

Power Gen Advisory Panel Meeting

Feb 22, 2021

Meeting Notes

Attendees

John Rhodes - Chair
Annel Hernandez
Betta Broad
Bill Acker
Cecilio Aponte III
Corinne DiDomenico
Darren Suarez
Emilie Nelson
Jim Shillitto
Jenn Schneider
John Reese
Kit Kennedy
Laurie Wheelock
Lisa Dix
Rory Christian
Shyam Mehta
Stephan Roundtree

Introduction

Chair John Rhodes kicked off meeting reviewing agenda and introduces topics to be discussed. The session featured a public input at the end of the meeting.

Recommendation Review

The panel reviewed three of the recommendations currently under consideration. Panelists were given the opportunity to read over the details on each slide, followed by an open discussion. Details of each recommendation can be found in the meeting materials.

Workforce Development

Rory Christian: Minority and women owned busines (MWBE) state approval process can take 2-3 years or longer. Given the opportunity of near-term investments, this should be addressed expeditiously. For workforce development, have a long-term tracking. It is important to understand many current workforce programs are focused on getting the first job, long-term need.

Kit Kennedy: Echo and build on Rory's workforce development comments and this is crucial. We know the transition to clean energy will create job opportunities, but we also need to make sure the disadvantaged communities are lifted in this process and existing workers can make that transition also.

Jim Shillitto: Need to look at opportunities for people in industries that will be displaced. We should be sure to start some kind of survey on how many people from those work forces will be transitioning. A good amount will retire, giving opportunities to others. Raised this point in the Just Transition Working Group as well.

Bill Acker: Make sure the focus of the 2nd suggestion is broader than installation and employment technology. NYS has a great opportunity to create economic benefit. What we need for workforce development is different for the manufacturing/supply chain side than the deployment side. We should have a portion of the recommendation that digs deeper: requests the state focus for the supply chain part to ensure growth and ensure that the workforce is deployed and finds jobs.

Betta Broad: When we scale up job programs in disadvantaged communities, we should ensure there are wraparound services like transportation and child-care and prioritize population groups. The one stop shop hub idea is so that LMI communities can find all the information they need and coordination with NYS, local and county governments, and non-profits. State agencies, federal programs, local gov, local non-profit and community-based orgs that serve LMI can all play a part – approaching this in a holistic way and making sure we do the necessary PR to promote these programs. People that teach in community colleges (in clean energy) also say they need students

Lisa Dix: The Just Transition Working Group is doing some of this work, Love Jim's idea about a survey. It's important that clean energy jobs are family supporting jobs. Pair strong labor standards in all policies as done in large-scale renewable portfolio (prevailing wage). There is a really short time when a plant is scheduled to go offline (90-day period) for people to get into new careers. The constant feedback is that the period wasn't long enough to provide a transition for communities involved and the workers need other programs e.g. early retirement, transition programs in place so it's not a scramble at the end. Not a lot of talk about funding mechanisms. It's important to have a pot of funding that is coordinated. For example, we can consider a state entity where worker transition would be placed and funding lined up with the survey that Jim was talking about so that it's a success, and workers and communities are not left behind.

Jen Schneider: Echoes Lisa's comments about including labor standards. There is a NYS Fossil Fuel Plant Closure Fund and I'd love to know more about it, how it has worked and how we can expand that.

John Rhodes: We will get you that information.

Bill Acker: In storage, we've talked with many colleges about this and government stated a goal of having 30K storage jobs by 2030. The challenge is the coordination of the programs with industry coming into the state to make the jobs happen. Don't yet have much coordination in that area. Industry wants supply chain in the state, but they need the workforce first. Should coordinate NYSERDA with empire state developments efforts to grow these jobs and with the training of these jobs. We can strengthen some of these suggestions for more coordination and look at different vehicles to overcome this chicken or egg situation.

[Access and Affordability for All](#)

Laurie Wheelock: The equity subgroup has spent a lot of time on this subject. Need to study where we can control costs via energy efficiency. If costs get high for LMI population, the Office of Temporary Assistance have incentives for LMI community members to assist in energy bills. We can create more coordination to bring all these resources together to have a layered approach to help people.

