

**NYSERDA 117<sup>th</sup> Program Planning Committee Meeting**  
**October 3, 2022**  
Clean Copy of Transcript

**Sherburne Abbott:**

Hey, good afternoon and welcome. I call this meeting to order a notice and agenda for this meeting was provided to the Committee Members on September 26, 2022, and to the Press on September 29, 2022. This meeting is being conducted in person and by video conference. The Authority will post a video and a transcript of this meeting on the web. To confirm that we have a quorum, I would like each of the Committee Members to introduce themselves. I am Shere Abbott, Chair of the Committee.

**Arturo Garcia-Costas:**

I'm Arturo Garcia-Costas, Member of the Committee.

**Frances Resheske:**

Frances Resheske, Member of the Committee.

**Chair Kauffman:**

Richard Kauffman, Chair of the Authority.

**Sadie McKeown:**

Sadie McKeown, Member of the Committee.

**Charles Bell:**

Chuck Bell, Member of the Committee.

**Sherburne Abbott:**

Okay. I would like to note for the record that we have a quorum, but that Sadie is participating by video conference as per the Extraordinary Circumstances Exception under the Open Meetings Law in our By-law participation will count for votes but will not be included in the count for quorum. Thank you. The first item on the agenda is the approval of the minutes of the hundred and sixteenth Committee meeting held on June 28, 2022. Are there any comments on the minutes? Seeing nine, May I please have a motion approving the minutes? Second? Okay. All in favor?

**Members of the Committee:**

Aye. Aye.

**Sherburne Abbott:**

Opposed? Meetings have, minutes have been approved. The next item on the agenda is the consideration of revisions to the Authority's Fiscal Year 2022 to 2023 Budget be presented by the Authority's Chief Financial Officer, Pam Poisson.

**Pam Poisson:**

Good afternoon Members. We have a brief update for you on the budget. NYSERDA, that, as you know, monitors financial developments regularly in the event of material shifts due to external development. We may recommend to this Committee certain budget revisions to keep that budget up to date and thus serve as a relevant guide for spending plans. NYSERDA signaled last January the potential to present to the Members an amended budget for consideration at an upcoming meeting, which we are now doing. The Members are thus requested to adopt a resolution approving revisions to the Authority's Budget for Fiscal Year 2022-2023. It was originally approved at the January 2022 Board meeting to reflect material updates from new business developments.

The details of the proposed updates are summarized in the memo in your materials. I'll just briefly highlight a few key items being updated. First, the beginning of year net position has been revised to reflect the higher ending net position for last fiscal year that resulted from particularly, excuse me, particularly strong RGGI outcomes that occurred after the original budget had been published. Second, the revenue budget has increased by \$40.1 million to \$1.766 billion. That's primarily due to two items. The first is additional work scope and related \$20 million in approved State budget appropriations to support the offshore wind port infrastructure. Additionally, we have expected utility surcharge assessments that are slightly higher, consistent with the expansion of the NY-Sun program to achieve the higher goal that's now been endorsed of at least 10 gigawatts distributed solar by 23. That's the revenue side. If we flip to the expense side, we've got two primary updates.

First, with respect to salaries and benefits, those have been updated to reflect the State's higher than projected current year. General salary increases offset by lower than projected current year pension expense based on actuarial projections received after the budget was previously approved. On the salary item, note that the State approved not one year, but two years of general salary increases or COLAS. They're basically catching up after the pandemic so doing last year's and this year's concurrently. Whereas we had originally incorporated just one pair into the budget to be conservative as we have historically followed the State conventions for such increases, thus updating the budget accordingly. I would note that this budget update for salaries also includes a modest placeholder for adjustments that may be warranted based upon the pay equity and job study now underway, consistent with NYSERDA's DEI Plan that related updates previously provided to the Governance Committee and the Board incorporating these various adjustments.

We now have a total net position projected as an upcoming fiscal year end on March 31 of 2023. That would be of \$187.3 million from the original budget to about \$1.7 billion total. Finally, I know it's on a number of our minds. Some funding that may become available at the Federal level is a result of the recent Infrastructure Act, which of some Science Act and the Inflation Reduction Act is the related funding announcements are for the most part in the very early stages of being announced and disseminated. We do not anticipate material additional funding in the current fiscal year for those. So updates on this part will be included in next year's proposed budget that will be brought to this Committee in January. Let me pause here to see if there are any questions. But this is a fairly standard update when we have situations like this that come out during you have no questions?

**Sherburne Abbott:**

May I please have a motion approving the resolution, recommending approval of the revisions to the Authority's Fiscal Year 2022-2023 Budget.

**Arturo Garcia-Costas:**

So moved.

**Sherburne Abbott:**

Second?

**Sadie McKeown:**

Second.

**Sherburne Abbott:**

All in favor?

**Members of the Committee:**

Aye.

**Sherburne Abbott:**

Opposed? Revisions to the Authority's Fiscal Year 2022 to 2023 Budget have been recommended for approval. The next two items on the agenda concerns the Focus Areas and Future Goals that will be included in the Authority's Strategic Outlook. The Authority's President and CEO, Doreen Harris will present these items and will be joined by other Authority's staff.

**Doreen Harris:**

Yes. Thank you very much. Good afternoon everyone. It's great to be here with you in person and virtually. So to kick off today's discussion we are going to be providing an update on our Strategic Outlook. Certainly starting with the basics of how we're doing on our mission outcomes and policy goals, and then launching into a discussion of the progress and future direction. Joined here by a number of our business unit leads to talk about sort of the status and go forward plans. So as a reminder, our Strategic Outlook is a forward looking planning document that we develop on an annual basis, presenting it in final form for the Committee and to the Board each January. It is a three year forward facing document. So the next Strategic Outlook will be for 2023 to 2026 certainly demonstrating just how quickly our near term targets and outcomes are approaching. Next slide please.

So, just as a reminder this slide shows our five core mission outcomes and four strategic focus areas consistent framework we've employed with success for the last two Strategic Outlooks in which we intend to maintain for the coming outlook as well. Each icon represents a section in the Outlook document to help us outline and organize our priorities the State's priorities and other needed actions to realize our goals. And of course, the CLCPA goals as well as has been the case for years. Greenhouse gas emission reductions remain as the north star of our work. And if anything grows more and more important over time, we deliver the submission reduction by advancing renewable energy, accelerated accelerating energy efficiency, and building

decarbonization, building a clean energy economy and working to ensure that we have a resilient and distributed energy system.

So as we look to the future, our mission outcomes remain unchanged, although our tactics will certainly evolve. If anything, we at NYSERDA are more and more about scale today and the urgency of action than any point I can recall in NYSERDA's history. And so it is no longer a question of whether it is a market based strategy versus a policy or mandate. It is both. And so as we advance our work, we also care about building and inclusive the economy that works for all New Yorkers supporting economic recovery, green jobs and also fostering healthy and resilient communities while keeping our focus on accelerating this transition to a low carbon future. So you'll see the related teams coming through the rest of the discussion today. So for January, you can expect refinements and updates to our plans under these sections for the outlook rather than a wholesale overhaul or revision, though notably with much more significant federal activity to account for and incorporate. And you will be hearing more about that today. Certainly a lot of new action moving forward. But our organizing framework will, will stay the same. Next slide, please.

