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To: Chairman Karabinchak, Vice-Chairwoman Chaparro and Members of the Assembly Special Committee on Infrastructure and Natural Resources

From: Raymond Cantor, Vice President, Government Affairs

Date: February 24, 2021

Re: NJBIA Testimony on the Impacts from Climate Change, Sea Level Rise and Storm Events

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Mr. Chairman and members of the Committee. Thank you for the opportunity to testify here today. My name is Raymond Cantor and I am Vice-President of Government Affairs for the New Jersey Business & Industry Association.

I want to first thank you and this committee for holding this hearing. Impacts from climate change, sea level rise, and storm events are of critical importance to our state, especially given that we are a coastal state and particularly sensitive to climatic events. We must be prepared for not only what we know from the past, but we must also be cognizant of what to expect from the future. Climate change and what it could mean for New Jersey will drive decisions on infrastructure, development patterns, and economic growth. How we respond to these potential changes will impact what happens to us today, how we spend our money, how and where we grow, and if we can do all the things we need and want to do. There is only so much money, we need to spend our resources wisely.

I want to address three topics. One, it is important to understand that despite some claims to the contrary, there remains a great deal of uncertainty in climate science and, in particular, predicting impacts of those changes, especially sea level rise. Two, the Legislature should be the entity driving major policy decisions surrounding a changing climate, how we adapt, and how and where we spend our resources. Finally, I want to point out that the Department of Environmental Protection (NJDEP), in its upcoming land use regulations and elsewhere, is being excessive in its reliance of one report from Rutgers, a report that has significant flaws and that is now out of step with the latest scientific projections of climate change and sea level rise. Overreliance on this one report could lead to premature decisions related to coastal adaptation that are unnecessarily expensive and disruptive.

Major policy decisions relating to climate and its impact need to be made by the Legislature, the branch whose job it is to make policy for the state. The decisions are too important to allow regulators alone to hold sway. The Legislature needs to determine how much risk we should take, where we spend our resources, and how we prepare for a changing world.

I also want to caution you not to put all your faith in one report, one expert, or to fall into the trap of the notion of consensus or settled science, especially when it comes to climate change. Knowledge is constantly developing, assumptions are constantly being challenged, and our understanding of this complex area are constantly changing.

Climate science is an area of great uncertainty, much more than advocates, and even experts, want to admit. That is not to say that the climate is not changing or that anthropogenic causes are not a substantial factor. Both are true. But it is important to understand that much of what we understand of climate science, and the policies that flow from the predictions, are largely based on models that have proven to be inaccurate. In fact, they are running “hot,” already predicting more warming than we are observing. The models also do not take into account natural variation or potential mitigating events. Further, the impacts from these predictions, especially the more serious ones such as sea level rise, are also ones of “deep uncertainty.”

Policymakers must be aware of both the potential impacts of climate change as well as the uncertainties of the predictions. There is a balance that policymakers must make that weighs what we know, what we do not know, and how and where to spend our resources.

But there are a few things we do know. We know that resilient and economically advanced communities can better respond to any climate challenge. Deaths from natural disasters are down 92% from their peak in the 1920s. Food production is now enough to feed 10 billion people, with a 25% surplus and the Food and Agriculture Organization of the United Nations is predicting that crop yields will increase significantly under a wide range of climate scenarios. The International Panel on Climate Change (IPCC) projects that by 2100 the global economy will be 3-6 times larger than today and that the cost of adapting to a high temperature rise will have only a minimal impact on gross domestic policy. We have choices, but we need to make the good ones.

There are other things we know as well. We know that we will be hit with major hurricanes and nor'easters. Superstorm Sandy occurred 50 years after the great storm of 1961. Early 20th century storms pushed the Atlantic all the way into the Pinelands. Major storms occurred in 1893 and the Cape May hurricane of 1821 would have dwarfed Sandy had it not come at low tide. We must prepare ourselves for these inevitable natural events.

We also know that seas are rising relative to New Jersey in large part because our state is sinking, as it has been for thousands of years and as it will into the future. This sinking caused largely by adjustments from the retreat of glacier ice following the last Ice Age, as well as land activities such as groundwater withdrawals, will result in sea level rise of approximately 3mm per year. This trend is almost certain to continue. The question is what additional sea level rise, if any, can we reasonably predict into the future.

Making our state more resilient is the best way to respond to both our known and unknown threats. After Superstorm Sandy, New Jersey, working with the US Army

Corps of Engineers, built a line of engineered dunes and beaches from Cape May to Sandy Hook. These dunes proved to be instrumental in protecting lives and properties after a series of coastal storms hit our state over the last several months. This resiliency effort has worked. Our ability to adapt to our changing environment has never been better but humans have been adapting for hundreds of years. The Netherlands have become a prosperous nation despite nearly one-third of its land mass being below sea level. Other parts of our nation have not adapted well enough, as we have seen in New Orleans, pre-Katrina, and just last week in Texas, who did not prepare well enough for rare, but predictable freezing temperatures.