Kit Kennedy: I agree with Laurie. When we identify costs, we should strive to identify avoided costs. Many groups here helping folks in disadvantaged communities.

Betta Broad: Appreciate Laurie's recommendation and crystalizing thoughts. it would be great if we could emphasize even more the role of energy efficiency. Kit talked about elevating the idea of avoided costs. Happy to take a first crack at independent recommendations on energy efficiency and demand response, especially downstate. Avoided costs with grid justices. With the new NY energy efficiency

mandate that is very large and ambitious, where are we with that? Is there some way we can get interim goals and look at near term modeling? If we are going to do the kind of the planning we need, we need to know where we are with the goals. And due to COVID this year, we will need to ramp that up even more.

Bill Acker: As we think about how much energy efficiency and DR and ability to control the grid-edge matters, it will matter much more going forward, demand response in a smart way. As we move forward here, it's good to reduce electricity consumption but when we do so is key, if we can cut everything by 20% per day, great. Can smart planning be deployed where it is needed, and can we have a good conversation with the EE&H panel and talk about load reduction?

John Rhodes: We are allowed to do what makes sense and make recommendations to ensure these measures are being suggested somewhere.

Emilie Nelson: Responding to Betta's point on future grid demand, some work has been done on NYISO. The work presented by E3 has covered some of their estimates. We know that there will be a shift from summer to winter demand, and I support the need to be continually refine them. Peak usage could be increased by a couple of megawatts. Energy demand could increase more depending on adoptions rates in building and vehicle sectors. Several components on the demand side, EE have big potential for peak load reduction, DR and DER programs are an important part to deploy that response when needed on the grid.

Betta Broad: How do we ensure that people who are eligible are actually participating in these programs and mandating utilities make more of an effort on that? If we have more information about customers, maybe we can provide better support services. We could mandate that utilities make more of an effort on that front. Especially now in the crisis we're in with so many unable to pay their bills. A lot more needs to be done by the utilities and by the state.

Laurie Wheelock: Our organization has been working hard with groups across the states, foreclosure prevention programs. A lot comes down to coordination and communication: ensuring utilities do bill insert and communication. With COVID, we have a whole new population of low-income households. People may not know to go to the utilities or NYS Office of Temporary and Disability Assistance. There are over \$1 billion in missed energy payments in the state, not including LIPA. People don't always go to the right place, but it is important to ensure resources are permeated. Now more than ever we have to do this work.

Stephen Roundtree: Directing state entities to focus on disadvantaged communities should be an important part of this plan and coordinating these programs to get to the people that need them. The state should make sure organized constituencies in those areas are reached out to. Resources need to meet the folks that need them.

Growth of large-scale renewable energy generation

Kit Kennedy: This initiative is crucial from all perspectives. CLPCA mandates we get 70% of electricity from renewable resources by 2030, and 100% carbon-free by 2040. NYS has some great programs to support large renewables, think we should have specific goals to make sure we're on track. DPS and NYSERDA should know how much renewables to add each year to get to 2030, it may not be completely linear. We can make these recommendations more pointed and specific. In the 1st row (Slide 13), do we know how much renewables we need to add each year and what's the track we need to get there, and if not, what do we need to do? Are there changes to NYSERDA's RFP that we can make? What's the track that we need to be on. Are we on that track, if not what do we need to do about that? We need to get

more granular and specific in these recommendations. Second box about increasing renewable energy downstate is very important. Renewables Rikers project, city council just passed legislation around that last week. What is good to cross reference with other groups as we get this right?

Emilie Nelson: For the 3rd row, I would like to say that an additional element in the Power Grid Study is that public policy is an important factor for transmission build out. NYISO can be a stakeholder in that.

Corinne DiDomenico: The most recent 2020 Clean Energy Standard order precipitated by the white paper outlined annual targets, included tier 1 and OSW, and a non-binding target on tier 4. We could build out a trajectory on where we need to be to hit our goals.

