TESTIMONY OF DR.KENNETH P. GREEN BEFORE THE
SENATE FOREIGN RELATIONS COMMITTEE'S SUBCOMMITTEE ON
INTERNATIONAL DEVELOPMENT AND FOREIGN ASSISTANCE, ECONOMIC
AFFAIRS, AND INTERNATIONAL ENVIRONMENTAL PROTECTION

"DROUGHT, FLOODING, AND REFUGEES: ADDRESSING THE IMPACTS OF CLIMATE CHANGE IN THE WORLD'S MOST VULNERABLE NATIONS."

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Mr.Chairman, Senator Menendez, Members of the Committee:

Thank you for inviting me to testify today on a topic that, I believe, has received insufficient attention since the threat of climate change came to the attention of policymakers world-wide. That topic is the need to focus on adaptive responses to climate variability, whether caused by human action or by the influence of bio-geochemical cycles, ocean currents, and changes in solar activity.

Before I begin my remarks, I always like to state my beliefs and biases, so my comments can be understood in proper context. By training, I'm a biologist and environmental scientist. By vocation, I am a public policy analyst, having worked for 15 years in think tanks in the U.S. and Canada.

I do my best to keep my science free of biases – I just try to figure out what the science really says, and look past the hype. Hence, I accept that greenhouse gases can retain additional heat in the atmosphere, though I believe that heat the heat retention capability of the greenhouse gases is quite modest, based on what we've observed in the 20th Century. I do not believe in predictive climate models, or most other forms of forecasting other than extrapolation for very modest periods of time. Nonetheless, what we have learned about the variability of the Earth's climate holds an important lesson for us about the need to build climate resilience into our private and public institutions.

My policy-analysis, on the other hand, is not value-neutral: I hold environmental protection in very high regard (I wouldn't have spent 16 years in college studying biology and the environment if I didn't), but I believe that environmental protection must complement, rather then displace, other values such as fiscally responsible governance; personal freedom; economic opportunity and prosperity; free enterprise; limited government; and so on. I also believe that our best actions abroad are to help people develop the institutions of liberal democracy that allow them to rise out of poverty.

Now, to the issue at hand: what is the best response to climate variability, both domestically, and internationally?

Since the earliest days of climate policy development, the world's focus has been on the mitigation of greenhouse gas emissions rather than adaptation. In fact, the United Nations

Intergovernmental Panel on Climate Change (IPCC) has always discussed the idea of adaptation to climate change as a second- or third-best policy response—something to be done only after every possible effort has been made to reduce GHG emissions.

Both governmental and environmental groups have generally been hostile to adaptation-based responses to climate change, as they view such approaches as surrender, an acceptance of the idea that GHG emissions will continue, that the climate will change, and that people will come to believe they can adapt. They fear that a focus on adapting to climate change would detract from a focus on mitigating emissions.

But as Aaron Wildavsky, one of the great policy analysts of the 20th Century documented, some risks are unsuited to pre-emptive mitigation. Attempting to head risks off ahead of time generally fails unless the nature of the risk is extremely well known, and the efficacy of the proposed intervention is equally well known. Consider this: say that you're a batter, and you're 70% sure that you know the pitcher is going to throw you a fast ball. Your success hitting that particular pitcher's fast ball is also 70%. What's the probability you'll actually hit the ball? Only 49%. The other 51% of the time, either he throws a different pitch and you miss, or he throws the fastball and you miss.

In the context of climate change, our level of information about where specific harms will manifest is far, far lower than 70%, and our understanding of whether our mitigation efforts will negate any particular harm is virtually nil. Clearly, the focus on greenhouse gas mitigation, both domestically and internationally, has been misplaced, and the money and attention of world leaders toward greenhouse gas mitigation efforts would be best directed elsewhere.

Instead of seeking greenhouse gas reductions, what we need to foster, as Wildavsky called it, is resilience: the ability to withstand changes, and bounce back from them. We need to encourage others to build their own climate resilience as well. What makes for climate resilience? I would argue that we can establish climate resilience with three efforts.

The first effort is to remove the incentives that lead people to live in climatically fragile areas, that is to say, at the water's edge, in drought-prone locations, in flood-prone locations, and so on. At present, our government, and other governments, serve as the insurer of last resort. When people who live at water's edge or in a flood plain are hit by storms or floods, governments intervene not only to rescue them and their property if possible, but then provide rebuilding funds to let the people build right back where they are at risk. The United States is currently doing this in New Orleans, where people are re-building in an area that is still at risk from storm surges and levee failure.

Both domestic programs that subsidize risk-taking and international aid programs that subsidize risk taking should be phased out as quickly as possible, replaced with fully-priced insurance regimes. Eliminating risk subsidies would show people some of the true cost of living in climatically risky areas, and would, over time, lead them to move to climatically safer places where they can afford to insure their property and safety.

A second effort pertains to infrastructure. Again, these are efforts that should be taken both domestically and, as infrastructure is built in developing countries, internationally as well. Another government action that leads people to live in harm's way is the failure to build and price infrastructure so that it is both sustainable, and resilient to change. Governments build highways, but without a pricing mechanism, no revenue stream is created to allow, for example, for the highway to be elevated if local flooding becomes a problem. There is also no price signal relayed to the users of the highway that reflects the climatic risk that their transportation system faces. The same is true of fresh-water, wastewater, electricity, and other infrastructure.

Establishing market pricing of all infrastructures would quickly steer people away from climatically fragile areas, dramatically reducing the costs of dealing with climate variability.

Now, as I'm sure people will argue, not everyone can do this. If predictions of strong sea-level rise come to pass, low-lying areas, many of them in poor countries, will be inundated, potentially leading to mass exodus. The same is true if desert areas become sharply dryer.

Though as I mentioned, I don't believe in predictive modeling, that doesn't mean we can't tie up our camel. For that reason, as a third effort, I support re-directing government research and development spending away from greenhouse gas mitigation technologies and into geo-engineering, and carbon air-stripping technologies.

Now, when I've talked about this before, I always get the same question, so I'll answer it pre-emptively. What about people who can't get away? This is a tough problem. Some have proposed the establishment of a climate-change damages trust fund, which would grow over time, and be there to pay for relocation of people, the construction of sea-walls, the building of pipelines for bulk-water transport in the event climate calamities come to pass.

Ideally, such a fund should be paid into by all developed and semi-developed countries on a fair basis, such as an equal fraction of GDP. If climate change is shown to be a non-threat, or a modest one, or some cheap ways of removing carbon from the air turn up, those moneys could be returned to the tax-payers of the donating countries.

I have to say, however, that I am not sanguine about such a fund for several reasons. First, I doubt that it would be paid into fairly: based on their unwillingness to adopt binding emission reduction targets, and their demands for wealth transfer from the developed countries to the developing, I very much doubt that the semi-developed countries will agree to contribute, any more than they are likely to agree to binding emission reductions. Second, I am also dubious about government's ability (any government) to keep its hands out of the funds, rather than spending them today, and replacing them with IOUs, as is a common practice in such "trust funds." And third, I am concerned that it would simply make the problem worse: the establishment of such a trust fund would lead to greater risk-taking around the world, with less self-insurance by individuals or governments, under the assumption that if anything goes wrong, the world will step in to make things all better.

I'll be glad to take your questions.