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ENERGY AND GLOBAL WARMING SOLUTIONS FOR VULNERABLE COMMUNITIES

HEARING

BEFORE THE

SELECT COMMITTEE ON
ENERGY INDEPENDENCE
AND GLOBAL WARMING
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

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ENERGY AND GLOBAL WARMING SOLUTIONS FOR VULNERABLE COMMUNITIES

THURSDAY, OCTOBER 18, 2007

HOUSE OF REPRESENTATIVES,
SELECT COMMITTEE ON ENERGY INDEPENDENCE AND GLOBAL WARMING,
Washington, DC.

The committee met, pursuant to call, at 11:05 a.m. in Room 1100, Longworth House Office Building, Hon. Edward J. Markey [chairman of the committee] presiding.

Present: Representatives Markey, Blumenauer, Inslee, Solis, Cleaver, Hall, McNerney, Sensenbrenner and Sullivan.

Staff present: Mitchell Robinson.

The CHAIRMAN. Good morning. This hearing is called to order.

When we think of the communities most vulnerable to global warming, images of physical devastation come to mind: gulf coast cities washed away by increasingly intense hurricanes, Alaskan villages slipping into the ocean without sea ice to protect them from winter storms, and low-lying islands and coastal areas slowly losing ground to rising sea levels.

These physical vulnerabilities are serious, but as we will hear from our witnesses today, communities around the world face a variety of challenges from global warming and our dependence on fossil fuels. The price of oil is once again breaking records. With the American economy already shaky from the mortgage crisis, some analysts believe a prolonged oil spike could tip the economy over into a recession, sending America reeling from oil speculators, OPEC and oil addiction.

Rising oil and gasoline prices affect all American families, but it is especially acute for the working poor. For a family owning one car, making $20,000 a year, $3 per gallon of gasoline consumes almost 9 percent of its annual income alone. Adding in the other energy costs raises their fossil fuel bill even further. And while we are paying more for fossil fuels, the global warming caused by their combustion can undermine parts of the economy in the United States and around the world.

A University of Maryland report released earlier this week found that economic impacts of climate change will occur throughout the United States, and that the negative impacts will outweigh the benefits for most sectors that provide essential goods and services to society.

Today we will learn how the health of the economy of the Maldives is dependent on the health of their coral reefs.

Our reliance on fossil fuel may be hard on the wallet, but the costs do not stop there. Over 70 percent of African Americans and 50 percent of Latinos live in counties that violate Federal air pollution standards. And unsurprisingly, they have higher prevalence of asthma and other debilitating lung diseases. This adds up to substantial costs in terms of health care and lost days at school and work.

Just as our reliance on fossil fuels poses physical, economic and health threats, the alternatives will reduce pollution harmful to the health of people and the planet and will create new jobs and energy savings for consumers. This is precisely why the new direction Democratic Congress has put an energy bill which no longer looks to fossil fuels as the favored fuels, but rather leads us in a new direction towards renewable electricity, energy efficiency and biofuels.

In combination with its counterpart in the Senate, by 2030 this new energy bill has the potential to save more than twice the amount of oil we currently import from the Persian Gulf, to reduce U.S. global warming pollution by up to 40 percent of what we need to do to save the planet, and create over 1.5 million jobs. By including Representative Solis' green jobs legislation, the energy bill will also provide the tools and the resources to train the workers needed to bring the green revolution to all communities.

This fall Congress has an opportunity to pass an energy bill that will make a significant contribution to our global warming goals, reduce the energy and health bills of American families, and create jobs in communities that need them the most. We are already seeing the effects of our intertwined energy and global warming challenges in vulnerable communities across our Nation and world. However, this crisis will not exclusively target our most vulnerable. They may be the first to feel the impacts, but in no way will they be the last. Without strong and consistent energy and global warming policies that look to improve our Nation and world's energy and environmental future as a whole, we will find all of our communities vulnerable.

Today we have an opportunity to hear the representatives of communities already feeling the impact of global warming and our reliance on fossil fuels and the impact that that has upon them as well and a chance to learn from them what policies would most help their communities meet these challenges. I look forward to the testimony from our witnesses. And I now turn to recognize the Ranking Member of the select committee, the gentleman from Wisconsin, Mr. Sensenbrenner.

[The prepared statement of Mr. Markey follows:]

Opening Statement for Edward J. Markey (D-MA)
"Energy and Global Warming Solutions for Vulnerable Communities"
Select Committee on Energy Independence and Global Warming
October 18, 2007

When we think of the communities most vulnerable to global warming, images of physical devastation come to mind – Gulf Coast cities washed away by increasingly intense hurricanes, Alaskan villages slipping into the ocean without sea ice to protect them from winter storms, and low-lying islands and coastal areas slowly losing ground to the rising sea level. These physical vulnerabilities are serious, but as we will hear from our witnesses today, communities around the world face a variety of challenges from global warming and our dependence on fossil fuels.

The price of oil is once again breaking records. With the American economy is already shaky from the mortgage crisis, some analysts believe a prolonged oil spike could tip the economy over into a recession, sending America reeling from oil speculators, OPEC and oil addiction. Rising oil and gasoline prices affect all American families, but it is especially acute for the working poor. For a family owning one car making $20,000 a year, $3 per gallon gasoline consumes almost 9 percent of its annual income alone, adding in their other energy costs raises their fossil fuel bill even further.

And while we are paying more for fossil fuels, the global warming caused by their combustion can undermine parts of the economy in the United States and around the world. A University of Maryland report released earlier this week found that economic impacts of climate change will occur throughout the United States and that the negative impacts will outweigh the benefits for most sectors that provide essential goods and services to society. Today we will learn how the health of the economy of the Maldives is dependent on the health of their coral reefs.

Our reliance on fossil fuels may be hard on the wallet, but the costs do not stop there. Over 70 percent of African-Americans and 50 percent of Latinos live in counties that violate federal air pollution standards, and unsurprisingly they have higher prevalence of asthma and other debilitating lung diseases. This adds up to substantial costs in terms of health care and lost days at school and work.

Just as our reliance on fossil fuels poses physical, economic and health threats, the alternatives will reduce pollution harmful to the health of people and the planet and will create new jobs and energy savings for consumers. This is precisely why the New Direction Democratic Congress has put together an Energy Bill, which no longer looks to fossil fuels as the favored fuels, but rather leads us in a new direction – towards renewable electricity, energy efficiency and biofuels.

In combination with its counterpart in the Senate, by 2030, this new energy policy has the potential to:

- save more than twice the amount of oil we currently import from the Persian Gulf and

- reduce U.S. global warming pollution by up to 40 percent of what we must do to save the planet.
- create over 1.5 million jobs.

By including Rep. Solis's green jobs legislation, the energy bill will also provide the tools and resources to train the workers needed to bring the green revolution to all communities. This fall Congress has an opportunity to pass an energy bill that will make a significant contribution to our global warming goals, reduce the energy and health bills of American families and create jobs in communities that need them the most.

We are already seeing the effects of our intertwined energy and global warming challenges in vulnerable communities across our nation and world. However, this crisis will not exclusively target our most vulnerable. They may be the first to feel the impacts, but in no way will they be the last. Without strong and consistent energy and global warming policies that look to improve our nation and world's energy and environmental future as a whole, we will find all of our communities vulnerable.

Today, we have an opportunity to hear from representatives of communities already feeling the impact of global warming and our reliance on fossil fuels and a chance to learn from them what policies would most help their communities meet these challenges. I look forward to the testimony of our witnesses.

Mr. SENSENBRENNER. Thank you very much, Mr. Chairman. Today's hearing will focus on the plight of those who are in the path of nature. From the coastlines of the Gulf of Mexico to erosion in Alaska to rising seas around the Maldives, these problems are real and threaten real people. And like many on this panel, I have concern for those people whose homes and livelihoods are being affected by this change in nature.

But I am also concerned that today's hearing will do little to offer constructive and realistic solutions to these problems. Rising waters may well be an effect of global warming, but just how can we get these waters to recede? The answer many will offer today is regulation, regulation and more regulation. It is as if some people believe that government regulation and taxes will have the same gravitational pull on the oceans that the moon does. They don't.

As we look for ways to address the global warming problem, we are looking for ways to produce energy and to power transportation without emitting CO_2. It is my hope that researchers can soon develop the kinds of breakthrough technologies that will allow people all over the world to enjoy clean, cheap energy. New energy and transportation technologies have the potential to lower energy costs, improve the environment and end the world's reliance on unstable countries for energy fuels. That is the type of win-win solution that Republicans, like me, are seeking.

It seems that many people believe that by enacting regulations, the work on global warming will be complete, and that the waters will miraculously ebb. They won't. As we already have seen, regulations have done little to lower the CO_2 emissions in Europe, with one recent report showing so far all of Europe's extreme regulatory efforts have actually led to a 1 percent rise in emissions. Additionally, anecdotal evidence shows that aside from some outfits that sell carbon credits, the regulations aren't doing much to help Europe's economy either. It goes without saying that the European regulations are doing nothing to help keep water levels down.

I do not wish to make light of the dangers faced by communities which are in the path of nature, but I do not think that regulatory measures that make energy much more expensive are the answer that will save places like the Maldives. My concern is that by enacting tough cap-and-trade regulations without having the needed developments in energy technology, we will see dramatic rises in energy prices that will threaten the jobs and the economy of not just the poor, but everyone. My fear is that in 100 years, people in this country will still continue to battle high energy prices, while people in the Maldives will continue to battle high water levels. That is what I call a lose-lose scenario, and Congress should seek to avoid it.

And I yield back the balance of my time.

The CHAIRMAN. The gentleman's time has expired.

The chair recognizes the gentleman from Oregon, Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman.

And I do appreciate what my friend from Wisconsin talked about. I do think we are interested in breakthrough technologies to the extent that they are available. But the irony is that we don't have to wait for breakthrough technologies. We know what to do in

terms of reducing energy consumption. We know what to do in terms of having global cooperation. Our friends in Europe already have half the CO_2 emissions that we have, and the people in the Maldives, it is one-tenth of our emission levels, yet they are very likely to be paying the price first.

I appreciate the opportunity to hear firsthand from folks who have the perceptive notion of helping us understand the pressures that are being faced. And it is not just the poor in remote areas. We have already seen what has happened to the poor in New Orleans with Katrina.

I have here something which was just given to me today about—from New York: What if New York City were hit by a Category 3 hurricane? What if the most densely residential city in the country loses hundreds of thousands of homes in a few hours? The reconstruction, where people will live, these are very real problems for people at home and abroad. And I am looking forward to the discussion here today to have a better sense of urgency, which is lacking, I am afraid, with this administration and too many people in this Congress.

Thank you, and I yield back.

The CHAIRMAN. Great. The gentleman's time has expired.

The gentlelady from California, Ms. Solis, is recognized.

Ms. SOLIS. Thank you, Mr. Chairman.

And I want to also welcome our witnesses this morning. I think it is highly important that we hear from underrepresented communities and communities of color because for many, many years the environmental movement hasn't always brought about the concerns of our communities. And therefore, I think that this is a first good step working towards that initiative to try to be as inclusive as we can, because global warming and the effects that it will have impact disproportionately low-income communities even in more harsher terms than we even know. And I can testify to that as having grown up in parts of Los Angeles County where in a district that I represent we have three Superfund sites. We have water that is contaminated through rocket fuel. We have high levels of smog that we are experiencing, and therefore are seeing higher incidence of asthma rates, higher rates of cancer, and also the mortality rates of many of our young people as well as our adults, our seniors are faced with.

If we don't begin to address this issue of climate change and how it affects urban centers, but also rural communities, I think that we are really going to be leaving a lot of people out of this discussion. And I am very proud to serve as a member of this committee to be able to talk and hopefully amplify the voices that you witnesses here today bring to the table.

