CLIMATE CHANGE AND VULNERABLE SOCIETIES: A POST–BALI OVERVIEW

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CONTENTS

CLIMATE CHANGE AND VULNERABLE SOCIETIES: A POST–BALI OVERVIEW

WEDNESDAY, FEBRUARY 27, 2008

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ASIA, THE PACIFIC,
AND THE GLOBAL ENVIRONMENT,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 o'clock p.m. in Room 2200, Rayburn House Office Building, Hon. Eni F.H. Faleomavaega (chairman of the subcommittee) presiding.

Mr. FALEOMAVAEGA. The House Foreign Affairs Subcommittee on Asia, the Pacific, and the Global Environment will come to order.

I would like to recognize the presence of my dear friend, Dr. Harlan Watson, who is the President's senior representative and advisor on issues affecting the global environment in the State Department and also in the White House.

At a later point in time I will also introduce our distinguished Ambassadors that are present here for the briefing this afternoon.

I know my good friend, the ranking member of the subcommittee, the gentleman from Illinois, Mr. Manzullo, will be here in a while, and I would like to just offer a little word of observation to our friends who are here for the first time in observing how a congressional hearing proceeds.

Noting that sometimes all the 15 or 20 members of the subcommittee don't appear is not because of lack of interest. It is simply because there is probably four or five other hearings going on at the same time, and they have to make choices, as I am sure they will be coming in and out as we proceed with this hearing.

I will begin with an opening statement, and then following that I will then ask Dr. Watson to be our first witness this afternoon.

In December of last year, I attended the United Nations Climate Change Conference held in Bali, Indonesia. Negotiations at the conference were regarded as a necessary step forward for the world community, given that the Kyoto Protocol expires in the year 2012.

However, negotiations prove and continue to be a challenge, especially considering that it remains difficult for the United States, developing countries which are major emitters and parties to the Kyoto Protocol to reach agreement on the nature of commitments. Divisions remain between developed and developing countries, and the United States, whose role is critical in my humble opinion, continues to reject mandatory reductions in greenhouse gas emissions.

Also, Australia announced at the Bali conference that it will sign the Kyoto Protocol, making the United States one of the few coun-

tries that has not signed on to the Kyoto Protocol. Being the only major country that has not signed the Protocol, I believe, how can the United States advance international cooperation on global warming and climate change?

What steps should the United States take in response to the conference held in Bali? Should the United States engage the Alliance of Small Island States, also known as AOSIS? The Alliance of Small Island States, as described on the SIDS Web site, is, and I quote:

> "A coalition of small island and low-lying coastal countries that share similar development challenges and concerns about the environment, especially their vulnerability to the adverse effects of global climate change. It functions primarily as an ad hoc lobbying and negotiating voice for small island developing states within the United Nations system."

During my attendance at the Bali conference I met with leaders of the small island states, and I am pleased that we have with us Ambassadors to the United Nations from the Independent State of Samoa, from the Republic of Fiji, from the Republic of the Marshall Islands, from the Federated States of Micronesia and from the Republic of Nauru. They will also offer testimony and will brief us this afternoon.

Their testimony will be made part of the official record and will be included in our congressional archives. To my knowledge, this is the first time in the history of our subcommittee that we have received testimony from Pacific island leaders to the United Nations. As a fellow Pacific Islander, I am really honored by their presence and their participation.

As a result of their participation in this historic briefing, I am hopeful that the United States and the United Nations can find ways to work together to protect our small island states, which are most vulnerable to climate change.

According to the Congressional Research Service, four key elements of negotiations were outlined in the Bali conference, so called the road map. One was the mitigation of climate; two, the adaptation of impacts on climate change; financial assistance problem; technology development and transfer. Thus far, no legally binding commitments are in place, and each point will require future negotiations.

In closing, I want to note the Vatican's efforts to mitigate climate change as well. In April of last year, the Vatican held a conference at which time Pope Benedict made a statement that resonates very truly with me. He said that it is important to respect creation while focusing on the needs of sustainable development.

Respect for creation is what the community in the Pacific region—Polynesia, Micronesia, Melanesia, and I would like to add the Caribbean island nations, even the island nations in the Indian Ocean, one notably the Maldives, so we have some things to look at.

Certainly, the world could benefit from the truths we hold and from Pope Benedict's counsel regarding climate change. In fact, until respect for creation becomes the premise of our road map, I

do not believe we will be successful in protecting our environment for our children, their children and for generations of time.

This is why I urge the world community, even if we cannot agree on points one through four, to put aside our differences and respect creation itself. Anything less than that will lead to an unacceptable outcome.

I am very happy that we have with us one of our distinguished and senior members of the House Foreign Affairs Committee and a dear friend. Although philosophically we may not agree on all issues, putting it mildly——

Mr. ROHRABACHER. Not even many.

Mr. FALEOMAVAEGA [continuing]. But always a dear friend, the gentleman from California, Mr. Rohrabacher, for any opening statement that he might have.

[The prepared statement of Mr. Faleomavaega follows:]

PREPARED STATEMENT OF THE HONORABLE ENI F.H. FALEOMAVAEGA, A REPRESENTATIVE IN CONGRESS FROM AMERICAN SAMOA, AND CHAIRMAN, SUBCOMMITTEE ON ASIA, THE PACIFIC, AND THE GLOBAL ENVIRONMENT

In December of last year, I attended the UN Climate Change Conference held in Bali. Negotiations at the conference were regarded as a necessary step forward for the world community given that the Kyoto Protocol expires in 2012.

However, negotiations prove, and continue to be, a challenge especially considering that it remains difficult for the United States, developing countries which are major emitters, and parties to the Kyoto Protocol to reach agreement on the nature of commitments.

Put another way, divisions remain between developed and developing countries and the U.S., whose role is critical, continues to reject mandatory reductions in greenhouse gas emissions. Also, Australia announced at the Bali conference that it will sign the Kyoto Protocol making the U.S. the only country that has not. Being the only major country that has not signed the Protocol, how can the U.S. advance international cooperation on climate change?

What steps should the U.S. take in response to the conference held in Bali? Should the U.S. engage the Alliance of Small Island States (AOSIS)? The Alliance of Small Island States, as described on the SIDS website, is "a coalition of small island and low lying coastal countries that share similar development challenges and concerns about the environment, especially their vulnerability to the adverse effects of global climate change. It functions primarily as an ad hoc lobby and negotiating voice for small island developing states (SIDS) within the United Nations system."

During my attendance at the Bali conference, I met with leaders of the Small Island States and I am pleased that the Permanent Representatives and Charge d'affaires to the UN of Samoa, Fiji, the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Nauru will brief our subcommittee today. Their testimony will be made part of the official record and will be included in our Congressional archives. To my knowledge, this is the first time in the history of our subcommittee that we have received testimony from our Pacific Island leaders to the UN and, as a fellow Pacific Islander, I am honored by their participation. As a result of their participation in this historic hearing, I am hopeful that the U.S. and the UN can find ways to work together to protect our Small Island States, which are most vulnerable to climate change.

According to the Congressional Research Service (CRS), four key points of negotiation were outlined in the Bali road map including 1) mitigation of climate; 2) adaptation to impacts of climate change; 3) financial assistance issues; and 4) technology development and transfer. Thus far, no legally binding commitments are in place and each point will require future negotiations.

However, in closing, I want to note the Vatican's efforts to mitigate climate change. In April 2007, the Vatican held a conference at which time Pope Benedict made a statement that resonates with me. He said that it is important to "respect creation" while "focusing on the needs of sustainable development." Respect for creation is what Polynesians and Small Island States do best as we have always relied on the goodness of God for water, food, and life. Certainly, the world could benefit from the truths we hold, and from Pope Benedict's counsel regarding climate

change. In fact, until respect for creation becomes the premise of our road map, I do not believe we will be successful in protecting our environment for our children, their children, and others to come throughout all generations of time.

This is why I urge the world community, even if we cannot agree on points one through four, to put aside our differences and respect creation. Anything less will lead to an unacceptable outcome.

Now it is my pleasure to welcome our witnesses. I look forward to their testimony and note that Ambassador Stuart Beck, Palau's Permanent Representative to the UN, has asked that his statement be included for the record, as has OxFam.

Mr. ROHRABACHER. Thank you very much, Mr. Chairman. Where we do have some areas of agreement, this is not one of them.

Let me note that I am also a senior member of the Science Committee. I have been following this nonsensical issue for the last 20 years. You notice how today and as now the people who are involved with this issue now call it climate change. It used to be global warming. Now it is climate change.

The use of that wording has not just happened to change. You know, that just didn't happen. People are using that new wording because in the last 5 or 6 years it hasn't been getting warmer. Now we find, after being told 10 years ago, this is the trend. It is going to get ever increasing warmer.

It is a tipping point, and all of a sudden there is going to be a greenhouse gas explosion of some kind, and all of a sudden it is going to be a total catastrophe with 10 and 20 degree higher temperatures, except it didn't happen. It has been going the opposite direction for the last 6 years.

That is one thing. Note that. Now, have we had climate change before? The point is, of course, is there something being done by humankind that is causing the climate to change? And the fact is we have had climate change hundreds of times documented over the course of the history of this planet. There obviously is climate change going on all the time, and there always will be because this earth is a very dynamic thing and a dynamic part of the universe.

We know that, for example, from about the year 1000 to about 1850 or, excuse me, from the year 1300 until about 1850 there was a dramatic decrease in the earth's temperature. That is why when people used to try to warn us about global warming they always started with 1850 as their baseline because that was the very bottom of the temperature scale after the earth had already cooled for 300 to 400 years.

So right now it is okay to be talking about what the climate change is and how that will affect us and affect especially our friends in the Pacific and what we might do to make sure that we are prepared to accommodate what is going to be happening, but the idea unfortunately is instead of spending monies on ways to accommodate the climate change that will always happen and is always in the process of happening——

By the way, there have been numerous scientists now who have come out, very top name scientists, who have traced a lot of this to solar activity. The reason why you have a climate change is for the same reason that we happen to have climate changes on Jupiter and Mars. It has nothing to do with human activity, but what is going on in the sun.

Well, let us concede that there is climate change. Mr. Chairman, what can we do? I think the legitimate argument is now what can

we do instead of wasting money trying to blame it on the internal combustion engine? What can we do to mitigate and to try to help people who will experience the downsides of a climate change that is naturally occurring? That should be the basis of the discussion, and that I think might be an area that we could work together on.

With that said, thank you very much, and I am looking forward to further discussion.

Mr. FALEOMAVAEGA. I thank my colleague from California for his most eloquent statement. As I have said, who am I to challenge his compassion? He is a senior member of the Science and Technology Committee, and he does make a point.

I do recall my good friend made this classic statement, and I have never forgotten. Global warming is global baloney. I think it is something that——

Mr. ROHRABACHER. That is why they call it climate change.

Mr. FALEOMAVAEGA. We call it now climate change.

Mr. ROHRABACHER. That is why they call it climate change.

Mr. FALEOMAVAEGA. My good friend from Illinois, the senior ranking member of our subcommittee, also made a statement that I think is worth considering to address the issues of global pollution, which I think has an impact on emissions standards, and it might be because that is a real distinctive approach——

Mr. ROHRABACHER. Absolutely.

Mr. FALEOMAVAEGA [continuing]. And suggestion that it is nature that is causing this. Maybe it is because of human overproduction or whatever is done to produce global pollution.

Mr. ROHRABACHER. With the chairman's indulgence, I would just say global pollution is something we can work on. I don't agree that it changes the climate, but it is something that affects human beings so it should be something we are all concerned about.

Mr. FALEOMAVAEGA. I thank my good friend for his statement, and now just arrived, my good friend and senior ranking member of our subcommittee, the gentleman from Illinois.

If things go well we may have the next President of the United States from the great state of Illinois, and not necessarily on the Republican side, I might say.

Mr. ROHRABACHER. I would bet on it right now.

I do want to thank my distinguished ranking member, Mr. Manzullo, and would like to give him now the opportunity for his opening statement.

By the way, I did mention that you made a good statement in a couple of the hearings that we have held in looking at and describing the problems of climate change and global warming equals global pollution. That is what we should be addressing here. I think your statement is well taken.

Mr. MANZULLO. Well, coming from the tundra of northern Illinois and the fact that we have been iced in all winter and that some people want to take away my SUV, which is my only escape to the outside world, Mr. Chairman, thank you for holding this hearing on the future of climate change and its impact on the small island states in the South Pacific.

Addressing global pollution, which includes climate change, is an issue that deserves more attention than it currently receives, and I appreciate the fact that you called this hearing. However, we

often focus too much on greenhouse gas emissions to the exclusion of other harmful forms of air pollution.

Fighting the causes and impact of global pollution requires the determined leadership of the major polluting economies regardless of size or level of development. If the goal is to encourage countries to make commitments to cleaning the environment, we should consider as many diplomatic tools and modalities as appropriate for this purpose.

For example, in addition to global multilateral initiatives, one should consider more targeted regional and subregional approaches as well. As we have seen in trade talks, agreements on a global scale are very difficult to achieve but smaller compacts are much easier to conclude.

The administration's current action plan on climate change follows the framework which I just described. In addition to pursuing a global agreement through the U.N. to replace the Kyoto Protocol, the administration is also actively engaged in the Asia-Pacific Partnership on Clean Development and Climate and the Major Economies Meeting on Energy Security and Climate Change.

The Asia-Pacific Partnership includes Australia, Canada, China, India, Japan and Korea, in addition to the United States. The Major Economies Meeting Initiative includes another 17 countries from across the world. Together these two regional mechanisms can bolster the broader U.N. process while making a real difference now.

However, no matter how hard we endeavor to achieve meaningful progress on pollution or climate, our efforts are diminished if major polluting countries do not join in the effort. The Kyoto Protocol suffered from this fatal flaw.

I note that in the new Bali Action Plan negotiators agreed to take into account the "principle of common differentiated responsibilities and respective capabilities, taking into account social and economic conditions" as part of a future agreement. It sounds to me as yet another attempt to exempt major polluters like China and India from doing what is necessary to stop pollution.

I look forward to the testimony. Thank you for having this hearing.

[The prepared statement of Mr. Manzullo follows:]

PREPARED STATEMENT OF THE HONORABLE DONALD A. MANZULLO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. Chairman, thank you for holding this hearing on the future of climate change and its impact on small island states in the South Pacific. Addressing global pollution, which includes climate change, is an issue that deserves more attention than it currently receives. We often focus too much on greenhouse gas emissions to the exclusion of other harmful forms of air pollutants.

Fighting the causes and impact of global pollution requires the determined leadership of the major polluting economies regardless of size or development level. If the goal is to encourage countries to make commitments to cleaning the environment, then we should consider as many diplomatic tools and modalities as appropriate for this purpose. For example, in addition to global multilateral initiatives, one should consider more targeted regional and sub-regional approaches as well. As we have seen in trade talks, agreements on a global scale are very difficult to achieve while smaller compacts are much easier to conclude.

The Administration's current action plan on climate change follows the framework which I just described. In addition to pursuing a global agreement through the United Nations to replace the Kyoto Protocol, the Administration is also proactively engaged in the Asia-Pacific Partnership on Clean Development and Climate and the

Major Economies Meeting on Energy Security and Climate Change. The Asia-Pacific Partnership includes Australia, Canada, China, India, Japan, and Korea in addition to the United States. In addition, the Major Economies Meeting initiative includes another 17 countries from across the world. Together these two regional mechanisms will bolster the broader the United Nations process while making a real difference now. To me, this triple approach to combating global pollution makes sense.

However, no matter how hard we endeavor to achieve meaningful progress on pollution or climate, our efforts are diminished if major polluting countries do not join in the effort. The Kyoto Protocol suffered from this fatal flaw. I note that in the new Bali Action Plan, the negotiators agreed to take into account the "principle of common but differentiated responsibilities and respective capabilities, and taking into account social and economic conditions" as part of a future agreement. Mr. Chairman, this sounds to me as yet another attempt to exempt major polluters like China and India from doing what is necessary to stop pollution. So, I hope the next Administration, which will be responsible for finishing the negotiations, will not cede ground on this important issue.

Mr. Chairman, my goal is to argue for a broader approach to fighting climate change to include all forms of global pollution. We spend too much time and waste energy debating climate change but achieve too little progress. The United States must stand for a comprehensive approach to fighting pollution that takes practical steps to actually better our environment. We all know by now that mercury used overseas in mining bleeds into our oceans and ends up in the fish that we eat. We have also witnessed the grim result of uncontrolled pollution by Chinese manufacturers and the effect that has had on millions of Chinese people. Unfortunately, all the attention to curbing greenhouse gasses does nothing to solve these equally pressing pollution problems.

I look forward to hearing from our distinguished witnesses for their suggestions in this regard.

Mr. FALEOMAVAEGA. I would say to the gentleman from Illinois he is never late. Always welcome to have him no matter how late he comes, but he is never late.

A couple of housekeeping things I need to do here. Without objection, I want to submit for the record a statement by His Excellency Mr. Stuart Beck, who is the Ambassador to the Republic of Palau to the United Nations.

Also another statement to be made for the record by Mr. Raymond Offenheiser, the president of OxFam America. We will submit his statement to be made part of the record.

With that I would like to invite Dr. Harlan Watson to be our first witness this afternoon.

This is not the first time that Dr. Watson has testified before this subcommittee. I really, really want to express my personal welcome to you, Dr. Watson, and thank you for taking the time from your busy schedule to come and testify before this subcommittee.

As you know, you and I were at the Bali Conference. You served as the leader of our United States delegation to that conference in Indonesia. I really, really appreciate your being here today.

Dr. Watson is a senior climate negotiator and special representative of the Department of State. He also represents the President and Parties of the United Nations Framework Convention on Climate Change and also with the International Panel on Climate Change with the United Nations.

Dr. Watson joined the Department of State's Bureau of Oceans and International Environmental and Scientific Affairs some 6 years ago. For 16 years he served as a senior staff member on the Committee on Science and Technology, staff director, also the Subcommittee on Energy and Environment.

Dr. Watson received his bachelor's degree from Western Illinois University and his doctorate from Iowa State University and a master's in Economics at Georgetown University.

We are very pleased to have you, Dr. Watson. Please proceed with your testimony.

STATEMENT OF HARLAN WATSON, Ph.D., SPECIAL REPRESENTATIVE AND SENIOR CLIMATE NEGOTIATOR, BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENT AND SCIENTIFIC AFFAIRS, U.S. DEPARTMENT OF STATE

Mr. WATSON. Thank you very much, Mr. Chairman and members of the subcommittee, and thank you for the opportunity to appear here.

Mr. FALEOMAVAEGA. I am sorry to interrupt you. We have a 5-minute rule, but I am not that strict about the 5-minute rule, but just to kind of give you an idea that because we have other witnesses I would appreciate it. Just give us the meat of your statement.

Mr. WATSON. Okay. I will try to go as rapidly as possible.

Mr. FALEOMAVAEGA. Thank you.

Mr. WATSON. I did have a longer statement for the record, which I would ask permission to be included in the record.

Mr. FALEOMAVAEGA. Thank you. Without objection.

Mr. WATSON. I will try to summarize. You of course did have the opportunity to attend at least part of the Bali Conference, and you did a very nice summary I think of what did happen there.

We are very pleased with the results, particularly with Bali pointing the way toward measurable, reportable and verifiable nationally appropriate contributions from all countries, which I think is a welcome advance, as opposed to what happened in Berlin a number of years ago—the Berlin Mandate, which led to the Kyoto Protocol, which totally exempted developing countries. We believe this is a major step forward.

In addition, as you mentioned earlier, Mr. Chairman, the Bali Action Plan does include three other building blocks: Adaptation, technology and financing. Negotiations under the plan will be conducted under a——

Mr. FALEOMAVAEGA. Is your microphone working, Dr. Watson? I want to make sure.

Staff, can you hear back there Dr. Watson's testimony? I just want to make sure.

Mr. WATSON. Let me try this one. This is a little livelier microphone.

Mr. FALEOMAVAEGA. All right.

Mr. WATSON. Negotiations will take place under a new group, a new subsidiary body under the Framework Convention, which has the long title, the Ad Hoc Working Group on Long-Term Cooperation Under the Convention.

It is to have its first meeting in Bangkok, Thailand, from March 30 to April 4, and we look forward to working with all of the parties to the Framework Convention, including AOSIS members, to start that so we can reach a so-called "agreed outcome" by the end of 2009, which is the date agreed to in Bali.

Under President Bush's leadership, the United States has brought together nations in a variety of ways to tackle jointly clean energy and climate change challenges, most recently through the Major Economies Process, which has been mentioned, on Energy Security and Climate Change, and of course the Asia-Pacific Partnership on Clean Development and Climate.

I do have an attachment too in my written testimony which shows that we are engaged with some 102 nations and the European Union in bilateral and multilateral collaborations, including, by the way, a number of AOSIS members.

Mr. FALEOMAVAEGA. Without objection, that will be made part of the record.

Mr. WATSON. Thank you, sir.

Now, adaptation. I particularly want to focus on that because I know that is of particular importance to AOSIS and its members.

The IPCC (the Intergovernmental Panel on Climate Change) in its fourth assessment report reemphasized a need for adaptation to address the potential impacts of climate change and variability on the lives and livelihoods across all sectors.

The ultimate goal of adaptation is to develop flexible and resilient societies and economies. A diverse, robust and open economy can better withstand many types of disruptions, including those related to climate events.

Good governance, sustainable economic growth, environmental protection and poverty alleviation go hand in hand. Well-governed societies are inherently more resilient and adaptable to changing economic, social or environmental conditions of all kinds.

The U.S. does collaborate with developing country partners, including a number of AOSIS members, in a broad range of activities to better understand climate and its implications for development and to build resilience to climate variability and change.

These include analyzing data from earth observations, developing decision support tools and integrating climate information into development programs and projects, all of which assist developing stronger institutional capacity and more flexible and resilient economies that have the ability to address both the challenges and opportunities—it is not always the downside—presented by changing climatic conditions.

We are collaborating internationally on monitoring and adaptation tools such as the Global Earth Observation System of Systems, so-called GEOSS, G–E–O–S–S, which will help give communities early warning of natural disasters and improve decision making for agriculture and coastal development and other economic sectors that are affected by climate variability and change.

A key contribution to GEOSS is something called SERVIR, S–E–R–V–I–R, which is supported by NASA and USAID. It is a system which enables researchers and decision makers in Central America to use United States satellite data for environmental monitoring and management.

USAID and NASA have been working to extend that model globally over the past 2 years. A new hub is being established in East Africa with funding in the present fiscal year 2009 budget request for two more regional hubs in Africa and one in Asia which would support AOSIS members.

In 2007, USAID's Global Climate Change team released an adaptation guidance manual, which is designed to assist USAID missions and other development partners to understand, analyze and respond to potential impacts of climate change on development challenges and to develop effective approaches to solving these challenges.

USAID is also developing guidance on best practices for coastal resilience to current and expected future risk. USAID and its partners at the University of Rhode Island are holding a workshop on this new guidance at the Fourth Global Conference on Oceans, Coasts and Islands, which will be held in April in Hanoi, Vietnam. Funds have been set aside to fund the participation of AOSIS members.

Another example of U.S. international cooperation on adaptation is NOAA's Pacific Islands Regional Integrated Science and Assessment program. This emphasizes reducing Pacific island vulnerability to climate-related extreme events such as drought, floods, tropical cyclones and effective management of Pacific island communities, governments and businesses in developing effective policies to build resilience in key sectors such as water resource management, coastal resources, agriculture, tourism, disaster management and public health.

Another final example which I will mention is the Coral Triangle Initiative, which involves Indonesia, Timor-Leste, the Philippines, Malaysia, Papua New Guinea and the Solomon Islands, which is focused on protecting coral reefs from manmade and natural disturbances, developing sustainable fisheries and ensuring food security for the region's inhabitants.

The United States believes, Mr. Chairman, it is important to engage with AOSIS and its members and other UNFCCC parties and has in place a wide variety of ongoing multilateral and bilateral programs to address their climate change mitigation and adaptation needs.

We also engage regularly with AOSIS and its members during sessions of the Convention on Climate Change, both its Conference of the Parties and subsidiary bodies, as well as in other U.N. venues such as the Intergovernmental Panel on Climate Change and the Commission on Sustainable Development.

We look forward to continuing our ongoing dialogue as we all work together to reach a successful climate change arrangement in 2009, and I do look forward to hearing from the briefings that will be given by the representatives which you have invited here which will appear after my testimony.

Mr. Chairman and members of the subcommittee, thank you for this opportunity to testify. I will be happy to address any of your questions.

Thank you.

[The prepared statement of Mr. Watson follows:]

PREPARED STATEMENT OF HARLAN WATSON, PH.D., SPECIAL REPRESENTATIVE AND SENIOR CLIMATE NEGOTIATOR, BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENT AND SCIENTIFIC AFFAIRS, U.S. DEPARTMENT OF STATE

Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss "Climate Change and Vulnerable Societies: A Post-Bali Overview."