But the decisions of how to be resilient and where to spend our limited resources must rest with the Legislature, not with a few regulators in the Executive Branch. In recent stakeholder meetings on climate related land use regulations, an official from the NJDEP stated that people in municipalities such as Hoboken need to start thinking of retreating, abandoning parts of their towns. While this may be true, whether we retreat from Hoboken, Newark, Atlantic City, or the Jersey Shore, or whether to make these areas resilient from nature, including our infrastructure, is a public policy decision for the Legislature to make, based on the best available science, based on our technological capabilities, and fully informed by uncertainties and economic impacts.

While we have been arguing that the Legislature needs to be the entity that makes these major policy decisions, we are concerned that the NJDEP is entering this fray, based on one flawed study, and will be driving economic and infrastructure decisions as a result. The DEP is crafting flood hazard regulations based on this single Rutgers report, entitled “New Jersey’s Rising Seas and Changing Coastal Storms: Report of the 2019 Science and Technical Advisory Panel” or the Rutgers STAP report.

These regulations are using the report’s projection of a 5.1-foot sea level rise by the year 2100 as the basis for regulating land use today. They will be assuming that the five-foot projected sea level rise is in existence today. While the DEP initially stated that this proposal would result in essentially a “no build” inundation zone, they seemed to have backed off this more draconian concept, but still plan to require elevations of buildings in these flood areas by an additional five feet on top of the elevations that are already one foot above projected flood elevations. Add in additional building restrictions from V-zones and other requirements, these regulations will make much of our coast undevelopable.

In fact, together with other assumptions on rainfall, based on no New Jersey scientific study, these new regulations will make nearly half of the state a flood zone. Once you add in restrictions for wetlands, the Highlands, the Pinelands, and preserved farmland, one can question where if anywhere in the state will the DEP allow us to develop and even live?

The Rutgers report, upon which the DEP is solely relying, was not peer reviewed, does not represent the general consensus of climate scientists, does not incorporate the latest scientific understanding of sea level rise or climate change

possibilities, and significantly overestimates likely sea level rise in New Jersey. The report is couched in terms of certainty that does not reflect the state of uncertainty in the science.

The report is also at odds with reports from the IPCC and NOAA, the later which was actually written by the authors of the Rutgers report. In fact, at the time of the NOAA report, Professor Bob Kopp stated that predictions of sea level rise were ones of “deep uncertainty.” That term has specific scientific meaning. It means, recognized ignorance, a fundamental uncertainty in the mechanisms being studied and a weak scientific basis for developing scenarios.

And yet, despite the uncertainty of climate predictions and the deep uncertainty related to sea level rise, the DEP is proposing to regulate land use and infrastructure decisions today based on projections 80 years from now with only a 17% likelihood of occurring. I would strongly suggest to you that is not good public policy and these decisions should not be made solely by the DEP with no input from the Legislature.

The greatest difference between NOAA and the IPCC projections to the Rutgers report is based on projections of what will happen to the West Antarctic ice sheet melt. The Rutgers report inappropriately uses high emission scenarios in its averaging, RCP8.5 (representative concentration pathway), to predict this massive ice sheet melt. RCP8.5 is now generally considered to be implausible, if not impossible. These predictions are also partly based on expert judgment and are inconsistent with other accepted analysis on ice sheet melt. The report on which the Rutgers report seems to rely on concerning the West Antarctic ice sheet melt is no longer considered the best science.

The report also makes predictions on sea level rise for various points in time, starting at 2030. Those predictions will not come true. In order for even this near-term prediction to occur, it would require a very substantial acceleration in sea level rise for the remainder of the 2020s, an occurrence which is not at all likely to happen. I mention this only to show that predictions in sea level rise, beyond what we can predict from historical subsidence, remains an area of “deep uncertainty” and not one on which the DEP should be imposing draconian regulations.

So, where do we go from here? One, we believe we need a resiliency plan. While we thought the DEP was going to present such a plan to the Legislature, we are now being told that they will be preparing only a set of considerations. Two, we should ensure that we are using the best science before we regulate land use and make infrastructure decisions. The IPCC is due to come out with a new assessment within the year. We plan to issue a more thorough analysis of the Rutgers report in the coming weeks, which we will share with this committee.

The DEP should hold off on proposing its rules until the science becomes more clear. At the least, it should not be basing predictions on reports that rely on Dragon King scenarios of catastrophic events, but rather on what is likely to occur. The department also should never base decisions on scientific reports that are not peer-reviewed, no matter what the source.

In conclusion, we should all be aware of the uncertainty in these predictions and base our policy decisions accordingly. These policy decisions are of major importance and should be the province of the Legislature, not regulators in our state departments. And we are very concerned that the DEP is not using the best science when it seeks to regulate land use and infrastructure decisions. The Rutgers STAP report on which they are relying, is not the best science for these major policy decisions.

Thank you for this opportunity to testify and I am open to any questions you may have.