You know, in a community like mine, Latinos don't often have the luxury of working in even communities where their environment is safe. And I mean safe in terms of health effects because of pollutants in the air, because maybe the proximity where they live is close to a freeway. In fact, many of the school districts that I represent are no more than one-half mile from a freeway where, you know, the exhaust from our cars and our diesel trucks are just continuing to spew these CO_2 emissions. And it is having an effect because you see it in the costs that we are paying in health care

and in trauma centers, and you see it afflicting not just people of color, but people who are trying to make a living, middle-income individuals who are also having to face up to what is happening to them.

In the State of California, we have been plagued with droughts, very hot summers. We have many of our local communities that are now self-imposing mandatory conservation efforts, and that is just one part of it. But when you tell a family, a working family, that they now have to pay $3.50 to get to work, and then know that they have no health insurance, and when they come home at night in that community that they are still faced with many more hardships just trying to put food on the table, something has to be done. So I would just say I am grateful that you are all here and look forward to your testimony.

Thank you, Mr. Chairman.

The CHAIRMAN. The gentlelady's time has expired.

The Chair recognizes the gentleman from Missouri, Mr. Cleaver.

Mr. CLEAVER. Thank you, Mr. Chairman.

I really appreciate this hearing for some very personal reasons. I spent my teenage years growing up in Wichita Falls, Texas. I lived at 818 Gerald. I want to be very specific. And I didn't know that there was such a thing as living a great distance from what we called at the time the cesspool, which was the waste treatment plant, probably less than 300 yards from our back door. And then about 600 yards away was the city landfill. Anytime we had a strong wind blowing across north Texas, which happened quite a bit, the whole tone of our community changed. People would stay inside because of the odor. And we took for granted—you know, I don't think anybody can go back and figure out how many people have died as a result of pollutants in the air, but they would be considerable.

And then just 3 months ago—almost 4 months ago, Jimmy Rainey ran from the living room of his home with only his underwear, trying to get his inhaler to work. He died on the front lawn of his home. And I spoke at his funeral.

I began to look at all of the numbers of African Americans and Latinos in urban areas dying of asthma. And then I can't help but think about the funerals in my hometown at the time I grew up. And then I began to look at this issue, find out that according to the National Law Journal, communities of color take about 20 percent longer to qualify for either the Superfund or to have any kind of remediation in their communities of what is clearly environmental injustice.

The movement began in the 1980s. I am not sure there was much participation even then by the minority communities, so this gives me an opportunity not only to talk about the issue, but hopefully figure out ways—no one benefits by having a hearing without learning something and then trying to fashion solutions. This is not an intellectual issue for me. It is real. I know human beings who have died. I have friends who have died. And asthma is running rampant in every urban community in this Nation, and everybody who has an ounce of concern ought to be angry.

I appreciate you calling this hearing, Mr. Chairman.

The CHAIRMAN. I thank the gentleman from Missouri very much.

And we will now turn to our very distinguished panel. And our first witness, Martin Luther King, III. He is the Chairman and CEO of Realizing the Dream, Inc. Through the work of his new organization, he is working to restore and revitalize our communities and democracies around the world.

Mr. King currently is holding a looking, listening and learning tour where he is studying the causes of poverty in 50 selected communities. This summer he also helped organize the sons and daughters of many of the 20th century's world-renowned leaders in an unprecedented peace summit to launch the Gen II Global Peace Initiative. The mission of the new initiative is to use their collective strength to take action through nonviolent tangible steps to address instances of conflict and injustice worldwide.

Mr. King, we look forward to your testimony. Whenever you are ready, please begin.

STATEMENT OF MARTIN LUTHER KING, III, CEO, REALIZING THE DREAM

Mr. KING. Thank you, Mr. Chairman. Chairman Markey and members of the committee, thank you for the invitation to speak today. As the first son of Dr. Martin Luther King, Jr., Coretta Scott King, both of whom were human rights activists, I have been involved in significant humanitarian and policy initiatives, whether as a Presidential appointee to promote peace in foreign countries or as president of two of the Nation's most recognizable civil and human rights organizations. I am, as was stated, CEO and founder of Realizing the Dream, currently a nonpartisan organization that seeks to continue and advance the legacy and work of my parents.

Realizing the Dream seeks to give a stronger voice to the economically disadvantaged and to foster the elimination of poverty in America. Recently I have been conducting a looking, listening and learning tour to study the causes of poverty in 50 selected communities throughout the United States of America. I have completed tours of 35 communities, including three Native American reservations, communities across Appalachia and the gulf coast, as well as both urban and rural America.

Forty years have passed since my father's death, but his concerns about inequality and deprivation are at least as topical today as they have been in the past. Thirty-eight million Americans live below the official poverty line, the highest rate among developed countries. This number has increased by 4 million people over the last 4 years, the entire size of the State of Kentucky. Today his words still provide hope and inspiration to all of us, a resounding echo of the moral leadership that has at critical junctures of our Nation's history lifted America to a higher place.

In 1964, upon winning the Nobel Prize, my father said, "Granted that we face a world crisis which leaves us standing so often amid the surging murmur of life's restless sea. But every crisis has both its dangers and opportunities. It could spell either salvation or doom."

Today a new world crisis looms, one that we knew little about 40 years ago. Last week the Nobel Peace Prize was awarded to former Vice President Al Gore and to a panel of 2,000 scientists who have been lifting our veil of ignorance on the global warming

crisis. There is a bridge between this crisis and that which my father confronted because both require a new paradigm of moral courage and leadership.

In this climate crisis, I, too, see both opportunity and danger, and I am hopeful that we can find our salvation. I am here today to tell you that global warming is a form of violence upon the most vulnerable among us and to ask for you to step forward and to protect those in need. Obviously I am not a scientist or an expert on global warming, but I listen to those experts, and I listen to the people in communities across this Nation who are concerned about the health and safety of those families, of their families.

To lift families from poverty, we need to empower people to take charge of their lives and the life of their communities. Global warming and other environmental threats erode that power. The poor are victims of choices made by corporations over which they have no say, and Congress needs to protect all Americans from the threats that are being created.

Earlier this year the scientific panel that last week won a share of the Nobel Prize released reports compiling the consensus views of thousands of scientists and agreed to by the nations of the world, including the United States. I want to point to a statement by the chairman of that panel, the Intergovernmental Panel on Climate Change, who said, it is the poorest of the poor in the world, and this includes poor people even in prosperous societies, who are going to be the worst hit.

According to the IPCC report, hundreds of millions of people are vulnerable to flooding due to sea level rise. The human suffering from Hurricane Katrina serves as vivid testimony to all of us of the vulnerability of the poor to severe weather events and floods. The scientific report in many ways echoes the findings of a landmark report by the Congressional Black Caucus Foundation from 2004 titled African Americans and Climate Change: An Unequal Burden. The caucus report concluded that African Americans will disproportionately bear the substantial public health burden caused by climate change. According to the report, African Americans are nearly three times as likely to be hospitalized or killed by asthma as others, with climate change expected to worsen air pollution and increase the incidence of asthma for our children.

When disaster strikes, the poor are left in harm's way. As one illustration, according to the Congressional Black Caucus report, African Americans are 50 percent more likely than others to be uninsured.

I want to be clear, however, that global warming is a dire threat for all of the nations and the world's poor. As was the case 40 years ago, what appeared to many Americans to be mostly an African American issue still today concerns the whole Nation. Poverty in America today affects all races. The majority of the poor are white, not African American or Hispanic. We are all in the struggle together, poor or rich, black or white.

While global warming is a crisis, it is not a cause for despair. I am filled with hope. Every generation has had to tackle threats of magnitudes that are almost unimaginable to us today. Global warming has been ignored for far too long, and it is time for our generation to step forward. Solving global warming can help lift the

poorest among us and provide new economic opportunities. Global warming is fueled by our dependence on dirty energy fuels that assail our health and drain our wallets. The pathway to solving global warming is a pathway to safer communities for our children and better economic opportunities.

I would like to lend my support to the testimony of Van Jones, president of the Ella Baker Center for Human Rights, who came before this committee in May. He outlined a national commitment to green-collar jobs that will give ordinary Americans a shot at lifelong careers in the growing clean energy economy.

As Congress crafts an action plan on global warming, we must also look to the economic impacts of the plan on the poor, the financial resources to provide economic opportunity and avoid economic burdens that are at hand if it embraces the principles that industrial polluters should bear primarily the financial responsibility for their actions. When designing an emissions trading system for greenhouse gases, Congress should invest revenues from polluters' payments to help the poor be a part of the solution and to protect those who are least able to afford the cost of cleaning up. We all need the moral courage to rise above the complacency, to rise above the injustice and to rise above the political differences that have led us to turn deaf ears to this crisis again and again and again.

I conclude by asking, who among us will aspire to the opportunity and salvation that lies within the climate crisis? Where are the voices of hope today in America? Who among us will stand up and lift our children and the poorest among us from the impacts of a crisis not of their making? Who here in Congress will lead this fight and put aside the whispering of those who fear change?

The energy bill that the House has passed is a strong first step. Congress needs to pass a bill with the best parts of both the House and Senate version, and it must not stop there, but keep pressing forward even more comprehensive solutions.

Chairman Markey, I appreciate your leadership on these matters and the work of other committee members. There are many leaders among you. I ask you all to work together to lead and look forward to supporting your efforts. Thank you.

The CHAIRMAN. Thank you, Mr. King, very much.

[The information follows:]

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Executive Vice President/COO

Chairman Markey and members of the Committee, thank you for the invitation to speak to you today.

As first son of Dr. Martin Luther King, Jr. and an international human rights activist, I have been involved in significant humanitarian and policy initiatives, whether as a presidential appointee to promote peace in foreign countries or as president of two of the Nation's most recognizable civil/human rights organizations. I am CEO and founder of Realizing the Dream, a non-partisan organization that seeks to continue and advance the legacy and work of my parents, Dr. Martin Luther King Jr. and Mrs. Coretta Scott King. Realizing the Dream seeks to give a stronger voice to the economically disadvantaged and to foster the elimination of poverty in America.

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Forty years have passed since Dr. King's death, but his concerns about inequality and deprivation are at least as topical today as they have been in the past: 38 million Americans live below the official poverty line, the highest rate among developed countries. This number has increased by four million people over the last four years, the size of the population of Kentucky.

Today, his words still provide hope and inspiration to all of us, a resounding echo of the moral leadership that has at critical junctures of our nation's history lifted America to a higher place. In 1964, upon winning the Nobel Peace Prize, my father said:

"Granted that we face a world crisis which leaves us standing so often amid the surging murmur of life's restless sea. But every crisis has both its dangers and its opportunities. It can spell either salvation or doom."

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There is a bridge between this crisis and that which my father confronted, because both require a new paradigm of moral courage and leadership. In this

climate crisis, I too see both opportunity and danger, and I am hopeful that we can find our salvation.

I am here today to tell you that global warming is a form of violence upon the most vulnerable among us, and to ask for you to step forward to protect those in need.

I am not a scientist or expert on global warming, but I listen to those experts. And I listen to people in communities across this nation who is concerned about the health and safety of their families. To lift families from poverty, we need to empower people to take charge of their lives and the life of their communities. Global warming and other environmental threats erode that power. The poor are victims of choices made by corporations over which they have no say, and Congress needs to protect all Americans from the threats that are being created.

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According to the IPCC report, "hundreds of millions of people are vulnerable to flooding due to sea-level rise." The human suffering from Hurricane Katrina serves as vivid testament to all of us of the vulnerability of the poor to severe weather events and floods.

The scientific report in many ways echoes the findings of a landmark report by the Congressional Black Caucus Foundation from 2004, titled "African Americans and Climate Change: An Unequal Burden."

The Caucus report concluded that "African Americans will disproportionately bear the substantial public health burden caused by climate change." According to the report, African Americans are nearly three times as likely to be hospitalized or killed by asthma as others, with climate change expected to worsen air pollution and increase the incidence of asthma for our children.