I would specifically like to address the United Nations (UN) Climate Change Conference held in Bali in December 2007; how the United States promotes international cooperation on climate change; its engagement with the Alliance of Small Island States (AOSIS); and ways in which the United States and the UN can work together to protect vulnerable societies.

1. DECEMBER 2007 BALI UN CLIMATE CHANGE CONFERENCE

The UN Climate Change Conference held December 3–15, 2007, in Bali, Indonesia, was the largest such conference held to date. There were over 10,800 participants, including over 3,500 delegates from 188 Parties and 3 Observer States, more than 5,800 individuals from observer organizations, and nearly 1,500 media representatives.

The United States' three negotiating objectives for Bali were: (1) to reach consensus on launching negotiations on a post-2012 climate change arrangement; (2) to ensure that we had a comprehensive negotiating roadmap that would include the prospect of meaningful actions by both developed and developing countries to tackle the climate change challenge; and (3) to agree to complete negotiations by 2009 in order to prepare for implementation, which would start in 2013. All three of those objectives were met with the successful adoption of the Bali Action Plan [1].

The Bali Action Plan launches a two-year negotiation process to strengthen the international response to climate through "full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision" at the fifteenth session of the Conference of the Parties to the UNFCCC (COP 15) in 2009. The Plan's consists of four fundamental building blocks:

(1) Enhanced national/international action on mitigation of climate change, including:
- "Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances;" and
- "Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity building, in a measurable, reportable and verifiable manner."

(2) "Enhanced action on adaptation" that takes into account "the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and further taking into account the needs of countries in Africa affected by drought, desertification and floods";

(3) "Enhanced action on technology development and transfer to support action on mitigation and adaptation"; and

(4) "Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation."

In addition, the negotiations are to address "a shared vision for long-term cooperative action, including a long-term global goal for emission reductions," and are to be conducted under a subsidiary body under the Convention known as the "Ad Hoc Working Group on Long-term Cooperation under the Convention" (AWG–LCA).

As we move forward with the negotiations under the AWG–LCA, which begin in Bangkok March 31–April 4, the United States is committed to working with other countries to reach an agreed outcome that is both environmentally effective and economically sustainable. Only an arrangement meeting both of these objectives can win public support.

To be environmentally effective, a new approach must be truly global and involve measurable, reportable, and verifiable actions by the world's largest producers of greenhouse gas emissions?both developed and developing countries alike. Without substantial participation by developing economies, global greenhouse gas emissions will continue to rise over the next 50 years, even if the United States and other developed countries cut their emissions to zero.

To be economically sustainable, our actions must uphold the hopes of people everywhere for economic growth, energy security, and improved quality of life. Low-

[1] See Attachment 1. The Bali Action Plan is also available at http://unfccc.int/files/meetings/cop__13/application/pdf/cp__bali__action.pdf (Accessed February 22, 2008).

ering the cost of emissions reductions requires speeding up the development and deployment of technologies that will fundamentally improve the way we produce and consume energy—such as the capture and storage of carbon dioxide emitted from coal-fired power plants; more affordable nuclear and gigawatt-scale renewable power; biofuels, electric, natural gas, hydrogen, and other clean alternatives to petroleum; and greater energy efficiency. In the absence of technology and cost advances in these areas, reducing global emissions on the necessary scale will be impossible without significantly sacrificing economic growth globally.

2. PROMOTING INTERNATIONAL COOPERATION ON CLIMATE CHANGE

President Bush has repeatedly highlighted the importance of international cooperation in developing an effective and efficient global response to the serous, complex and long-term challenge of climate change.[2]

Under President Bush's leadership, the U.S. has brought together nations to tackle jointly clean energy technology and climate change challenges. As shown in Attachment 2, 102 nations and the European Union are participating in these bilateral and multilateral collaborations.

Since 2001, the United States has initiated a broad array of bilateral and multilateral collaborations focused on achieving practical results that can accelerate development and commercialization of new technologies, advance climate change science, and address deforestation and adaptation to climate change. These include 15 bilateral climate partnerships[3] with key countries and regional organizations , as well as multilateral technology partnerships, such as the Asia-Pacific Partnership on Clean Development and Climate (APP), Carbon Sequestration Leadership Forum (CSLF), Group on Earth Observations (GEO), Generation IV International Forum (GIF), Global Nuclear Energy Partnership (GNEP), International Partnership for a Hydrogen Economy (IPHE), and Methane to Markets Partnership (M2M).[4]

Recent U.S. advances in promoting international cooperation on climate change and the environment are discussed below and include:

- Accelerated phase-out of ozone-depleting hydrochlorofluorocarbons (HCFCs);
- The Major Economies Process on Energy Security and Climate Change;
- The Asia-Pacific Partnership on Clean Development and Climate;
- Innovative financing mechanism;
- Proposed elimination of tariff and non-tariff barriers for clean energy goods and services;
- Washington International Renewable Energy Conference 2008 (WIREC 2008); and
- Domestic investment in cleaner, more efficient technologies and international assistance to address climate change mitigation and adaptation and deforestation and other domestic action.

Cooperation with Alliance of Small Island States (AOSIS) Members States is also highlighted where relevant.

Accelerated Phase-Out of Ozone-Depleting Hydrochlorofluorocarbons (HCFCs)[5]: Following a proposal and strong endorsement by the United States, the 191 Parties to the Montreal Protocol—including all AOSIS Member States—reached an historic agreement to accelerate efforts to ensure recovery of the stratospheric ozone layer at a September 2007 meeting in Montreal. The Parties agreed to speed up by a decade the phase-out of hydrochlorofluorocarbons (HCFCs), which were originally considered transition chemicals used as substitutes for chlorofluorocarbons (CFCs) be-

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[2] See http://www.whitehouse.gov/news/releases/2001/06/20010611–2.html, http://www.whitehouse.gov/news/releases/2002/02/20020214–5.html, http://www.whitehouse.gov/news/releases/2007/05/20070531–9.html, and http://www.whitehouse.gov/news/releases/2007/09/20070928–2.html.

[3] Bilateral partners include Australia, Brazil, Canada, China, Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama), European Union, Germany, India, Italy, Japan, Mexico, New Zealand, Republic of Korea, Russian Federation, and South Africa that , together with the United States, account for almost 80 percent of global greenhouse gas emissions. These partnerships encompass over 400 individual activities, and successful joint projects have been initiated in areas such as climate change research and science, climate observation systems, clean and advanced energy technologies, carbon capture, storage and sequestration, and policy approaches to reducing greenhouse gas emissions.

[4] These and other partnerships and initiatives are described in the brochure "U.S. Actions to Address Energy Security, Clean Development, and Climate Change," which is available at http://www.state.gov/g/oes/rls/or/97380.htm and http://www.state.gov/documents/organization/96165.pdf.

[5] See http://www.state.gov/r/pa/prs/ps/2007/sep/92598.htm.

cause they deplete the ozone layer less. The agreement will also have substantial benefits for the climate system as it will spur development of new alternatives to HCFCs that have low or no global warming affect and will reduce greenhouse gases by at least 3 billion metric tons over the coming decades.

Major Economies Process on Energy Security and Climate Change[6]: In May of last year, President Bush announced the United States would work closely with other major economies to develop a detailed contribution to a new global arrangement under the UNFCCC.[7] This "Major Economies" initiative has received broad international support, including from G8 and Asia-Pacific Economic Cooperation (APEC) leaders and UN Secretary General Ban Ki-moon. The United States hosted the first meeting in late September 2007, bringing together 17 major economies accounting for nearly two-thirds of the world's population, more than 80 percent of the world's economic output, 80 percent of global energy use, and nearly three-fourths of global greenhouse gas emissions.

Guided by the consensus in Bali, the Major Economies met again in Honolulu, Hawaii on January 30–31, 2008, to discuss a work program that can contribute to key elements of the Bali Action Plan. Among the topics discussed were: (1) a long-term, global emissions reduction goal; (2) national plans that include mid-term goals, backed by a nationally-appropriate mix of regulations, incentives, and public-private partnerships; (3) cooperative technology strategies and other actions in key sectors, especially fossil power generation, personal transportation, and sustainable forest management; (4) innovative financing mechanisms and the elimination of tariff and non-tariff barriers for clean energy goods and services; (5) improved emissions accounting systems to verify progress; (6) ways to help countries adapt to climate change and gain access to technology, especially for developing countries; and (7) ways of structuring a post-2012 arrangement that would encourage, rather than deter, actions by major developing and developed countries, and incorporate positive, not punitive, ways to ensure accountability.

We hope these discussions, which will continue at the Third Major Economies Meeting to be hosted by France in April, will produce tangible outcomes that can be endorsed at a Major Economies Leaders' Meeting later this year. This would fulfill last year's G8 pledge for the Major Economies to make a "detailed contribution" to the UN negotiations.[8]

Asia-Pacific Partnership on Clean Development and Climate (APP)[9]: The Asia-Pacific Partnership for Clean Development and Climate (APP), launched in January 2006 by ministers from Australia, China, India, Japan, Republic of Korea, and the United States, is addressing increased energy needs and the associated issues of air pollution, energy security, and climate change. The APP provides a unique opportunity to engage China and India in constructively moving their energy economies toward a more climate-friendly direction. At last October's New Delhi APP Ministerial Meeting, Canada became the seventh member of the Partnership. This innovative public-private sector effort is accelerating the development and deployment of cleaner, more efficient technologies through more than 110 individual projects in major sectors such as power generation, cement, steel, aluminum, and buildings. For example, a majority of the world's major aluminum producers have committed to 2010 reduction goals from 1990 tailored to their capabilities, including an 80 percent reduction from perfluorocarbon (a very potent greenhouse gas) emissions per ton of aluminum produced for the industry as a whole; at least a 33-percent reduction of fluoride emissions per ton of aluminum produced; and a 10-percent reduction in average smelting energy usage per ton of aluminum produced.[10] The President's fiscal year (FY) 2009 Budget request includes $52 million to support APP.

Innovative financing mechanism: In his September 28, 2007 address to the first Major Economies Meeting, President Bush proposed that Major Economies "join together to create a new international clean technology fund . . . supported by contributions from governments from around the world . . . [to] help finance clean energy projects in the developing world." The President asked Treasury Secretary Hank Paulson to coordinate this effort and to begin exploratory discussions.[11]

In his State of the Union address last month, President Bush announced he is committing $2 billion over the next three years to create a new international clean

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[6] See http://www.state.gov/g/oes/climate/mem/.

[7] See http://www.whitehouse.gov/news/releases/2007/05/20070531–9.html.

[8] G8 Heiligendamm Summit Declaration, "Growth and Responsibility in the World Economy," Paragraph 53, pp. 16–17. (See http://www.g–8.de/Content/EN/Artikel/___g8–summit/anlagen/2007–06–07–gipfeldokument-wirtschaft-eng,templateId=raw,property=publicationFile.pdf/2007–06–07–gipfeldokument-wirtschaft-eng, Paragraph 53, pp. 16–17.)

[9] See http://www.asiapacificpartnership.org/ and http://www.state.gov/g/oes/climate/app/.

[10] See http://www.world-aluminium.org/Sustainability.

[11] See http://www.whitehouse.gov/news/releases/2007/09/20070928–2.html.

technology fund [12] and his FY 2009 Budget request for the Department of the Treasury includes $400 million for the first payment. The proposed clean technology fund has three major objectives: first, to reduce emissions growth in major developing countries through accelerated deployment of clean technologies; second, to stimulate and leverage private sector investment in existing clean technologies; and third, to encourage developing countries to pursue environmentally sound policies to reduce greenhouse gas emissions. The United States believes countries seeking access to the fund should be undertaking credible national plans to limit greenhouse gases and have those plans reflected in a post-2012 international climate change arrangement. The United States also believes beneficiaries of the fund should be prepared to work in good faith to eliminate trade, regulatory and other investment barriers for clean energy and other environmental goods and services. The fund will address the growing problem of accelerating greenhouse gas emissions growth in major developing countries like China and India, and will help ensure that the developing country demand for energy will be met with clean energy projects by supporting the additional cost of clean technology investments over their dirtier alternatives. The Administration is working with major donor and developing countries to create a multilateral fund that will catalyze resources of the multilateral development banks and the private sector to create innovative financing instruments to spur clean technology investments in the major developing country economies.[13]

Proposed Elimination of Tariff and Non-Tariff Barriers for Clean Energy Goods and Services: Another avenue to help accelerate use of cleaner, lower-carbon technologies and infrastructure is through elimination of tariff and non-tariff barriers for clean energy goods and services. Last November, the United States and EU jointly proposed in the World Trade Organization to rapidly eliminate the tariff and non-tariff trade barriers that impede investment in clean technologies and services. The World Bank has estimated that removing such barriers from about 40 climate-friendly technologies whose global trade totaled $130 billion in 2006 would lower the cost of cutting emissions and could increase clean technology trade by an additional 7–14 percent.[14]

Washington International Renewable Energy Conference 2008 (WIREC 2008) [15]: Next week, the United States will host the Washington International Renewable Energy Conference 2008 (WIREC 2008) in Washington, DC, March 4–6. WIREC 2008, the third international ministerial-level event on renewable energy, will be a key opportunity for government, industry and civil society leaders to advance the integration of renewable energy and advanced shared goals for climate, sustainable development and energy security. It will focus on rural development, finance, commercialization/market adoption, research and development, as well as other cross-cutting issues, and includes a ministerial-level meeting for governments (federal and local), the private sector and civil society, and co-located, but separately-managed trade show and exhibition. We are aware that renewable energy is of particular interest to AOSIS and its Member States and pleased that we expect attendees to include officials of ministerial rank or higher from 12 AOSIS Member States[16].

Domestic Investment in Cleaner, More Efficient Technologies and International Assistance to Address Climate Change Mitigation and Adaptation and Deforestation and Other Domestic Action: The United States will continue its massive domestic investment to develop and deploy cleaner, more efficient technologies, to address adaptation to climate change and deforestation—both domestically and internationally. From FY 2001–2008, the United States will have invested nearly $45 billion for climate change—$22 billion for technology research and development, $15 billion for science, $6 billion for tax incentives, and $2 billion for international assistance—and the President's FY 2009 Budget requests nearly $8.6 billion for climate-related activities. In addition, $38.5 billon in loan guarantees for clean technology is available through FY 2009 and an additional $4 billion in loan guarantees is available until

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[12] See http://www.whitehouse.gov/news/releases/2008/01/20080128–13.html and http://www.whitehouse.gov/stateoftheunion/2008/initiatives/energy.html.

[13] Department of the Treasury, *The Budget in Brief, Fiscal Year 2009*, February 2008, p. 84 (See http://treas.gov/offices/management/budget/budgetinbrief/fy2009/bib_full.pdf.)

[14] See http://www.ustr.gov/Document_Library/Press_Releases/2007/November/USTR_Schwab_to_Announce_New_Climate_Initiatives_for_WTO,_Including_a_New_Environmental_Goods_Services_Agreement_(EGSA).html and http://www.ustr.gov/assets/Document_Library/Reports_Publications/2007/asset_upload_file479_13638.pdf.

[15] See http://www.wirec2008.gov/wps/portal/wirec2008.

[16] Officials of Ministerial Rank or higher expected to attend WIREC 2008 include officials from 11 AOSIS Member States: Antigua and Barbuda, Barbados, Cape Verde, Comoros, Grenada, Haiti, Jamaica, Mauritius, Papua New Guinea, Solomon Islands, St. Lucia, and St. Vincent and the Grenadines.

used.[17]. The U.S. and Japan account for most global spending in this area and we encourage other countries to step up their efforts.

The U.S. will also continue its strong support of the Global Environment Facility (GEF)[18], the financial mechanism under the UNFCCC, and the Tropical Forest Conservation Act (TFCA)[19] to address climate change mitigation and adaptation and deforestation, which accounts for roughly 20 percent of global greenhouse gas emissions. For FY 2009, the Administration is requesting $80.0 million for the GEF for the third of four payments toward a total U.S. contribution of $320 million pledged during the fourth replenishment (GEF–4), and a total of $20 million for TFCA. We are also combating illegal logging and the export of illegally harvested forest products in Africa, Asia, and Latin America through the President's Initiative Against Illegal Logging[20], including in the Congo Basin Forest Partnership to better manage 80 million hectares—an area the size of Texas—in the world's second largest tropical forest.

The United States collaborates with developing country partners—including a number of AOSIS Member States—in a broad range of activities designed to better understand climate and its implications for development and to build resilience to climate variability and change. These activities include analyzing data from Earth observations, developing decision support tools, and integrating climate information into development programs and projects. All of these activities assist these countries in developing stronger institutional capacity and more flexible and resilient economies that have the ability to address both the challenges and the opportunities presented by changing climatic conditions.

The ultimate goal of adaptation is to develop flexible and resilient societies and economies. A diverse, robust, and open economy can better withstand many types of disruptions, including those related to climate events. The greatest progress will be assured through strategies that together improve energy security, alleviate poverty, reduce harmful air pollution, and reduce greenhouse gases.

Good governance, sustainable economic growth, environmental protection, and poverty alleviation go hand in hand. Well-governed societies are inherently more resilient and adaptable to changing economic, social or environmental conditions of all kinds. The Millennium Challenge Corporation (MCC), whose mission is to reduce global poverty through the promotion of sustainable economic growth, is particularly relevant.[21] MCC is based on the principle that aid is most effective when it reinforces good governance, economic freedom and investments in people. Focused MCC effort has produced a portfolio of 16 compacts with countries in Africa, Central America, Eurasia, and the Pacific—including with AOSIS Member States Cape Verde and Vanuatu—totaling $5.5 billion. In addition, 15 threshold agreements have been signed—including with AOSIS Member States Guyana and São Tomé and Príncipe—totaling nearly $325 million. The President's FY 2009 Budget request for the MCC is $2.225 billion.[22]

The United States is also collaborating internationally on monitoring and adaptation tools, such as the Global Earth Observation System of Systems (GEOSS) being

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[17] Department of Energy FY 2009 Congressional Budget Request, Volume 2, Office of Chief Financial Officer, DOE/CF–025, Volume 2, p. 330 (See http://www.mbe.doe.gov/budget/09budget/Content/Volumes/Volume2.pdf, p 330.) The President's FY 2009 Budget request proposes to extend the authorization through FY 2010 and FY 2011.

[18] Launched in 1991, the GEF provides funding (largely grants) for projects that provide global environmental benefits and support sustainable development, as well as for adaptation to climate change. Since its inception, GEF has approved over $7.4 billion in grants, leveraging over $28 billion in pledged co-financing to support more than 1,950 projects in over 160 developing countries and economies in transition, with about 33 percent of cumulative allocations supporting the reduction or avoidance of greenhouse gas emissions.18 (See http://www.gefweb.org/interior.aspx?id=44.)

[19] The TFCA authorizes debt relief for low and middle-income countries with tropical forests to support conservation of endangered forests. Since 2000, the United States has concluded 13 TFCA agreements with 12 countries (Bangladesh, Belize, Botswana, Colombia, Costa Rica, El Salvador, Jamaica, Panama (two agreements), Paraguay, Peru and the Philippines) that will generate more than $163 million for tropical forest conservation over time. Under the TFCA debt swap mechanism, a unique public/private partnership has evolved in which environmental NGOs such as The Nature Conservancy, World Wildlife Fund, and Conservation International have provide additional funds totaling approximately $12.1 million for debt reduction, increasing the size of individual agreements, and contributing additional expertise in the management of resulting programs. Eight of the 13 TFCA agreements so far provide for debt swaps. See Department of the Treasury, The Budget in Brief, Fiscal Year 2009, February 2008, p. 84 (See http://treas.gov/offices/management/budget/budgetinbrief/fy2009/bib_full.pdf, p. 84.)

[20] See http://www.whitehouse.gov/ceq/initiative_against_illegal_logging.pdf.

[21] See http://www.mcc.gov/about/index.php.

[22] See http://www.mcc.gov/documents/mcc-fy09-cbj.pdf.

developed by the Group on Earth Observations (GEO)[23]. GEOSS will help give communities early warning of natural disasters, and improve decision-making for agriculture, coastal development and other economic sectors that are affected by climate variability and change. A key U.S. contribution to GEOSS is SERVIR, supported by NASA and U.S. Agency for International Development (USAID). "Servir" is the Spanish word for "to serve," and SERVIR is a system that enables researchers and decision makers in Central America to use U.S. satellite data for environmental monitoring and management. Over the past two years, USAID and NASA have been working to extend the SERVIR model globally. A new hub is being established in East Africa, with funding in the President's FY 2009 Budget request for two more regional hubs in Africa and one in Asia (which would support AOSIS member states).

USAID is a leader among development agencies in the area of adaptation to climate change. USAID's Global Climate Change team released an Adaptation Guidance Manual in 2007. The Adaptation Guidance Manual is designed to assist USAID missions and other development partners to understand, analyze, and respond to the potential impacts of climate change on development challenges, and to develop effective approaches to solving those challenges. The Manual has been well received, has been widely and independently distributed by many climate change and development list serves, and is already being applied or adapted by development and climate change stakeholders in the field.

USAID is also developing guidance on best practices for coastal resilience to current and expected future risks to supplement the Adaptation Guidance Manual. The Coastal Resilience Guide will feature best practices, policy needs for an enabling environment, and guidance on finding and using data. The Guide will draw from lessons learned in post-tsunami projects, coastal resilience projects, and climate change adaptation projects in coastal areas. USAID and its partners at the University of Rhode Island are holding a workshop on the new coastal guidance at the 4th Global Conference on Oceans, Coasts, and Islands in April in Hanoi, Vietnam. Funds have been set aside to fund the participation of AOSIS participants. Furthermore, a pilot project will be implemented this year in a community in the Pacific.

Other examples of U.S. international cooperation on adaptation are the National Oceanic and Atmospheric Administration Pacific Islands Regional Integrated Science and Assessment (Pacific RISA) program, the Coral Triangle Initiative (CTI), and USAID ongoing marine/coastal management programs in the CTI area. Pacific RISA emphasizes reducing Pacific Island vulnerability to climate-related extreme events such as drought, floods and tropical cyclones and effective engagement of Pacific Island communities, governments and businesses in developing effective policies to build resilience in key sectors such as water resource management, coastal resources, agriculture, tourism, disaster management and public health.[24] The CTI, which involves Indonesia (Central and Eastern), Timor-Leste, the Philippines, Malaysia (Sabah), Papua New Guinea, and the Solomon Islands, is focusing on three primary areas: (1) protecting coral reefs from man-made and natural disturbances, (2) developing sustainable fisheries, and (3) ensuring food security for the region's inhabitants.[25] And the U.S. Agency for International Development (USAID) is providing funding for ongoing marine/coastal management programs in the CTI area.[26]

Here at home, the Energy Independence and Security Act of 2007 (Public Law 110–140) enacted in December mandates substantial, mid-term requirements for vehicle fuel efficiency (40 percent improvement), renewable fuels (36 billion gallons annually), and efficiency of appliances, lighting systems, and government operations. The changes brought about by this law will prevent U.S. emissions of billions of

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[23] GEO has 72 countries and the European Commission as Members, and 52 as Participating Organizations as observers (See http://earthobservations.org). AOSIS Members States of GEO include Belize, Cape Verde, Guinea-Bissau, Guyana, Mauritius, and Vanuatu. Also, the Pacific Islands Applied Geoscience Commission (SOPAC), an inter-governmental, regional organization dedicated to providing services to promote sustainable development is a GEO Participating Organization; SOPAC members and associate members include AOSIS Member States and observers American Samoa, Cook Islands, Fiji, Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

[24] See http://research.eastwestcenter.org/climate/risa/RISA-links.htm and http://www.climate.noaa.gov/cpo_pa/risa/brochure.pdf. Pacific RISA participants include Hawaii, Guam, the Commonwealth of the Northern Mariana Islands, and AOSIS Member States and observers American Samoa, the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau.

[25] See http://www.worldwildlife.org/news/displayPR.cfm?prID=432 and http://jakarta.usembassy.gov/press_rel/ClimateChange/CoralReef.html. In December 2007, the U.S. announced that its commitment of $4.35 million in support of the Coral Triangle Initiative.

[26] See http://www.state.gov/g/oes/rls/rm/2007/96747.htm.

metric tons of greenhouse gases into the atmosphere. Other countries are looking very closely at what we did to see how they might apply similar approaches in their countries.

3. CONCLUDING REMARKS

The United States believes it is important to engage with AOSIS and its Member States and other UNFCCC Parties, and, as noted above, has in place a wide variety of ongoing multilateral and bilateral programs to address their climate change mitigation and adaptation needs. We also engage regularly with AOSIS and its Member States during sessions of the UNFCCC Conference of the Parties and its subsidiary bodies, as well as in other UN venues, such as the Intergovernmental Panel on Climate Change (IPCC) and the Commission on Sustainable Development (CSD). We look forward to continuing our ongoing dialogue as we all work together to reach a successful climate change arrangement in 2009 that will attract broad international support.

Mr. Chairman and Members of the Subcommittee, I thank you for this opportunity to testify before the Subcommittee. I would be pleased to answer any questions you may have.