Many of you will well recognize this timeline graphic, which I think does a great job of bringing together the essential, the essential policy goals and mile markers that we have under the CLCPA and under Governor Hochul's actions over the last year. Plus, you can see here we've organized the targets under the blue and yellow headers corresponding to our mission outcomes. So you can see the crosswalk here more than anything, the proximity of the 2025 and 2030 goals is evident here. Specifically the 40% greenhouse gas emission reduction goal by 2030, which will prove to require the extensive work and coordinated approach to us for us to attain. And as the footer notes critically, the CLCPA's disadvantaged communities requirements are embedded throughout all of these clean energy and energy efficiency activities requiring 35% with a goal of 40% of the benefits of our investments flowing to disadvantaged communities. So that requirement, which we discuss in our Strategic Outlook under building an inclusive clean energy economy, permeates all the targets you see on the slide here and the respective supporting activities, which we lead with that. I'm joined by Jen Meissner, who is our Director of Performance Management, who will share progress on our primary mission outcomes and present this within the broader policy goals of New York State. Next slide, please. And over to you, Jen.

**Jennifer Meissner:**

Thank you, Doreen, and good afternoon to the Committee. We're going to start with renewable energy and we can see the main goals on this slide, which really span near and long term targets, as well as both technology specific and broader multi resource targets. So the two anchors are of this outcome are 70% renewable energy by the year 2030, and then 10% or 100% zero emission electricity by 2040. Also important to achieving these outcomes are achieving 10,000 megawatts of distributed solar by the year 2030 and 9,000 megawatts of offshore wind by 2035. And we'll drill down into the details. Next slide please. So the next slide is our big picture, 70 by 30 view. We can see in this bar and donut chart that we're becoming accustomed to that 27% of the forecasted 2030 load is coming from our operating renewables currently.

And then we've had significant procurement progress that has continued since the last time we met and spoke about this such that the contracted and pipeline renewables now bring the total renewable energy progress up to 66% of the 2030 forecasted load. The procurement activity has resulted in NYSERDA developing over 120 projects which are bringing in about \$32 billion of overall investment. And this is all excellent progress, but the challenge now as we know is getting these projects built and getting them generating electricity and the additional industry supports like workforce and supply chain development are going to be critical to getting this work done. If we go to the, the next slide, please, we'll highlight a little bit here on, on offshore wind. And in the last slide, it was noted that about 30% of that contracted and pipeline renewable energy is coming from successful offshore wind solicitations.

The first two solicitations that have been run by NYSERDA procured over 4,200 megawatts of capacity, which was roughly double what was expected. And then the third solicitation was released in July, due at the end of the year and is prioritizing at least 2000 megawatts of additional capacity. So when we include one LIPA project that is also under development, we have five active development projects in the State, and they represent over 4,300 megawatts or around 17,500 gigawatt hours a capacity and an annual generation. So overall, we can see in that little thermometer at the upper right, we're at almost 50%, about 50% of the way to the 2035 goal.

And the next slide, if we move to that we're doing a rather a rather quick overview, but there's a lot of data in these slides and a lot of information that will, you know, go with you and can infuse into our session later on. So moving to distributed solar this is obviously the most mature and long standing current portfolio that we have. Current goals to install, 6,000 megawatts by 2025 and 10,000 megawatts by 2030. We currently have over 4,000 megawatts actually installed at this point, and another 2300 megawatts in the pipeline, which bring us well past the 6,000 megawatt goal and set us up quite well for the 10,000 megawatt goal as well with that installed in pipeline activity. So recent years as we know, have been extremely strong ones for solar development in the State.

New York is number one nationwide and community solar number two in the nation in terms of overall distributed solar development. And we continue to see those solar costs decline. They've come down 75% since 2010. We also have had meaningful support provided by the NY Green Bank financing \$2.8 billion project value and about 1400 megawatts of capacity in these distributed solar projects. We have important current activities centering on benefits of disadvantaged communities through the solar equity framework. And also worth noting for the Committee is that there was a very large surge in activity since Q2 when the commercial industrial megawatt block was reopened. There was about a thousand megawatts added that came in in the first couple months of that reopening. So all very good news of progress on renewable energy with lots of work to do to get these projects built out. We will shift gears to the next mission outcome and policy goal. And the next slide, which is resilient and distributed energy system. And we focus here on energy storage. So the goals are achieving 1500 megawatts of installed storage by 2025 and double that by 2030. If you could go to the next slide please.

So also a story here in energy storage of successful procurement of a robust pipeline. We have \$361 million of bridge incentives. That's, that's been awarded at this point in time. And as has

been the case, most of the megawatts procured are in bulk storage. But we included the little map off to the side, which is, I know a bit of an eye chart with the intent of just saying that we have a good distribution across the State of both bulk and retail storage. And the geographic diversity gives more municipalities that hands on experienced help reduce barriers like permitting. So to date there's 1300 megawatts of storage or about 87% of that 2025 goal that's either awarded, contracted or installed. 11% specifically there is the, the projects that are installed. And so we have a ways to go with getting the rest in place.

And these projects do carry a lengthy timeline with, you know, multiple years and, and some risk of attrition. I think the primary use case is really for storage have remained constant since the last time we reviewed this process. So in interest of time, I'm not gonna get into those points at the bottom of the slide, but we can certainly discuss later. I think we'll move on to the next slide then, which is a quick look at energy efficiency. The State's main energy efficiency goal is that 185 TBTUs of end use savings in buildings in industry by 2025 coming from. You know, this was originally part of the New Efficiency New York Plan and then codified through the Climate Act. I think we wanna say that this represents a good starting point at accelerating our investment in efficiency and electrification.

But as has already been discussed, the scale that we need at this point in time to reach our, our overarching goals really tell us that this 185 TBTU is just a start stepping stone. And we also have the goals related to climate friendly homes. So 2 million climate friendly homes by 2030 that were established by the Governor earlier this year which is a significant increase in our level of activity. On the next slide we show you a bit more detail on that 185 TBTU. So on the left is the familiar stack up chart that shows really the various expected contributions from all parties toward achieving this goal. And notably you know, you don't have to be able to read the fine print to know this is a very much a shared goal with NYSERDA responsible for about 66 TBTU of the total.

And those, those parts are, this is in the table mainly coming from the clean energy fund. And then the utilities bring in the majority of the rest through their programs. Plus there are contributions from LIPA, NYPA and others. And it's escape I think we've made to achieve the 2025 goal. You can see in one of the numbers on the right, some of NYSERDA and so far is reaching 97 TBTU to use or about 53% of the goal. And then NYSERDA's actions specifically in the little table at the bottom right consists of both installed and pipeline achievement, but have reached about 60% of our expected 10 year contribution. So really the key success factors for us in attaining this goal are you know, ensuring that we really have the pace of completion needed to, to get it done in that 2025 timeframe, both the projects that we directly fund and the market transformation being kind of measured and, and bearing out moving along to greenhouse gas emission reductions.

