the agreement will be reached between all parties, all countries at the climate summit in Paris and is a major step forward in meeting U.S. objectives in this venue. Most important, this will be a universal agreement applicable to all. Based in and implementing the U.N. Framework Convention on Climate Change, which was ratified by the Senate in 1992 by

voice vote, the Paris agreement will involve action to reduce emissions by all countries, both developed and developing, and its structure based on nationally determined plans has enabled broad-based participation and sets a new pathway for international action.

The agreement will also include vital provisions on transparency and accountability, and it should ensure that all countries continue to move forward in a regular and timely way toward a commonly understood goal. And, finally, it can help mobilize the investment needed for low carbon and climate-resilient economies from an array of countries, including developing countries, and from the private sector, and it can address the serious climate-related impacts experienced around the world, especially by the most vulnerable countries.

To conclude, the actions that countries are taking around the world, along with the international framework for those efforts, should be viewed as a significant success for the United States and its leadership role. Meeting the global challenge of climate change requires global solutions with action by all. The world is now on the cusp of an international agreement that will realize that vision.

Thank you.

[The prepared statement of Mr. Waskow follows:]

Senator Capito. Thank you.

Ms. Jacobson.

STATEMENT OF LISA JACOBSON, PRESIDENT, BUSINESS COUNCIL FOR
SUSTAINABLE ENERGY

Ms. Jacobson. Thank you, Senator Capito. Thank you, Senator Carper and members of the committee.

The Business Council for Sustainable Energy is a broad-based industry association and we represent companies and other trade associations in the energy efficiency, renewable energy, and natural gas sectors. Since its founding in 1992, the Council has been advocating for policies at the State, national, and international levels that increase the use of commercially available clean energy technologies, products, and services.

As an important backdrop to my testimony, the Council would like to share some of the findings from the 2015 "Sustainable Energy in America Factbook." The Factbook was researched and produced by Bloomberg New Energy Finance, and commissioned by the Council. It is a quantitative and objective report intended to be a resource for policymakers with up-to-date, accurate market information. Its goal is to offer important benchmarks on the contributions that sustainable energy technologies are making in the U.S. energy system today. It also provides information on finance and investment trends.

The 2015 edition of the Factbook points to the dramatic

changes underway in the U.S. energy sector over the past several years. Traditional energy sources are declining, while natural gas, renewable energy, and energy efficiency are playing a larger role. These changes are increasing the diversity of the Country's energy mix, improving our energy security, cutting energy waste, increasing our energy productivity, and reducing air pollution and greenhouse gas emissions.

The Factbook also shows that the U.S. economy is becoming more energy productive and less energy intensive. By one measure, U.S. gross domestic product per unit of energy consumed, productivity has increased by 54 percent since 1990. Between 2007 and 2014, total energy use fell by 2.4 percent, while GDP grew by 8 percent. This was driven largely by advances in energy efficiency in the transportation, power generation, and building sectors. Of note, energy-related carbon dioxide emissions decreased by 9 percent in the 2007 and 2014 time period.

BCSE members in the energy efficiency, natural gas, and renewable energy sectors offer readily available, low carbon and zero carbon energy solutions. This portfolio of technologies can be used today to provide reliable, affordable, and clean energy options for public and private sector customers. In 2014, U.S. investment in clean energy technologies reached \$51.8

billion, and these sectors are providing hundreds of thousands of well-paying jobs in this Country.

The Council will bring a delegation of its members to attend the COP 21 as business observers. This organization has consistently engaged in the international climate change process since the early 1990s. BCSE participates in this process to offer information on deployment trends, technology costs, as well as policy best practices. Councilmembers view the climate change negotiations as a valuable forum to share information on policy frameworks and to help inform the policy choices of countries looking to reduce greenhouse gas emissions and deploy clean energy options.

Further, Councilmembers view the outcomes of the international climate change negotiations as important signals to the market that countries are serious about investing in low carbon solutions. These signals will serve to reduce the uncertainty that can stall private sector investment.

U.S. Government leadership and engagement in the international climate change process supports U.S. business interests and expands clean energy business opportunities outside our borders. Further, U.S. leadership increases the ambition of other nations and helps showcase U.S. technology innovations and policy frameworks. It also helps protect U.S.

business interests, such as protection of intellectual property rights.

The Council's coalition calls for governments to deliver a clear, concise, and durable climate change agreement at COP 21. With over 91 percent of global emissions and 90 percent of global population covered by the intended, nationally-determined contributions of 161 countries, nations are showing a collective commitment to spur investment, innovation, and deployment of clean technologies in countries around the world.

The Council believes that a well-structured Paris agreement can facilitate higher levels of investment over time. But as we look toward the next several decades, even higher levels of investment will be needed. We need to be focused in the trillions, not the billions of dollars in investment. The world energy markets cannot afford any backtracking at this critical time, and the business community is increasingly considering climate change and its impacts as part of its corporate strategies.

Thank you.

[The prepared statement of Ms. Jacobson follows:]

Senator Capito. Right on the dot there. Very good. Thank you very much.

I will begin with the questions, and I want to start with Mr. Ku, Professor Ku, because there are two questions that I would like to get to in my five minutes, and the first one is the legally binding issue, whether this is a treaty, whether it is a sole executive agreement. So it is kind of a two-part question.

Some have argued that the Senate approved emissions reductions when it ratified the U.N. Climate Framework in 1992. But didn't the Bush Administration then, in 1992, state that amendments to that Framework, especially ones establishing targets and timetables, should be presented as new treaties and have separate consents?

So that is my one question: Was the intent in 1992 that any further targets that were established would be part of an approval process with Senate consent?

And then I am going to ask you the next question. You can answer once.

On the sole executive agreement issue, it is stated that those have been used to justify the authority for COP 21. Would you say that those are typically used in narrow and limited circumstances? And do you believe that COP 21 would be

considered a narrow and limited circumstance?

So I want to dig down on the legality issue.

Mr. Ku. Okay. Thank you, Senator.

On the first issue, I think that the U.N. Framework Convention was a framework convention, it was to set up a framework for further negotiations and a process, but did not in fact and should not be read as authorizing new agreements without having to go through the normal process. So it is my view that that convention does not authorize, it requires any new agreement for legally binding emissions to go back to the Senate.

In fact, I think in 1992 the Senate, as part of the process for approving the U.N. FCC, actually asked the Bush Administration whether future protocols to the treaty would require Article II, meaning going back to the Senate, and the Bush Administration said if the new protocol contains legally binding emissions, targets, or timetables, then they would send that back to the Senate.

So that is essentially a promise by the Executive Branch that we will come back to the Senate. It is the type of thing that should be respected as inter-branch dialogue, and I think it is one of the reasons why I think an agreement with legally binding emissions targets and timetables should be sent back to

the Senate for its approval.

On the second question of sole executive agreement just quickly, sole executive agreement is typically done in pretty narrow circumstances. The format typically is Article II treaties or Congress specifically authorizes the President to make an executive agreement in a particular area like trade, like the TPP or something like that. A sole executive agreement is when the President just acts under his own authority, and I think that is not so much that it is unusual, but it is narrow and relatively narrow.

I don't think that in this circumstance, I think the President could say, well, I agree to every year report on what we are doing, and that would be something that he could do as a sole executive agreement. I don't think he could commit the United States to reduce emissions by a certain amount, by a certain year, in a sole executive agreement; I think he would either have to get Congress to approve that through new legislation or I think the best way to do it is to go back to the Senate for approval as a treaty.

Senator Capito. Thank you.