When disaster strikes, the poor are left in harms way and innocently unprotected. As one illustration, according to the Congressional Black Caucus report, African Americans are 50 percent more likely than others to be uninsured.

I want to be clear, however, that the global warming is a dire threat for all of the nation's and the world's poor. As was the case 40 years ago what appeared to many Americans to be mostly an African American issue still today concerns the whole nation: poverty in America today affects all races. The majority of the poor are white, not African American or Hispanic.

We are all in this struggle together, poor or rich, black or white.

While global warming is a crisis, it is not cause for despair. I am filled with hope. Every generation has had to tackle threats of magnitudes that are almost unimaginable to us today. Global warming has been ignored for too long, and it is time for our generation to step forward.

Solving global warming can help lift the poorest among us and provide new economic opportunities. Global warming is fueled by our dependence on dirty energy fuels that assail our health and drain our wallets. The pathway to solving global warming is a pathway to safer communities for our children, and better economic opportunities.

I would like to lend my support to the testimony of Van Jones, President of the Ella Baker Center for Human Rights, before this Committee in May. He outlined a national commitment to "green-collar jobs" that will give ordinary Americans a shot at life-long careers in the growing clean energy economy.

As Congress crafts an action plan on global warming, we must also look to the economic impacts of the plan on the poor. The financial resources to provide economic opportunity and avoid economic burdens are at hand if it embraces the principle that industrial polluters should bear the financial responsibility for their actions. When designing an emissions trading system for greenhouse gases, Congress should invest revenues from polluter payments to help the poor be part of the solution and to protect those who are least able to afford the costs of cleaning up.

We all need the moral courage to rise above the complacency, to rise above the injustice, and to rise above the political differences that have led us to turn deaf ears to this crisis again and again and again.

I conclude by asking, Who among us will aspire to the opportunity and salvation that lies within the climate crisis? Where are the voices of hope today in America? Who among us will stand up and lift our children and the poorest among us from the impacts of a crisis not of their making? Who here in Congress will lead this fight and put aside the whisperings of those who fear change?

The energy bill that the House has passed is a strong first step. Congress needs to pass a bill with the best parts of both the House and Senate versions, and it must not stop there but keep pressing forward with even more comprehensive solutions. Chairman Markey, I appreciate your leadership on these matters and the work of other Committee members.

There are many leaders among you. I ask you all to work together to lead, and look forward to supporting your efforts.

Thank you.

The CHAIRMAN. Our second witness is Dr. Eileen Gauna, who is a law professor at the University of New Mexico with a focus on environmental law, environmental justice, administrative law, and energy and property. She is one of the country's foremost experts on environmental justice and has written about and worked extensively on the issue. She is also a member of the EPA's National Environmental Justice Advisory Council.

Dr. Gauna, we welcome you. Whenever you are ready, please begin.

STATEMENT OF EILEEN GAUNA, PROFESSOR, UNIVERSITY OF NEW MEXICO

Ms. GAUNA. Thank you, Chairman Markey. One correction, I am no longer a present member of NEJAC. I completed my term, one of my several terms.

But thank you for your invitation to testify before the committee today. Your work on energy independence and climate change is complex and is urgent. And I am really encouraged that you are not falling prey to this urgency by ignoring the effects of new energy policies on our most vulnerable communities. That single focus in the past has led to poor communities and communities of color bearing not only the brunt of increased exposures, but an increased risk of accidents, insufficient energy and emergency infrastructure, degradation of national resources and other environmental disamenities, noise, dust, odors, light pollution.

My work has taken me to many stressed communities throughout the United States where you can really vividly see, hear, smell, taste the result of our lack of comprehensive policies on industrialization waste disposal and energy supply. It is a long and neglected problem, and it is encouraging to see it being addressed at this level.

Your committee also seeks to do more. As shifting energy policies create new opportunities, you are attempting to ensure that poor and vulnerable communities share in those opportunities, but because of the complexity of the problem, there are pitfalls, and there is a risk for unintended consequences along the way. And it is a few of those discrete unintended consequences I would like to use my time to address today.

In the process of retooling our energy infrastructure, we are going to undoubtedly encounter significant siting issues. We need renewable sources such as wind farms, waste energy plants, biofuel production facilities, more high-voltage transmission lines. We need more production facilities for solar panels or other equipment to build a newer, greener energy supply. Then there are other forms of energy supply presently under consideration, such as nuclear power plants, coal-fired power plants with carbon capture and sequestration capacity, more imported liquefied natural gas, all cleaner from a global warming perspective, but the processes themselves may carry significant risks.

If there is no thought on the front end to where these facilities and how they will be sited, there is going to be chaos at the back end. This is not good for utility companies, communities or domestic ecosystems that are more vulnerable to climate change effects. And it is not good for energy security and independence.

Let me give you one quick example. We recently launched a concerted campaign to increase importation of liquefied natural gas by adding about 40 or 50 facilities to our existing 5. If you take a look at the FERC Web site, you will see a map of the existing and proposed LNG facilities. Now take a look at the Web site of this select committee, and see the locations that are predicted to sustain the greatest impact from global climate change. The facilities are literally right in the eye of the coming storms. You can see that the gulf coast, heavily populated by poor and people-of-color communities, will receive the lion's share of these facilities, especially as communities' and State opposition elsewhere remains fierce.

What you see is an emerging pattern of racial disparity, and as we have learned from the present disparities and spatial location of hazardous waste facilities and high emitters, commonly called TRI facilities, these disparities, once formed, become intractable.

Can a new, more comprehensive energy policy avoid this? It can. And it will be fair and more efficient over the long term. As we think about the new physical machinery of our clean energy infrastructure, we need to provide adequate protection. Federal legislation can and should protect vulnerable communities by avoiding increasing impacts on communities that are already heavily burdened. The experiments in brownfields redevelopment has taught us that this is not the death knell for high-impact projects. Quite the contrary. When potentially impacted communities are brought into the process at a very early time, many impacts can be minimized or avoided altogether, and communities are more likely to support the process if they are included in it, and if they are given resources to independently review that project.

As some development attorneys can attest and often do, the projects that have been least successful are those where project sponsors have tried to avoid legal requirements and short cut the permitting process. In the long term it delays projects.

My written testimony has specific information as to how this can be done. I want to stress, it is not to suggest a complete facility moratorium in vulnerable communities, but rather to suggest that vulnerable communities should not receive the highest-impact facilities and the lowest-paying jobs. With relatively small investment in job training and commonsense siting and permitting criteria, we can create an equitable and efficient clean energy infrastructure.

In protecting vulnerable communities, another matter is that we should avoid the temptation to grandfather existing facilities in new legislation. The proliferation of new coal-fired power plants, about 150 of them, in anticipation of more stringent climate change legislation should not be rewarded down the line. We may yet be witnessing yet another disparity.

Experience teaches us that regulatory agencies often narrowly construe their legal authorities when asked to provide protections for vulnerable communities. These communities are left suffering impacts that could have clearly been avoided. A simple requirement that impacts to vulnerable communities should be avoided, minimized or mitigated to the extent feasible together with the requirement for an alternative site analysis can go a long way to inject common sense and protectiveness into the process.

As pedestrian as siting and permitting issues may appear to some, especially in the face of the urgency of climate change, this much we should remember. This is the single biggest issue for these vulnerable communities. They are assaulted by staggering pollution loads. Our regulatory regime is not equipped to handle cumulative risks or synergistic effects. It is not designed or adequately funded and equipped to address multiple stressor situations. Let's not add to this problem. It is our ethical duty——

The CHAIRMAN. Professor, if you could try to sum up.

Ms. GAUNA. I am finishing up.

It is our ethical duty to do all we possibly can to roll back and avoid climate change. It is our ethical duty not to do so on the backs of heavily impacted and vulnerable communities.

Thank you, Mr. Chairman. Sorry for running over.

The CHAIRMAN. Thank you, Professor, very much.

[The information follows:]

To the Select Committee on Energy Independence and Global Warming
Eileen Gauna, Law Professor at the University of New Mexico
October 18, 2007

Chairman Markey and Committee Members:

Thank you for your invitation to testify before the Committee today. The work before you on energy independence and climate change is as complex as it is important. It is especially encouraging that, as you think deeply about the global issue that confronts us, you are not falling prey to this urgency by ignoring the effects of new energy policies on our most vulnerable communities. That single focus, while understandably tempting, has in the past led to intractable patterns of disparity throughout the United States. Poor communities and communities of color have borne the brunt of increased toxic exposures, increased risk of accidents, insufficient emergency infrastructure, degradation of natural resources, and other environmental disamenities such as increased noise, light pollution, dust and odors. In my area of the country, Native American communities still suffer the effects of uranium mining, and fragile communities that depend upon our fragile arid environment, are currently witnessing intensive extraction practices, such as coal bed methane extraction. My colleagues on this panel will eloquently addressing impacts of energy policy and climate change in other areas. I will briefly add that my work has taken me to stressed communities throughout the United States, where you can vividly see, hear and smell the result of these injustices. And, importantly, where you can talk to people bear witness to the tragedies routinely visited upon their families and friends. It is a long-neglected problem and it is encouraging to see it being addressed at this level.

It is equally gratifying that your Committee seeks to do more. As shifting energy policies create new opportunities, you are attempting to ensure that poor and vulnerable communities share in those opportunities. It is important work, but because of the complexity of the problem, there are pitfalls along the way. This is an area fraught with the potential for unintended consequences. It is a few of these discrete, unintended consequences that I would like to address today.

In the process of retooling our energy infrastructure to address climate change and become more independent, we will unavoidably encounter significant siting issues. For example, it is very likely that we will promote renewable sources such wind farms, waste to energy plants, biofuel production facilities, and additional high voltage transmission lines. We will need more production facilities for solar panels and other equipment to build a newer greener energy supply. Then there are other forms energy supply presently under consideration, such as nuclear power plants, coal fired power plants with carbon capture and sequestration capacity, and more imported liquified natural gas, all asserted to be "cleaner" from a global warming perspective.

If there is no thought –on the front end-- as to how and where these facilities will be sited, and exactly where the distribution infrastructure will be routed, there is sure to be chaos at the back end. This is not good for utility companies, communities, or our domestic ecosystems that are more vulnerable to climate change effects; and it is not good for energy security and independence.

Let me give you one example to illustrate my point. Concerned about our dwindling supply of domestic natural gas, and asserting it to be a "cleaner" form of energy, we launched a campaign to increase importation of liquified natural gas from other countries. Leaving aside the issue of energy independence for a moment, take a look at this particular initiative from a national perspective. We had about five such facilities and an intent to rapidly build about 40-50 more. If you take a look at the FERC website, you will see a map of existing and proposed LNG import facilities. Then take a quick look at the website of this Select Committee, where you will see a map of the United States that illustrates locations predicted to sustain the greatest impacts from climate change These are the locations where we anticipate, for example, more frequent and severe hurricanes. By this comparison, you will see that we are putting these facilities – perhaps literally as well as figuratively—right in the eye of the storms. You can also see that the gulf coast, heavily populated by poor and people of color communities, will receive the lion's share of these facilities, especially as community and state opposition to LNG facilities remain fierce in other parts of the country. In other areas, some of these projects have in fact

folded due to such opposition. It is likely that what we are seeing is yet another emerging pattern of racial and income disparity. And as we have learned from the present disparities in spatial locations of hazardous waste facilities and high pollution emitters (commonly called "TRI facilities"), these disparities, once formed, are intractable.

Can a new, more comprehensive energy policy avoid this? It can, and it will be fair and more economically efficient over the long run. Cleaner forms of energy production and distribution are possible and desirable. Such an infrastructure, along with important incentives to use less energy, use renewable forms of energy, and create other energy efficiencies are possible and much of this already appears in proposed legislation.

