

Governor Timothy M. Kaine

Testimony

Before the

**United States Senate Committee
on Environment and Public Works**

Hearing on

“Climate Change and the Chesapeake Bay”

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Chairman Boxer and members of the Committee, thank you for inviting me to be here today. The Chesapeake Bay is one of our Commonwealth's most important natural assets, and it has contributed immeasurably to our cultural heritage.

As you know, the Bay is already a stressed system, and the federal government, the Commonwealth of Virginia, the District of Columbia, the State of Maryland and the Commonwealth of Pennsylvania have all made significant investments in restoring the Chesapeake Bay.

In my first year in office, I signed into law a \$200 million cash investment in sewage treatment plant upgrades in the Chesapeake Bay watershed. In my second year in office, I signed into law provisions for \$250 million worth of bonds to support sewage treatment plant improvements. And just a couple of months ago, an additional round of bonds was issued totaling more than \$240 million to assist Virginia localities in the Bay watershed who seek to install advanced technologies to their sewage treatment plants. I believe this nearly \$700 million total investment in less than two years speaks volumes – Virginia is very serious about improving the health of Chesapeake Bay.

I am very much concerned that climate change could jeopardize the progress we're making in restoring the Bay. For example, scientists agree that additional temperature changes in the atmosphere and oceans will increase the frequency of extreme weather events that will exacerbate polluted run-off into the Chesapeake Bay, causing the dead-zones in the Bay to grow. This additional pollution, combined with warmer surface water temperatures, will increase environmental stress and disease for key species, such as oysters and striped bass, as well as the loss of important aquatic plants, such as eelgrass. We should also be concerned about effects on the Bay's commercial and recreational fisheries, threatened and endangered species, and breeding ground and migration for waterfowl.

If climate change goes unchecked, the damage will not be limited to the Chesapeake Bay itself. As sea level rises, salt water will intrude further upstream into current freshwater systems – altering the distributional ranges of key animal and plant species throughout the entire watershed.

Sea level rise and storms will also affect the Bay's physical characteristics, likely resulting in increased shoreline erosion. The Bay and rivers already suffer from the effects of sediment pollution – increased shoreline erosion will only make it worse. Rising sea levels would inundate coastal marshes and other important fish and waterfowl habitats and make coastal property more vulnerable to storms. In fact, some estimates show that up to 80% of Virginia's tidal wetlands could be lost by the end of the century. And because many of our shorelines are armored for erosion control, tidal wetlands will have no place to migrate landward in the face of sea level rise. Our wetlands will become fragmented, lose species diversity, and will no longer be able to serve their ecological function.

Climate change will also affect the Bay watershed's forests, where prospects for insect

and pest outbreaks will increase, which also pose a threat to agriculture. As temperatures go up, there will also be reductions in crop yields. For example, corn yields begin to suffer as temperature exceeds 90°F, and corn crop damage can be severe at 100°F. Increased frequency of both droughts and severe rainstorms can also destabilize annual crop yields. Because livestock are temperature sensitive, there are likely to be increased labor and maintenance costs to the farmer.

Now, let me talk about impacts on the places where we live and work in the Chesapeake Bay Watershed. The Virginia Institute of Marine Science estimates that sea level will rise between 4 and 12 inches by 2030. The Hampton Roads region of Virginia is the largest population center that is at the greatest risk from sea level rise outside of New Orleans. I mentioned frequent and severe coastal storms and flooding as an effect of climate change. The effects of these severe storms will be multiplied by rising sea levels, increasing risk to life and property. We also have to be concerned about salt water intrusion into groundwater supplies.

To be sure, we can adapt to a few of the impacts of climate change, but others will be devastating. It's difficult to predict how the impacts will affect one another, or what the endpoints of these impacts will be. We need additional research at a watershed level so that we can better prepare for the changes that are coming and take prudent steps to reverse the trends in greenhouse gas emissions we are now seeing.

Madame Chair, I state none of these facts to be alarming. I state them to show what is at stake if we don't face the challenges of climate change head on. I wish I could say that these impacts are only speculative, but they aren't. In Virginia, where we rely so heavily on the health of our natural resources for their economic, social, and historical value, we simply can't afford to postpone action any longer.

That's why my Administration is taking action. In April, I issued Executive Order 48, which requires state agencies to reduce the annual cost of non-renewable energy purchases by at least 20 percent of fiscal year 2006 expenditures by fiscal year 2010. And, in May, I announced that Virginia was joining the Climate Registry, which provides a forum for states to work together develop a common accounting system to track greenhouse gas emissions.

I also recently released a comprehensive Energy Plan for Virginia, which covers all aspects of energy production and consumption and calls for the state to dramatically increase its efforts in energy efficiency and conservation. The Plan identifies four overall goals, including reduction of greenhouse gas emissions by 30 percent by 2025, bringing emissions back to 2000 levels. Soon, I will announce the appointment of a Commission on Climate Change to prepare a Climate Change Action Plan to implement these recommendations. The Commission also will gather information on the expected effects of climate change on the state and identify actions that Virginia needs to take to prepare for the consequences of climate change that cannot be avoided. The Energy Plan also recommends that Virginia impose mandatory reporting requirements on emitters of greenhouse gases, and I will work with the legislature to implement this recommendation.

While these are important steps that we are taking at the state level, action on climate change must occur at the federal level. Many states are developing climate action strategies, but that does not forestall the need for congress to take action. Both the causes of, and solutions to, climate change transcend state and local boundaries.

Virginia stands ready to participate in the development of legislation that will reduce emissions of greenhouse gases nationwide. I support legislation that includes a cap-and-trade program for emissions of all greenhouse gases, imposes economy-wide controls, rather than singling out a particular sector, and accounts for state efforts to standardize methodologies to record and measure green house gas emissions through the Climate Registry.

I know that there are many ideas being discussed in your committee right now, and I thank Senator Warner for being a leader in this effort. My message to you is that each day that legislative action is delayed will have negative consequences for the Chesapeake Bay. I urge you to pass legislation that addresses climate change in a comprehensive way, as quickly as possible.

Once again, thank you for the invitation to be here today. I am happy to answer any questions that you may have.