Mr. Cass, you mentioned a giant transfer of wealth. Obviously, the President is going to go to this negotiation with no money and a green climate fund that has been appropriated by

the Congress. What kind of effect will that have, do you think, in terms of future commitments that the United States is supposedly making if this Congress won't appropriate any money? There is no guaranty that future congresses would. At the same time, I am certain the world community is counting on the United States to bring the money to the table.

What comments would you have on that?

Mr. Cass. Well, I think probably everyone, including negotiators from other countries, understand that the President cannot appropriate money on his own. I think the larger concern is that, faced with the choice of Paris collapsing without an agreement or saying, yes, I will go find a way to get the money, U.S. negotiators will say we will find a way to get the money and essentially shift the onus back to Congress and say, look, the world has come together on this agreement; you, if you do not appropriate the money, will be at fault for the agreement failing.

So to preempt that I think it is actually very important that Congress act first and say to the world, let's be clear, we will not appropriate that kind of money; don't come back with an agreement that requires it because that should not be the lynchpin of an agreement that does not even include significant emissions reduction.

Senator Capito. All right, thank you.

Senator Carper?

Senator Carper. Thanks so much.

Again, our thanks to all of you for being with us. Some of you this is the first time we have met you; others we have known for some time. New or old, we are happy to have this chance to spend this time with you.

Just a word on leadership, if I can. I think that leadership is probably the most important ingredient of any organization I have ever been part of or led; I don't care if it is the Navy, military, business, this place, sports team, college, hospital, school. Leadership is the most important thing. And leadership is demonstrated in a variety of ways. I always said that great leaders are those who look at a problem and say what is the right thing to do; not the easy thing, not the expedient thing, but what is the right thing to do. And the right thing to do is to provide leadership in this instance.

Leadership is staying out of step when everyone else is marching to the wrong tune, including some with whom I serve. We lead by our example. It is not by do as I say, but do as I do. That is why it is important for us to actually set an example and encourage others to lead. I find in my life and my experience a lot of time they do.

Leaders should be aspirational. It has been said that leaders are purveyors of hope.

As I listen to this testimony today, I heard some testimony that was doom and gloom, and, frankly, I heard some testimony that was aspirational and uplifting; and I know you can probably figure out where those came from. Leaders just don't give up. Leaders don't give up. You know you are right, you are sure you right, we don't give up.

I would just say you don't need a tutorial on leadership, but it is the most important thing here and every place I have ever worked or served.

I want to talk a little bit about acid rain. We are in a party of the Country where we deal with sea level rise on the East coast, Mid-Atlantic, Northeast as well. Twenty, thirty years ago we had a big problem with acid rain. You may remember that. And a lot of folks said, well, we can never afford. President Herbert Walker Bush said we have this idea, we call it cap and trade, and we are going to try to reduce sulfur dioxide emissions and the effect of acid rain. People said, oh, you can't do that; it will kill the economy.

Well, guess what? As I recall, as I recall, what we finally did, putting in place, implementing the plan that he proposed, we achieved our goals in half the time and one-third

of the cost. Imagine that. And we spurred a lot of innovation; innovation that turns to economic products and technologies that we can export all over the world.

I remember sitting here in this room about 10 years ago. George Voinovich and I were leading the Clean Air subcommittee of EPW and we had testimony on mercury reductions and how much mercury we could release from coal-fired plants. My recollection is we had somebody say, oh, we could never do that, it would cripple the economy, that is just impossible.

We had one witness, Lisa, sitting right where you are sitting today, and the guy who was representing all the association technology companies and he said, we can do this. We were talking about 80 percent reductions in mercury emissions. He said, we can do this. In fact, he said, I think we can maybe even do better than that in the timeframe that you are talking about.

Well, guess what? We did. And we didn't do 80 percent reductions; we did 90 percent. And we created technology innovation that we have been able to sell all over the world. And if we are smart about it, all these coal plants you all are talking about in China, they can actually have the kind of technology that we have put in or prepared to put into new coal-fired plants here.

Lisa, I am going to ask you to just take a minute and just give us a comment on one of the things we have heard from our first three witnesses that you think needs to be rebutted or at least addressed. Would you do that, please?

Ms. Jacobson. Thank you. I think on the INDC topic.

Senator Carper. INDC stands for?

Ms. Jacobson. Yes. So they are the commitments that other nations have brought forward. The Council, in our experience in discussing with other countries and what is expected in COP 21, we did not expect that those would be legally binding commitments. There may be other aspects of the treaty that have more legal force. As we all know, that topic is one that has not yet been resolved.

But just the fact that that scope and scale of countries have come forward with greenhouse gas mitigation and adaptation plans in any shape or form is a major breakthrough, and, as companies, we see that as an important market signal and then we can respond to that. We can look at the experience in the U.S., where States, local governments, or the Federal Government have made policy frameworks that signal low carbon investment, and then we come in, roll up our sleeves, and say how can we get that done, very similar to the comments that you made about control technologies for mercury.

We have innovation and we have investment capital to bring to the table, and when we see 160 countries say I want to consider my energy policies and I want to consider low carbon solutions, we will step up and work with them through public-private partnership and through investment to help them reach their goals. So when we look at the INDCs, we see business opportunities for U.S. companies and we see jobs in the United States.

Senator Carper. Thank you so much.

Thank you, Madam Chair.

Senator Capito. Thank you.

Senator Rounds.

Senator Rounds. Thank you, Madam Chair.

I want to just give everybody an opportunity to comment on one particular part of this, and the part that I am concerned with is any time we have a leader who steps forward and says we want to make some changes, in the United States, this is a case of where you have to bring Congress with you; and it seems as though everything works out better if you have a bipartisan effort to get something done.

What I am concerned about is that there has been a little bit of a discrepancy in terms of the discussion here today among our panelists with regard to what occurred in 1992 with the

UNFCCC or the United Nations Framework Convention on Climate Change. I am just curious, for each of you, if you could give us your brief thought process. Did that particular Framework, as agreed to by the Senate by a voice vote, did that provide the opportunity for the President today to step in and to have a binding agreement for this Country to reduce levels with regard to climate change issues?

I know that there was specific language placed within the provisions of the ratification agreement as put forth by the Senate Foreign Relations Committee when it was presented to the Senate in 1992, but I would like your thoughts to see if we would all agree or disagree, or where the discrepancy might be with regard to how that would be interpreted today.

If we could, I will just go down the line and simply ask each one of the members here if you would give me your thoughts, if you would care to.

Mr. Ku. As I said, I think that it is pretty clear from the approval of the Senate they were worried about giving, when they approved it, that that would be an implicit authorization for a new agreement which didn't come back to them. So I would read it as requiring a promise by the President to come back if I have legally binding emissions reduction targets and timetables. And I don't know that there are that many people

who disagree with that. That was sort of an understanding when the Senate approved the UNFCCC.

Mr. Cass. I would agree with Professor Ku that certainly anything legally binding with respect to emissions targets would need to be approved by Congress or the Senate.

Mr. Eule. I would agree with that as well, and I would just remind everybody that in the Kyoto Protocol, which had legally binding targets and timetables, the expectation was that that would have to go to the Senate for its advice and consent.

Mr. Waskow. On the original UNFCCC, it obligates all countries to take steps to reduce emissions in order to avoid dangerous climate change. In the present instant, I think what is important to keep in mind is the Administration's position, which they have stated as being that they are seeking an agreement that is consistent with existing U.S. law, and also one that does not have legally binding provisions having to do with mitigation obligations on emission reductions. So I think that sets in a critical way the framework for thinking about what is happening in the current negotiations, along with the fact that in fact all countries essentially are stepping up to put their mitigation plans, as well as adaptation plans, on the table.