However, as we think about where the new physical machinery of our clean energy infrastructure will be located, we need to provide adequate protection. Federal legislation can and should protect vulnerable communities by avoiding increasing impacts on communities that are already heavily burdened, This can be done, for example, by an alternative site analyses as a minimum requirement that has both a procedural and substantive mandate. The experience in brownfield redevelopment has taught us that this is not the death knell for high impact projects. Quite the contrary. When potentially impacted communities are brought into the process at a very early time, many impacts can be minimized or avoided altogether, and communities are more likely to support a process if they are included in it and given the resources for independent technical review of associated documents and permits. As some developers attorneys can attest, the projects that have been least successful are those where project sponsors have tried to avoid legal requirements and short cut the permitting process. Streamlined permitting, regulatory flexibilities (such as permits that allow alternative operating scenarios and compliance protocols), and overly creative interpretations of legal authority by permitting agencies, all tend to create community suspicion and opposition. This in turn often delays project completion. A comprehensive clean energy policy and the accompanying legislation should provide substantive criteria to make sure that vulnerable communities share in the benefits, instead of bearing a greater share of the burden.

In protecting vulnerable communities, another matter that should be avoided is the temptation to grandfather existing facilities in any new legislation. The proliferation of new coal fired power plants in anticipation of more stringent climate change legislation should not be rewarded. This is yet another area where we may discover, after the fact, that these "preemptive" facilities took the path of least resistance and ended up in or near vulnerable communities in disproportionate numbers.

As pedestrian as siting and permitting issues may appear to some, especially in the face of the unprecedented imperative of climate change, this must we should remember. This is the single biggest issue for vulnerable and highly impacted communities. Families in these communities are assaulted by staggering pollution loads and severe quality of life impacts. Science does not have a handle on cumulative exposures or synergistic risk caused by multiple pollution sources. Our regulatory regime is not designed, or adequately funded and equipped, to address multiple stressor situations. Largely, we have a chemical by chemical, media specific approach to pollution regulation. Let's not add to the problems that this regulatory framework has yet to address.

As it is our ethical duty to do all we possibly can to roll back or avoid climate change, and to design adequate adaptive mechanisms, so is it our ethical duty not to do so on the back of our most vulnerable communities.

Thank you for the opportunity to present this testimony to the Committee, and for considering this important and often overlooked issue.

The CHAIRMAN. Our next witness is Mr. Mike Williams. Mr. Williams is a member of the Yupiaq Tribe from Akiak, Alaska and Iditarod race musher. Throughout his life he has strived to protect the livelihood and culture of Native villages across Alaska. Currently he is vice chairman of both the Akiak Native community and the Alaska Inter-Tribal Council, which represents 229 tribes in Alaska. He is also vice president of the National Congress of American Indians, Alaska Region, and Board member for National Tribal Environmental Council.

We welcome you, sir. Whenever you are ready, please begin.

STATEMENT OF MIKE WILLIAMS, VICE CHAIRMAN, ALASKA INTER-TRIBAL COUNCIL

Mr. WILLIAMS. Mr. Chairman and members of the committee, it is an honor to testify before you today. My name is Mike Williams. I am a Yupiaq, real people, from Akiak, Alaska, located on the Kuskokwim River. Currently I am vice chairman of the Akiak Native community, a federally recognized tribe, and I also serve as the vice chairman for the Alaska Inter-Tribal Council, which consists of 229 federally recognized tribes in Alaska. In addition, I am vice president for the National Congress of American Indians, Alaska Region, and Board member for National Tribal Environmental Council.

Global warming is undermining the social identity and cultural survival of Alaskan Natives and American Indians. As we watch our ice melt, our forests burn, our villages sink, our sea level rise, our temperatures increase, our oceans acidify, our lakes dry, and our animals become diseased and dislocated, we recognize that our health and our traditional ways of life are at risk. Our elders, in particular, are deeply concerned about what they are witnessing.

In Alaska, unpredictable weather and ice conditions make travel and time-honored subsistence practices hazardous, endangering our lives. According to the U.S. Corps of Engineers, at least three tribes in Alaska must be moved in the next 10 to 15 years, Shishmaref, Kivalina and Newtok, while according to a GAO report, over 180 communities are at risk.

Throughout the Nation in Indian country, traditional foods are declining, landscapes are changing, rural infrastructure is being challenged, soils are drying, the lake and river levels are declining. Tribes are experiencing droughts, loss of forests, fishery problems and increased health risks from heat strokes and from diseases that thrive in warmer temperatures. Clearly global warming represents one of the greatest threats to our future and must be addressed by Congress as soon as possible.

There are many economic opportunities for Alaska Natives and American Indians in a low-carbon future, especially with respect to renewable energy. Tribes offer some of the greatest resources for helping the Nation with renewable energy development, particularly wind, solar power, biomass and geothermal power.

In Alaska, for example, we are installing wind power in very remote communities such as Tooksok Bay, St. Paul Island and Kotzebue. Wind power has also been installed on the Rosebud Sioux Indian Reservation. Port Graham Village is assessing construction of a biomass facility using forestry waste. The Confed-

erated Tribes of the Warm Springs Reservation has analyzed the viability of a commercial geothermal power plant. Also NativeSUN Solar has installed hundreds of systems on the Navajo and Hopi reservations.

To achieve Indian Country's and Alaska's renewable energy potential, however, we need investment capital, infrastructure and technical capacity. Any renewable energy program must include opportunities and incentives for tribes. Also with training, American Indian and Alaska Native youth and adults can actively engage in renewable energy jobs from engineering to manufacturing to installation.

There are also economic opportunities associated with energy conservation. We would welcome tribal-based initiatives to better insulate our homes, to convert our lighting and to educate our members regarding energy-efficiency practices. We want jobs that save us money and reduce our carbon footprint. In general, we believe a low-carbon economy will provide multiple local benefits by decreasing air pollution, creating jobs, reducing energy use and saving money.

With respect to adaptation, communities like Newtok, Alaska, are already taking action to move from dangerous sites to higher ground. It is important for Congress to recognize that the adaptation needs are very great. We require planning assistance, Federal coordination and significant financial resources to educate these crucial relocations and to fund other adaptation needs.

In recognition of this tremendously serious situation that global warming poses to American Indians and Alaska Natives, our most important organizations have passed urgent resolutions outlining problems, threats and needed action by Congress, including the Alaska Inter-Tribal Council, the Alaska Federation of Natives, over 100 Alaska Native entities and National Congress of American Indians. I have submitted all of these resolutions to the committee with my written testimony.

In summary, Mr. Chairman, Alaska Natives and American Indians are being seriously threatened by global warming. We implore Congress to protect current and future generations by documenting the extensive costs of global warming to tribes, reducing greenhouse gas emissions, and helping those communities like Shishmaref that need to be moved, repaired or otherwise assisted because of the adverse impacts of global warming.

There is so much at stake. For the sake of our children and grandchildren, seven generations and beyond, Congress must take meaningful action to address this issue now. This is our most and sincere and urgent plea.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Williams, very much.

[The information follows:]

Testimony of Mike Williams

Before the Select Committee on Energy Independence and Global Warming

For the hearing:
"Energy and Global Warming Solutions for Vulnerable Communities"
October 18, 2007

Mr. Chairman and Members of the Committee, it is an honor to testify before you.

My name is Mike Williams. I am a Yupiaq, from Akiak, Alaska located on the Kuskokwim River. Currently, I am Vice-Chairman of the Akiak Native Community, a federally recognized tribe; and I also serve as Vice-Chairman of the Alaska Inter-Tribal Council (AITC), which represents 229 tribes in Alaska.

In addition, I am Vice-President for the National Congress of American Indians (NCAI), Alaska Region; and Board Member for National Tribal Environmental Council (NTEC).

1. **Impacts on Alaska Natives and American Indians**. Global warming is undermining the social identity and cultural survival of Alaska Natives and American Indians. As we watch our ice melt, our forests burn, our villages sink, our sea level rise, our temperatures increase, our oceans acidify, and our animals become diseased and dislocated, we recognize that our health and our traditional ways of life are at risk.

Our elders, in particular, are deeply concerned about what they are witnessing. In Alaska, unpredictable weather and ice conditions make travel and time-honored subsistence practices hazardous, endangering our lives.

According to the U.S. Corps of Engineers, at least three tribes must be moved in the next 10 to 15 years, Shishmaref, Kivalina and Newtok, while according to a GAO Report, over 180 communities are at risk (see Corps report and GAO report citation on Bibliography page, Exhibit 1. See also Testimony of Kivalina, Exhibit 2, and Shishmaref, Exhibit 3).

Everything is changing so quickly. Lakes are drying; new insects are appearing; permafrost is melting; berries are disappearing; storms are fiercer; animal populations are changing; our fish are rotting on drying racks; and polar bears are drowning.

Because of massive, record breaking forest fires, our youth and elders are having trouble breathing. Our ice is so much thinner, or entirely gone. And, our coastlines are eroding, washing away ancient artifacts from our ancestors as well as modern infrastructure.

Throughout the nation in Indian Country, traditional foods are declining, local landscapes are changing, rural infrastructure is being challenged, soils are drying, and lake and river levels are declining. Tribes are experiencing droughts, loss of forests, fishery problems, and increased health risks from heat strokes and from diseases that thrive in warmer temperatures.

If global warming is not addressed, the impacts on Alaska Natives and American Indians will be immense. Models, and the best scientific data and traditional knowledge, indicate that if we do not reduce greenhouse gas emissions the entire Arctic ice cap will melt, endangering the culture and subsistence needs of America's Inuit people. Furthermore, flooding, sea level rise, storm surges, and greater storms will endanger my people, the Yupiaqs, as well as tribes in Florida and elsewhere.

Hotter temperatures threaten all American Indians, but especially in the southwest and Florida, where we often do not have adequate means of escaping the heat. Increased global warming will also endanger salmon in the Pacific Northwest, which are crucial to tribes there, as well as in Alaska. Finally, on almost all tribal lands, enhanced global warming will threaten our sacred waters, essential to our physical and cultural survival.

Clearly, global warming presents one of the greatest threats to our future, and must be addressed by Congress as soon as possible.

2/3. **Opportunities and Initiatives**. There are many economic opportunities for Alaska Natives and American Indians in a low-carbon future, especially with respect to renewable energy. Tribes offer some of the greatest resources for helping the nation with renewable energy development, particularly wind, solar power, biomass, and geothermal power.

In Alaska, for example, we are installing wind power in very remote communities, such as Tooksok Bay, St Paul Island, and Kotzebue. Wind power has also been installed on the Rosebud Sioux Indian Reservation. Port Graham Village is assessing construction of a biomass facility using forestry waste. The Confederated Tribes of the Warm Springs Reservation has analyzed the viability of a commercial geothermal power plant. Also, NativeSUN Solar, which provides installation, maintenance, and technical support for photovoltaic systems, has installed hundreds of systems on the Navajo and Hopi reservations.

To achieve Indian Country's and Alaska's renewable energy potential, however, we need investment capital, infrastructure and technical capacity. Any renewable energy program must include opportunities and incentives for tribes. Also, with training, American Indian and Alaska Native youth and adults can be actively engaged in renewable energy jobs, from engineering, to manufacturing, to installation.

There are also economic opportunities associated with energy conservation. We would welcome tribal-based initiatives to better insulate our homes, to convert our lighting, and

to educate our members regarding energy efficiency practices. We want jobs that save us money and reduce our carbon footprint.

In general, we believe that a low carbon economy will provide multiple local benefits by decreasing air pollution, creating jobs, reducing energy use, and saving money.