Decision -/CP.13

Bali Action Plan

The Conference of the Parties,

Resolving to urgently enhance implementation of the Convention in order to achieve its ultimate objective in full accordance with its principles and commitments,

Reaffirming that economic and social development and poverty eradication are global priorities,

Responding to the findings of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change that warming of the climate system is unequivocal, and that delay in reducing emissions significantly constrains opportunities to achieve lower stabilization levels and increases the risk of more severe climate change impacts,

Recognizing that deep cuts in global emissions will be required to achieve the ultimate objective of the Convention and emphasizing the urgency[1] to address climate change as indicated in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change,

1. *Decides* to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session, by addressing, inter alia:

(a) A shared vision for long-term cooperative action, including a long-term global goal for emission reductions, to achieve the ultimate objective of the Convention, in accordance with the provisions and principles of the Convention, in particular the principle of common but differentiated responsibilities and respective capabilities, and taking into account social and economic conditions and other relevant factors;

(b) Enhanced national/international action on mitigation of climate change, including, inter alia, consideration of:

(i) Measurable, reportable and verifiable nationally appropriate mitigation commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances;

(ii) Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner;

(iii) Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and

[1] Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 'Technical Summary, pages 39 and 90, and Chapter 13, page 776.

the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries;

(iv) Cooperative sectoral approaches and sector-specific actions, in order to enhance implementation of Article 4, paragraph 1(c), of the Convention;

(v) Various approaches, including opportunities for using markets, to enhance the cost-effectiveness of, and to promote, mitigation actions, bearing in mind different circumstances of developed and developing countries;

(vi) Economic and social consequences of response measures;

(vii) Ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support mitigation in a coherent and integrated manner;

(c) Enhanced action on adaptation, including, inter alia, consideration of:

(i) International cooperation to support urgent implementation of adaptation actions, including through vulnerability assessments, prioritization of actions, financial needs assessments, capacity-building and response strategies, integration of adaptation actions into sectoral and national planning, specific projects and programmes, means to incentivize the implementation of adaptation actions, and other ways to enable climate-resilient development and reduce vulnerability of all Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and further taking into account the needs of countries in Africa affected by drought, desertification and floods;

(ii) Risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance;

(iii) Disaster reduction strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change;

(iv) Economic diversification to build resilience;

(v) Ways to strengthen the catalytic role of the Convention in encouraging multilateral bodies, the public and private sectors and civil society, building on synergies among activities and processes, as a means to support adaptation in a coherent and integrated manner;

(d) Enhanced action on technology development and transfer to support action on mitigation and adaptation, including, inter alia, consideration of:

(i) Effective mechanisms and enhanced means for the removal of obstacles to, and provision of financial and other incentives for, scaling up of the development and transfer of technology to developing country Parties in order to promote access to affordable environmentally sound technologies;

(ii) Ways to accelerate deployment, diffusion and transfer of affordable environmentally sound technologies;

(iii) Cooperation on research and development of current, new and innovative technology, including win-win solutions;

(iv) The effectiveness of mechanisms and tools for technology cooperation in specific sectors;

(c) Enhanced action on the provision of financial resources and investment to support action on mitigation and adaptation and technology cooperation, including, inter alia, consideration of:

(i) Improved access to adequate, predictable and sustainable financial resources and financial and technical support, and the provision of new and additional resources, including official and concessional funding for developing country Parties;

(ii) Positive incentives for developing country Parties for the enhanced implementation of national mitigation strategies and adaptation action;

(iii) Innovative means of funding to assist developing country Parties that are particularly vulnerable to the adverse impacts of climate change in meeting the cost of adaptation;

(iv) Means to incentivize the implementation of adaptation actions on the basis of sustainable development policies;

(v) Mobilization of public- and private-sector funding and investment, including facilitation of carbon-friendly investment choices;

(vi) Financial and technical support for capacity-building in the assessment of the costs of adaptation in developing countries, in particular the most vulnerable ones, to aid in determining their financial needs;

2. *Decides* that the process shall be conducted under a subsidiary body under the Convention, hereby established and known as the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, that shall complete its work in 2009 and present the outcome of its work to the Conference of the Parties for adoption at its fifteenth session;

3. *Agrees* that the process shall begin without delay, that the sessions of the group will be scheduled as often as is feasible and necessary to complete the work of the group, where possible in conjunction with sessions of other bodies established under the Convention, and that its sessions may be complemented by workshops and other activities, as required;

4. *Decides* that the first session of the group shall be held as soon as is feasible and not later than April 2008;

5. *Decides* that the Chair and Vice-Chair of the group, with one being from a Party included in Annex I to the Convention (Annex I Party) and the other being from a Party not included in Annex I to the Convention (non-Annex I Party), shall alternate annually between an Annex I Party and a non-Annex I Party;

6. *Takes note* of the proposed schedule of meetings contained in the annex;

7. *Instructs* the group to develop its work programme at its first session in a coherent and integrated manner;

8. *Invites* Parties to submit to the secretariat, by 22 February 2008, their views regarding the work programme, taking into account the elements referred to in paragraph 1 above, to be compiled by the secretariat for consideration by the group at its first meeting;

9. *Requests* the group to report to the Conference of the Parties at its fourteenth session on progress made;

10. *Agrees* to take stock of the progress made, at its fourteenth session, on the basis of the report by the group;

11. *Agrees* that the process shall be informed by, inter alia, the best available scientific information, experience in implementation of the Convention and its Kyoto Protocol, and processes thereunder, outputs from other relevant intergovernmental processes and insights from the business and research communities and civil society;

12. *Notes* that the organization of work of the group will require a significant amount of additional resources to provide for the participation of delegates from Parties eligible to be funded and to provide conference services and substantive support;

13. *Strongly urges* Parties in a position to do so, in order to facilitate the work of the group, to provide contributions to the Trust Fund for Participation in the UNFCCC Process and the Trust Fund for Supplementary Activities for the purposes referred to in paragraph 12 above and to provide other forms of in kind support such as hosting a session of the group.

ANNEX

Indicative timetable for meetings of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention in 2008

Session	Dates
Session 1	March/April 2008
Session 2	June 2008, in conjunction with the twenty-eighth sessions of the subsidiary bodies
Session 3	August/September 2008
Session 4	December 2008, in conjunction with the fourteenth session of the Conference of the Parties

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Attachment 2: U.S.-Initiated Multilateral and Bilateral/Regional Partnerships—1 of 3

	APP	CSLF	GEO	GIF	GNEP	IPHE	M2M	MEM	Bilateral/ Regional	MCC
Albania										■
Algeria			■							
Argentina			■				■			
Armenia										■
Australia	■	■	■		■	■	■	■	■	
Bahrain			■							
Bangladesh			■							
Belgium			■							
Belize*			■						■	
Benin										■
Brazil		■	■			■	■	■	■	
Bulgaria					■					
Burkino Faso										■
Cameroon			■							
Canada	■	■	■	■	■	■	■	■	■	
Central African Republic			■							
Cape Verde*										■
Chile			■							
China	■	■	■	■	■	■	■	■	■	
Colombia		■					■			
Congo, Republic of			■							
Costa Rica			■						■	
Croatia			■							
Cyprus			■							
Czech Republic			■							
Denmark		■	■							
Ecuador							■			
Egypt			■							
El Salvador									■	■
European Union/ Commission		■	■	■		■	■	■	■	
Finland		■	■			■		■		
France		■	■	■	■	■		■		
Georgia										■
Germany		■	■			■	■	■	■	
Ghana					■					■
Greece		■	■							
Guatemala									■	
Guinea-Bissau*			■							
Guyana*										■
Honduras			■						■	■
Hungary					■					
Iceland			■			■				
India	■	■	■			■	■	■	■	
Indonesia			■					■		■
Iran			■							

Attachment 2: U.S.-Initiated Multilateral and Bilateral/Regional Partnerships—2of 3

	APP	CSLF	GEO	GIF	GNEP	IPHE	M2M	MEM	Bilateral/ Regional	MCC
Ireland			■							
Israel			■							
Italy		■	■		■	■	■	■	■	
Japan	■	■	■	■	■	■	■	■	■	
Jordan					■					■
Lesotho										
Kazakhstan			■		■					
Kenya										■
Korea, Republic of	■	■	■	■	■	■	■	■	■	
Latvia			■							
Lesotho										■
Lithuania					■					
Luxembourg			■							
Madagascar										■
Malaysia			■							
Malawi										■
Mali			■							■
Mauritius*			■							
Mexico		■	■				■	■	■	
Moldova			■							■
Morocco			■							■
Mozambique										■
Nepal			■							
Netherlands		■	■							
New Zealand						■			■	
Nicaragua									■	■
Niger			■							
Nigeria			■				■			
Norway		■	■			■				
Pakistan			■							
Panama			■						■	
Paraguay			■							■
Philippines			■							■
Poland					■		■			
Portugal			■							
Romania					■					
Russian Federation		■	■	■	■	■	■	■	■	
São Tomé and Príncipe										■
Saudi Arabia		■								
Senegal					■					
Slovakia			■							
Slovenia			■		■					
South Africa		■	■	■				■	■	
Spain			■							
Sudan			■							
Sweden			■							

Attachment 2: U.S.-Initiated Multilateral and Bilateral/Regional Partnerships—3 of 3

	APP	CSLF	GEO	GIF	GNEP	IPHE	M2M	MEM	Bilateral/ Regional	MCC
Switzerland			■	■						
Tanzania			■							
Thailand			■							
Tunisia			■							
Uganda			■							■
Ukraine			■		■		■			■
United Kingdom		■	■		■	■	■	■		
Uzbekistan			■							
Vanuatu*										■
Vietnam							■			
Zambia										■

*Member of the Alliance of Small Island States (AOSIS)
APP: Asia-Pacific Partnership Clean Development and Climate
CSLF: Carbon Sequestration Leadership Forum
GEO: Group on Earth Observations
GIF: Generation IV International Forum
GNEP: Global Nuclear Energy Partnership
IPHE: International Partnership for a Hydrogen Economy
MCC: Millennium Challenge Corporation—Compact and Threshold Countries
MEM: Major Economics Meeting Process
M2M: Methane to Markets Partnership

Mr. FALEOMAVAEGA. I appreciate it.

For the record, I think we ought to note that AOSIS is comprised of 44 countries, so it is not just the Pacific region, but also the Caribbean, as well as the Indian Ocean, specifically the Maldives, so I just wanted to note that this is how broad the situation is. It is not just Pacific island nations that we are directing.

My good friend from Illinois for his questions.

Mr. MANZULLO. Let me take a pass for now.

Mr. FALEOMAVAEGA. The gentleman from Illinois passes.

My good friend from California?

Mr. ROHRABACHER. Sure. Dr. Watson and I worked together for a number of years on the Science Committee, and just a couple of things maybe to clear things up about what we are talking about when we talk about climate change here.

Has there been an increase in the number of cyclones and hurricanes in the last couple years as compared to 100 years ago?

Mr. WATSON. I believe not. There has not.

Mr. ROHRABACHER. There is a lot of documentation on that.

And the actual increase in temperature? Again, up until now it has always been global warming we are told is the problem. Now all of a sudden it is climate change. Has there been an increase in the temperature in the last 6 years?

Mr. WATSON. No. In fact, I think 1998 by most of the records is still the highest global average temperature.

Mr. ROHRABACHER. Right. Actually, the highest temperature recorded in the United States was back in 1931, which NASA had made a mistake on. The reason I know that date is they made a mistake in claiming that 1998 was for the United States the highest level, and it was 1931 actually. The 1930s were actually hotter than they are now.

Thus we have an indication that perhaps those people who have been spreading this fear about a climate catastrophe may not have known what they were talking about. Again, my colleague, Mr. Manzullo, has put it very well. Just because they are speaking nonsense about climate change doesn't mean that we shouldn't be fighting global pollution, which affects the lives of the people.

Let me note what happens when you let people who are spouting this nonsense define how you are focusing on your actions. What the people who are in these meetings about global climate change or global warming have been talking about is actually to focus our efforts on decreasing the amount of CO_2 in the air. Is CO_2 harmful to human health?

Mr. WATSON. No, as long as obviously it doesn't get too high a concentration.

Mr. ROHRABACHER. Right. But of course CO_2 helps plants grow. In some countries they actually put CO_2 into the greenhouse places in order to make the fruits bigger and make the tomatoes better, et cetera, et cetera.

CO_2 actually is not in any way harmful except, of course, if you had 90 percent of the air was CO_2. Actually, what percentage of the air is CO_2?

Mr. WATSON. I believe it is less than a fraction of 1 percent.

Mr. ROHRABACHER. Less than a fraction of 1 percent. That is correct.

And manmade elements of that CO_2 is what percentage of that fraction of 1 percent? Again, a fraction of 1 percent of a fraction of 1 percent.

Mr. WATSON. Yes. It is small.

Mr. ROHRABACHER. To eliminate the manmade part or to even cut the manmade part by a certain degree we wouldn't expect to even have a fraction of 1 percent of a fraction of 1 percent of a fraction of 1 percent if we had any impact at all, so to get to that, as if that is what is causing climate to change, we would have to do things like my friend likes his SUV. Let us see how this would impact the islands that we are talking about today.

Have you heard proposals that might result in a limitation, an international limitation on air travel, for example?

Mr. WATSON. Yes.

Mr. ROHRABACHER. Yes?

Mr. WATSON. Yes.

Mr. ROHRABACHER. I wonder how our islander friends would be affected when they are told that because of climate change they can only have one flight a month rather than one flight a day into whatever islands they occupy?

Mr. FALEOMAVAEGA. The gentleman from Arizona says they should swim.

Mr. ROHRABACHER. They should swim. Well, that is what they may have to do if we give into this nonsense.

People, number one, do not know how nonsensical the argument is. Number two, they don't understand by giving into this trendy type of discussion what impact—negative impact—it can have on their lives.

So we may end up with islands not being able to have the air transportation they have today, and they may not be able to use the fuel for producing electricity on their islands. They may not. This may be under restriction too. Of course, the argument can be made that we can use solar or water or other type of things there.

So there are dramatic impacts to this. What it won't do, however, is help us take out of the air the pollution other than CO_2. That is not being talked about. That is not part of the discussion on the global climate change.

CO_2, as we have just heard from the expert, is not harmful to human health. All the other elements that we are trying to do to make people healthier will suffer as a result of this type of crackdown on CO_2 because that is where our scientific focus will be.

That is why, Mr. Chairman, I think it is important for us to watch out for all people, for their health, especially of our children and our older people, getting pollutants out of the air and making sure that we do what is right technologically so that we don't fool people from the islands into thinking that they are going to be better off when in the end they are going to find out that the international bodies have limited the air travel to their islands, which would dramatically impact their standard of living.

Now, thank you very much for answering my questions. We have worked together before, and you are doing a good job in the job you are in right now. Thank you.

Mr. WATSON. Thank you, Your Honor.

Mr. FALEOMAVAEGA. I am very pleased and honored that we have also another senior member of our Foreign Affairs Committee, the distinguished lady from the great state of California.

She served previously as United States Ambassador to the Federated States of Micronesia years ago, so I always call her Ambassador Watson, but, more importantly, the fact that she has made a very firm commitment in doing all that she could to give assistance to the island nations of the Pacific.

Ms. Watson?

Ms. WATSON. Thank you so much, Mr. Chairman, for holding this hearing on climate change decisions at Bali, Indonesia.

I want to welcome all of our friends, some faces I recognize and the others that I don't. You are thoroughly welcome here in Washington, DC, and thank you for coming.

I also want to welcome my relative, Dr. Harlan Watson, the senior climate negotiator and special representative, Department of State. That is a Scotch-Irish name. Look at me. You know somebody down the line. I just had to throw that little levity in there.

During 2007, the climate change gained widespread attention as one of the most critical issues facing the nations of the world, particularly the islands of the world. The negotiations held in Bali, Indonesia, and that was December 3 to 14, 2007, are regarded as a key step in creating an effective international regime to deal with the effects of global warming.

One key issue discussed at the Bali meetings centered on building a genuine partnership between developed and developing countries to conduct climate change in a manner that does not stymie development. Such an approach requires not only mitigation of emissions into the environment, but also financing and technology transfers to developing countries.

My time spent in Micronesia, which was one of the most beautiful times in my professional life, was to be sure that we kept our commitment to the Federated States of Micronesia, who in turn allowed us to teach it denial; in other words, these were our partners in using their waterways.

We want to be sure that we transferred on to you the technology and the dollars for development that are needed and so I am very interested in hearing from Dr. Watson and your thoughts on what ways the United States is considering such a cooperative approach that promotes environmental protection, as well as economic growth.

I am also concerned that the current global climate regime is suffering because the United States, the largest producer of greenhouse gases, is not a party to the Kyoto Protocol. I hope we can correct that in a year or so.

It should also be noted that China, the world's second largest emitter, is exempt from its obligations, as are India and Brazil. However, I was in China last year, and they certainly have cleaned up their air.

They recognize too if they are going to get the world to come to the Olympics in August, those visiting, particularly myself, ought to be able to breathe that air. It was pretty mucked up years ago. They are working on that.

I would ask our panelists how can we expect to be a significant player and honest broker, as well as a partner in this process, if after all these years the United States cannot reach any accord with the rest of the world on controlling its greenhouse gas emissions? Do you foresee the United States becoming a full partner in any future international climate treaty?

Finally, Mr. Chairman, as all of you know I have been the Ambassador to Micronesia. I am very concerned about the impact of global warming on this area of the world's extremely fragile ecosystem. I experienced some of its deterioration while there. As we all know, the slightest rise in air and water temperature significantly impacts ocean levels and currents.

I notice that Dr. Watson's testimony mentions the National Oceanic and Atmospheric Administration Pacific Islands Regional Integrated Science and Assessment program. The Pacific RISA program emphasizes reducing Pacific island vulnerability to climate-related extreme events such as droughts, floods and tropical cyclones and effective engagement of Pacific island communities, governments and businesses in developing effective policies to build resilience in key sectors such as water resource management, coastal resources, agriculture, tourism, disaster management and public health.

I endured a cholera epidemic only because the water was so polluted and so we have a lot that we can do to help in the development so that we don't endanger the health of those who live on these islands.

I would like to elaborate on these programs, and in particular I will be interested in hearing your assessment of the major environmental changes that could impact this region of the world as a result of global warming, which I have witnessed the results of.

And so I look very forward to hearing from you, Dr. Watson. We will investigate our ancestry. Thank you so much.

Thank you, Mr. Chairman.

Mr. FALEOMAVAEGA. I thank the gentlelady. I just want to note as a matter of observation I remember years ago when the House Foreign Affairs Committee had the former Secretary of State, Colin Powell, appear before our committee, and I remember specifically I did raise the issue of the Kyoto Protocol.

At that time I think it was his intention to continue the negotiation or the dialogue of whatever circumstances, but immediately thereafter the announcement was made by the White House that they will have nothing to do with the Kyoto Protocol.

I think there were some serious issues of the substance of the Kyoto Protocol, for which I agree and for which the Senate also voted, as I recall, almost by a vote of 90 to something against the provisions of the Kyoto Protocol, given the fact that India and China were exempted from any penalties as far as emissions standards were concerned, but our country was put to face penalties if it did not comply.

I could not agree with the administration more on that point of view, but I think what I disagreed for the last 6 or 7 years was the fact that we just totally left the table in continuing the dialogue, in continuing to make the point that if there is ever to be substantive changes on the issue of the Kyoto Protocol that it ought be done on a fair basis.

My concern over the years, Dr. Watson, and I think I may have discussed this with you before, was now 7 years later and you have all these other countries as I observed in the Bali Conference—China, India, the group of 77 plus one—almost telling us by implication well, where have you been?

Because we have not been part of the process of continuing being on the table. Someone once told me if you are not at the table you are going to be on the menu, and I will say with due respect I think our country is now on the menu for being criticized—and say maybe we could have done more.

There is no question, in my opinion. The United States' participation or lack of participation is very critical to the whole process of resolving the issue of climate change and global warming.

My good friend from Illinois for his questions.

Mr. MANZULLO. If I could just make a response to Mr. Rohrabacher's comment?

My great concern over the debate on global warming is that it doesn't talk about pollution of the land, the air and the seas. The issue that we have is pollution but instead people are debating whether or not global warming exists, rather than putting the emphasis upon abating pollution.

I don't know if global warming is occurring. I don't know, but I don't have to reach that conclusion to know that maybe I was in a different China than Congresswoman Watson, but you just have to go over there once and try to breathe that air or take a look at some of the pollution that goes on on the land where it is not near any waters and the pollution that is going on in the seas, especially the oceans, to know we have a giant problem with polluting the earth.

We should spend more time on trying to remediate the pollution than discussing whether or not global warming exists. I think that is where we should place our efforts. One thing for sure. Everybody agrees that the more you discharge nasty things into the air, the sea or the land that something awful is going to happen.

In fact, at our Foreign Affairs Committee when we had a markup on the bill that Mr. Lantos had proffered dealing with global warming, I offered an alternative bill that talked about the whole issue of global pollution and the things that could be done on that. That is where I think we should spend the time.

Now we have gone from global warming to climate change, and again that is not where we should be. We should be talking about how to abate the pollution going on in the world and leave it up to future generations to determine the actual impact of our——

Mr. ROHRABACHER. Would the gentleman yield for a moment?

Mr. MANZULLO. Oh, I would be anxious to hear your statement.

Mr. ROHRABACHER. We noted the pollution in China. Focusing on global warming, the people who are talking about global warming are only talking about CO_2. We have a person here who is a scientist, who is an advisor to the Science Committee for over a decade who just told us CO_2 is not harmful to human health.

The focus of all of these people who are talking about climate change is going to be to get rid of the CO_2 in China, not the other pollutants, not the things that hurt human beings, not what is causing emphysema, not what is causing millions upon millions of

Chinese to die horrible deaths because they are breathing in pollution levels.

No, they are going to go after CO_2 because they believe that changes the climate of the earth, which we have already heard now and verified now again from a senior advisor to the Science Committee——

Mr. MANZULLO. Reclaiming my time——

Mr. ROHRABACHER [continuing]. That there has not been a global warming for 10 years.

Mr. MANZULLO. It is not changing the climate of the earth. It is changing the nature of the earth as it was presented to us in its pristine state. Our goal is to try to restore as much as possible, all that we can.

It is a debate, but you are headed in the right direction. Thank you.

Mr. FALEOMAVAEGA. Thank you. I thank the gentleman from Illinois.

Dr. Watson, is the administration's current policy still basically based on voluntariness in terms of addressing the issue of climate change?

Mr. WATSON. Well, I think that just this week—in fact, within the last couple of days—Mr. Jim Connaughton, who is the chairman of the Council of Environmental Quality and who is the President's lead representative in the Major Economies Process, stated publicly for the record the United States would consider joining an internationally binding agreement on climate change if other major economies, including developing economies such as China and India, would also do the same.

Mr. FALEOMAVAEGA. As you mentioned earlier, these three terms that you had made as part of your statement: Measurable, reportable and verifiable. I think it was President Reagan who said trust, but verify.

There is a change then to this policy that we will make commitments as far as the administration is concerned, but it has to be on this standard where everybody is up front and not the United States alone taking the burden and countries like India and China and Brazil get off.

Mr. WATSON. And let me also clarify. We are also, of course, very pro economic growth, so we certainly would not want to do anything that would put Americans out of work, move jobs to other countries, so we do want sustainable economic development for not only ourselves, but for the world as a whole.

Mr. FALEOMAVAEGA. I notice also you attended the United Nations PCC conference that was held in New York. Could you elaborate on this? How many scientists were in attendance at that conference on the climate change issue?

Mr. WATSON. There had been a series of meetings over the last year which resulted in the overall fourth assessment report. The last meeting was actually in Valencia, Spain. I believe that was in October, if my memory serves me right.

Actually, the number of scientists involved in the whole process was something on the order of a couple of thousand. In fact, the majority of those did come from the United States. I want to em-

phasize, however, that many of the scientists just had little, specific areas.

The IPCC process itself is a collaboration between science and governments so it is, as I say, a collaborative arrangement. It is not just the scientists. It is not just the governments, but a collaboration of the two.

Mr. FALEOMAVAEGA. I think the reason for my asking this is in relation to the questions and concerns raised by my good friend from California that whether or not the scientific information does justify the concerns that we are now faced with as far as climate change.

Former Vice President Al Gore, as you know, made his presentation, and he called it An Inconvenient Truth. Do you agree to some perspective on some of the things that he pointed out in that? Of course, he won as Oscar and won a Nobel Prize for his——

Mr. WATSON. I think certainly the former Vice President made presentations of scientific facts which you cannot argue with what has happened in the past. Of course, the tricky part of it is what is going to happen in the future.

There are a variety. I would say the bulk—in fact all—of the scenarios, the models that scientists have used to predict or project what might happen in the future do indicate that if we continue, if mankind continues to emit greenhouse gases, climate will change.

Obviously Mr. Rohrabacher is absolutely right. There is a natural component of that, but also greenhouse gases do have an impact on the climate and will contribute to that climate change very naturally.

Mr. FALEOMAVAEGA. With due respect to my friend from Illinois, he loves his SUV. Isn't there a report saying that more pollution is caused by SUVs? Probably our country purchases and uses more SUVs than any other country in the world.