As Doreen noted this is our north star 40% reduction in emission levels by 1990 or from 1990 levels by 2030, and then 85% by 2050. And if we move to the next slide I think these bars here really feature the latest integration analysis understanding of the jump in adoption levels. Sorry, next slide. I don't know, we might have a little delay here, but the bars on the next slide really show the jump in adoption levels that are required to reach even the first 40 by 30 goal. The red bars represent, you know, current adoption that we have in place with policies today. And the

green bars show the very aggressive and ambitious movement to deployment levels needed to reach the CLCPA achievement. Our key takeaway here really is just that across the board, and especially in residential and commercial buildings, we really have a long way to go closing the gap established by the CLCPA and needing to see fundamental changes in all systems and acting on a very best pace.

Next, next slide please. So we have just a couple more areas to touch on clean energy economy which has goals related to jobs attaining clean energy jobs across the New York State economy. The next slide shows I think there's a lot of information on here, but I'll say the good news story coming about from the latest job study that is working for our completion now is that we're really seeing rebounding and gaining back of those sustain energy jobs that have been lost during the pandemic. So that is great news. We've got great support coming from our innovation investments and the companies and products that are, you know, kind of being the focus in New York State being worked through to commercialization Green Bank support in this area as well. But a, a very good story that jobs look to be rebounding.

And last but not least, I think we'll jump right two, just wanna not take up too much time here, right. To slide the, the next slide please. And then one more. We wanted to just speak a little bit with the Committee about progress on disadvantaged communities. The goal that at least 35% of the benefits of investments go to disadvantaged communities. As we spoke about at our last metrics review with the Committee NYSERDA has identified over \$1.2 billion in disadvantaged community investment that is really underway in earnest now. This comes from substantial contribution from the Clean Energy Fund and also other portfolios. We've been working with the climate justice working group and State agencies to further refine and outline a framework that will enable us to consistently kind of measure our achievement of that goal across the State.

And that will culminate in, in the first State reporting on these benefits in the coming year which is great news. And then for NYSERDA specifically, we've made a lot of good progress on geocoding our project specific investments. We wanted to show you one specific example here from the CEO market development portfolio where we now have 85% of our project level funding that has been geo coded at this point. So we know the specific location and we know where it lands in terms of the disadvantaged communities across the State. And we see that at this point of that investment that is geo coded approximately 50% of that funding is either inside a geographic disadvantaged community or is serving a low-income customer. And so we're really seeing that that planning come to fruition in terms of meeting that goal, not only with highly leveraged low income programs to support disadvantaged communities, but also other program portfolios including commercial, industrial and new construction, for example. So a preliminary analysis, we wanted to let you know what we've been working on and how things are looking for at least for one major portfolio, which seemed to be good in accordance with that disadvantaged community investment goal. And with that I think that ends the, the metrics view of things. And Doreen, should I turn it to you for introducing the next part or,

**Doreen Harris:**

So I'm, I'm up two minds. I think it might make sense just to pause to see if any Members have questions about the, the status that you've reported on. And then we've invited our business unit,

a number of our business unit leads to sort of provide their commentary on the challenges and opportunities ahead. So if fair, maybe we could just pause for a sec.

**Chair Kauffman:**

Yeah. So I'm sure others will have questions, so it's okay. I go first maybe. So are you gonna come back and talk about the big gaps in energy efficiency and residential and commercial? That's, cause certainly what comes through here. We're making really good progress on the renewable energy objectives with a really clear line of sight. There's big gap in some of the other areas, so I wanna know when you're gonna talk about that. And the other is, you said before Doreen know we're gonna do things that are both mandate and market and I think it would be very helpful for us to understand those things, which are, we're gonna get leverage from market based activities and those things Hmm. Where, where we're doing things through mandate and, and where mandates are, are, are maybe seen as imposing a cost.

**Doreen Harris:**

Understood. So I think

**Chair Kauffman:**

And we don't need to have answers to

**Doreen Harris:**

No, no, I was, I was hoping I was debating because I know Susanne is planning to cover some of this in, in her assessment specifically as to the go forward review, the Public Service Commission on our efficiency programs and the Clean Energy Fund actually as a whole in which these goals will be revisited in light of the Climate Acts and, and frankly, the progress thus far as to the programs in place. So I think that probably would be best if we just covered that in just a minute in.

**Arturo Garcia-Costas:**

So thank you for that. Just two things. One I thought it was interesting where you talked about disadvantaged communities definition that's emerging right now from the CAC process and highlighting that there's a difference between place-based investments, which that particular definition really focuses strongly on and populations that still fall within, I think, definition of the CLCPA. When you talk about low-income households, and it's great that we're already at 50%, but when you combine those two things, but do you have any concern that, that it's gonna be more difficult to actually capture that those programs that are helping low-income households within the context of the CLCPA? If its only place based or if it's only as for geographically geocoded?

**Jennifer Meissner:**

Well, I think that I don't know, is the question you're asking is a data one necessarily? But I guess from that standpoint I think that the low- and moderate-income programs we do, I feel, have a good handle on in terms of understanding where those beneficiaries are specifically. And both, you know, whether they're inside of a defined, you know, disadvantaged community or more broadly in the State, I think we have the ability to understand where those beneficiaries are located pretty well. So that's a, I guess that's a data answer. I know, I don't know,



**Arturo Garcia-Costas:**

Continue to the way that you just did right now. I think we should continue to report out that way, identifying the places that are, those investments are place based, but also this, this broader benefits issue. And the other question I had had to do with storage I appreciated the various executive order and other announcements that came out from Governor Hochul this week, one of them I took note of had to do with the, the five solar the storage projects that have, that were announced earlier this month. And in it, in that particular piece, they talk about challenges of citing lithium ion. And I was just wondering if you could perhaps speak to some of those challenges in basically denser communities and cities and towns. I know I note that the, the recipient of the NYSERDA award focused on think hybrid calfo technology, which is an alternative to the lithium ion. But right now lithium ion is like the, the 800 pound gorilla that comes to matter of storage. I'm just interested to know about the challenges deciding that kind of technology cities talents.

**Doreen Harris:**

It seems like that could be handled in two directions. First, David Sandbank is in Albany, who leads our Distributed Energy Resources team. Do you wanna speak to the sighting challenges? And then John Lochner can speak to the sort of forward-looking work we're doing with different chemistries?

**David Sandbank:**

Sure. Doreen, can you hear me okay?

**Doreen Harris:**

Yep. Thanks David.