4. **Actions**. In recognition of the tremendously serious impacts that global warming pose to American Indians and Alaska Natives, our most important organizations have passed urgent Resolutions outlining problems, threats and needed action by Congress. These resolutions include:

1) The Alaska Inter-Tribal Council (AITC) unanimously passed a resolution urging the United States Congress and the President to move forward on a national, mandatory program to reduce global warming pollution that prevents irreversible harm to public health, the economy and the environment. Traditional knowledge and science both strongly support urgent, meaningful action (See Exhibit 4);

2) The Alaska Federation of Natives, which not only called for a national, mandatory program, but also observed that global warming is "endangering our lives" (See Exhibit 5);

3) RuralCAP (See Exhibit 6);

4) National Congress of American Indians, which describes adverse impacts to tribes throughout the nation and calls on Congress to act (See Exhibit 7); and

5) 150 Resolutions from Alaska Native entities (tribes, Native corporations, and regional non-profits), which I will hand deliver to the Committee when I testify.

With respect to adaptation, communities like Newtok, Alaska are already taking action to move from dangerous sites to higher ground. It is important for Congress to recognize that the adaptation needs are very great. We require planning assistance, federal coordination, and significant financial resources to execute these crucial relocations and to fund other adaptation needs.

In all instances, it is important that our traditional knowledge be incorporated and respected, that we be consulted, and that our values and needs be honored. We have borne and continue to bear a disproportionate burden of the impacts of climate change.

In summary, Alaska Natives and American Indians are being seriously threatened by global warming. We implore Congress to take action now to protect current and future generations and to: document the extensive costs of global warming to tribes, reduce greenhouse gas emissions, and help those communities like Shismaref that need to be moved, repaired, or otherwise assisted because of the adverse impacts of global warming. There is so much at stake.

On a personal note, as a resident of the small village of Akiak on the Kuskokwim River, I have also experienced global warming as an Iditarod Race musher. Alaska Natives have used dogs for transportation for thousands of years; it is an important part of our culture. "The Last Great Race" has changed in many ways since I first started participating in it in 1992. Because of an absence of snow in recent years, we have had to move the start on numerous occasions from more southerly Wasilla to more northerly Willow and even Fairbanks. To keep the dogs cool, since the days are too warm, we have to mush mostly by night now. And, we also mush more on land and less on the frozen rivers because of thawing.

Throughout Alaska and the nation, we are in peril from global warming. For the sake of our children and grandchildren, seven generations and beyond, Congress must take meaningful action to address this issue now.

This is our most sincere and urgent plea.

The CHAIRMAN. And our final witness is Mr. Amjad Abdulla, who is Assistant Director General of the Ministry of Environment, Energy and Water for the Republic of Maldives. As Assistant Director General, he has brought to light many of the effects of global warming on his country and is actively working with the United Nations to find solutions for the Maldives and the world to the challenges presented by global warming. As we know on the committee, the effects 2 years ago of the tsunami on the Maldives was to basically have a profoundly negative impact on 80 percent of its economy as that water just washed over the entire country.

So we thank you, Mr. Abdulla. Whenever you are ready, please begin.

STATEMENT OF AMJAD ABDULLA, ASSISTANT DIRECTOR GENERAL, MINISTRY OF ENVIRONMENT, ENERGY AND WATER, THE REPUBLIC OF MALDIVES

Mr. ABDULLA. Thank you, Mr. Chairman, distinguished Representatives. May I begin this morning by thanking you for the invitation to offer testimony to this important gathering.

I am honored to share the floor today with the noted human rights activist Mr. Martin Luther King, III. In 1963, his father, the Reverend Martin Luther King, Jr., stood in front of the Lincoln Memorial and delivered one of the most powerful speeches of the 20th century, addressing the need for social political justice. He said, and I quote, "We have come to this hallowed spot to remind America of the fierce urgency of now."

Today, Mr. Chairman, I come before you to speak about the immediate and far-reaching impacts of global climate change. I come to explain that for the Maldives, this global phenomenon represents a crisis that threatens our very existence for us and for other vulnerable communities around the world. Failure to address this threat will have devastating consequences for human rights, homes, livelihoods, and ultimately human lives.

I have come to this hallowed spot to ask you for your political, economic and moral leadership to address climate change. I have come to tell you that if you overlook the urgency of this moment, it will result in the death of a nation, the Maldives, and the loss of vulnerable communities around the world.

Mr. Chairman, distinguished Representatives, climate change is the defining issue of our time and the fundamental challenge to the 21st century. Moreover, it is not an environmental challenge, nor a scientific theory. It is the first and foremost human issue. It is already adversely impacting individuals around the planet. Due to alterations of ecosystems, the increased incidence of natural disasters, these impacts have been observed to be intensifying in frequency and magnitude. The reports by the Intergovernmental Panel on Climate Change have established a clear scientific consensus and left us in no doubt the magnitude of the threat we face. Global warming is real, accelerating and human-induced.

The review by the eminent former World Bank economist Sir Nicholas Stern has demonstrated that unchecked climate change would trigger a global recession of enormous proportions, turn 200 million people into refugees, and precipitate the largest migration in modern history as their homes succumb to drought or flood.

As small island states, we in the Maldives are immediately and particularly vulnerable to even small changes to the global climate. In the recent months, we in the Maldives experienced tidal surges on an unprecedented scale. Never in our documented human history have so many islands been flooded over simultaneously and to such an extent. These surges were a grim reminder of the devastating tsunami of 2004 and a dangerous warning of future impacts.

Even today rising ocean temperatures, coupled with acidification caused by greenhouse gases, threaten our prized coral reefs. These reefs are the mainstay of the tourism and fisheries industries and the heart of our economic development.

Let me briefly mention the geographic composition of the Maldives to the distinguished members of the select committee for a better understanding of its vulnerability from global warming and climate change.

The Maldives is comprised of approximately 1,190 small islands scattered in the Indian Ocean with only 1 percent of land and 99 percent of sea. I use approximately because the number of islands varies with the tide. Our islands barely exceed 1.5 meters above main sea level. As we look to the horizon, we fear that the rising sea levels threaten to inundate our land and submerge the entire nation.

We are rising to meet this challenge as best we can. Our work focuses on adaptation, international negotiation, public diplomacy, and the human dimension of global climate change.

On adaptation, we have developed a concrete plan of action that aims to reduce the exposure of the impacts of global climate change. Our national adaptation plan of action, which I have submitted in writing to the committee, outlines our most immediate initiatives on sea defenses, securing vital infrastructures, utilities and so forth. Relocating people from smaller vulnerable communities to bigger islands is one of them.

With regard to mitigation, our own carbon footprint is minimum; however, we are a vocal advocate for a comprehensive framework to replace the Kyoto Treaty. Internationally we are leading an initiative in cooperation with other smaller island states entitled The Human Dimension of Global Climate Change. This initiative is designed to put people back at the heart of the issue and highlight the threat climate change poses to human rights and human lives. We will convene a conference in the Maldives on the 13th of November this year, and I would be pleased to elaborate on this further during your questions.

Mr. Chairman, although the impact of climate change is going to be felt first in vulnerable countries, such as the Maldives and other low-lying states, it does not end with us. The immediate and far-reaching threats reach into every nation, every community and every neighborhood on the planet. If we are to avoid the devastating effects of climate change, the major economic economies must take the lead.

Action to reduce greenhouse gas emissions presents the greatest opportunity to preserve the prospects for future prosperity, and the future delay risks irreparable harm to sustainable development. We therefore urge the Congress to take the lead on reducing emis-

sions and stabilizing greenhouse gas concentrations at levels that would restore the balance of the Earth's climate system.

Technological innovation throughout our economic system from energy and transport, construction——

Mr. BLUMENAUER [presiding]. Mr. Abdulla, could you summarize?

Mr. ABDULLA. Our political system needs to encourage greater incentives for investment in clean technologies and public regulations to support innovation.

Mr. Chairman, just to conclude, during the past two decades, we have looked for signs of progress, but too often we have seen a lack of leadership at the international level. We believe this trend is changing. In 2007, we see the signs of renewed dynamism and determination.

Speaking in London in July this year, the President of the Maldives, Mr. Maumoon Abdul Gayoom, more than two decades of climate change advocacy, he said that there has been a great deal of expectations, but ultimately too many missed opportunities. In concluding his speech, he said. And I quote, "Let us say enough of expectation and promises. It is time to deliver. Enough of hesitation. It is now time for bold leadership."

We thank the committee for your invitation today, and we encourage you to strengthen your leadership and maintain your current momentum. Thank you.

[The information follows:]

Embassy of the Maldives to the United States of America

Energy and Global Warming Solutions for Vulnerable Communities

Testimony from the Republic of Maldives to US House of representatives Select Committee on Energy Independence and Global Warming

Mr Amjad Abdulla

Assistant Director General of the Maldives Ministry of Environment, Energy and Water.

18 October, 2007

{Please check against delivery}

Embassy of the Republic of Maldives
to the United States of America

Mr Chairman, Distinguished Representatives,

May I begin this morning by thanking you for the invitation to offer testimony to this important gathering.

I am honored to share the floor today with the noted human rights activist Mr Martin Luther King III.

In 1963 his father, the Reverend Martin Luther King Junior, stood in front of the Lincoln Memorial and delivered one of the most powerful speeches of the twentieth century. Addressing the need for social and political justice he said and I quote "We have come to this hallowed spot to remind America of the fierce urgency of now!"

Today Mr Chairman I come before you to speak about the immediate and far-reaching impacts of global climate change. I come to explain that for the Maldives this global phenomena represents a crisis that threatens our very existence. For us, and for other vulnerable communities around the world, failure to address this threat will have devastating consequences for human rights, homes, livelihoods, and ultimately human lives.

I have come to this hallowed spot to ask you for your political, economic and moral leadership to address climate change. I have come to tell you that if you overlook the urgency of this moment it will result in the death of the Maldives and the loss of vulnerable communities around the world.

Mr Chairman, Distinguished Representatives,

Climate Change is the defining issue of our time and the fundamental challenge of the 21st century. Moreover, it is not just an environmental challenge nor a scientific thesis; it is first and foremost a human issue. It is already adversely impacting individuals around the planet, due to alterations in ecosystems, and increased incidence of natural disasters. These impacts have been observed to be intensifying in frequency and magnitude.

The reports by the International Panel on Climate Change have established a clear scientific consensus and left us in no doubt of challenge we face. Global warming is real, accelerating and human induced.

Moreover, the publication of the Stern Review by the eminent former World Bank economist Sir Nicholas Stern, has demonstrated that unchecked climate change would trigger a global recession of enormous proportions, turn 200 million people into refugees, and precipitate the largest migration in modern history, as their homes succumbed to drought or flood.

As a small island states we in the Maldives are immediately and particularly vulnerable to even small changes to the global climate. In recent months we in the Maldives experienced tidal surges on an unprecedented scale. Never in our documented history has so many islands been flooded over simultaneously and to such an extent. These surges were a grim reminder of the devastating tsunami of 2004 and a dangerous warning of future impacts.

Even today rising ocean temperatures, coupled with the acidification caused by greenhouse gases, threaten our prized coral reefs. These reefs are the mainstay of the tourism and fisheries industries and the heart of our economic development.

Our highest point is little more than 2 meters or 6 feet above sea level. As we look to the horizon we fear that rising sea-levels threaten to inundate our land and submerge the entire nation.

We are rising to meet this challenge as best we can. Our work focuses on adaptation; international negotiation; public diplomacy; and the human dimension of global climate change.

On adaptation we have moved to protect our vital infrastructure including our airports. We have invested in securing our utilities and fresh water supplies. Efforts have continued to strengthen flood defenses, particularly with the development of the innovative tetrapods in Male. We have worked to raise

public awareness and promote behavioral change, both with Maldivians as well as with the large numbers of tourists who visit the country every year. And finally, the *"safe island zone"* concept aims to identify particularly vulnerable communities and relocate them to places where their security will be less threatened and where they can build their livelihoods.

With regard to mitigation our own carbon footprint is minimal, however we are a vocal advocate for a comprehensive framework to replace the Kyoto Treaty.

