

February 7, 2010

Francis J. Murray
Climate Action Plan Comments
NYSERDA
17 Columbia Circle,
Albany NY 12203-6399

**SUBJECT: NEW YORK STATE CLIMATE ACTION COUNCIL INTERIM REPORT: PORT AUTHORITY OF
NEW YORK AND NEW JERSEY'S COMMENTS**

Dear Mr. Murray,

Thank you for the opportunity to comment on the New York State Climate Action Council's (CAC) Climate Action Plan Interim Report (Report). The Port Authority of New York and New Jersey (Port Authority) respectfully submits the following comments on the Report.

By a way of background, the Port Authority manages and operates over thirty-one facilities providing key transportation connections and linkages in the New York Metropolitan area, including Newark, JFK and LaGuardia airports, the George Washington Bridge, the Lincoln and Holland Tunnels, the PATH commuter rail system, marine ports, and the World Trade Center. As a major transportation stakeholder, we are extremely interested in the CAC's ongoing work and the Report. The Port Authority appreciates the time and effort that went into developing the Report and supports New York State's (NYS) efforts to reduce greenhouse gas (GHG) emissions 80% by 2050. The Port Authority applauds the Report's environmental stewardship and frank assessment of the measures necessary to achieve the 80% by 2050 reduction goal. The Report provides a comprehensive overview of the issues and opportunities facing the state, as well as an integrated approach for ensuring that NYS begins to move towards a low carbon future. As members of the Residential Commercial/Institutional and Industrial (RCI), Transportation and Land Use (TLU), and Adaptation Technical Working Groups, the Port Authority also appreciates the opportunity to work with the CAC and looks forward to future collaboration.

However, we have a number of concerns. Our main concern is that the report identifies an ambitious set of actions without fully analyzing the economic feasibility. We understand that an in-depth

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consideration of economic feasibility was not part of this Report's scope and will be considered in the next steps, but we still feel it is important to raise our concern at this time. The Port Authority would welcome the opportunity to work with NYS on assessing measures that overlap with Port Authority operational services, such as the goods movement network, public transportation, and aviation.

In addition, there are two technical comments we would like to highlight regarding Chapter 7: Transportation and Land Use (TLU). The Port Authority is concerned that during the integration editing process, important details of Recommendation TLU-8 may have been removed. For example, while rail represents an important piece of the goods movement system, simply moving a greater percentage freight from trucks to rail may not reduce GHG emissions or improve the system's efficiency. In addition, while the text of Chapter 7 appears to support expanding public transit, Figures OV-8 and 7-3 seem to suggest that public transit will be neither cost effective nor result in GHG emission reductions. Based on conversation with other transit agencies, and information in Appendix E, it appears that some of the assumptions used to develop the cost-benefit assessment may be incorrect, and the assessment may not be adequately differentiating between various public transit systems. The following provides further information regarding these concerns and comments on the individual chapters.

Chapter 6: Residential, Commercial/Institutional and Industrial (RCI)

Page 6-3, Figure 6-1: It is not clear if the projected building energy usage accounts for additional air-conditioning requirements due to warming by 2030 and 2050. Please provide additional information.

Page 6-11: Please add a reference to Figure 6-9 in the text.

Page 6-18: Please also note that ESCO and utility companies can play a major role in promoting energy efficiency and GHG reduction to the RCI segment.

Page 6-19: A "whole building" analysis should also include domestic hot water system and building water usage.

Chapter 7: Transportation and Land Use:

General: Many of the proposed Transportation and Land Use measures are linked, with the success of some measures relying on implementation of others. For example, measures that promote increased use of low-carbon fueled vehicles depend on establishing key infrastructure elements such as electric charging stations. While the Report does discuss such linkages (for example, Figure 7-2 portrays graphically how the transportation and land use policy options can be expected to interact with one another across these different dimensions), the Port Authority wants to ensure such linkages continue to be emphasized, and even strengthened, as the recommendations move through the legislative process.

