

House Bill 583 Climate Solutions Now Act of 2021

House Committee on Transportation and Environment, February, 11, 2021

Testimony by Donald F. Boesch, Ph.D.

Chairman Barve, Vice Chair Stein and members of the Committee, I am Donald Boesch, a Professor Emeritus from the University of Maryland Center for Environmental Science. I served as the Center's President from 1990 to 2017 and, as such, as a member of the Maryland Commission on Climate Change and chair of its Scientific and Technical Working Group. I am now speaking only for myself as a scientist with substantial experience in climate science assessments.

I focus my comments primarily on the Environment Article §2–1204 of the bill, which increases the statewide greenhouse gas emissions that the State shall reduce by 2030 from 40% to 60%, based on 2006 levels. It further specifies that the State shall achieve net-zero emissions by 2045. Simply put, these deeper reductions in emissions and shorter timeframes are more consistent with the science supporting the implementation of the Paris Climate Agreement than Maryland's current Greenhouse Gas Emissions Reduction Act (GGRA). Let me explain.

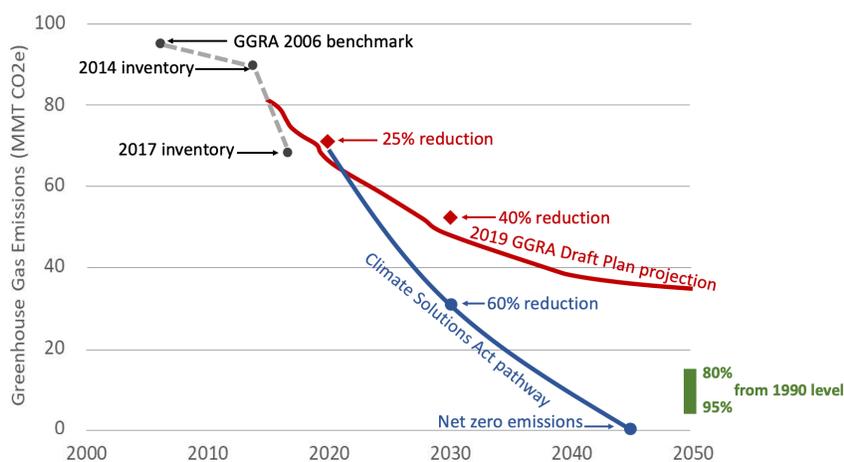
As you recall, the language of the Paris Climate Agreement was adopted by consensus in December 2015 and signed in April 2016. The Agreement's goal is to keep the increase in global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the increase to 1.5°C, recognizing that this would substantially reduce the risks and impacts of climate change. Maryland's GGRA was also amended in April 2016. It extended the State's commitment from 25% by 2020 to 40% by 2030, but also specified [§2–1205 (c) (3)] that the plans mandated by the Act "shall be developed in recognition of the finding by the Intergovernmental Panel on Climate Change that developed countries will need to reduce greenhouse gas emissions by between 80% and 95% from 1990 levels by 2050."

The amount and timeframe of reductions needed limit the increase in global temperature to 1.5°C had not yet been evaluated by the IPCC through its scientific consensus process. So, the IPCC undertook a *Special Report on Global Warming of 1.5°C* that was released in October 2018. The IPCC concluded that a 1.5°C limit to warming should not at all be considered safe, but risks associated with warming are substantially lower at 1.5°C than 2°C. To achieve this goal, humankind would have to reduce its net CO₂ emissions to zero by mid-century and substantially reduce its net emissions of other greenhouse gases, such as methane. Furthermore, we will have to rely on increasing the removal and storage of carbon from the atmosphere to reach net-zero and on producing negative emissions to compensate for any overshoot of 1.5°C.

The 2016 GGRA requires the adoption of an implementation Plan by the end of 2019. Sadly, the Department of the Environment did not make the Draft Plan available for public review until October 2019, and it has not been revised and formally submitted to the General Assembly. The Draft Plan did not demonstrate the urgency of reducing greenhouse gas emissions that is called for under the Paris Climate Agreement and the 2018 IPCC science report

available a full year before. As one can see from the accompanying graph, the Draft Plan (red curve) estimates that its elements would exceed the 40% reduction in emissions requirement by 2030, but it would achieve only a little more than a 50% emissions reduction by 2050, far removed from the 80-95% reduction from 1990 levels for which the existing Act indicates should be recognized, much less the net-zero emissions the IPCC indicates that we should be targeting.

In short, in its approach to the GGRA plan the Department has treated the 40% reduction target as more of an endpoint than as a waypoint toward the necessary decarbonization. It avoids commitments to more transformative actions that must be begun over the next decade in order to have a chance eliminating the remaining 60% reduction in emissions that would have to be accomplished over just the following two decades. Clearly, the new pathway required under the Climate Solutions Now Act (blue curve) is more consistent with the Paris Climate Agreement and the IPCC's scientific prescription for achieving it.



Meanwhile, Maryland, once a leader in policies and programs to address the climate crisis, has been falling woefully behind the responses of other states in addressing the climate crisis. Many other states have recognized the need to cut emissions deeper and quicker. Minnesota and Colorado are committed to 80% and 90% reductions in greenhouse gas emissions by 2050, respectively. California has committed to achieving carbon neutrality statewide by 2045 and New York State to reducing emissions by 100% by 2040. The governor of my native state of Louisiana, heavily dependent on fossil fuel production and manufacturing, has even committed his state to eliminating net emissions by 2050. By the end of last year, eight nations with the world's ten top economies have also committed to achieving net-zero greenhouse gas reductions by 2050 and China has committed to achieve this by 2060. As you know, President Biden has reentered the U.S. the Paris Climate Agreement and has also pledged to move the United States on a course of reaching net-zero emissions by 2050. Some 400 corporations, including oil and gas companies, and financial institutions have made similar, or even more ambitious commitments.

In contrast, Maryland's current greenhouse emissions reduction policies and programs seem no longer relevant, much less bold. While the targets set by the Climate Solutions Now Act might have been considered ambitious during last year's abbreviated Session of the General Assembly, they now seem very much in the mainstream. Nonetheless, the GGRA of 2016 provides a good foundation on which to build. Maryland probably has achieved emissions reductions sufficient to meet the 2020 mandate, although I question whether the dramatic reduction from the 2014 to the 2017 inventories shown in the graph is real or an aberration. The 2019 GGRA Draft Plan includes many actions that will take us further, but Maryland now needs to be much more aggressive and begin to plan and implement actions needed to take us to zero.

The Climate Solutions Now Act includes other meritorious provisions that I do have time to comment on, other than to state that the Draft Plan is rather timid in increasing emissions sinks and that planting large numbers of trees now is one of the most reliable ways to remove or store carbon over subsequent decades. The Climate Solutions Now Act will help Maryland do just that.