Internationally, we are leading an initiative in cooperation with other small island states entitled "The Human Dimension of Global Climate Change". This initiative is designed to put people back at the heart of this issue and highlight the threat climate change poses to human rights and human lives. We will convene a conference in the Maldives on 13 November and I would be pleased to elaborate on this further during your questions.

Mr Chairman,

Although the impact of climate change is going to be felt first in vulnerable countries such as the Maldives and other low-lying states, it does not end with us. The immediate and far-reaching threats reach into every nation, every community, and every neighborhood on the planet.

If we are to avoid the devastating impacts of climate change the major economies must take the lead.

Action to reduce greenhouse gas emissions presents the greatest opportunity to preserve the prospects for future prosperity, and further delay risks irreparable harm to sustainable development.

We therefore urge the Congress to take the lead on reducing emissions and stabilizing greenhouse gas concentrations at levels that would restore the balance of the Earth's climate system.

Technological innovation throughout our economic system from energy and transport to construction will be pivotal. Our political system needs to encourage greater incentives for investment in clean technologies and public regulations to support innovation.

We therefore urge the Congress to provide an appropriate framework to support an energy revolution in the United States.

Mr Chairman,

During the past two decades we have looked for signs of progress, but too often we have seen a lack of leadership at the international level. We believe this trend is changing. In 2007 we see the signs of renewed dynamism and determination.

Speaking in London in July, the President of the Maldives, Maumoon Abdul Gayoom, more than two decades of climate change advocacy. He said there has been a great deal of expectation but ultimately too many missed opportunities. In concluding his speech he said and I quote "Let us say enough of expectation and promises – it is time to deliver. Enough of hesitation, it is now time for bold leadership".

We thank the Committee for your invitation today, and we encourage you strengthen your leadership and maintain your current momentum.

Thank you

Mr. BLUMENAUER [presiding]. Thank you, Mr. Abdulla. Our Chairman has stepped away. He had about two dozen guests here. He will be back in a moment and asked that we proceed.

I would just note that we are going to be facing a vote pretty soon. So I would like to just move quickly. I would just ask one question, and then turn to my colleagues.

Mr. Williams, you painted a pretty significant picture of what is facing the Native American community, Alaskan corporations. I am wondering if you are aware of any specific programs in place at this point that address the concerns of Native American populations as it relates to the consequences of climate change and adaptation that you referenced.

Mr. WILLIAMS. Right now we are at the crossroads, and many of the communities like Shishmaref is falling into the Bering Sea, and I think for some village of Newtok is currently planning to move into a higher ground, and that, I think, is one way of retreating from falling into the sea. And that is the only thing that is occurring.

And what we have been trying to do is involving ourselves in trying to address the effects in the north, in the Arctic. And we have been involved in trying to have EPA enforce the regulations on the automobiles and also the power companies on the east coast, because all of these activities affect the people in the North. So we are most vulnerable and paying a heavy price for the activities in other areas of the world.

So right now we need capital, we need more resources to plan for the future, because my community is going to be in the river and in the sea pretty quick if we don't address it soon.

Mr. BLUMENAUER. Thank you very much.

Mrs. Blackburn.

Mrs. BLACKBURN. Thank you, sir. I want to welcome all of our witnesses before us today.

Mr. King, I commend you for your listening tour. It sounds like it has been instructive.

Mr. Williams, I think I would like to direct my first question to you, if I may. The wind turbines that are being installed in Alaska, where is the money coming from for those? Do you know?

Mr. WILLIAMS. I think the money is coming from Congress, and those, you know, the energy costs, are tremendous in Alaska. In my community the price of gasoline is $7. But the wind programs in Kotzebue in Tooksok Bay have really reduced the 50-cents-per-hour—per-kilowatt-hour problem that we are facing in the very poor communities, the poorest of the poor in the country.

Mrs. BLACKBURN. Let me ask you this also. So on the wind turbines you are depending on government grants for that. But let me ask you about transporting renewable energy to some of these rural and isolated areas. What solutions do you propose? Or do you all have any solutions that you are proposing for transporting renewable fuels into these rural areas?

Mr. WILLIAMS. I think shipping right now is the way to go, you know, because we don't have any roads in our areas. And there is no other way to get to those communities. So barges and shipping through waterways.

Mrs. BLACKBURN. All right. I want to go to page 3 of your testimony. You talk there about NativeSUN Solar, which provides installation, maintenance, technical support for the photovoltaic systems. They have installed hundreds of systems on the Navajo and the Hopi Reservations. What is the cost per kilowatt hour for solar energy in Alaska? And what do residences—an average resident actually pay for electricity per kilowatt hour right now? Do you have that information?

Mr. WILLIAMS. Yes. I have—I don't have current data on the Navajo and Hopi per kilowatt hour, but in my community, per kilowatt hour to pay for our electricity ranges from 50 cents to 70 cents per kilowatt hour in our communities in Alaska.

Mrs. BLACKBURN. Okay. And then for the solar, can you get that number for me?

Mr. WILLIAMS. Right now in Alaska, I think the wind power is more viable. And the solar energy—in the wintertime when there is 24 hours of no solar, we don't see the sun up North for 24 hours for 6 months. It is pretty hard to get that to retrieve the solar energy.

Mrs. BLACKBURN. Now, on the wind power, let me just ask you one follow-on. Has the environmental community expressed any concern over the wind turbines and the harmful effects for birds? Have you had resistance there?

Mr. WILLIAMS. We have discussed that issue, but we have taken a look. And I come from the most populated migratory bird area in the world. And we have had those wind turbines going and have seen no effect on our migratory birds.

Mrs. BLACKBURN. Thank you.

Mr. Abdulla, the sea level in the Maldives, what has been the actual rise of the sea level over the past year?

Mr. ABDULLA. For the sea level, we have had a record of 15 years, and it shows about a millimeter of rise per year in sea level. And to this magnitude, even a small millimeter of the sea level, it speeds up the wind-generated waves, and it sort of leads to flooding more frequently.

Mrs. BLACKBURN. And over the past year, did it remain the same, or was there a difference?

Mr. ABDULLA. Well, it has remained the same.

Mrs. BLACKBURN. So you continued to see a rise last year?

Mr. ABDULLA. Yes.

Mrs. BLACKBURN. Okay. And then how do you deal? How have you dealt with the rise in the sea level?

Mr. ABDULLA. Well, due to the sea level rise, I think we have—we have initiated a program on relocating people from smaller vulnerable islands. As you know, there is no high ground in the Maldives. It is all flat. It is about 1.5 meters above main sea level. There is no higher grounds where you can move in. And the islands are pretty small. And the government has initiated relocating small vulnerable communities to bigger ones with coastal protection. And that is the only option that we can survive as a sovereign state.

Mrs. BLACKBURN. Thank you, Mr. Chairman. I yield back.

Mr. BLUMENAUER. Thank you.

The gentlelady from California.

Ms. SOLIS. Thank you, Mr. Chairman. I would like to direct my questions to Mr. King.

You mentioned in your discussion a reinvestment fund that we could possibly develop through making the polluters responsible and paying into this investment fund.

Could you give me an idea what two components might be a part of that critical reinvestment fund? And why is it needed?

Mr. KING. Well, I think the real question is, obviously, when it comes to communities of color particularly and those who perhaps will be impacted most by what is occurring because of global warming, I guess there has to be a balance of some kind.

It would seem that one of the ways, those who are, I guess, heavy polluters, if you will—now, what that specifically means today, I don't know that I can cite specific examples today. I certainly would be able to get something back to you on that.

Mr. KING. But what I think can happen, or I hope can happen, or in the past have heard, is that because of these large entities that are ultimately—obviously, the solution is to create the kind of regulations so that we can begin to reduce what we are doing. And, in short, if there is this kind of forum that exists, I think—I hope one does not see that as putting an undue burden on those business entities.

But, you know, I know we have got to do something, and that is just one suggestion. I can certainly get something specifically back to you on that particular issue.

Ms. SOLIS. It isn't a foreign concept is, I guess, what I want to hear. Because in many cases, the way our current laws are supposed to work—Superfund sites, for example, funding that we get from polluters is supposed to go back to clean up those communities. But we find under current conditions in this administration we have been negligent in that cleanup.

Mr. KING. Yes, and particularly, again, as it relates to communities of color, where there seems to be a disproportionate number of not just Superfund sites; but I think there is statistical data that shows that communities of color generally are more—I don't want to say more polluters are there, but it just seems like a disproportionate number.

Ms. SOLIS. Yes, there are a lot more sitings.

In fact, Professor Gauna, if you could just touch very briefly, you talked about setting some policy decisions that would actually look at substantive criteria. If you could please go over that, because you hit a lot of what I would like to see occurring in some of our public policy.

If you could, be a little bit more specific and just give me some idea of how we do that when we are setting our policy.

Ms. GAUNA. Thank you, Congresswoman Solis.

That really is a, you know, rather technical area, but it is not insurmountable. I think that we have models that can work, for example, to avoid, minimize, mitigate. Models that we see in wetland permitting and other areas where we are protecting vulnerable or highly fragile resources could actually work in an area of highly impacted communities. Those models do contain substantive criteria, where you say—you reach a particular point where it really is a public health issue.

You are going to need substantive criteria. That said, I think that procedural protections go a long way.

Very basically, the earlier you get the communities involved in the project—the important thing to remember is that the communities are the people most intimately aware of the surrounding circumstances, especially in a multiple impact area. Often, when you get these communities involved very early, they can propose solutions that the permitting officials and other public officials tend to miss because they don't live in those areas. So procedural criteria can go a long way.

But when we are dealing with highly impacted communities, we need substantive criteria. We need legal authority from Congress that tells us when it is not advisable.

Mr. BLUMENAUER. Thank you very much.

The gentleman from Kansas City.

Mr. CLEAVER. Thank you, Mr. Chairman.

Professor Gauna, my concern is—I just have one question. Hopefully you can give me some guidance, because we are the only nation in the Western world still not admitting climate change, which is an embarrassment in itself, but I don't want to deal with that embarrassment or try to conceal it.

But if you look at what happened in the Ninth Ward in New Orleans, and realize that if you go down there now you still have to put on a mask, because the Ninth Ward, where the poor people lived, is also where the landfill was; so in addition to the rising waters and the alligators, you had all of the contamination from the landfills. In some areas, the ground is black.

The issue is, though, had we not had the flood, I am not sure that there would have been any complaints about what was going on in the Ninth Ward, because in minority communities, we have not been able to generate interest in the climate changes at a level that I think we should, although the NAACP devoted its entirely monthly magazine in July and August, special edition, in the Fight for Environmental Justice.

But in terms of the grassroots people, do you have any suggestions on what this committee could do to try to raise the interest, the awareness of what is going on? Because they are victims, whether they know it or not.

So can you give me some guidance on that, or not, please, either one of you.

Mr. KING. Clearly, the legislation that you will propose and ultimately pass is going to do a lot of that, or, I think, go a long way toward addressing that issue. It is, to me, beyond the NAACP; it is all of the organizations—certainly SCLC, Rainbow/PUSH, National Action Network, the Urban League.

Collectively, it is also part of our responsibility to inform the community. I think people of color often are in a survival mode. While people know that these issues exist, it really is a matter of educating; and we really are depending on you, as our leaders, to be the voice to create the proper kind of legislation. Obviously, we will certainly do our part in terms of coming to continue to raise issues.

But I think historically, our nation has just kind of—just like we would look at poverty. Now we finally realize in this nation that

global warming is a crisis, I believe, even though, as you stated, maybe the administration has not admitted it.

The moral leadership, I think, in the future—in the years to come there is going to have to be a new moral tone set as it relates to global warming and other issues, particularly poverty, which I and many have been working on. We are sort of in denial, and I don't think we have the luxury of denying anymore. This is the issue, front and center, that we have to address for our own personal survival.

As I say, we as organizations, I am sure, are going to do our part, but we need legislation from you as Congresspersons.