**David Sandbank:**

Okay sure. So yeah, on the siting of the lithium ion projects we have now, excuse me, most of the challenges are coming down in the ConEd territory and in New York City. And most of the challenges are coming from FDNY. We've been working closely with FDNY and, and New York City to actually provide them with resources that we actually fund you know, out of our, our NYSERDA pockets to help the FDNY examine the projects and look at them. There's only right now one or two approved vendors that can, that can deploy right now in New York City on the larger projects, it's the Tesla SuperPAC. And we're hoping that more will become available because obviously the price pressures with lithium ion right now, it's not too advantageous to narrow it down to one vendor.

So it's really through the FDNY that is rightfully so, taking their time and being very careful in examining the, the sighting of lithium ion in the city. When it comes to outside of the city, it's a lot less challenging. We have a sighting team, and we have a whole website and staff resources that help local municipalities and Authority's having jurisdiction know how to inspect the projects and know how to current them. And through our storage program, we actually inspect every single project before it goes live, and we send out an inspection checklist prior to that so they know what the inspector's gonna be inspecting. So I would say most of the issues are down State right now. Some issues occur in the rest of State region but those, we feel we're able to help them through along the process.

**Doreen Harris:**

And then John looking to the future.

**John Lochner:**

Yeah, sure. I, I, I'd just add to what David said also, I mean, outside New York State, lithium ion certainly had its challenges, right? And I think we all know kind of most of what those are, and it's usually, I think the software that that's blamed in certain cases. I think they're also questions around from a supply chain perspective, is lithium ion ever gonna be as domestic as perhaps some folks in, in DC and others might want? And where that could create job growth and economic development here. Our, our team is focused on storage kind of across three different three different pieces. Short, medium, and long duration on the long duration side to think of clean molecules as one solution. And then certain types of alternative chemistries. And the medium term, it's a lot of different chemistries as well as we've got a, a pilot in the southern tier using pumped geothermal storage. And then in the short duration we are supporting alternative chemistries, lithium ion, again, with a, with an eye towards can you get a solution which doesn't have some of the downsides and does have some additional upsides for value proposition. So very much that is a push of, of our team. And then I think also of the federal government to some extent, and then frankly, the private ecosystem up State New York as well.

**Doreen Harris:**

Sadie, I see your, your hand raised.

**Sadie McKeown:**

Yes, Thank you. I'm sorry I couldn't be there in person today. I wondered as it relates to disadvantaged communities, how you're tracking job creation across all of these different opportunities as the inherent assumption that people will be hired. And that, I think more than anything for you know, the environmental justice movement is, is a huge component of how we address disadvantaged communities. And so I just wondered, I love the geocoding for physically where things are happening, but how are we tracking the job creation that goes along with it?

**Jennifer Meissner:**

The other folks may want to add to this, but we have experts underway to ensure that, for instance, in our workforce programs, we have some tracking around priority populations that are included there in the training and you know, ultimate resulting jobs. And then I know that also, we've been evolving working with the team that is, is doing the Annual Clean Energy Industry Report. We've been evolving kind of the focus that we, we try to take in that report to also be looking a little bit deeper and understanding job growth in specific and among specific priority populations. So those are I think, a couple of examples and I don't know if others might want to, to add to that.

**Sadie McKeown:**

I guess a follow up

**Doreen Harris:**

Yeah, please, Sadie,

**Sadie McKeown:**

I'm sorry. A follow up question I would have is have we worked at all with any of the BOCES or SUNY programs or vocational schools to short to, to sort of integrate clean energy opportunities? Cuz I think, you know, there's, there's a lot of disruption in the college education space from the pandemic, but also just from the cost of education, I think there's a real opportunity to try to transition people away from the idea of a vocational school and more oriented towards a clean energy academy or a clean energy school opportunity, which I think is more attractive and captures really that disenfranchised population of people that can't afford a four year education or that have tried to get one and have ended up just saddled with a lot of debt and not finished. And so I just wondered if broadly we were thinking about it in those terms.

**Doreen Harris:**

Yeah, I think that's a, a really interesting point. Sadie, I don't know that I've, I see Jason Doling has jumped on camera, maybe he wants to weigh in. But obviously as the general matter, we've worked with all of the entities you listed at the beginning in developing our workforce development programs, but the academy sort of style model. Jason, any input there?

**Jason Doling:**

Sadie simply to say yes, it's definitely a huge opportunity. We've been talking with the Workforce Development Institute and also the organized trades and as we bring the regional clean energy hubs on board, which will be in every region of the State, trying to really leverage more of a regional and Statewide perspective towards STEM development, providing opportunities for on-the-job training, internships, pre-app apprenticeships and apprenticeships. And we're continuing those discussions later this month at the Building Trades conference with some of those folks out in the Utica area. So that is absolutely an area that we look towards later this year into next year as really standing up new offerings where it's been a bit more episodic in the past.

**Sadie McKeown:**

Thank you. Very helpful.

**Doreen Harris:**

Yeah, thank you. Should, just outta curiosity, would people wanna hear from the business unit leads before we continue or do you have a, Jay do you have a sort of a question on the basis of what Jen has already?

**Jay Koh:**

No, it's just related to the rest of the presentation. So first of all, I think it's great to see the description of the resilient distributed grid outputs here. And we have our first resilience group meeting tomorrow, which is great. And I think it's wonderful to hear about the investments for making around storage and these other kinds of things. But just two comments or questions that I would have are, one is we look at the broad concept of resiliency of the grid itself. We've seen two shocks in the last two weeks that are unbelievable, right? We've got the five-year test case where cat one hurricane hits Puerto Rico after a cat four hurricane hit Puerto Rico five years ago, apparently less than 10% of the FEMA money that was appropriate has ever been dispersed. They lost massive amounts of power. And I just raised the question of if we had another

Hurricane Sandy like incident or an Isaiah's type of incident, you know, how would we do this time around, you know, we are, we're building a grid that looks very different going forward and energy makes it look very different.

And I think there's an opportunity for us to take a leadership position and actually understanding systematically how we actually evaluate that or measure that or approach that. Because it would be really tragic if in the next two or three years, which I think is highly foreseeable, some kind of extreme weather event hits New York State again and we look back and think, wow, you know, we should have learned all these lessons back from, you know, over 10 years ago. So I think it's great to think about storage and other categories as components of resiliency. But the overall intelligence of the grid, its ability to respond, its ability to serve disadvantaged populations which always get the impact, the hardest and the longest and slowest recovery times to consider, you know, what we can imagine the New York experience to be like watching the experience that just happened in the last couple of days in Florida and what we saw in Puerto Rico.

So I would love to hear about thoughts about, you know, are there ways we can think about ways to create other metrics where we're tracking, you know, recovery time or transmission distribution systems. I know there's a lot of work that's done at NYPA and other places within the utility sector around this, but you know, we are within a few years of another event happening, I think right here where we're gonna look back and say, you know, this is the before and after. So that's, that's 0.1, 0.2 is the other giant energy crisis that is, and we just had a whole bunch of investors in from Europe that is about to crush Europe. You know, energy price spikes and the impact of the current Russia, Ukraine situation is just going to be devastating to those economies and to the populations within particularly the poor populations within them that are massively impacted by incredibly regressive energy cost issues.