Lisa Dix: In box one, want to give a shout out to Governor and Legislature for the Accelerated Renewable Energy Growth and Community Benefit Act and note that I am excited about ORES. It's a really important and vital step to hitting our goals. Right now, there are lots of great efforts under way. Some Article 10 projects are moving into that process. On the second box, thinking about conversations we've had: we've got the state framework to get us to 70, but need to ensure we're hitting our targets downstate, where most of the fossil fuel plants are. I don't think we can assume that since we're building the lions-share upstate that it will translate to the decrease in emissions of fossil fuels fleet. We should have a hard target on emissions reductions, and assessment perhaps every three years starting next year, really taking a hard look to ensure they have the right programs and projects prioritized. This would help us to calibrate and be able to say in 3 years from now, what do we have to scale / dig-into and investment/policy priorities we should be making. In support of building a large-scale renewables upstate and offshore wind, there are a lot of policies we've talked about ad-nauseam that are essential to make sure we take the fossil fuels out to achieve our goals. In the third bucket, one of the things I see missing from Power Grid Study is local transmission analysis / requirements. If we get 15 GW of storage, we're still going to need a whole lot of dispatchable fossil fuels, to be able to make this work. I want to raise that as a point of caution. I'm unsure if that study was done with changes (likely electrification). It is worth thinking about a public policy solution with figuring out what modeling NYISO can do or utilities / local transmission owners, looking at fossil fuels phased out. What are the local solutions needed in LI, NYC? Transmission is a critical solution to decarbonization. Not sure if local transmission studies are getting enough attention.

Bill Acker: Expanding on the third bullet – if we have a lot of storage going onto the grid, it's important that we merge that planning. Think about transmission a lot like roads, we have our highways and sub roads, have congestion problems and more to come with more RE, we need more roads but also need to move the traffic to different times of the day. Need to think about a broadening of that piece, to Emilie's point about the stakeholders, NYISO and RE developers / innovative companies should be added. Emphasizes the importance of holistic studies.

Next Steps

The panel concluded its discussion of the current recommendations, highlighting the upcoming meetings.

- CAC meeting: Friday, February 26, 3pm EST.
- Next Power Gen AP meeting: Wednesday, March 10, 1 pm EST.
 - At that session the panel will be discussing the remaining subset of draft recommendations and soliciting public input. This will not be the last meeting, it's the furthest out that we've scheduled. Staff to schedule a follow-up to March 10.
- Cross panel meeting with transportation: Thursday, February 25

The panel took a 45-minute break ahead of the 12pm Public Engagement Session.

Public Input session

Jeremy Koo (Cadmus) kicked off the public input session as the host, advising participants of the standard protocols for participation.

Sarah Schultz

Sierra Club

I applaud the work on workforce development and just transitions from fossil fuels. I am involved with the Sierra Club and am anti-nuclear. Last meeting someone made the comment that there were no deaths from Fukushima meltdown. This was only 10 years ago, so I am not sure if anyone could say that it wasn't dangerous. Even though there is lots of new tech, do we have the time? Also, we still have the waste problem. New gas plants will undermine our climate goals. According to members of the USUS (unionized solar in NY) overbuilding solar to meet electricity needs is a viable path. They detailed in a webinar that this overbuilding would only account for only 2% of our farmland. Also, a Cornell webinar found that under 4% of land use for overbuilding solar, (agrovoltatics) would help meet the state need. As Lisa Dix mentioned, we need to study and plan and invest in the infrastructure. Personal note, I've made priority for geothermal, solar, and an electric car. I suggest that the panel do as much incentivizing as you can; even with loans we've taken out, going green is a tremendous cost.

Susan Gillespie

Citizens for local power in Olster County.

Encouraged by a lot of the things said about taking a holistic view and looking at generation in relationship to EE, reducing the need to more generation, and attention to downstate including the Hudson valley needs being different. Don't want to rely entirely on transmission from NW or Long Island Sound (OSW). We are offering an internship program to bring young people into clean energy field. This has been very successful. The secret was not just including strategic partnerships and minority owned business but involved them in the planning from the very beginning. A lot more of this should happen, when they are involved from the beginning, they have a stake in it. Acknowledging the leadership capacity of these groups and businesses would be extremely valuable.

