

June 5, 2021

Michael S. Reagan, Administrator  
Environmental Protection Agency  
Mail Code 1101A  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

Joseph L. Fiordaliso, President  
New Jersey Board of Public Utilities  
44 South Clinton Ave,  
Trenton, NJ 08625

Regarding the Use of USEPA Social Cost Carbon Factors to Quantify the Environmental Benefits of New Jersey Offshore Wind Proposals.

Dear Administrator Reagan and President Fiordaliso,

This letter is on behalf of the Long Beach Island, New Jersey, Coalition for Wind Without Impact. We are growing group of several hundred residents, visitors and business interests generally supportive of offshore wind energy as long as it is done in a fiscally and environmentally sound manner.

### **Background**

Regarding environmental considerations we previously recommended by letter of February 8, 2021 that the New Jersey Board of Public Utilities (BPU) not reach power purchase agreements or other approvals with offshore wind applicants until the completion of the project environmental impact statement so as not to pre-determine or prejudice the National Environmental Policy Act process. We continue to recommend that.

Regarding fiscal aspects we note that New Jersey has been using the social cost of carbon numbers in terms of dollar cost per ton of emission developed by the Environmental Protection Agency (EPA) to quantify the environmental benefits of proposals in its cost-benefit analyses.

### **The Use of the Sea Level Rise Component of the Social Cost carbon Factor**

As we understand it these factors represent the differential damage cost summed over a long period of time from an earlier change in emissions. For traditional air pollutants where a reduction in emissions results in a permanent benefit, e.g., lower air concentrations and health effects, such factors can represent an environmental benefit. However, for the carbon sea level rise component that is not the case since the same level of sea level rise is reached a little later despite the small emission reduction. There the damage cost component appears to arise from a transient, temporary change, not a permanent one. So, in that case it is not clear what the environmental benefit actually is to a future shore resident, and as explained

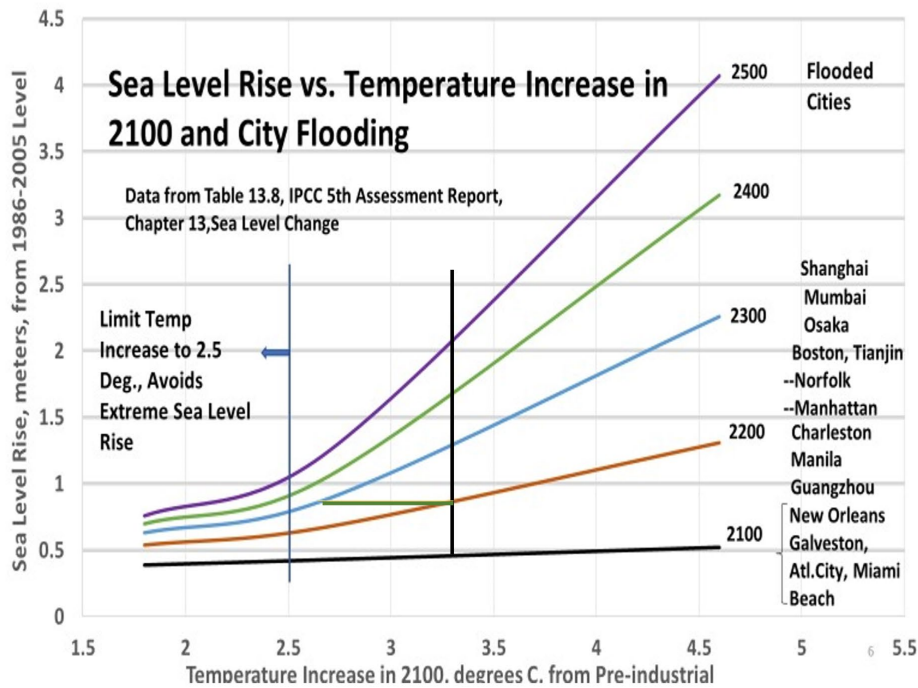
below the use of the sea level rise component of the carbon dollar factor to quantify an environmental benefit is not appropriate. The physical dynamics here supporting that are described below.