General: The Transportation and Land Use Chapter does not include a comprehensive discussion of the aviation sector. According to the IPCC Fourth Assessment Report, total aviation CO₂ emissions are only

about 2% of global GHG emissions, but aviation emissions are forecast to increase approximately 3-4% per year. We understand that because aviation emissions are a small part of NYS's overall GHG emissions, and aviation and airport operations largely occur outside of the jurisdiction of state and local governments, a comprehensive discussion was not included in the Report. However, NYS has an opportunity to set policies that may inform and influence aviation sector decisions and this growing source of emissions should be included and considered during the next steps of the CAC process.

In addition, the aviation industry has collectively (through the International Civil Aviation Organization (ICAO) and other bodies) made a commitment to “continuously improve CO2 efficiency by an average of 1.5 per cent per annum from 2009 until 2020, to achieve carbon neutral growth from 2020 and reducing its carbon emissions by 50 per cent by 2050 compared to 2005 levels.”¹ The Report should recognize this commitment, and the concept of taking a global sector approach to aviation emissions.

The Report emphasizes investments in public transit and high-speed rail. Any such investments should consider multi-modal connections, including connections with existing transportation systems and aviation facilities. Aviation will continue to serve a key role in the region's transportation system and economic health, and it is important to create transit and high-speed rail connections that complement aviation facilities.

General: The Port Authority supports development of full life cycle analyses for all alternative fuels. As an agency, we are very interested in pursuing alternative fuels. We operate a number of CNG, biodiesel, and hybrid vehicles in our fleets, and we participate in pilot projects to test emerging vehicle technologies such as hydrogen fuel cell and electric. However, to ensure true GHG emissions savings, full life cycle analyses, including infrastructure needs and out of state production emissions, must be considered as part of any ultimate recommendation.

Page 7-1: The discussion of the “Sector Vision for a Low-Carbon Future” states, “*Aviation...will be powered by a similar mix of low-carbon fuels.*” The Port Authority and the aviation industry are very interested in the use of alternative fuels, and a number of parties, including the Commercial Aviation Alternative Fuels Initiative (CAAFI), are working to certify new fuel types and production processes. However, there are a number of issues and challenges involved with using alternative fuels in aircraft, and it may be some time before the industry uses such fuels on a commercial level. In addition, a switch to alternative fuels may have implications for land use depending on what types of feedstock are eventually used and the ultimate demand for alternative fuels. We think that it is appropriate to assume that some percentage of the aviation fleet will be powered by alternative fuels, but it should be recognized that the policies recommended in the CAC's report, such as TLU-4, AFW-1 and AFW-5, could influence the ultimate success of alternative fuels conversion.

Page 7-1: The Port Authority recommends that the footnote, “*All three fuels of the future (electricity, hydrogen and biofuels) can be produced using carbon intensive fuels such as coal. For this reason, reliance on these fuels must only occur when they are produced in low carbon ways, as measured in*

¹ <http://www.icao.int/icao/en/Env2010/ClimateChange/PoA.htm>

*terms of the total fuel cycle” be included in Paragraph 2 after, “Trips that are not made using mass transportation will be made in vehicles fueled by electricity, hydrogen and/or sustainably derived biofuels.” We also suggest modifying the sentence by inserting the words “cost effective” as noted, “All three fuels of the future (electricity, hydrogen and biofuels) can be produced using carbon intensive fuels such as coal. For this reason, reliance on these fuels must only occur when they are produced in **cost effective**, low carbon ways, as measured in terms of the total fuel cycle.”*

Page 7-1: Paragraph 4 states, *“Goods will be moved over a variety of low-carbon modes—an emphasis on non-highway systems will reduce overall VMTs”*. The Port Authority is concerned that this statement may be interpreted to mean shifting cargo from truck to rail. As discussed in TLU-8, the freight sector will need to employ a variety of modes to ensure real GHG emissions reductions and that the goods movement industry remains a vital part of NYS’s economy. While rail is and should remain an important part of NYS’s vision for the freight sector, given the current state of diesel technology, rail’s GHG emissions savings over trucks may be limited. Even if technological upgrades increase rail’s environmental performance levels, trucks will still be needed to move cargo beyond the fixed locations of the rail system. Therefore, NYS should encourage and support a variety of modes and measures including clean truck and rail development, dedicated truck lanes, short sea shipping, and zero-emission short haul container movement systems.