Mr. WATSON. I think we probably do, yes.

Mr. FALEOMAVAEGA. And what about the emissions of the SUVs?

Mr. WATSON. Well, they tend to have low gas mileage, so assuming you are going to be driving the same distance as you would your more small, compact auto you are going to be emitting more carbon dioxide, nitrous oxides, et cetera.

Mr. FALEOMAVAEGA. So the results of the Bali Conference come to these four elements that are now in process for continued negotiations. That is mitigation of climate change, adaptation and also the question of financial capabilities of course obviously and technology transfer.

So these are ongoing now. These are the basic four issues that as a result of the Bali Conference hopefully by the end of next year that these four main elements or issues are going to be negotiated with the parties involved.

Mr. WATSON. Yes. We have been having ongoing work on all of these elements, but now there is really going to be a focus on again really trying to reach an agreement on the complete package.

As I mentioned earlier in my oral statement, those discussions will begin in Bangkok at the end of March. We expect to have I think four meetings this year, and then there will be also a series

of meetings in 2009, which will hopefully reach a successful conclusion in Copenhagen in December 2009.

Mr. FALEOMAVAEGA. I would also note that the President did call a Major Economies Conference here in Washington, DC, a month ago. That was the emphasis of the industrialized countries.

Do we still hold the record being that our country is 4 or 5 percent of the world's population, and yet we consume about 30 percent of the world's energy resources?

Mr. WATSON. I would have to check those numbers because China is rapidly catching up on that. We are about 300 million. We are about 4 percent. I would really have to do the arithmetic now on that again, but, you know, it is roughly correct.

Mr. FALEOMAVAEGA. Would it be safe to say that China is the largest or biggest polluter now in the world?

Mr. WATSON. Well, according to the International Energy Agency they surpassed the United States at least on carbon dioxide emissions from the burning of fossil fuel last year in 2007.

Of course, if their economic growth continues as projected and they continue installing something on the order of a gigawatt of fossil coal-fired power plants, which they are doing almost on a weekly basis, why they will certainly continue. Their emissions will continue to grow.

Mr. FALEOMAVAEGA. All right. Ms. Watson, did you have any more questions?

Ms. WATSON. Dr. Watson, can you tell me what is the current position in State? What is your belief about climate change? I notice you said the future, so if you recognize climate change what are we prepared to do in the future?

I come from the largest state in the Union, California, and we have on the average of six cars per person. We have been working for the last 20 or 25 years to clean up the air. We have had considerable advances in doing that. Not all. If we could get people out of their big SUVs and so on, you know—and we are trying to build a metro system—that is like a fight, a challenge that is ongoing.

We just can't get the people out of their automobiles. It is a status symbol in our state. However, we have small checks and so on to help in that regard.

So can you tell us what you see for the very near future in terms of the administration and climate change?

Mr. WATSON. Well, I mean, I will tell you what we have been doing. At the end of this fiscal year this administration, obviously with the concurrence of Congress, which we thank you for, will have spent some $45 billion on climate change science, technology, and technical assistance to foreign governments in this area, which is far more than any other country in the world.

We spent a lot of that money. About half of that, of course, has been devoted to new technology. I want to emphasize that this technology is not only aimed at reducing emissions of carbon dioxide and other greenhouse gases, but also pollutants, and so what we look for are win/win technologies such as clean coal, more renewables, more biofuels and so on that will really not only reduce the emissions of greenhouse gases, but will also help address the air pollution and water pollution issues which are a concern.

Mr. FALEOMAVAEGA. Dr. Watson, thank you so much for coming this afternoon to testify.

I will now call for our next panel: His Excellency Mr. Mason Smith, the charge d'affaires of the Republic of Fiji; His Excellency Mr. Charles Paul, the charge d'affaires of the Republic of the Marshall Islands; His Excellency Mr. Massao Nakayama, the Ambassador also of the Federated States of Micronesia to the United Nations; Her Excellency Marlene Moses, the Ambassador of the Republic of Nauru to the United Nations; and His Excellence Mr. Ali'ioaiga Feturi Elisaia, Ambassador of the Independent State of Samoa to the United Nations.

I cannot thank you enough for coming all the way from New York to make this trip to testify before this subcommittee. This subcommittee is very honored and pleased that you were able to visit Washington and to offer testimony that I sincerely hope will be helpful to this subcommittee hopefully in establishing not only as a national policy of my Government, but as something that we can also make as a contribution to the United Nations and the issue of addressing the issue of climate change.

Mr. Mason Smith of the Republic of Fiji received his education from the Australian Command and Staff College. He also received his master of management in defence studies, a graduate with a diploma in diplomacy and was a fellow of the Asia-Pacific Centre for Security Studies.

He has served in various multinational forces and as an observer in the United Nations to Kuwait, has dealt very much with affairs of the administrative defense with the Republic of Fiji, but also as well with the United Nations peacekeeping forces. We are very, very happy that he is able to join us this afternoon.

Also Ambassador Charles Paul representing the Republic of the Marshall Islands as the First Secretary, specializing in health and education affairs. He has served the Republic of the Marshall Islands as the chief of monitoring, evaluation and aid coordination for economic policy.

He holds a degree in economics from the Washington College in Maryland and currently in this capacity on behalf of the Marshall Islands to the United Nations.

Ambassador Massao Nakayama by profession is a teacher and educator. He attended his education from the University of Guam, as well as the University of the Philippines, served as a member of the legislature of the state of Chuuk and also served as a member of the Congress of Micronesia years ago.

He currently serves now as the Ambassador of the Federated States of Micronesia to the United Nations. Previous to that he also served as Ambassador to Japan, to China, to Indonesia, Malaysia, South Korea and Singapore.

Our Ambassador Marlene Moses from the Republic of Nauru currently in her capacity. A career Foreign Service Officer, she was Consul-General to the Republic of Nauru and Tokyo, also in Auckland, New Zealand, also as Consul-General in Melbourne, Australia.

She worked for many years as part of the Department of Foreign Affairs of the Republic of Nauru, but she now serves as Ambas-

sador and Permanent Mission of the Republic of Nauru to the United Nations.

We also have with us Ambassador Ali'ioaiga Feturi Elisaia, who received his bachelor's degree in undergraduate studies from the University of the South Pacific, did a postgraduate certificate in diplomacy from Oxford University and also with the New Zealand University entrance and certificate and the College of Samoa.

He currently serves as Ambassador to the United Nations, as well as to the United States and also to Canada.

Gentleman and lady, I am very, very pleased and honored that we have you come this afternoon to share with us your testimony on the question of climate change as it affects small island states.

You might want to note that the reason for the subcommittee taking this interest is that I think in Washington it seems the entire focus has always been on industrialized countries, which is understandable, but I have always thought that the other 44 nations that make up the United Nations to me are just as important.

I think also stated, your vulnerabilities and limitations of resources all have an impact on this issue of climate change. Hopefully the negotiations that will be completed next year, your concerns will be part of this package, of this agreement hopefully that will become something that the countries of the world will have a greater commitment to come up with resolutions for the problems that affect some 44 countries that make up the United Nations.

With that, I would like to ask Ambassador Mason Smith for his testimony.

STATEMENT OF MR. MASON F. SMITH, CHARGE D'AFFAIRES, A.I. OF THE REPUBLIC OF THE FIJI ISLANDS

Mr. SMITH. Mr. Chairman, honorable members of the House Committee of Foreign Affairs, Subcommittee on Asia, the Pacific, and the Global Environment, I am indeed deeply honored this afternoon to be here to testify before this honorable committee on the issue of climate change and vulnerable societies.

I was requested to share our insights as small island states on this critical issue of global warming and its drastic impact on our island states and indeed the rest of the world. I would like to take this opportunity to also thank Dr. Watson for his insight into climate change. His views are always held in high regard by my country.

Mr. Chairman, I am not a scientist, nor do I claim to be an expert on climate change. I am simply a concerned citizen from a very vulnerable society, so I will not attempt to justify my statements by using climate change jargon, but rather I appear before you today to attempt to put a human face to the climate change debate.

Mr. Chairman, let me start by saying that when it comes to climate change, the small islands states like the one I have the honor to represent here today have been the proverbial canary in the coal mine. Our leaders have long realized that the climate was changing and in their wisdom invited the world's attention to this new trend.

Addressing the United Nations almost 20 years ago, the President of the Republic of the Maldives drew the world's attention to this issue when he warned the world of the growing threat to the

planet posed by climate change and associated rises in sea levels and further warning of the consequences of our failure to act to stave off this threat.

Mr. Chairman, today we talk about climate change not only as an environmental issue, but also as a sustainable development issue, its effect on health, water, food, energy and transport.

In truth, Mr. Chairman, this debate should be about political will and visionary leadership. Political will and leadership have put man on the moon and made the exploration of Mars possible. Political will and leadership have enabled man to explore the depths of the ocean.

Mr. Chairman, only sustained political will and leadership, including the engagement of the United States with the international community, can save mankind from the threat caused by climate change to its very existence. I have come here today with the true conviction that whilst we all should value the present and our comfort living standards, we must also in a similar vein also value the future and what it may hold for mankind.

Mr. Chairman, sea level rise and soil erosion are threatening the very existence of some of the low-lying island atolls and cities in the Pacific. Our seas are warming, our coral bleaching and dying, and its effect on the fish stocks and our livelihood has been felt right across the Pacific. Our tourism and our very way of life as we know it is being affected and in some instances threatened.

Today we are thousands of miles from the Pacific, and some might not be receptive to what I have just said. Therefore, Mr. Chairman, may I, on behalf of my own Government, invite you and your members to the Pacific region to see for yourselves how vulnerable the Pacific society is.

Come talk to our traditional leaders. Come talk to our elders and listen to their stories of the changes in climate that they have experienced in their long lifetime. Come talk to our communities and see for yourselves the time and resources being committed to adapting and mitigating against the real effects of climate change.

Mr. Chairman, it is our view that if no immediate practical action is taken to adapt and mitigate against the effects the world will soon have to deal with the massive migration of some 1 billion climate change refugees. Some of our low-lying atolls will disappear. All we ask, Mr. Chairman, is that no island be left behind. We simply do not want to become climate refugees.

If no immediate practical action is taken, Mr. Chairman, the world will also have to face the consequences of droughts and water shortages in a scale not seen before. If no immediate practical action is taken, the world will also have to deal with food shortage caused by climate change.

All these issues, Mr. Chairman, can be averted or mitigated against if the world has the political will and leadership to take immediate practical actions.

As I speak to you today, Mr. Chairman, it is perhaps worth remembering the people of Vanuatu who have recently lost their islands to the effects of rising sea levels. As I speak to you today, Mr. Chairman, perhaps it is worth recalling the vivid pictures from BBC of sea water bubbling up on the islands of Tuvalu.

Mr. Chairman, for us in the Pacific climate change is not a distant possibility. It is clear and present danger.

My time is short, Mr. Chairman, and I will try and provide some insights into what steps the United States should take in response to the U.N. Climate Change Conference held in Bali in December 2007.

My plea—our plea from the Pacific—is simple. Come join us. Come join the international community in our debate regarding climate change. In fact, Mr. Chairman, the world needs the United States of America for our fight against the negative effects of climate change to succeed.

Mr. Chairman, as you rightly pointed out, the Bali outcome was a collective step by the international community in the right direction in addressing climate change. However, the Bali Conference also brought out continuing differences, especially between developed and developing countries, on how best to implement and improve existing commitments under the United Nations Framework Convention for Climate Change.

It is my humble view, Mr. Chairman, that the U.S. has always provided visionary leadership to the world. The world therefore now stands ready with you, and we hope you will be able to provide the political will to overcome these differences in Bali. As I mentioned, Mr. Chairman, come join us. Come join the international community in dialogue and debate about climate change.

Mr. Chairman, may I conclude with this question? What ways can the U.N. and the United States work together to protect the most vulnerable societies? The word vulnerable visualizes in us the weak, the defenseless and those at risk. So how does one protect the weak, the defenseless and those at risk in our society?

Allow me, Mr. Chairman, to paraphrase Mahatma Gandhi by saying that the system is judged by what it can do for the most vulnerable in our societies. Having said that, let me also add the oft quoted saying, "No man is an island unto himself." This is most relevant in the climate change debate.

The effects of climate change will affect the United States as surely as it will affect us in the Pacific. There is no immunity clause available to any one of us. This reality, Mr. Chairman, leads me to conclude that only in effective partnership and continuous dialogue can we deal with this enormous challenge to our way of life.

I thank you, Mr. Chairman.

[The prepared statement of Ambassador Smith follows:]

COMMITTEE ON FOREIGN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

STATEMENT OF
MR. MASON SMITH, ACTING PERMANENT REPRESENTATIVE
FIJI MISSION TO THE UNITED NATIONS, NEW YORK

before the
SUBCOMMITTEE ON ASIA, THE PACIFIC, AND THE GLOBAL ENVIRONMENT

Climate Change and Vulnerable Societies

February 16, 2008

STATEMENT

Mr. Chairman,
Congressmen
Hon. Members of the House Committee on Foreign Affairs, Subcommittee on Asia, the Pacific, and the Global Environment.

Good morning,

I am indeed deeply honoured and pleased to be here today to testify before this honorable committee on the issue of ***Climate Change and Vulnerable Societies***. I was requested to share our insights as small island states on the critical issue of global warming and its drastic impacts on our island-states and indeed the rest of the world.

In particular, I will try and provide some insights into the following:

- First ; ***what steps the U.S. should take in response to the UN Climate Change Conference held in Bali in December of 2007***;

- Secondly, given that Australia announced at the Bali conference that it would sign the Kyoto Protocol thus making the U.S. the only country that has not signed up to this protocol, ***how can the U.S. advance international cooperation on climate change?***;

- Thirdly, ***should the U.S. engage the Alliance of Small Island States?***; and

- Last but not least ***what ways can the U.S. and the UN work together to protect vulnerable societies***?

I am not a scientist, nor do I claim to be an expert on climate change. I am simply a concerned citizen from a very vulnerable society, so I will not attempt to justify my statements by using climate change jargons such "***parts per billion or one degree rise in temperature or greenhouse gas emission***" —terminologies which you are only too familiar with— but rather, I appear here today to attempt to put a ***human face*** to the climate change debate.

Let me start by saying that when it comes to climate change, the small islands states, like the one I have the honour to represent today, have been the proverbial ***"canary in the coal mine"***. Our leaders have long since realized that the climate was changing and in their wisdom invited the world's attention to this new phenomenon. Addressing the UN almost 20 years ago, the President of the Republic of Maldives drew the world's attention to this issue when he warned the world of the growing threat to the planet posed by climate change and associated rises in sea levels and further warning of the consequences of our failure to act to stave off this threat.

Today we talk about climate change not only as an environmental issue but also as a sustainable development issue; its effects on health, water, food, energy and transport—in truth this debate, we submit should be about ***political will and visionary leadership***. Political will and visionary leadership has put man on the moon and made the exploration of Mars possible; political will and visionary leadership have enabled man to explore the depths of the oceans, and Mr. Chairman, only sustained political will and visionary leadership can save mankind from the threat caused by climate change to its very existence.

I have come here today with the true conviction that whilst we all should value the present, and our comfort living standards, we must, in similar vein, also value the future and what it holds for mankind.

3

Mr. Chairman, it is a scientific fact that sea level rise and soil erosion are threatening the very existence of some of the low lying atoll countries of island states and cities in the Pacific; our seas are warming, our coral are bleaching and dying and its effect on fish stocks and on our livelihood is being felt across the Pacific; our tourism and way of life as we know it is being affected and in some instances, threatened.

Mr. Chairman—today, we are thousands of miles from the Pacific and many might not be receptive to what I have just said; therefore Mr. Chairman ***may I; on behalf of my own government invite you and members of your committee to the Pacific region to see for yourselves how vulnerable the Pacific society is.*** Come talk to our traditional leaders, come talk to our elders and listen to their stories of the changes in climate they have experienced in their lifetime, come talk to our communities and see for yourselves the time and resources being committed to adapting and mitigating against the real effects of climate change.

If no ***immediate practical action*** is taken to adapt and mitigate against these effects, the world will soon have to deal with the mass migration of some one billion ***climate refugees***; some of our low lying atoll islands will disappear; all we ask is that ***no island be left behind***. We do not want to become climate refugees. If no ***immediate practical action*** is taken, the world will also have to face the consequences of droughts and water shortages in a scale not seen before. If no ***immediate practical action*** is taken, the world will have to deal with food shortage caused by climate change—all this issues Mr. Chairman can be averted or mitigated against if there is political will and visionary leadership to take ***immediate practical action***.

Any plans to adapt and mitigate against the effects of climate change will no doubt have its costs; however, no matter how expansive our plans are, the cost of inaction would be vastly higher. For those of us in vulnerable societies, it is far better to fight climate change now rather than to suffer the consequences of climate change later on.

As I speak to you today, it is perhaps worth remembering the people of Vanuatu who have recently lost their island to the effects of rising sea levels. As I speak to you today perhaps it is worth recalling the vivid media pictures of sea water bubbling up in Tuvalu.

Mr. Chairman, for us in the Pacific, climate change is not a distant possibility; it is ***clear and present danger***

Mr. Chairman, my time is short. I will now try and provide some insights into ***what steps the U.S. should take in response to the UN Climate Change Conference held in Bali in December of 2007***. My plea is simple; come join us—come join the international community. In fact, the world needs the United States of America for our fight against the negative effects of Climate Change to succeed.

Mr. Chairman, the Bali Outcome was, in my view, collectively a major step forward by the international community in addressing climate change. The Bali conference also brought out the continuing differences, especially between developed and developing countries, on how best to implement and improve existing commitments under UNFCCC and the Kyoto Protocol; commitments that are equitable, sustainable and promote the development prospects of developing countries—something which is often referred to as ***common but differential responsibilities***. It is my humble view Mr. Chairman, that the US has always possesses visionary leadership, the world now needs your political will to overcome these differences. Come join us—come join the international community.

How then can the U.S. advance international cooperation on climate change?
Mr. Chairman, the building blocks of the climate change debate points to four major areas: ***climate change mitigation, climate change adaptation, technology development & transfer and finance & investment***. These areas should be the corner stone of any international cooperation on climate change and in my humble view the US can advance international cooperation on climate change through ***effective partnership*** with the international community embodied in the United Nations.

I was also asked whether or not the ***US should engage the Alliance of Small Island States?*** of which Fiji is a member. My answer is this. Whilst my reply would naturally be in the affirmative, I would go further and say that the US should not only engage the Alliance of Small Island States, it should also engage the Pacific Small Island Developing States (PSIDS) through our respective ambassadors based in the United Nations in New York. We in the Pacific look forward to your ***effective partnership*** and engagement on a subject which no doubt is the ***"defining issue of our era"***

5

Mr. Chairman, may I conclude with this question.

What ways can the U.S. and the UN work together to protect vulnerable societies?

The word vulnerable visualizes in us; *the weak, the defenseless, and those at risk"*. So how does one protect the weak, the defenseless and those at risk in our society? Allow me Mr. Chairman to paraphrase Mahatma Gandhi by saying that ***a system is judged by what it can do for the most vulnerable in society***. Having said that let me also add, that the oft quoted saying, ***"no man is an island unto himself",*** is most relevant in the climate change debate.

The effects of climate change will affect the US as surely as it will affect the other members of the United Nations. There is ***no immunity clause*** available to either party. This reality Mr. Chairman leads me to conclude that only in ***effective partnership*** can we deal with this enormous challenge to our way of life. The UN cannot address climate change alone, no one can. We in the Pacific and indeed the UN is looking for a common vision, a global consensus, a global alliance for action; in essence a global strategy. Only by working together in ***effective partnership*** can we deliver results to those most vulnerable in our society.

Let us move on from ***rhetoric to results***; let us truly make a difference, together in ***effective partnership*** let us follow through our commitments with concrete actions. For us in the Pacific, there are a few countries who have stepped in to assist us mitigate against the negative effects and assist in eliminating contributing factors of climate change. There are now innovative arrangements and modalities being formulated at the UN with our bilateral partners on how to ensure maximum utilization of assistance. You may wish to have a look at these modalities and see whether they are worth replicating. Don't get me wrong though, if the Italians, the Austrians, the Icelanders and Turkish can assist our vulnerable societies – I am sure the United States of America can do much much better.

I thank you Mr. Chairman

Mr. FALEOMAVAEGA. Thank you, Mr. Smith.

Mr. Paul of the Republic of the Marshall Islands?

I forgot to mention, and I am giving it in good faith, that we have a 5-minute rule, so I try very hard so that we can have more questions. In essence, give me the meat so that that way we can better dialogue.

Mr. Paul?

STATEMENT OF MR. CHARLES PAUL, CHARGE D'AFFAIRES, A.I., REPUBLIC OF THE MARSHALL ISLANDS

Ambassador PAUL. On behalf of President Litokwa Tomeing, the Republic of the Marshall Islands thanks the Honorable Chairman Faleomavaega and the subcommittee members for hearing our statement.

I have submitted a written statement for the record, and I would like to discuss its major points.

Mr. FALEOMAVAEGA. Without objection. All of your statements will be made part of the record.

Ambassador PAUL. We also request that our oral statement be considered for the record and the record be left open for additional material if needed.

Mr. FALEOMAVAEGA. Without objection.

Ambassador PAUL. The Republic of the Marshall Islands has a long tradition of diplomatic cooperation with the United States of America. Despite lingering differences on several key issues, the RMI continues to be a strong international friend of the U.S., especially within the United Nations, even when doing so is not always popular.

This longstanding alliance is based not only upon contemporary agreements, but from the dark years of World War II when American soldiers landed in the Marshall Islands to end violent atrocities committed upon peaceful Marshallese communities.

Given the depth of our international friendship, it is important that this subcommittee understands the deep frustration felt by the Government of the Republic of the Marshall Islands regarding the continued United States Federal position on climate change.

We are aware of draft legislation and we do note that the U.S. has recently recognized the need for more energy research. However, the U.S. can best advance international cooperation on climate change and protect highly vulnerable nations by successfully implementing the Kyoto Protocol and ensuring its immediate reduction in its greenhouse gas emissions.

Long-term goal setting international meetings and research initiatives may also be important components, but RMI is in need of real action which can more directly result in the immediate global reduction of GHG emissions.

Mr. Chairman, with an average height of only seven feet above sea level, the RMI's continued existence is threatened by sea level rise predictions contained in the most recent U.N. IPCC report. Our own national records, as well as reports of severe coastal erosion and other changes, make it clear that climate change is an immediate reality, not just a theoretical possibility.

Although RMI has developed strategies to adapt to negative climate change impacts, continued sea rise poses a very real possi-

bility that our nation will be among the world's first climate refugees. While we do seek your aid in implementing RMI's adaptation strategies, it will only be through the immediate global reduction of GHG emissions that the RMI will continue to survive as a sovereign nation.

Mr. Chairman, we are facing a global crisis regarding the continuing rise of GHG emissions. Coupled with unchecked economic growth by developing nations, the failed obligations to date of many Kyoto Annex I nations has allowed global GHG emissions to continue rising.

It is clear that even when multilateral commitments are made, much of the world is hard pressed to successfully implement these reduction strategies. One of the best means for the U.S. to help ensure the survival of low-lying small island nations is to lead the world by devising its own successful, creative domestic implementation strategies.

Only one generation ago both Democrats and Republicans united to invent Americans' modern environmental laws. These laws, including NEPA, the National Environmental Policy Act, served as the influential beacon for many other nations. Other U.S. domestic policies innovations, including the Clean Air Act, served as the foundation for early action on climate change.

As a recognized global leader in finance and policy innovation, the U.S. can once again lead the world by example by developing multiple tools at the Federal level for the implementation of mandatory GHG emission goals. The United States has already proven itself capable of this leadership, such as its agreement on the compromise proposal at Bali.

Many U.S. local communities and states have already recognized the importance of climate change. The RMI and the Government of King County in Washington State recently signed a shared action agreement encouraging climate initiatives. I must note that King County has recently developed innovative climate strategies, including linkage of environmental impact review and climate change. However valuable these regional efforts, they will remain fragmented until the implementation of successful Federal strategies.

I would like to share a brief quote by Michael Gerrard, the former chair of the American Bar Association's Environment, Energy and Resources Section, from an article which appeared yesterday in the organization's journal, and I quote:

> "The Federal and state agencies that conduct environmental impact review already appear to have statutory authority to conduct climate impacts. Therefore, unless the Executive Branch is resisting there is no necessity for action by Congress or the state legislature."

I have to ask the subcommittee why these Federal agencies do not typically acknowledge climate change as an indirect impact in their NEPA reports. This is just one example in which the opportunity for the U.S.'s greater global leadership on climate change could start at home.

Mr. Chairman, small island developing states contribute the least to climate change, yet remain the most vulnerable to its im-

pacts. Even though the RMI has almost no emissions on a global scale, we have voluntarily taken it upon ourselves to address the reduction of our own GHG emissions by implementing national renewable energy programs, strengthening waste management and upgrading our efforts to implement national laws on land activities.

