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SECRETARY OF COMMERCE

HEARING ON

"CLIMATE SERVICES: SOLUTIONS FROM COMMERCE TO COMMUNITIES"

BEFORE THE
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
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Chairman Rockefeller, Ranking Member Hutchison, and other honorable members of the Committee, thank you for the opportunity to discuss the Department of Commerce's climate capabilities. I am pleased to be joined by Dr. John Holdren, Director of the White House Office of Science and Technology Policy (OSTP). The Department and OSTP are close partners on the climate issues I will talk about today.

Climate change presents America with a daunting challenge…and an historic opportunity.

I am here today to explain how the Department of Commerce is uniquely situated to help America tackle both of them.

First, the challenge:

The world's climate is unequivocally going through dangerous and unpredictable changes.

- Surface air and ocean temperatures are increasing,
- Sea levels are rising,
- And widespread melting of glaciers and Arctic sea ice is accelerating.

Last month, the U.S. Global Change Research Program released a landmark report, *Global Climate Change Impacts in the United States*. This body of work, a product of 13 federal agency and outside experts with leadership from the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), confirms many of the climate's troubling changes and gives a comprehensive picture of projected future impacts on specific regions and sectors. We are seeing the impacts of this change in our own backyards in every region of the country, from extreme weather and coastal impacts to drought and wildfire trends.

These trends should trouble anyone concerned about the health of America's environment and the vitality of our economy.

Just this month, NOAA reported the world's ocean surface temperature was the warmest on record for June, breaking the previous high set in 2005. Warmer oceans could create dangerous

changes in marine ecosystems, including widespread bleaching of coral reefs in places like the Florida Keys. That development alone may significantly impact thousands of Floridians who depend on fishing and tourism for their livelihood.

If America is to avoid the most damaging effects of climate change, we have to first understand it – and that is where the Department of Commerce is instrumental.

The Department of Commerce is a leader in climate change research and monitoring, providing critical data and services to all levels of government and the private sector – and helping companies and communities understand and adapt to climate change.

NOAA's mandate for climate activities was established in 1978, and its capabilities span operational climate observing networks, global greenhouse gas monitoring, climate predictions and projections, climate research, and climate data stewardship.

For example, NOAA has monitored and measured the carbon cycle in the atmosphere and oceans for 40 years, taking observations on the ground, under the sea, and in space. NOAA's measurements and modeling of carbon dioxide and other greenhouse gas concentrations in the atmosphere are among the most comprehensive in the world – and are widely considered among the best available modeling of carbon sources and sinks.

NOAA's measurements of carbon dioxide concentrations also play an important role in monitoring ocean acidification. As the ocean has absorbed greater amounts of carbon dioxide over the past two centuries, its acidity has increased by 30 percent. Simply stated, rising acidity in the ocean could potentially short-circuit the marine food chain – which would undoubtedly have negative effects on commercially important species like oysters and salmon.

NOAA's climate monitoring is assisted by other agencies within the Department as well as other federal agencies. Our National Institute of Standards and Technology (NIST) worked with NASA and others to develop new satellite instruments that measure the Sun's light ten times more accurately than previous instruments. Space-based climate monitoring is enabled by partnerships with NASA.

This information isn't merely of academic interest.

These measurements will play an important role in verifying the effectiveness of our domestic and international policies through independent verification of bottom-up emissions – from both domestic and international sources – and allow us to understand whether emissions reductions are having their intended effects on our climate.

NOAA also uses its ocean and climate science to support its mandated coastal and ocean stewardship responsibilities – including fisheries management, conservation of coastal habitats, and protection of endangered species, such as salmon. Incorporating climate impacts like sea level rise and increasing ocean temperatures into long-term planning for these public trust resources is essential to ensuring their resilience and continued economic and social benefits in a changing world.

In addition, NOAA provides critical information and services to other federal agencies, state and local governments, and the private sector as they make decisions about adjusting to climate change.

When I was governor of Washington, I, along with other western Governors, needed information to understand and predict drought, which causes average annual losses to all sectors of the economy of $6 to $8 billion. (*Economic Impacts of Drought and the Benefits of NOAA's Drought Forecasting Services*, NOAA Magazine, September 17, 2002.) It was not just about preparing our agricultural sector – we also needed that information to guide infrastructure investments that required an understanding of long-term regional climate trends. Thanks to this Committee, NOAA is working with its federal agency partners to respond through the National Integrated Drought Information System. Now, decision makers can visit drought.gov to receive early warnings about anticipated droughts.

Another real-world service is the climate data that NOAA's air freezing index program provides. It allows building foundations to be more economically constructed, reducing the materials costs of the U.S. construction industry by approximately $300 million per year. (*Economic Value for the Nation*, NOAA Satellites and Information, September 2001.)

The Department of Commerce is working with our federal partners, including the National Science Foundation, the Departments of the Interior, Agriculture, and Energy, the Environmental Protection Agency, and Dr. Holdren's Office of Science and Technology Policy, among others, to further bridge climate science and the growing needs of public and private decision makers.

In the years ahead, a changing climate will undoubtedly force America to rethink our water, energy, transportation and agriculture infrastructure in light of new wind, water and temperature patterns. Decisions on where and how we build a bridge, a levee, an oil pipeline or an irrigation system will all have to take climate change into account. NOAA will be there to inform a viable way forward.

This is America's climate challenge. But, as I said at the outset, our challenge also presents an opportunity.

The scientific and technological innovations the world will need to mitigate climate change can spawn one of the most promising areas of economic growth in the 21st century – and I want to see America at the forefront.

I just returned from China, where they are making significant investments in clean energy technologies. My conversations with Chinese officials yielded tremendous opportunities for partnership, and new markets for U.S. industry. But they also raised a serious question:

"Is the United States going to be a leader in addressing climate change, or will we fall behind?"

I believe we are moving in the right direction.

Indeed, the climate change and energy security legislation under consideration in Congress will create new incentives for energy efficient technologies, products and services and reduce our dependence on foreign oil.

These incentives will drive demand that will foster the creation of new businesses and the jobs that come with them.

The entire Department of Commerce stands ready to assist in this transformation.

The Department of Commerce is a vital ally of Main Street American business – serving both as an enabler of innovation and sustainability at home as well as the advocate for U.S. businesses around the world. We can help foster "green" and "blue" jobs that will be created by new businesses offering climate solutions.

The Department is encouraging green innovation. Our Patent and Trademark Office protects the intellectual property behind new technologies, while NIST develops standards and measurements that enable innovations like the Smart Grid, which has the potential to use technology to help deliver electricity more efficiently, save energy, and reduce costs to consumers.

The Department is supporting the commercialization of green ideas. The Economic Development Administration is helping communities adapt in this changing environment, while sustaining their economic development. NIST's Hollings Manufacturing Extension Partnership is helping small and medium-sized manufacturers make their production processes more sustainable.

And, the Department's International Trade Administration is highlighting emerging commercial opportunities, promoting the export of new green products and services, and encouraging industry to become more involved in international climate change discussions.

Mr. Chairman, the Department of Commerce's expertise in climate change research and our mission to advance U.S. businesses and innovation, enables us to lead America's efforts to meet our climate challenges, and capitalize on the opportunities.

I thank you again for the opportunity to address this Committee, and I look forward to your questions.

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