Page 7-1: Paragraph 5 states, *“Centers for goods distribution and consolidation will be located near consumer centers to minimize “last mile” transit; these centers will use advanced technology to minimize emissions, light pollution, and noise pollution.”* The Port Authority wants to emphasize that transport to these centrally located distribution and consolidation centers would ideally be made by low- to zero-emissions modes, such as electric trucks, to ensure that these centers do not result in hot spots for criteria air pollutants.

Page 7-2: The “Sector Vision for a Low-Carbon Future” discussion states, *“Transportation infrastructure will be located above and inland from rising water levels.”* As discussed in the Report, the New York Metropolitan area is expected to grow over the next forty years. The area is home to one of the most extensive transportation systems, including public transit, in the country. However, this system is near, with some systems reaching, capacity. In addition, the area is surrounded by water. Therefore, the Port Authority requests that the CAC expand this discussion to address the type of adaptation vision that would be appropriate to protect such viable infrastructure (e.g., incorporation of resiliency planning into capital and operating decisions). Limiting further development in New York City’s coastal zone would greatly limit growth potential and would be inconsistent with other sustainability-related goals, such as compact development and maximum use of alternative modes of transportation. Instead, the Report should provide recommendations for smart development in such areas and this section should be linked to the discussions in Chapter 11, especially Recommendation 5 under the Transportation Section.

Page 7-2 (and Table 7-1): The report states, *“The mix of transportation fuels responsible for GHG emissions is expected to remain relatively similar between 2005 and 2030.”* Please expand the discussion to include information on what assumptions were used regarding aviation fuel use, including

whether or not the Report considered ICAO goals to reduce aircraft GHG emissions. Please also expand the discussion to include information on what assumptions were made about growth in passengers and aircraft operations.

Page 7-4: The Report states, “TLU-8 is a group of strategies to reduce emissions from freight transportation, which can occur by shifting freight from trucks to rail or water transport and by having more efficient and alternatively-fueled trucks.” TLU-8 includes a much broader vision of changing the freight system than shifting modes and developing alternative fueled trucks. To reduce emissions will require developing new technology for all stages of the goods movement chain, including the various modes (ships, aircraft, trucks, and rail) and cargo handling equipment, addressing bottlenecks and expanding highway and rail way capacity, changing operating procedures, such as expanding 24-7 and off-peak operations, and developing new green distribution and consolidation centers.

Page 7-8: While the text of Chapter 7 appears to support expanding public transit, including light and high speed rail, Figure 7-3 seem to suggest that public transit will be neither cost effective nor result in GHG emission reductions. It appears that some of the background data to support these findings may be incorrect as detailed in Appendix E. Public transit avoids carbon emissions through three factors – mode shift, congestion relief and land use. The Port Authority understands that the methodology employed to quantify public transit’s carbon avoidance benefit does not use the three factors identified above or assign the appropriate weight to each of these drivers of carbon avoidance. As a result, the costs may be overstated while the emissions savings may be understated.

Based on discussions with other agencies, it appears that using a 2.31 mode shift factor to calculate the GHG emissions from increased transit is incorrect. The current language in the *Data Sources, Quantification Methods, and Key Assumptions* section of the Policy Option Document indicates that 2.31 was applied to the VMT goal of TLU 7 to estimate the GHG emissions that would result from increased transit services. The mode shift factor is a measure of avoidance, not a tool for estimating emissions.