Senator Rounds. But does that mean that for legally

binding changes or limitations that you believe they would also have to come back to the Senate for that ratification?

Mr. Waskow. I wouldn't presume to know exactly what the legal outcome of the agreement would be and what the implications of that would be for Senate ratification. I think, however, the Administration has made clear how it is looking at the mitigation obligations or the mitigation provisions in particular, and that those should be non-legally binding. And in that instance, assuming that the agreement is consistent with existing U.S. law, and I think Professor Ku would agree with this, the law would suggest that the Administration, the President can enter into an agreement under those circumstances.

Senator Rounds. Ms. Jacobson?

Ms. Jacobson. Thank you. I mean, I think the Framework Convention on Climate Change was a catalyst for significant policies at the local, State, and national level that aimed to address climate change, greenhouse gas emissions, and adaptation. I think it will depend what comes out of this agreement in Paris to how Congress will engage, but I think, no matter what, congressional engagement is a positive and constructive part of our Country, thinking about how it is going to manage energy and climate change concerns.

So our organization urges and is, first of all, very pleased that there will be delegations, and have been every single year, from Congress, both members, Senators, and staff that come to the negotiations; and also we look forward to engagement with Congress in the present time, as well as after Paris, to assess what has been agreed to and to provide any oversight functions it feels is necessary. So we welcome that.

Senator Rounds. Thank you.

One more real quick question. This is for Mr. Eule. Mr. Eule, Secretary of State John Kerry recently told the Financial Times that the Paris agreement is definitively not going to be a treaty. Responding to criticism from European counterparts, the State Department quickly backtracked the statement by saying, our position has not changed. The U.S. is pressing for an agreement that contains provisions both legally binding and non-legally binding, while the exact legal form of a COP 21 agreement remains unclear.

Do you believe that there is a role for the Senate in assessing these policies that stand to have broad-reaching economic and employment consequences?

Mr. Eule. Absolutely, Senator. As I said in my testimony, I think whether the treaty is legally binding or not legally binding shouldn't make a difference. A treaty that really

extends into every nook and cranny of the U.S. economy I think should go to the Senate and to the House for approval.

Senator Rounds. That would follow, then, with what we would find under the State Department Circular 175, in which they lay out eight items identifying what is the differences between a binding and non-binding item required for treaty, or that they would expect to be under a treaty provision?

Mr. Eule. Yes, Senator, I would agree with that.

Senator Rounds. Thank you.

Thank you, Madam Chair.

Senator Capito. Thank you.

Senator Merkley.

Senator Merkley. Thank you very much, Madam Chair.

I appreciate the testimony and I appreciate this discussion because the impacts of global warming are extensive and current, certainly on the ground in Oregon, where we see growing damage from pine beetles because the winters are warmer. We see extensive increases in forest fires. The season has gotten longer, the fires have gotten more extensive, destroying natural resources. We have had a huge loss of snow pack in the Cascades, affecting not only our streams, making them warmer and smaller, but affecting our agriculture, with an extensive three worst-ever droughts in a period of 15 years in the Klamath

Basin. Even the oyster industry is having troubles because the ocean is 30 percent more acidic than it was before the industrial revolution.

There is certainly no great mystery over the legal status of this. An executive agreement under authority of a ratified treaty and under authority of current U.S. domestic law, with non-binding emission targets and binding responsibilities to report on progress. We can play with this extensively and try to divert attention from the core issue, but let's not. Let's address the core issue. Let's look at the fact that there are enormous economic consequences, that global warming is a huge assault on our rural resources, huge devastation to our agriculture, to our fishing, and to our farming. So this is something that the U.S. must exert leadership on, and bringing together the nations of the world to be able to put forward their vision of how we can collectively take this on is an important act of the collective international community.

It has been said that we are the first generation to be feeling the impacts of global warming and the last generation that can do something about it because of the fact that it is so much harder as the momentum builds in the warming feedback loops. So we have a moral obligation to act. And certainly many of the major corporations that make up the U.S. Chamber of

Commerce are coming forward on their own to say that this is an important objective, that they are deeply committed to making change; and I hope their voice will start to be heard in key forums around the world and take us forward.

I just want to note that in the conversation it is often said, well, we really need to have developing nations participate. Well, now we have developing nations participate. It has been asserted, I believe, Mr. Ku or Mr. Cass, in your testimony, they were saying, well, China is not doing very much. China has pledged in the next 15 years to deploy as much renewable energy and electricity as all the electricity generated in the United States by coal, by gas, and by renewable efforts. That is a massive, massive deployment in a very short, in a decade and a half, and represents an extraordinary change in their disposition and their sense of responsibility.

I would also like to note that the Senate Appropriations Committee did act. They acted on an amendment, an amendment that was put forward and had bipartisan support to say the United States should provide funds to the Green Climate Fund; that this is certainly part of the equation, because developing nations around the world could say we are not going to act until the per person footprint of the United States is equal to our

footprint, which is much, much smaller. They could say that. But if they say that, our planet is doomed.

So they have courageously come forward and said we understand that this is something that has to have every nation involved but, you know what, we haven't produced much carbon and the carbon that the developed nations have produced is having a big impact on us, so can you help us out a little bit to address these issues. And that certainly is a reasonable proposition to put forward. So I commend the U.S. Senate Appropriations Committee for having voted in full committee to provide some assistance in that regard.

I want to just invite David to ask to address whether we can wait another 30 or 40 or 50 years to take action and expect not to have catastrophic consequences.

Mr. Waskow. Thank you for the question. Not acting increases the cost of action. The longer that we delay in acting will increase the cost of action because we will have infrastructure lock-in and other dynamics that will make it increasingly difficult to in fact shift to low carbon economies.

We do have the opportunity and I think we in fact are on the trajectory, as Lisa and others have said, of moving very rapidly toward that low carbon economy. The price of solar panels, for example, has fallen 75 percent in the last five

years.

Senator Merkley. And we can create hundreds of thousands of jobs in doing so?

Mr. Waskow. And we are in fact creating. There are 100,000 jobs in Texas alone related.

Senator Merkley. Thank you. My time has expired, but I do want to welcome Sam Adams, former mayor of Portland, who works with the World Resources Institute on Climate Change and did a tremendous amount as mayor of Portland to take the city forward in this regard.

Senator Capito. Thank you.

Senator Sessions. Thank you.

This is an invaluable hearing. I think it is very clear the President does not have the power to unilaterally bind the United States in these kind of agreements.

There is a bipartisan agreement and support, and we have made a lot of progress together on things like reducing pollution, which often means improving coal use. We have made progress on automobile mileage. We have had strict requirements on that and so far the automobile industry has done that. We haven't made the progress we should have made on nuclear power, in my opinion. That has the greatest potential over time. So we have electric cars and other ideas that could become reality.

Solar panels are getting more competitive and maybe can play a larger role in time to come.

But the American people are not sold on this, and neither am I. The idea that we have to spend billions, even trillions of dollars on CO2 as a result of the concern of global warming is what is not being sold effectively and is not being accepted by the American people. Maybe I will show a couple of charts in just a second here.

This is polling data, the Gallup Poll earlier in the year, in March, that shows 18 issues, and the last one on the minds of the American people as an important issue was climate change. And I think the data shows that we are not seeing the kind of increases in temperatures that were projected. If you take the objective satellite data compared to the red line here, which is the average of 32 computer models, over 100 runs of those models shows that the temperature would increase at a rather dramatic rate. I thought a number of years ago we may actually be seeing that, but the blue dots and the light green dots represent the climate temperatures actually occurring according to satellite and balloon data.