The RMI is concerned about all the responsibilities of all major emitters. While we understand that GHG emissions reduction goals may only be successfully implemented when linked to economic development and poverty reduction, the production of each ton of CO_2 is a small assault upon our shores regardless of its source.

Should the U.S. choose to address its own global responsibilities outlined in the Kyoto Protocol, the RMI seeks to forge a partnership with the U.S. in future diplomatic negotiations addressing the responsibilities of all major emitters. We have also included in our written statement our recommendations by which the U.N. system can undertake an action-oriented approach to climate change.

Mr. Chairman, the United States is deeply invested in the RMI social and economic development. Sound financial prudence would dictate that such an investment deserves protection. We strongly encourage the U.S. to better mainstream climate change into its existing aid to the RMI. This can be accomplished by partnering with RMI's climate change adaptation initiatives, including the Micronesia Challenge, a regional coastal protection goal.

Mr. Chairman, the efforts of U.S. Federal agencies and academic researchers have led the world in an emerging understanding of climate change impacts upon coastal and marine resources, enhancing our knowledge of coral reef bleaching and ocean acidification.

Many small island nations depend upon fisheries and coastal resources for food security, economic development, tourism and cultural identity. Further enhancing these valuable Federal research programs and encouraging direct Federal research partnership with small island developing states will allow the world's most vulnerable nations to prepare for climate change.

In closing, we must remind this subcommittee of our valued relationship with the U.S. Many of my fellow Marshallese serve directly as full members of the United States armed forces in the global war on terrorism, and I must also mention our difficult history pertaining to America's nuclear weapons testing legacy. Please honor our sacrifices, patriotism and continued friendship by strengthening your own meaningful global leadership on this most pressing issue.

Thank you, Mr. Chairman. I look forward to questions from members of the subcommittee.

[The prepared statement of Ambassador Paul follows:]

PREPARED STATEMENT OF MR. CHARLES PAUL, CHARGE D'AFFAIRES, A.I., REPUBLIC OF THE MARSHALL ISLANDS

Thank you, Chairman Faleomavaega and Subcommittee members, for hearing our testimony.

The Republic of the Marshall Islands (RMI) has a long tradition of diplomatic cooperation and affiliation with the United States. Despite lingering differences on several key issues, the RMI continues to be a strong friend of the US, especially within the United Nations, even when doing so is not always popular or easy. This long-standing alliance is based not only upon contemporary agreements, including the Compact of Free Association, and from the US's historical role as territorial ad-

ministrator, but also from the dark years of World War II, when US soldiers landed in the Marshall Islands to end violent atrocities and human rights violations committed upon peaceful Marshallese communities.

Given the depth of our friendship, it is important that this subcommittee understands the deep frustration felt by the Government of the Republic of the Marshall Islands regarding the continued US federal position on climate change. While we do note that the US has recently recognized the need for technological innovation in clean energy generation, the ongoing lack of federal support for the Kyoto Protocol, coupled with the firm federal opposition to consider binding GHG reductions, represents a global diplomatic failure with devastating consequences to the RMI; neither existing US research initiatives nor pending legislation have actually resulted in substantially lower greenhouse gas (GHG) emissions. The US can best advance international cooperation on climate change, and protect highly-vulnerable nations such as the RMI, by successfully implementing the Kyoto Protocol, thus ensuring the immediate reduction in US GHG emissions.

Mr. Chairman,

With an average height of only 7 feet (or 2 meters) above sea level, the RMI's sovereignty and existence are threatened by sea level rise. Scientific predictions contained in the most recent UN-Intergovernmental Panel on Climate Change (IPCC) report indicate that as much as 80% of Majuro, the RMI capital, may become uninhabitable within the next century due to an anticipated sea level rise of approximately 20 inches (0.5 meters). RMI's own national records indicate a sea level rise of 1 inch per decade since the late 1960s, with additional indicators showing a recent acceleration in the rate of global sea level rise. In addition, increased reports of severe coastal erosion and other unusual ecological changes within both RMI and the Pacific region make it clear that climate change is a stark and immediate reality, not just a distant and theoretical possibility. While RMI is organizing its long term adaptation strategies to reduce exposure to negative impacts of climate change, we have already developed important strategies to address climate change (including capacity-building through human resource development, renewable energy programs, and vulnerable resource conservation initiatives such as the Micronesia Challenge).

Mr. Chairman,

We seek your aid in implementing these adaptation strategies to minimize the negative impacts and risks associated with global climate change. However, it is ultimately only through the immediate global reduction of GHG emissions that the RMI will continue to survive as a sovereign nation.

Mr. Chairman,

Ultimately, sea level rise threatens the existence of our nation and our people will be among the world's first climate refugees. With fragile coastal ecosystems as the basis of our food security, and our traditional land tenure as the foundation of our cultural identity, my nation must ask the global community, and the US in particular as a major emitter, difficult questions regarding threats to our development, security and fundamental freedom—what becomes of our national boundaries and cultural traditions, our legal identity and our homeland? The global community cannot continue to avoid these questions.

Mr. Chairman,

We are facing a global crisis regarding the continuing rise in GHG emissions. Not only has the US, as a major emitter, backed away from the Kyoto Protocol, but numerous Kyoto signatories are likely to miss their emissions reductions targets. Coupled with unchecked economic growth by developing nations, the failed obligations to date by Annex I nations has allowed global GHG emissions to continue rising. According to the recent UN–IPCC Fourth Report, the Annex I countries, as a group, would need to cut 25%–40% of existing GHG emissions by 2020, to limit some of the more severe impacts of climate change. Fostering technological innovation in clean energy production will not alone reduce harmful emissions; successful implementation demands that economic growth mechanisms be closely linked to GHG emissions reductions programs. It is clear that even when multilateral commitments are made, much of the world is hard-pressed to successfully implement GHG reduction strategies.

Mr. Chairman,

Only one generation ago, both Democrats and Republicans united to devise the first generation of America's modern environmental law; these laws, including the National Environmental Policy Act, served as an influential beacon for many other nations.

The US once held a global leadership position on global and domestic climate change initiatives. Over 120 separate Congressional bills were proposed by 1990 which discussed climate change in some form, including 18 bills which linked cli-

mate change and the National Environmental Policy Act. In a 1988 report, the Senate's Committee on Environment and Public Works stated, with the confirmation of the President's Council on Environmental Quality, that the National Environmental Policy Act has "both the legal basis and procedural framework for assessing the potential effects of Federal activities on the global climate." In addition, the innovative sulfer dioxide credit trading market established by Congress under the Clean Air Act of 1990 has become the template for recent efforts in establishing carbon credit trading markets.

As a recognized global leader in financial and policy innovation, the US can once again lead the world by example in developing multiple tools, at the federal level, for creative implementation of GHG emissions goals. Merely supporting the Kyoto Protocol, and subsequent post-Bali United Nations Framework Convention on Climate Change agreements now under discussion, will not alone reduce the GHG emissions of the US or other major emitters. One of the best means by which the US can help ensure the survival of low-lying small island nations is to lead the world in devising its own successful, creative domestic implementation strategies for achieving global climate goals.

The US has already proven itself capable of this leadership on a number of occasions, including the most recent well-publicized Bali meeting in November of last year, when the US delegation agreed to a compromise proposal from the developing countries (which aimed to ensure that mitigation actions by developing countries are supported by technology, financing and capacity building).

Mr. Chairman,

It is not too late for the US to reverse this course of action on climate change, and to help lead the global community in reaching consensus on what remains the single biggest diplomatic challenge of our generation. Many US local communities and states have already recognized the importance of climate change. The RMI and the government of King County, Washington (including the city of Seattle) recently signed a Shared Action Agreement last year. We also applaud regional, state and municipal attempts in GHG reduction strategies in California, New York, the Northeast and the Mid-Atlantic, among other areas. However valuable these efforts, they will remain fragmented until these initiatives are linked with the implementation of successful and binding federal strategy to reduce GHG emissions.

Mr. Chairman,

The RMI has virtually nil GHG emissions on a global scale; small island developing states such as RMI contribute the least to causing climate change, yet remain the most vulnerable to its impacts. We realize the critical importance of the impacts of climate change on our small islands and people. GHG emissions are truly an issue of survival, and we have voluntarily taken it upon ourselves to address the reduction of our own GHG emissions (even though we have nil emissions) by implementing national renewable energy programs, strengthening waste management, and upgrading our efforts to implement national laws on land activities. We are planning to carry out work on measuring our GHG emissions later this year, as well as to undertake vulnerability assessments, with the goal of better understanding RMI's exposure to anticipated climate impacts. Despite our limited human resources, we will also continue to participate effectively at the international arena to bring our issues to the world on climate change.

Mr. Chairman,

The RMI is concerned about the international responsibilities of all major emitters. While understanding that GHG emissions reduction goals will only be successfully implemented when linked to economic development and poverty reduction, the production of each ton of CO2 is a small assault upon our shores, regardless of its source. Should the US choose to address its own global responsibilities in undertaking binding emissions reduction goals outlined in the Kyoto Protocol, the RMI seeks to forge a valuable partnership with the US in future diplomatic negotiations addressing the responsibilities of all major emitters. We have also enclosed our recent statement before the United Nations, in which we outline recommendations by which the UN system can better undertake an action-oriented approach to climate change.

Mr. Chairman,

The United States has long served as a valuable partner to the RMI, and is deeply invested in our social and economic development. Sound financial prudence would dictate that such an important investment deserves protection. In addition to ongoing assistance with a variety of social and economic programs, we strongly encourage the US to mainstream climate change into its existing international aid by funding and providing technical assistance to developing RMI's climate change initiatives, including renewable energy strategies and conservation efforts through the Micronesia Challenge (a regional public-private partnership trust fund to help the

Micronesian Islands achieve the conservation and protection of vulnerable coastal areas by the year 2020).

Mr. Chairman,

The efforts of US federal agencies and academic researchers have led the world in the emerging understanding of climate change impacts upon coastal and marine resources, enhancing our knowledge of coral reef bleaching and ocean acidification. Many small island nations depend upon marine and coastal resources for economic development, tourism and cultural identity. Our fisheries are a source of both global and subsistence food security. Further enhancing these valuable federal research programs, and encouraging direct research partnerships with small island developing states, will also allow the US to take a valuable step in helping the world's most vulnerable nations better understand and prepare for climate impacts.

In closing,

We would like to thank the subcommittee and its Chairman for the opportunity to present our testimony on behalf the Republic of the Marshall Islands. We also remind this subcommittee of RMI's deep and valued relationship with the US. The people of the Marshall Islands have made many important sacrifices for the US: many of my fellow Marshallese serve directly as full members of the US armed forces in the global war on terrorism, in addition to our difficult history pertaining to America's nuclear weapons testing legacy. Please honor our sacrifices, patriotism and continued friendship by strengthening your own meaningful global leadership on this most pressing issue.

Addendum (enclosed, below): Written statement by Ms. Rina Tareo, Charge d'affaires a.i., of the Permanent Mission of the Republic of the Marshall Islands to the United Nations, regarding Climate Change, the UN System, and Partnerships, delivered before the United Nations General Assembly, 13 February 2008.

STATEMENT OF MS. RINA TAREO, CHARGE D'AFFAIRES OF THE REPUBLIC OF THE MARSHALL ISLANDS MISSION TO THE UNITED NATIONS, DURING THE 62ND GENERAL ASSEMBLY THEMATIC DEBATE ON "ADDRESSING CLIMATE CHANGE: THE UNITED NATIONS AND THE WORLD AT WORK" NEW YORK, 13 FEBRUARY 2008

Mr. President, Excellencies, Ladies and Gentlemen,

The Republic of the Marshall Islands wishes to fully align itself with the statement of Tonga on behalf of the Pacific Islands Forum Small Island Developing States, and Grenada on behalf of AOSIS.

Mr. President,

Many of the world's low-lying small island nations—the nations most vulnerable to climate impacts—have spent decades trying to bring the urgency of climate change to the attention of member nations. With an average height of only 3 meters above sea level, the Republic of the Marshall Islands truly values the personal leadership of Secretary-General Ban, as well as the commitment of General Assembly President Kerim, in finally providing climate change its much-deserved attention within the UN system.

However, we must not fool ourselves into thinking that climate change can be addressed only by generalized discussion—instead, the global community needs the help of a more effective and coherent UN system to turn broad hopes for climate change into action-oriented results. Too often, paperwork, studies and well-founded UN agency intentions have failed to translate into real benefits.

Mr. President,

The UN system must recognize that "adaptation" is an inherently limited long-term solution for certain low-lying member nations, such as the Republic of the Marshall Islands. While there are important mid-term adaptation strategies, such as the Micronesia Challenge (which aims to conserve our vulnerable coastal resources by 2020), rising sea levels will likely present questions which are without legal precedent in the global community.

With fragile coastal ecosystems as the basis of our food security, and our traditional land tenure as the foundation of our cultural identity, my nation must ask the global community difficult questions regarding threats to our development, security and fundamental freedom—what becomes of our national boundaries and cultural traditions, our legal identity and our homeland? In what ways might major emitters bear responsibility under international law? The global community cannot continue to avoid these questions. In working to support UNFCCC negotiations, the UN system can also facilitate productive diplomatic discussion on issues of human rights and national sovereignty central to the UN Charter.

Mr. President,

My nation suggests that an important role for the UN system rests in assisting member nations with domestic implementation of the UNFCC and other climate change goals.

The need for assistance has never been more urgent—major GHG emitters are struggling to integrate climate strategies with economic development goals. Domestic climate change initiatives are time-consuming to develop, are rarely linked with urban or industrial growth programs at the national or local level, and rarely allow for public involvement.

With extreme urgency, the Republic of the Marshall Islands calls attention to the August 2007 plenary statement of the Asian-African Legal Consultative Organization, which called upon the global community to examine the potential interlinkage between climate goals and existing national or local environmental laws, in particular environmental impact assessment (a legal norm unilaterally adopted by over 100 member nations). We urge the UN system, in particular UNDP and UNEP, to carefully study the ability of environmental impact assessment laws to address climate change, and, as appropriate, work closely with national experts to build this capacity.

Mr. President,

Our relationships on climate change with key partners have already allowed my nation to take great strides in further reducing our own small amount GHG emissions (even though we are not an Annex 1 nation). However, those decision-makers who have the greatest opportunity to make an impact on implementing climate change goals—and those populations who are at greatest risk—are too often excluded from meaningful interaction within the UN system.

Innovative cross-sectoral partnerships open up direct lines of communication between populations most affected by climate impacts, and the decision-makers who are able to reduce those impacts (such as major cities). A useful example is the 2007 Statement of Shared Action between the Republic of the Marshall Islands and King County, Washington in the United States (including the City of Seattle). We encourage the UN system to take a more direct role in playing matchmaker and encouraging these direct relationships between key decision-makers and highly-vulnerable populations.

Mr. President,

Oceans and coastal areas are critical for the survival of many small island developing states. We call upon the UN system to address the potential for the conservation of coral reefs to be considered as an eligible carbon sink under the Clean Development Mechanism. In addition, we call upon the UN system to examine the link between climate change impacts (including coral reef bleaching and ocean acidification) and the food security gained from commercial and subsistence fisheries, and to alert decision-makers of its findings.

Mr. President,

The Republic of the Marshall Islands is strongly concerned that new global climate change funding mechanisms under discussion with the World Bank may compete with existing and newly-established funding channels for adaptation. It is important that the recipient nations also be afforded an opportunity to participate in governance of these funds, and that the UN system ensures that climate change adaptation funding continues to be addressed with transparency.

Mr. President,

The narrow window for global action is rapidly closing. My nation urges both the UN system, and member nations, to meet this extraordinary challenge by turning rhetoric into results.

Mr. FALEOMAVAEGA. Thank you, Mr. Paul.

Ambassador Massao Nakayama of the Federated States of Micronesia?

STATEMENT OF HIS EXCELLENCY MASAO NAKAYAMA, PERMANENT REPRESENTATIVE OF THE FEDERATED STATES OF MICRONESIA

Ambassador NAKAYAMA. Honorable chairman and members of the subcommittee, I thank you for the opportunity to be here to participate at your hearing on the international climate change negotiations and on the path forward toward a post 2012 climate treaty.

I come from islands where we believe in being prepared before a disaster would strike, would come, like a typhoon. Since I am not a scientist and I don't understand the intricacies of the debate, I think being prepared for the worst is the right thing to do.

Mr. Chairman, I speak as the voice of the inhabitants of the islands of my country who are already among the first victims of the adverse impacts of climate change. To us, global warming brought about by human activity will lead to the same thing, whether abruptly or gradually, and that is the disappearance of our country from the planet.

Prompt and effective actions are needed to save the vulnerable homelands of the people of Micronesia and indeed those of many more islands just like us. Such actions must substantially reduce greenhouse gas emissions and stabilize them within an appropriate timeframe that achieves the main objectives of the U.N. Framework Convention of Climate Change.

The Convention, by the way, is a treaty to which the United States is a full party. Never mind the Kyoto Protocol. The United States is fully committed to the objectives of the Framework Convention which, paraphrased, is to stabilize human produced greenhouse gas emissions at a level that will no longer endanger a plant.

In my written submission I have incorporated some specific measures, particularly some fast start strategies, as additional ways to combat climate change.

My country has introduced similar suggestions to the UNFCCC Secretariat as called for and to be considered under the Bali Action Plan. Among these suggestions is that parties should study the structure of the Montreal Protocol on substances that deplete the ozone layer which has contributed substantially to delaying the onset of climate change, in addition to protecting the ozone layer.

This approach of creating climate co-benefits in other environmental processes should be given priority as another way to adapt to and mediate climate change. Such an approach could find useful applications in many economic sectors and industries worldwide.

In addition, the upcoming congressional 5-year review of Micronesia's Compact of Free Association creates another opportunity to incorporate climate adaptation and mitigation measures in its funding proficiencies. Since Micronesia is already experiencing the impacts of global warming, the shared interest of the FSM and the United States in the long-term stability and security of the region virtually mandate such bilateral cooperation.

Mr. Chairman, of the 60 inhabited islands there are 20 that are mountainous which are inhabited by 80 percent of the population. However, most inhabitants live at the low-lying coastal fringes. Some suggest that adaptation for these islands consist simply of relocating residents to higher ground inland.

While some can be relocated to areas inland, most of these areas are simply the steep sides of a mountain where trees struggle to grow. Attempts at relocation inland would also result in great stress on the environment, including the loss of food crops and scarce available lands and the threat of landslides. Relocation also causes social disruption, property loss and land tenure complications, the things that are already being faced by other environmental refugees in the Pacific.

Some 20,000 of Micronesia's population live on over 40 low-lying atoll islands. While all islanders are vulnerable, the inhabitants of these low-lying atoll islands are among the most vulnerable people on earth. Their islands are fragile to begin with, typically about three meters above sea level at their highest points.

Long before abandoning their islands these inhabitants will have an extended struggle with the social and economic impacts, the warming temperatures and rising sea level. As beaches are driven with loss through intensified storms and wave action, expensive seawall systems must be considered such as have been constructed already in some island nations, but even seawalls cannot protect atoll islands for long.

As sea levels increase, the sea will simply rise through the porous soil in the interior of the islands. As it does so it will contaminate the islands' limited fresh water, making farming impossible and killing trees. As waters and ocean temperatures rise, the viability of fringing coral reefs will disappear. With the loss of these fragile ecosystems, food supplies will be compromised and other erosion will proceed more quickly.

Without immediate global action by the major polluters to cut their emissions, the long-term fate of the islands is dire. Uninhabitable and abandoned, the islands will in time grow smaller and smaller, becoming only a piece of sand before they will completely be engulfed by the sea and remain only as submerged reefs.

Not only will the residents have lost their ancestral homes, but the world will have lost most of the low-lying islands in the Pacific. These will include in Micronesia over 500 uninhabited islands which provide habitats for birds, nesting grounds for turtles and food sources for the islanders. The United States just recently saw fit to declare a marine sanctuary in the northern Hawaiian Islands. All of this would be lost as well.

Not to be overlooked is the aspect of sovereignty that would affect Micronesia and the entire Pacific region. Micronesia's exclusive economic zone, together with its economic livelihood, would substantially diminish in size as present measurement baselines located mostly on the atoll islands may forever be submerged under water.

Even as we meet here, the people on the islands are asking why the signs that they have always depended on to predict the weather are no longer accurate. Why tides are surging further inland today. Why the water level entering taro plots or patches is higher than usual.

Why more coconuts are coming out deformed or without any juice? Why more fruits on the grapefruit trees are falling off before they have matured? Why generally the island sunlight seems to be harsher and the air warmer than before? Why the leaves on the trees seem to appear less green?

Employing any and all feasible adaptation measures, our people desperately try to protect our homelands to seek to continue to live as a society and to perpetuate our culture as long as we possibly can. We owe nothing less to our ancestors who lie sleeping in our soil and to our generations yet to be born.

The time for action is now, but the FSM simply lacks the necessary financial and technical resources to adapt to the onslaught of global warming or to mitigate the effects of climate change.

We need the help of the international community, yes, but more especially we look to the bilateral assistance of the United States, our partner in free association. Yes, it is necessary to craft mitigation, adaptation and financing measures to develop and share necessary technology and to employ both regulatory and market mechanisms in a collective effort to stop and reverse climate change. This is a must.

Human beings, their lives, cultures and existence, should be the moral reverence in the climate discussion, and that reverence should guide us now in the Bali process as well as in our bilateral relations. We need more dialogue than negotiations, and in that regard strong political will and effective positive leadership. With that, together we can reset the course of our planetary ship and steer it to cleaner shores.

This great nation, the United States of America, can provide such positive leadership. The rest of the world expects it. The vulnerable Micronesian Islanders yearn for it. We respectfully ask this Congress in this session to take action.

Thank you, Mr. Chairman.

[The prepared statement of Ambassador Nakayama follows:]

Testimony of Ambassador Masao Nakayama
Permanent Representative of the Federated States of Micronesia to the United Nations

U.S. House of Representatives Committee on Foreign Affairs
Subcommittee on Asia, the Pacific, and Global Environment

"Climate Change and Vulnerable Societies: A Post-Bali Overview"

February 27, 2008
Room 2200, Rayburn House Office Building

Introduction

Thank you, Chairman Faleomavaega, and members of the subcommittee, for the opportunity to testify on behalf of the Federated States of Micronesia, at your hearing on the international climate change negotiations, and on the path forward towards a post-2012 climate treaty.

I also would like to express the sincere condolences of our leaders and our people to the family, friends, and colleagues of Congressman Tom Lantos, who provided a model of what a political leader could and should be.

How long will Micronesia exist?

The topic of climate change is very much on the minds of our leaders and our people in Micronesia. Climate change is about our very existence—our existence as a country—a country with rich traditions that since time immemorial have helped unite our generous and peaceful people into a unique and successful society. We now must ask ourselves, "How long will our country, and our culture, continue to exist?"

All low-lying island and coastal countries are vulnerable.

Micronesia is not alone. We are representative of all vulnerable countries around the world, including those in the Alliance of Small Island States, and the many other low-lying coastal countries that face the growing risk of extinction from abrupt climate change and the sea-level rise that it will cause. (The unique vulnerability is recognized in the 1992 UN Framework Convention on Climate Change, to which the US is a Party.)

We need your help with adaptation measures that may delay some of the coming climate impacts to our island and coastal communities, including help protecting and enhancing the growth of our protective coral reefs (which also store significant amounts of carbon). But even more, we need your help mitigating climate change, something the US is in a unique position to lead, given your technological inventiveness and optimistic spirit. Immediate, "fast start," mitigation is the best adaptation strategy, and that is the focus of my remarks.

How close is the tipping point for abrupt climate change?

The abrupt climate change from the melting and disintegration of Arctic, Greenland, and Antarctic ice is "non-linear," and will occur when we pass a tipping point by putting too many greenhouse gas pollutants into the atmosphere. A non-linear tipping point is like the final step we take as we walk off a cliff. Once we take that step, we are not able to go back. It is irreversible.

The question is not *whether* abrupt climate change will occur, but *when* it will occur—if we continue business-as-usual. How close are we to the tipping point for abrupt climate change from the melting of the Arctic Ice? The melting and disintegration of the Greenland Ice Sheet? From the West Antarctic Ice Sheet? How much time do we have to continue to exist as a country?