### **Sea Level Rise Dynamics**

Sea level rise can be thought of occurring in two phases. As explained in detail in the international panel on Climate change (IPCC) reports there is a causal relationship between earth's surface temperature rise in 2100 and cumulative greenhouse gas emission reductions prior to then. Subsequent to that however the sea level rise from that temperature increase is a complicated heat transfer process to the ocean, glaciers and ice sheets which fundamentally depends on both the temperature rise in 2100 **and** the elapsed time thereafter. A lower earth surface temperature rise over a longer elapsed time can result in the same heat transferred-and ultimate sea level rise- as a higher earth surface temperature rise for a shorter time period.

Those relationships between sea level rise, temperature rise in 2100, and time or shown below graphically using data in the IPCC Fifth Assessment Report, Chapter 13, including Table 13.8. The X-axis was created by attaching the temperature rise values in 2100 associated with the high, medium, and low scenarios of the Table.

The chart shows the expected sea level rise for various future years versus the temperature rise that could occur by 2100. From it, it can be seen that there is only a small increase in future sea level rise from a 2.5-degree centigrade increase compared to 2 degrees, but above 2.5 degrees, sea level rise increases dramatically, becomes unmanageable, and eventually will result in extraordinary human dislocation and \$ trillions of real property and infrastructure loss from coastal inundation.



Because *global* greenhouse gas emissions have not been and are not currently projected to be significantly reduced, we are currently headed towards a 3.3-degree Centigrade temperature rise in 2100 as shown by the black vertical line. The sea level rise from that in 2200 would be about 0.8 meters or 2.6 feet. The chart also shows that if the temperature rise in 2100 were reduced by 0.65 degrees to 2.65 degrees that same sea level rise would occur 100 years later.

The offshore wind program is used below as an example to illustrate that emission reductions will not actually reduce future sea level rise and associated damage costs but rather just delay it. The program claims a reduction of 78 million metric tons of greenhouse gases for the full 30,000-megawatt effort. Global emissions are 36 billion metric tons per year and a 95 percent reduction of that is necessary to bring the 3.3 degrees to 2 degrees. So, scaling that, a 78-million-ton reduction from the full offshore wind program would result in a temperature decrease in 2100 of 0.003 degrees centigrade.

Going back to the 0.65-degree reduction resulting in a 100-year delay that means that a 0.003-degree reduction from the full offshore wind program would result in a 6-month delay in sea level rise. The OCS lease A-0498 project, at 3.3 percent of the full program would delay coming sea level rise in 2200 by about 6 days.

Put differently, except for the first and last six days of his/her life, a future shore resident will experience the same sea level rise with the project as without it. This is, fair to say, an insignificant environmental benefit. Therefore, the sea level rise component of the dollar carbon cost factor should not be included to present or imply in cost-benefit analyses that a significant sea level rise environmental benefit occurs from a project's reduced carbon emissions.

## **Conclusions and Recommendations**

For sea level rise it is not scientifically correct to present or imply a permanent dollar social benefit from a project's carbon emission decrease, and that component of the EPA's or other similar cost per ton numbers should not be used to quantify such a project environmental benefit.

We would recommend that for sea level rise, the EPA revise its Fact Sheet and Technical Support Document to: (1) explain to the lay public the delays at work for sea level rise from emission reductions versus actual sea level rise reductions, and (2) derive a new carbon cost factor excluding the sea level rise component for use in state and other project cost-benefit analyses.

In the interim we would suggest that the NJ BPU not use the current carbon factor for its cost -benefit analyses and find some other way to present the actual benefits of a carbon emission reduction, or defer its power purchase agreements until a revised factor from the EPA is in place.

We would appreciate a response as to whether a new carbon factor will be developed by the EPA and what method will be used by the NJBPU for its cost-benefit analysis for any power agreement with the Atlantic Shores Offshore Wind project. If staff have any questions regarding the analysis here, please contact me at drbob232@gmail.com or 917-952-5016.

Sincerely

Bob Stern, former Director  
Office of Environmental Compliance  
The US Department of Energy,  
Wendy Kouba, Dawn Holl, Lindsay Ehlert,  
the LBI Coalition for Wind Without Impact

Cc; Amanda Lefton, BOEM Director