Climate Act Mandates that must be Considered in the Scoping Plan

Summary
There are four Climate Leadership and Community Protection Act (Climate Act) mandates for the Climate Action Council that have been overlooked to this point. In brief those mandates are related to expertise, an implementation safety valve, costs and benefits documentation, and consideration of the experiences of other jurisdictions. Instead of focusing on specific technical issues, the Council should be considering how to address those mandates in their review of the Draft Scoping Plan.

The Climate Act specifies expertise criteria but does not give energy expertise priority. It is unreasonable to expect that all the members of the Climate Action Council will have the background, education, and experience to understand all the aspects of the net-zero energy transition. It is worrisome that some members who don't have all that much background and experience still make flat statements that reliability is not a problem with a 100% renewable system. Obviously, the State's experts responsible for maintaining current standards of reliability have to have the final say whether the recommendations for the New York Energy Plan are acceptable. I strongly recommend that the Climate Action Council lay out a plan to work with the New York Independent System Operator (NYISO) and New York State Reliability Council experts to resolve differences between the electric generating projections in the Draft Scoping Plan and those made by the NYISO.

There are members of the Climate Action Council that believe there are no conditions relative to meeting the zero-emissions electricity targets. However, New York Public Service Law § 66-p. "Establishment of a renewable energy program" has safety valve conditions for affordability and reliability. I am very disappointed that the leadership of the Climate Action Council has not addressed the safety valve provisions. The existence of those conditions has not even been mentioned and it should have been when the suggestion was made that even there are no checks and balances on implementation programs. This year subgroups have been established to address the natural gas transition, advanced fuels, and an economy-wide approach to fund the transition. All these are important topics but the underlying and unaddressed issue is how to evaluate those strategies. I believe that the evaluation criteria should be based on the establishment of a renewable energy program safety valve conditions.

Cost and benefit data are not presently included that fulfill the Climate Act mandate to make details publicly available. I recommend that the Council address this requirement by defining what will meet this requirement. In my opinion this requirement will only be fulfilled if the Final Scoping Plan describes all control measures, assumptions used, the expected costs for those measures and the expected emission reductions for the Reference Case, the Advisory Panel scenario and the three mitigation scenarios.

The Final mandate requires the Council to consider results from other jurisdictions. The recent reliability problems in Texas and Australia have to be considered so that similar problems do not occur in New York. The United Kingdom and German affordability problems are also a concern that should be

addressed by the Council. If we do not learn from the experience of others than we are certainly doomed to make the same mistakes.

Introduction

This comment addresses four specific mandates in the Climate Act related to the Climate Action Council. I have seen no sign that the Draft Scoping Plan will be evaluated with consideration of those mandates. I explain why they should be considered and describe potential ramifications if they are not.

The Climate Act defines the composition and responsibilities of the Climate Action Council in § 75-0103. The following comments address specific components of the Climate Act related to the Climate Action Council.

Expertise

Section 2 of § 75-0103 notes that "at large members shall include at all times individuals with expertise in issues relating to climate change mitigation and/or adaptation, such as environmental justice, labor, public health and regulated industries." It isn't clear to me what this language intended. Does "include at all times individuals with expertise in issues relating to climate change mitigation and/or adaptation" mean they are all supposed to have climate change expertise representing environmental justice, labor, public health and regulated industries? I have not seen indications that many at large members have any particular expertise in climate change mitigation and/or adaptation, albeit those terms are so loose to not have a lot of meeting. It is extremely telling that energy sector expertise is not mentioned as a specific criterion, unless you assume that regulated industries refer to the energy utilities.

The ultimate product of the Scoping Plan is a set of recommendations that will inform the next Energy Plan. Of the 23 members of the Council only eight come from energy sector organizations or have some background in the energy sector. Four of the energy sector members are agency heads and two others represent renewable energy organizations. Gavin Donohue represents the Independent Power Producers of New York an organization that represents both renewable and traditional energy organizations. The only member from the traditional energy sector is Donna DeCarolis, President of National Fuel Gas. She is the only member outside of state agencies that has any responsibility for keeping energy available to customers and who has no ties to the zero-emissions agenda.

At the May 26, 2022 Climate Action Council meeting at 23:39 of the recording Paul Shepson Dean, School of Marine and Atmospheric Sciences at Stony Brook University said:

> Mis-representation I see as on-going. One of you mentioned the word reliability. I think the word reliability is very intentionally presented as a way of expressing the improper idea that renewable energy will not be reliable. I don't accept that will be the case. In fact, it cannot be the case for the CLCPA that installation of renewable energy, the conversion to renewable energy, will be unreliable. It cannot be.