In addition, standard discounting models, including rates of interest and the time-period over which the discounting is done, may not be appropriate in the case of large infrastructure projects, whose realization can exceed 100 years, can often exceed the discounting period.

The Port Authority urges the CAC to discuss these important issues with various transit agencies including the MTA and ourselves. One of the main reasons the per capita GHG emissions are relatively low in the New York metro area is due to a wide variety of public transit options that allow low VMT rates. The CAC needs to ensure all background assumptions are accurate to truly plan for the state’s low carbon future.

Page 7-14: The first paragraph refers to biodiesel, cellulosic ethanol and electricity as low-carbon fuels. As discussed previously, any classification of a fuel as low-carbon should be based on a life-cycle analysis that includes potential land use implications.

Page 7-19: Please confirm whether the Report assumed GHG emissions generated from high-speed rail construction as part of this recommendation.

Page 7-22: Paragraph 3 states “The policy could establish state requirements for system-wide GHG analyses and green technology advancement through the State Environmental Quality Review (SEQR) and other permitting requirements; set specific performance standards to incentivize low to zero emissions truck, rail, ship, and support equipment technology; and establish freight fees dedicated to transportation system and infrastructure upgrades.” Regarding SEQR analyses, while the Port Authority supports such options, consideration should be given to the disparate control surrounding the goods movement chain. For example, in the case where a private developer is overseeing a marine terminal development, the developer may have little to no control over the performance standards of trucks, rail and vessels. In such cases, the terminal developer could incorporate green technology and design into the terminal development, such as shore power capability for vessels and alternative fueled cargo handling equipment, and incentivize truckers and vessel operators using their green facilities, if economically feasible and competitive. Otherwise, State provided incentives should be considered. However, beyond incentives, the developer does not have the authority to set performance standards for trucks, rail and vessels calling at the new terminal or adequate resources to enforce them. Therefore, NYS and other regulatory bodies must also support this effort. As discussed in the full write-up prepared initially for TLU-8, NYS must work with both other states and the federal government to establish system-wide performance standards implemented at the highest regulatory levels to reduce competitive disadvantages.

In regards to freight fees, as discussed in the full write-up of TLU-8, such fees have the potential to increase the cost of shipping cargo through New York and impact the state’s competitive position resulting in cargo diversion to other east coast ports that do not have such fees and port-related jobs losses. In addition, because a large percentage of waterborne and airborne freight is shipped into NYS to satisfy regional consumer demand, this diverted cargo would still enter the state by less efficient modes such as rail and truck, which would result in higher carbon consumption. Therefore, the recommendation should be clarified to state that NYS, acting through regional partnerships and industry, will support *possible* freight fees and congestion pricing to promote efficient movement and reduce both vehicle miles traveled (VMT) and total GHG emissions. Freight fees must be developed in partnership with the freight industry and be based on elasticity studies, considering existing tolls and taxes and other proposed statewide, regional and/or local congestion pricing mechanisms, to reduce freight diversion. All fees would go into a targeted fund dedicated solely to freight infrastructure and system improvements, as well as technology advancement such as zero-emissions transit technology, and efficacy of regional market.

One issue identified when developing TLU-8 was that in the NY metro area, a significant portion of international waterborne and airborne freight comes through or is consolidated in areas of NJ near NY City before technically entering NY. Therefore, NYS has limited authority to impose freight fees or other controls. To address such issues, NYS must coordinate with the broad-based goods movement industry,

including industry, other freight states, public authorities, and community groups to develop a Goods Movement Plan that coordinates activities prior to implementing any individual policies.

Page 7-30: The “*Regional Initiative for Transportation and GHG Emissions*” refers to a potential requirement for entities that provide fossil fuels to the transportation sector to hold GHG credits to cover their fuel sales. It is unclear how such a proposal would relate to the aviation industry, which may be subject (in part) to an emissions credit/tax program being established by the European Union.