Susanne DesRoches

Deputy directory NYC office of sustainability and energy

Thanks chair Rhodes, city of NYC is big supporter of the climate goals. Reducing NYC's reliance on dirty power plants, disproportionately located in communities of color that emit pollutants which endangers citizen health is a priority. Due to limited available space, closing these plants will not be achieved by in-city renewables alone. Closing plants in cities requires more T&D into the city. The NYS reliability council requires there is sufficient generating capacity within the five Burroughs. We need T&D directly into Zone J and need energy storage at scale. The cost of the clean energy transition must be distributed equitably and not exacerbate electricity income issues. Compliance with CLPCA should prioritize passing cost savings to cost burdened customers. Decarbonization must integrate climate change risk and ensure the resilience of NY residents. Current outages in Texas underscore the need for robust energy planning across the state.

Michael McGlynn

One question pertains to the division of homeland security and emergency services at the state and county level. In their prep for disasters, they have energy as one of the emergency support functions.

NYSDERDA in case of a disaster such as a blackout, will bring diesel/fossil fuel electric generators to sites where needed, to prevent that, asking panel to consider the county emergency preparedness assessment that homeland security emergency services uses to assess critical energy infrastructure in each county to create microgrid with energy storage units at emergency support facilities. Community shelter, county sheriff, department of police and fire, and hospitals should all be considered so they will be available in case of blackouts. Secondly, social service law for NYS section 131 – A 5-c has a provision which states that the social service district in each county can replace equipment and appliances that are energy inefficient or need be repaired or replaced. Old appliances increase demand on system and increasing budget / expense of those on social services, and social services recipients. Consider changing that or at least looking at it. The word may be the guiding verb whereby they don't have to act. Changing the language to "shall" could push departments to assess and change inefficient to efficient equipment to reduce demand and annual expenditures of the government.

Eric Meyer

Imagine if by the stroke of the pen, the governor could create ~ 1500 wind turbines, or could remove 3 fracked gas plants from the power mix. That is the situation with Indian point, hanging in the balance that receives 25% of NYC's carbon-free electricity and 90% when both units running. So frustrating to watch the train wreck happen. It is like Texas with all its eggs in the gas basket and California in the same situation. We are taking the most carbon-free reliable resource off the grid for the wrong reasons. Not a single person has been killed in the history of the technology, you hear people referencing the weapons themselves as a threat. Look at the evidence and realize how much we need this plan to make the case to gov if we're going to hit these goals, we shouldn't take a giant leap backwards first. Should extend the zero-emissions credit program for all plants including Indian point. Less necessary to build out all the crazy transmission projects disturbing natural environment. Urge the panel again to create a program that properly values firm zero-emission energy like nuclear. Support a carbon-themed dividend and let them compete in an open market.

Charlie Feuerman

Think that nuclear is key, renewables don't last nearly as long. There is no reason nuclear can't last as long. To close nuclear plants means more gas. Every single thing I do is not clean. When I plug in laptop to do work, it is not clean. Shutting down Indian Point is shutting down more than all wind and solar can produce. Advanced nuclear is coming and is awesome, but the current technology is still very necessary.

Catherine Skopic

Thank you for the opportunity to give comment. First, if the earth could speak what she's saying to us now, we all hear it. One thing we have to do is make all of our renewable energy projects more resilient to more unusual situations. Regarding Bill Acker's comment on coordinating developers and training sessions. I was fortunate to visit block island OSW, we had a talk with a rep from iron workers. One of the first things they ask new trainees is how they feel about working on great heights. The idea of developers working with training schools is very important. We might look for resiliency in local laws that could be accommodated to developers. An onshore wind developer was moving wind turbine blade. Because of local laws, they could only travel on local roads for 3 hours. They had to offload those turbines on several different days. If that timespan for use of road could've been expanded, they could've offload 2 turbines in same time and save money. Laws are impediments rather than enablers. Something we need to look at to enable developers for large scale renewable energy. Do agree with Lisa Dix in congratulating ORES and all those working on it now, taken 10 years down to 1-2 from time of submission to when project comes online. Agree that we should have a 3-year assessment to ensure that we are on track. Also like to make a point that renewable energy comes in degrees of sustainability

and cleanness, haven't heard anything about mega-dam or Chesapeake Hudson power express. These are very destructive to Canadian indigenous groups and the Hudson river. More research into nuclear energy would lead me to believe that it is neither clean or green. We need more CCAs, more distributed energy, in regard to reaching out to environment justice communities that need help, Betta mentioned this: how do they find out about the opportunities available to them? WeAct is working with their communities, know very well who will need these opportunities offered by the state. Suggest reaching out to EJ communities / churches / localities where EJ individuals need these kinds of help and supports to go to not knowing what stage agencies are available to them.