Robert Howarth, Professor, Ecology and Environmental Biology at Cornell (starting at 32:52 of the recording) picked up on that theme. He said that fear and confusion is based on mis-information but we

have information to counter that and help ease the fears. He stated that he thought reliability is one of those issues: "Clearly one can run a 100% renewable grid with reliability".

Neither of these gentlemen are energy sector experts and, based on their naïve belief that there are not serious concerns related to reliability with a 100% renewable grid with reliability, I don't think they have a good understanding of the electric grid. With all due respect to the agency heads who have no energy sector responsibilities I don't think they have the technical expertise necessary to meaningfully contribute to the development of the Scoping Plan.

The New York Independent System Operator's 2022 Power Trends Report paints a different picture of the net-zero electric system:

> The New York grid faces unprecedented reliability challenges as the clean-energy transition gains momentum. The 2021-2030 Comprehensive Reliability Plan recently concluded that while the state's bulk electric system meets current reliability requirements, risks to reliability and system resilience remain.
>
> As the level of renewable resource generation increases, the grid will need sufficient flexible and dispatchable resources to balance variations in wind and solar output.
>
> Long-duration, dispatchable, and emission-free resources will be necessary to maintain reliability and meet the objectives of the CLCPA. Resources with this combination of attributes are not commercially available at this time but will be critical to future grid reliability.

Obviously, the experts responsible for maintaining current standards of reliability have to have the final say whether the recommendations for the New York Energy Plan are acceptable. The Energy Plan is the "comprehensive roadmap to build a clean, resilient, and affordable energy system for all New Yorkers" and it must be done correctly. I strongly recommend that the Climate Action Council lay out a plan to work with the NYISO and New York State Reliability Council experts to resolve differences between the Draft Scoping Plan and projections by the NYISO that I described in a different comment. If this is not done then there are real threats to having power available when needed the most.

Safety Valve

The members of the Climate Action Council who think that there are not issues associated with reliability associated with a 100% renewable grid also believe that the energy transition must proceed no matter what because the law says so. However, New York Public Service Law § 66-p. "Establishment of a renewable energy program" includes a safety valve condition: "(4) The commission may temporarily suspend or modify the obligations under such program provided that the commission, after conducting a hearing as provided in section twenty of this chapter, makes a finding that the program impedes the provision of safe and adequate electric service; the program is likely to impair existing obligations and agreements; and/or that there is a significant increase in arrears or service disconnections that the commission determines is related to the program".

This Public Service law renewable energy program mandate clearly destroys the statements by some Council members that there are no conditions relative to the targets and schedule for the Climate Act. I believe that instead of getting bogged down into details of specific technologies and other minor issues that the Council should be defining the provisions for safe and adequate electric service, impairing existing obligations, and increase in arrears or service disconnections for Climate Act implementation. I recommend that those conditions be established up front, implementation plans should be evaluated against those criteria, proceed only if the conditions are met, and then tracked during implementation to see if they are being maintained.

Costs and Benefits

In section 14,b of § 75-0103 the Climate Act specifically states that the costs and benefits analysis must:

> "Evaluate, using the best available economic models, emission estimation techniques and other scientific methods, the total potential costs and potential economic and non-economic benefits of the plan for reducing greenhouse gases, and make such evaluation publicly available."

This information is not currently available. The only costs and benefits data support the claim in the Draft Scoping Plan that "The cost of inaction exceeds the cost of action by more than $90 billion". Initially, the only information provided in the supporting documentation was a series of figures as I documented in an article on my blog. No numbers for the figures were provided. It was not until May 29 that some of the numbers that were used in the Benefits and Costs chapter of Appendix G of the Draft Scoping Plan were made available.

However, the additional information provided does not meet the mandate to make the total potential costs and benefits publicly available. There is no breakdown of costs within sectors that is needed to evaluate the validity of the estimates. I recommend that the Council address this mandate by defining what will meet this requirement. In my opinion in order to fulfill this obligation, the Final Scoping Plan must describe all control measures, assumptions used, the expected costs for those measures and the expected emission reductions for the Reference Case, the Advisory Panel scenario and the three mitigation scenarios.