General Comments, Recommendations:

TLU-1, Vehicle Efficiency Standards: Please include language that TLU-1 and TLU-4 must be implemented together, as efficiency standards will depend on fuel infrastructure. Please include a brief discussion in the TLU chapter regarding biofuel’s land use implications to both introduce the concept and direct the reader to the larger discussion in the Agriculture, Forestry, and Waste Management Chapter.

TLU-3, Heavy Duty Vehicle Incentives and Disincentives: For aviation related heavy-duty vehicles, we request that any incentives and disincentives be coordinated with the Federal Aviation Administration (FAA). For example, it would be helpful if this program could supplement the FAA’s Voluntary Airport Low Emissions Program (VALE) program. It would also be helpful if the program would extend beyond vehicles to the fueling infrastructure, e.g., charging stations and hydrogen fueling stations.

TLU-4, Alternative Fuel Related Measures and Infrastructure: TLU-4 is a particularly important policy because it is paramount to the success of other TLU policies. The Port Authority recommends that the discussion be expanded beyond a statement of support for the Low Carbon Fuel Standard. The Port Authority requests that the Report provide more detail on potential policy and program directions associated with TLU-4. For example, the Report should discuss if there are local zoning issues related to the siting of alternative fueling infrastructure. Given some drivers’ lack of access to garages, the Report should consider whether there would be a need for a special type of publicly accessible electric charging station.

TLU-7 Transit and High Speed Rail: In addition to the overall concerns related to the background assumptions used in the cost-benefit analysis, the Port Authority recommends expanding the discussion to better differentiate between the advantages and disadvantages of various types of public transit. The recommendation is very focused on rail without much information about buses and ferries, modal connections, other shared ride systems, bikes, or right of ways. Even in regards to rail, there is little differentiation between various rail options such as light rail, subways, elevated rail and skyways, and high-speed rail. To adequately reduce VMTs will require a variety of modes using advanced clean technology.

TLU-12, Intergovernmental/Regional Proposals: We request that TLU-12 include reference to and support of the FAA's Next Generation Air Traffic Control System (NextGen), which will transform the National Airspace System from a ground-based system of air traffic control to a satellite-based system of air traffic management. This transformation will be achieved through the development of aviation-specific applications for existing, widely used technologies such as Global Positioning Satellites (GPS). Changes will also be realized through the fostering of technological innovation in areas such as weather forecasting, data networking, and digital communications. The new technology will be complemented by new airport infrastructure and air traffic procedures. When fully implemented, NextGen will have environmental as well as safety benefits, as it will result in reduced delays and more efficient use of aviation fuel. The CAC could advocate for New York State political support for FAA, airline, and airport implementation of the system.

Chapter 8: Power Supply and Delivery

General: The Port Authority firmly supports the Report's vision to develop a safe, reliable, diverse and very low GHG-emitting electric power sector by 2050. Overall, the policy recommendations presented in the Interim Report reflect a measured and realistic approach to address the challenges the sector will face. For example, the Report appropriately recognizes that the State sorely needs a comprehensive generation infrastructure permitting and siting process (PSD-1), particularly for the development of low-carbon and renewable technologies. Additionally, it is widely recognized that demand side management and customer-sited distributed generation (DG) is going to play a greater role in the energy system of the future. Significantly more DG, combined with greater consumer responsiveness to electricity price signals and possibly wide penetration of electric vehicles will require significant investments in the State's electric distribution infrastructure (PSD-4), which currently averages 30-50 years in age. The state will also have to continue to be a leader in research and development activities (PSD-9), such as in energy storage technology – critical for integrating a much higher percentage of renewable energy while maintaining grid reliability.