So, in essence, I'm just saying that the projections of disaster aren't coming true, and Dr. Pilke testified here from the University of Colorado or Colorado State in which he said

that we are not seeing more hurricanes, not seeing more tornadoes, we are not seeing more droughts, and we are not seeing more floods. So that is part of the background of where we are.

All right, Dr. Eule, the Green Climate Fund proposal and Copenhagen commitment is a commitment of developing countries to provide \$100 billion a year by 2020 to address the needs of developing countries. Do you know what the United States' share of that likely would be? Has that been discussed?

Mr. Eule. I don't think it has been discussed. The Administration has proposed a \$3 billion amount that would go to the Green Climate Fund, but that is pre-2020.

Senator Sessions. Well, we pay about 25 percent of the U.N.

Mr. Eule. Right. If we are about 25 percent of the U.N., actually, when you take a look at the countries that are responsible for providing funds to the Green Climate Fund, it is the countries that are in what is known as Annex 2. It is a small subset of developed countries. And the U.S. accounts for about 45 percent of the emissions from those countries. So, in reality, we could be on the hook for about \$45 billion of that.

Senator Sessions. Forty-five?

Mr. Eule. Yes.

Senator Sessions. And that would be annually?

Mr. Eule. That would be annually. Now, you have to remember \$100 billion was just a starting point. You know, a group of developing countries have said that should rise up to \$600 billion. The Chinese have said it should be 1 percent of the GDP of developed countries, which the U.S. share of that would mean about \$170 billion.

Senator Sessions. We are pushing on 18 trillion GDP, so 1 percent of that is \$180 billion a year?

Mr. Eule. That is right. It is a large amount of money even by Washington standards.

Senator Sessions. I would agree. An African group is insisting on ramping up the funding to \$600 billion a year by 2030?

Mr. Eule. That is right.

Senator Sessions. Well, my time is about up, so I think we made the concerns pretty clear here. Yes, let's do the things that make sense; let's look for the efficiencies and anti-pollutants, which I don't consider CO2 to be a pollutant. Plants need to grow.

And I think if we work on that, Madam Chair, in a bipartisan way, we will also get reduction in CO2 and we will also get reduction in pollutants and we will benefit. But to

impose these kinds of costs on the economy, when I think there is no realistic expectation the other countries that sign it will meet their requirements is not wise.

Senator Capito. Senator Markey.

Senator Markey. Thank you, Madam Chair, very much.

The world is going to gather in Paris in two weeks, and the central objective is to deal with the dangerous human interference with the climate system, and countries from around the world are coming in order to make their commitments. One hundred sixty countries that actually are responsible for 90 percent of global carbon pollution have already made climate pledges in advance of the Paris talks, and we are positioned to have a very successful outcome from this huge international meeting. I believe that the United States can meet our goals.

President Obama has made them at different times before this huge summit. That is because our fuel economy standard to go to 54.5 miles per gallon. That is the largest single reduction in greenhouse gases in history of any country. That is still on the books. The President's Clean Power Plan will dramatically reduce emissions from that sector as well. We have energy efficiency standards and we have massive deployment of wind and solar all across our Country that is unleashing business opportunity.

So I guess I go to you first, Mr. Waskow. Do you agree that the Paris agreement includes meaningful emissions reduction pledges from all the countries, including developing countries, in your opinion?

Mr. Waskow. Thank you. As I mentioned, there are more than 160 countries, 119 of them developing countries that have put forward their plans. We are seeing significant actions in many of them. I would just note, for example, in the case of India, that their domestic plans are to increase renewable energy to 175 gigawatts total by 2022, and 100 gigawatts of that would be in solar energy; and that is more than half the current global solar installed capacity. That would then ramp up.

Senator Markey. That is 170,000 megawatts of renewable electricity.

Mr. Waskow. That is right.

Senator Markey. So that is incredible. And China is making a comparable kind of commitment, even larger in terms of its deployment, by the year 2030.

Do you anticipate that an agreement reached in Paris will include procedures for reporting, monitoring, and verifying those pledges?

Mr. Waskow. The underlying U.N. Framework Convention in fact has provisions for countries to provide information about

their emissions to report on their inventories. This agreement will build on that. We already had progress forward in the Copenhagen and Cancun agreements about increasing the degree of transparency. This agreement, I think, will increase that to an even greater degree and have convergence between developed and developing countries in terms of the requirements that they face in terms of transparency.

Senator Markey. Thank you. Has America's leadership been the key to bringing all the other countries to the table? Has the fact that we have made this commitment to reduce by 26 to 28 percent by 2025 been the forcing mechanism that says to China and to India and to other countries you too must do something?

Mr. Waskow. I think our actions have been noted around the world. I think that when one goes to the negotiations, one has a sense that countries see what we are doing. And I think one of the underpinnings, in fact, of this agreement is the work that the United States has done with China in particular to move forward.

Senator Markey. I think you are right. Honestly, you can't preach temperance from a bar stool, so we had to put up our commitments, and that is what the problem was back in Kyoto; we weren't putting up what we were going to be doing. So here

we have that and we have had a response from countries all around the world.

In the business community I think they are looking forward to this, are they not, Ms. Jacobson, so that there can be a signal that is sent to the business community that they can rely upon, that there is going to be an investment atmosphere that is going to unleash hundreds of billions, trillions of dollars into this renewable energy sector?

Ms. Jacobson. Very much. And energy efficiency and other clean generation options. I mean, what the business community needs is a clear, sustained market signal to drive investment. Right now we are seeing investment sitting on the sidelines because there is not enough clarity. The United States has made tremendous progress in providing clarity over the last several years in terms of its domestic policy agenda in the energy sector. We need to see that in more countries, and we believe that the Paris discussions and the outputs from the conference are going to create a stronger investment signal in other countries outside of ours.

Senator Markey. What would it mean if we extended the wind and solar tax breaks for 15 years in this Country, in terms of the climate for investment?

Ms. Jacobson. We have seen, just looking at the ITC and the production tax credit experienced just in the last five or six years, you can see when we had a sustained investment policy for the ITC we saw investment and deployment increase dramatically. And when we didn't have that clarity in other tax provisions for clean energy, things dropped off. So it is a very clear spotlight on what the power of policy certainty can provide to the investment of this community.

Senator Markey. Thank you. We are going to have 300,000 jobs in wind and solar by the end of next year; 65,000 coal miners. So you can see how this is a growth trajectory that if we kept these tax incentives on the books, the clean power plan and the fuel economy standards, we would revolutionize our own Country, but give the leadership to the rest of the world; and be able to export these technologies, by the way, around the rest of the world.

I thank you for all of your help here today.

Ms. Jacobson. Thank you.

Senator Markey. Thank you, Madam Chair.

Senator Capito. Thank you.

It is my understanding that we have had a vote that has been called, so what I am going to do is step away from the chair while Senator Boozman questions; make my vote really

quickly and then get back so we can keep continuing with the hearing. Thank you.

Senator Boozman. [Presiding.] Mr. Eule, as you know, it was revealed earlier this month that China's coal consumption is 17 percent higher than was previously reported. This confirms what many of us have been saying: we can't trust China to keep track of carbon emissions and play by the rules. I have said many times that one of my major concerns is when we impose expensive carbon mandates here and force the price of electricity to necessarily skyrocket. It just forces our manufacturers to close, and their competitors in China will grow and emit even more into our atmosphere.