One leading climate scientist at NASA, Dr. James Hansen, explains that the tipping point for abrupt climate change and catastrophic sea-level rise could be as close as ten years away. When we cross it, we will be irreversibly committed to up to 6 or more meters of sea-level rise in the coming decades, perhaps at the rate of 1/2 to 1 meter per decade.[1]

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[1] Dr. James Hansen, of the NASA Goddard Institute for Space Studies, argues that "[p]ositive climate feedbacks and global warming already 'in the pipeline' due to climate system inertia together yield the possibility of climate 'tipping points' ... such that large additional climate change and climate impacts are possible with little additional human-made forcing. Such a system demands early warnings and forces the concerned scientist to abandon the comfort of waiting for incontrovertible confirmations." *Scientific reticence and sea level rise*, Environ. Res. Lett. 2 (2007). Dr. Hansen raises specific concerns regarding melting ice sheets and rising sea levels:

> The current rate of sea level change is not without consequences. However, the primary issue is whether global warming will reach a level such that ice sheets begin to disintegrate in a rapid, non-linear fashion on West Antarctica, Greenland or both. Once well under way, such a collapse might be impossible to stop, because there are multiple positive feedbacks. In that event, a sea level rise of several metres at least would be expected. ... The palaeoclimate record contains numerous examples of ice sheets yielding sea level rises of several metres per century when forcings were smaller than that of the business-as-usual scenario. For example, about 14,000 years ago, sea level rose approximately 20 metres in 400 years, or about 1 metre every 20 years.
>
> There is growing evidence that the global warming already under way could bring a comparably rapid rise in sea level. ... The findings in the Antarctic are the most disconcerting. Warming there has been limited in recent decades, in part due to the effects of ozone depletion. The fact that West Antarctica is losing mass at a significant rate suggests that the thinning ice shelves are already beginning to affect ice discharge rates.
>
> So far, warming of the ocean surface around Antarctica has been small compared with the rest of the world, as models predict, but that limited warming is expected to increase. The detection of recent, increasing summer surface melt on West Antarctica raises the danger that feedbacks among these processes could lead to non-linear growth of ice discharge from Antarctica. ...
>
> Ocean warming and thus melting of ice shelves will continue even if CO2 levels are stabilised, because the ocean response time is long and the temperature at depth is far from equilibrium for current forcing. Ice sheets also have inertia and are far from equilibrium. There is also inertia in human systems: even if it is decided that changes must be made, it may take decades to replace infrastructure.

The US National Academy of Sciences report on abrupt climate change is entitled *Abrupt Climate Change: Inevitable Surprises*, and concludes that the "available evidence suggests that abrupt climate changes are not only possible, but likely in the future. ..."[2] A report prepared for the US Department of Defense warns that abrupt climate change could lead to geopolitical de-stabilization and "skirmishes, battles, and even war."[3]

The record ice-melt in the Arctic and Greenland last year, and now in the Antarctic, gives a further sense of urgency to Dr. Hansen's warnings about the tipping point for abrupt climate change and sea-level rise. So does the recent scientific evidence that the oceans now appear to be absorbing less of our carbon-dioxide emissions, leaving more of this greenhouse gas in the atmosphere.

According to a new scientific report published this month in the *Proceedings of the National Academy of Sciences*, other climate surprises are coming fast.[4] The collapse of the Indian summer monsoon could be a year away, and the dieback of the carbon-dioxide absorbing Amazon rainforest could tip within 50 years.

We need to expand the definition of "dangerous levels" of anthropogenic climate emissions to include the tipping points for abrupt climate change.

The threat of abrupt, non-linear, and irreversible climate impacts must be one of the factors we use to determine what are "dangerous levels" of greenhouse gas emissions. This is a critical part

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> The threat of large sea level change is a principal element in my argument that the global community must aim to restrict any further global warming to less than 1 °C above the temperature in 2000. This implies a CO2 limit of about 450 parts per million or less. Such scenarios require almost immediate changes to get energy and greenhouse gas emissions onto a fundamentally different path. ...
>
> The broader picture strongly indicates that ice sheets will respond in a non-linear fashion to global warming – and are already beginning to do so. There is enough information now, in my opinion, to make it a near certainty that business-as-usual scenarios will lead to disastrous multi-metre sea level rise on the century time scale.

Climate Catastrophe, NEW SCIENTIST (28 July 2007).

[2] *See* Committee on Abrupt Climate Change, *Abrupt Climate Change: Inevitable Surprises*, National Academy Press, Washington, D.C., 2003 (the "available evidence suggests that abrupt climate changes are not only possible, but likely in the future, potentially with large impacts on ecosystems and societies").

[3] *See* Peter Schwartz & Doug Randall, *An Abrupt Climate Change Scenario and Its Implications for United States National Security* (2003) (warning that result of abrupt climate change without adequate preparation "could be a significant drop in the human carrying capacity of the Earth's environment", including shortages of food and fresh water, drought, and flooding, which could lead to geopolitical de-stabilization and "skirmishes, battles, and even war."), http://www.gbn.com/ArticleDisplayServlet.srv?aid=26231. *See also* Chris Abbott, Paul Rogers, and John Slobada, *Global Responses to Global Threats: Sustainable Security for the 21st Century*, Oxford Research Group, June 2006, http://www.oxfordresearchgroup.org.uk/publications/briefing_papers/globalthreats.php; and Durwood Zaelke, Oran Young, & Scott Stone, *After 'The Day After Tomorrow': What Will Society Learn from the Inevitability of Rapid Climate Change Events*, NATIONAL STRATEGY FORUM REVIEW, Fall 2006, http://www.nationalstrategy.com/Portals/0/FINAL_FALL_2006.NSFR.pdf.

[4] Timothy Lenton, Hermann Held, Elmar Kriegler, Jim Hall, Wolfgang Lucht, Stefan Rahmstorf, and Hans Joachim Schellnhuber, *Tipping elements in the Earth's climate system*, 105 PROC. OF THE NAT'L ACAD. OF SCI. 6 (Feb. 12, 2008).

of the threat we must avoid through aggressive policy responses. We can no longer consider only the linear effects from an eventual doubling of CO_2 concentrations and a two to three degree Celsius temperature rise.

We need "fast start" strategies to provide time for mid and long-term solutions.

With the UN negotiations on a new climate regime scheduled to last two years—until December 2009—, plus several additional years to ratify and implement that regime through national legal systems, there is a need for leadership on immediate "fast start" mitigation strategies to give us time to get mid- and long-term strategies working effectively. We also need "fast start" strategies for adaptation, as the impacts of climate change are already occurring and being felt in Micronesia and other low-lying countries. One critical strategy both for adaptation and for mitigation is to protect and enhance the growth of coral reefs, which both store significant amounts of carbon and which act as protective buffers against rising sea-levels and increasing storm surges.[5]

The ozone treaty can provide fast start mitigation.

The ozone treaty, known as the Montreal Protocol on Substances that Deplete the Ozone Layer, can be strengthened this year to provide immediate and significant climate mitigation.

This can be done by controlling the emissions of chemicals from discarded products and equipment, including refrigerators and air conditioners, which harm both the ozone layer and the climate system when they leak from landfills. The potential climate mitigation is significant: 7.4 billion tons of carbon-dioxide equivalent by 2015. This is more than the 5 billion tons of carbon-dioxide equivalent the Kyoto Protocol seeks to reduce in its initial commitment period from 2008-2012.

Micronesia will continue working with Argentina and the US to further strengthen the Montreal Protocol at its annual meeting later this year, as we did last year.

Continuing the climate success at the Montreal Protocol's 20th anniversary last year.

Last year, Micronesia was the first Party to the ozone treaty to submit a proposal to strengthen the treaty to explicitly address climate change, by accelerating the phase-out of HCFCs. A total of nine Parties, including Argentina and the US, as well as other island and low-lying Parties, submitted a record number of proposals to strengthen the ozone treaty last year.

The agreement reached by the 191 Parties at the 20th anniversary meeting in Montreal in September 2007 will result in climate mitigation of 15 billion tons of carbon-dioxide equivalent, significantly more than the Kyoto Protocol, and even more if the transition to better substitutes is managed carefully. This is the first time all countries of the world, including China, India, Indonesia, and the US, agreed to binding and enforceable climate mitigation obligations.

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[5] Pandolfi, *et al.*, *Global Trajectories of the Long-Term Decline of Coral Reef Ecosystems*, SCIENCE, Vol. 301, no. 5635, pp 955-958 (15 August 2003); and Coral reef destruction: the causes of coral bleaching. http://www.library.thinkquest.org.

Montreal Protocol is the world's best climate treaty—so far.

It is significant to understand that the ozone treaty, throughout its 20 years of operation, has become the best environmental treaty in the world, and—for the moment at least— the best climate treaty as well. It has reduced climate emissions by a net of 135 billion tons of carbon-dioxide equivalent between 1990 and 2010, and delayed climate change by up to 12 years, keeping us from many of the tipping points for abrupt climate change. (Recall that Kyoto is seeking a total of 5 billion tons of carbon-dioxide equivalent, at the rate of 1 billion tons per year from 2008-2012.)[6]

Overall, protecting the ozone layer is delaying climate change by 35-41 years when earlier voluntary efforts and national measures are considered along with the Montreal Protocol. These combined efforts to phase-out ozone-depleting substances have solved a piece of the climate problem that otherwise would have grown to nearly equal today's CO_2 contribution, while also starting the ozone layer on the path to recovery later this century.[7]

Other "fast start" strategies for strengthening climate mitigation under the Montreal Protocol.

There are other "fast start" strategies for strengthening the Montreal Protocol to do still more for climate mitigation, including:

- Further accelerating the phase-out of the remaining ozone-depleting and climate-warming substances;
- Tightening exemptions for essential and critical uses, as well as for chemical feedstocks and process agents;
- Strengthening efforts to combat illegal trade; and
- Regulating HFCs under the Montreal Protocol or under a Montreal Protocol-type regulatory regime so they can be phased-out, rather than traded as one of the six Kyoto basket gases. (HFCs are substitutes for CFCs and HCFC, with high global warming potential. But because they do not have any ozone depleting potential, they were originally left out of the Montreal Protocol and put into Kyoto.)

There are many lessons from the Montreal Protocol that can help us as we negotiate the next climate treaty. I will discuss several later in my testimony.

Other "fast start" strategies.

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[6] *See* Guus J. M. Velders, *et al.*, *The Importance of the Montreal Protocol in Protecting Climate*, 104 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 4814 (2007); and Donald Kaniaru, Rajendra Shende, Scott Stone & Durwood Zaelke, *Frequently Asked Questions: Strengthening the Montreal Protocol by Accelerating the Phase-Out of HCFCs at the 20th Anniversary Meeting of the Parties*, in Donald Kaniaru, Ed., THE MONTREAL PROTOCOL: CELEBRATING 20 YEARS OF ENVIRONMENTAL PROGRESS – OZONE LAYER AND CLIMATE CHANGE (Cameron May 2007).

[7] *Id.*

Other "fast start" strategies include energy efficiency. The June 2007 *G8 Summit Declaration* states that "Improving energy efficiency worldwide is the fastest, the most sustainable and the cheapest way to reduce greenhouse gas emissions and enhance energy security … [and] could contribute to 80% of avoided greenhouse gases while substantially increasing security of supply."[8] Energy efficiency also has strong co-benefits, including lower operating costs, lower conventional air pollution, and increased energy security. These strong co-benefits can contribute to the sustainable development agendas of developing countries, and help us become more competitive globally, even as we become more sustainable.

Another "fast start" strategy is to reduce black carbon, or soot from industrial pollution. Dr. Hansen says black carbon air pollution may be the second most important contributor to climate change.[9] Black carbon contributes to climate change in two ways. It is an aerosol that traps heat. And when it is washed out of the atmosphere by rain and snow and is deposited on snow and ice, it changes their reflectivity, or albedo. When snow and ice become darker, they absorb more heat, and further accelerate global warming, contributing to the record ice melts we are now observing.

Black carbon also contributes to air pollution linked with up to a million deaths per year in China alone. Cleaning up black carbon will bring both immediate climate mitigation, and immediate health co-benefits, especially in the developing world. But black carbon does not appear to be on the world's climate agenda, and was not discussed at Bali.

Another "fast start", and low tech, strategy, is to improve the management of the world's forests. If we can balance tree planting with tree harvesting—that is, if we can manage our forests in a sustainable way—we can solve 20% of the climate change problem. Forests also are important for adaptation, and tree planting along the coast of FSM would provide an important buffer against tidal surges and would enhance food security.

One neglected aspect of forest management is bio-char, also know as *terra preta*, black soil that stores tremendous amounts of carbon.[10] Originally practiced by the Amazonian Indians, bio-char

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[8] *G8 Summit Declaration*, at ¶¶ 46 and 62 ("62. The global potential for saving energy is huge. According to the International Energy Agency, successfully implemented energy efficiency policies could contribute to 80% of avoided greenhouse gases while substantially increasing security of supply."); *see also* Stephen Pacala and Robert Socolow, Stablization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies, 305 Science 968 (13 August 2004) at 968-69 ("Improvements in efficiency and conservation probably offer the greatest potential to provide wedges [to reduce climate emissions].").

[9] Reducing emissions of black carbon may be "the most effective way we know to retard Arctic warming." Charles Zender, Testimony for the Hearing on Black Carbon and Climate Change, U.S. House Committee on Oversight and Government Reform 6 (18 October 2007). *See also* Mark Z. Jacobson, Testimony for the Hearing on Black Carbon and Climate Change, U.S. House Committee on Oversight and Government Reform 12 (18 October 2007); S. Menon, J. Hansen, L. Nazarenko, and Y. Luo, *Climate Effects of Black Carbon Aerosols in China and India*, 297 SCIENCE 2250-2253 (2002); J. Hansen and L. Nazarenko, *Soot Climate Forcing via Snow and Ice Albedos*, PROC. NATL. ACAD. SCI. U.S.A. 423–428 (2004); IPCC, Fourth Assessment Report, Work Group I Report "The Physical Science Basic", Chapter 2: Changes in Atmospheric Constituents and in Radiative Forcing 163 (2007) *available at* http://www.ipcc.ch/ipccreports/ar4-wg1.htm.

[10] In 2007, Sen. Ken Salazar (D. Col.) introduced the Harvest Energy Act of 2007 (S. 1884), which provides $50 million in competitive grants, equally distributed across fiscal years 2008-2012, to fund the development of bio-char production systems on multiple scales.

is produced by the low-tech process of burning organic matter in the presence of little or no oxygen. Bio-char, the major byproduct of this process, is then plowed into the soil, increasing soil productivity while storing the carbon from the organic matter for hundreds to thousands of years. A leading expert at Cornell University reports that if we replaced slash-and-burn agriculture with slash-and-char, we could reduce global carbon emissions by 12%.[11]

Enhanced growth of coral reefs also should be expanded, and, along with efforts to protect coral reefs, should be eligible for credits under the Clean Development Mechanism.[12]

For FSM in particular, our highest priority for a "fast start" strategy is achieving energy independence by replacing oil-burning generators with clean energy technologies. The Compact earmarks US grant support in the environmental sector grant for this purpose, and makes available to FSM US "projects, studies and conservation measures" for alternate energy development.[13] This should begin with the development of a National Action Plan for Adaptation, and FSM feels it would be appropriate to look to the US for financial and technical support for such a plan, due to our common goals of long-term security in the region.

There are many other "fast start" strategies, including some already underway, such as the US EPA's Methane-to-Markets strategy, and its strategy for addressing PFCs from aluminum smelting. Japan and the European Union also have many fast start strategies under way or under review.

All need to be accelerated, with further funding, more capacity building, more pilot projects, and other aggressive strategies for spreading the best practices to reduce climate emissions throughout the world, focusing on those with the fastest mitigation potential, and the strongest co-benefits for developing countries.

Other benefits of "fast start" strategies.

In addition to keeping us from passing the tipping point for abrupt climate change until we can develop and deploy the mid and long-term climate solutions, "fast start" strategies will help us gather concrete data regarding the technology, cost, and management skills associated with these strategies—information that we will need to have in order to deploy such strategies on a global scale. At the Bali talks, this kind of concrete data was generally missing, and the Parties too often were left with only rhetorical statements.

"Fast start" strategies also will let us build stronger working relations with partners around the world, including scientists, engineers, and managers in the private and public sector, as we work together side-by-side to solve concrete climate problems. This will help us build the trust and confidence we need to reach our more ambitious goals in the future, including the possibility that

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[11] Johannes Lehmann and John Gaunt, Marco Rondon, *Bio-char Sequestration in Terrestrial Ecosystems – A Review*, MITIGATION AND ADAPTATION STRATEGIES FOR GLOBAL CHANGE, 11: 403-427, at 1 (Springer 2006).

[12] Pandolfi, *et al.*, *Global Trajectories of the Long-Term Decline of Coral Reef Ecosystems*, SCIENCE, Vol. 301, no. 5635, pp 955-958 (15 August 2003); and Coral reef destruction: the causes of coral bleaching. http://www.library.thinkquest.org.

[13] U.S. Public Law 108-188, amended Compact , section 221(e).

we may have to move to carbon-negative strategies someday, *i.e.*, more than a 100% reduction in emissions—something we'd do well to study and experiment with now.

Other lessons from the Montreal Protocol ozone treaty.

As the most successful environmental treaty, and the most successful climate treaty—so far—the Montreal Protocol needs to be studied carefully so we can learn why it has been so successful in phasing out 96 chemicals in more than 240 industry sectors. We need to bring these lessons of success into the climate negotiations, as soon as possible.

Micronesia co-sponsored a seminar in Bali on the lessons of the Montreal Protocol for climate change, along with Argentina, Sweden, and the United States. A report on the key lessons appeared on February 15, 2008, in UNEP's *OzoNews,*[14] and can be summarized as follows:

First, the climate problem is not one big problem with one big solution. It is a series of discrete problems, with discrete solutions. It is important to disaggregate the climate problem by breaking it down into manageable pieces, so that governance measures—including Montreal Protocol-type regulatory measures—can be tailored to fit the specific source, sink, or sector. This will allow us to focus on the specific technology needed for the specific part of the problem, and to identify the specific countries that must reach an agreement in order to make the solutions work. Only a relatively small number of countries are needed to negotiate the best climate governance system for aluminum, for example, or for steel.

Second, the Montreal Protocol follows a "start and strengthen" approach, with a governance system that is dynamic and evolutionary, that learns by doing, and that can be quickly strengthened through a unique "adjustment" procedure that allows Parties to accelerate by consensus the control measures that apply to chemicals already regulated. Such treaty adjustments take effect in 6 months without ratification in capitals, with the option for Parties to affirmatively opt out. This approach will be important for climate governance as well, and could incorporate the "fast start" strategies recommended here, even as the broader climate treaty is being negotiated.

Third, the Montreal Protocol is a governance system that treats all Parties fairly and that fully implements the principle of common but differentiated responsibility, through a 10-year grace period for developing country phase-outs, a dedicated Multilateral Funding mechanism with a democratic decision-making procedure (i.e., equal representation from developing and developed country Parties, with a majority of each group required for decision), and a 3-year replenishment cycle to pay agreed incremental costs, which are calculated through an independent assessment by the Montreal Protocol's Technology and Economic Assessment Panel (TEAP). The principle is further supported by a spirit of cooperation and trust developed through 20 years of success. Future funding mechanisms to assist developing countries adapt to and mitigate climate change should be informed by and modeled after the Montreal Protocol's Multilateral Funding

[14] *See also* http://www.igsd.org/ (containing select PowerPoint presentations from Bali seminar on lessons of Montreal Protocol for climate negotiations).

mechanism.[15] Funding for national climate focal points should be provided, as is done by the Multilateral Fund, to ensure the rapid diffusion and absorption of technologies needed for mitigation and adaptation. The US and other donor countries also should have the option of providing a percentage of their funding bilaterally, as is done under the Montreal Protocol Multilateral Fund, with a portion of this funding dedicated to small island developing States, which are the most vulnerable developing countries.

Fourth, the Montreal Protocol Parties are kept up to date by the best available, real-time information, including unpublished information, on science, technology, and the economics of ozone-friendly technologies and their accessibility. This done through annual reports prepared by the TEAP, and their Technical Options Committees (TOCs). The success with this approach suggests the following lessons for climate negotiations:

- The IPCC takes four years to prepare its assessments, and should be supplemented with an annual process like the TEAP;
- Sectoral technical options committees (TOCs) should be set up for the most significant sources, sinks, and sectors;
- Reports of the TEAP and TOCs should be placed before the Parties without any editing from governments;
- Both regulatory measures, like Montreal's phase-outs, and market-based measures, like cap-and-trade, are needed to solve pieces of the climate problem, and these two types of governance approaches need to be coordinated to avoid perverse incentives (such as the perverse incentive under the Kyoto's Clean Development Mechanism which is encouraging expanding production of HCFCs to earn credits for destroying the HFC-23 by-product.); and
- The Montreal Protocol's successful approach to compliance is based on providing compliance assistance to help Parties achieve the mandatory targets and timetables of the ozone treaty, with trade sanctions as a backup for willful non-compliance. The full range of compliance approaches should be considered during the climate negotiations, including the possibility of sanctions for willful non-compliance, for example, fines or penalties that are dedicated to adaptation.

The need for a strong governance platform that can be scaled up quickly as "political will" grows.

"Political will" for climate governance comes from science showing us a preview of the future if we do not act responsibly today. It comes from educating the world's policymakers, and ultimately the citizens of the world, through our universities, think tanks, and non-governmental

[15] *See generally*, Stephen O. Andersen, K. Madhava Sarma, and Kristen N. Taddonio, TECHNOLOGY TRANSFER FOR THE OZONE LAYER: LESSONS FOR CLIMATE CHANGE (Earthscan 2007), and Donald Kaniaru, ed., THE MONTREAL PROTOCOL: CELEBRATING 20 YEARS OF ENVIRONMENTAL PROGRESS – OZONE LAYER AND CLIMATE CHANGE (Cameron May 2007); *see also A Tale of Two Cities: Lessons for Climate Negotiators*, by Romina Picolotti, Argentina's Minister of Environment, *MEA Bulletin*, Issue No. 37 (29 November 2007) (" A key role of modern environmental law is to harness and direct the power of optimism as well as fear, thus driving markets to a tipping point where they necessarily innovate and provide the environmentally superior solutions we need – essentially, a Moore's Law for climate solutions.).

organizations, and through the growing climate sophistication of the global media. It comes from engineers and venture capitalists who can envision future markets for clean energy and other climate friendly technologies and products, and who can show policymakers and citizens that solutions will come faster if policymakers build strong yet flexible governance structures.

Political will also comes, even for the skeptics, from the physical impacts themselves, as the climate system shows us its increasingly unstable and violent side. But by then it may be too late for many of the low-lying countries of the world, including Micronesia.

But political will also comes from leadership, and we are optimistic about climate leadership in the US, including from Congress, as this hearing shows. Strong leadership from the US is key to strong international commitments in the Bali treaty process under the UN. This leadership can come from the next US President, or it can come from the US Congress. We hope it comes from both.

US leadership can be the catalyst for a tipping point in climate governance, which in turn can produce a tipping point in technological innovation—the equivalent of Moore's Law for computer technology, [16]but in this case for clean energy and other climate friendly technologies.[17]

This is what we need, and this is what we know the US, more than any country in the world, is capable of providing, including leadership for the "fast start" strategies needed to avoid abrupt climate change.

Thank you.

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[16] Gordon Moore, the co-founder of Intel, predicted in 1965 that computer chip capacity would double ever two years; this is known as "Moore's Law." *See* http://www.intel.com/technology/mooreslaw/index.htm.

[17] *See generally*, Stephen O. Andersen, K. Madhava Sarma, and Kristen N. Taddonio, TECHNOLOGY TRANSFER FOR THE OZONE LAYER: LESSONS FOR CLIMATE CHANGE (Earthscan 2007), and Donald Kaniaru, ed., THE MONTREAL PROTOCOL: CELEBRATING 20 YEARS OF ENVIRONMENTAL PROGRESS – OZONE LAYER AND CLIMATE CHANGE (Cameron May 2007); *see also A Tale of Two Cities: Lessons for Climate Negotiators*, by Romina Picolotti, Argentina's Minister of Environment, *MEA Bulletin*, Issue No. 37 (29 November 2007) (" A key role of modern environmental law is to harness and direct the power of optimism as well as fear, thus driving markets to a tipping point where they necessarily innovate and provide the environmentally superior solutions we need – essentially, a Moore's Law for climate solutions.").

Mr. FALEOMAVAEGA. Thank you, Mr. Ambassador.

Her Excellency Marlene Moses, the Ambassador of the Republic of Nauru, for her statement.

STATEMENT OF HER EXCELLENCY MARLENE MOSES, PERMANENT REPRESENTATIVE OF THE REPUBLIC OF NAURU

Ambassador MOSES. Thank you, Mr. Chairman, honorable members of the subcommittee. I bring warm and friendly greetings from His Excellency President Marcus Stephen, the Government and people of Nauru. We are honored and glad to share our perspectives on climate change.

Nauru is a proud member of the United Nations and a charter member of the Alliance of Small Island States. Climate change has been our primary preoccupation for the past three decades. We are among the most vulnerable countries, and our national survival literally depends on how you respond to climate change in the next few years.

Our situation is dire, Mr. Chairman. Our island home in the South Pacific is fringed by a narrow rim where our people live just a couple of meters above sea level. The elevated center of our island is an exhausted phosphate mine. All that remains there are tall pinnacles of ancient coralstone.

Global warming will raise sea level by one meter in this century, which will flood our only habitable land. Our people are trapped between the rising sea and an ancient, uninhabitable coral field.

We have a saying in our Nauru. Nauru is small, but sandy. We are few in numbers, but we are a gritty people, able to rise to great challenges. We are working hard to rehabilitate our island and create a safe and sustainable haven from the rising sea. We have little time, but a worthy plan.

