May, 2022

I am Langdon Marsh, former Department of Environmental Conservation commissioner and long-term DEC executive. I am submitting these comments as a grandfather and citizen. After leaving DEC in 1995, my wife and I moved to Portland Oregon where I became the Director of the Oregon Department of Environmental Quality. In 2001, we moved to Seattle Washington where we lived until Fall 2020 when we moved to Brooklyn, New York

I commend New York for adopting the legislation authorizing the Climate Action Plan. While living in Washington State, I worked with several organizations on a proposed ballot initiative which contained similar provisions. Because of strong opposition over the cost of the plan, and an unprecedented expenditure of lobbying funds, mainly from the fossil fuel industry, the initiative failed at the polls in 2018. As I have heard and read, many of the same concerns have been put forward in New York about the draft Plan.

The draft Plan is very strong and needs to be implemented as soon as possible. I have a few comments that are designed to strengthen the Plan and address some of the concerns about its cost.

- Life Cycle Thinking. There are several places in the draft plan that incorporate life cycle analysis (LCA), especially in the waste management area. I believe that the science of LCA can be applied more extensively to ensure that correct decisions will be made about replacing existing fossil fuel infrastructure with radically more efficient infrastructure, alternative energy sources and low carbon services and investments. For example, state and local decisions about new or altered structures or systems subject to the State Environmental Quality Review Act could benefit from rigorous life cycle analysis of impacts from these investments to make sure that they meet high standards of efficiency and do not have unanticipated harmful consequences. "LCA would require a project-specific materials assessment at the early stages to identify the best materials to use for each project; this would be achieved by looking into the life-cycle of each of the individual materials that could be used prior to, during and after construction, as well as at how the material is made and transported, and its lifespan and disposal potential. This helps to identify the most economically, environmentally and socially acceptable option." von Pokorny, QMark: The use of life-cycle analysis in environmental impact assessment. IEMA (Institute of Environmental Management & Assessment), 2019. https://www.iema.net/articles/qmark-the-use-of-lifecycle-analysis-in-environmental-impact-assessment Social LCA can help verify important nonenvironmental aspects of projects or programs such as job creation. https://www.lifecycleinitiative.org/starting-life-cycle-thinking/life-cycle-approaches/social-lca/#
- 2. Ecosystem Services. The plan should maximize opportunities to get double or triple bangs for the bucks by investing in restoring nature in ways that provide multiple benefits, including enhancing climate stability. For example, planting trees and other GHG absorbing vegetation in areas that are subject to heat island effects during extreme hot weather provides shade that can cool buildings and neighborhoods, protecting vulnerable populations while absorbing carbon dioxide and increasing property values. Interview with Prof. Vivek Shandas, Portland State University, TheTakeaway,WNYC,12/20/21. <a href="https://www.wnycstudios.org/podcasts/takeaway/segments/shady-business-behind-tree-equity">https://www.wnycstudios.org/podcasts/takeaway/segments/shady-business-behind-tree-equity</a>; See also Elizabeth Borneman, Mapping Urban Heat, August 3, 2020. <a href="https://www.gislounge.com/mapping-urban-heat">https://www.gislounge.com/mapping-urban-heat</a> There are many other benefits, from air filtering to noise reduction to drainage and health improvement to recreation, that can be incorporated in projects and plans.
- 3. Innovative Finance. To address the concerns about cost of the Plan, adopting effective financing tools can allow for early implementation of investments in radical efficiency and renewable technology by giving to individuals and businesses the means to pay for the large upfront costs by spreading them over the long term. For example, strengthening municipalities' ability to issue bonds that allow them to pay for the cost of installation of individual or community solar or heat pump systems and to collect payments from building owners or collective members on their tax bills so that their monthly payments do not exceed their current energy bills. This was tried in Oakland California and other cities but failed because of overly rigid US Treasury rules. NYS should insist that any remaining Treasury or other Federal rules that prevent state

or municipal participation in such programs be eliminated. State legislation may be necessary to establish underwriting standards and add any additional requirements to assure building owners, lenders, government officials and the public of the fiscal integrity and effectiveness of the program. A model for such legislation is described USEPA's Environmental Financial Advisory Board's June 2009 report on Voluntary Environmental Improvement Bonds. These bonds are designed to produce long-term, low-cost incentives for installing improvements to reduce greenhouse gas emissions, improve air quality and reduce non-point source water pollution. <a href="https://nepis.epa.gov/Exe/ZyPDF.cgi/P100AA92.PDF?Dockey=P100AA92.PDF">https://nepis.epa.gov/Exe/ZyPDF.cgi/P100AA92.PDF?Dockey=P100AA92.PDF</a>

I would be happy to work with the agencies on any or all of these suggestions and to connect them with experts I have worked with in these fields.

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