General: The Port Authority also encourages the CAC to further assess the potential contribution of combined heat and power as a bridging technology to reduce the state's GHG emissions over the next 20 years. Recommended as an efficiency measure in Chapter 6, CHP utilizes small scale distributed generation (e.g., reciprocating engines, combustion turbines and fuel cells) to supply electricity to buildings while capturing the waste heat for productive purposes such as space heating and cooling, domestic hot water and process heat for commercial or industrial uses.

As noted in the RCI chapter, buildings account for approximately 40% of the gross GHG emissions in New York. Moreover, approximately 65% of energy use in the RCI sector is supplied through direct combustion of fuels for thermal energy while the remaining 35% is supplied by electricity. Meanwhile, New York loses approximately 70% of the primary energy used in electricity generation in the form of waste heat, which is vented into the atmosphere or local bodies of water. This unutilized energy represents a potentially valuable source of GHG emissions reductions, particularly if heat produced

during electricity production can be captured to offset thermal energy demand from buildings or industrial activities (as it is with CHP). While significant increases in single or multi-building CHP could increase the burden on the state's natural gas supply system, incentives in the form of rebates or feed-in tariffs for high-efficiency CHP could serve as a bridge until greater amounts of renewable energy capacity, nuclear or CCS may be developed. Additionally, policies that support thermal and electric load sharing among closely located, yet previously unaffiliated buildings could improve the overall energy efficiency of CHP and allow greater scale economies to be achieved in sizing CHP plants

Page 8-10: As the Report highlights, near-term efforts to reduce the carbon intensity of the electric power system will require a significant expansion of the RPS program. While both hydro and nuclear currently supply a major portion of the state's low-carbon resources (approximately 40% of the state's energy generation in 2008), it is unlikely that they will contribute much *new* capacity between now and 2030 and in fact, may produce less depending on the outcome of nuclear relicensing. While new hydro will largely be limited to increasing Canadian imports, investment in new nuclear generation will greatly depend on both the industry's ability to demonstrate that new plants can be built on time and on budget, and federal leadership in addressing the management of used nuclear fuel.

Fortunately, NYS should be able to meet a significantly more aggressive RPS, particularly as new and better technologies become available and more cost-effective. For example, together with the New York Power Authority (NYPA), the Long Island Power Authority (LIPA), Con Edison and the City of New York, the Port Authority is participating in a consortium seeking to develop up to 700 MW of cost-effective, new wind power capacity off Long Island. If found to be cost-effective, such a project would significantly increase the amount of renewable energy serving the downstate region. As the Report points out, doubling the existing RPS target from 10,000 GWh by 2015 to 24,000 GWh by 2030 will require a sizable amount of pre-development groundwork, including engineering studies and surveys. It will also require an assessment of new transmission needs to deliver renewable energy to load centers. As a result, State government and the New York Independent System Operator should direct research and initiate planning to move beyond the existing 30% by 2015 target as soon as possible.

General Comments, Recommendations:

PSD-2, Incentives for Grid-based Renewables Generation: As part of any RPS expansion, a priority should be placed on increasing the supply of renewable energy in downstate areas. To date, the vast majority of the new renewable capacity associated with the RPS program has been developed in the northern and western portions of the state. Admittedly, this is where the bulk of NY's hydroelectric and best land-based wind energy resources are located. However, NY City alone represents approximately 35% of the state's electric energy consumption and continues to be reliant mostly on fossil-fueled generating sources. Reducing this reliance will require more investment in low-carbon generating resources downstate; such investment may also reduce both the amount of additional transmission capacity needed and the losses associated with transmitting power from upstate to downstate areas. The Public Service Commission's 2010 authorization of up to \$30 million annually through 2015 for

large-scale renewables in NYISO Zones G, H, I and J should start to address this problem, but a long-term policy to encourage geographic balancing should accompany an extension of the RPS if downstate GHG emissions reductions are to be achieved.