The coralstone pinnacles left behind after phosphate mining can be cut into stones and tiles that are strong, beautiful and valuable. We are building an industry based on processing and exporting these coralstone products and will use the proceeds to rehabilitate our island home. We invite you to participate in this hopeful and historic venture.

Mr. Chairman, you asked how the United States can advance international cooperation on climate change. Acknowledgement of the historic contribution of the United States to climate change and a pledge to help the most vulnerable nations of the world adapt will win the hearts and minds of all people.

Mr. Chairman, you also asked whether the United States could fruitfully engage with the Alliance of Small Island States on climate change. Yes, by all means. We want to talk at you.

And you asked how the United States and the United Nations can work together to protect vulnerable societies. We respectfully suggest two parallel fronts: Adaptation and mitigation.

On the first front, reach out to the most vulnerable peoples of the world and help them adapt to the catastrophes of climate change. We do not seek handouts. For Nauru's part we seek only the seed funding needed to initiate a profitable coralstone industry that will enable us to restore our island on our own without further international assistance.

On the second front, the United States can help mitigate climate change by taking the steps that scientists say are essential. Greenhouse gas emissions must be cut by up to 80 percent in the next few decades just to stabilize their concentration in the atmosphere enough to avoid catastrophic global warming. Economists say you can do this profitably if you start soon and act with determination.

Finally, Mr. Chairman, you asked what steps the United States might take in response to the U.N. Climate Change Conference held in Bali in December 2007. Above all, the United States can lead the negotiation of a robust treaty to succeed the Kyoto Protocol after 2012, a treaty that contains clear and effective targets and timetables for emission reductions based on scientific evidence, strong measures to develop and disseminate clean technologies and an enhanced action plan for adaptation assistance, including meeting the urgent and immediate needs of vulnerable countries such as small island developing states.

We are ready to do our part, Mr. Chairman, and we look forward to the emergence of an effective global climate regime under the leadership of your great country.

Thank you, Mr. Chairman.

[The prepared statement of Ambassador Moses follows:]

PREPARED STATEMENT OF HER EXCELLENCY MARLENE MOSES, PERMANENT REPRESENTATIVE OF THE REPUBLIC OF NAURU

Mr. Chairman The Honourable Eni Faleomavaega,
Honourable Committee Members,
Distinguished Ladies and Gentlemen:

On behalf of His Excellency President Marcus Stephen, the Government and people of Nauru, I bring you warm and friendly greetings. We are honoured and appreciate this chance to share our perspectives on climate change.

Nauru is a proud member of the United Nations and a charter member of the Alliance of Small Island States. Climate change has been our primary preoccupation for nearly three decades. We did not produce or benefit from the greenhouse gases that are causing the earth to warm, yet we are among the countries most vulnerable to the costs. Our national survival literally depends on how you respond to climate change in the next few years.

Consider our situation, Mr. Chairman. Our island home in the South Pacific is fringed by a narrow rim where our people live just a couple of meters above sea level. The entire elevated center of our island is an exhausted phosphate mine; all that remains there are tall pinnacles of ancient coralstone. Global warming is predicted conservatively to raise sea level by one meter in this century, which will flood our only habitable land. Our people are trapped between the rising sea and an ancient, uninhabitable coral field.

We have a saying in our country: Nauru is "small but sandy." We may be few in numbers, but we are a gritty people, capable of rising to great challenges. We are working hard to rehabilitate our island and create a safe and sustainable haven from the rising sea. We do not have much time, but we have a plan. The coralstone pinnacles left behind after mining can be cut into stones and tiles that are strong, beautiful, and valuable. We are building an industry based on processing and exporting these coralstone products, and will use the proceeds to rehabilitate our island home. At the same time we are beginning secondary phosphate mining, which will help prepare the ground for reforestation and rehabilitation.

We invite you to participate in this hopeful and historic venture. We see three possible avenues for cooperation between our countries. The first is joint implementation (JI) under the climate convention. As you know, JI enables an emitting country such as the United States to gain greenhouse gas credits by implementing greenhouse gas reduction projects jointly in other countries, such as Nauru. Reforestation of Nauru's topside would absorb significant quantities of greenhouse gases, which could make it an attractive JI project for the United States.

Second, direct funding assistance towards rehabilitation and the coralstone project would help us get this project off the ground. Third, we are open to public or private joint ventures with the United States government or private companies.

Mr. Chairman, you asked how the United States can advance international cooperation on climate change. You could begin by acknowledging the historic contribution of the United States to climate change and pledging to help the most vulnerable nations of the world adapt to its consequences. With this simple, single step you will win the hearts and minds of all people.

Mr. Chairman, you also asked whether the United States could fruitfully engage the Alliance of Small Island States on climate change. Yes, by all means; we want to talk with you. And you asked how the United States and the United Nations can work together to protect vulnerable societies. We respectfully suggest two parallel fronts: adaptation, and mitigation.

On the first front, reach out to the most vulnerable peoples of the world, and help them *adapt* to the catastrophes of climate change. We do not seek handouts—for Nauru's part, we seek only the seed funding needed to initiate a profitable coralstone industry that will enable us to restore our island *on our own*, without further international assistance.

On the second front, the United States can help *mitigate* climate change by taking the steps that scientists say are essential. Greenhouse gas emissions must be cut by up to 80% in the next few decades just to stabilize their concentration in the atmosphere enough to avoid catastrophic global warming. Economists say you can do this profitably if you start soon and act with determination.

Finally Mr. Chairman, you asked what steps the U. S. might take in response to the United Nations Climate Change Conference held in Bali in December of 2007. Above all, the United States can lead the negotiation of a robust treaty to succeed the Kyoto Protocol after 2012. A robust treaty will contain clear and effective targets and timetables for emission reductions based on scientific evidence; strong measures to develop and disseminate clean technologies; and an enhanced action plan for adaptation assistance, including—as the Bali Action Plan indicates—consideration of the *"urgent and immediate needs"* of vulnerable countries such as *"small island developing States."*

We are ready to do our part, Mr. Chairman. We anticipate with the greatest pleasure the coming creation of an effective global climate regime under your leadership.

Thank you, Mr. Chairman.

Mr. FALEOMAVAEGA. Thank you, Madam Ambassador.

Ambassador Elisaia of the Independent State of Samoa for his statement.

STATEMENT OF HIS EXCELLENCY ALI'IOAIGA FETURI ELISAIA, PERMANENT REPRESENTATIVE OF THE INDEPENDENT STATE OF SAMOA

Ambassador ELISAIA. Honorable chairman, colleagues and friends, this is a momentous occasion in the relationship between the United States and the Pacific island nations. Today's hearing underpins a new sense of urgency in a partnership we a trying to breathe new life into to make it meaningful and real.

I am particularly conscious that this building and this debating chamber are sacred grounds that must be treated with the greatest of respect. I thank you, Chairman, therefore for giving Samoa special leave to be part of this process so that its voice can be heard not alone in isolation, but in unison and in harmony with those of its other fellow Pacific neighbors.

Mr. Chairman, today we have started a conversation. I hope this is but the beginning of sustained and greater engagement between your government and ours. As part of the conversation, my colleagues before me have spoken eloquently on the special challenges that confront our islands.

Because we are ecologically fragile and vulnerable and our small size, limited resources, geographic dispersion and isolation for mar-

kets will place us at a disadvantage. Moreover, our islands are most affected by the impact of climate change, yet contributed the least to what is happening and are often least able to respond and adapt.

The causes of climate change and those responsible for it, the threats it poses and the solutions to mitigate and adapt against its negative impacts are all well documented, duly validated by real life experiences and now the science, and already a matter of public record for open scrutiny.

I will therefore not belabor the same points already advocated by my colleagues. After all, the honorable chairman and some of your committee members are already aware and well versed of the issues under consideration and how they impact on economic, political and social aspects of the United States life in general.

For that reason, my input to our conversation will be to focus instead on one critical missing building block of the Bali Road Map which, once achieved and in place, will result in other pieces of the jigsaw falling into place.

Mr. Chairman, as you yourself mentioned earlier, under the Bali plan of action four interrelated building blocks which will be the basis of the negotiations in the next several months are adaptation, mitigation, technology and finance. The fifth and missing ingredient of the Bali Action Plan, Samoa believes, is a strong United States Government leadership role in the overall climate change agenda.

Mr. Chairman, in Bali the world leaders spoke with unanimity and one voice. Their message was simple, yet forceful. Climate change is real, irreversible and is already happening. Its impact threatens the survival of small island developing states and other vulnerable groups. It is the single most urgent challenge confronting mankind and one that demands an immediate, concerted and decisive global response to address it successfully.

For Samoa, the historic achievements of the Bali Conference included the unanimous approval of the Bali Action Plan, the operationalization of the Adaptation Fund and Australia's ratification of the Kyoto Protocol. These are important milestones because singularly and collectively they demonstrated in a forceful way that where there is a political will and government leadership there definitely is a way.

Why political will? I say political will because the Bali Road Map and the Adaptation Fund both involved intense, last-minute dramatic and long, drawn-out negotiations. The fact that they were adopted by consensus despite the competing viewpoints and sometimes intractable positions of the different stakeholders speaks volumes of the decency and the desire of the U.N. membership to agree and reach workable accommodations.

But what does political will have to do with Australia ratifying the Kyoto Protocol some may ask? Some may beg to differ. For me, the fact that the first foreign policy act of the government of Kevin Rudd was to ratify the Kyoto Protocol with or against the weight of available scientific evidence and advice can only mean one thing. The decision to join the Kyoto Protocol represents a bold type of leadership with a sense of responsibility in tackling climate change.

Mr. Chairman, Samoa submits that while the near universality of the membership of the Kyoto Protocol is to be commended, that alone, regrettably, will not guarantee that climate change can be tackled successfully. Why? Because climate change requires a global solution, one with the United States of America taking its rightful place as an integral, central and leading player in the process.

The truth is simple. As long as the United States remains sidelined in the post Kyoto negotiations that will commence in earnest soon, irrespective of its valid and legitimate reasons, the United States will not be in a position of leadership commensurate with its world stature to shape and influence the final outcome and be part of the solution and not the problem.

Mr. Chairman, perception is a strong and powerful determinant in any relationship. Founded or unfounded, it can ruin hard earned gains and trust between and amongst friends.

The Pacific island nations in varying degrees feel that the United States, once their closest ally and protector during the high and low tides of their journey of statehood, is gradually losing interest in some of their critical issues and challenges. Climate change is one candidate that continues to test the resilience of the relationship and at times a source of simmering frustration and uncertainty.

Paradoxically, the Pacific nations with their inherent vulnerabilities and resource constraints have continued to shoulder faithfully and politely their allocated share of the load in the global fight against terrorism and other challenges the United States is leading. This is notwithstanding the perception in some island countries that the priority sequencing of their needs includes development, climate change, human rights and security in that order.

Mr. Chairman, it is our humble view that the United States should take a clear lead in the interconnected and mutually reinforcing areas I have listed, but not in just a few selected ones. We continue to maintain that climate change, like other global challenges, crosses borders uninvited with no respect for national sovereignty.

It does not discriminate countries between rich or poor, large or small and whether resilient or vulnerable to its impacts. Its dire consequences are real and everywhere for all to see, including those who would prefer to remain unconvinced. Climate change cannot be wished away, and even those countries which have been in self-denial to date must accept that global warming is unequivocally the result of human activities.

We should be cautious of those who exploit the traditional divide between developed and developing countries and the ideological and political differences because some do so conveniently to mask their unwillingness to be part of the solution to an impending catastrophe.

Climate change is a societal problem requiring a decisive response from the world community. It is a global challenge that should unite us, the United States and the Pacific Islands, together, not divide us.

Mr. Chairman, why the need for a global solution? The answer is obvious. No country can deal with the problem alone. Interdependence is the norm, and none is immune from the reaches of

the global problems challenging our very existence. We must work cooperatively in a partnership of common but differentiated responsibilities and respective capacity if we are to succeed.

Apportioning blame for past wrongs will be counterproductive. They will not restore our environment to its early pristine state. Mere rhetoric and grandstanding is over, and time is fast running out. We need everyone's input, developed and developing countries alike, for many hands make light work. As history has shown, no one country, however powerful and willing, can remain aloof forever and be able to solve all these problems on its own.

Underscoring this is the important role of nations in key positions of leadership to the achievement of the objectives of our United Nations, whether in peacekeeping, the environment, poverty alleviation, the fight against terrorism and many other challenges that threaten our world.

They must lead by good example, make decisions and take action based on well-founded conviction that these are morally and ethically correct for the ultimate benefit of mankind.

Mr. Chairman, in the same self spirit Samoa sincerely hopes that through this hearing the United States Government will find it in its heart of hearts to lead the charge in finding and implementing solutions to the causes of climate change, but such a role could prove inhibited and limited if performed outside the United Nations' existing climate change framework. Hence, it goes without saying that a greatly enhanced and effective role for the United States would be as a party to the Kyoto Protocol.

As present custodians of the world's environment, we owe it to our children and future generations to do what needs to be done quickly and decisively before we run out of time. It is therefore imperative to complete a post 2012 climate change agreement that is effective, binding, capable of swift implementation and universally owned and respected by the 192 U.N. member states.

Mr. Chairman, let me make a confession before concluding. You see, under any other setting I would have been overly diplomatic and less bold in my plea for the United States to be a party to the Kyoto Protocol and for it to assume its rightful place in the global fight against climate change.

But as said earlier, we have now started a conversation amongst friends which I hope will not be the last. Let us sustain the momentum generated by this hearing so that years from now something positive will have come out of it. After all, a journey of 1,000 miles starts with the first step.

Let this hearing be that first but critical step in our uncharted journey from here onwards to Copenhagen so that we will have in place a climate regime that guarantees that everyone, every country, every region and every civilization is a winner.

Finally, Mr. Chairman, let me state the obvious. You and I are blood brothers from the same land sharing the same dreams, aspirations and the same inheritance. The United States and Independent State of Samoa are neighbors. We fight the same wars, face the same problems and confront the same challenges. Your problems are my problems, and my challenges are your challenges.

Samoa looks toward the United States for strong and decisive leadership in our collective fight against climate change. The Pa-

cific island nations, ably represented here today, do likewise. Please do not let us down.

I thank you graciously for giving Samoa a hearing.

[The prepared statement of Ambassador Elisaia follows:]

SAMOA

STATEMENT BY

H.E. MR. ALI'IOAIGA FETURI ELISAIA
SAMOA'S AMBASSADOR TO THE UNITED STATES OF AMERICA AND PERMANENT REPRESENTATIVE TO THE UNITED NATIONS

BEFORE THE

COMMITTEE ON FOREIGN AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES

SUBCOMMITTEE ON ASIA, THE PACIFIC, AND THE GLOBAL ENVIRONMENT

Climate Change and Vulnerable Societies:
A Post-Bali Overview

FEBRUARY 27, 2008

Please check against delivery

PERMANENT MISSION OF SAMOA TO THE UNITED NATIONS
800 Second Avenue, Suite 400J • New York, N.Y. 10017 • Tel.: (212) 599-6196 • Fax: (212) 599-0797

Mr. Chairman,
Members of the Subcommittee on Asia, the Pacific and the Global Environment,
Dear Colleagues and friends.

This is a momentous occasion in the relationship between the United States and Pacific island nations. Today's hearing underpins a new sense of urgency in a partnership we are trying to breathe new life into, to make it meaningful and real. I am particularly conscious that this debating chamber is scared grounds that must be treaded with the greatest of respect. I thank you Chairman therefore for giving Samoa special leave to be part of this process so that its voice can be heard, not alone in isolation, but in unison and in harmony with those of its other fellow Pacific neighbors.

Mr. Chairman,

Today, we have started a conversation. I hope this is the beginning of frequent engagements between your government and ours.

As part of the conversation, my four colleagues before me have spoken eloquently on the special challenges that confront our islands. We are ecologically fragile and vulnerable, and our small size, limited resources, geographic dispersion and isolation from markets, place us at a disadvantage. Moreover, our islands are most affected by the impact of climate change, yet contributed the least to what is happening and are often least able to respond and adapt.

The causes of climate change and those responsible for it, the threats it poses and the solutions to mitigate and adapt against its negative impacts are all well documented, validated by real life experiences and science, and now a matter of public record for open scrutiny.

I will therefore not belabor the same points advocated by my colleagues. Honorable Committee members understand well the issues raised and how they impact on the economic, political and social life of the United States. To add value to our conversation, I will focus instead on one critical missing building block of the Bali Roadmap, which once in place, could well result in other pieces of the jigsaw puzzle falling in place.

Mr. Chairman,

Under the Bali Plan of Action, the agreed building blocks which will be the basis of the negotiations in the next several months are *(i) adaptation, (ii) mitigation, (iii) technology and (iv) finance.*

The fifth and missing ingredient of this roadmap, Samoa believes, is a strong United States Government leadership role in the climate change agenda.

Mr. Chairman,

In Bali, the world leaders spoke with unanimity and one voice. Their message was simple, yet forceful. Climate change is real, irreversible and is already happening. Its impact threatens the survival of small island developing states and other vulnerable groups. It is the single most urgent challenge confronting mankind, and one that demands an immediate, concerted and decisive global response to address it successfully.

For Samoa, the historic achievements of the Bali Conference, included

- the unanimous approval of the Bali Action Plan,
- the operationalization of the Adaptation Fund, and
- Australia's ratification of the Kyoto Protocol.

These are important milestones in their own rights. Singularly and collectively, they demonstrated in a powerful way that "*where there is a political will and government leadership, there definitely is a way*"

Why political will?

I say political will because the Bali Road Map and the Adaptation Fund both involved intense, last-minute dramatic and long-drawn out negotiations. The fact that they were adopted by consensus despite the competing viewpoints and sometimes intractable positions of the different stakeholders speaks volume of the noble intensions and desire of the UN membership to agree and reach workable accommodations.

But what has political will got to do with Australia ratifying the Kyoto Protocol? one may ask

Some may beg to differ. For me, the fact that the first foreign policy act of the Government of Kevin Rudd was to ratify the Kyoto Protocol, with or against the weight of available scientific evidence and advice, can only mean one thing. The decision to join the Kyoto Protocol represents a bold type of leadership with a deep sense of responsibility to tackle climate change.

Mr. Chairman,

While the near-universality of the membership of the Kyoto Protocol is to be commended, that alone will not guarantee that climate change can be tackled successfully.

Why?

Because climate change requires a global solution, one with the United States of America taking its rightful place as an integral and leading player in the process. The truth is simple. As long as the United Sates remains sidelined in the post-Kyoto negotiations that will commence in earnest soon, irrespective of its valid and legitimate reasons, it will not be in position of leadership,

commensurate with its world stature, to shape and influence the final outcome and be part of the solution and not the problem.

Mr Chairman,

Perception is a powerful determinant in any relationship. Founded or unfounded, it can ruin hard-earned gains of trust between, and amongst friends.

The Pacific island nations, in varying degrees, feel that the United States, once their closest ally and protector during their journey of statehood, is gradually losing interest in some of the critical issues and challenges that really matter. Climate change is one candidate that continues to test the resilience of this relationship and at times a source of simmering frustration and uncertainty.

Paradoxically, the Pacific countries with their inherent vulnerabilities and resource constraints, have continued to shoulder faithfully and graciously their allocated share of the load in the global fight against terrorism, and other challenges the United States is leading. This is in spite of the perception by island nations that the sequencing of their priority needs includes development, climate change, human rights and security in that order.

Mr. Chairman,

It is Samoa's view that the United States should take the clear lead in the interconnected and mutually reinforcing areas just listed, but not in a selected few. We continue to maintain that climate change, like other global challenges, crosses borders uninvited with no respect for national sovereignty. It does not discriminate countries between rich or poor, large or small, and whether resilient or vulnerable to its impacts. Its dire consequences are real and everywhere for all to see, including those who would prefer to remain unconvinced. Climate change cannot be wished away, and even those countries which have been in self denial to date, must accept that global warming is unequivocally the result of human activities.

Climate change is a societal problem requiring a decisive response from the world community. It is a global challenge that should unite us, the United States and the Pacific islands together, not divide us.

Mr. Chairman,

Why a global solution?

The answer is obvious. No country can deal with the problem alone. Interdependence is the norm and none is immune from the reaches of global problems challenging our existence. We must work cooperatively in a partnership of common but differentiated responsibilities and respective capability, if we are to succeed. We need everyone's input, developed and developing countries alike

for as history has shown, no one country, however powerful and willing can remain aloof forever and be able to solve all these problems on its own.

Underscoring this is the important role of nations in key positions of leadership to the achievement of our collective objectives whether they be in peacekeeping, the environment, poverty alleviation, the fight against terrorism and many other challenges that threaten our world.

Mr. Chairman,

In the same spirit, Samoa hopes that through this hearing, the United States Government will find it in its heart of hearts to lead the charge to implement solutions against climate change. But such a role could prove limited and ineffective if performed outside existing United Nations climate change frameworks. Hence a greatly enhanced and effective role for the United States would be as a party to the Kyoto Protocol.

As present custodians of the world's environment, we owe it to our children and future generations to do what needs to be done quickly, and decisively, before we run out of time. It is therefore imperative to complete a post-2012 Climate Change agreement that is effective, binding, capable of swift implementation and universally owned and respected by the 192 UN member states.

Mr. Chairman,

Let me make a confession before concluding.

You see, under any other setting, I probably would have been overly diplomatic and less bold in my plea for the United States to be a party to the Kyoto Protocol and to lead the charge against climate change. But as I said earlier, we have begun a conversation amongst friends which I hope will not be the last. The challenge is to sustain the momentum generated by today's hearing so that years from now, something positive would have come out of it. "*A journey of a thousand miles starts with the first step*". Let this hearing be the first but critical step in our journey from here onwards to Copenhagen next year so that we will have in a place a climate regime that guarantees that everyone, every country, every region and every civilization is a winner.

Finally Mr. Chairman,

Let me state the obvious.

You and I are blood brothers, from the same land sharing the same dreams, aspirations and the same inheritance. The Unites States and the Independent State of Samoa are neighbors. We fight the same wars, share the same ocean, face the same problems and confront the same challenges. Your problems are my problems and my challenges are your challenges.

Samoa looks towards the United States for strong and decisive leadership in the fight against climate change, the Pacific island nations also, ably represented here today, do likewise. Please do not let us down.

I thank you graciously Mr. Chairman and your Committee for giving Samoa a hearing.

Soifua.

Mr. FALEOMAVAEGA. I would like to note the chairman of our House Foreign Affairs Committee, our newly-selected chairman of the House Foreign Affairs Committee because of the unfortunate loss and death of Congressman Tom Lantos who previously chaired the House Foreign Affairs Committee, now my colleague, Congressman Howard Berman, also from the state of California, now serves as acting, but he will be the newly appointed chairman of the House Foreign Affairs Committee.

The reason for my saying this is that this hearing has been a most unusual one. We don't usually do it as a matter of habit, inviting ambassadors from other countries to participate in hearings such as this.

But because of Chairman Berman's interest and concern of this very important issue in my capacity as chairman of this subcommittee and because of my personal attendance at the Bali Conference on the climate change issue that was held in Indonesia the leadership of the committee felt that it was important enough that having a direct say in the process, especially from all of you who are accredited, some of you not only to the United Nations, but also to the United States.

And I felt it very important the statements from your respective governments be made part of the record as part of the process of this subcommittee's activities in addressing the issues of global environmental issues.

I believe you may have heard already the testimony from Dr. Harlan Watson. The commitment that the United States has made is definitely in the process, for which I am very, very pleased and happy to learn from Dr. Watson's statement, and I believe you can understand and appreciate some of the concerns that we have had with the provisions of the Kyoto Protocol and why we were not able to accept some of the responsibilities and provisions attending the Kyoto Protocol.

But I think learning and hearing from Dr. Watson's testimony earlier this afternoon has given me a greater sense of encouragement and hopefully as an answer to some of the concerns and issues that you raise in your respective testimonies.

Ambassador Smith, I thought that your testimony about giving a human face to the issue of climate change absolutely without question, as I am sure that Dr. Watson and those of us who hold political office want to make sure that climate change is just not a nature-related scientific issue without putting human beings in as part of the process and part of the problem that we are trying to resolve.

I appreciate your invitation for members of this subcommittee to travel to Fiji and meet with some of your traditional leaders, and some of the things that you have said about what they have observed in the years that they have lived on the islands of Fiji.

You don't have to be a scientist to tell you that things are changing on the shores of some of these islands. As noted also by Ambassador Paul from the Republic of the Marshall Islands, I think there is a commonality obviously from the Pacific Region, which covers about one-third of the earth's surface.

I would like to ask all of you just a couple of questions. As you note, I have a very strong disagreement with one of my colleagues

here from California who thinks that this whole thing about climate change is nonsense.

Not being disrespectful to his views as a senior member of the Science and Technology Committee, there is this sense of debate going on among some of the scientists even in my own country, those who really believe that we do have a problem with climate change and others who feel otherwise.