Without that information the public cannot evaluate the claims made. For example, in my opinion the Climate Act claim that the benefits out-weigh costs is incorrect because the claim includes a caveat that the comparison is relative to the Reference Case. I showed how the semantic justification that the transportation investments were already implemented excluded the costs of the zero-emissions vehicle mandate from the costs side of the comparison. Clearly that is not a business-as- usual investment. In order to further tilt the results, the emission reduction benefits attributed to the transportation investments were not excluded in the comparison. In other words, the comparison takes out the costs that would hurt their case but leaves in emission reduction benefits that help make the case that the benefits are greater than the costs. Without the detailed information the quantitative impacts cannot be stated.

The categorial cost data released in May provide evidence of similar manipulation of the data for other categories to provide the desired result. The building sector costs for the mitigation scenarios only range from $235 billion to $240 billion (42% increase) but the emission decreases relative to the Reference Case are 95% greater. The numbers also confirm my initial transportation initiative concerns. According to the Integration Analysis, Scenario 2 transportation initiatives will reduce emissions 79% relative to the Reference Case at a cost of $2.97 billion. The Integration Analysis projects that just the cost of battery electric vehicle chargers will be over $15 billion for Scenario 2 relative to the Reference Case. Finally, the claim that the additional costs necessary to transition the electric grid to zero-emissions range between $89 and $111 billion for incremental electricity are ludicrous. I estimate that the additional energy storage costs alone are $213 billion more than the Reference Case costs.

I recommend that the Final Scoping Plan documentation provide sufficient information so that anyone can readily determine the costs and emission reductions for their particular concerns. I developed and submitted comments on two issues that I think most people are particularly concerned about - home heating and personal transportation options and costs. It took me days to get estimates and there still were multiple unresolved questions. Frankly I don't think many people have the expertise to try to decipher what is in the Draft Scoping Plan to get their own answers. In order to do that the control measures have to be documented as described above.

Other Jurisdictions

In section 16 of § 75-0103 there is a mandate to consider efforts at other jurisdictions: "The council shall identify existing climate change mitigation and adaptation efforts at the federal, state, and local levels and may make recommendations regarding how such policies may improve the state's efforts." There has been very little discussion of efforts at other jurisdictions. The few times other jurisdictions were discussed it was mostly related to calls for greater aspirational goals. I think that the emphasis should be on lessons learned so we can avoid the problems observed at other jurisdictions.

At the top of the list of problems at other jurisdictions should be the February 2021 Texas energy debacle. Russell Gold's article "One year after the deadly blackout, officials have done little to prevent the next one—which could be far worse" does an excellent job describing what happened. He explains that as the frigid air behind the winter storm blanketed the state and the electric gird operators started dealing with resulting problems:

> Nobody yet knew just how widespread the blackouts would become—that they would spread across almost the entire state, leave an unprecedented 11 million Texans freezing in the dark for as long as three days, and result in as many as **seven hundred deaths**. But neither could the governor, legislators, and regulators who are supposed to oversee the state's electric grid claim to be surprised. They had been warned repeatedly, by experts and by previous calamities—including a major blackout in 2011—that the grid was uniquely vulnerable to cold weather.

For whatever reason the Texas electric system did not have enough generating resources available to meet the peak load requirements when Texans needed it most. If New York's implementation plan for net-zero leads to a similar situation where there isn't enough energy available, then the result will be the same: massive costs and deaths due to a lack of heat. In previous comments I argued that New York

has yet to do an adequate analysis and recommended that an analysis using a data set from 1950 to the present be used to determine the amount of dispatchable emissions-free resources that will be needed and the energy needed to generate hydrogen to provide that energy.

In my opinion, this mandate should also include the experiences of other jurisdictions outside of the United States as they implement similar climate change mitigation and adaptation efforts. In mid-June 2022 southern Australia suffered power outages because of market failures and a lack of wind power when there was winter-time wind lull exactly like the one described by E3 in their presentation to the Power Generation Advisory Panel on September 16, 2020. The observed problems in Texas and Australia obviously contradict the claim that: "Clearly one can run a 100% renewable grid with reliability".

The integration analysis recognizes that the future New York electric grid will be more vulnerable to cold weather. When electricity is universally used for heating, cooking, hot water, and transportation, the peak loads will occur in winter. The analysis also recognizes that solar energy resources will be reduced in the winter if for no other reason the days are shorter and that multi-day wind lulls mean that non-fossil fuel energy resources availability will be an issue. However, the reality is that the Draft Scoping Plan does not provide enough detail to be considered a cost and technology feasibility study, particularly with regards to how the cold weather wind lull problem will be handled. I recommend that the Climate Action Council insist that related problems identified in other jurisdictions be addressed in the Final Scoping Plan.