Ms. GAUNA. Thank you, Congressman.

In my experience, there hasn't been apathy. In fact, there has been a great deal of interest coming from community and community-based organizations. I do see a disconnect between that and the higher levels of government.

To the extent that at this level you can put into legislation or policies, provisions for collaboration between community-based organizations and Federal and sub-Federal agencies, I think you have a real nice synergy there that has been unexplored and unharvested up until this point.

I think—I am absolutely convinced the interest is there, but we just need a way to connect that. I could be more specific in a follow-up piece if you would like, on how to increase this level of collaboration that is necessary. I agree with you, it is absolutely necessary.

Mr. BLUMENAUER. The gentleman from California.

Mr. MCNERNEY. Mr. Chairman, this panel has a very important, stark message. I have been hearing of global warming impacting peoples lives right now, here, today. It is a moral issue, and the northern communities and the island communities are being impacted, but no community is going to be immune in the future.

There is a question here, though, that you spoke about, wind turbines and other forms of renewable energy, Mr. Williams. Is that impacting you in a positive way in terms of creating jobs more than the jobs that are created, say, by shipping in oil or diesel fuel or whatever forms of energy used before the renewable energy is being used?

Mr. WILLIAMS. Well, currently, there are limited biomass efforts, and also wind turbines just recently showed up to our communities.

But, clearly, it has created savings of energy costs to consumers and are very—so the poor in the country and the highest prices of energy due to transportation, et cetera. But I am seeing more jobs created in these communities that have wind turbines, and also the biomass is a local effort.

Mr. MCNERNEY. Professor Gauna, I would like you to address the same question. When you spoke, you talked more about the concern of liquid natural gas and other forms of traditional energy. Do you see the—how do you see that is stacking up against the positive impact of local forms of renewable energy, such as wind and solar, in various areas?

Ms. GAUNA. Are you talking about the positive impact, economically——

Mr. MCNERNEY. Yes.

Ms. GAUNA [continuing]. Or are you talking about the positive impact on health and so forth?

Mr. MCNERNEY. Economically.

Ms. GAUNA. Economically, one thing that I am seeing in my travels is, communities are saying, we need economic development. We are not antidevelopment. We need jobs, but we would like clean jobs.

When you compare cleaner, not totally risk-free or pollution-free, but cleaner forms of renewable energy production versus the really heavy extractive industries—you know, coal bed methane, dewatering processes and so forth—that really degrade the environment, you will see a clear choice there; and communities, by and large, you know, would opt for the cleaner jobs that are provided by renewable energy sources.

Mr. MCNERNEY. Do you have a comment, Mr. King, on the economic impact of renewable energy?

Mr. KING. Well, I certainly wouldn't proclaim to be an expert, but I would certainly concur that I think people—for me, it really is information and education. Clearly, when people understand the impact, they will embrace, when you talk about new alternatives—even if we are talking about fuel sources, the kinds of things that are going to just make our environment a better place, I think people will embrace that. And, of course, because it does not exist—it would seem like today it does not exist enough—it seems like it would have another major economic impact. Anything that perhaps is new, it would seem to me, would not just create interest, but would create opportunity and options.

Mr. MCNERNEY. Thank you.

Mr. Chairman, I yield back.

Mr. BLUMENAUER. Mr. Hall.

Mr. HALL. Mr. Chairman, thank you all for your testimony. I am sorry I was late getting here.

But I just want to comment on the proliferation of polluting or industrial sites in areas where people of color are a large part of the population. I think it is also the—at times, just towns or regions or areas of little economic and political strength.

In my district I have, for instance, a battery factory that just shut down and left behind a terrible, polluted lagoon and heavy metal contaminations and so on. It is not a minority ethnic group that lives there, it is a Caucasian, American small town that just happens not to be well off enough or perhaps educated enough about the environment to go out or to have the time.

I think, as Mr. King said, you are trying to keep up, and it is hard to take care of your family and keep your head above water economically and still have time or money to hire lawyers and go to hearings and write letters and do all those things that other people with more resources are available to do.

Turning to Mr. Williams and Mr. Abdulla, I am particularly interested in the specific things that could be done to mitigate or to adapt to your communities, and especially with the Maldives. We have a few parallels here in the United States that people who live there have not realized yet: the Outer Banks of the Carolinas, for instance, Hilton Head, Cape Hatteras, South Padre Island, Nan-

tucket Island, which is mostly very low elevation. All of these places are going to be under water.

If a worst-case scenario of climate change happens and sea levels rise, they will be facing the inundation that you will, but the difference is, they are close to the mainland of the United States, and they will be relatively easy, although expensive, and it will be a big dislocation for them and a financial loss for them, but they would be able to move inland.

In Alaska, I assume Shishmaref moving inland and the other, Newtok, moving inland, confined to higher ground. Whereas the Maldives, you don't have higher ground to move to after a certain point.

So the question is, what mitigation are you looking at, starting with Mr. Abdulla, in terms of, you know, is there a way to hold the sea back from your nation should the sea rise, be in the mid-to-higher level of what is projected?

Mr. ABDULLA. Thank you, Senator. Yes, indeed, there are ways that we can meet to greet the greenhouse impact. As I might say, you know, the increasing sea surface temperature threatens the very existence of our country, both economically and physically.

The two industries, namely, the fisheries and the tourism, are going to be exhausted. The natural defense, sea defense of the coral reefs itself, is a natural protection as well as the economic factor.

I think losing this is going to be—as I said in my statement, is going to be the death of a nation.

In terms of mitigation, I also just want to tap in on that, there are clear ways and means that we can do something. For example, Sweden, Denmark, the UK are reducing emissions while growing their economies. The UK has reduced emissions while enjoying healthy economic growth. While among technologies that—are among the biggest export sectors, I think there are some very good examples that some of the Annex One countries are taking a lead on.

I think, here, the Congress can sort of insist or justify within these examples, and with adaptation, motives have been adapting to climate change ever since. We have very clear directions, very clear proposals at the moment. It is high time that we start speeding implementation of this. Otherwise, we are seeing, witnessing every now and then the real impact of climate change and sea level rise.

As I said in my statements, we don't have anywhere to go. It barely exceeds 1.5 meters above sea level. If the predicted sea level rises and exceeds, by the end of this century, we may face the demise of a nation.

Mr. HALL. Thank you, Mr. Abdulla. My time has lapsed.

In the past we have had a sister city program between cities in the United States and cities in other countries around the world. This might be an opportunity for us to establish the same kind of relationship where a city or an island or a community in the United States that is threatened by increased sea level or other climate change effects would partner with a country like yours and thereby share information and establish the identification needed to act, to get us to act together.

With that, I yield back, Mr. Chairman. Thank you, Mr. Chairman.

The CHAIRMAN [presiding]. I thank the gentleman from New York.

The Chair will now recognize himself for a series of questions.

You mentioned, Mr. King, your support for passing a bold energy program. What aspects of the proposed energy bill do you feel most directly strengthen the lives of the most vulnerable? Which part of the energy bill that we are now considering do you believe affects most significantly the lives of the most vulnerable?

Which things in there do you believe are going to be most vulnerable in shifting our policy in a way that helps those who are vulnerable here and around the world?

Mr. KING. Well, I think, looking at it from a comprehensive standpoint, I probably would like to say that I need to get back to you on that.

The CHAIRMAN. What role would the green college part of the bill play in a minority community, the parts of the bill that Congresswoman Solis is principally responsible for?

Mr. KING. Well, specifically, I think any time that you can create, you know, options for poor people, when we are talking about the jobs part of it, and also begin to reduce emissions, which is a huge, huge task, but something that I guess we—not guess, we have got to do, we have got to find a way to address—I guess, and I want to be direct, but I am not sure that I have all the information today.

I can certainly, I can certainly get something back to you, though.

The CHAIRMAN. Please, I would very much appreciate it.

Mr. KING. Okay.

The CHAIRMAN. Professor Gauna, in your written testimony, you mentioned the success that some communities have had in brownfields development. Can we expand on what helped create those successes? What does the Congress need to do to help ensure that we can learn from these successes as we build a green energy future?

Ms. GAUNA. Thank you, Representative Markey. There was actually a study, I believe performed by the Environmental Protection Agency or the National Environmental Justice Advisory Council—I am not sure what—that looked at five areas that were high impact communities where there was brownfield development and kind of looked at those to see what happened.

Interestingly enough, I know it sounds rather common, but the earlier you get that community in, give them independent technical review of the proposals, they are able to suggest very interesting options to deal with some of the higher impacts.

The problem that we see from my end of it is that permitting officials are very hesitant to use legal authority to address environmental justice issues. So just having the legal authority there, having a signal, a strong signal from Congress, to promote early participation, to give resources, to require heavy, heavy public participation requirements in siting and permitting is going to create the synergies that are needed to help resolve the problems on a site-specific level.

These problems differ with the nature of the enterprise, so I apologize. I can't be any more specific than that.

The CHAIRMAN. I appreciate that.

Ms. GAUNA. Okay.

The CHAIRMAN. Let me ask you, Mr. Williams, and you, Mr. Abdulla, what are the financial costs that we are talking about? What is the scale of financial resources that is going to be necessary, for example, to relocate the tribes up in Alaska? You know, there are obscene estimates of $100 million to $400 million per community in order to relocate them inland.

Can you give us some scale of what the totality of this financial cost to our country will be in order to protect——

Mr. WILLIAMS. Well, I would agree to some of the projections, at least $100 million per community.

When you talk about 150 communities that are going to be passed down the road in the next 50 to 100 years, it is going to have extra, insurmountable costs to our government, which has trust responsibility to the tribes to deliver that—to deal with those communities.

Senator Stevens just had a hearing on erosion problems. It is going to have a huge cost to the Federal Government if we don't begin to start addressing this issue right now. And that is why I enthusiastically came here to testify, to make sure that this is a top priority.

The CHAIRMAN. Is it fair to say then, Mr. Williams, that it will cost the Federal Government billions of dollars to relocate the tribes in Alaska unless we put in place the policies that don't necessitate having to relocate the tribes?

Mr. WILLIAMS. Yes.

The CHAIRMAN. Billions of dollars?

Mr. WILLIAMS. Billions of dollars.

The CHAIRMAN. When people say we can't afford to put in these measures, the fact is we can't afford not to. The costs are going to be staggering to our country.

Mr. Abdulla, can you talk a little bit about the financial costs to your country?

Mr. ABDULLA. Thank you, Representative Markey, Mr. Chairman.

The cost of relocation and the cost of coastal protection, if we are to look at the cost of relocating a family of six people, we are talking about $500,000 to $800,000 U.S., per family. The cost of coastal protection is $4,000 to $5,000 U.S., per linear meter.

The CHAIRMAN. In other words, in order to build protection around an island, it costs——

Mr. ABDULLA. Yes, if I may say, the cost of the protection of the capital island, Male, which I guess is about 9 to 10 kilometers, the total cost of the project was about $130 million U.S. That is only the cost of one island. If we are to save about 50 islands, we are talking about $2 billion U.S.

The CHAIRMAN. Does the Maldives have $2 billion?

Mr. ABDULLA. No.

The CHAIRMAN. So it would be the international community that would be asked to commit, to help?

Mr. ABDULLA. That is true. That is why I have highlighted the importance of the speedy implementation of our national plan of action. It is highly important, and we are doing the most that we can do. We can incorporate that into our national implementation plans. We are spending from our national budgets annually—and the speed of it is that we can't wait until the waves are hitting the communities. And we have seen every monsoon, the enormous amount of devastation to the communities, and it is daily.

I am one of them who witness daily, and I visit these communities. They are really, really in deep trouble. If we are not to save them, I don't know—I mean, they are going to be——

The CHAIRMAN. Thank you, sir. Thank you for coming here. My time has expired.

The Chair recognizes the gentleman from Washington State, Mr. Inslee.