I thought there was one good point that Congressman Rohrabacher said earlier about the fact that it seems that we are all focusing on this one thing about carbon dioxide as if that is really the cause of some of the problems that we are faced with as far as climate change is concerned.

We are all admitting we are not scientists, but in your own respective way you are policy makers. How do you balance the situation as noted by some of my colleagues stating that climate change really is not as serious as some scientists have said even with Vice President Al Gore's presentation of the now Oscar award-winning film of An Inconvenient Truth?

I would like to receive some of your comments in terms of what we have dialogued earlier with Dr. Watson and the efforts currently being made by President Bush and this administration.

I think as a result of the Bali Conference I come away a lot more confident and positive in the sense that this administration is very serious about addressing the issues of climate change and global warming.

In your involvement with the United Nations as a result of this United Nations PCCC series of meetings that were held, can you comment? I believe—Ambassador Elisaia, have you been involved in that directly?

Ambassador ELISAIA. Well, currently I represent the U.S. as a member of the bureau.

I think in response to your question, I think there is a common thread that is running across in terms of our presentations one common thread that comes out very loud and clear is that for the U.S. to have its voice heard on some of these concerns like some of the distinguished committee members had voiced, they have to actively participate inside the negotiations, and I think I myself also alluded to that fact.

As long as the U.S. is there for its views to be known it can also change, for instance, the final decision that has to come out, but you have to be there with the facts, with the scientific facts to prove your point of view.

I think this has been the common plea from all of us. While it is fair to say that there are people out there who still feel that it is baloney and therefore it is nonsense, I think you yourself said, Mr. Chairman, that you don't have to be a scientist to know it. We all come from the islands. We have seen it with our own eyes I know, some of the consequences of whatever name you want to call it—climate change, global warming or just the high tides.

Something must be responsible for it. Whether we can find out scientifically or through traditional knowledge, obviously there is something happening and that is why there is this cry, especially from the low-lying islands, that something ought to be done.

We have been told that part of the reason for this is because it is the consequence of the activities of some of the developed countries. It is not for us to dispute that, but I think what is important is that something is happening, and we can't keep on denying it.

I think more importantly, the U.S. has to take a leadership role and be actively involved so that both sides of the coin have been put on the table. Thank you.

Mr. SMITH. Thank you, Mr. Chairman. May I perhaps just add that the perception out there is that for the last 7 years the United States has not really played what the world thinks it should be doing, and that is the leadership role in matters such as climate change.

Whether or not the scientists agree or disagree is for us not the case. What we are saying is we can argue about climate change until the cows come home, but what we need to do is dialogue and debate rather than leaving the international community on one side and the United States on the other.

What we would like to see is a continuous dialogue between all stakeholders since we only have one earth to live on. Thank you, Mr. Chairman.

Mr. FALEOMAVAEGA. Ambassador Nakayama?

Ambassador NAKAYAMA. Thank you, Mr. Chairman. I am quite really alarmed by the contrary views that were expressed by some of your colleagues.

Just for example, it has not really come out as a focus of debate in the climate change, and that is the possibility of an abrupt climate change. For example, you put too much carbon dioxide in the air to the point where the ice sheets, the Arctic ice sheet, the Greenland ice sheet, the West Antarctica ice sheet, might just melt away. That is really bad for the islands. It causes the rise of sea, level of sea rising.

Some scientists predict that the Greenland ice sheet alone if it melts, it would translate into six to seven meters of higher sea level. That is only Greenland. Take the other ice sheets, the level will really be higher. Even a one meter higher sea level is already bad. It is already disastrous for small island countries like us.

So I think we ought to look very carefully at the warnings from the scientists, specifically James Hansen from the United States I think from the NASA Goddard Institute, who says that the given point for the disintegration of the Greenland ice sheet would be as near as 10 years, and that is very scary and alarming.

Unless the chairman is hearing contrary views from some of your colleagues, that scares me very much. Thank you.

Mr. FALEOMAVAEGA. Well, don't be scared, Mr. Ambassador, because this is what American democracy is all about.

Like I said, we do have a varied degree of opinions or judgments given by Members of Congress from one extreme to the other, and all in the effort of trying to arrive at what is the truth. I suppose that is really the essence of why some Members don't agree with some of these things because they receive a different body of facts and information that may be contrary to what others receive.

What I will say is that I feel encouraged because it is what this country—to put it another way, the economics on the one side of the aisle where some of my colleagues have made the argument

that it is okay to talk about climate change and global warming and the impact this will have on the environment and all of this.

At the same time too, what will this have as an impact in closing businesses, companies that produce energy, companies that provide for these resources? That makes the engine of the economy move that provides jobs and ultimately feeds people not just here in the United States, but all over the world.

So we continue to have this debate. I realize that it may have surprised some of you the way we express our feelings and emotions, but this is what it is like. Like I said, some issues I agree with my good friend from California and others I don't agree.

In this one instance I don't agree, but I have to remember that as a senior member of the Science and Technology Committee, which I am not, that he has access to more scientific information, more details, more information than I would because on the Foreign Affairs side, where we are both members, we talk about foreign policies but not about scientific information that in the 20 years he has served he has been very conscious of this issue.

But on the one hand too, as I have said earlier, the concern of some of the leaders of the United States and public policy makers is that it is fine and good if we control the climatic conditions by whatever we do, by reducing pollution and all this. The question is should the United States be the one doing it alone?

I think that was the very factor that caused us to have some very serious positions taken on the fact of putting us on hold, but not toward China or India, which are among the biggest polluters on the planet as well.

So I think this is where the challenge is. As Dr. Watson had said in his statement, which I think that these are the three things that are going to be looked upon very carefully to make sure that if we are going to be carrying the burden I want to make sure I think the better term is there is burden sharing.

If we are going to be taking some of this then the other countries should be taking it in a way that however we measure the conditions of pollution and whatever you want to say that it be measurable, that it is reportable and verifiable.

I think these are the issues that have concerns and just making sure that we are all playing from the same playing field. I feel that that was the position of some of our leaders, and I think even in this administration the President has taken, that the United States has been treated unfairly under the provisions of the Kyoto Protocol.

My criticism was the United States just leaving the table and not continuing the dialogue despite the concerns, which I agree that India and China should be pulled into the same situation because we are not the only polluters on this planet.

So I think with that overall concern that we try to figure how can we make this fair? Fairness because we have called the Major Economies Conference here in Washington, DC, and I think the President is looking at the big countries, the industrialized nations—Japan, India, countries that really make up the world's GDP, if you will.

But my concern is that it is fine to look at the industrialized countries, but what about the most vulnerable countries? I think

that is the very basis of why we are having this subcommittee hearing, and I sincerely hope that my colleagues and I will have an opportunity to come and visit you and your colleagues in New York at the United Nations and meet with the other members that come from the Caribbean, from the Indian Ocean, and I suppose there may be others that make up the 44 members of AOSIS.

I think it is important that you need to be very forceful in your concerns, and I hope that that was the case in the Bali Conference that AOSIS made its point very well and it was taken under full consideration by those who were in attendance at the Bali Conference.

I think generally this is what we are trying to get at. I do appreciate Ambassador Ali'ioaiga's plea to the extent that I thought it was very interesting that it was in the four critical areas that we talked about at the Bali Conference, but I guess the one fifth critical element that Ambassador Ali'ioaiga alluded to earlier that it is very critical for the United States to be a participant in whatever comes on the post Protocol dialogue and the negotiation, and I think Dr. Watson's testimony has made that fact that definitely the United States will be a participant.

I sincerely hope that in the coming months and what we might come to agreement with come next year in 2009 that whatever provisions that would be part of the post Kyoto Protocol that the concerns of the small island states are fully integrated into the negotiations.

I am absolutely certain and very appreciative of the fact that Dr. Watson has made it a point to listen to your testimony because I am very certain that he will definitely take this back to the White House and to senior members of the State Department to know the needs of the 44 small states are definitely not going to be missed or taken for granted, but definitely should be made part of the post Kyoto Protocol negotiations.

With that, I just wanted to note that. Ambassador Nakayama, did you——

Ambassador NAKAYAMA. Thank you very much. I apologize for asking to speak again, but I just would like to bring it to the table that the Bali Action Plan calls for enhanced actions and that the United States Government is endorsing or did endorse the action plan in Bali.

So in that regard it would be expected of the United States to perform in that sphere of enhanced action in supporting mitigation, adaptation, financing, technology transfer if all committed to that in the Bali Action Plan.

I just would like to make that. Thank you very much.

Mr. FALEOMAVAEGA. All right. Any further comments? We have completed the hearing this afternoon, and again thank you all, Your Excellencies, for taking the time to come and to testify.

I promise you that this is not the end. We will continue the dialogue. As part of my jurisdiction of this subcommittee and certainly my colleagues that serve as members of the Foreign Affairs Committee, I sincerely hope that a positive result will come about as a result of our meetings or briefing this afternoon.

We will continue also in dialoguing with Dr. Watson and members of his staff from the State Department and the White House,

but, like I said, this has been a very productive and a very positive result of having this hearing this afternoon.

With that, I thank you very much for your attendance. The subcommittee hearing is adjourned.

[Whereupon, at 4:12 p.m., the subcommittee was adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

STATEMENT OF HIS EXCELLENCY STUART BECK, PERMANENT REPRESENTATIVE OF THE REPUBLIC OF PALAU TO THE UNITED NATIONS

Mr. Chairman, Ranking Member Manzullo, and Members of the Subcommittee,

First, Mr. Chairman, allow me to express my condolences to you, the Members, and the friends and family of Tom Lantos, a great American whose work serves as a model for all of us, and encourages us to stand up against injustice and protect vulnerable people around the world.

I thank you, Mr. Chairman for convening this important hearing.

The Republic of Palau wishes to express how climate change impacts are affecting Palau and other vulnerable Pacific islands. Palau's coral reefs have already experienced moderate to extreme stress from growing variation in water temperature and sea levels. For example, in 1997/1998, the El Nino/La Nina event caused the bleaching and death of almost one-third of Palau's corals, a damage estimated at $91 million. The event also caused the destruction of approximately 50% of the taro plantations, an important economic and subsistence food crop.

The coral reefs are central to Palau's economy in many respects, notably for food, security and tourism. In fact, Palau, like many island nations, relies upon the marine life that depends upon healthy and vibrant coral reefs. As you may know, the projected impacts of climate change and sea rise will eventually cause extreme physical, economic, and cultural stress to all countries of the world, but island nations such as Palau are experiencing these extreme events today. Without contributing to the greenhouse gases that cause global warming, we are now serving as a window to this scientific phenomenon that will eventually impact all countries of the world.

While many nations of the world are experiencing variation in weather patterns, island nations are facing complete cultural dislocation through the impending loss of their homelands. This is no longer a theoretical impact. It is a fact and a reality that we as island nations face. Throughout the Pacific, sea level rise has not only generated plans for the relocation of populations, but such relocations are actually in progress. And, global greenhouse gas emissions continue to increase.

If concrete actions are not immediately taken to address the increase in greenhouse gases, the issue of global warming will eventually become an issue of international security. Last year, Foreign Minister Margaret Beckett of the United Kingdom, acting as President of the Security Council, said that climate change is a threat "to our collective security in a fragile and increasingly interdependent world." Last May, the Senate Foreign Relations Committee conducted a Hearing entitled, "Climate Change—A National Security Threat." At the hearing, Senator Joseph R. Biden noted; "[t]he real contribution of this report will be to change the way we think and talk about global warming: as a new and very different national security challenge." At the same hearing, Senator Richard G. Lugar counted climate change as one of the six fundamental threats to national security.

It is therefore necessary that every nation undertake steps to curb this growing threat to world health and stability. In this context, the United Nations has already developed a mechanism (The United Nation Framework Convention on Climate Change and its Kyoto Protocol) to begin the process of addressing the broad domestic and international issues required to immediately stem the tide of global warming. Within this context, the President of Palau has consistently urged the United States, most recently in Bali, to join the Kyoto Protocol.

However, the President also recognizes that there is much that must be improved within this international agreement. The President also recognizes that the success in combating greenhouse gases must reach beyond the Kyoto Protocol itself and find its way into the domestic policies of each and every nation. Finally, Palau realizes

that ultimately, success will depend on all nations, not just developed nations, addressing the increase in greenhouse gases.

Small island nations like Palau cannot continue "business as usual." To "change business as usual," we must depend on the world's development leaders to take primary action and provide such direction. Within this context, they can move global business towards environmentally friendly energy regimes and systems. Ultimately, we must develop new technologies to achieve our goals, and only nations with the capacity of the United States can lead the way.

Mr. Chairman, you have asked in what ways the United States and the United Nations can work together to protect vulnerable societies and I respond by saying that the United States is in a unique position to guide a revitalized global movement that can effectively address the international crisis that is coming if we do not act as one international community on this issue. The United States already demonstrated its involvement in this effort by accepting the Bali Roadmap.

Mr. Chairman, we at the United Nations have watched the United States lead the world on environmental and security threats on many occasions. Working with the Pacific Island States in recent years, the United States has helped to ban driftnet fishing and has begun to end bottom trawling on the high seas. These efforts within the United Nations context demonstrate that international cooperation and United States leadership can have a lasting impact. This can, and I dare say must, be the case with the more challenging and dangerous security threat posed by climate change.

STATEMENT OF MR. RAYMOND C. OFFENHEISER, PRESIDENT, OXFAM AMERICA

Dear Chairman Faleomavaega and Ranking Member Manzullo:

Oxfam America is an international development and humanitarian organization that is dedicated to ending poverty around the world. As today's hearing demonstrates, climate change and development are inextricably linked. In this way, combating poverty means combating climate change.

Climate Change: A Significant Threat to the World's Most Vulnerable People

We have come to see climate change as one of the greatest challenges to our efforts to promote sustainable development and reduce global poverty. In our operations spanning Africa, Latin America, East Asia and the United States itself, our staff and partners are already responding to the serious impacts of climate change, from increasingly severe weather events to water scarcity.

Ninety-seven percent of all natural disaster-related deaths already take place in developing countries, and the estimates of climate change's contribution to worsening conditions are disturbing. By mid-century, more than a billion people will face water shortages and hunger. Weather extremes, food and water scarcity, and climate-related public health threats are projected to displace between 150 million and one billion people as climate change unfolds.

As the science indicates, poor and vulnerable communities around the world will increasingly bear the brunt of the consequences of global warming, threatening the lives of millions of people and potentially undermining global stability and security. Oxfam is committed to addressing both the causes of climate change and the consequences for those least able to adapt to its impacts. These impacts, and the resulting increases in global poverty, will undermine global stability and security.

The Global Deal Made Possible by Bali

Following two weeks of intensive talks on a wide range of issues, the negotiations in Bali resulted in a Bali Action Plan, or "roadmap," that sets out a framework for international negotiations on a post-2012 agreement updating the Kyoto Protocol and the Framework Convention on Climate Change. Negotiations on a post-2012 agreement are scheduled to be concluded in December 2009.

The Bali Action Plan frames a new effort to address climate change. A rough guide to the road for global negotiations has been established in four key areas—mitigation (emissions reduction), adaptation, finance and technology. The exact destination for the Bali roadmap, and the speed at which countries will travel to get there, still remain highly uncertain. Indeed, we were disappointed by aspects of the Bali Action Plan that left unsettled some key guidelines for the way forward. In particular, the representatives of the United States, aided at key moments by Canada and Japan, refused to allow the inclusion of clear, science-based objectives for the total reductions in greenhouse gas reductions that the negotiations should achieve.

Oxfam agrees with the many countries that advocated at Bali for emissions levels that would be consistent with keeping total warming as far as possible below 2 degrees C/3.6 degrees F above pre-industrial levels and that total emissions levels

should reflect that global warming threshold. The Intergovernmental Panel on Climate Change (IPCC) reports indicate that the impacts of climate change, and the needs of developing countries to adapt to climate impacts, are likely to be much more severe beyond that threshold. Unfortunately, the United States said repeatedly, to the consternation of many other countries, that it did not want to "prejudge" the outcome of a post-2012 agreement by including total emissions objectives.

Nonetheless, the Bali roadmap is unprecedented and offers significant opportunities that can be seized upon in the coming two years of negotiations. For the first time in international climate negotiations, a process has been established in which all countries—both developed and developing—will discuss their respective responsibilities to cut emissions. This creates an opportunity for the United States to fully reengage in international climate talks. It also means that developing countries have become a central part of discussions around emissions, although the Bali roadmap also makes clear that their obligations will be different in nature from rich country obligations and that their actions should be clearly contingent on the provision of financing and technology by developed countries.

This outcome is largely due to one of the most important developments that occurred in Bali: an insistent and powerful determination on the part of developing countries to shape the negotiating agenda, including a willingness to be flexible when it was required. To move negotiations forward, developing countries made clear that they were prepared to engage in addressing emissions, but that other key issues for them must also be addressed in a forthright and substantive manner. The dramatic final moments of the Bali summit illustrated the readiness of developing countries to take "measurable, reportable, and verifiable" actions regarding emissions, supported by developed country assistance to developing countries with "measurable, reportable and verifiable" financing, technology and capacity building.

At many points, the desire of developing countries to find a way forward was met by resistance from United States representatives on issues such as funding for developing countries harmed by climate impacts. In the end, however, the broad outlines of a global deal on climate change become evident in Bali. It is a deal that will ask developing countries to take "nationally appropriate" steps, but also must fundamentally require developed countries to shoulder their fair share both by leading the way in undertaking emissions cuts and by providing the necessary assistance to developing countries to adopt lower emissions pathways and adapt to severe climate impacts. As we move into these negotiations, the ability of the United States to play a leading role in shaping a future global agreement will depend on our readiness to recognize the concerns and perspectives of developing countries.

Adaptation

For many developing countries, the provision of financing and other assistance for vulnerable countries facing the impacts of climate change is a central element in this global deal. As countries such as Bangladesh, Uganda and the Alliance of Small Island States underscored at Bali, those around the world who are least responsible for the emissions causing climate change will bear many of its greatest burdens. The IPCC has noted that, even with significant reductions in global greenhouse gas emissions, climate impacts in vulnerable developing countries—including severe weather events, water scarcity, flooding, decreases in agricultural productivity, spread of disease, and migration and refugee crises—will far outstrip the available resources in those countries to cope.

Based upon World Bank data and other relevant analyses, Oxfam has estimated that globally poor countries will require at least $50 billion a year to address the consequences of global warming. Just prior to the Bali negotiations, the United Nations Development Program estimated in the most recent Human Development Report that the adaptation needs of developing countries will be more than $80 billion year.

The Framework Convention on Climate Change already obligates developed countries, including the United States, to provide assistance to developing countries adversely affected by climate change. However, thus far financing through international funding mechanisms has not topped $150 million. The United States' contribution to the Least Developed Country Fund and the Special Climate Change Fund established under the auspices of the Framework Convention has been "zero." Developing countries have therefore stressed that an equitable post-2012 global agreement must involve substantial new and additional resources to meet these adaptation needs.

At Bali, Bush administration negotiators strongly objected to references to new funding sources, once again arguing that outcomes of a post-2012 agreement should not be prejudged. In spite of these objections, the Bali Action Plan provides a solid basis for creating the necessary adaptation assistance. The negotiating mandate in-

cludes "improved access to adequate, predictable and sustainable financial resources and financial and technical support, and the provision of new and additional resources" for both adaptation and emissions reduction activities in developing countries, and specifically calls for "innovative means of funding to assist developing country Parties that are particularly vulnerable to the adverse impacts of climate change in meeting the cost of adaptation."

The Bali roadmap also outlines a number of adaptation issues that will be addressed in negotiations, including providing support for vulnerability assessments, financial needs assessments, capacity-building and response strategies, and the integration of adaptation actions into sectoral and national planning. The negotiating mandate also addresses the development of risk management and risk reduction strategies, including insurance, as well as disaster reduction strategies.

Much work remains to be done to bring these opportunities to fruition over the next two years of negotiations. It will be especially crucial to develop what the Bali Action Plan itself calls "innovative" funding mechanisms for adaptation in addition to more conventional government funding.

Perhaps most important, the United States Congress may be able to provide one of the most effective tools for enhancing resources for developing country adaptation. As Congress considers various proposals for climate change legislation, it should ensure that the adaptation needs of developing countries are addressed. The climate legislation recently reported by the Senate Environment and Public Works Committee, titled the Lieberman-Warner Climate Security Act, designates a portion of the revenues from the auction of greenhouse gas emission permits to be used for adaptation assistance in developing countries. Similarly, Germany has signaled its intention to designate a portion of auction proceeds from a cap-and-trade system to developing country adaptation. If approved in the United States soon, this type of mechanism could serve as a model for the kind of adaptation funding mechanisms developed countries could adopt as part of an international agreement.

In addition to recognizing the need for new, additional resources for adaptation, negotiators in Bali also reached agreement on implementation of the Adaptation Fund for developing countries that was created under the Kyoto Protocol. The Bali decision enables this special Adaptation Fund to get up and running in 2008 with initial funding from a small 2 percent levy on all transactions under the Clean Development Mechanism, a mechanism which allows entities in developed countries to offset excess emissions by purchasing carbon credits from projects in developing countries.

Implementation of the Adaptation Fund was an issue that had remained unresolved from earlier negotiating sessions, in large part because of a dispute between developing and developed countries about which institution should oversee its operations. At Bali, a compromise was reached. The Global Environment Facility, which many developing countries felt has not adequately met their needs and is governed by a council controlled by developed countries, will be the day-to-day implementing body for the fund. But the adaptation operations of the GEF, including its choice of projects and programs, will be overseen by an executive board comprised of a majority of developing country representation from the countries that belong to the Kyoto Protocol. Although the United States is not a Party to the Kyoto Protocol and thus does not participate in the Adaptation Fund, we should certainly take note of this significant step forward in making the fund operational.

Emissions Reduction and Clean Energy Transfer

In addition to adaptation issues, the Bali roadmap also creates important negotiating opportunities involving clean energy technology transfer to developing countries. In the Bali Action Plan, the transfer of clean energy technologies is closely linked to a broader set of objectives around emissions reductions in developing countries.

In Oxfam's view, producing meaningful outcomes regarding "nationally appropriate" emissions levels for developing countries will require a clear delineation of the appropriate roles and responsibilities of different countries at different levels of development. For instance, it should be kept in mind that India has approximately only one-quarter of the total and per capita greenhouse gas emissions of China. China, whose emissions levels, in total, are currently at or exceeding U.S. emissions by some estimates, still has only one-quarter of the per capita emissions of the United States. Further, many developing countries are already undertaking significant efforts to increase energy efficiency and the use of clean energy technologies.

Ultimately, to achieve substantial shifts in emissions trajectories in developing countries, an effective post-2012 global deal will require countries with greater economic capacity, including the United States, to provide financing to help developing countries transform their emissions pathways. From the first day of the Bali meet-

ing, when developing countries pressed for the inclusion of technology transfer in implementation negotiations for the Framework Convention and Kyoto Protocol, it was clear that clean energy technology issues would be a central concern of the negotiations. The concluding moments of the Bali negotiations underscored the concern. The conference ended with adoption of the language proposed by India and other developing countries that technology, financing and capacity building support from developed countries would be provided in a "measurable, reportable and verifiable manner."

The agreements reached at Bali also call for the development of an energy technology transfer "programme" at the Global Environment Facility and a negotiating mandate on "effective mechanisms and enhanced means for the removal of obstacles to, and provision of financial and other incentives for, scaling up of the development and transfer of technology." As with adaptation, the challenge now is to ensure that these negotiating opportunities are brought to fruition with significant commitments in a post-2012 agreement and that implementation provides real environmental and social benefits on the ground in developing countries. Technology transfer for clean energy can be a key deal-maker as the negotiations move forward.

Moreover, the United States stands to gain tremendously from an effort to provide clean energy technology to developing countries. Our economy and workers can benefit from the technological innovation and "green jobs" generated by a push to provide clean energy goods and services to developing countries seeking to transform their energy use. Moreover, by playing a global leadership role in the expansion of the clean energy sector, the United States can help reduce greenhouse gas emissions while alleviating poverty and promoting international development, stability, and security. We should view the challenge of addressing developing countries' role in climate change as an opportunity for U.S. leadership rather than a threat.

Conclusion

The United States has a new and unique opportunity to engage with developing countries and to assist them in adapting to the serious climate consequences they face while moving to lower emissions pathways. We can create a global deal, but only if the United States is proactive and responsive to developing countries' concerns and perspectives.

It will be particularly important to watch the Major Economies Meeting process that the Bush administration has created in order to ensure that it does not distract from the central task at hand in the post-2012 multilateral negotiations in the United Nations framework. One of our central concerns with the Major Economies' structure is that the vast majority of the most vulnerable countries are not at the table and are therefore unable to raise their concerns regarding climate impacts, adaptation assistance, and urgently needed emissions reduction targets. At the end of the day, only a process that is inclusive of all countries and responsive to their needs and concerns will produce the global agreement needed to address the global crisis that climate change presents.

Thank you for holding this important hearing today. We very much look forward to working with you to ensure that the United States is in the forefront of addressing the enormous challenges presented by climate change and recognizes, as well, the global opportunities that can result.