Shayok Mukhopadhyay

350 NYC

We've all seen what happened in Texas. It is interesting to see the different lessons: some people blaming windmills, some pointing out gas plants couldn't fire up, nuclear plants, like blind men looking at different parts of the elephant. Why did this happen? Grid instability happened because of climate instability, without a stable climate, we cannot have a stable grid. Do not consider further items that destabilize our climate. Do not consider RNG or peaker plants. If we adopt false solutions you are destabilizing solutions and in an unstable climate you will never have a stable grid. Everyone saw news report for those with real-time power pricing bills: \$6-10,000 bills. We've been in support of real-time pricing that gives customer a clue about the state of supply, but it would be really sad if the lesson that these price signals are a bad idea. We get calls from ESCOS that promise good rates for first two months and leave us hanging with the market after. Underlying lesson is what is the cause. Wholesale prices are socialized away, in Texas it was not. The underlying problem is that the grid does not have enough supply. We've seen lots of advocacies of nuclear, wants to talk marketplace of risk. Fukushima 180 billion dollars, prices have created in US a liability pool of only 15 billion dollars, who would come up with the rest of the money in case of a nuclear disaster? Compare \$180 billion to the NYS budget for this year: \$100 billion. Who would be on the hook for that disaster?

Leonard Rodberg

Climate advocates

There has been lots of discussion about the 70% renewable goal, but no discussion about remaining 30%, today nuclear provides 27%. What's going to happen to it? Hope the panel retains it and learns the lesson from the closure of the first unit. 2 years ago, fossil fuel supplied 39% of our power, today it's 49%, if last unit closes it will go to over 50%. We're increasing our emissions of carbon dioxide. Comments we've heard don't seem to be reflected in any of the discussions that the panel has. If we don't have a member of the panel that brings them up, how about an ombudsman that brings them up to the panel. They need to be addressed not buried.

Dietmar Detering

Queens resident, lives a mile from Ravens Wood

I appreciate the work the panel is doing, excellent points have been raised. How much is 70x30 going to cost in electricity, who will pay and how to we protect those that can't afford? How much environmental damage will be caused by renewable energy in habitat loss? It is imperative to keep our eyes on targets. how will NY protect clean and reliable generation to reach out 2040 and 2050 goals. Without carbon pricing, and an economic environment for nuclear, it will further worsen. Should NY reach 70% by 2030, the state will depend on gas and oil for the last percentage. Gas can fail as well with fatal consequences. We need to review if we have enough fuel and oil capacity or renewables in the worst circumstances. Do we want to prep for RE future with reliance on oil and gas knowing how dangerous it is? Be bold enough to sound warning to public with issues in intermediary 2030 goal.

Carl Perez

Elysium Industries, advanced nuclear vendor based in New York

Elysium Industries was founded by Japanese investors looking for solutions post Fukushima. The biggest problem was looking at waste. The waste business and nuclear business are very transparent; if we had same transparency in renewable sector we'd get better emissions results from renewable energy. We are trying to develop the Philippines into Southeast Asia's green capital. The biggest concern is natural gas. Hope people agree that the biggest threat is natural gas. There are roughly 500 reported gas leaks per year and 1000 unreported estimated in Manhattan. Regarding comments about native American groups, hope that commentators reserve speaking for them. While the accidents may be bigger, planes are statistically safer than cars; look at the data related to nuclear for the future.