And maybe they've got a better way of managing that side of it. So the other side of it is what they're doing right now is trying to accelerate in the course of a couple of months, massive increases in energy efficiency, massive increases in alternative energy mixes because they have to, because necessity is gonna force them in a situation to do that. And so my only question is, I think it's great to see the progress along the, the five categories of clear strategic objections that we have, the commitments we've made over time, you know, in the context of IRA, in the context of what is going to look like a very different inflation environment, potential energy environment interest rate environment going forward. Can we pick one or two things where we really lean hard against it? And so I'm really looking forward to the presentation about even just heat pumps because that seems like something that could, you know, if it, if Europe had made the progress it could have made on heat pump deployment they would be facing a completely different energy security challenge in the next three or four months and it's gonna be really terrible there.

So when we think about the kind of reminder of crises or opportunities that are created, I just wonder, can we pick one or two of these things maybe in in disadvantaged populations where you make sure that those folks definitely have energy security or definitely have resiliency and pilot that. Cuz I think there's a chance to take a leadership position as New York State. You know, we have a broad mix of objectives here, but I just asked the question if we could rust hard one very clear set of outcomes, is there something we could do to, to speed the time? Because

there will be other prices out there. That's I think one of the last, last year and a half has been the world change on February 24th and will continue to change at a higher rate. And you know, we're, I don't want us to be sitting at a Board meeting four years from now being like, Geez, I really wish we had done more.

Right? You know, in the 10, 15 years since Sandy, geez, I really wish we had, you know, gotten our heat pump strategy so that we had so much more deployment, that massive volatility caused by a really serious global conflict on energy prices or a massive impact on, you know, let's say Houston had been hit by hurricane. The, the impact on gas prices because of the concentration of refinery assets there would have an enormous impact on energy costs across the next States. But if we hadn't put in place maybe a little faster or maybe in a more targeted way different components of the energy mix. So my question is, if we could lean harder at one thing, maybe it's for the business industry for you, Doreen, you know, what could we like, you know, say, okay, we're gonna, we're gonna take this sense of urgency that's being driven by climate change itself and by the environment that we have and you know, the access potentially to resources where I think there's, there's a need, I think IRA, and there's a huge amount of grid resilience money sitting at part of energy, which is completely unprogrammed as far as I can understand it, or is not yet ideated in a way where we could inform how the grid investments that would make New York's energy structure dramatically more resilient technically from an investment standpoint.

And that could set the stage for how the rest of the country actually deploys that kind of fun. So those are my two good kind of questions. Those are questions.

**Doreen Harris:**

So I think it would, in, in the most general of senses, I totally agree with you that the IRA is a game changer with respect to these types of investments. And, and I wish we had the Chair here today to talk about how the PSE is looking at this issue as well with respect to the investments of the utilities given the level of electrification that we're looking at, right? I mean, it all becomes central, but I guess in the interest of time, let's turn to the business unit leads and, and not coincidentally we're starting with Susanne who I would be interested each of you to sort of tackle that topic of, of one or two places you think you could focus on in that respect in your presentation. Great, Susanne?

**Susanne DesRoches:**

Sure. I think we're gonna advance two slides. So hi everybody. Susanne DesRoches the new VP for Clean and Resilient Buildings. So what I've listed here, and we've touched on some of these so we're all kind of aligned in, in the concerns that we have are some trends, some barriers we're seeing in the market and some opportunities. So I'm just gonna kind of go through these at a high level. I do wanna touch on Richard, your earlier question and certainly on the using EE as a resiliency strategy. So we have seen growing awareness about heat pumps across the State. We've seen really rapid use of some of that heat pump incentive money in particular in the ConEd territory. And, and the IRA is going to really continue to accelerate that awareness as tax credits are available to homeowners specifically for heat pumps.

And we see that as also important from a resiliency perspective in that it provides pooling solutions. And certainly our programs that target low income and disadvantaged communities this is a really critical health issue has no,

The climate is warming, the summers are hotter, the heat pumps will play that dual role. So we're seeing, you know, that incorporation of resiliency strategies as an important priority as we roll out more and more electrification. We've also seen an interest in thermal districts. So just for bay way of background you know, this is a strategy used across the world. And we have, you know, obviously ConEd steam system here, which is a, a massive thermal network, but we see this as an opportunity to really strategically plan the downsizing of some of the gas networks as we work to incorporate thermal districts at the edges of those gas networks where we can see, you know, some of that planned move towards electrification. They have higher capital costs than heat pumps, but then air source heat pumps, but they certainly provide lower operating efficiencies for residents.

So as this work continues and is now required for all utilities across the State to do pilot programs, we think this is a, this is a really interesting development in terms of how to electrify in an equitable way. In the financial sector, there's certainly an increased awareness of ESG goals environmental, social and governance goals. And we think that that will create more opportunities for decarbonization investments. So, so those are sort of some high-level trends that, that we're tracking barriers. And I think, Richard, you touched a little bit on this. Certainly we have high inflation and higher interest. We have inflation and higher interest rates and in the near term that it, it will likely have an effect on construction. So we do need to take that into consideration. As we move forward with some of our programs. We also need more contractor capacity, right? We need contractors in particular that do weatherization. Going back to the earlier point, we just need to look, you know, use less energy. Weatherization is something that we see a less contractor capacity than we would want and we will need to bolster that capacity to meet some of these aggressive goals in terms of the opportunities

To meet some of the meet the barriers and the trends. Doreen touched on this. So the new efficiency New York proceeding that was kicked off a couple of weeks ago, is really a great opportunity

For us to take a look at those 2025 goals and our 2030 goals and establish rate repair funding. We are doing this while we also develop the 2 million climate-friendly homes action plan. So to some of the earlier comments of like, what are we doing to look at that gap? How are we sizing it? What are the, what are the opportunities that 2 million homes climate friendly homes plan gives us the roadmap across single family homes, one to four family, multi-family, low and moderate income. We're looking at each segment as to what the opportunity is and what are the funding needs, understanding that we're gonna need to look at all sources of funding IRA rate payer, and, and the next bullet you'll see looking at private financing solutions and innovative mechanisms that can really help us bring these, you know, know lower cost energy efficiency and electrification strategies to specifically to low- and moderate-income sectors.

The last piece that I will highlight here is our affordable housing partnerships. These have been going really well. HCR housing community and, and renewal has really been moving the needle

on, on incorporating sustainability strategies and requiring all electric new construction in the future, which we think is a great model. NYCHA and HPD in New York City have been great partners. NYCHA would its most recent launch of Clean Energy for All, which is a tax solution that will really help to electrify some of their, cut their, their residents. So that's a lot to absorb. I kind of went through it relatively quickly. But you know, I, I just wanna go back to your mandate question, Richard. I will point to local law 154 in New York City, which does require all new constructions starting in 2025.