Mr. Eule, is China the only country that has problems keeping up with its own CO2 and GHD emissions?

Mr. Eule. No, it is not. And when you take a look at the error that the Chinese made, we are not talking about a rounding error here; this is a huge error, equivalent to about the GHD emissions from Germany. So what is going on in China is going on in a lot of other countries in the world that just don't have a handle on how much greenhouse gas emissions they are actually emitting.

Senator Boozman. If China can't accurately account for its emissions, should we expect them to actually deliver on setting

up a complex and sophisticated national emissions trading system?

Mr. Eule. Quite frankly, I don't see how they can do that. I mean, part of an emission trading system is the idea of trust; that when you purchase a ton of CO2 allowance, that actually represents a ton of CO2 emissions. And right now we don't have that confidence, and I am not so sure in the next year or so, when Chinese expect to roll out their emission trading, I am not so sure that confidence can be instilled in such a short period of time.

Senator Boozman. Thank you.

Mr. Cass, you highlighted in your testimony that the COP 21 negotiations will focus little on greenhouse gas emissions and almost entirely on climate finance, specifically on motivating developed countries like the U.S. to offer more than \$100 billion per year starting in 2020 through the green climate slush fund. Of course, thankfully, Congress is not going to provide that money. But for those countries that might put a few dollars into this fund, is there any indication of how these funds would be used?

Mr. Cass. Thank you, Senator. I think one of the open questions right now is exactly that, which is what does this funding look like. The Green Climate Fund actually just

announced its first set of grants, and it was sort of a hodgepodge of small dollar grants to build resilient infrastructure, potentially some investments in the direction of clean energy.

But there frankly, at this point, is no clear guidance on how the money would be spent, and I think, most importantly, we know from our experience with foreign development aid that sending large amounts of money to developing countries even to, say, build a school is enormously challenging and rarely produces the desired result. Sending that money to build a revolutionary electricity grid where none has existed I think is doubtful to work very well.

Senator Boozman. No, that was my next question. We are really talking about countries that really have trouble with governance; lots of corruption, money not putting to good use. So, again, I guess your testimony is that that would be very, very difficult to manage.

Mr. Cass. I think it is, and I think we take for granted, as we develop green infrastructure and renewable energy in the United States, that we have all the existing infrastructure to build off of and that we are adding a few percentage points to an enormous baseload of reliable energy. And now we are trying to do that in a developing world that has no such baseline, and

this is exactly why the developing world doesn't want to go in that direction, because it is not the right way to develop.

Senator Boozman. What level of oversight would be assigned to the global fund? Is there any oversight in place?

Mr. Cass. There is an elaborate U.N. style structure of oversight over the Clean Climate Fund, with boards and committees and guidelines. In practice, how the money comes and goes I think will likely look more like what we have seen from other U.N. efforts than what we are used to domestically.

Senator Boozman. Right. Thank you.

Senator Booker.

Senator Booker. Thank you very much, Mr. Chairman.

So there clearly is a crisis, and I am glad I didn't hear anybody sort of denying that we don't have a climate problem. And the data and the facts speak for themselves. Just over the past week, scientists reported that global carbon dioxide concentrations have exceeded, perhaps permanently, the 400 parts per million threshold and carbon dioxide levels are now substantially higher than at any point in the last 800,000 years. Global temperatures have now exceeded about 1 degree Celsius above the pre-industrial age, with 2014 being the warmest year on record. These are facts. 2015 actually is on pace to be even warmer than 2014.

And this is something that is not just heralded by the scientists around the globe, but also important global organizations. Earlier this month, The World Bank announced that due to currently projected sea level rise and an uptick in extreme weather, climate change could force an additional 100 million people on the planet Earth into poverty by 2030.

So in the face of global crises, it seems that I hear in Washington over and over again that America must lead, that our leadership is important. Indeed, as we see with the war on terror, people calling again and again for American leadership. Well, clearly this global crisis is another case where we must lead. America has led throughout the decades in generations past, from the space race, which has yielded billions and billions of dollars in economic benefit to the United States, to even important global issues like mapping the human genome.

So in the face of this need for American leadership, in the face of these facts about a global crisis, it is important to me that there are actually things that Paris can do and will do, if not the least of which is increasing communication, transparency, and greater levels of accountability for nations, as well as corporations. But critical to me, I mentioned the space race, is this understanding that leadership has its benefits and this crisis has its cost. The U.S. historically

providing leadership to help solve global crises is something I am proud of, and this is an occasion where we must rise again. By exercising leadership, the United States economy can benefit, and it can benefit in astonishing ways, with trillions of dollars of new investments, increased jobs, and, most importantly, as I am seeing on the coast of New Jersey, we can avoid the social costs.

A recent NYU report finds that a global agreement to limit temperature increases to 2 degrees Celsius will provide \$10 trillion in direct benefits to the United States. I know the costs both to the local communities in New Jersey, from our fisheries to the storms and the weather changes, but the opportunity, the upside for this leadership is profound.

So I would like to ask questions first to David Waskow. Mr. Waskow, in your opening statement you mentioned some of the potential economic benefits. This is something that is often not talked about. People keep talking about the costs, the costs, the costs, but the upside is pretty extraordinary. So if you could elaborate for me about what our Country, what the United States of America could see when it comes to economic benefits, job benefits from reducing carbon emissions.

Mr. Waskow. Sure. The benefits are quite extraordinary, as I mentioned. The EPA has estimated that the benefits of the

Clean Power Plan themselves, from health benefits and others, are \$32 billion to \$54 billion by 2030. That, in itself, is substantial and noteworthy.

In addition to that, key actions that we can take, such as in energy efficiency, provide economic benefits, the evidence is that for every dollar invested in energy efficiency, you get at least two back. And the appliance efficiency measures that the Administration has put in place since 2009 alone would bring consumers \$450 billion in benefits by 2030.

Senator Booker. No, I appreciate that. And as somebody who had to run a city, I saw a triple bottom line when it came to dealing with energy efficiency and trying to deal with global issues. We not only are able to reduce our expenditures by doing environmental retrofits where we were able to lower our carbon footprint, but we created jobs for our community and began to deal with the crisis in urban places like epidemic asthma rates.

Ms. Jacobson, a similar question for you is can you describe some of the potential economic opportunities for the United States that would result from strong international agreement in Paris? And, please, you have 30 seconds. There is a ferocious chairman here and I want to stay on his good side.

Ms. Jacobson. I think I will just go back to my point on energy productivity and looking at what productivity gains our economy has achieved as we have also reduced our greenhouse gas emissions. It shows that you can reduce emissions, you can cut energy waste, you can create jobs, and you can improve the competitiveness of the U.S. economy at the same time. So these things make economic sense.

Senator Booker. Thank you very much.

Mr. Chairman, I would like to note that I finished before my time expired.

Senator Boozman. Senator Wicker.

Senator Wicker. You surely did; three, two, one. Let me just make a statement, because we do have a vote and many other things to get to, so I will not have a chance to do a question.

I want to put in the record at this point, Mr. Chairman, a peer reviewed article by Dr. Bjorn Lomborg of Copenhagen Consensus Center, entitled, "Impact of Current Climate Proposals." Could I put that in the record at this point?

Senator Boozman. Without objection.

[The referenced information follows:]

Senator Wicker. I also would like to put into the record a press release issued by the Copenhagen Consensus with regard to that peer reviewed study.

Senator Boozman. Again, without objection.