Isuru Seneviratne

Queens resident

Raising the issue of risk. I have children that are 7 and 10. The business as usual scenario ensures they inherit an uninhabitable planet. Listen to the scientists and act based on evidence, not on what feels green. No nuclear and no gas means no electricity. NY has embraced anti-nuclear position without looking at evidence. We are en route to the largest increase in emission we've seen from the electricity sector. To clarify the risk of nuclear, we modeled a hypothetical radioactive release 100 times what National Labs have deemed possible. The model then assumed that people remain outdoors unprotected for 48 hours. The model found that there were no deaths. We can hope some miraculous tech will be unveiled or retain our fossil free sources and ramp them up. NY's business as usual scenario increases emissions by 30% which is avoidable. Ignoring this inconvenient truth does not make it go away. It's uncomfortable, but the CAC is not an elected body that needs to be by dogma or party line, it must evaluate all solutions based on evidence to mitigate climate risk and help protect communities.

Roger Caiazza

I am worried about reliability. Texas is very scary. It is important that we understand the differences in NY and TX. I don't think what happened in Texas could happen here but need to make sure that we don't let changes to the NY system allow what happened there in NY. The best way is to understand reliability differences. I'm making this comment to request to ask for briefing from NYS reliability council. Experts there can explain what we'll have to do to prevent what happened in Texas, here.

George Davidson

American biogas council

Biogas is renewable energy and needs to be categorized as such. Currently excluded from CLPCA, in contradict with IPCC, which bars project development from competing fairly in NY markets. There are climate and waste management consequences including manure, food waste, and polluted waterways. Composting is good for some, but not the most effective option for well. NY has a pressing need for biogas to provide recycling infrastructure for food waste and wastewater. Biogas and composting can work well together, allowing biogas well to get more benefits from composting. Allow market to invest in and build the infrastructure NY needs to manage the waste it generates. Bring biogas back into renewable energy definition.

Michaela Ciovacco

NY for clean power

I am speaking to ask we stop new gas plants, phase out existing gas and oil plants, replace them with 100% renewable energy, ban permitting siting and building of fossil fuels, direct DEC to create regulations and amend air-operating permits to establish an end date of 2040 for GHG emissions. Direct

DEC to have targeted phase out date for electric sector emissions: 2030 and step down at 3-year intervals to ensure a total decarbonization of the electric grid by 2040. There should also be equity criteria established by DEC in this process.

Keith Schue

It is interesting that the discussion was about just transition, but the most unjust transition is one that doesn't happen. With beneficial electrification we'll need twice as much electrification. Currently it's 1/4 renewable, 1/3 nuclear and remainder fossil fuels. If the grid doubles the 30% today is 60% in the future. Means we'll need more fossil fuels in the future. If this is ignored then you will fail. Republicans like to deny problems and Democrats come up with solutions which don't work. Can't solve climate change by treating it as a social movement. If we care about the 8 billion people we need solutions for all of them. A few of them are engineers and scientists. This problem does not get solved with PV, wind, and energy efficiency alone. It doesn't get solved with biogas, hydrogen, or renewable natural gas. The fossil fuel industries are laughing that they'll get fossil fuels long in the future. It's not just about peakers: fossil fuels are a lot of the baseload in NY. Without nuclear this problem does not get solved. Not looking at 1.5/2 C we're talking about 3-5 C. This is not about nuclear or renewables: we need both of them. Power can be used for good or bad. We can't reject the beneficial use of nuclear tech: we need existing nuclear technology and advanced.

Paul Van Linden Tol

Any energy source has externalities. If the criticism is that nuclear is not perfect, we all agree. All we're saying is it's the best realistic option to scale up. Fukushima has been invoked recently. Look this up on your own: zero deaths from radiation from official UN report. Deaths from accidents as a whole were due to the panic evacuation from the earthquake and tsunami. Compare this to supplying millions of Japanese with power for 40 years. The other thing to address is the definition of renewable. Nuclear is not technically renewable, but it requires so little uranium. It could power the world on it for a long time. Wind and solar alone do not turn the lights on, solar panels and wind turbines are not renewable: they have a high resource intensity for rare minerals in their parts. I think nuclear is the best of both worlds: low land use, low material intensity. "Ourworldanddata" run by economists and researchers shows the deaths and carbon emissions per energy unit. Nuclear saves lives. There are 3 functioning plants in upstate and ideally keep Indian point open as well. Air pollution is an emergency, climate change is an emergency, keep these plants open.