That's over half the new construction in the State happens in New York City. So in terms of mandates, we are modeling that into all of our 2 million homes work and, and think that that's an important component of how we're gonna meet the State's goals. So I wanted to touch on that and then highlight that local law. So I'll pause there and if there's anything I didn't touch on Doreen that you want to tee up, feel free a resiliency win. So I, you know, going back to what you're saying, Jay, and we could talk about this more tomorrow. I know we're meeting tomorrow the 2 million homes goal. So the 1 million electrification ready and 1 million electrified fill the electrified homes will also need to be energy efficient. So we're seeing that 2 million homes package as really an efficiency play first and then an electrification on top of those efficient homes. That's a really important component of moving these buildings to electrification, especially for, for residents who we don't want to cause energy affordability issues. So lowering that demand first and then electrifying is one, you know, is the strategy for that. So 2 million homes by 2030, very aggressive. We have seven and at roughly seven and a half housing units in the State. So we're moving, I think very, very rapidly in the way that you described and, you know, a big infinite emphasis on, on low and moderate income.

**Jay Koh:**

That's great. I guess the only follow up there is, you know, if you took, let's say we made out the most important priority and we threw half of the next few years Green Bank like credit issuance even with discounted or supplemented rates and packaged together and created like a one stop shop with all the tax incentives baked into whatever financing package existed and pulled through whatever's gonna come out of IRA and tried to pull that forward in time as opposed to waiting for four years for regulations to be established or something along those lines. I'm just wondering, is there anything that can, that can push that faster by way of, because I think the thing we don't have obviously out there is time, and I'm, I'm sure it's an, it is a very ambitious goal to transform that much of your energy sector. You're gonna see the European's attempt something like that because it may have to, they have and I think before we hit the law on that, by whatever event happens in the US and it could be a key to that, like we are within a few years of some mass casualty of that.

I mean, the situation in Pakistan, right? 1500 people are already dead, half of them are children. The country's a third underwater still the good parts and the potential healthcare implications of that from waterborne disease, I think we're gonna see unfold at an incredibly horrific rate in the next several months. I hope that that's wrong, but the food security implications of water issues and so on, huge events like this, you know, we're going to start seeing more of them and in the same exact places, again, including New York State. And so I just wonder, you know, if, is there ways to just compress the time bundle things, make it easier, or even reset priorities across my survey, including at the Green Bank, for example, or, or with the federal whatever the Federal

Green Bank life program becomes so that it's like, okay, you know, we're gonna pull that forward in time and achieve that more quickly than we thought, right?

Because we, we absolutely need that because, and then we can maybe some of the metrics that might incentivize that is capturing for sure the efficiency metrics and capturing for sure the benefit to low- and moderate-income communities. There's a massive health benefit, particularly if there's heat events that are unexpected that will definitely be occurring. But also if there's some figure of merit that we can measure how that makes our overall system, I mean, there's crazy California event without that one tweet going out to people, that grid would've definitely crashed, right? And so efficiency is resiliency in extreme event situations. And I'm just, you know, it's more of a question of like, I, I, I'm glad we're doing that. Is there any way to do faster? Is there any, do it in a more coordinated way that pulls in the time that's, that's kind of been looking

**Arturo Garcia-Costas:**

Thanks. I mean, I just wanna add one thing to, on the excellent interventions that Jay did mindful of the Governor last week put out an announcement about the shocks that will hit New York because of global energy prices and the regressive impacts that's gonna have on most vulnerable or most vulnerable household, household flow communities. I worry sometimes about we have to be careful about urgency not creating a pension to go for a pass of lease resistance.

**Jay Koh:**

Agreed.

**Arturo Garcia-Costas:**

And I mean that, particularly with respect to tough nuts to crack, like the house stock in northern Manhattan and the South Bronx, there're still overly dependent on number two, two fuel, oil fuel or number four fuel oil. But the nature of that, the ownership of that housing stock is so complex and difficult that when we're urgent and we're trying to meet our metrics, we tend to avoid those, those paths of greater resistance. Yep. So I think that we have to be very mindful not to give into that in the face of urgency and expediency, don't, we don't sort of sacrifice equity on that alter.

**Doreen Harris:**

That's, that's a very, I would say, accurate point as to where we sit today. Let's move on to John Lochner and more discussion to come.

**John Lochner:**

Thanks.

So as, as many have already mentioned, the Infrastructure Bill and the IRA have created notable uplift for commercial renewables, but also for less widely deployed technologies, including hydrogen smart grid technologies and other solutions. Alongside the mandates and other State policies and programs. These sources of funding and support from the federal government have driven optimism for investors that they can plan and invest for the long term. This in turn, enables greater investment in long terms investments such as research and development, or to further improve competitive positioning for a more certain future market opportunity and a clear



path to commercial deployments and cost competitors. We've seen this take place in the response to many of our solicitations which have been over-subscribed by a factor of five or more, and where companies that have been supported historically by our work have seen tremendous growth opportunities and investment alongside these trends.

We see an accelerating shift towards thinking systemically about economy-wide decarbonization its related benefits. Jay to your point, more systemically also about resiliency. While historically technologies might have been supported and deployed in a vacuum we see increasingly focused by States and DU for instance and others to think about the entire electric system or entire economy holistically to assess the best paths to decarbonization or the support of disadvantaged communities as well. One of these cross-technology goals that we're seeing becoming of greater importance is resiliency, have a future decarbonized energy system and economy. And I'm, I'm now gonna parrot what Jay already said. As we saw in Cuba losing power to its entire country, Florida, Puerto Rico and Nova Scotia, just in the last few weeks you know, an energy system that's just clean is not quite enough for what's coming our way.

This view leads us to think about technologies innovation that provide not just hardening, but flexibility and redundancy through the system from a barriers perspective. Looking forward, we continue to see policy barriers that limit deployment of certain technologies. And again, this is a perspective economy wide and, and you know, us and, and globally not just New York. And we continue to see technologies that have demonstrated a value proposition to consumers that will enable their widespread adoption at the scale and pace that we need. Cost is often a factor here. Lastly, we see the workforce is a continued place that causes concern when we think about the tenant scale at the time scales in which we're thinking about. Nevertheless, the market for has quite a bit of momentum and trends are moving squarely in our favor and supporting of innovation. From a New York perspective, we have a tremendous opportunity to apply for federal funding across a, a number of focus areas, including grid tech, including hydrogen and many others.

On the hydrogen front, we are weeks away from submitting a first-round paper to potentially be more of a hydrogen hub that's alongside more than six other States and more than 60 corporate and private sector partners. Additionally as it was announced recently in the PSC proceedings, the innovation portfolio will be reviewed by DPS over the coming years, presenting us another opportunity for next steps. Alongside these two areas, we see the private sector actors and climate innovation investment interested in working together and attacking many of these priorities that State has in joint in, in some type of joint manner with their work. Lastly, we continue to see a great opportunity for New York's innovation economy to continue to add jobs and support economic growth in the State. So it's, I would say it's a very exciting time for us to continue to invest and add value into the State.