[The referenced information follows:]

Senator Wicker. Let me just say this. Mr. Lomborg and I have not always seen eye-to-eye on the causes of climate change, but he has, I think, released a very important peer reviewed study. And, of course, I look on the Internet and I see the first thing that happens when you challenge the status quo is that there is a chorus of people saying that the data is wrong and faulty and should be disregarded.

But here is what Dr. Lomborg tells us about the Paris promises. He basically says this: if Paris accomplishes everything they want to, and if you use their own projections, if we measure the impact of every nation fulfilling every promise by the year 2030, the total temperature reduction will be 0.048 degrees Celsius. In other words, by the end of this century, if everything they say is correct, we will have accomplished a change in degree Celsius of less than five-hundredths of a degree Celsius.

My friend from New Jersey may or may not be correct about the problem, but the question is we spend all this money and divert it from all of these other areas. What are we going to get for it in addressing this problem? And this peer reviewed study says you are going to get less than five hundredths of a degree by the end of the century.

The United Kingdom is diverting \$8.9 billion from its

overseas budget, going to turn it over to climate change. We are going to divert almost \$9 billion and get five-tenths of a degree Celsius?

I think the people of the world who answer public opinion polls are correct. When asked where action-related climate change ranks out of 16 categories, they rank it dead last. I think the people that are most disadvantaged in this world would rather have us use money to improve education, to increase electricity availability, to fight malaria.

Malnourishment claims at least 1.4 million children's lives per year. Yet we are taking money away from programs that do that. We are taking money that could be used for malnourishment and putting it on something that is going to give us less than five hundredths of a degree.

1.2 billion people live in extreme poverty. Think of what the United Nations could do with the money that we are going to put, if it is \$100 billion or whatever. Think of what we could do to help people in poverty, to help children who are dying, dying from malnutrition. Two point six billion human beings on this planet lack clean drinking water and sanitation. We could prevent 300,000 deaths a year if we took this money and put it on malaria.

So I just say I hope this Congress, I hope this Senate will act with caution. I hope the representatives of the American people act with caution when they go to Paris. And I hope whatever is done, I hope we make it clear, and the word should go out from this hearing and from this capital that whatever is agreed to by the people representing the United States of America in Paris should come back to this Congress for debate, for consultation, and for approval or disapproval by the Congress.

Thank you, Madam Chair.

Senator Capito. [Presiding.] Thank you.

Senator Gillibrand?

Senator Gillibrand. Thank you, Madam Chairwoman.

Ms. Jacobson, in your written testimony you wrote that the U.S. business community is increasingly considering the climate change in its energy corporate strategies and that companies are pledging to reduce greenhouse gas emissions and are implementing other climate change initiatives. Can you discuss with the committee some examples of how companies are embracing the move to lower our carbon emissions and promote greater sustainability? And have they used efforts to combat climate change as an opportunity to innovate and grow?

Ms. Jacobson. Thank you for the opportunity to speak to this. Several Business Council for Sustainable Energy members made recent pledges this fall related to greenhouse gas mitigation and other compatible, sustainable energy initiatives. These include Calpine, ENER-G Rudox, Ingersoll Rand, Johnson Controls, Kingspan Insulated Panels, PG&E, Qualcomm, and Schneider Electric. This really shows them plus their peers. In the recent announcements, as was mentioned by David, there were over 80 companies that came together, representing, I believe, \$3 trillion investment, and they provide hundreds of thousands of jobs in this Country and offer their technologies, products, and services in a competitive and effective way globally.

They see this as a mainstream business issue, and the range of tools vary, but they may be things like energy management practices, setting targets for reducing their energy use, working through their supply chains. Some even put carbon pricing into their investment decisions. And they are doing this because they get economic benefit from doing so.

The last decade, through tools like the Carbon Disclosure Project and other initiatives, track how businesses have really evolved in the way they have responded to the call from their customers and from shareholders to consider sustainability

initiatives and to reduce greenhouse gas emissions. We also now are seeing companies take it to the next level and look at what science and policymakers are doing in terms of their own trajectories for greenhouse gas emissions and matching them in their corporate strategies.

So it is a mainstream issue and companies are responding in different ways, but I think the essential piece is that companies are responding.

Senator Gillibrand. Can you please describe the importance of reaching an international agreement in Paris to the business community that you work with? And what effect do you think the global commitment to reduce greenhouse gases will have on the ability of U.S. companies that have already embraced sustainability to compete internationally?

Ms. Jacobson. Well, I think the second question first. The U.S. has a path forward. It has it at the State level, it has it at the local policy level, and we have it at the Federal level through the investments we are making in energy research, development, and deployment through things like the Clean Power Plan. We already have a roadmap. Other countries where we compete for customers and to invest need to be on a similar roadmap.

And what the International Climate Change Agreement does is it brings to light, it provides transparency on not only what we do, but what other governments are doing. So that sends a very strong signal to investors of where to place their capital. In the energy sector, these are long-lived investments; they are decades-long investments. And right now, with a lack of clarity in many parts of the world, capital is sitting on the sidelines, and that is not good for U.S. firms and it is not providing the job creation opportunities that U.S. firms would like to provide here at home.

Senator Gillibrand. Thank you.

Mr. Waskow, in your testimony you state that the leadership shown by the United States has paid substantial dividends internationally. Can you please elaborate on how the United States leadership has spurred action by other countries, and what changes have we seen from the lead-up to the Copenhagen meeting in 2010?

Mr. Waskow. Thank you. The leadership that the United States is showing has really had ramifications sort of rippling outwards, I think, and the underpinnings of that leadership really has been the agreements that the United States has entered into or arranged with China. Beginning a year ago, with the joint announcement by the two countries, where each put

forward what its climate plans for the coming decade and, in China's case, for the coming decade and a half will be, that really laid the ground for an understanding that action was going to be international in scope, when the two major emitters, the two largest emitters came forward in that way.

And what we saw coming out of that, I think, was in fact a ripple effect that turned into a wave of action internationally. And we have now seen all major emitters, as part of that 160-plus set of countries with national climate plans, come forward with their plans, and we have seen actions, as I mentioned the Indian renewables target, for example, that have come forward. India has gone even beyond those 2022 numbers to commit that it would have 40 percent of its energy supply from non-fossil sources by 2030. And we have seen this happen in any number of countries.

This is very different from the Copenhagen situation. We have seen a doubling of countries that have put forward plans that have greenhouse gas emissions targets in them, as opposed to general actions, and we are seeing a plethora of renewable energy plans as well. We have analyzed the national climate plans, the INDCs, to look at renewable energy in particular. Just the eight largest emitters have put plans in place for more than 8,000 terawatt hours of renewable energy by 2030. This is

about 20 percent more than what they would have done under business as usual.

So we are seeing something that is really remarkable.

Senator Gillibrand. Thank you.

Thank you, Madam Chair.

Senator Capito. Thank you.

If we could hold here for just a minute or two. Senator Whitehouse is on his way back, would like to participate in some questioning. So we will just of at ease, I guess would be a way to say it.

Senator Carper. Madam Chair?

Senator Capito. Yes.

Senator Carper. Rather than just sit here and not continue our conversation, could I be recognized, please?

Senator Capito. Yes.

Senator Carper. A little bit of levy here. Yogi Berra. Who mentioned Yogi Berra? Déjà vu all over again. One of my favorite Yogi Berra stories is Yogi Berra is in the dugout with the other Yankees, and before the game started one of his teammates came in and said, did you hear the news, did you hear the news, Yogi? He said, a Jew has been elected mayor of Dublin. And Yogi thought about it and said, only in America.

[Laughter.]