Mr. INSLEE. Thank you.

Thank you for being here.

I want to ask Mr. Williams, as far as short-term relief, I have seen that folks in Shishmaref have voted to move to Tin Creek, as I understand it, and they have millions of dollars of relocation costs.

What, in the short term, is the most feasible way to actually help—for the Federal Government to help that relocation effort? Is it a specific bill? Is it a grant? Is it an earmark? What is the best thing for us to consider?

Mr. WILLIAMS. Well, I think the best thing for you to consider right now is to make sure that the policy in greenhouse gas emissions is reduced immediately. I think that human beings can do some action right now to prevent further erosion, and if we don't take any action right now, as human beings that are causing this problem—I think we can save many millions of dollars down the road, but it has to be—action has to be now.

But in terms of short-term solutions, I think the Federal Government needs to hold extensive hearings on each community. Each community has different issues to deal with, and those 150 to 180 communities in Alaska, I think, have different solutions to each issue.

So I think it would be a short-term solution to travel up there and to meet with each community on how they are going to deal with the issue of short-term solutions.

Mr. INSLEE. Has any thought been given of establishing a fund that—I am just sitting here thinking, stream of consciousness, if we are really going to have to start thinking about relocating communities, should we give some thought to a specific fund for that purpose for multiple communities?

Mr. WILLIAMS. Yes. I think it is urgent, and we are just, you know, existing there.

You know, I think the Federal Government—I realize it has trust responsibility to the tribes of this Nation, and I think some sort of fund would be of great help, to help down the road, and it is going to be affecting us in the long term; and moving schools and moving homes and health facilities is going to be enormous, roads, et cetera.

But the threat is real, and it is right in our face right now, and we need to have action plans right now so we can avoid more costs down the road.

Mr. INSLEE. By the way, by asking these questions, I don't mean to imply that we don't need to stop this from happening in taking proactive measures; I have been working with the Chair and folks on this committee to do that.

I believe we can do that. There is a book called Apollo's Fire out there that talks about what we could do to stop this from happening. I know, because I helped coauthor it. So I know that we can do this.

But the problem is that there is so much of this that is locked into the system already. Even if we stop today CO_2 pollution, we are going to have a lot of damage that we have to deal with.

So I am interested in any further thoughts you have at any time about how to move forward on a fund like this. I would like to hear them. I am sure there are others as well.

I want to thank you for being here. Thank you.

The CHAIRMAN. Great. The gentleman's time has expired.

Here is what I am going to ask each of you to do. Give us the 1 minute, the 1 minute you want us to remember, as we are going forward to the end of this year on the energy bill and then on to the cap and auction and trade bill that we will be considering next year.

We will begin with you, Mr. Abdulla. What do you want us to remember?

Mr. ABDULLA. Thank you, Representative Markey.

I want you to remember that please don't let the voice of the most vulnerable country on the face of the planet to go unheard, that we remain as a sovereign state, and none of the Maldives will want to be environmental refugees unless, otherwise, we are forced to.

Bear in mind that—please, help us to be—as a sovereign state, not to be a victim from the global warming and climate change.

Thank you.

The CHAIRMAN. Thank you, Mr. Abdulla.

Mr. Williams.

Mr. WILLIAMS. One thing that I would like for you to remember is alternative energy is the way to go. I think we have seen enough of producing in vulnerable areas of the world. In energy production, I think we need to capture the wind, the solar, the biomass. The other alternative energy is reducing greenhouse gas emissions from automobiles, power companies, et cetera.

I think there are other ways of addressing this issue, and I want you to remember clearly that more development in vulnerable areas that are very important to our environment and to our existence is very important to me.

The CHAIRMAN. Thank you, Mr. Williams.

Professor Gauna.

Ms. GAUNA. I would like to leave you with the thought that as we build our new, cleaner energy infrastructure, which we must, that a simple requirement that impacts the vulnerable communities should be avoided, minimized or mitigated to the extent feasible, together with requirements for alternative site analyses, can

go a long way to inject common sense and protectiveness into a permitting process. This is going to avoid a lot of problems down the road.

Thank you.

The CHAIRMAN. Thank you, Professor.

Mr. King.

Mr. KING. Mr. Chairman, I would just like to add a caveat, I guess, to what Mr. Williams stated. That is that clearly today most consumers do not have a choice as it relates to whether it is fuel for your automobile or whether it is heating oil for your home. We need more choices.

The new sources of energy that can be produced will create jobs and opportunities for people in our Nation and perhaps an entire new economy, a clean economy.

I just want to add my voice to the voice of all those who believe consumers need choices, clean choices, better choices.

The CHAIRMAN. Thank you.

We thank you, Mr. King. We thank all of panelists. Many of you have come a long, long way to be testifying here with us today.

The Select Committee very much appreciates the effort that you have made. We want you to know that this testimony today is going to play a big role in the way in which our committee views this bill that is now pending in the next 6 to 8 weeks before the House of Representatives and the Senate.

It is a powerful, powerful thing to hear the kind of testimony that you delivered today, and it is going to make a big difference before the end of this year. We thank you.

With that, this hearing is adjourned.

[Whereupon, at 12:40 p.m., the committee was adjourned.]

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Dear Select Committee Members:

Thank you for your follow up questions concerning the environmental justice implications of global climate change and energy security initiatives. Below are my responses:

1. Question: Given your belief that the need for action on climate change is urgent, would you agree that the inclusion of carbon-free nuclear energy should be part of the solution for clean energy?

   Answer: I would not agree with that position because of the reservations many have about nuclear energy production. As an initial matter, there are Native American communities throughout the southwest that are still suffering the health and ecosystem damage from past uranium mining, so much so that the Navajo have moved to protect their communities by enacting a ban on uranium mining within their jurisdiction. The history of uranium fueled power plants is one of cost overruns, insolvency, and legal issues over whether utility companies are able to recoup the stranded costs of hugely expensive failed projects. At the back end of the production cycle, there are significant technical problems and controversies related to the storage and disposal of spent fuel rods into the indefinite future. Additionally, the terrorist attacks of September 11th magnified concern over security at nuclear plants and repositories, as well as concerns about the adequacy of emergency response plans at these facilities. Nuclear energy production, as a natural monopoly, will likely need to be heavily regulated, and incidentally, heavily subsidized. Given these and other concerns over the life cycle of nuclear energy production, and the controversy it generates, it is not self-evident that nuclear would be a wise strategy to embark upon as we address global warming. While some concentrated interests may benefit economically from nuclear energy production, it is not clear that the public at large will benefit. In the long run, retooling our energy infrastructure to provide incentives for conservation and to increase the production of other low-GHG (green house gas) non-nuclear energy may be safer and economically efficient, and will generate

far fewer social costs. As a side note, an energy infrastructure that has a robust mix of smaller, distributed systems is more stable from a security standpoint.

2. Question: Would you agree that poor people are disadvantaged if their home energy bills go up significantly?

   Answer: In my work with various vulnerable communities over the last 15 years, and my tenure on several EPA advisory committees, I visited highly impacted areas, spoke with many of the residents of those communities, and listened to their testimony. Among these residents, there is a constantly expressed concern about health impacts, ecological impacts and diminution of quality of life caused by permitted facilities and contaminated sites. These residents did not express concern about their utility bills. I have heard that concern raised a handful of times, invariably by industry stakeholders.

   Viewed in isolation, higher energy bills would appear to disadvantage poor people. However, if there is a corresponding improvement in ambient conditions (cleaner air and water; less noise, dust, odors and light pollution; a lower risk of accidental releases; and stronger emergency infrastructure), these low-income individuals would likely view themselves to be better off. In any event, the solution to the concern about higher energy bills is to develop an appropriate method to help low income households pay any associated increase in their energy costs. This is sound utility policy. It is better to keep low-income customers in the system, even paying a reduced rate, in order to keep the system fully utilized, thus lowering the rate for other customers. This solution is essentially no different than the practice of giving large industries (who have the ability to engage in bypass) similar incentives to stay in the system. Thus, there are ways of protecting vulnerable communities from over concentration of facilities while keeping their utility bills from significantly increasing.

3. Question: Would you agree that sending jobs overseas to China and India, who would not have a commitment to climate change, would be harmful to disadvantaged communities in the United States?

   Answer: That would depend in large part upon the jobs that are sent overseas, if any. Residents of vulnerable communities often observe that when a facility is slated to be sited in their communities, jobs are offered but relatively few materialize. Those that do materialize are often the lowest wage jobs. Some of the community residents get jobs as janitors or receptionists, and the entire community suffers the increased burden of additional pollution, traffic, risk of accidental releases and other impacts. If vulnerable communities sincerely view themselves as better off because of additional jobs, there would be little or no opposition to new facilities or expansions in highly-impacted areas. This is not the case; typically, these facilities are vigorously opposed. A more sensible siting process, one that does not result in over concentration near vulnerable communities, would not inexorably lead to sending jobs to China or India. There are many appropriate sites in the United States that are available, but as yet remain unconsidered given the tendency of many firms to site high impact facilities in vulnerable communities.

4. Question: I appreciate your concern about siting issues for new power facilities. This Committee, however, has heard a lot of testimony about the potential for green jobs for disadvantaged communities. How do you propose that we bring those two issues together—providing new "green jobs" yet also taking into account your siting concerns?

   Answer: There are many individuals who have green jobs, but do not live near clusters of polluting facilities. Having one does not necessarily exclude the other. Some communities may want to encourage economic development that produces green jobs within the boundaries of their communities, wind farms are an example that comes to mind. My sense, from listening to residents from impacted communities, is that the type of "green job" economic development that they desire are the more environmentally benign forms of energy production, such as wind and solar. The types of energy projects that tend to prompt opposition are ethanol production facilities, liquefied natural gas import facilities, coal-fired power plants, and other high impact, risk-generating facilities.

   One way to address the tension between the desire for economic development in disadvantaged communities and the problems of over-concentration is to have a siting process that that (1) adequately identifies vulnerable communities; (2) analyzes the direct and indirect impacts that arise from the facility siting; (3) adequately considers alternative site locations, and (4) avoids or mitigates impacts. Over the last decade, in particular, there has been a significant evolution in research methodology for distributional spatial analysis. This body of work could and should be utilized at the planning stage. Instead, the opposite occurs, i.e., ad hoc siting decisions that fail to consider the overall distribution of like projects. For example, to my knowledge there are currently no programmatic impact analyses of the distributional consequences of multiple coal-fired power plants, liquefied natural gas facilities, nuclear facilities, or other clearly defined energy production initiatives. The siting process should also be transparent and inclusive, bringing affected community residents into a process that has, as much as practicable, a level playing field. Their concerns, in particular health concerns, should be seriously considered. There is much that is occurring in the public health field to identify and address problems in vulnerable, overburdened communities. This body of work, as well, can be used in developing ways to address existing vulnerabilities and potential health impacts.

   At first blush, it would appear that such a siting process would be costly and generate significant delay. However, when one also considers the cost and delay -- leading at times to failed projects -- that arises from controversial projects that host communities oppose, a different picture emerges. Care, respect and consideration at the front end of the siting process is a much wiser investment, and it is a more socially responsible course to take.

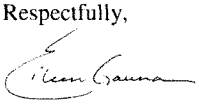
5. Question: Transmission lines, not just facilities, can have significant siting problems as well. When we look at many of the renewable resources such as wind, the generation is

likely to be in more rural areas with transmission lines needed to get that power to market. How would you propose dealing with the transmission issue?

Answer: I would propose that the transmission issue also be addressed by the development of a comprehensive, fair siting process that is sensitive to the distributional and process concerns that underlie the current racial and income imbalances of risk/impact generating facilities.

Once again, thank you for your follow up questions regarding my testimony. We are at a pivotal point, and the decisions made about energy today will dramatically shape the quality of life, indeed life itself, of generations to come.

Respectfully,



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