And with that, I would go to, to your comment around resilience. I do see opportunities, and we've been exploring this in a variety of different program possible programs for microgrids in disadvantaged communities to provide resiliency, integrated planning and modeling. Thinking about thermal and subsurface assets like Susanne mentioned as a resiliency play alongside above service solutions. And then our, our buildings team is investing energy efficiency shells, which again, to, to, to repeat what Susanne was saying, to really shrink the energy needs and so

potentially leave certain buildings in a place where they could last quite a bit longer without electricity, if that were to be the case in the situation. Thank you.

**Doreen Harris:**

All right. Let's move on. Next slide please. And David Sandbank will provide his insights. Yeah, David.

**David Sandbank:**

Yeah, thanks Doreen. So, yeah, let's start with NY-Sun. As you heard Jen mention earlier in this presentation you know, we're, we're ahead of schedule. We now have a 10 gigawatt by 2030 target. We've already got 4,000 megawatts more than 4,000 megawatts installed at this point with 3,200 more megawatts in development, and, and they're at advanced stages of, of project development. What we're hoping for with the IRA passage is to squeeze out some more megawatts for the same amount of funds that were awarded to us from the Public Service Commission. So we can go beyond 10 gigawatts by 2030. We're working with Department of Public Service right now through a midpoint review within the NY-Sun program to see how, and if we can do that we should hit the CLCPA goal of 6,000 megawatts by 2025 at least a year early.

And as I mentioned earlier, the midpoint review. We are in the middle of, of going through that now. It gets triggered by how many megawatts we deploy in the rest of State region. We're close to it, so we're just getting ready for when that happens. So we'll be able to submit that midpoint review as soon as that happens, I'm assuming sometime by the end of this year. On the storage side I think everybody knows that Governor Hochul has a new mandate of 6,000 megawatts by 2030. The current Climate Act goal is 3000 megawatts by 2030, so that's doubling what we have to do. Really a big part here is the IRA passage. It's a sizeable cost savings for developers and the State, because up to this point, standalone storage had no tax credit whatsoever.

So it's not gonna go from 26% to 30%, it's going from 0% to 30%. So one of the biggest I think bang for the buck in the IRA and my portfolio is definitely on the storage side. But, so we're putting all those numbers together now. We think we're gonna file for that roadmap that we're working on with DPS hopefully mid-November of this year. That will be a roadmap on how we get to six kilowatts by 2030 on the storage side. And I would say even on the storage side, with the passage of the IRA, cause everybody has heard that the lithium ion costs have gone up substantially and even trying to get assets and products on the storage side is delayed by up to two to three to four years at times. And the cost is going up and up that the IRA passage not only helps us to move forwards with better confidence to reach the Governor's goal, but also helps us to look at the projects we procured now that we're gonna see less attrition than we thought we would've without the IRA passage.

On the transportation side our Climate Act Zev goal is extremely aggressive, and as you saw on an earlier slide that Jen Meissner presented, that the transportation industry, both in light duty and medium to heavy duty even with our Climate Act goals, is not good enough for our greenhouse gas emission goals. So we are seeing significant process in EV adoption over the last three years. But we're still only about 5% of new vehicle registrations for light duty vehicles. And that just means that all new cars being purchased in the last few quarters or six months or

so, 5% of them have been EVs. But there's less than 1% on the road right now. Having said that about a year ago we were at 2%. So to go from 2% to 5% is substantial, and I expect to see that you know, continue to increase year over year.

The good news is as you know, all car makers internationally have very aggressive zero emission vehicle sales goals. And the Governor's announcement on the DEC regulations on you know, going only zero emission vehicles can be sold by 2035. So we've got a lot of positive inertia going in that direction. But business as usual, most likely won't get us to where we need to get to for the greenhouse gas emission reduction. The IRA EV tax credit opposed to what I felt about the storage benefits, I don't feel like it was strong enough on the transportation side. I was pretty upset about that. But putting my own feelings aside it might be productive for the future on producing a lot more on shore here the, the batteries of the vehicles. But for the near term, it's, it's gonna be much less incentives for people on the, from the federal government for time to come. And we need other drivers to really get to our greenhouse gas emission goals, such as latest legislative and or policy actions to get there. I'll stop and see if there's any questions.

**Doreen Harris:**

Thanks, David. Why don't we just rap up with Georges and then we'll have a few minutes for discussion collectively. Georges

**Georges Sassine:**

Thank you, Doreen I just wanna uncover a few items with regards to the large-scale renewable portfolio. If we can move to the next slide. You mentioned you know, the renewable portfolio as well on this way to meeting a target. I do want to hide out four themes on top of the themes that Jay, you mentioned, resiliency and geopolitical and energy trucks, and bring them to your attention. Number one is supply chain number two inflationary pressures number three, three, the need to, to build transmission. And number four you know, accelerating the construction of largescale renewable projects in New York. On the supply chain front there's a lot of different you know, trends in the market. Obviously there's some lingering supply chain bottlenecks you know, from the past few years that, that are persisting.

On the solar front the, the US Department of Commerce launched an anti-dumping and coiling duties in investigation in March of this year. And they're investigating whether solar panels that are manufactured in, in Asia which constitute about 80% of the US solar panels that are being imported into the country are circumventing symposium on Chinese solar excellence. So this has been creating some uncertainty in the solar market. The good news just two pieces of good news here. Number one the Biden Administration issued an executive order that announces the 24 months exemption on any NYSERDA affairs for the next, basically for the next couple years. Now, the question is, what happens after a couple years? The good news here is that we would know we would have a preliminary determination by the end of November.

And, and that uncertainty that's creating in the solar market would subside on the, another opportunity that's coming through the Inflation Reduction Act is the passage of some incentives to, to encourage domestic clean energy manufacturing that also might in the longer run provide an alternative you know, for the supply for any supply chain constraints across, across the clean energy portfolio and marry to that all the, the good work that the State of New York is doing, for

example, on the development of the offshore wind supply chain and putting in \$500 million in the current, with the current RFP and the current solicitation on offshore wind to incentivize and build out the supply chain for when moving on the inflation side. Obviously we're there's a lot of uncertainty on the level of the depth of the, the inflation and the length of the inflationary pressures that we're, that we're going through.

But the good news is the Inflation Reduction Act did pass some did extend and expand their investment tax credit and production tax credits. And that also has is bringing a good relief in the market our ability to address any of these inflation questions under transmission needs. Obviously to reach our CLCPA goals, there's a need to accelerate and build out our transmission. Here in New York there are several different transmission planning processes that are helping us figure out how do we reach our CLCPA goals, whether it's the phase two transmission planning process that's being led by the Public Service Commission today. And the coordinated with planning process is being developed by the joint utilities as well as the NYSERDA GPS under the direction of the PSC with regards to accelerating the construction of renewables in New York, there are also a series of different frameworks in State and at the federal level that are pushing the needle on, on this front.