In addition to reliability problems identified in other jurisdictions the Council should consider how similar energy transition programs have affected affordability. The United Kingdom's Auditor General has warned that costs associated with their net-zero program must not shortchange people during the current cost-of-living crisis. In 2021 German consumers experienced the biggest price rise in gas and power prices. The Climate Action Council should address how these results could affect the Final Scoping Plan.

Recommendations

I am extremely worried that the New York Independent System Operator and New York State Reliability Council experts who are responsible for the reliability of the New York electric grid are being ignored. I recently wrote an article that describe some of their concerns, e.g., "Significant uncertainty related to cost / availability of DEFR technologies, as well as regulatory definition of "zero-emissions" compliant technologies". At a meeting discussing preliminary results the point was made that the capacity projected numbers indicate an enormous amount of generation is needed. That result was described as just "stunning". Someone asked whether anyone on the Council is looking at what this means. These experts are clearly worried about the enormous resources that have to be built to meet to transition the New York electric grid to net-zero. The Council must rely on these experts and not on the "expertise" of unqualified Council members.

It is unreasonable to expect that all the members of the Climate Action Council will have the background, education, and experience to understand all the aspects of the net-zero energy transition. The leadership of the Council must change the focus of the Council away from particular technical aspects of the Scoping Plan to the over-arching mandates of the Climate Act and, in particular, the New York Public Service Law § 66-p. "Establishment of a renewable energy program" safety valve conditions for affordability and reliability. I believe that instead of getting bogged down into details of specific technologies that the Council should be defining the provisions for safe and adequate electric service, impairing existing obligations, and increase in arrears or service disconnections.

Because there are limitations to existing technology the Final Scoping Plan must incorporate conditions based on reliability and affordability. The Climate Action Council should define the criteria for reliability and affordability and then establish conditions incorporating those criteria. For example, a recent legislative proposal included a requirement for state agencies to identify policies to ensure affordable housing and affordable electricity (defined as electricity costs no more than 6% of a residential customer's income) for all-electric buildings. Alternatively, Addressing Energy Poverty in the US offers other possible criteria:

> According to the U.S. Department of Energy, the average energy burden for low-income households is 8.6%. That is three times higher than for non-low income households, which is about 3%. And according to the Kleinman Center for Energy Policy at University of Pennsylvania, more than one-third of US households are experiencing "energy poverty," having difficulty affording the energy they need to keep the lights on and heat and cool their home.

Once the Council has established the appropriate affordability metric and the current status of that metric has been determined, then a condition using the metric can be established. For example, if the criterion is that the average energy burden cannot increase above the average and the Integration Analysis projects that a certain mitigation strategy could lead to an increase above the average then that strategy should not be implemented until the costs come down or a subsidy can be set up to prevent exceeding the criterion.

Cost and benefit data are not presently included that fulfill the mandate to make it publicly available. I recommend that the Council address this requirement by defining what will meet this requirement. In my opinion in order to fulfill this obligation, the Final Scoping Plan must describe all control measures, assumptions used, the expected costs for those measures and the expected emission reductions for the Reference Case, the Advisory Panel scenario and the three mitigation scenarios.

The Council should consider results from other jurisdictions. The reliability problems in Texas and Australia have to be addressed so that similar problems do not occur in New York. The United Kingdom and German affordability problems are also a concern that should be considered by the Council. If we do not learn from the experience of others than we will certainly replicate their problems for our transition.

I prepared this comment because I think the Council has lost its way to the best approach for developing a framework for the Energy Plan because it is not following all the applicable mandates of the Climate Act. I have written extensively on implementation of the Climate Act because I believe the ambitions for a zero-emissions economy outstrip available renewable technology such that it will adversely affect reliability and affordability, risk safety, affect lifestyles, will have worse impacts on the environment than the purported effects of climate change in New York, and cannot measurably affect global warming when implemented. The opinions expressed in this document do not reflect the position of any of my previous employers or any other company I have been associated with, these comments are mine alone.

Roger Caiazza
Pragmatic Environmentalist of New York
NYpragmaticenvironmentalist@gmail.com
Liverpool, NY