Lynne Bruning

Schenectady county resident

As the power generation panel, consider what happens to renewable energy employees when manufacturing workforce loses their jobs. Once power plants are constructed, what happens to these employees? Vestas is closing a manufacturing plant for wind turbine parts in Colorado, as announced in the February 17th Denver business journal. What happens in transition to operations and management? The long-term renewable energy job market may only require 1-2 workers to visit 30 power plants. What is the workforce project for 15 years out? Will this force become obsolete? Premature closure of Indian Point unnecessarily leaves NY to gas fossil fuels. I will submit the article I referenced.

Gerrit Bruhaug

Student in upstate NY in Rochester, nuclear engineer by education, working on PhD

I add support to nuclear for best option to fight climate change. We need to keep operating plants. The carbon impact is too great to bear in light of recent reports to how fast climate change is already upon us. Texas, California last year, and think about the loss impact of these things. We need nuclear.

Isaac Mattoo

Engineer from NYC

I am concerned about climate change and energy price for people of poverty and environmental justice communities. We should prioritize emissions drawdown. Building of onshore wind creates more GHG than a complete nuclear plant according to the IPCC. Nuclear plants take up less space and use fewer materials. There were no deaths from 3-mile island. Germany's nuclear has been replaced by coal, it should be renewables and nuclear, otherwise it's nuclear and fossil fuels.

Roger Clayton

NYS reliability council.

Our job is to set the standards by which the NY ISO runs the system. The bottom line is they set criteria and the NYISO operates system to keep the lights on. The word that is in their title "reliability" is important, looking at enabling initiative slide #7, don't see reliability anywhere there. Don't lose sight of what's involved with that. Suggest in the bottom row, new T&D will be necessary to reliably deliver energy. The reliability council is neutral as far as the form of resources on the network. Want to make sure that they can work together to keep lights on. Draws attention to power grid study talked about before. Appendix H on a zero-emission electric grid in 2040 shows the amount of various resources modeled for zero emissions. In 2040 the model suggests the need for approximately 50,000 MW in capacity to keep the lights on and meet the resource adequacy criteria. Not only do we have to have enough generation by nameplate capacity to meet peak load, we need to ensure their reliability. What's their capacity factor such that they are available when they're required? Also appreciate Roger Caiazza's earlier comments.

Richard Fennelly

Big energy efficiency gains can be realized by NY and other areas from paying attention to cooling equipment, and the impact that the lack of maintenance has on the grid. A 2018 study pegged 500 million metric tons indirect emission caused by a lack of preventative maintenance on A/C and refrigeration units, and a lack of coil cleaning, filter replacement on A/C. We took the 500 million metric tons figure and extrapolated it down to NYC. 8.5 million metric tons in NYC are caused by dirty A/C and refrigeration. We briefed Mark chambers in August of 2019 and saw no action. ConEd have been told, and they don't want to entertain it. The refrigeration and A/C sector don't have enough capacity to do anything about it. Look at this as a strategy. We have told the EE&H panel about it, sent an email to both panels and will follow up with comments on workforce development issue. Have a US patent in October that could be a retrofit to help with this issue which we would be willing to license out to the industry if it works. Looking forward to further engaging down the road if this is of interest.

Dennis Higgins

I saw an Op-ed in the Binghamton Sun Bulletin, since passage of CLPCA, that the appointees to the CAC and its sub-committees is rigged. The CAC supports a plan that has failed elsewhere: MA, VT and CA shut down nuclear and have picked gas to compliment intermittent resources. Excess PV is being dumped in California. Germany spent 6 billion Euros on PV but still wants a pipeline into Russia for natural gas. In CA and Germany, utility customers pay too much for electricity. California had rolling blackouts this summer and large parts of euro grid almost went down in January. NY seems nevertheless intent on pursuing a failed experiment. NY is set to lose twice energy by PV and wind without Indian Point. New environmental justice communities are created with closure of Indian Point. 5,000 MW are detailed in NYISOs publication. Nuclear is 30% of state's electricity and half of its carbon-free power. Existing reactors should continue to operate. Beneficial electrification will require much more electricity in the future. State's CES should value firm carbon-free sources. Add a carbon-fee program to create a market.