Senator Carper. Another Yogi favorite is Yogi once said, when you come to a fork in the road, take it. I think we're at the fork in the road, and my hope is that we will take it.

I learned a few things in preparing for this hearing, Madam Chair. One of those is many of these, I will call them, other executive agreements not approved by Congress have there been? I did have no idea, but it turns out there has been something like 18,000 of them since 1789, compared to about 1,000 treaties that would have been agreed to.

And I thought, well, are some of those executive agreements that have not been approved by Congress? One was the Yalta Agreement that ended World War II in 1945. Another was the Paris Peace Accords that ended the war in Vietnam in which I served. Another was the various adjustments to the Montreal Protocol and substances that depleted the ozone layer from 1987. More recently, the Minamata Convention on Mercury from 2013, a global agreement to protect human health from mercury pollution. All of those were not treaties, they were really essentially executive agreements.

I will yield back my time and thank you.

Senator Capito. Thank you.

Senator Whitehouse?

Senator Whitehouse. Thank you, Chairman.

Senator Capito. Sure.

Senator Whitehouse. May I first ask unanimous consent to enter into the record the key vote alert from the Chamber of Commerce claiming to represent "the interests of more than 3 million businesses of all sizes, sectors, and regions" threatening to "score the vote" yesterday to destroy the President's Clean Power Plan?

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. Thank you, Madam Chair.

May I also ask unanimous consent to enter into the record a letter signed by more than 360 companies, including General Mills, Nestle USA, Dannon, Staples, Adidas, Gap, Levis, and Schneider Electric, which has a good Rhode Island presence, always glad to have Schneider Electric involved, that was sent to the Nation's governors expressing strong support for implementation of the EPA's carbon pollution standards for existing power plants?

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. Thank you, Madam Chair.

May I also ask unanimous consent to enter the White House American Business Act on Climate Pledge into the record? This is 81 companies with operations in 50 States who employ over 9 million people, represent more than \$3 trillion in annual revenue, and with a combined market cap of over \$5 trillion? The signatories include Alcoa, Bank of America, Best Buy, Cargill, Coca Cola, Google, McDonald's, Pepsi, Proctor & Gamble, Walmart, and Walt Disney.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. Thank you.

And, finally, let me ask unanimous consent to enter into the record a financial sector statement on climate change from the financial giants Bank of America, Citi, Goldman Sachs, JPMorgan Chase, Morgan Stanley, and Wells Fargo calling for a strong global agreement?

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. I don't have it with me, but I will get it before the record of the hearing closes. I would also ask unanimous consent that an advertisement in support of climate action put into the Financial Times by Unilever, by General Mills, by Mars, by Nestle, by Ben & Jerry's, and by Kellogg's be added to the record.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. And I would like to, with the Chair's permission, ask a question for the record of the Chamber of Commerce, which is present here in the form of Mr. Eule. The question for the record is how does the Chamber's relentless opposition to any climate action represent the views of the companies on these letters who are chamber members?

I think that will probably take a little bit of time, so I would like to make that a question for the record.

Let me also add into the record an article --

Senator Capito. Just let me clarify. That means you are wanting a written response from Mr. Eule?

Senator Whitehouse. Yes. And/or the Chamber, if they want to respond through some other personage.

Senator Capito. All right.

Senator Whitehouse. I would also like to put into the record a recent press story called "The Koch ATM," which reports that the U.S. Chamber of Commerce received \$2 million from Freedom Partners, which is a Koch-backed operation, and also reflect for the record here that the Center for Media Democracy reports that from 2001 to 2012 The Manhattan Institute received over \$2.1 million from foundations associated with the Koch brothers, including the Charles G. Koch Foundation and the Claude R. Lambe Foundation, and the Union of Concerned

Scientists reports that since 1998 The Manhattan Institute received \$800,000, \$475,000 of which has come in since 2007, from ExxonMobil.

Senator Capito. Without objection.

[The referenced information follows:]

Senator Whitehouse. Thank you.

I think the point I am trying to make here is that the so-called voices of the business community that we are seeing here are in fact the voices of the fossil fuel industry, specifically ExxonMobil, the coal industry, big oil, the Koch brothers; and that the bulk of the broader American corporate community is actively supporting taking action on climate, setting aside the parts of the American economy that are actually involved in the clean energy economy. These are kind of just neutral American businesses, as opposed to companies like I think it is called Mid-America Power, which is providing so much wind power in Iowa right now and other big ventures that are investing heavily, creating jobs, developing technology, and doing good things for the American economy.

So I wanted to make sure that the record of this proceeding reflected both the position of the broader American corporate community and also the funding behind two of the gentlemen who are here today.

Thank you, Madam Chair.

Senator Capito. Well, I think we have reached the end of our hearing. I want to thank all of you for participating. I think we have gotten some good discussion.

Senator Carper. Madam Chair?

Senator Capito. Yes.

Senator Carper. You and I are both from West Virginia. I was born long before you were, but when I think about this issue, I think about the Golden Rule, how do we apply the Golden Rule so we are fair to everybody. In my State, we face global sea level rise. It is going to do us in, eventually, if we don't do something about it.

My native State, West Virginia, one of the top five coal-producing States in the Country, some of our neighbors where I was born and grew up, my dad worked as a coal miner for a little bit out of school. But I have been a longtime supporter of clean coal technology, I am sure you have as well, for over twenty-some years. We spent about \$20 billion on clean coal technology, I think, in the last 20 years, and we have a plant up and running now in Southwest Texas. It will be up and running next year. It will produce about 250 megawatts of energy. We have some other plants where work is being done on those.

It has taken a long time, it has taken a lot of money, but I am encouraged that we are starting to make some progress. So when I apply the Golden Rule to those five coal-producing States, West Virginia, Kentucky, Illinois, Pennsylvania, Wyoming, and others, I think what is the fair thing to do with

them, and I think part of the fair thing to do is to continue to invest in clean coal technology and look for the innovation. All those coal plants that they are going to build in China and other places, if they can actually use this technology, we could actually develop it, that could be pretty good job development for all of us.

Senator Capito. Well, I would agree, and in the form of letting the panel know that Senator Barrasso is on his way, so the same courtesies that we extended to Senator Whitehouse we will extend to him and wait a little bit longer for him to be able to make questions.

And I do believe innovation, but I do believe that when we talk about the human price and the human consequences of what is going on in terms of climate change, you have to look about what is going on in States like mine right now, and the human consequences of the highest unemployment, a 4 percent cut in our State budget, the first time we have ever had to cut education in many, many years by 1 percent; more people in poverty; a sense of gloom and doom and depression that really I have not seen in our State, and we have had a lot of highs and lows in our State. As you know, we have had experience with kind of feeling that our economics can't move forward.

But it is indescribable where I am living right now, so I

see the human consequence of moving forward without the innovation, without longer timelines, without more common sense. So I will just make that a statement.

I am going to ask a quick question because you brought up the sole executive agreements that had been made. I think you said how many over the past, 800?

Senator Carper. Actually, about 18,000.

Senator Capito. Eighteen thousand.

Senator Carper. They call them executive agreements.

Senator Capito. So my question is, Mr. Ku, if this becomes a sole executive agreement by this President, who is leaving office in a year, for the next president coming in, what kind of parameters, does that have any binding measures for the next president, and could the next president come in and just totally undo what has been done in that sole executive agreement?

Mr. Ku. Thanks, Senator. I think that a sole executive agreement is the weakest kind of commitment that the United States can make. There are a lot of them, but they are usually for very small things or things within the president's inherent powers. So the Supreme Court has said that only for things that historically Congress has acquiesced in using executive agreements would the Court uphold such executive agreements.