Number one is the Accelerated Renewable Energy Growth and Community Benefits Act that was passed a couple years ago here in New York. And notably you know, established the, the Office of Renewable Energy sighting to revamp the approval setting and the construction process of renewable zero in New York. At the same time, in the, over earlier this summer FERC has proposed some reforms to accelerate the interconnection process nationwide. And so these reforms were to develop and, and were to be executed, this is another federal level initiative that could significantly make a difference in accelerating the construction time. Right. So, with that if you'd like to open up the opportunities

**Doreen Harris:**

Yes. Yeah, we have a, a few minutes for questions. Not a lot, but you anything incremental to those topics we'd already covered?

**Arturo Garcia-Costas:**

I will mention one thing the trust has, has supported through our national program work in the Midwest on transmission issues, trying to get to a scale of wind from Great Plains Chicago and other population centers and time and again the challenges have been far greater than they realized in terms of getting various types of transmission lines approved. I, I think the situation is gonna be very, very different for our offshore wind development, but I just want to point out that, that there has been transition bottle, net transmission bottlenecks that were, they thought were, they were gonna get past, which they haven't gotten past over the past five years. So I, I, I encourage us to think carefully about like, what's happening with this transmission, these transmission issues and try to get a ahead of that potential number block.

**Jay Koh:**

Maybe I just say quickly I've said this a thousand times, so it's not gonna be that surprising. It's great to see the, the massive progress on distributed solar in particular. And then the large scale renewals, I think is transformative. The only you know, nudge that I would I give is let's make

sure that we're planning resiliency into all those assets for building huge amounts of transmission infrastructure. You know, there's gonna be wind windstorm impact and weather event impact, heat impact potentially that may not be forecast. And we're seeing all those issues right now in other parts of the United States dramatically in other countries. The same thing will be true of offshore wind and all the support infrastructure for ONM in a different environment going forward. And you know, particularly then when you think about the importance of energy security and then the resiliency impacts on disadvantaged populations, the points earlier about, you know, can you break storage close enough to dense populations? Can you actually have these kinds of impacts?

So if there's some figure of merit we can begin to track on, you know, does this give us more long-term uptime or reliability in the context of what is absolutely gonna be a climate change future. I mean, you know, I know we have a discussion about that and the resilience group tomorrow, but I think making sure that those design characteristics and engineering requirements are absolutely baked into the hundreds of millions or billions of dollars that we're about to deploy. Those are assets that need to be survived in the next 50 and a hundred years, and the world is definitely be different by 2030. And it'll be dramatically different by 2050. So I prefer that we build assets that, you know, contribute to that resiliency, this environment. I've said that like five times. So anyway. Keep thinking about it.

**Sherburne Abbott:**

You gotta keep saying

**Jay Koh:**

I'd love, I'd love to have a metric for it.

**Arturo Garcia-Costas:**

I mean, Jay, that's so important to me because I see what's happening in Puerto Rico and my family was plunged into darkness in Puerto Rico. And it's just an example of their rebuilding the grid using the old design specs. They're using the same old Sam old, and once again, this time only category one story destroyed it, much of it. So we just can't be doing the same thing over and over again. So this this notion of what is the resilient grid for the future and what, what's the design for that? I, I think that that's a great area for an organization like that sort to really put some resources into.

**Sherburne Abbott:**

There's also the, the link that is not the smallest question of the fact that the way that the US government dolls gives out its money is a significant impediment to any of these issues, right? So, so if there is, you know, if there's something forward leaning that we, that NYSERDA can do to work with the agencies to move resources in a way that is efficient and faster and takes into consideration, many of the impediments are written into the procurement language of the feds, right? So, so getting that language changed can move hugely towards a more resilient system simply because they're, they're not gonna move it unless, unless stop is not there.

**Frances Resheske:**

It's true. You know, we saw that in New York after 911.

**Sherburne Abbott:**

Yeah, exactly.

**Frances Resheske:**

A lot of the things we wanted to do, we weren't allowed to do because federal money wouldn't do it. And we said there were better ways to rebuild, but you had a rebuild in kind.

**Sherburne Abbott:**

Yes. It's, it's, it's gonna be the biggest challenge. One of the big challenge.

**Doreen Harris:**

Richard, anything you wanna add?

**Chair Kauffman:**

I was just gonna add a different federal question, which is sort of what's going on in wholesale markets and the ISO and the ongoing concern that we have a huge percentage of renewables that are coming on that are off market in the context of a restructured wholesale markets State.

**Georges Sassine:**

Yeah. What's your, obviously this is a big concern for us, and we're working very closely with New York ISO you know, to collaborating with them on, on a, on a regular basis, but out of your curiosity from your per No, no,

**Chair Kauffman:**

It's not, it's not meant as a leading question. I just didn't know if, if we, if it's a tailwind or a headwind, crosswind, it's crosswind.

**Georges Sassine:**

We're obviously working very closely in New York ISO and figuring this out. Due to the, a big majority of, of the, the, the new projects being built right now on the large-scale front is our contracts with, with NYSERDA. So we feel very confident that we have full visibility on, on the pipeline, how things are going.

**Sadie McKeown:**

This is Sadie. I just wanted to, to jump in and underscore the comment about the federal requirements with the IRA. The EPA is about to begin round table discussions and to try to solicit feedback on how they should structure their RFPs and how they should structure the capital. And I encourage NYSERDA and others at, to be at the table and give them that feedback. I think of NYSERDA as a national model for what every State in the country is going to need, or every region of the country is gonna need to help support them as they, as they transition. Most States are way behind New York, and, you know, we take for granted those of us that are practitioners trying to do the work of the plan, take for granted all the support that we get from NYSERDA. And I think your voice and your presence has to be a, a big part of the IRA

and the EPA process and the DOE process and how this money rolls out. Because we experienced it as well with the hour money that came after, after Sandy you know, it was, it was a nightmare to try to do the right thing. You did what they wanted you to do, but it wasn't always the right thing. And I think NYSERDA has a real opportunity to show and lead with what, what should be done with this, you know, extraordinary amount of capital, albeit not that much, but extraordinary amount of capital coming from the federal government.

**Doreen Harris:**

Thank you all. You'll hear me speak a bit on this topic actually at our Board meeting, which I imagining we need to transition to very shortly. Yes. I will only say just thank you. Not only do the business unit leads for weighing in, but for your input obviously January, this will be extraordinarily helpful as we work to finalize the Strategic Outlook and present it to you in January. So thank you.

**Sherburne Abbott:**

Great. Well, thank you very much. This was really, really, really helpful and it keeps us thinking about the moving towards January as well. No formal action is required on this item. And the last item on the agenda is other business. Is there any other business that, that to come before the Committees? I have a motion to adjourn to adjourn?

**Arturo Garcia-Costas:**

So moved.

**Sherburne Abbott:**

All in. Fa second. All in favor?

**Members of the Committee:**

Aye. Aye.

**Sherburne Abbott:**

This meeting is adjourned.