In addition to expanding bulk or wholesale renewable energy supplies, NYS should prioritize investment in low-carbon distributed generation, particularly solar and high-efficiency combined heat and power. The CAC PSD Technical Working Group explored the cost-effectiveness of several scenarios under a low-carbon portfolio standard that would include varying penetrations of solar energy. Both of these cases envision a major expansion of the state's solar PV generating capacity, with approximately 5,700 MW under the high renewable scenario (i.e., 10,000 GWh) and 1,900 MW under a scenario featuring a mix of renewables and new coal generation with carbon capture and storage capabilities. To put the scale of the needed investment in perspective, NYS is currently ranked seventh nationally with 34 MW of installed solar PV capacity, according to a report by the Interstate Renewable Energy Council.

One way to drive additional solar investment in New York would be, as the PSD chapter suggests, to adopt specific targets for solar energy within the RPS program. A solar carve-out in the RPS program combined with the development of a market in tradable solar renewable energy credits (SRECs) buoyed by prices sufficient to attract investment would go a long way in stimulating growth in the solar sector.² This policy has worked well in New Jersey, which is now ranked second in the US with approximately 130 MW in solar PV capacity.

An alternative method for encouraging investment in solar and other distributed renewables would be through the development of a feed-in tariff. Used widely in Europe and increasingly by municipal utilities and some states in the US, the feed-in tariff would pay a specified rate to owners of qualifying renewable generation for electricity delivered to the grid. The advantages of a feed-in tariff would include transparency of the price signal to the market, which is normally guaranteed at a fixed rate, and a much lighter administrative burden on state agencies. However, a New York State feed-in tariff would have to be designed in a way that addresses potential preemption issues arising from the Federal Power Act.

Chapter 9: Agriculture, Forestry, and Waste Management

General: The Port Authority requests Chapter 9 include a discussion on maintaining and restoring beneficial vegetative habitats, along with the ability of vegetation to mitigate GHG emissions. In addition, Chapter 9 minimally addresses the cost benefits of low impact efforts, such as vegetation restoration and instead stresses mechanical and technological innovations. The discussion should be more balanced between high and low-technological options.

² During his candidacy, Governor-Elect Cuomo proposed the development of an SREC program in his statewide Energy Plan. See the Cuomo energy plan at: <http://www.andrewcuomo.com/powerNY>

Chapter 11: Adapting to Climate Change

General: The Port Authority agrees with and supports the Report's emphasis on the use of one set of climate change projections. In addition, we support the development of more detailed, site-specific projections to the extent possible, so that site-specific capital and operating decisions can be made on the basis of accurate information. We request that any official set of projections be accompanied by clear information regarding the variability and uncertainty of the information, so that these issues can be incorporated into decision-making.

General: The information in this chapter should reference existing national programs. For example, USDA and the Land Grant Universities provide continual outreach in Agriculture and Environmental Cooperative Education and Research. Funding, Education and Enforcement are key to creating beneficial innovations and minimizing adverse impacts.

Page 11-65: The Report states, *"All State, regional, and local transportation agencies and authorities... should prepare inventories assessing the vulnerability of critical transportation infrastructure and corridors from the effects of climate change using best available, State-endorsed climate change projections. These vulnerability assessments should include a baseline inventory of all transportation infrastructure and consider how projected climate change would affect each facility. Inventories should include detailed financial and social impact analyses."* The Port Authority supports this statement.

Page 11-66: Please confirm whether the statement, *"Climate projection work is complete"* refers to only those projections used for this effort, and if so whether the statement is accurate.

Page 11-67: The potential cost of the vulnerability study appears low.

Page 11-68: The Port Authority recommends expanding the Recommendation 2 to include infrastructure that is vital to the state's economy.

Thank you for the opportunity to comment on the Report. Please contact Lena DeSantis of my staff at (212) 435-5467 with any questions. The Port Authority would welcome the opportunity to discuss our comments with NYSERDA and other member of CAC.

Sincerely,

Christopher R. Zeppie

Director, Office of Environmental and Energy Programs