So I think the way to think about this is that if he makes

the executive agreement under his sole authority, a president can withdraw the executive agreement under his sole authority.

Senator Capito. But that would mean the succeeding president.

Mr. Ku. Yes. So a succeeding president would have the authority to withdraw an executive agreement that was made under the sole authority of the previous president.

The only difference, I would just say, is that if the other countries feel like the previous president made a binding promise, the fact there is a new president doesn't make them feel much better about it. So there is a cost to it if the next president withdraws. Even though it is legal, the other countries obviously become upset and unhappy about it, and that is why the Supreme Court, I think, and generally scholars think that the use of sole executive agreements has to be carefully used only where it is clear the president has the authority and there is longstanding precedent for use of a sole executive agreement in that circumstance.

Senator Capito. Well, thank you.

Senator Barrasso?

Senator Whitehouse. Madam Chair, before we turn to Senator Barrasso's remarks, may I simply associate myself with the thoughtful remarks of Senator Carper of a moment ago? I have to

leave now, but I would like to associate myself with his remarks.

Senator Capito. All right. Thank you.

Senator Barrasso.

Senator Barrasso. Thank you, Madam Chairman.

You know, if there was one message that I would like to send to the international community ahead of the international climate change conference, it is this: without Senate approval, there will be no money.

Secretary Kerry says that a treaty requiring Senate approval will not emerge from the international climate talks. This is despite the fact that the State Department is pushing for parts of the agreement to be legally binding on the United States.

On November 13th, the State Department, our position has not changed. The U.S. is pressing for an agreement that contains provisions both legally binding and non-legally binding.

Any agreement reached in Paris that contains legally binding requirements on the American people must come to the Senate for a vote. This isn't only the right thing to do, it is also what the Constitution requires.

As we know, the United Nations Green Climate Fund was

proposed during the 2009 conference of parties in Copenhagen, Denmark. The Fund facilitates a giant wealth transfer of taxpayer dollars from the developed nations to developing nations to help them adapt to climate change.

Congress has never authorized funding the Green Climate Fund. The United States and other developed nations have pledged approximately \$10 billion for the initial capitalization of the Fund, with the goal of raising \$100 billion annually. Most people think that is a misprint, but it is true, \$100 billion annually is what they are talking about.

On November 15th of last year, the Obama Administration pledged \$3 billion in U.S. taxpayer funds over the four years during the G20 meetings in Australia. The Administration's fiscal year 2016 budget request asks for \$500 million for the Fund.

We cannot support providing taxpayer dollars to this Fund is Congress does not get approval of an agreement.

So I want to make it clear to the Administration, as well as to foreign diplomats across the globe who are looking for U.S. dollars, which is the linchpin of this conference, without Senate approval there will be no money, period.

I and many of my colleagues will be sending the President a letter stating that very soon. We have circulated a copy of the

letter.

Now for the questions.

Mr. Cass, it was recently reported in The New York Times, page 1, above the fold, Wednesday, November 4th, China is burning much more coal than it claimed. Article states, even for a country of China's size, the scale of the correction is immense. The sharp upward revision in official figures means that China has released much more carbon dioxide, almost a billion more tons a year, than previously estimated. A billion more tons a year than estimated. The increase alone is greater than the whole German economy emits annually from fossil fuels.

So how does this impact the Chinese INDC submission and should we be premising U.S. action based on a promise from China, when they can't even accurately count or won't accurately account their coal consumption?

Mr. Cass. Thank you, Senator. I think the Chinese restatement is an important fact, because in that very article they actually quote China's climate advisor, somewhat smugly noting this makes it even easier for them to meet their target.

China has never committed to a level that its emissions will peak at; it has never committed to how its emissions will decline after that. So by after having already put out its commitment, noting, oh, and actually we are burning a lot more

coal than we told you, they are in fact making it that much easier to meet a goal that they were on track to meet anyway, without actually making any changes to their policy.

Senator Barrasso. But it sounds like the cost and concessions to be made by the U.S. in the agreement with China are much more real than what China is ever going to do, and ours have to be done before 2025 and China can continue to go to peak in the year 2030.

Mr. Cass. That is correct. And I think what is most concerning about that in some respects is that we have heard so much at this hearing about the importance of U.S. leadership and about this process we have moved forward with that requires what is essentially called naming and shaming. The premise of getting action from the developing world is that we are going to call out those who do not commit to action and shame them into action. Now, whether that was ever a good idea or not, it is how we have proceeded; and yet the talking points from the most vocal advocates of climate action are now that the China is doing a great job.

Senator Barrasso. And, Mr. Eule, if I could ask you if a sophisticated country like China can't keep up with its emissions, what level of confidence do we have that other countries with fewer resources and capacity will be able to or

willing to produce a reliable system for measuring, reporting, and verifying emission reduction activities?

Mr. Eule. In the Chinese experience, my guess is nothing new. I think there are a lot of developing countries that don't have a handle on how much greenhouse gas emissions they are actually emitting. So it is an excellent question, and I am not quite sure at this point that measuring, reporting, and verification can be set up so that we can, with assurance, guarantee that the emission cuts they have promised are actually going to be delivered.

Senator Barrasso. And then a question for both of you, if you could. There was a recent opinion piece in The Wall Street Journal by Bjorn Lomborg, who many of you are familiar with, noted that in the run-up to the negotiations, he says, rich countries and development organizations are scrambling to join the fashionable ranks of climate aid, of the donors. This effectively means telling the world's worst off people, suffering from tuberculosis, malaria, malnutrition, that what they really need isn't medicine, isn't mosquito nets, or micronutrients, but a solar panel.

Could the ultimate effect of the negotiations make it actually harder, harder for countries to raise their own people out of the abject poverty in the name of climate change?

Mr. Cass. I think that is certainly a concern, and I think Senator Wicker called attention to the fact that the U.K., under pressure to provide climate finance, has simply said, okay, we will shift our other develop aid into climate finance.

I think the good news for people in developing countries is that their own leaders are refusing to prioritize emissions cuts over economic growth. The bad news is that the developed world, for the sake of getting a signed piece of paper, may reorient their own aid towards solar panels instead of drinking water.

Senator Barrasso. Mr. Eule?

Mr. Eule. Mr. Cass said essentially what I was going to say. The simple fact is when you look at what developing countries are doing, they have set their priorities, and their priorities are economic development, poverty eradication, and energy access; it is not about addressing greenhouse gas emissions. And I think that is going to be the way it will be for the foreseeable future.

Senator Barrasso. Thank you.

Thank you, Madam Chair.

Senator Capito. Thank you.

Senator Carper, anything else?

Senator Carper. If I could make a unanimous consent request to put in the record, Madam Chairman, a copy of the U.S.

pledges for the general climate fund, which actually appear to be around \$3 billion, instead of the \$45 billion quoted earlier.

I would just say to my friend from Wyoming, you missed this, but we have a number of States. I was born in one that produced a lot of coal, and as we go forward and try to figure out how to deal with this issue of climate change and global warming, we need to be mindful how do we help the States that will be adversely affected, just as we try to help the low-lying States that are in danger of being drowned.

And I would say if we don't provide leadership, the rest of the world, they are not going to do much at all. Why should they? If we do provide leadership, we have a shot, we have a chance.

Thank you.

Senator Capito. Thank you.

Thank you again to the panel and thank all those who attended, and I will call this hearing adjourned.

[Whereupon, at 11:27 a.m. the hearing was adjourned.]